



**CITY OF CARLTON
PLANNING COMMISSION MEETING AGENDA
MONDAY, DECEMBER 16, 2019, 6:00 P.M.
CITY HALL, 191 EAST MAIN STREET, CARLTON**

The Mission of the City of Carlton is to sustain and enhance the viability of the community by providing essential services with professionalism and integrity.

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NOTICE OF PUBLIC HEARING CITY OF CARLTON

NOTICE IS HEREBY GIVEN that the City of Carlton Planning Commission will hold a public hearing on **Monday, December 16, 2019 at 6:00 pm** at the Carlton City Hall, 191 East Main Street to consider a proposed subdivision.

City File# SUB 2019-01 JR Meadows Subdivision – located at 640 East Main Street, or Assessor Map 3422 Tax Lot 1400. Request to subdivide existing parcel into 38 lots, 37 of which would be zoned R-2 (for single or duplex dwellings on 7500 – 8000 sq. ft. lots) and one parcel would be zoned R-3 for multifamily housing. The subject property is currently zoned AH pending a hearing for a zone change approval by City Council on December 3, 2019 as recommended by the Planning Commission. If the zone change is denied or delayed the subdivision hearing will be postponed. The relevant subdivision standards and criteria, public notice and hearing procedures are found in the Carlton Municipal Code Sections 17.60 – 17.100, 17.176, 17.192 – 196.

HOW TO PARTICIPATE: Any person desiring to speak either for or against the proposal may do so in person or by an authorized representative at the public hearing. In addition, written comments may be submitted prior to the hearing with the City Recorder at City Hall. The documents, evidence or staff report relied upon will be available for inspection at City Hall seven days prior to the hearing at no cost and will be provided at reasonable cost. Public comments shall address the relevant criteria. Failure of an issue to be raised in the hearing, in person or in writing, or failure to provide sufficient specificity to afford the Planning Commission an opportunity to respond to an issue means that an appeal on that issue cannot be filed with the State Land Use Board of Appeals.

The meeting is accessible to the disabled. If you have the need for special accommodation to attend or participate in the hearing, notify the City Recorder 24 hours before the hearing. For further information, contact City Hall at (503) 852-7575.



**CITY OF CARLTON
PLANNING COMMISSION**

STAFF REPORT: Preliminary Plan JR Meadows Subdivision - City file SUB19-01
DATE: December 9, 2019

APPLICANT: TJA, LLC
9110 NW Clay Pit Road
Yamhill, Oregon 97148

PROPERTY OWNERS: Steve Reimann
9110 NW Clay Pit Road
Yamhill, Oregon 97148

REQUEST: Request for Subdivision approval to plat 38 residential lots

SITE LOCATION: 640 E. Main Street; Map 3S 4 22 tax lot 1400

SITE SIZE: Estimated 9.3 acres total (R-2:8.8 acres, R-3:.5 acres)

DESIGNATION: Comprehensive Plan Map: Residential [R]
Zoning: Medium Density Residential [R-2]; High Density R-3

CRITERIA: Carlton Development Code

- Section 17.22 R-2 & 17.28 R-3 Zones
- Section 17.60.030 Development and Design Standards
- Section 17.64 Street Standards
- Section 17.72 Storm Drainage
- Section 17.76 Utility Lines and Facilities
- Section 17.88 Development Standards for Land Divisions
- Section 100 Access Control Standards
- Section 17.106.030 A. Residential Design Standards
- Section 17.176 Subdivisions and PUD's
- Section 17.188 Type II Actions and Procedures
- Section 17.196 Public Hearings
- Section 17.216 Performance Agreement

EXHIBITS:

- Application Forms, Narrative & Findings, Traffic Study, Geo-tec Report, Plan Sheets P01 – P12, August 2019, Wetland determination 10-31-19, Arborist letter & Tree Table 11-13-19, Applicant's Conceptual Open Space Plan for Tract A, Conceptual Plan for the Main Street Frontage and Neighborhood TSP Circulation Plan, and Stormwater report
- Comment from Carlton Fire Chief: no objections
- Comments from Gordon Munro City Engineer 11-26-19

I. REQUEST

The application requests approval of a 38-lot residential subdivision to be known as JR Meadows Subdivision. Of those, 37 lots are single family or duplex lots and one lot is designated for multi-family dwellings. A future multi-family proposal will require Planning Commission approval of a detailed site and design plan.

II. PROCEDURE

Subdivision applications are processed as a Type II permit and shall be considered by the Planning Commission in accordance with Section 17.188 Type II Actions and Procedures.

The application was deemed complete on November 11, 2019, subject to City Council approval of a necessary zone change necessary. The city has until March 11, 2020, an estimated 120 days from the date the application was deemed complete to approve, modify and approve or deny this proposal, including an appeal decision if applicable. Notice of a public hearing was mailed on November 12, 2019 and was published November 15, 2019. The hearing will be conducted in accordance with Section 17.196 Public Hearings.

III. APPEAL

Appeals are governed by the Carlton Development Code CDC Section 17.204. An appeal of the Commission's decision shall be made, in writing, to the City Council within 10 days of the Planning Commission's final written decision.

IV. SITE AND SURROUNDINGS:

The subject vacant property is inside the City limits and the Carlton Urban Growth Boundary (UGB). The land is planned to be residentially developed because it is inside those legal boundaries. On December 3, 2019 the City Council conducted the first reading of the Ordinance to rezone the property from Agricultural Holding (AH) to R-2 (8.8 acres) and R-3 (1/2 acre). The second reading and adoption is scheduled for January 7, 2020. The parcel is adjoined by residential R-1 zoning and development to the north and west, in addition to Public Facility zoning on school property, and by Agricultural Holding zoning to the south and east. Further, there is a commercially zoned parcel adjoining Main Street an estimated 300 feet east of the parcel, occupied by a winery.

Sheet P-02 illustrates three existing dwellings on the site, all of which will be demolished prior to site grading and construction. A demolition permit shall be obtained from the city prior to demolition of any buildings.

A portion of the parcel was occupied by the adjoining Hawn Creek floodplain. In 2010 a FEMA LOMAR map revision was made removing the subject area from the Special Flood Hazard designation on the FIRM map.

There is one wetland and one non-wetland in the northern half of the site. The applicant provided a letter on 10-31-19 from their Environmental Specialist indicating the non-wetland is not a DSL designated Essential Salmonid Habitat (ESH) and it will be impacted by installation of an 86-foot culvert needed to extend the proposed 7th Street. AKS indicates that work will not be performed in the wetland site because it will be preserved as open space. Grading work is proposed in the non-wetland, but it will not exceed 50 cubic yards of soil, the maximum limit to avoid filing for a DSL permit.

There will be no impacts to the on-site wetland because the applicant has planned the site as an open space (Tract A) with a nature trail and additional landscaping. See applicant's Conceptual Open Space Plan. Ownership and maintenance of the Tract has not been defined.

The applicant has shown that the proposed development is geotechnically feasible, provided specific steps are taken to address subsurface fill and soil types on the property. The specific recommendations in the applicant's Geotechnical Engineering Report dated July 25, 2019 shall be incorporated into the design and construction phases of the project.

The applicant's tree inventory identifies dozens of mature trees on site ranging from poor to good condition. The grove of trees in the southwest corner of Sheet P-03 are dense and mature. The applicant's arborist report indicates that almost all interior trees conflict with the installation of streets, utilities and home sites and require removal of the trees. But he indicates some trees will be preserved around the perimeter and within Tract A. There are an estimated three to four dozen trees along the north and south perimeter property lines identified on sheet P-02 and P-03. These trees impact abutting property owners. The arborist recommends retaining many of the trees on adjoining property lines and in Tract A and should be a condition of approval.

The 2009 Carlton Transportation System Plan (TSP) designates the extension of 7th Street, Washington Street, Taft Street, Polk Street to the east, and a new north south street through the site. The TSP plans for needed street connections on land inside the UGB that is expected to develop at urban densities. See applicant's Neighborhood Circulation Plan. As planned by the developer an additional north-south street required by the TSP plan is not appropriate on the site because of existing residential dwellings and the school adjoining the west property line and the narrowness of the site. These circumstances were reviewed with city staff and it was determined necessary to re-align the proposed 7th Street to the middle of the site, thereby eliminating a second north/south street on the site.

V. CRITERIA AND FINDINGS:

A. CDC 17.22.010 R-2 Zone Purpose

The Residential-Medium Density (R-2) district provides opportunities for single and duplex housing at an average density of 10 dwelling units per acre or less. The minimum lot size in the for a single-family home in the R-2 zone is 6,000 sf.

R-2 Permitted uses: Residential uses permitted in the Residential-Medium Density district include single family, duplex, or an attached single-family dwelling with a maximum

of two dwelling units. Lot size minimums in the zone range from 5,000 (attached), 6,000 (single family) to 8,000 (duplex) square feet.

FINDINGS: The applicant proposes 37 single or duplex dwellings and an open space tract (10,000 SF). This is well under the maximum R-2 density which would permit 80 lots on the 8.8 gross acre parcel. The lots range from 6,002 to 8,835 square feet. All lots meet the minimum of 6,000 sf. There are 13 lots over 8,000 sf that could be developed with duplexes.

B. DC 17.28.10 R-3 Zone Purpose

The Residential Medium High (R-3) district provides opportunities for higher density housing in proximity to substantial commercial and public development where full urban services are available. The R-3 district accommodates residential development of eight (8) to thirty-two (32) units per acre.

R-3 Permitted uses: Residential uses permitted in the Residential Medium-High Density district include single-family, duplex, multi-family and manufactured home parks. The multi-family density permits three or more units on 9500 SF plus 1,500 SF per additional unit.

FINDINGS: The applicant proposes a single R-3 parcel that is 21,666 SF in size. A concept plan has not been developed for the R-3 portion, which permits a density of 8 – 32 dwellings per acre. The half-acre area could accommodate an estimated 10 - 11 multi-family dwellings. The site is within walking distance of the Carlton school and downtown commercial services. A commercially zoned parcel is located about 300 feet east of the site.

C. CDC 17.56 Floodplain Management (FP) Overlay Zone

FINDINGS: Based on the applicant's FEMA LOMR map amendment submittal, in 2010 the original floodplain portion on the subject site was removed from the FEMA Special Flood Hazard map delineation. Therefore, development of the area is not subject to a floodplain development permit

In addition,

- Section 17.106.030 Residential Design Standards: All dwellings shall comply with the design standards of this section at the time of building permit submittal. The standards address garage size, exterior window and door glazing, materials and other design elements. Compliance with this section should be a condition of approval.

D. Public Facilities and Services

Section 17.60.030 Application of Public Facility Standards

- Subdivisions must install fire hydrants as required, construct streets, water, sewer, storm facilities and install streetlights per city standards. The applicant intends to make these improvements as required by the city.

FIRE FINDINGS: Terry Lucich Fire Chief has not provided written comments or conditions for the proposed subdivision. The City Engineer has noted fire access requirements in his comments.

Section 17.64 Street Standards

- Subdivisions are required to construct public streets to city design and alignment specifications, to make street connections and future extensions per TSP requirements.
- Landscape strips and Bikeways may be required to separate the street from the sidewalk. According to the table on 17.64.050 a 5' landscape strip is optional on a local street and they are required on a new collector street. According to city standards a 5- bike lane is required on Main Street.

The applicant has generally addressed all city public street plans and specifications considering the appropriate continuation of adjoining street sizes, names and improvements. Except that Polk Street is not illustrated as shown on the TSP extending east from 7th Street. The vacant parcel that would be accessed from Polk Street has topographic and wetland constraints, and the applicant believes the access to that parcel from the two proposed east/west street stubs will be adequate.

There are no cul-de-sacs proposed, but fire access turnarounds will be required as determined by the Fire Chief. The City Engineer's specific street improvements are outlined in this report and made a condition of approval.

Section 17.72 Storm Drainage

No construction of any facilities in a development shall be permitted until a storm drain and erosion control plan for the project is prepared by an engineer registered in Oregon and approved by the City. This section lists the storm water plan requirements. The Public Works Director and City Engineer reviewed the proposal and their comments are discussed below.

Section 17.76 Utility Lines and Facilities

This section denotes city design, construction and maintenance standards for water improvements, sanitary sewer improvements, streetlights, underground utilities, private utilities and easements. The City Engineer has reviewed the proposed plans provided several comments and conditions of approval as outlined on pages 8 – 10 in this report. These conditions will each be addressed in the Pre-Construction meeting required as a condition of approval herein.

E. Land Division Standards and Approval Criteria

Section 17.88.030 Development Standards for Land Divisions

The standards for approval of new lots or parcels are addressed below as follows:

- Minimum lot area: Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.*

FINDING: The preliminary plan illustrates the 37 R-2 lots range in size from 6,000 to 9,138 square feet. Each lot meets or exceeds the R-2 minimum lot size of 6,000 square feet for single-family or 8,000 for a duplex dwelling.

B. Maximum lot area: When single family residential use is proposed for a lot with an area double or greater than the minimum density of the underlying zone the Planning Commission may take into consideration the potential for further division of the lot at a future date.

FINDING: No proposed lot has an area that is double (12,000 SF) or greater than the minimum R-2 6,000 SF.

C. Lot width and depth: The depth of a lot or parcel shall not be more than 3 times the width of the parcel, with the exception that parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.

FINDING: The R-3 parcel is 152.2 feet wide and 132.4 feet deep, therefore wider than deep. All R-2 lots are less than 3 times deeper than wide except lot 37 which is on a curve that lengthens the north lot line 24' longer than the south lot line. This creates a lot average of 165.5' feet deep and an average of 52.6' wide for a ratio of 3.1, just over three times deeper than wide. This is justifiable because of the curvature of Lot 37's street frontage.

D. Access: All lots and parcels created after the effective date of this Ordinance shall provide a minimum frontage, on an existing or proposed public street, equal to twenty (20) feet.

An exception shall apply when residential lots or parcels and Planned Unit Developments, may be accessed via a private street or easement developed in accordance with the provisions of Section 2.202 or when the City finds that public street access is:

- a. Infeasible due to parcel shape, terrain, or location of existing structures; and*
- b. Not necessary to provide for the future development of adjoining property.*

FINDING: The preliminary subdivision plan illustrates that all lots exceed the minimum 20-foot street frontage requirement.

E. Flag Lots: If a flag-lot is permitted, the following standards shall be met:

- 1. The access strip shall not be less than 20 feet wide. The access strip shall be improved with minimum 12-foot wide paved driveways that meet applicable City standards. If said access strip is over 200 feet in length, the driveway shall terminate in a turn-around capable of accommodating emergency fire vehicles.*
- 2. The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this Ordinance.*

FINDING: No lot is proposed as a flag lot.

F. Through -Lots: Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A ten (10) foot wide screening or buffering easement, pursuant to the provision of Section 2.207, may be required by the City during the review of the land division request.

FINDING: No lot is proposed as a through lot.

G. Lot Side Lines: The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face.

FINDING: The side lot lines of all parcels run at right angles to the street right-of-way.

H. Lot Grading: The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns and other pertinent data, shall be established by the Building Inspector.

FINDING: The area is relatively flat in the middle but is bisected by significant grade changes in the two drainageways at the north and south ends of the site. Topography and grading issues have been addressed by the geotechnical report recommendations and the City Engineer's comments. Except for the Tract A open space and wetland area, site grading will be significant. The grading plan will be engineered to meet city standards and the specifications in the geotechnical report.

I. Utility Easements: Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 17.76.

FINDING: In the event utility easements are identified in the final engineering plans for the subdivision, this requirement is included as a condition of approval.

Section 17.88.040 Standards for Blocks

A. General: The length, width, and shape of blocks shall be designed with regards to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

B. Sizes: Blocks shall not exceed 600 feet in length between street rights-of-way, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The maximum block perimeter shall not exceed 1,400 feet.

C. Alleys. Alleys may be provided in all districts, however, alleys shall be provided in commercial and industrial areas, unless other permanent provisions for access to off-street parking and loading facilities are provided.

FINDING: The proposed blocks continue the rectilinear pattern of existing street patterns in the area, including the extension of a re-aligned 7th Street; an extension of Washington Street, an extension of Taft Street and deletion of a parallel north/south street, and deletion of a Polk Street extension from 7th Street east to a terminus near the floodplain. The configuration provides adequate building sites while efficiently using the subject property and providing for adequate access and circulation. No alleys are proposed.

Section 17.88.050 Improvement Requirements

All improvements required by this ordinance or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the Developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the Developer and accepted by the City, the Developer shall provide a security guarantee satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to 250 feet, the applicant may request, and the City may grant an improvement deferral agreement.

- A. *Frontage Improvements: Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Section 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.*

FINDING: City infrastructure requirements and the conditions of subdivision approval shall be completed prior to issuance of building permits, unless a security guarantee is agreed upon by the developer and the City.

Proposed Street Improvements: The City Engineer's street improvement comments and requirements are as follows:

1. **17.56.020 Floodplain:** The applicant verified the location of the 100-year floodplain indicating that the work is outside the 100-year floodplain. It is now classified as zone X.
2. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to E. Main St.:** This is an existing arterial street. Through previous work the City has determined that the ROW will be 60' instead of 65', the pavement width 40' instead of 50', and the sidewalk is required to be 6'. Pavement, curb & gutter and sidewalk will be required to meet these standards. The additional pavement width is required to meet 40'. The applicant is proposing to provide additional pavement and a sidewalk. A landscape strip may be required to provide additional buffer in front of the R-3 site. A 5' bike lane is required by the TSP and city street standard and should be provided.
3. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to 7th Street:** It is a proposed new collector street and the requirements are: 71' ROW, 46' pavement, 5'

bike lane, 5' landscape strip, curb & gutter, and a 6' sidewalk. This meets the requirements of the TSP to have a collector street running north south in this area. The applicant has requested an alternate section in order to match existing conditions near at N.7th St. on the north side of Main St. which does not include a landscape strip.

- a. Therefore, they do not meet the requirements of 17.64.020 N (landscape strip), or 17.64.040 (ROW improvements).
 - b. The request includes a 47' ROW near Main St. that transitions to a 58" ROW. This deletes the landscape strip, and on the west side of the street deleting the sidewalk near Main St. The landscape strip shall be included between curb and sidewalk.
 - c. The street trees should be planted in an easement behind the sidewalk.
 - d. The 100' of sidewalk deleted from 7th St. near the Main St. intersection should be included if possible. This should be evaluated in design in more detail.
 - e. The requested variance to ROW and pavement width has been discussed with City staff, and staff is in support because it matches existing improvements.
4. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to Washington Street and Taft St.:** These are local streets and the requirements are: 50' ROW, 34' pavement, curb & gutter, and a 5' sidewalk. It is shown matching up with the existing street. This matches the TSP and is good for future expansion of the transportation system.
5. **Section 17.64.030 H. Dead end streets:** Per fire code requirements, dead-end streets longer than 150' shall have an approved turnaround. A temporary turnaround may be required near the south end of the subdivision that meets requirements of the Fire Chief. While preliminary discussions indicate that fire sprinklers may be adequate, this issue should be further developed in design.
6. **Section 17.72 Storm Drainage:** There is a 15" storm sewer on E. Main St. that discharges to Hawn Creek. There is a 10" pipe on Washington St. that discharges to an open channel. Detention is not required unless the downstream pipes are not sufficiently sized. One culvert is proposed to be upsized. Treatment is not required. The storm drainage system should be designed such that it picks up all the drainage on the streets and can be extended for future developments. The storm water is proposed to be discharged to an existing drainage way. This is acceptable. The applicant has provided a preliminary storm report. Pipe and rip-rap sizing is considered preliminary and will need to be verified during design.
7. **Section 17.76.020 C. Water:** There is a 6" water line on E. Main Street, and a 10" water line on the north side of Main St. There is a fire hydrant on E. Main Street. There is an 8" line that dead-ends on Washington Street. A minimum 8" water line would be required along all the streets and would connect to the water line on E. Main St. and Washington St.
- a. The connection on E. Main St. should be to the 10" pipe.
 - b. The pipe size shall be evaluated to determine if it is adequately sized to provide service and fire flow to the southern UGB.
 - c. All lots would require separate water services and meters.

8. **Section 17.76.020 D. Sanitary Sewer:** There is an 8” sanitary sewer on E. Main St that is clay, and an 8” pipe parallel to the west property line that is concrete. These two lines flow by gravity to the Hawn Creek pump station. As proposed the new sanitary sewer pipe would be 8” on all the streets.
 - a. The 8” clay pipe on E. Main St. should be replaced.
 - b. Previous evaluation of the pump station capacity indicated that it has capacity to serve the proposed 38 lot subdivision.
 - c. All lots would require separate sanitary sewer services.
9. **Section 17.88.060 A. Design:** A specific engineering design review will be conducted with regard to the public facilities. While the plat layout and ROW’s would remain the same, details of the design may vary from the application. The engineering design plans shall follow the recommendations of the Geotechnical Report submitted with the application.
10. **Section 17.100.040 A. Access control:** The proposed access plan does not meet the standard. Access is required to be on the street with the lower functional class; therefore,
 - a. Lot 38 fronts E. Main St. (an arterial), and 7th street (a collector). The access should be on 7th St.
 - b. Lots 4, 5, 12, 13, 24, 25, 32 and 33 have frontage on 7th St. (a collector) and either E. Washington St. or E Taft St (both local). The access should be on the local street (Washington and Taft). If some of these are duplexes and on the corner lots, then one access could be on 7th.
11. **Section 17.100.070 Traffic Study:** A traffic study is required if more than 250 daily trips are generated. The proposed subdivision has 38 lots, so will generate approximately 380 trips per day. A traffic study is required and was submitted with the application. The study found that all intersections operate in an acceptable manner and no traffic control improvements are required.
12. **Section 17.176 Wetlands:** The applicant has indicated that there are wetlands, and provided a map showing the location. The plan as provided does not appear to affect the wetlands. If the plan is changed during design and wetlands are found to be impacted by the development, then the applicant will be required to meet State regulations regarding permitting and mitigation.
13. **DSL Permit:** The applicant has indicated that the existing stream will not be impacted enough to trigger a permit from the DSL. However, this is not apparent from the information provided. During design the applicant shall provide sufficient information to make the determination and shall obtain a permit if required.

B. Project Streets: All public or private streets within the land division shall be constructed as required by the provisions of Section 17.64. Private driveways serving flag lots or private streets shall be surfaced as per the requirements of this Ordinance.

FINDING: The applicant’s Preliminary Plat illustrates new street specifications. With conditions of approval as specified by the City Engineer the proposed streets can satisfactorily coincide with existing streets and meet the city street standards or variations thereof.

The plan does not include two streets located on the site in accordance with the TSP, a second north/south street (8th) and Polk Street. See TSP Future Street Plan.

The Carlton TSP requires a spacing standard of 75 feet between driveways on collector streets. Prior to final plat approval, the applicant shall submit a driveway spacing plan on 3rd Street for review and approval by City staff. Construction of all streets shall meet City requirements. These are included as conditions of approval.

C. Monuments: Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.

FINDING: This is included as a condition of approval.

D. Benchmarks: Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

FINDING: This is included as a condition of approval.

E. Surface Drainage and Storm Sewer System: Drainage facilities shall be provided within the land division and to connect the land division drainage to drainage-ways or to storm sewers outside the land division and shall be consistent with the most current adopted Storm Water Master Plan. Design of drainage within the land division shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the land division and to provide extension of the system to serve such areas. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.

1. Storm Drainage:

A condition of approval includes that the storm water system design and layout shall be approved by the City Engineer and Public Works prior to final plat approval.

F. Sanitary Sewers: Sanitary sewer shall be installed to serve the land division and to connect the Land division to existing mains both on and off the property being divided. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.

The City may require that the construction of sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed.

FINDING: The City Engineer indicates that sanitary sewer line connections and construction shall be performed in accordance with city requirements and are included as a condition of approval.

- G. *Water System: Water lines with valves and fire hydrants serving the land division and connecting the land division to the City mains shall be installed. The design shall take into account provisions for extension beyond the land division to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the City will not expect the developer to pay for the extra pipe material cost of mains exceeding eight (8) inches in size. Installation costs shall remain entirely the developer's responsibility.*

FINDING: In addition to the City Engineer's comments regarding water, fire hydrants need to be provided within 250 feet of all building lots. As a condition of approval, the Fire Chief shall approve the number and location of all fire hydrants prior to final plat approval. The Uniform Fire Code requires minimum fire flows of 1,000 gallons per minute for residential development. As a condition of approval, the applicant shall demonstrate that fire flows to the subject development meet the minimum Uniform Fire Code Standard. If fire flows are not available a new dwelling will need to be sprinkled, in which case the required fire flows can be decreased at the discretion of the Fire Chief.

- H. *Pedestrian Facilities and Bicycle ways: Sidewalks shall be installed along both sides of each public street and include any pedestrian or bicycle ways within the land division as well as along all frontages to existing streets. Sidewalks shall be extended as required to connect to other sidewalk systems. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks, sidewalks fronting public property, or sidewalks adjacent to existing structures shall not be deferred.*
- I. *Pedestrian/Bicycle Design Standards. Pedestrian/bicycle access ways shall meet the following design standards*
- a. *Minimum dedicated width: 5 - 10 feet*
 - b. *Minimum improved width: 5 feet*
 - c. *Vision Clearance: A clear line of visions for the entire length of the access way shall be required.*
 - d. *Pedestrian scale lighting fixtures shall be provided along the walkway and lighted to a level where the system can be used at night.*
 - e. *The access way shall be designed to prohibit vehicle traffic.*

FINDING: The City finds bicycle/pedestrian path specifications in this section may be in conflict with the more recent provisions in Section 17.64 as a result of the adoption of the TSP and standard modifications made in recent subdivisions to match existing conditions and reduce the amount of pavement.

- J. *Other:*
1. *Curb cuts and driveway installations, excluding common drives, are not required of the land divider but, if installed, shall be according to the City standards.*
 2. *Street tree planting is not required of the land divider but, if planted, shall be in accordance with City requirements and of a species compatible with the width of the planting strip.*

3. *Streetlights. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.*
4. *Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards.*

FINDING: Compliance with the streetlight and street sign requirements is included as a condition of approval.

Other considerations:

FINDING: The applicant has not submitted proposed reservations and restrictive covenants for the planned subdivision.

Section 17.100 Access Control Standards

In Section 17.100.040 General Standards, criterion A. states that lots that have more than one street access shall provide access only from the street with the lower functional classification.

FINDING: Lots 1, 15 thru 22, 30, 31 and 37 are large enough to be occupied by a duplex that will necessitate access onto 7th Streets, a collector. Only lot 32 is a larger lot on the corner of 7th and Washington streets that could be occupied by a duplex. In this case it would be preferable if an entry can be located on both streets to provide a separation privacy between the two entrances. Although a duplex on these lots has not yet been proposed, the separation concept appears to conflict with the traffic safety policy to avoid new driveways on a collector street. It is recommended that an exception be made in this case because the narrow parcel by nature is restricts most lots to using 7th Street as the driveway access.

Section 17.176 Subdivisions and Planned Unit Development

All applications for a subdivision shall be submitted on forms provided by the city with the required information and accompanied by 10 copies and the application fee. All subdivisions shall conform to the applicable zoning district standards, development standards and other provisions of the Carlton Development Code.

FINDING: In accordance with application requirements of Section 17.176 subdivision materials have generally been provided including an application with a traffic impact report, a geotechnical analysis, a areawide shadow plan of future streets, a conceptual view from Main Street of the apartment site, an arborist report and a wetland report, plus copies, mailing labels and the required fee. More details of the adjoining streets from the TSP, the wetland and tree reports are forthcoming.

VII. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings in this report, staff recommends approval of the proposed 38-lot subdivision subject to the following conditions of approval:

1. This decision is subject to City Council's final approval of the subject parcel rezoning to R-2 and R-3. If the property is not rezoned by city ordinance the JR Meadows preliminary subdivision plat approval is void.
2. A demolition permit and a grading permit shall be obtained from the city prior to any site grading and demolition of any buildings on the site. The specific recommendations in the applicant's Geotechnical Engineering Report dated July 25, 2019 shall be incorporated into the design and construction phases of the project.
3. **Prior to final plat approval**, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, grading and erosion control, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Public Works Director and City Engineer for approval in a pre-construction meeting prior to any improvements or construction. The City Engineer's requirements are listed in this report under Section 17.88.050 Improvement Requirements on pages 8-10.
 - a. The applicant shall demonstrate that there is adequate fire apparatus access and turn around capability and that fire flows serving the subject development meet the Uniform Fire Code requirement of 1,000 gallons per minute. All fire hydrants shall be installed according to the adopted City of Carlton Public Works Standards. If fire flows are not available a new dwelling will need to be sprinkled, in which case the required fire flows can be decreased at the discretion of the Fire Chief.
 - b. Street improvements shall be designed and constructed to city standards as approved by the City Engineer. Street tree planting in a landscape strip on local streets is not required of the land divider. Instead street trees shall be planted in the front yard defined by an easement. Street trees are required in a planter strip between the sidewalk and curb improvements on Main Street in accordance with tree planting specifications and a tree species compatible with the location and width of the planting strip. A 5' bike lane is also required on Main Street.
 - c. The storm water system design, layout and improvements shall be approved by the City Engineer.
 - d. The sanitary sewer system design, layout and improvements shall be approved by the City Engineer.
 - e. All utilities shall be underground in an easement and shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76.
 - f. The Carlton TSP requires a spacing standard of 75 feet between driveways on 7th Street (a collector street). Prior to final plat approval, the applicant shall submit a driveway

spacing plan for review and approval by City staff. In addition, a duplex on a corner lot is not restricted to driveway access on the lower classification of street abutting the property in order to allow for two separate entries.

- g. The existing trees identified on sheet P-02 and P-03 that are on the perimeter of the site shall be retained wherever possible.
- h. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.
- i. The installation of underground electric service, streetlight standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.
- j. All public improvements shall be constructed in accordance with the land division requirements of Development Code and the relevant City of Carlton Public Works Standards, as may be practically modified based on site specific conditions.
- k. Curb cuts and driveway installations, excluding common drives, are not required by the developer, but, if installed, shall be according to the City standards.
- l. The City and the applicant shall determine the ownership and maintenance of Tract A, the open space and wetland parcel, which may be described on the final plat.

4. Prior to issuance of building permits:

- a. All dwellings shall comply with the design standards of Section 17.106.030 A. Residential Design Standards regarding garage size, materials and completion, as well as the lot coverage requirements of Sections 17.22 R-2 and 17.28 R-3 at the time of building permit submittal. The standards address garage size, materials and completion prior to occupancy.

5. **Security Guarantee:** If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.

6. **Final Plat Submittal:** Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless an extension request is filed with the City before the expiration date. An extension request shall be made in accordance with Section 17.176.050.

VI. MOTION OPTIONS

- A. I move to approve the JR Meadows Subdivision Preliminary Plan as recommended by staff based upon the findings in the staff and applicant's report subject to final adoption of the zone change and in compliance with the conditions of this approval, or
- B. I move to deny the preliminary subdivision plan (stating how the application does not meet the required standards).
- C. I move to continue the hearing to a time certain or indefinitely (considering the 120-day limit on the application decision).

**BEFORE THE PLANNING COMMISSION
OF THE CITY OF CARLTON**

**IN THE MATTER OF A PRELIMINARY) NOTICE OF DECISION
SUBDIVISION PLAN FOR JR MEADOWS) CONDITIONS OF APPROVAL**

APPROVAL of a request for JR Meadows Preliminary Subdivision Plan, a 38-lot subdivision to create 38 residential home sites at South 7th and Main Streets.

APPLICANT: TJA, LLC
9110 NW Clay Pit Road
Yamhill, Oregon 97148

PROPERTY OWNER: Steve Reimann
9110 NW Clay Pit Road
Yamhill, Oregon 97148

REQUEST: Request for Subdivision approval to plat 38 residential lots

SITE LOCATION: 640 E. Main Street; Map 3S 4 22 tax lot 1400

SITE SIZE: Estimated 9.3 acres total (R-2:8.8 acres, R-3:.5 acres)

DESIGNATION: Comprehensive Plan Map: Residential [R]

Zoning: Medium Density Residential [R-2]; High Density R-3

CRITERIA: Carlton Development Code

- Section 17.22 R-2 & 17.28 R-3 Zones
- Section 17.60.030 Development and Design Standards
- Section 17.64 Street Standards
- Section 17.72 Storm Drainage
- Section 17.76 Utility Lines and Facilities
- Section 17.88 Development Standards for Land Divisions
- Section 100 Access Control Standards
- Section 17.106.030 A. Residential Design Standards
- Section 17.176 Subdivisions and PUD's
- Section 17.188 Type II Actions and Procedures
- Section 17.196 Public Hearings
- Section 17.216 Performance Agreement

EXHIBITS:

- Application Forms, Narrative & Findings, Traffic Study, Geo-tec Report, Plan Sheets P01 – P12, August 2019, Wetland determination 10-31-19,

Arborist letter & Tree Table 11-13-19, Applicant's Conceptual Open Space Plan for Tract A, Conceptual Plan for the Main Street Frontage and Neighborhood TSP Circulation Plan

- Comments from Gordon Munro City Engineer 11-26-19

I. REQUEST

The application requests approval of a 38-lot residential subdivision to be known as JR Meadows Subdivision. Of those, 37 lots are single family or duplex lots and one lot is designated for multi-family dwellings. A future multi-family proposal will require Planning Commission approval of a detailed site and design plan.

II. ENGINEERING COMMENTS AND CONDITIONS OF APPROVAL

CDC Section 17.88.050 Improvement Requirements

All improvements required by this ordinance or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the Developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the Developer and accepted by the City, the Developer shall provide a security guarantee satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to 250 feet, the applicant may request, and the City may grant an improvement deferral agreement.

A. Frontage Improvements: Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Section 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

The City Engineer's improvement comments and requirements are as follows:

1. **17.56.020 Floodplain:** The applicant verified the location of the 100-year floodplain indicating that the work is outside the 100-year floodplain. It is now classified as zone X.
2. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to E. Main St.:** This is an existing arterial street. Through previous work the City has determined that the ROW will be 60' instead of 65', the pavement width 40' instead of 50', and the sidewalk is required to be 6'. Pavement, curb & gutter and sidewalk will be required to meet these standards. The additional pavement width is required to meet 40'. A landscape strip is

required to provide additional buffer in front of the R-3 site. According to city arterial street standards and the TSP a 5' bike lane is required on the Main Street frontage.

3. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to 7th Street:** It is a proposed new collector street and the requirements are: 71' ROW, 46' pavement, 5' bike lane, 5' landscape strip, curb & gutter, and a 6' sidewalk. This meets the requirements of the TSP to have a collector street running north south in this area. The applicant has requested an alternate section in order to match existing conditions near at N.7th St. on the north side of Main St. which does not include a landscape strip.
 - a. Therefore, they do not meet the requirements of 17.64.020 N (landscape strip), or 17.64.040 (ROW improvements).
 - b. The request includes a 47' ROW near Main St. that transitions to a 58" ROW. This deletes the landscape strip, and on the west side of the street deleting the sidewalk near Main St. The landscape strip shall be included between curb and sidewalk.
 - c. The street trees should be planted in an easement behind the sidewalk.
 - d. The 100' of sidewalk deleted from 7th St. near the Main St. intersection should be included if possible. This should be evaluated in design in more detail.
 - e. The requested variance to ROW and pavement width has been discussed with City staff, and staff is in support because it matches existing improvements.
4. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to Washington Street and Taft St.:** These are local streets and the requirements are: 50' ROW, 34' pavement, curb & gutter, and a 5' sidewalk. It is shown matching up with the existing street. This matches the TSP and is good for future expansion of the transportation system.
5. **Section 17.64.030 H. Dead end streets:** Per fire code requirements, dead-end streets longer than 150' shall have an approved turnaround. A temporary turnaround may be required near the south end of the subdivision that meets requirements of the Fire Chief. While preliminary discussions indicate that fire sprinklers may be adequate, this issue should be further developed in design.
6. **Section 17.72 Storm Drainage:** There is a 15" storm sewer on E. Main St. that discharges to Hawn Creek. There is a 10" pipe on Washington St. that discharges to an open channel. Detention is not required unless the downstream pipes are not sufficiently sized. One culvert is proposed to be upsized. Treatment is not required. The storm drainage system should be designed such that it picks up all the drainage on the streets and can be extended for future developments. The storm water is proposed to be discharged to an existing drainage way. This is acceptable. The applicant has provided a preliminary storm report. Pipe and rip-rap sizing is considered preliminary and will need to be verified during design.
7. **Section 17.76.020 C. Water:** There is a 6" water line on E. Main Street, and a 10" water line on the north side of Main St. There is a fire hydrant on E. Main Street. There is an 8" line that dead-ends on Washington Street. A minimum 8" water line would be

- required along all the streets and would connect to the water line on E. Main St. and Washington St.
- a. The connection on E. Main St. should be to the 10" pipe.
 - b. The pipe size shall be evaluated to determine if it is adequately sized to provide service and fire flow to the southern UGB.
 - c. All lots would require separate water services and meters.
8. **Section 17.76.020 D. Sanitary Sewer:** There is an 8" sanitary sewer on E. Main St that is clay, and an 8" pipe parallel to the west property line that is concrete. These two lines flow by gravity to the Hawn Creek pump station. As proposed the new sanitary sewer pipe would be 8" on all the streets.
- a. The 8" clay pipe on E. Main St. should be replaced along the site's frontage.
 - b. Previous evaluation of the pump station capacity indicated that it has capacity to serve the proposed 38 lot subdivision.
 - c. All lots would require separate sanitary sewer services.
9. **Section 17.88.060 A. Design:** A specific engineering design review will be conducted with regard to the public facilities. While the plat layout and ROW's would remain the same, details of the design may vary from the application. The engineering design plans shall follow the recommendations of the Geotechnical Report submitted with the application.
10. **Section 17.100.040 A. Access control:** The proposed access plan does not meet the standard. Access is required to be on the street with the lower functional class; therefore,
- a. Lot 38 fronts E. Main St. (an arterial), and 7th street (a collector). The access should be on 7th St.
 - b. Lots 4, 5, 12, 13, 24, 25, 32 and 33 have frontage on 7th St. (a collector) and either E. Washington St. or E Taft St (both local). The access should be on the local street (Washington and Taft). If some of these are duplexes and on the corner lots, then one access could be on 7th Street. If there are overriding circumstances on the other lots, the applicant shall provide data that is acceptable to the City for driveways to be located on 7th Street.
11. **Section 17.100.070 Traffic Study:** A traffic study is required if more than 250 daily trips are generated. The proposed subdivision has 38 lots, so will generate approximately 380 trips per day. A traffic study is required and was submitted with the application. The study found that all intersections operate in an acceptable manner and no traffic control improvements are required.
12. **Section 17.176 Wetlands:** The applicant has indicated that there are wetlands, and provided a map showing the location. The plan as provided does not appear to affect the wetlands. If the plan is changed during design and wetlands are found to be impacted by the development, then the applicant will be required to meet State regulations regarding permitting and mitigation.

13. **DSL Permit:** The applicant has indicated that the existing stream will not be impacted enough to trigger a permit from the DSL. However, this is not apparent from the information provided. During design the applicant shall provide sufficient information to make the determination and shall obtain a permit if required.

III. DECISION

Based on the findings in the City Staff Report dated 12-9-19, the City Engineer's comments and findings above and the applicant's findings and materials, on December 16, 2019 the Carlton Planning Commission approved the preliminary subdivision plan for JR Meadows a 38-lot subdivision subject to the following conditions of approval:

1. This decision is subject to City Council's final approval of the subject parcel rezoning to R-2 and R-3. If the property is not rezoned by city ordinance the JR Meadows preliminary subdivision plat approval is void.
1. A demolition permit and a grading permit shall be obtained from the city prior to any site grading and demolition of any buildings on the site. The specific recommendations in the applicant's Geotechnical Engineering Report dated July 25, 2019 shall be incorporated into the design and construction phases of the project.
3. **Prior to final plat approval**, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, grading, erosion control, tree protection methods, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Public Works Director and City Engineer for approval in a pre-construction meeting prior to any improvements or construction. The City Engineer's comments on the application and conditions of approval are listed herein in Section II. of this decision.
 - a. The applicant shall demonstrate that there is adequate fire apparatus access and turn around capability and that fire flows serving the subject development meet the Uniform Fire Code requirement of 1,000 gallons per minute. All fire hydrants shall be installed according to the adopted City of Carlton Public Works Standards. If fire flows are not available a new dwelling will need to be sprinkled, in which case the required fire flows can be decreased at the discretion of the Fire Chief.
 - b. Street improvements shall be designed and constructed to city standards as approved by the City Engineer, including a 5' bike lane on the Main Street frontage. Street tree planting in a landscape strip on local streets is not required of the land divider. Instead street trees shall be planted in the front yard defined by an easement. Street trees are required in a planter strip between the sidewalk and curb improvements on Main Street in accordance with tree planting specifications and a tree species compatible with the location and width of the planting strip.
 - c. The storm water system design, layout and improvements shall be approved by the City Engineer.

- d. The sanitary sewer system design, layout and improvements shall be approved by the City Engineer.
- e. All utilities shall be underground in an easement and shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76.
- f. The minimum spacing between driveways on 7th Street shall be as close to 75' as possible, measured from driveway edge to driveway edge. Prior to final plat approval, the applicant shall submit a driveway spacing plan for review and approval by City staff. In addition, a duplex on a corner lot is not restricted to driveway access on the lower classification of street abutting the property in order to allow for two separate entries.
- g. The existing trees identified on plan sheets P-02 and P-03 that are on the perimeter of the site shall be retained wherever possible and properly protected during construction.
- h. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.
- i. The installation of underground electric service, streetlight standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.
- j. All public improvements shall be constructed in accordance with the land division requirements of Development Code and the relevant City of Carlton Public Works Standards, as may be practically modified based on site specific conditions.
- k. Curb cuts and driveway installations, excluding common drives, are not required by the developer, but, if installed, shall be according to the City standards.
- l. The City and the applicant shall determine the ownership and maintenance of Tract A, the open space and wetland parcel, which shall be described on the final plat.

4. **Prior to issuance of building permits:**

- a. All dwellings shall comply with the design standards of Section 17.106.030 A. Residential Design Standards regarding garage size, materials and completion, as well as the lot coverage requirements of Sections 17.22 R-2 and 17.28 R-3 at the time of building permit submittal. The standards address garage size, materials and completion prior to occupancy.

5. **Security Guarantee:** If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.

6. **Final Plat Submittal:** Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless and extension request is filed with the City before the expiration date. An extension request shall be made in accordance with Section 17.176.050.

Signed: 

Date corrected: 1.2.20

Dennis Durham, Carlton City Manager

APPEAL: A final decision by the Planning Commission may be appealed to the City Council by an aggrieved party by filing a notice of appeal with the City Recorder within 10 days of the date of these written findings on the action and in accordance with CDC Section 17.204.



**CITY OF CARLTON
PLANNING COMMISSION MEETING AGENDA
MONDAY, OCTOBER 19, 2020, 6:00 P.M.
VIA ZOOM**

The Mission of the City of Carlton is to sustain and enhance the viability of the community by providing essential services with professionalism and integrity.

	<u>Pages</u>
1. Call to Order – Roll Call	1
A) Changes to the Agenda	
2. City Staff Reports	2
A) Guilherme Brandao and MacKenzie Davis Oath of Office	
3. Approval of Minutes – July 20 and September 21, 2020	5
4. Citizen Comments	
5. Public Hearing:	9
A) City File #SUB 2020-01 Subdivision request from TJA, LLC Property address: 10251 Old McMinnville Highway	
6. Commissioner Comments	X
7. Adjournment	

Per the Governor's Executive Order 20-16 on April 16, 2020, no public hearing will be taken in person. The building, City Hall, is closed to the public. This meeting will be held via Video and Teleconference in order to meet public gathering requirements and to adhere to public health and safety standards. To attend or participate the meeting virtually, you can log in with a computer and computer audio using this link: <https://us02web.zoom.us/j/81372712280?pwd=VEZXc2tMd0ZLQVITdDN2aGJCQUVRdz09>

This meeting ID: 813 7271 2280

Passcode: 984894

Or you can call **1-253-215-8782** and enter the meeting ID and password to enter the meeting using your phone only.

Any public comments for topics on this Agenda item can be emailed to
aamerson@ci.carlton.or.us to be read at the meeting.



Oath of Office

PLANNING COMMISSIONER

Guilherme Brandao

August 4, 2020 – December 31, 2021

State of OREGON)
) §
 County of YAMHILL)

*I, **Guilherme Brandao**, the undersigned duly appointed **Planning Commissioner** for the City of Carlton, do hereby solemnly swear I will support the Constitution and laws of the United States of America and the State of Oregon and the Charter and Ordinances of the City of Carlton; and I will faithfully perform my duties as Planning Commissioner to the best of my ability.*

 Guilherme Brandao, Planning Commissioner

Signed and sworn to before me on October 19, 2020 by Guilherme Brandao.

 Aimee Amerson, Planning/Administrative
 Manager
 Notary Public for the State of Oregon



Oath of Office

PLANNING COMMISSIONER

Mackenzie Davis

September 1, 2020 – December 31, 2023

State of OREGON)
) §
 County of YAMHILL)

*I, **Mackenzie Davis**, the undersigned duly appointed **Planning Commissioner** for the City of Carlton, do hereby solemnly swear I will support the Constitution and laws of the United States of America and the State of Oregon and the Charter and Ordinances of the City of Carlton; and I will faithfully perform my duties as Planning Commissioner to the best of my ability.*

 Mackenzie Davis, Planning Commissioner

Signed and sworn to before me on October 19, 2020 by Kevin Herwick.

 Aimee Amerson, Planning/Administrative
 Manager
 Notary Public for the State of Oregon



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Planning Commission Regular Session Minutes
July 20, 2020, 6:00 PM
Carlton City Hall, Council Chambers (191 E. Main Street)

1. CALL MEETING TO ORDER & ROLL CALL

Chair Kevin Herwick called the meeting to order at 6:00 PM.

Members Present: Bob Graham
 Kevin Herwick Grant Erickson
 Jessica Sampson

Members Absent: None

Staff Present: Dennis Durham, City Manager
 Morgan Shelton, Utility and Court Clerk
 Aimee Amerson, Community and Economic Development Coordinator
 Carole Connell, City Planner

Others: Jim Moore, Anthony Stuart, Brian Rake, Marty Doreshlag, Nichole Pilakowski, and Eric Witherspoon all via video or phone

2. MINUTES APPROVAL- June 15, 2020

MOTION: Graham/Sampson: to approve the Planning Commission minutes as modified from June 15, 2020, as submitted. Motion carried (4 Yes/0 No/0 Absent/0 Abstain).

3. CITY STAFF REPORTS**A) Anthony Stuart Oath of Office****6:01 PM**

Community and Economic Development Coordinator Aimee Amerson introduced Anthony Stuart and he read his Oath of Office. Stuart fills the vacancy left by Commissioner Brennan.

B) Planning Commission Vice Chair Nominations and Appointment**6:03 PM**

Chair Herwick asked the Commission for any nominations for Vice Chair. Commissioner Erickson questioned the job duties of the Vice Chair. Erickson nominated himself. No other nominations were received.

MOTION: Erickson/Graham: to approve the nomination of Grant Erickson as Vice Chair position of the Planning Commission. Motion carried (5 Yes/0 No/0 Absent/0 Abstain).

4. CITIZEN COMMENTS**6:06 PM**

None were given.

5. PUBLIC HEARING**A) City File# SDR 2020-02 Site Design Review; Flanuer Wines/Marty Doerschalg****6:06 PM**

Planning Commissioner Chair Kevin Herwick opens the public hearing at 6:06 PM.

Herwick read the Hearing and Disclosure statement. Herwick asks the Commissioners if they have any bias or ex-parte contact regarding this application. Commissioner Sampson stated she lives near the building and is familiar with it, but claimed no bias towards the project or property.

The applicant's architect Jim Moore began by explaining the plan for the building and the site. Moore explained the additions on the North and South end of the building, added parking area, fencing, and landscaping

attributes. He then explained their preferred property access. To access the property without going down 3rd street and then on East Washington street, they would ask for the use of East Washington street going through the old railroad and connecting to South Pine street. This would extend Washington street between the Carlton Vet and a private residence.

City Planner Carole Connell began her staff report and explained to the Commissioners how the project met city development code. She continued to explain to Commissioners how the project did not. Possible adjustments were needed from the Commission in regards to landscaping and screening and Washington street access.

The Commissioners asked questions to the applicants and staff. The Commissioners asked questions regarding the Washington street access, improvement and speed reduction options.

Nichole Pilakowski of 230 South Pine street- Stated the Washington street right of way is essential to their business. Staff park there, and horses and horse trailers are unloaded in the right of way space for veterinarian care.

Eric Witherspoon of 310 South Pine street- stated he started at the Veterinarian office in 1980. Clients bring their horses in horse trailers to the animal hospital and unload or park in the right of way space. He explained how the right of way space is crucial to their business.

Jenni Adams of 230 South Pine street- she agreed with Witherspoon and Pilakowski. She added that not having the street area would limit their business access and be a safety issue.

Chair Herwick closes the public hearing at 8:22 PM.

Herwick asked for final questions from the Commissioners regarding the Site Design Review. Commissioners deliberated ideas on compromising the use of Washington street for both businesses.

MOTION: Graham/Erickson: to approve the Site Design Review as recommended by staff based upon the findings in the City staff report and in compliance with the conditions of approval as amended and reflect the changes made by the Planning Commission. Motion carried (5 Yes/ 0 No/ 0 Absent/0 Abstain).

6. COMMISSIONER COMMENTS

7:38 PM

7. ADJOURNMENT

The meeting adjourned at 8:30 PM.

ATTEST:

Aimee Amerson,
Community and Economic Development Coordinator

Kevin Herwick, Planning Commissioner Chair



**Planning Commission Training Minutes
September 19, 2020, 8:30 AM
Carlton Fire Hall (343 W. Roosevelt Street)**

1. CALL MEETING TO ORDER & ROLL CALL

Meeting called to order by Renata Wakely at 8:35 AM.

Members Present: Bob Graham Anthony Stuart
MacKenzie Davis Grant Erickson
Guilherme Brando

Members Absent: Jessica Sampson

Staff Present: Morgan Shelton, Utility and Court Clerk
Aimee Amerson, Planning/Administrative Manager

Others: Courtnie Belanger, Robin Geck and Renata Wakley of Council of Governments

2. COMMISSIONER TRAINING WITH BILL MONAHAN

Bill Monahan introduced himself and shared his background with attendees. He had each attendee introduce them selves and their board or committee position, then he began his presentation. Monahan covered the role of the Planning Commissioner, hearing procedures, legislative process, quasi-judicial process, the record, ex-parte contacts, conflicts of interest, bias, burden of proof, evidence, findings, the 120-day rule and Ethics.

Attendees and Commissioners asked questions of Monahan for clarification and understanding throughout his presentation.

3. COMMISSIONER COMMENTS

None given.

4. ADJOURNMENT

The meeting adjourned at 12:40 PM.

ATTEST:

Aimee Amerson,
Planning/Administrative Manager

Grant Erickson, Planning Commissioner Vice Chair



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NOTICE OF PUBLIC HEARING CITY OF CARLTON

NOTICE IS HEREBY GIVEN that the City of Carlton Planning Commission will hold a public hearing on **Monday, October 19, 2019 at 6:00 pm** via Zoom to consider a proposed subdivision plan.

City File# SUB 2020-01 JR Meadows Preliminary Subdivision Plan for Phase II – located at 10215 NE Old McMinnville Highway, or Assessor Map 3422 Tax Lot 1300. The applicant is requesting to subdivide existing parcel into 54 lots that are zoned R-2 (for single family homes or duplex dwellings) and one parcel would be zoned R-3 for multifamily housing. The subject property is currently zoned R-2 and R-3 as of final Council approval on September 1, 2020. The relevant subdivision standards and approval criteria in the Carlton Municipal Code are as follow:

- Public notice and hearing procedures: 17.192 - 196
- R-2 & R-3 Zone Standards: 17.22 & 17.18
- Floodplain Overlay Zone: 17.56
- General Development Standards: 17.60 - 17.140
- Subdivisions: 17.176 – 17.176.050
- Type II Application type: 17.144.030

HOW TO PARTICIPATE: Any person desiring to speak either for or against the proposal may do so in person or by an authorized representative at the public hearing. In addition, written comments may be submitted prior to the hearing with the City Recorder at City Hall. The documents, evidence or staff report relied upon will be available for inspection at City Hall seven days prior to the hearing at no cost and will be provided at reasonable cost. Public comments shall address the relevant criteria. Failure of an issue to be raised in the hearing, in person or in writing, or failure to provide sufficient specificity to afford the Planning Commission an opportunity to respond to an issue means that an appeal on that issue cannot be filed with the State Land Use Board of Appeals. If you need more information, please feel free to call Aimee Amerson at City Hall 503-852-7575.

The meeting is accessible to the disabled. If you have the need for special accommodation to attend or participate in the hearing, notify the City Recorder 24 hours before the hearing. For further information, contact City Hall at (503) 852-7575.

Zoom meeting Access Details

To join the Planning Commission meeting on October 19th at 6 PM, please follow the directions below.

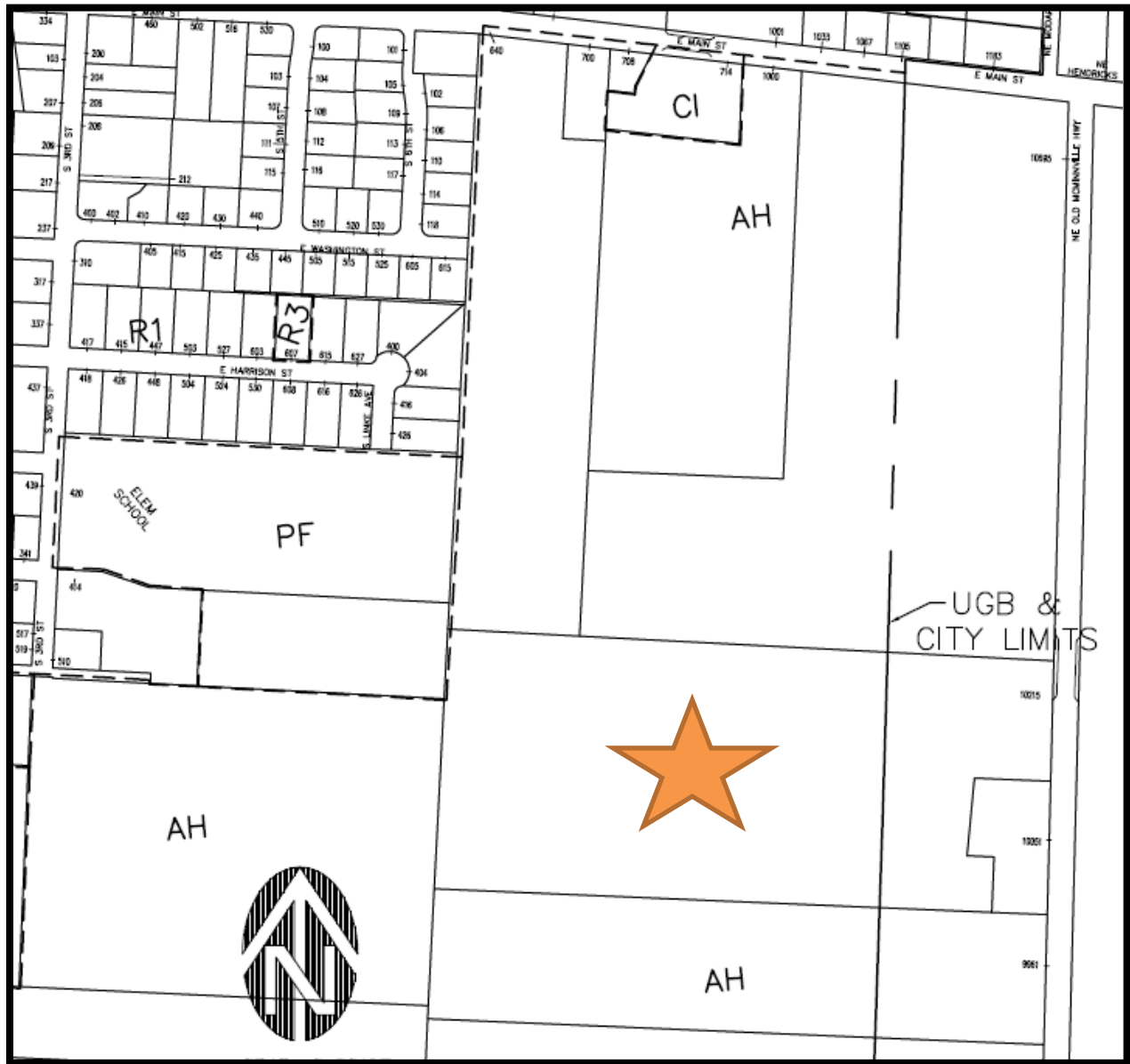
To join meeting on a computer, please use this link:

<https://us02web.zoom.us/j/81372712280?pwd=VEZXc2tMd0ZLQVITdDN2aGJCQUVRdz09>

To join using a phone, call 1-253-215-8782

Enter Meeting ID #: 813-72712280

Enter Passcode: 984894



**CITY OF CARLTON
PLANNING COMMISSION**

10-12-20

STAFF REPORT: Preliminary Plan JR Meadows Phase 2 Subdivision
City file #SUB2020-01
Carole Connell, AICP Carlton City Planner

HEARING DATE: October 19, 2020

APPLICANT: TJA, LLC
9110 NW Clay Pit Road
Yamhill, Oregon 97148

PROPERTY OWNERS: Steve Reimann
9110 NW Clay Pit Road
Yamhill, Oregon 97148

REQUEST: Request for Subdivision approval to plat 55 residential lots

SITE LOCATION: 10215 NE Old McMinnville Hwy; Map 3S 4 22 tax lot 1300

SITE SIZE: Estimated 13.94 acres total (R-2:11.97 acres, R-3: 1.97acres)

DESIGNATION: Comprehensive Plan Map: Residential [R]
Zoning: Medium Density Residential [R-2]; High Density R-3

CRITERIA: Ordinance # 2020-727 Re-zoning the property with two conditions
Carlton Development Code

- Section 17.22 R-2 & 17.28 R-3 Zones
- Section 17.56 Floodplain Management (FP) Zone
- Section 17.60.030 Public Facility Standards
- Section 17.64 Street Standards & street landscaping
- Section 17.72 Storm Drainage
- Section 17.76 Utility Lines and Facilities
- Section 17.88 Development Standards for Land Divisions
- Section 100 Access Control Standards
- Section 17.106.030 A. Residential Design Standards
- Section 17.176 Subdivisions and PUD's
- Section 17.188 Type II Actions and Procedures
- Section 17.196 Public Hearings
- Section 17.216 Performance Agreement

EXHIBITS:

- AKS Application Forms, Narrative & Findings, Traffic Study, Geo-tec Report, Arborist Report, Plan Sheets PO1 – P13 dated 8-19-20 & Tree Table revised 8-25-20
- DSL Wetland Land Use Notice Response WN#2020-0634 dated 9-25-20
- Comment from Carlton Fire Chief: no comments
- Comments from Gordon Munro City Engineer (in this report)
- Comments from DKS Assoc. re: Traffic Analysis dated 10-2-20
- Yamhill Carlton School District zone change letter dated 7-17-20
- Letter from Susan Turrell dated 10-4-20

I. REQUEST

The application requests approval of a 55-lot residential subdivision to be known as JR Meadows Phase 2 Subdivision. Of those, 54 lots are single-family, and one lot is designated for multi-family dwellings including an estimated 22 dwellings. A multi-family site development and design plan proposal for the R-3 zoned parcel will require future Planning Commission approval when the applicant files a site development plan. A condition of the applicant's Zone Change approval (File CPAZC 2020-01) requires:

1. Any future development of the R-3 zone portion of the property shall comply with the requirement that at least 25% of the units must be either in multi-family or attached single-family structures, e.g. townhouses or duplexes.
2. The submission of the informal wetland delineation boundaries Applicants have included as part of the site development plan prepared by AKS Engineering, to the Department of State Lands for review and approval in accordance with and as required by OAR 141-090-0035 and other applicable regulations prior to residential development taking place on the property.

II. PROCEDURE, NOTICES & REFERRALS

Subdivision applications are processed as a Type II permit and shall be considered by the Planning Commission in accordance with Section 17.188 Type II Actions and Procedures.

The City deemed the application complete on September 23, 2020. The city has until January 21, 2020, an estimated 120 days from the date the application was deemed complete to approve, modify and approve or deny this proposal, including an appeal decision if applicable. City departments and the Division of State Lands were notified and supplied a copy of the application materials for comment. Notice of the applicant's prior zone change application was also sent to The Yamhill Carlton School District who commented with no objections. Notice of a public hearing was mailed to property owners within 100' on September 25, 2020 at least 20 days before the hearing, and notice was published October 2, 2020. The City staff report was made available on October 12, 2020, as described in the public notices. The hearing will be held on October 19, 2020 and will be conducted by the Planning Commission in accordance with Section 17.196 Public Hearing procedures.

III. APPEAL

Appeals are governed by the Carlton Development Code CDC Section 17.204. An appeal of the Commission's decision shall be made, in writing, to the City Council within 10 days of the Planning Commission's final written decision.

IV. SITE AND SURROUNDINGS:

Site: The subject property is inside the City limits and the Carlton Urban Growth Boundary (UGB) and is planned for urban development. A partition City File PAR2020-02 was approved by the Planning Commission in May 2020 separating the portion outside the UGB from the subject portion inside the UGB.

The parcel is adjoined by Carlton elementary school, residential housing and vacant land zoned R-1 and R-2 to the north and west, and Agricultural Holding zoning to the south. The parcel outside the city/UGB is farmland zoned by Yamhill County EFU 80-acre minimum. There are no permanent structures on the site.

Sheet PO-02 Existing Conditions indicates varied topography with elevations ranging from 145' to 175'. The FEMA FIRM flood hazard area crosses the parcel in the upper right-hand corner denoting the Hawn Creek 100-year floodplain. Sheet PO-02 identifies dozens of trees over 6" DBH as well as four (4) wetlands and drainage streams in the northeast, southwest and northwest corners of the site.

Wetlands: The Division of State Lands (DSL) responded to the city's notice on 9-25-20. In summary, the DSL finds there are wetlands, waterway or other features on the property and the proposed project may impact wetlands and may require a State permit. A state permit is required for 50 cubic yards or more of fill removal or other ground alteration in wetlands. A Federal permit may be required by the Army Corps of Engineers. A permit approval may take 120 days.

Site access is from South 7th Street to Main, currently under construction. A gated emergency access will be available from Old McMinnville Hwy. The associated Partition approval by the Planning Commission is subject to a condition that requires a recorded emergency access to the site from Old McMinnville Hwy.

Future Streets: The 2009 Carlton Transportation System Plan (TSP) designates future street extensions to serve urban development on vacant land inside the UGB. The TSP identifies the extension of Cleveland and Wilson Streets from the west through the site, as well as two north/south street extensions including 7th Street and a new unnamed east of 7th Street. See Applicant's Exhibit A PO-04 Conceptual Neighborhood Circulation Plan. The proposal provides seven (7) street connections to adjacent properties along the northern, southern, eastern, and western edges of the site. The number of street connections consumes significant land area to assure maximum connectivity in all directions from the development.

V. SITE ZONING & DEVELOPMENT STANDARDS

A. CDC 17.22.010 R-2 ZONE

The City approved a zone change of the parcel from Agricultural to Residential. The total parcel is 13.94 acres. The request changes 11.97 acres to R-2 and 1.97 acres to R-3.

R-2 Zone Purpose: Residential uses permitted in the Residential-Medium Density district include single family, duplex, or an attached single-family dwelling with a maximum of two dwelling units. Lot size minimums in the zone range from 5000 square feet (attached), 6000 SF (single family) to 8000 SF (duplex). The zone permits an average density of 10 dwelling units per acre or less.

FINDINGS: The applicant's preliminary subdivision plan illustrates 54 single-family dwellings on the 11.97-acre R-2 portion, which allows potentially 120 dwelling units. The 54 single-family lots range from 6,000 to 7,450 square feet. See Sheet PO-04.

B CDC 17.28.10 R-3 ZONE

The Residential Medium High (R-3) district provides opportunities for higher density housing in proximity to substantial commercial and public development where full urban services are available. The R-3 district accommodates residential development of eight (8) to thirty-two (32) units per acre.

R-3 Zone purpose: The zone provides opportunities for higher density housing. Residential uses permitted in the district include single-family, duplex, multi-family and manufactured home parks.

FINDINGS: The preliminary plan illustrates a single R-3 parcel, Lot #71 that is 85,964 square feet in size, noted on Sheet PO-04. The R-3 portion permits a density of 8 – 32 dwellings per acre. The applicant's concept plan estimates 22 multi-family units will be built on the buildable portion (38,015 sf) which is otherwise constrained by numerous natural features (Tract C 47,949 sf). If the subdivision plan is approved the applicant is required to apply for Major Site Development permit approval by the Planning Commission. The associated zone change approval requires 25% of the R-3 parcel to be occupied by multi-family dwellings. The plan illustrates 79% of the R-3 parcel (Lot 71) will be developed for multi-family housing

C. CDC 17.56 Floodplain Management (FP) Overlay Zone

The purpose of the Floodplain management overlay zone is to:

1. Restrict or prohibit uses what are dangerous to health, safety, and property due to water or erosion hazards or which result in damaging increases in flood heights or velocities.
2. Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction.
3. Control the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters.
4. Control filling, grading, dredging and other development that may be subject to or increase flood damage.
5. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards in other areas.

This chapter shall apply to all areas of special flood hazards within the jurisdiction of Carlton. A flood plain development permit must be obtained before construction or development begins within any area of special flood hazard, in compliance with the standards of 17.56.050 to 17.056.070. The basis for establishing areas of special flood hazard are identified by the Federal Insurance Administration in a scientific report entitled “The Flood Hazard Study for Yamhill County, Oregon and Incorporated Areas”, dated March 2, 2010. The development permit is a Type I procedure approved by the City Administrator.

FINDINGS: The City finds the applicant verified the location of the 100-year floodplain zone “A” using the FEMA maps, which is included in the application as exhibit G. There is a small area in the north-east corner of the site that is in the floodplain. The proposed plan shown on drawing P-03 shows that floodplain will be left undeveloped. There will be no construction, grading or alteration of the floodplain. There will also be a buffer of undeveloped land designated as Tract C beyond that. Therefore, the requirements for construction in a floodplain are not applicable.

D. Public Facilities and Services

Section 17.60.030 Application of Public Facility Standards

Subdivisions must install fire hydrants as required, construct streets, water, sewer, storm facilities and install streetlights per city standards. The applicant intends to make these improvements as required by the city.

Public Facility and Services analysis by City Engineer, Gordon Munro:

1. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to 7th St.:** 7th St. is an extension of an existing collector street and the requirements are: 71’ ROW, 46’ pavement, 5’ bike lane, 5’ landscape strip, curb & gutter, and a 6’ sidewalk. This meets the TSP to have a collector street running north south in this area. However, the applicant has requested an alternate section in order to match existing conditions of the existing 7th Street north of Main Street and the approved JR Meadows Phase 1 south of Main Street.
 - a. They do not meet the requirements of 17.64.020 N (landscape strip), or 17.64.040 (ROW improvements). They request a width modification to avoid an excessively wide street ROW and to align with existing 7th Street improvements.
 - b. The request includes a 58” ROW. This deletes the landscape strip and.
 - c. The street trees can be located in an easement behind the sidewalk.
 - d. The requested modification with regard to ROW and pavement width was approved by the Planning Commission for Phase 1 and staff is in support as it matches the current street configuration.
2. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to Wilson St.:** Wilson St. is designated as a collector street in the TSP. It aligns with the future of extension of Wilson St. from the west.
 - a. The applicant has requested that the Wilson Street section match the 7th St. collector street ROW, pavement and landscape strip option.

- b. The requested modification with regard to ROW and pavement width has been discussed with City staff, and staff is in support as it matches the existing collector street configuration.
- 3. **Sections: 17.64.020, 17.64.030, 17.64.040 and 17.64.050 pertaining to Cleveland St. and 8th St.:** These are local streets, and the requirements are: 50' ROW, 34' pavement, curb & gutter, and a 5' sidewalk. The applicant has met these requirements.
- 4. **Section 17.64.030 D Future Extensions:** This requires that streets should be aligned such that it provides for future street extensions as shown in the TSP. All streets have been extended to the property line allowing them to be extended in the future. On sheet P-05 the applicant has shown the potential future extensions of the streets which matches up with the intent of the TSP.
- 5. **Section 17.64.030 H Dead end streets:** Per fire code requirements, dead-end streets longer than 150' shall have an approved turnaround.
 - a. A temporary turnaround may be required on E. Wilson St. at the east end that meets requirements of the Fire Chief. While preliminary discussions indicate that fire sprinklers may be adequate, this issue should be further developed in design.
 - b. A temporary turn-around is not required at the east end of Cleveland St. as there is a proposed emergency access from the Old McMinnville Highway. The emergency access will need to meet the requirements of the Fire Chief.
 - c. Oregon Fire Code Applications Guide: Per the guide developments of one and two-family dwellings where the number of dwelling units exceeds 30 or multi-family residential units having more than 100 units shall have at least two approved means of access. The proposed development has one permanent access which is on 7th St. The applicant has proposed a second emergency access off Old McMinnville Highway. The proposed development is configured to provide future connections to the transportation system as more land develops.
- 6. **Section 17.100.070 B Traffic Study Requirements:** The proposed development would produce more than 250 daily trips; therefore, a traffic study is required. A traffic study completed by Lancaster Mobley (a transportation engineering firm) was provided, stamped and signed by a registered engineer proficient in traffic engineering as part of the application in Exhibit E. The traffic study was reviewed by the City who also contracted a separate traffic engineering firm DKS Associates acting as a third-party review.
 - a. The average daily trips generated are expected to be 672. This is in line with what would be expected based upon traffic counts that were done by the City in 2019 on the north side of 7th St.
 - b. Traffic warrants are not met for traffic signals.
 - c. An eastbound left turn lane on E. Main St. is warranted regardless of whether the subdivision is constructed. This is for vehicles traveling east on E. Main St. and turning north on 7th St. towards Carlton Crest. The traffic into the proposed subdivision does not impact this turning movement. The turn lane can be provided by the City in the future should the City wish to do so by striping E. Main St. accordingly.
 - d. A southbound left turn lane on S. Pine St. is warranted regardless of whether the subdivision is constructed. This is vehicles traveling south on S. Pine St. and turning east on Polk St. towards the school. The traffic into the proposed

subdivision does not impact this turning movement. This is also an ODOT Highway, and they would need to be involved with regard to any changes.

- e. The intersections are expected to have a level of service (LOS) and volume-to-capacity (v/c) ratio that is acceptable.
 - f. Based upon the traffic study findings, additional street improvements, off-site improvements or signalization are not required.
 - g. The traffic study did not address pedestrians or bicycles. However, in conversations with DKS staff they indicated that sidewalks and shared traffic lanes were sufficient for pedestrian and bicycle traffic.
 - h. The narrowed street section is acceptable as it matches previous development.
 - i. Recommendations from DKS included: the design should meet AASHTO sight distance requirements at the site access, the design should be approved by the city engineer, and that no off-site improvements are required.
7. **Section 17.72 Storm Drainage:** There is no existing public storm water facilities on or adjacent to the proposed development. The storm water system on the adjacent subdivision (JR Meadows) stops at Taft St. due to contours. All storm water drainage on the property is overland draining to Hawn Creek in the north east. A preliminary storm water report was provided as part of the application as Exhibit H.
- a. Pipe has been sized adequately for the storm drainage in the subdivision and the run-off from the upstream sub-basins to the west.
 - b. Detention has not been proposed for the development where it discharges to Hawn Creek. Detention is required where there is not sufficient downstream capacity. The calculated 100-year flow from the development is approximately 2% of the current peak flow in Hawn Creek, and less than 1/100 of a percent of the Hawn Creek channel capacity. As there is more than sufficient capacity, detention is not required.
 - c. The discharge of the storm system is currently overland to Hawn Creek, and the discharge location will continue to be Hawn Creek through an existing wetland. As noted, the flow from the development is insignificant compared to the capacity of the Hawn Creek channel; therefore, it is not expected to impact the 100-year floodplain boundary.
 - d. The development has been laid out to protect the existing wetlands areas and to use them as part of the storm system. Run-off will continue to flow to three of the identified wetlands, but not the wetland near the intersection of Wilson St. and 7th St. The storm system should be modified to provide discharge to this wetland such that it is maintained. There is no apparent channel between the wetlands to direct flow, which should be addressed in the final design plans. The wetland next to lot #70 should be connected across 8th St. to allow flow to continue.
 - e. The final design plans will be required to have erosion control and energy dissipation at the discharge points (currently two wetlands). There shall also be drainage paths for the storm flow from wetland to wetland, and flow to Hawn Creek.
 - f. The storm water collection system is shown in general conformance with the City Design Standards. The final location of catch basins, manholes and pipe shall be adjusted as required during design review. The storm pipe at the south end of S.

8th St. should be extended to the property boundary. The storm flow at the east end of E. Cleveland St. is shown to flow directly onto the neighboring property. It will need to be collected and discharged to an appropriate location.

8. **Section 17.76.020 C. Water:** There is an 8” water line on S 7th St. at the end of JR Meadows. There is a fire hydrant on S. 7th St. at the corner of Taft St. A minimum 8” water line would be required along all the streets. Previous hydraulic modeling has shown that there is adequate fire flow to the development.
 - a. There is a dead-end water line shown on the private driveway serving lots 59 through 67. The main line should be extended to the water line on S 7th St. to eliminate the dead-end and create a loop.
 - b. There are two dead-end lines that end at the eastern boundary of the UGB, so are not likely to be connected in the future. These are on Cleveland St. and Wilson St. A smaller pipe should connect the two dead-ends that would cross lots 78 and 79. This can be a minimum pipe size such as 4” as it is intended only to maintain water quality. The pipe would be located in an easement.
 - c. Final fire hydrant locations will be adjusted per input from the Fire Chief.
 - d. All lots would require separate water services and meters.

9. **Section 17.76.020 D. Sanitary Sewer:** There is an 8” sanitary sewer on S 7th St. that discharges to the Hawn Creek Pump Station. The new sanitary sewer pipe would connect to the pipe on S 7th St. and would be 8” on all the streets.
 - a. The sanitary sewer layout shows gravity service to all the lots. However, it appears that the cover over the sanitary sewer pipe is as little as 3’ at the end of Cleveland St. and Wilson St. These pipes cannot be lowered as the pipe is at minimum grade. It is not clear that all the homes will be able to have gravity service. This will need to be verified during final design. The option of pressure services for a few homes will be considered.
 - b. Where there is insufficient cover over the sanitary sewer pipes, the pipe material shall be DI per the design standards.
 - c. Previous evaluation of the Hawn Creek pump station capacity indicated that it does not have capacity to serve the proposed 54 lot subdivision. The City is in the process of designing an upgrade to the pump station capacity. The construction of the pump station upgrade will need to be complete, accepted and in operation prior signing the plat for this development.
 - d. All lots would require separate sanitary sewer services.

10. **Section 17.100.040 A. Access control:** Access is required to be on the street with the lower functional class; therefore,
 - a. Lot 53, 54, 86 and 87 fronts E. Wilson Street (a collector) and S. 8th St. The access should be off 8th St where reasonable.
 - b. Lots 42 and 44 have frontage on S. 7th St. (a collector) and E. Cleveland St. The access should be off the local street (Cleveland) where reasonable.

11. **Wetlands:** The applicant has indicated that there are wetlands on the site, and provided a map showing the locations. The development has been configured around the wetlands. The location of the wetland delineation has been submitted to the DSL to be verified.
 - a. Based upon the concurrence decision by the DSL, a permit may be required, mitigation may be required, and the design may need to be modified.
 - b. It is noted that while the wetlands are not physically impacted by the development, the flow to some of the wetlands will be impacted. The storm water flow will need to be modified to assure that all the wetlands continue to have run-off directed to them.
12. **DSL Permit:** The applicant has indicated that the existing stream and wetlands will not be impacted so a permit from the DSL is not required. This shall be revisited after the wetland location has been verified by the DSL.
13. **Geotechnical Report:** A geotechnical report was conducted and submitted as part of the application by GeoPacific Engineering Inc. a geotechnical engineering firm. In general, they found that the site is suitable for the intended use from a geotechnical standpoint. Recommendations are provided for construction.

Recommended Conditions of Approval (COA) for public facilities and services are included in the report's conclusion.

Section 17.64 Street Standards

- Subdivisions are required to construct public streets to city design and alignment specifications, to make street connections and future extensions per TSP requirements. JR Meadows 1 and 2 provide at least seven street connections for vehicles, bicycles and pedestrians.
- Safe Routes to Schools: In this general area the TSP identifies Main Street, Washington Street, 3rd Street and Polk Street as safe route to the school. Washington Street will be extended to JR Meadow Phase 1. In Phase 2 Polk Street could be extended to the east but has been determined to be inappropriate because it cannot be extended through the school field which is fenced for security. In addition, topography and floodplain constrains extending Polk Street east through the site. The applicant has instead provided an east/west connection to Cleveland Street, except for into the open space resource area in which a public trail is shown to complete the connection. This connection can be extended through vacant land to 3rd Street connection to the front of the school.
- Landscape strips and Bikeways may be required to separate the street from the sidewalk. According to the table on 17.64.050 a 5' landscape strip is optional on a local street and required on a new collector street. The two collector streets in the subdivision are 7th and Wilson Street. Both are existing streets to the north and the west. The existing section of Wilson Street from Pine Street does not have a landscape strip or a bikeway. The same is true for 7th Street.

FINDINGS: Carlton has not required landscape strips in any subdivision except for the federally funded development on Roosevelt Street that was required to include the strip for water runoff. There are many benefits to landscape strips including: softening the

hard street edge created by pavement and curbs, providing a canopy of street trees to help slow traffic and enhance beauty and improve sidewalk design by maintaining a constant grade without dipping at driveways. Further, snow can be plowed into planter strips and the physical separation from the road provides enhanced pedestrian comfort and an improved walking experience.

FINDINGS: The applicant has generally addressed all city public street plans and specifications considering the appropriate continuation of adjoining street sizes, names and improvements. Except that:

- Polk Street is not illustrated as shown on the TSP extending east from 7th Street because of topographic and wetland constraints, and the inability to cross the school property which needs security fencing in the rear fields. Instead the Cleveland Street connection is provided to the school's front entry, along with 6 other public street connections.
- A landscape strip is not provided on 7th Street or Wilson Street due to significant impacts to the lot count and configuration and to past decisions by the City who believes planter strips are neglected, and also require an additional 13 feet of public right-of-way dedication. The alternative used in the past is a required 5-foot easement in the front yard of each lot in which a street tree shall be planted to uniformly create an alternative streetscape.

Section 17.72 Storm Drainage

No construction of any facilities in a development shall be permitted until a storm drain and erosion control plan for the project is prepared by an engineer registered in Oregon and approved by the City. This section lists the storm water plan requirements. The Public Works Director and City Engineer reviewed the proposal, and their comments are discussed herein with recommended conditions of approval.

Section 17.76 Utility Lines and Facilities

This section denotes city design, construction and maintenance standards for water improvements, sanitary sewer improvements, streetlights, underground utilities, private utilities and easements. The City Engineer has reviewed the proposed plans provided several comments and conditions of approval as outlined in this report. These conditions will each be addressed in the Pre-Construction meeting required as a condition of approval herein.

VI. Land Division Standards and Approval Criteria

Section 17.88.030 Development Standards for Land Divisions

The standards for approval of new lots or parcels are addressed below as follows:

A. Minimum lot area: Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.

FINDING: The preliminary plan illustrates the 54 R-2 lots range in size from 6,000 to 7,487 square feet. Each lot meets or exceeds the R-2 minimum lot size of 6,000 square feet for single-family. No lots meet the 8,000 square foot minimum for a duplex dwelling. All single-family lots meet the yard setback standards.

B. Maximum lot area: When single family residential use is proposed for a lot with an area double or greater than the minimum density of the underlying zone the Planning Commission may take into consideration the potential for further division of the lot at a future date.

FINDING: No proposed lot has an area that is double (12,000 SF) or greater than the minimum R-2 6,000 SF.

C. Lot width and depth: The depth of a lot or parcel shall not be more than 3 times the width of the parcel, with the exception that parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.

FINDING: The R-3 parcel is 181 feet wide at its narrowest and 438 feet deep at its deepest, or about 2.4 times wider than deep. In addition, over half of the R-3 parcel is dedicated to open space. All R-2 lots are less than 3 times deeper than wide.

D. Access: All lots and parcels created after the effective date of this Ordinance shall provide a minimum frontage, on an existing or proposed public street, equal to twenty (20) feet.

An exception shall apply when residential lots or parcels and Planned Unit Developments, may be accessed via a private street or easement developed in accordance with the provisions of Section 2.202 or when the City finds that public street access is:

- a. Infeasible due to parcel shape, terrain, or location of existing structures; and*
- b. Not necessary to provide for the future development of adjoining property.*

FINDING: The preliminary subdivision plan illustrates that all lots exceed the minimum 20-foot street frontage requirement.

E. Flag Lots: If a flag-lot is permitted, the following standards shall be met:

- 1. The access strip shall not be less than 20 feet wide. The access strip shall be improved with minimum 12-foot wide paved driveways that meet applicable City standards. If said access strip is over 200 feet in length, the driveway shall terminate in a turn-around capable of accommodating emergency fire vehicles.*
- 2. The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this Ordinance.*

FINDING: No lot is proposed as a flag lot.

F. Through -Lots: Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A ten (10) foot wide screening or buffering easement, pursuant to the provision of Section 2.207, may be required by the City during the review of the land division request.

FINDING: No lot is proposed as a through lot.

G. Lot Side Lines: The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face.

FINDING: The side lot lines of all parcels run at right angles to the street right-of-way.

H. Lot Grading: The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns and other pertinent data, shall be established by the Building Inspector.

FINDING: Topography and grading issues have been addressed by the geotechnical report recommendations and the City Engineer's comments. The grading plan will be engineered to meet city standards and the specifications in the geotechnical report.

I. Utility Easements: Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 17.76.

FINDING: Utility easements are identified and will be reviewed again in the final engineering plans for the subdivision, this requirement is included as a condition of approval.

Section 17.88.040 Standards for Blocks

A. General: The length, width, and shape of blocks shall be designed with regards to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

B. Sizes: Blocks shall not exceed 600 feet in length between street rights-of-way, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The maximum block perimeter shall not exceed 1,400 feet.

C. Alleys. Alleys may be provided in all districts, however, alleys shall be provided in commercial and industrial areas, unless other permanent provisions for access to off-street parking and loading facilities are provided.

FINDING: The proposed blocks continue the rectilinear pattern of existing street patterns in the area, including the extension of a re-aligned 7th Street; Cleveland Street and Wilson Street, and a new segment of 8th Street with connections to vacant land north and south. The configuration provides adequate building sites while efficiently using the subject property and providing multiple opportunities for adequate access and circulation. No alleys are proposed.

Section 17.88.050 Improvement Requirements

All improvements required by this ordinance or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the Developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the Developer and accepted by the City, the Developer shall provide a security guarantee satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to 250 feet, the applicant may request, and the City may grant an improvement deferral agreement.

A. Frontage Improvements: Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Section 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

FINDING: City infrastructure requirements identified by the city engineer in this report and the conditions of subdivision approval shall be completed prior to issuance of building permits, unless a security guarantee is agreed upon by the developer and the City.

B. Project Streets: All public or private streets within the land division shall be constructed as required by the provisions of Section 17.64. Private driveways serving flag lots or private streets shall be surfaced as per the requirements of this Ordinance.

FINDING: The applicant's Preliminary Plat illustrates new street specifications. With conditions of approval as specified by the staff the proposed streets can satisfactorily coincide with existing streets and meet the city street standards or variations thereof.

The Carlton TSP requires a spacing standard of 75 feet between driveways on collector streets. Prior to final plat approval, the applicant shall submit a driveway spacing plan on 7th Street and Wilson Street for review and approval by City staff. Construction of all streets shall meet City requirements. These are included as conditions of approval.

C. Monuments: Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.

FINDING: This is included as a condition of approval.

D. Benchmarks: Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

FINDING: This is included as a condition of approval.

E. Surface Drainage and Storm Sewer System: Drainage facilities shall be provided within the land division and to connect the land division drainage to drainage-ways or to storm sewers outside the land division and shall be consistent with the most current adopted Storm Water Master Plan. Design of drainage within the land division shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the land division and to provide extension of the system to serve such areas. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.

FINDING: A condition of approval includes that the storm water system design and layout shall be approved by the City Engineer and Public Works prior to final plat approval.

F. Sanitary Sewers: Sanitary sewer shall be installed to serve the land division and to connect the Land division to existing mains both on and off the property being divided. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.

The City may require that the construction of sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed.

FINDING: The City Engineer indicates that sanitary sewer line connections and construction shall be performed in accordance with city requirements and are included as a condition of approval.

G. Water System: Water lines with valves and fire hydrants serving the land division and connecting the land division to the City mains shall be installed. The design shall take into account provisions for extension beyond the land division to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the City will not expect the developer to pay for the extra pipe material cost of mains exceeding eight (8) inches in size. Installation costs shall remain entirely the developer's responsibility.

FINDING: In addition to the City Engineer's comments regarding water, fire hydrants need to be provided within 250 feet of all building lots. As a condition of approval, the Fire Chief shall approve the number and location of all fire hydrants prior to final plat approval. The Uniform Fire Code requires minimum fire flows of 1,000 gallons per minute for residential development. As a condition of approval, the applicant shall demonstrate that fire flows to the subject development meet the minimum Uniform Fire Code Standard. If fire flows are not

available a new dwelling will need to be sprinkled, in which case the required fire flows can be decreased at the discretion of the Fire Chief.

- H. Pedestrian Facilities and Bicycle ways: Sidewalks shall be installed along both sides of each public street and include any pedestrian or bicycle ways within the land division as well as along all frontages to existing streets. Sidewalks shall be extended as required to connect to other sidewalk systems. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks, sidewalks fronting public property, or sidewalks adjacent to existing structures shall not be deferred.*
- I. Pedestrian/Bicycle Design Standards. Pedestrian/bicycle access ways shall meet the following design standards*
- a. Minimum dedicated width: 5 - 10 feet*
 - b. Minimum improved width: 5 feet*
 - c. Vision Clearance: A clear line of vision for the entire length of the access way shall be required.*
 - d. Pedestrian scale lighting fixtures shall be provided along the walkway and lighted to a level where the system can be used at night.*
 - e. The access way shall be designed to prohibit vehicle traffic.*

FINDING: The City finds 5-foot wide sidewalks are provided on both sides of all proposed street improvements. Separate bicycle paths are not proposed to be striped on the residential streets because they will conflict with on-street parking.

J. Other:

- 1. Curb cuts and driveway installations, excluding common drives, are not required of the land divider but, if installed, shall be according to the City standards.*

FINDING: Curb cuts and driveway installations will be denoted in the construction plans to be approved by public works and engineering

- 1. Street tree planting is not required of the land divider but, if planted, shall be in accordance with City requirements and of a species compatible with the width of the planting strip.*

FINDING: A street tree for each dwelling is proposed to be planted in an easement adjoining the sidewalk. It has not been determined when the trees will be planted, by the developer or at the time of a building permit.

Susan Turrell's comments suggest that the tree type not be Red Maples or other species that suffer from hot weather. Staff supports her suggestion to use oak species/varieties remnant of the historic Oregon Oak landscape. Suggestions include the *Quercus palustris*, *Quercus robur* and *Quercus coccinea*, as well as Sweetgum and Sugar Maple varieties. Staff supports the suggestion that there be a mix of tree types for increased variety and survivability.

2. *Streetlights. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.*

FINDING: A condition of approval includes this provision.

4. *Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards.*

FINDING: Compliance with the streetlight and street sign requirements is included as a condition of approval.

Other considerations:

- Open Space Tracts B & C: The preliminary plan illustrates two open space tracts with suggested improvements and trails connecting the floodplain and wetlands to the 7th and Cleveland Streets as well as to the back field of the elementary school.

FINDING: A Homeowners Association to own and maintain the open space tracts is not proposed. The city has determined the tracts shall be dedicated to the City for park purposes. A final detailed plan should be submitted with the construction plans.

Section 17.100 Access Control Standards

In Section 17.100.040 General Standards, criterion A. states that lots that have more than one street access shall provide access only from the street with the lower functional classification.

FINDING: The City Engineer's comments above address the effect of this standard and conditions of approval to assure compliance on

Section 17.106.030 A. Residential Design Standards requires that each dwelling shall have a minimum 200 square foot garage or carport constructed of materials similar to those of the primary structure.

Section 17.176 Subdivisions and Planned Unit Development

All applications for a subdivision shall be submitted on forms provided by the city with the required information and accompanied by 10 copies and the application fee. All subdivisions shall conform to the applicable zoning district standards, development standards and other provisions of the Carlton Development Code.

FINDING: In accordance with application requirements of Section 17.176 subdivision application materials have been provided including all site data, location of utilities and easements, watercourses, contours, lot layout and dimensions, lot density, street layout and a

traffic impact report, a Geotechnical analysis, a FEMA Flood Insurance Rate Map (FIRM), a Preliminary Stormwater Report, an Arborist Report, plus copies, mailing labels and the required fee. In accordance with Section 17.176.030 the subdivision is reviewed as a Type II application by the Carlton Planning Commission.

Section 17.216 Performance Agreement

When required, the applicant shall file a performance guarantee to insure the full and faithful performance of all terms of an improvement agreement, if any, or to assure completion of all work for which permits are required. The City requires approved construction plans and construction of all required improvements before the final plat is recorded and lots can be sold. If any outstanding improvements remain an Improvement Deferral Agreement may be entered into between the City and the developer.

VII. CONCLUSIONS AND RECOMMENDATIONS

The Planning Commission may decide to alter the preliminary subdivision plan to:

- Require a wider street right-of-way (increase from 58' to 71') on 7th and Wilson Streets to meet the landscape strip requirements for a collector street.
- Determine the optimal time to plant the street trees within the front yard easement of each lot.
- Confirm the open space Tracts B and C shall be dedicated to the City.

Proposed conditions of approval, as may be modified by the Commission:

1. Any future development of the R-3 zoned portion of the property shall comply with the requirement that at least twenty-five (25) percent of the units must be either in multi-family or attached single-family structures, e.g., townhouses or duplexes.
2. The submission of the informal wetland delineation boundaries Applicants have included as part of the site development plan prepared by AKS Engineering, to the Department of State Lands for review and approval in accordance with and as required by OAR 141-090-0035 and other applicable regulations prior to residential development taking place on the property.

The wetlands delineation shall be reviewed and approved by the DSL prior to acceptance of the final design of the subdivision. Permits, mitigation and design modifications as required by the DSL review shall be provided prior to final design acceptance of the subdivision.

3. **Prior to final plat approval**, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, street lights and underground utilities, tree removal, grading and erosion control, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Public Works Director and City Engineer for approval. There shall be a pre-construction meeting prior to any improvements or construction. All public improvements shall be constructed in accordance with the land division requirements of the Development Code and the

relevant City of Carlton Public Works Standards, as may be practically modified based on site specific conditions.

The following conditions shall be satisfied prior to final plat approval:

- a. A demolition permit and a grading permit shall be obtained from the city prior to any site grading and demolition of any buildings on the site. The specific recommendations in the applicant's Geotechnical Engineering Report dated 8-20-20 shall be incorporated into the design and construction phases of the project.
- b. If required by the Fire Chief, provide a temporary turnaround on E. Wilson St. at the east end that meets requirements of the Fire Chief.
- c. Approval of the JR Meadows 2 subdivision is contingent upon approval of a concurrent land use action in Yamhill County for the emergency access at the east end of E. Cleveland St. to Old McMinnville Hwy. The emergency access construction will meet the requirements of the Fire Chief and shall be completed before the subdivision is considered substantially complete, and prior to signing of the final plat.
- d. The private road serving lots 59 through 67 shall be signed "no parking".
- e. The final design plans will be required to have erosion control and energy dissipation at the storm water discharge points (currently two wetlands). There shall also be drainage paths for the storm flow from wetland to wetland and flow to Hawn Creek. The design shall provide adequate storm flow to all the wetlands in order to maintain them.
- f. The storm pipe at the south end of S. 8th St. should be extended to the property boundary.
- g. The storm flow at the east end of E. Cleveland St. is shown to flow directly onto the neighboring property. It will need to be collected and discharged to an appropriate location.
- h. The water main shown to dead-end on the private access road near lot #59 shall be extended to the water line on S 7th St. to eliminate the dead-end and create a loop.
- i. The water mains that are shown to dead-end at the east end of E. Cleveland St. and E. Wilson St. shall be connected to each other to form a loop. The pipe shall be placed in an easement on lots 78 and 79. This can be a minimum pipe size such as 4".
- j. Final fire hydrant locations will be adjusted per input from the Fire Chief.
- k. The construction of the Hawn Creek wastewater pump station upgrade must be complete, accepted and in operation prior signing the plat.
- l. The design should meet AASHTO sight distance requirements at the site access.

- m. Access is required to be on the street with the lower functional class; therefore, Lot 53, 54, 86 and 87 fronts E. Wilson Street (a collector) and S. 8th St. The access should be off 8th St where reasonable. Lots 42 and 44 have frontage on S. 7th St. (a collector) and E. Cleveland St. The access should be off the local street (Cleveland) where reasonable.
 - n. The applicant shall demonstrate that there is adequate fire apparatus access and turn around capability and that fire flows serving the subject development meet the Uniform Fire Code requirement of 1,000 gallons per minute. All fire hydrants shall be installed according to the adopted City of Carlton Public Works Standards. If fire flows are not available a new dwelling will need to be sprinkled, in which case the required fire flows can be decreased at the discretion of the Fire Chief.
 - o. Street tree planting in a landscape easement is required of either the builder or the land divider. Street trees shall be planted in the front yard defined by an easement. Suggestions include the *Quercus palustris*, *Quercus robur* and *Quercus coccinea*, as well as Sweetgum and Sugar Maple varieties. Staff supports the suggestion that there be a mix of tree types for increased variety and survivability.
 - p. The existing trees identified on sheet P-02 that are on the perimeter of the site shall be retained wherever possible. The applicant's arborist shall re-evaluate the feasibility of preserving tree # 17307, providing a written determination to city staff.
 - q. The Carlton TSP requires a spacing standard of 75 feet between driveways on 7th Street and Wilson Street (collector streets). Prior to final plat approval, the applicant shall submit a driveway spacing plan for review and approval by City staff. In addition, a duplex on a corner lot is not restricted to driveway access on the lower classification of street abutting the property in order to allow for two separate entries.
 - r. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.
 - s. All utilities shall be underground in an easement and shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76. The installation of underground electric service, streetlight standards, wiring, and lamps for streetlights of a type required by City standards are required following the making of necessary arrangements with the serving electric.
- All public improvements shall be constructed in accordance with the land division requirements of Development Code and the relevant City of Carlton Public Works Standards, as may be practically modified based on site specific conditions.
- t. The open space and park Tracts B & C shall be described on the final plat and dedicated to the City of Carlton for public park purposes. A final detailed plan shall be submitted with the construction plans, including trail lighting and unencumbered trail access at street intersections.

4. **Prior to issuance of building permits:**

- a. All dwellings shall comply with the design standards of Section 17.106.030 A. Residential Design Standards regarding garage size, materials and completion, as well as the lot coverage requirements of Sections 17.22 R-2 and 17.28 R-3 at the time of building permit submittal.
- b. The building permit shall include a landscape plan for the front yard including at least 50% of the front yard that is not developed with impervious surfaces, in accordance with CDC Section 17.84.060

5. **Security Guarantee:** If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.

6. **Final Plat Submittal:** Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless an extension request is filed with the City before the expiration date. An extension request shall be made in accordance with Section 17.176.050.

VI. MOTION OPTIONS

- A. I move to approve the JR Meadows Phase 2 Subdivision Preliminary Plan based upon the findings in this report and in compliance with the conditions of this approval (as may be amended by the Commission), or
- B. I move to deny the preliminary subdivision plan (stating how the application does not meet the approval criteria for a land division).
- C. I move to continue the hearing to a time certain date (considering the 120-day limit on the decision of January 21, 2021 to include the appeal time).

JR Meadows No. 2 Subdivision

Date: August 2020

Submitted to: City of Carlton
Planning Department
191 E Main Street
Carlton, OR 97111

Applicant: TJA, LLC
9110 NW Clay Pit Road
Yamhill, OR 97148

AKS Job Number: 7395-01



12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

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Exhibits

- Exhibit A:** Preliminary Plans
- Exhibit B:** Application Form and Checklist
- Exhibit C:** Yamhill County Assessor’s Map
- Exhibit D:** Ownership Information
- Exhibit E:** Transportation Impact Analysis
- Exhibit F:** Geotechnical Engineering Report
- Exhibit G:** FEMA Flood Insurance Rate Map (FIRM)
- Exhibit H:** Preliminary Stormwater Report
- Exhibit I:** Arborist Report
- Exhibit J:** List of Surrounding Property Owners

JR Meadows No. 2 Subdivision

Submitted to:	City of Carlton Planning Department 191 E Main Street Carlton, OR 97111
Applicant:	TJA, LLC 9110 NW Clay Pit Road Yamhill, OR 97148
Property Owner:	Larry and Cheryl Park 10215 NE Old McMinnville Highway Yamhill, OR 97148
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062
	Contact: Chris Goodell, AICP, LEED ^{AP} Email: chrisg@aks-eng.com Phone: (503) 563-6151
	Contact: Monty Hurley, PE, PLS Email: monty@aks-eng.com Phone: (503) 563-6151
	Contact: Amy Downhour, PE Email: downhoura@aks-eng.com Phone: (503) 563-6151
Site Location:	South of S 7 th Street, and west of NE Old McMinnville Highway
Yamhill County Assessor's Map:	3 4 22 Tax Lot 1300
Site Size:	±13.94 acres
Land Use Districts:	Residential-Medium Density (R-2) and Residential-Medium High Density (R-3)

I. Executive Summary

JR Meadows No. 2 is a residential subdivision planned on approximately ±13.94 acres of land within the City of Carlton. Planning for this project began in 1981 when this property was brought into the City's Urban Growth Boundary (UGB) with an Agricultural Holding (AH) zoning designation. The City identified the property as an ideal location for future residential housing to meet projected population growth. The AH designation allowed for agricultural uses to continue until such time the land is needed for urban uses and public facilities and services are available. With the increasing need for housing in the City, the Applicant submitted a zone change application to change the zoning from AH to Residential-Medium Density (R-2) and Residential-Medium High (R-3) to accommodate future residential homes. This zone change marked the first step to utilize the land for its intended purpose and has received approvals from the Planning Commission and City Council.

Steve Reimann (Applicant) is a long-time resident of Yamhill County. No stranger to the growing needs of the community, he has worked on many residential projects in the area over the past several years to provide needed housing for local residents.

Steve previously received approvals for a residential subdivision (JR Meadows) immediately north of the subject site. Steve worked closely with the City to make sure the infrastructure improvements included with JR Meadows set the stage for future extension of the adjacent properties by providing necessary utilities and transportation facilities to their boundaries. JR Meadows No. 2 will be an extension of the first phase with similar lot sizes for future detached single-family homes and much-needed multifamily dwellings.

This application involves the creation of a new residential subdivision. The project is consistent with City zoning and includes 54 residential lots that are intended to accommodate future single-family homes and one lot that is slated for future attached dwellings. A separate site design review application for the R-3 designated lot is required and planned to be submitted in the future.

Recognizing the need for additional housing, JR Meadows No. 2 incorporates features that the City has identified as critical to facilitating anticipated future growth while accommodating constraints imposed by existing natural features, required infrastructure, and necessary utilities. The project includes:

- **Open Space:** JR Meadows No. 2 includes over 2 acres of voluntary open space (over 15 percent of the overall site) featuring existing natural areas, preservation of many large trees, off-street trails, and other park like amenities.
- **Interconnected Transportation Network:** JR Meadows No. 2 will be served by a comprehensive transportation network that includes the extension of S 7th Street (City Collector Street) from the north to E Main Street and E Washington Street. It also helps the City accomplish goals identified within the City's Transportation System Plan (TSP) because it includes E Wilson Street, E Cleveland Street, and S 8th Street. These transportation improvements provide the framework for future connectivity.
- **Linked Pedestrian Circulation System:** This project includes a network of sidewalks and pedestrian trails that create a walkable community for future residents, including a connection to the Yamhill Carlton Elementary School site to the west.
- **Infrastructure:** JR Meadows No. 2 includes a full range of underground utilities through the site and provides for potential future development opportunities for other properties in the area. This

application includes sanitary sewer, stormwater facilities, water, and transportation improvements (including a separate emergency access from the site to NE Old McMinnville Highway) that have been designed that demonstrate that the infrastructure systems will have necessary capacity to accommodate the planned subdivision.

II. Site Description/Setting

The subject site is ±13.94 acres located in the southeastern portion of the City of Carlton within the Urban Growth Boundary (UGB) and is vacant. The property is Parcel 2 of the preliminary partition plat approved by the City of Carlton (City File No. Partition 2020-02) and is a portion of Tax Lot 1300 of Yamhill County Assessor's Map 3 4 22. The site is directly south of the approved JR Meadows Subdivision and is surrounded by properties zoned Residential-Low Density (R-2) and Agricultural Holding (AH) to the north, Public Facility (PF) and Agricultural Holding (AH) to the west, and Yamhill County AF-80 to the east.

III. Other Considerations

The Applicant appreciates that the community is interested in how change occurs in the neighborhood. The following discussion describes how other topics/items that were discussed during the zone change approval were considered:

- **Existing Trees:** The project preserves ±22% of the existing on-site trees in open space areas.
- **Wetlands:** This site has existing wetlands that have been evaluated and concurrence from the Oregon Department of State Lands (DSL) has been submitted. As shown on the Preliminary Plans, wetlands are planned to be preserved within open space areas.
- **Floodplain:** As shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) there is a mapped 100-year floodplain located on a small portion of the northeast corner. This area is planned to be retained as open space.
- **Surrounding Agricultural Uses:** This site abuts properties that are within the city limits but are being utilized for agricultural purposes. Although this will likely be seen as a positive feature to future homeowners, the Applicant plans to record a covenant which would preclude future homeowners/residents from remonstrating against customarily accepted farm practices.
- **Parks:** This application includes over 2 acres of open space areas and includes planned park amenities for the use of future homeowners. The Applicant is willing to dedicate this land to the City of Carlton if desired by the City.
- **School Capacity:** As part of the zone change application process, the Yamhill-Carlton School District was contacted and the superintendent confirmed that the District has the capacity to support the number of students that would likely be projected by this project.
- **Housing Variety:** This application involves a subdivision that includes 54 lots for future detached single-family homes and 1 lot that is planned to accommodate 22 future multifamily dwellings. This mix of housing types is 71% single-family to 29% multifamily, which closely matches the City's desired mix identified within the Comprehensive Plan.

Although these elements are not related to specific approval criteria for a subdivision application, they have been thoroughly considered and incorporated into the layout included in this application due to their importance to the Carlton community.

IV. Applicable Review Criteria

The JR Meadows No. 2 subdivision application involves a “limited land use application” as that term is defined in ORS 197.015 (12). ORS 197.195 (1) describes how certain standards can be applied to a limited land use application. The applicable land use regulations for this subdivision application are found in the Carlton Development Code. Pursuant to ORS 197.195(1) Comprehensive Plan provisions (as well as goals, policies, etc. from within the adopted elements of the Comprehensive Plan) may not be used as a basis for a decision or an appeal of a decision unless they are specifically incorporated into the Carlton Development Code.

This subdivision application involves the development of land for housing. ORS 197.307(4) states that a local government may apply only clear and objective standards, conditions, and procedures regulating the development of housing, including needed housing, and such standards, conditions, and procedures cannot have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay. While this application addresses all applicable standards and criteria, the Applicant reserves the right to object to the enforcement of standards or conditions that are not clear and objective and does not waive its right to assert that the attempted enforcement of Comprehensive Plan provisions that are not specifically listed in the Carlton Development Code.

This application includes the City application forms, written materials, and Preliminary Plans necessary for City staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City’s approval of the application.

CARLTON DEVELOPMENT CODE

Division II. - ZONING AND DEVELOPMENT PROVISIONS

Chapter 17.22 - RESIDENTIAL-MEDIUM DENSITY (R-2) DISTRICT

17.22.040 - Dimensional standards.

The following dimensional standards shall be the minimum requirements for all development in the R-2 district except for modifications permitted under Chapter 17.132.

Dimensional Standards in R-2 District	
Minimum Lot Area	
Single-family dwelling	
Non-common wall dwelling ¹	6,000 square feet
Minimum Yard Setback Requirements, except as provided for Accessory Structures under Chapter 17.96:	
Front yard	15 feet, except 20 feet for a garage or carport opening when facing street, and 10 feet for uncovered porches and covered but unenclosed porches not more than one story high (except where easements preclude closer setback)
Rear yard	15 feet
Side yard (interior)	3 feet, except 0 feet for adjoining townhome units
Side yard (adjacent to street)	Same as Front Yard
Maximum structure height	35 feet, except where a new building (any use) is proposed on a lot platted prior to [effective date of Code], the height of the new building shall not exceed the average height of all dwellings (residential uses) located within 50 feet of the subject lot, plus 5 feet.
Minimum lot width at building line	50 feet, except 60 feet for corner lot

Response: This application includes 54 lots for the future construction of detached single-family homes in the R-2 zoning district. As illustrated on the Preliminary Plans (Exhibit A), the lots meet the dimensional standards for the R-2 district, consistent with the table above.

17.22.050 - Development standards.

All development in the R-2 district shall comply with the applicable provisions of Chapters 17.128 through 17.140. In addition, the following specific standards shall apply:

- A. Accessory Structures. Accessory structures as provided for in Chapter 17.96.

Response: This application does not involve accessory structures. Therefore, provisions of Chapter 17.96 do not apply.

- B. Off-Street Parking. Parking shall be as specified in Chapter 17.68.

Response: Please refer to the responses to the provisions of Chapter 17.68 below.

- C. Subdivisions and Partitions. Land divisions shall be reviewed in accordance with the provisions of Chapters 17.172 through 17.176, as applicable.

Response: This application involves a subdivision. Please refer to the responses to the provisions of Chapter 17.176 below. The provisions of Chapter 17.172 Partitions do not apply.

- D. Lot Coverage. The following standards are applied to parcel area or lot area, as applicable:

1. Maximum lot coverage by buildings: thirty-five (35) percent where a building exceeds 20 feet in height, and forty (40) percent where all buildings on the site are 20 feet or less in height;

2. Maximum lot coverage by impervious surfaces, including pavement and roofed areas not considered buildings: thirty (30) percent;
3. Combined maximum lot coverage: sixty-five (65) percent where a building exceeds 20 feet in height, and eighty (80) percent where all buildings on the site are 20 feet or less in height.

Response: The lot coverage standards are to be applied and addressed at the time of building permit review.

- E. Yards and Lots. Yards and lots shall conform to the standards of Chapter 17.92.

Response: Please see the responses to the standards of Chapter 17.92, which demonstrate compliance with this provision.

- F. Signs. Signs shall conform to the requirements of Chapter 17.80.

Response: This application does not involve signs; therefore, the provisions of Chapter 17.80 do not apply.

- G. Driveways. Driveways shall conform to the standards 17.68.060.

Response: Please refer to the responses below. Conformance with the driveway standards of Section 17.68.060 are to be addressed at the time of building permit review.

- H. Landscaping and Screening. All front and street side yards shall be landscaped pursuant to Section 17.84.050. Other landscaping, fencing or other screening may be required pursuant to land division approval or other land use approval. All landscaping shall be installed in accordance with Chapter 17.84 and approved plans prior to issuance of building occupancy permits.

Response: Compliance with the required landscaping and screening standards in front and side yards is to be demonstrated at the time of building permit review. A site design review application showing landscaping and screening that meet the requirements for a multifamily dwelling is to be submitted and reviewed separately. Therefore, this criterion will be met.

- I. Building and Site Design. All residential structures shall conform to the design standards of Chapter 17.106.

Response: Compliance with the design standards of Chapter 17.106 will be demonstrated at the time of building permit review.

Chapter 17.28 - RESIDENTIAL-MEDIUM HIGH DENSITY (R-3) DISTRICT

17.28.020 - Permitted uses.

The following uses are permitted in the Residential-Medium High Density district:

- A. Duplex dwelling, Multi-family dwellings, Manufactured Home Parks subject to Chapter 17.120.
- B. Public park and recreation area.
- C. Planned unit development subject to the provisions of Chapter 17.112.

- D. Boarding, lodging, or rooming house.
- E. Child care facilities, as defined by Oregon Revised Statutes Chapter 657A.
- F. Residential care homes and Residential Care facilities, as defined by this ordinance. All residential care homes and residential care facilities shall be duly licensed by the State of Oregon.
- G. Home occupation, subject to the provisions of Chapter 17.124.
- H. Single-family dwelling subdivisions platted after [effective date of amended code] provided subdivision achieves a density of not less than eight (8) dwelling unit per acre.
- I. Single-family dwellings (attached or non-attached), including single-family manufactured dwelling subject to Chapter 17.116, lawfully existing as of [effective date of amended code].
- J. A single-family vacation rental dwelling unit, when such dwelling obtains a vacation rental dwelling permit in accordance with the vacation rental dwelling conditional use standards and procedures set forth in Chapter 17.125.

Response: This application includes 1 lot (Lot 71) that has an R-3 zoning designation that allows for the uses noted above. The ordinance adopting the zone change of this site conditioned that at least 25% of the dwellings to be multi-family, attached single-family, or duplex homes within the R-3 portion of this property. As shown on the Preliminary Plans, Lot 71 is ±38,015 square feet and is set aside to provide only future multifamily dwellings on the lot. A site design review application demonstrating compliance with this condition is intended to be submitted and reviewed separately from this application.

17.28.040 - Dimensional standards.

The following dimensional standards shall be the minimum requirements for all development in the R-3 district except for modifications permitted under Chapter 17.132.

Dimensional Standards in R-3 District	
Minimum Lot Area	
Multi-family dwelling, 3-unit	9,500 square feet plus 1,500 square feet per unit in excess of 3 units
Minimum Yard Setback Requirements, except as provided for Accessory Structures under Chapter 17.96:	
Front yard	20 feet, except 15 feet for uncovered porches and covered but unenclosed porches not more than one story high
Rear yard	15 feet
Side yard (interior)	7 feet
Side yard (adjacent to street)	20 feet, except 15 feet for uncovered porches and covered but unenclosed porches not more than one story high
Minimum lot width at building line	40 feet for interior lot and 50 feet for corner lot, except 24 feet for interior lot with attached dwelling
Maximum structure height	35 feet

Response: This application includes 1 lot (Lot 71) for the future construction of a multifamily building to accommodate up to 22 units in the R-3 district. As shown on the Preliminary Plans, this lot meets the above dimensional standards. This criterion is satisfied.

17.28.050 - Development standards.

All development in the R-3 district shall comply with the applicable provisions of Chapters 17.128 through 17.140. In addition, the following specific standards shall apply:

A. Accessory Structures. Accessory structures as provided for in Chapter 17.96.

Response: This application does not include accessory structures. Therefore, this criterion is not applicable.

B. Off-street Parking. Parking shall be as specified in Chapter 17.68.

Response: A site design review application for a future multifamily residential building on Lot 71 that meets the applicable off-street parking requirements is intended to be submitted and reviewed separately from this subdivision application.

C. Subdivisions and Partitions. Land divisions shall be reviewed in accordance with the provisions of Chapters 17.172 through 17.176, as applicable.

Response: Chapters 17.172 through 17.176 are discussed in detail later in this application. This criterion is met.

D. Lot Coverage. The following standards are applied to parcel area or lot area, as applicable:

1. Maximum building coverage by buildings: forty (40) percent;
2. Maximum lot coverage by impervious surfaces, including pavement and roofed areas not considered buildings: thirty (30) percent;
3. Combined maximum lot coverage: seventy (70) percent.

Response: This application involves a residential subdivision. Lot coverage for Lot 71 will be reviewed with the future site design review application. These criteria will be met.

E. Multi-family residential uses (three or more units) shall be subject to the site design review procedures of Chapter 17.156.

Response: A site design review application for a future multifamily residential building on Lot 71 that addresses the provisions of Chapter 17.156 is intended to be submitted and reviewed separately from this application.

F. Landscaping. Multi-family dwelling developments shall provide a minimum landscaped area equal to twenty-five (25) percent of the gross site area. Landscaping improvements shall be installed and maintained in accordance with Chapter 17.84.

Response: A site design review application for a future multifamily residential building on Lot 71 that addresses landscaping is intended to be submitted and reviewed separately from this application.

G. Signs. Signs shall conform to the requirements of Chapter 17.80.

Response: This application involves a residential subdivision and does not include signage. If signage is desired in the future, it is understood that a permit per the requirements of Chapter 17.80 is required.

H. Driveways. Driveways shall conform to the standards 17.68.060.

Response: This application involves a residential subdivision. A site design review application for a future multifamily residential building on Lot 71 that shows driveways meeting the standards of 17.68.060 is intended to be submitted and reviewed separately from this subdivision application.

I. Landscaping and Screening. All front and street side yards shall be landscaped pursuant to Section 17.84.050. Other landscaping, fencing or other division may be required pursuant to land division approval or other land use approval. All landscaping shall be installed in accordance with Chapter 17.84 and approved plans prior to issuance of building occupancy permits.

J. The minimum landscape area standard of twenty-five (25) percent for multifamily development may be reduced to ten (10) percent where the development plan dedicates one-quarter (1/4) acre or more land for a neighborhood park, consistent with an adopted city parks plan.

Response: This application involves a residential subdivision with one lot planned for a future multifamily building. A site design review that addresses the required landscaping and screening for this lot is intended to be submitted separately from this subdivision application.

K. Building and Site Design. All residential structures shall conform to the design standards of Chapter 17.106.

Response: This application involves a residential subdivision and does not include structures. A site design review for a future multifamily residential building on Lot 71 that addresses the design standards of Chapter 17.106 is intended to be submitted and reviewed separately from this subdivision application.

Chapter 17.56 - FLOODPLAIN MANAGEMENT (FP) OVERLAY ZONE

17.56.020 - Applicability.

A. Lands To Which This Chapter Applies. This chapter shall apply to all areas of special flood hazards within the jurisdiction of the City of Carlton, Yamhill County, Oregon.

B. Basis for Establishing the Areas of Special Flood Hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Yamhill County, Oregon and Incorporated Areas, dated March 2, 2010," with accompanying flood insurance map (FIRM) is hereby adopted by reference and declared to be part of this chapter. The flood insurance study and the FIRM are on file at the City Hall. The best available information for flood hazard area identification as outlined in Subsection 17.56.070 A. shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under Subsection 17.56.070 A.

Response: As demonstrated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Exhibit G), there is a mapped 100-year floodplain located on a small portion of the northeast corner. However, as shown on the Preliminary Plans (Exhibit A), improvements are not planned within the floodplain, and this area is planned to be retained as part of an open space area.

17.56.040 - Development procedures.

- A. Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Subsection 17.56.020 B.

(...)

Response: As shown on the Preliminary Plans (Exhibit A), the planned improvements for this project are not within the mapped floodway. Therefore, these provisions are not applicable.

Division III. - GENERAL DEVELOPMENT STANDARDS

Chapter 17.60 - GENERAL PROVISIONS

17.60.020 - Application of standards.

- A. The standards set forth in this chapter shall apply to partitions; subdivisions; planned unit developments; commercial and industrial projects; single-family dwellings, duplexes, and multi-family structures. Developments outside the city which will tie into or take access from city streets, or increase the flow or change the point of discharge to the city storm drainage system shall be subject to the improvement standards set forth in this title to the extent necessary to mitigate the impacts to these systems.

Response: This application involves a residential subdivision. Therefore, the standards of this chapter apply.

- B. The application of these standards to a particular development shall be modified as follows:
1. Development standards that are unique to a particular use, or special use, shall be set forth within the district;
 2. Those development standards which are unique to a particular district shall be set forth in the section governing that district.

Response: To the extent applicable, the application of these standards can be modified as outlined in the provisions above.

- C. No public works construction shall be undertaken until an agreement is executed between the developer and the city specifying the period within which required improvements and repairs shall be completed, as well as referencing the terms and conditions under which the city has approved the development. The agreement shall be in the form acceptable to the city attorney.

Response: This requirement is understood.

17.60.030 - Application of public facility standards.

Standards for the provision and utilization of public facilities or services available within the City of Carlton shall apply to all land

developments in accordance with the following table of reference. No development permit shall be approved unless the following improvements are provided for prior to occupancy or operation, or unless future provision is assured in accordance with Chapter 17.216.

Public Facilities Improvement Requirements Table						
	Fire Hydrant	Streets	Water Hookup	Sewer Hookup	Storm Drain	Street Lights
Partition, Subdivisions, PUD, or Manufactured Home Park	C-1	Yes	Yes	Yes	Yes	Yes
<p>Legend: No = Not required Yes = Required C = Conditional, as noted: C-1 Fire Hydrants for Commercial, Industrial Expansions, or Residential Uses: One or more fire hydrants are required as per the Uniform Building Code and Uniform Fire Code or if adequate fire flows are not available to the site. If the existing water lines are insufficient to provide adequate fire flows, water lines shall be upgraded to provide sufficient capacity at the developer's expense.</p>						

Response: The required public facilities improvements are illustrated on the Preliminary Plans in Exhibit A, in compliance with the standard above. This criterion is satisfied.

17.60.040 - Design standards.

The design of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required, shall comply with the requirements of the most recently adopted Standard Specifications for Public Works Construction in the City of Carlton.

Response: The required public facility improvements are designed to be in compliance with the most recently adopted Standard Specifications for the Public Works Construction in the City of Carlton, as illustrated on the Preliminary Plans (Exhibit A). This criterion is satisfied.

Chapter 17.64 - STREET STANDARDS

17.64.020 - Scope.

The provisions of this chapter shall be applicable to:

- A. The creation, dedication, or construction of all new public or private streets, pedestrian facilities, and bikeways in all subdivisions, partitions, or other developments in the city.
- B. The extension or widening of existing public or private street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.
- C. The construction or modification of any utilities, bikeways, or sidewalks in public rights-of-way or private street easements.
- D. The planting of street trees or other landscape materials in public rights-of-way (landscape strip).

Response: This application includes the design and construction of new public and private streets in association with a subdivision application. Therefore, the provisions of this chapter are applicable.

17.64.030 - General provisions.

The following provisions shall apply to the dedication, construction, improvement, or other development of all public streets in the city, and are intended to provide a general overview of typical minimum design standards. All streets shall be designed in conformance with the specific requirements of the most recently adopted Standard Specifications for Public Works Construction in the City of Carlton and the Transportation System Plan.

The standard sections contained in Standard Specifications for Public Works Construction in the City of Carlton and the Transportation System Plan are minimum requirements only and shall not be construed as prohibiting the city engineer from requiring thicker sections or engineer designed pavement sections in lieu of standard sections where conditions warrant.

- A. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets.

Response: The planned streets within the subject site are designed with consideration to relate to existing and planned streets, topographical conditions, resource constraints, public convenience and safety, and the layout of the planned residential subdivision, as illustrated on the Preliminary Plans. As further shown on the Preliminary Plans, this application includes the roadways and transportation infrastructure shown on the City's Transportation System Plan (TSP) and provide long-term community connectivity. Therefore, this provision is met.

- B. Development proposals shall provide for the continuation, and connection to, all streets, bikeways and pedestrian facilities within the development and to existing streets, bikeways and pedestrian facilities outside the development.

Response: As shown on the Preliminary Plans in Exhibit A, the layout of the subdivision is designed to provide for the continuation and connection to streets, bikeways, and pedestrian facilities within the subject site and to existing streets, bikeways and pedestrian facilities outside of the subject site. The Preliminary Plans further illustrate a planned pedestrian connection from the open space area in Tract C through the subdivision to the Yamhill Carlton Elementary School to the west. Therefore, this provision is met.

- C. Alignment. All streets other than minor streets or culs-de-sac, as far as practical, shall be in alignment with existing streets by continuation of the centerline thereof. The staggering of street alignments resulting in "T" intersections shall leave a minimum distance recommended by the city engineer.

Response: As illustrated on the Preliminary Plans in Exhibit A, the streets planned for construction within the subject site are designed to align with existing streets by the continuation of the centerline, to the extent practicable. Therefore, this provision is satisfied.

- D. Future Extension of Streets. In order to promote the development of an efficient network of city streets and connections to state and county roads, development shall provide future street extensions as

shown on the Future Street Plan found in the Carlton Transportation System Plan.

In addition to providing for future street extensions shown on the Future Street Plan, streets, bikeways and pedestrian facilities, shall also be extended to the boundary of a tract being developed, where necessary to give access to or permit a satisfactory future development of adjoining land. Reserve strips and street plugs may be required to preserve the objectives of street extensions.

Response: The Preliminary Plans included in Exhibit A illustrate that this subdivision application includes street extensions to the boundary of the subject site (including streets, bikeways, and pedestrian facilities) that are consistent with the Future Street Plan found in the TSP. The streets planned for construction within the subdivision are consistent with the TSP; therefore, it is not warranted for strips and street plugs to be reserved to preserve the objective of street extensions in addition to the stub streets planned (shown on the Preliminary Plans). This provision is met.

E. Existing Streets.

1. Three-quarter improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required at the time of partitioning or subdivision, unless the applicant demonstrates to the satisfaction of the city engineer that the condition and sections of the existing streets meet city standards and are in satisfactory condition to handle projected traffic loads.

Full street improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required when it is determined that the vehicular and/or pedestrian impacts from the proposed development necessitate such improvements.

Response: The site is not adjacent to existing streets. This provision does not apply.

2. For infill development that does not include partitioning or subdivision, construction of sidewalks, including curb and gutter where necessary, along all property frontages shall be the minimum requirement of development. A three-quarter street improvement shall be required if the city engineer determines that the existing streets are not in condition to handle projected traffic loads.

Response: This application involves a subdivision. Therefore, this provision is not applicable.

3. The city shall require the applicant to record an approved improvement deferral agreement or non-remonstrance agreement, see Section 17.216.030, in lieu of street improvements, where the following criteria are met:
 - a. The existing roadway condition and sections are adequate to handle existing and projected traffic loads; and
 - b. Existing public utilities (water, sanitary sewer and storm sewer) located within the existing roadway are adequate, or can be improved without damaging the existing roadway surface.

Response: As demonstrated through the written responses in this narrative coupled with the application materials, this application is in compliance with the required improvements. Therefore, a deferral agreement or non-remonstrance agreement in lieu of street improvements is not relevant, and these provisions do not apply.

F. **New Streets.** Where new streets are created, full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements on boundary streets when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed. The city may allow three-quarter street improvements if all of the following criteria are met:

1. The adjoining land abutting the opposite side of the street is undeveloped; and
2. Storm water drainage is provided for on the non-curbed side of three-quarter street improvements in areas judged by the city engineer to have drainage concerns.

One-foot wide reserve strips and street plugs may be required to preserve the objectives of three-quarter streets.

Response: Based on the code, standards, the location of the subject site relative to existing streets, and the layout of the planned subdivision, full street improvements are required. As illustrated on the Preliminary Plans, the new streets required to be constructed on the subject site are designed to be full street improvements. Therefore, a three-quarter street improvement in lieu of a full street improvement is not applicable. The provisions above do not apply.

G. **Culs-de-Sac.** Culs-de-sac shall have maximum lengths of four hundred (400) feet and serve no more than eighteen (18) dwelling units. All culs-de-sac shall terminate with circular turn-a-rounds.

Response: As shown on the Preliminary Plans (Exhibit A), this application does not include the creation of a public street with a cul-de-sac. Therefore, this provision does not apply.

H. **Dead-End Streets.** When it appears necessary to continue a street or public access way into a future subdivision or adjacent acreage, streets, or public access way shall be platted to a boundary of a subdivision or partition. The street may be platted without a turnaround unless the Planning Commission finds that a turnaround is necessary.

Response: As shown on the Preliminary Plans (Exhibit A), this application includes the extension of S 7th Street from the north. As further illustrated on the Preliminary Plans, S 7th Street, S 8th Street, E Cleveland Street, and E Wilson Street extend to the site's southern, western, and eastern boundaries and are planned future connections to adjacent properties. The site also has access to N Old McMinnville Highway through an Emergency Access Easement (EAE) at the terminus of E Cleveland Street. To address emergency services at the terminus of E Wilson Street, an emergency vehicle access connection to the north, a fire department turnaround, or individual fire suppression sprinkler systems for the homes on Lots 79-82 and 90-93 can be provided.

- I. **Street Names.** Street names and numbers shall conform to the established pattern in the city and shall be subject to the approval of the city. Street names shall be required for all new publicly dedicated streets and private streets.

Response: As illustrated on the Preliminary Plans, the planned street names and numbers conform to the established pattern in the City. The planned street names are to be reviewed by the City for approval. Therefore, this provision is satisfied.

- J. **Grades and Curves.** Grades shall not exceed six percent on arterials, ten (10) percent on collectors, or twelve (12) percent on any other public or private street. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. Center line radii of curves shall not be less than three hundred (300) feet on major arterials, two hundred (200) feet on minor arterials, or one hundred (100) feet on other streets and shall be to an even ten (10) feet. On arterials there shall be a tangent of not less than one hundred (100) feet between reversed curves. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper curves.

Response: As illustrated on the Preliminary Plans, the planned public streets are designed to be in compliance with the provision above. Therefore, this provision is satisfied.

- K. **Marginal Access Streets.** If a development abuts or contains an existing or proposed arterial street or railroad right-of-way, the city may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Response: The subject site does not abut existing or proposed arterial streets or railroad right-of-way. Therefore, this criterion is not applicable.

- L. **Vision Clearance Area.** Vision clearance areas shall be maintained on corner lots at the intersection of all public streets and at the intersections of a public street with a private street as outlined in Section 17.92.080.

Response: Vision clearance areas are shown on the Preliminary Plans and are planned to be maintained, consistent with the provision above and as outlined in Section 17.92.080. Please refer to the response in Section 17.92.080.

- M. **Spacing Between Public Road Intersections.** Spacing between public road intersections for each functional class of road shall conform to access spacing standards found in Section 17.100.030.

Response: Please refer to the responses to access spacing standards found in Section 17.100.030 below, which demonstrate compliance with the provision above.

- N. **Landscape Strip.** The landscape strip includes the area located between a sidewalk and the curb (see figure below). This area serves many important functions including creating space for a variety of underground utilities such as telephone, cable television, fiber optic cables, etc. The landscape strip is also beneficial for locating utility poles, fire hydrants, benches, bus shelters and other features that might otherwise block or obstruct pedestrian travel along sidewalks.

Landscaping helps to soften the hard edge created by pavement and curbs. Large trees can also provide cooling summer shade for parked cars and pedestrians. A canopy of street trees can help to slow traffic and enhance the beauty of the community. The physical separation from the street also improves the design of sidewalks by maintaining a constant grade without dipping at driveways, and makes American with Disabilities Act compliance easier. During winter months, snow can be plowed into these areas from the street and not block sidewalks. The landscape strip provides a physical separation from the adjacent roadway, providing enhanced pedestrian comfort and improved walking experience.

Landscaping and plant materials used in the landscape strip are subject to the provisions of Chapter 17.84. Maintenance of landscape strips in the right-of-way is the continuing obligation of the adjacent property owner.

Response: As shown on the Preliminary Plans, this subdivision application includes new local streets (S 8th Street and E Cleveland Street). It also includes two collector streets (S 7th Street and E Wilson Street). Based on prior conversations with City staff, S 7th Street has been designed as a local street, and as further discussed in Section 17.64.050, E Wilson Street has also been designed as a local street. Per Carlton Development Code Section 17.64.040, landscape strips are an optional improvement for local streets. This subdivision application includes curb-tight sidewalks with no landscape strips. This provision is not applicable.

17.64.040 - Right-of-way and improvement widths.

The following standards are general criteria for all types of public streets, bikeways, landscape strips and sidewalks in the city. These standards shall be the minimum requirements for all streets, except where modifications are permitted under Section 17.64.050.

Street Classification		ROW Width (ft.)	Pavement Width (ft.)	Sidewalk Width (ft.)	Landscape Strip (ft.)	Bikeway Width (ft.)	Parking
Local	Typical	47-57	34	5 ¹	5(optional)	N/R	2 sides
¹ Ten-foot sidewalks required along commercially zoned property. ⁴ Bicycle lanes required on Grant Street from Yamhill Street to Pine Street and Yamhill Street from Main Street to Grant Street.							

The property line radius at intersections of local streets shall be twenty (20) feet. All other intersection property line radii shall be according to the specifications of the city engineer.

Response: The Preliminary Plans illustrate the planned right-of-way and improvement widths for the new streets within the subject site designed to local street standards, including 20-foot property line radii at intersections. As shown on the Preliminary Plans, S 7th Street and E Wilson Street are designed as local streets. Per previous conversations with City staff, it is understood that the right-of-way and improvement width of S 7th Street shown on the Preliminary Plans is allowed. A modification for the right-of-way and improvement widths

of S 7th Street and E Wilson Street is included with this application and is further discussed in Section 17.64.050 below. Therefore, this standard is met.

17.64.050 - Modification of right-of-way and improvement width.

The city, pursuant to the review procedures of Chapter 17.196, may allow modification to the public street standards of Section 17.64.040, when both of the following criteria are satisfied:

- A. The modification is necessary to provide design flexibility in instances where:
 1. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 2. Parcel shape or configuration precludes accessing a proposed development with a street which meets the full standards of Section 17.64.040; or
 3. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or
 4. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.
- B. Modification of the standards of Section 17.64.040 shall only be approved if the city finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes.

Response: As previously discussed, S 7th Street and E Wilson Street have been designed to local street standards. S 7th Street and E Wilson Street are planned to have 46-foot-wide paved sections with 5-foot-wide sidewalks on both sides within a 58-foot right-of-way. The planned right-of-way widths are consistent with street widths in residential neighborhoods and will provide continuity between the new street and existing S 7th Street. These modifications are due to constraints imposed by existing topography and the planned preservation of trees and natural resources within open space tracts. Additionally, as discussed in the Transportation Impact Analysis (Exhibit E) prepared by Lancaster Mobley, the site and transportation impacts related to the planned subdivision were analyzed and it was determined that the planned roadways are expected to have sufficient capacity to accommodate traffic volumes in a safe and efficient manner. These standards are satisfied.

17.64.060 - Private streets.

- A. Streets and other rights-of-way serving a planned unit development that are not dedicated for public use shall comply with the following:
 1. Private streets shall only be allowed where the applicable criteria of Section 17.88.030(C) are satisfied. Private streets shall have a minimum easement width of twenty (20) feet and a minimum paved or curbed width of eighteen (18) feet.

Response: This application involves a subdivision that includes a private street (as defined in Section 17.22.020) that is planned to provide access to Lots 59-67. As discussed in this narrative, the planned lot areas included in this application meet the minimum lot area

requirements as defined in Section 17.12 and discussed in Section 17.22.040, meeting the applicable criteria of Section 17.88.030(C).

As shown on the Preliminary Plans (Exhibit A) the planned private street has a 20-foot wide paved section within a 20-foot-wide easement and meets the applicable access requirements as discussed in Section 17.88.030(D). This provision is satisfied.

2. Unless otherwise specified in the Standard Specifications for Public Works Construction in the City of Carlton, all private streets serving more than two dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.

Response: The private street is planned to be owned and maintained by the future homeowners' association. This standard is met.

3. A turn-around shall be required for any private street which has only one outlet and which is in excess of two hundred (200) feet long or which serves more than two residences. Turn-arounds for private streets shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.

Response: As previously discussed, this application includes a private street that is planned to provide access to Lots 59-67. As shown on the Preliminary Plans, a "hammerhead" turnaround for this street is planned. Due to physical constraints in this location (topography and natural resources), a smaller turnaround is provided with individual fire suppression sprinkler systems for the future homes where necessary with approval from the Fire District and City. This standard is satisfied.

- B. Any grant of a private street or land functioning as an easement shall not be accepted by the city and dedicated for public use except upon approval of the council and upon meeting the specifications of Sections 17.64.020 and 17.64.040.

Response: This application does not include a grant of a private street to the public. This standard is not applicable.

17.64.070 - Access easements.

A private access easement created as the result of an approved partitioning shall conform to the following:

- A. Partition access easements shall only be allowed where the applicable criteria of Section 17.88.030(D) are satisfied. The easement shall comply with the following standards:
 1. Minimum width: twenty (20) feet;
 2. Minimum paved or curb to curb width: twenty (20) feet;
 3. Maximum length: two hundred fifty (250) feet;

4. No more than three dwelling units shall have sole access to the easement.
- B. Unless otherwise specified in the Standard Specifications for Public Works Construction in the City of Carlton, all private streets serving more than two dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.
- C. A turn-around shall be required for any access easement which has only one outlet and which is in excess of two hundred (200) feet long or which serves more than two residences. Turn-arounds shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.
- D. All private access easements serving more than two residences shall be designated as fire lanes and signed for no parking.

Response: This application involves a residential subdivision, not a partition. Therefore, the provisions above do not apply.

Chapter 17.68 - OFF-STREET PARKING AND LOADING

17.68.020 - Scope.

Development of off-street parking and loading areas for commercial, industrial, or multi-family development shall be subject to the site design review procedures of Chapter 17.156. The provisions of this chapter shall apply to the following types of development:

- A. Any new building or structure erected after the effective date of the ordinance codified in this title, except as provided in subsection E of this section.

Response: This application involves a residential subdivision for the future construction of single-family homes and a future multifamily building. Therefore, the subdivision is subject to the provisions of this chapter. As stated above, these standards will apply to a site design review for Lot 71 at such time as that application is submitted but do not apply at this time.

17.68.030 - Location.

Off-street parking and loading areas shall be provided on the same lot with the main building or structure or use except that:

- A. In any residential zone or for any residential use permitted in a nonresidential zone, automobile parking areas may be located on another lot if such lot is within two hundred (200) feet of the lot containing the main building, structure or use.
- B. In any nonresidential zone, the parking area may be located off the site of the main building, structure or use if it is within five hundred (500) feet of such site.

Response: This application involves a residential subdivision and does not involve nonresidential uses that would warrant loading areas. The required off-street parking for each of the future single-family homes is planned to be provided and located on the same individual

lot. Compliance with these provisions is to be addressed at the time of building permit review. Therefore, to the extent applicable, this provision is met.

17.68.040 - Joint use.

Parking area may be used for a loading area during those times when the parking area is not needed or used. Parking areas may be shared subject to city approval for nonresidential uses where hours of operation or use are staggered such that peak demand periods do not occur simultaneously. The requirements of Section 17.68.050 may be reduced accordingly. Such joint use shall not be approved unless satisfactory legal evidence is presented which demonstrates the access and parking rights of parties.

Response: This application involves a residential subdivision and does not involve a nonresidential or joint use. Therefore, this provision does not apply.

17.68.050 - Off-street parking requirements.

Except where other city code provisions waive off-street parking requirements or allow credit for on-street parking in lieu of off-street parking, developments and changes in use that are subject to site design review shall provide off-street parking as required by Section 17.68.080 and approved by the city in the amount not less than listed below. The Planning Commission may reduce the off-street parking requirements contained herein without the need for a variance upon finding that the specific characteristics of a proposed use are different than a typical use regulated by this section and the proposed use warrants less parking, as demonstrated by evidence in the record.

Residential		
A.	1 and 1 family dwellings	2 spaces/ dwelling unit
B.	Multi-family dwellings	1 spaces/dwelling unit

Response: The minimum off-street parking requirement is two spaces per dwelling unit for single-family dwellings and one space per dwelling unit for multifamily dwellings. Two required off-street parking spaces are planned to be provided and located on each individual lot/driveway of the single-family homes. A site design review application showing parking spaces that meet the requirements for a multifamily dwelling is required to be submitted and reviewed separately in the future. Therefore, the provisions are satisfied.

17.68.060 - Residential driveways.

All single and joint use residential driveways shall be paved and have a maximum twenty (20) foot approach width from the curb line.

Response: This application involves a residential subdivision. Compliance with the residential driveway provision is to be addressed at the time of building permit review. This criterion will be met.

17.68.070 - Off-street loading requirements.

Buildings or structures to be built or substantially altered which receive and distribute materials and merchandise by trucks shall provide and maintain off-street loading berths in sufficient number and size to adequately handle the needs of the particular use.

Response: This application involves a residential subdivision and does not include a use that involves receiving or distributing materials and merchandise that would require loading berths. Therefore, the provision above does not apply.

17.68.080 - Parking and loading area requirements.

All parking and loading areas, except those for single-family dwellings, shall be developed and maintained as follows:

Response: This application involves a residential subdivision for the future construction of single-family homes and a multifamily building. A site design review application showing parking that meets the requirements for multifamily dwellings is required to be submitted and reviewed separately in the future. This criterion will be met.

17.68.090 - General provisions—Off-street parking and loading.

- A. The provision and maintenance of off-street parking and loading space is a continuing obligation of the property owner. No building permit shall be issued until plans are presented that show an area that is and will remain available for exclusive use as off-street parking and loading space. The subsequent use of property for which the building permit is issued shall be conditional upon the unqualified continuance and availability of the amount of parking and loading space required by this title. Should the owner or occupant of any lot or building change the use to which the lot or building is put, thereby increasing off-street parking and loading requirements, it shall be unlawful and a violation of this title to begin or maintain such altered use until such time as the increased off-street parking and loading requirements are observed.

Response: This application is for a residential subdivision not a building permit. Compliance with Section 17.68.090 is to be demonstrated at the time of building permit review.

- B. Requirements for types of buildings and uses not specifically listed herein shall be determined by the Planning Commission based upon the requirements of comparable uses listed and expectations of parking and loading need.

Response: This application involves a residential subdivision and the responses above in Section 17.68.050 demonstrate that compliance with the off-street parking requirements can be met. Therefore, this requirement is not applicable.

- C. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately, unless a reduction is approved for shared parking pursuant to Section 17.68.040.

Response: As noted above, this application involves a residential subdivision. This application does not involve more than one use for a single structure or parcel of land. Therefore, this requirement is not applicable.

- D. Required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for the parking of trucks used in conducting the business or use.

Response: As noted above, the required off-street parking is associated with a residential subdivision. To the extent applicable, this requirement can be met.

17.68.100 - Parking lot landscaping and screening standards.

All parking lots, which for purposes of this section include areas of vehicle maneuvering, parking, and loading, shall be landscaped and screened as follows:

Response: This application involves a residential subdivision that includes a lot for a future multifamily building. A site design review application showing required landscaping and screening is required to be submitted and reviewed separately in the future.

17.68.110 - Bicycle parking.

A. The following minimum number of bicycle parking spaces shall be provided:

Type of Use	Minimum Number
Single-Family Residential	0
Duplex, Triplex and Multi-Family	Minimum two or one per every two dwelling units, whichever is greater.

Response: This application involves a residential subdivision. A site design review application addressing the applicable bicycle parking requirements for the potential multifamily building is required to be submitted and reviewed separately in the future. Therefore, these provisions are satisfied.

Chapter 17.72 - STORM DRAINAGE

17.72.020 - Scope.

A. The provisions of this chapter shall apply to all new residential land partitions and subdivisions, planned unit developments, multi-family developments, commercial developments, and industrial development; and to the reconstruction or expansion of such developments.

Response: The planned residential subdivision included in this application is subject to the provisions of this chapter.

B. The provisions of this chapter shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or easement dedicated to or located within all off-street parking and loading areas.

Response: This provision is understood.

C. All storm water runoff shall be conveyed to a public storm sewer or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. In the case of private development, the developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

Response: The planned stormwater management system is illustrated on the Preliminary Plans (Exhibit A) and described in the Preliminary Stormwater Report (Exhibit H) is designed to collect and convey runoff to the existing public storm sewer/drainage channel, which has

adequate capacity to accommodate stormwater flows from this project. This standard is met.

17.72.030 - Plan for storm drainage and erosion control.

No construction of any facilities in a development included in Section 17.72.020 shall be permitted until a storm drainage and erosion control plan for the project is prepared by an engineer registered in the State of Oregon and approved by the city. This plan shall contain at a minimum:

- A. The methods to be used to minimize the amount of runoff, siltation, and pollution created from the development both during and after construction.
- B. Plans for the construction of storm sewers, open drainage channels, and other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the storm drainage plans.
- C. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed using the rational formula and based upon the design criteria outlined in the Standard Specifications for Public Works Construction in the City of Carlton and the most current adopted storm drainage master plan.

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A). These plans illustrate methods/measures for the planned storm drainage and erosion control measures for this subdivision. A Preliminary Stormwater Report that provides design calculations is included with this application (Exhibit H). These criteria are satisfied.

17.72.040 - General standards.

- A. All development shall be planned, designed, constructed and maintained to:
 - 1. Protect and preserve existing natural drainage channels to the maximum practicable extent;

Response: As shown on the Preliminary Plans, the site has an existing drainage channel in the northeastern corner of Tract C. Modifications to the existing drainage channel are not planned with this application. This standard is met.

- 2. Protect development from flood hazards;

Response: As shown on the FEMA FIRM (Exhibit G), the improvements planned for this site are outside of the floodplain overlay zone. This standard is met.

- 3. Provide a system by which water within the development will be controlled without causing damage or harm to the natural environment, or to property or persons within the drainage basin;

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A). A Preliminary Stormwater report that includes design calculations of the stormwater system is included with this application (Exhibit H). This standard is satisfied.

4. Assure that waters drained from the development are substantially free of pollutants, through such construction and drainage techniques as sedimentation ponds, reseeded, phasing or grading;

Response: The subdivision design includes a conveyance system consisting of curb inlets, laterals, manholes, and piping. Erosion control measures are planned, including seeding (as necessary), such that sedimentation ponds are not necessary. A Preliminary Stormwater Report (Exhibit H) is included with this application. Together, this information demonstrates that the project satisfies this standard.

5. Assure that waters are drained from the development in such a manner that will not cause erosion to any greater extent than would occur in the absence of development;

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A) and design calculations of the stormwater system are included in the Preliminary Stormwater Report (Exhibit H). The plans and report demonstrate that this application meets these requirements. Therefore, this standard is satisfied.

6. Provide dry wells; French drains, or similar methods, as necessary to supplement storm drainage systems;

Response: The Preliminary Plans show the planned stormwater facilities for the site that do not require dry wells or French drains. To the extent applicable, this standard is met.

7. Avoid placement of surface detention or retention facilities in road rights-of-way.

Response: The Preliminary Plans do not include surface detention or retention facilities in road rights-of-way. This standard is met.

- B. Where culverts cannot provide sufficient capacity without significant environmental degradation, the city may require the watercourse to be bridged or spanned.

Response: This application does not involve crossing drainageways with culverts or bridges. Therefore, this standard does not apply.

- C. In the event a development or any part thereof is traversed by any watercourse, channel, stream or creek, gulch, or other natural drainage channel, adequate easements for storm drainage purposes shall be provided to the city. This does not imply maintenance by the city.

Response: As shown on the Preliminary Plans, easements for storm drainage purposes are planned to be provided in open space areas where appropriate/necessary. This standard is met.

- D. Channel obstructions are not allowed except as approved for the creation of detention or retention facilities approved under the provisions of this title. Fences with swing gates may be utilized.

Response: This application does not involve obstructions to drainage facilities. Therefore, to the extent applicable, this standard is met.

- E. Prior to acceptance of a storm sewer system by the city, the storm sewers shall be flushed and inspected by the city. All costs shall be borne by the developer.

Response: This provision is understood. Compliance with this provision is to be addressed at the time it is applicable.

- F. Easements for creeks and other watercourses shall be provided and shall extend fifteen (15) feet in each direction from the waterway centerline, ten (10) feet from the top of a recognizable bank, or sufficient width to pass 10-year flood flows or 100-year floodway on FEMA regulated stream, whichever is greater. The easements required by this chapter shall be held to prohibit the placement of any building on or over the easement, but shall not preclude landscaping, and shall be held to require restoration of the site following any excavation or other disturbance permitted by the easement.

Response: As shown on the Preliminary Plans, areas subject to above ground drainage flows are located in unbuildable tracts. Therefore, this standard is met.

Chapter 17.76 - UTILITY LINES AND FACILITIES

17.76.020 - Standards.

- A. The design of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required, shall comply with the requirements of the most current adopted Standard Specifications for Public Works Construction in the City of Carlton.

Response: As illustrated on the Preliminary Plans, the utility infrastructure required for the construction of the project is designed to be in compliance with the requirements of the most current adopted Standard Specifications for Public Works Construction in the City of Carlton. Therefore, this standard is met.

- B. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbance of soil and site.

Response: The Preliminary Plans illustrate that planned utilities are generally located within street rights-of-way, which minimizes disturbance of the soil and site. Therefore, this standard is met.

C. Standards for Water Improvements.

1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping station which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

Response: As illustrated on the Preliminary Plans, the water system infrastructure to serve the subdivision is planned to connect to and extend existing water mains located in S 7th Street. This standard is met.

2. Specific location, size and capacity of such facilities will be subject to the approval of the city engineer with reference to

the most current adopted City of Carlton water master plan. All water facilities shall conform with existing city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. The city will not expect the developer to pay for the extra pipe material cost for waterlines exceeding eight inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan illustrates planned water system infrastructure with sufficient detail to find that this standard can be met. This includes points of connection, waterline locations, a looped system, and extensions to adjacent properties. This standard is met.

3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties that, in the judgment of the city, cannot be feasibly served otherwise.

Response: The Preliminary Plans illustrate that the water facility infrastructure designed to adequately serve the subdivision is extended to site boundaries to serve adjacent properties in the future. Therefore, this standard is met.

4. Design, construction and material standards shall be as specified by the city engineer for the construction of such public water facilities in the city.

Response: The application includes a Preliminary Composite Utility Plan that is suitable for planning level purposes. Design details and construction and material specifications are planned to be provided with final construction documents as is customary and appropriate. This standard is met.

D. Standards for Sanitary Sewer Improvements.

1. All developments shall be required to be linked to existing sanitary sewer collection facilities adequately sized to serve their intended area by the construction of sewer lines which connect to existing adequately sized sewer facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

Response: As shown on the Preliminary Composite Utility Plan, this subdivision is planned to connect to an existing sanitary sewer main in S 7th Street. The sanitary sewer line is planned to be extended through the site to provide service for each of the lots. Access to sanitary sewer service for Lots 59-62 and 65-67 will be provided through a sanitary sewer line within a 20-foot wide Public Access and Utility Easement (PAUE) as shown on the Preliminary Plans. This standard is met.

2. Specific location, size and capacity of such facilities will be subject to the approval of the city engineer with reference to the most current adopted wastewater facilities plan. All sewer facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. The city will not expect the developer to pay

for the extra pipe material cost for sanitary sewer lines exceeding twelve (12) inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan illustrates planned sanitary sewer system infrastructure with sufficient detail to find that this standard can be met. This includes points of connection, sewer line locations, and extensions to adjacent properties. This standard is met.

3. All properties shall be provided with gravity sanitary sewer service to a public sanitary sewer system except for parcels that have unique topographic or other natural features that make gravity sewer extension impractical as determined by the city engineer. Pumping stations will be allowed only when it has been demonstrated to the satisfaction of the city engineer that the development cannot be served by gravity. Maintenance of residential pumping stations is the responsibility of the property owner.

Response: As illustrated on the Preliminary Plans, each lot in the subdivision is designed to be provided with gravity sewer service to the public sanitary sewer system. Therefore, this standard is satisfied.

4. Temporary sewer service facilities, including pumping stations, will be permitted only if the city engineer approves the temporary facilities, including all facilities necessary for transition to permanent facilities.

Response: This application does not involve new sanitary sewer pump stations. Therefore, this standard is not applicable.

5. The design of the sewer facilities shall take into account provisions for the future extension beyond the development to serve upstream properties that, in the judgment of the city, cannot be feasibly served otherwise.

Response: The Preliminary Plans show that sanitary sewer service is being extended to adjacent uphill properties as appropriate, thus providing for future extension beyond the subject site. Therefore, this standard is met.

6. All land divisions or other developments requiring subsurface sanitary sewer disposal systems shall be prohibited.

Response: Subsurface sanitary sewer disposal systems are not necessary. Therefore, this standard is not applicable.

7. Design, construction and material standards shall be as specified by the city engineer for the construction of such sewer facilities in the city.

Response: The application includes a Preliminary Composite Utility Plan that is suitable for planning-level purposes. Design details and construction and material specifications are planned to be provided with final construction documents as is customary and appropriate. This standard is met.

8. Prior to acceptance of the sanitary sewer system by the city, the sewers shall be flushed and inspected by the city as required by the Standard Specifications for Public Works Construction in the City of Carlton. All costs shall be borne by the developer.

Response: This standard is understood.

- E. **Street Lights.** All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the city engineer. The developer shall install all such facilities and make the necessary arrangements with the serving electric utility for the street lighting system.

Response: Electrical service for streetlights is being accommodated in the project design. Coordination with Portland General Electric for the streetlight system design is planned to occur in the future, prior to construction. Therefore, this standard is satisfied.

- F. **Private Utilities.** All development which has a need for private utilities, including but not limited to electricity, gas, and communications services shall install them pursuant to the requirements of the district or company serving the development.

1. Except as otherwise provided herein, all utility lines, cables or wires, including but not limited to those used for electricity, communications services and street lighting which are on or adjacent to land partitioned, subdivided or developed within the City of Carlton after the effective date of the ordinance codified in this title, shall be required to be placed underground. The intent of the city is that no poles, towers, or other structures associated with utility facilities shall be permitted on any street or lot within or adjacent to such partition, subdivision or development.

Response: The Preliminary Plans illustrate locations provided for public utility easements where utility infrastructure, which is designed to be located underground, is planned to be installed, consistent with the standards above.

2. **Exceptions.** Above ground facilities shall be permitted for the following in which case the above provisions shall not apply:
 - a. Emergency installations or electric transmission lines or to through feeders operating at distribution voltages which act as a main source of supply to primary lateral and to direct connected distribution transformers and primary loads. Should it be necessary to increase the capacity of major power transmission facilities for service to the area, such new or revised installations shall be made only on rights-of-way or easements on which existing overhead facilities exist at the time of such capacity increase;
 - b. Appurtenances and associated equipment such as surface-mounted transformers, pedestal-mounted terminal boxes, meter cabinets, telephone cable closures, connection boxes and the like;

- c. Structures without overhead wires, used exclusively for fire alarm boxes, streetlights, or municipal equipment installed under the supervision and with the approval of the city engineer;
- d. Power substations, pumping plants, and similar facilities necessary for transmission or distribution of utility services shall be permitted subject to compliance with all zoning regulations and other applicable land use regulations. The engineer for all such facilities, prior to any construction being started, shall approve plans showing landscaping and screening;
- e. Certain industries requiring exceptionally large power supplies may request direct overhead power as a condition;
- f. If existing overhead utilities within or adjacent to the development total less than one hundred fifty (150) linear feet, the city may allow the applicant to record an approved improvement deferral agreement, see Section 17.216.030, in lieu of relocating existing private utilities underground at the time of development.

Response: With the exception of those provisions listed above, new utility infrastructure is planned to be installed underground. These standards are met.

- 3. Information on Development Plans. The developer or subdivider shall show on the development plan or in his or her explanatory information, easements for all underground utility facilities. Plans showing the location of all underground facilities as described herein shall be submitted to the city engineer for review and approval. Care shall be taken in all cases to ensure that aboveground equipment does not obstruct vision clearance areas for vehicular traffic.

Response: The Preliminary Plans illustrate the existing and planned easements for underground utility facilities, as applicable. Therefore, this standard is met.

- 4. Future Installations. The owner(s) or contract purchaser(s) of subdivided real property within a subdivision shall, upon conveyance or transfer of any interest including a leasehold interest in or to any lot or parcel of land, provide in the instrument conveying such interest a covenant running with and appurtenant to the land transferred under which grantee(s) or lessee(s), their heirs, successors, or assigns mutually covenant not to erect or allow to be erected upon the property conveyed any overhead utility facilities, including electric, communication, and cable television lines, poles, guys, or related facilities, except such facilities as are exempt from underground installation under this title or are owned or operated by the city. Such covenant shall require grantees to install, maintain, and use underground electric, telephone, cable television, or other utility services used or to be used to serve the premises. A copy of the covenant shall be submitted with the final plats.

Response: Compliance with this standard is to be addressed at the time of building permit review.

- K. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city attorney and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as follows:

(...)

Response: To the extent easements for public and private utilities are deemed necessary, their locations and dimensions are indicated on the Preliminary Plans. This standard is met.

Chapter 17.84 - SITE AND LANDSCAPING DESIGN

17.84.020 - Scope.

All construction, expansion, or redevelopment of structures or parking lots for commercial, multi-family, or industrial uses shall be subject to the landscaping requirements of this chapter. The construction of new streets containing landscape strips shall also be subject to the landscaping requirements of this chapter.

Properties within the Downtown Parking District (Exhibit A of Chapter 17.68) are exempt from landscaping requirements, except as specifically required by Chapter 17.30 Downtown (D) District design standards and guidelines.

Response: The provisions of Chapter 17.156 require landscaping plans with site design review applications. This application involves a residential subdivision that includes a lot designated for a future multifamily project. A future site design review application showing required landscaping and screening is required to be submitted and reviewed separately. Therefore, the provisions of this chapter are not applicable.

Chapter 17.88 - DEVELOPMENT STANDARDS FOR LAND DIVISIONS

17.88.020 - Scope.

The provisions of this chapter shall apply to all subdivisions, planned unit developments and partitions within the City of Carlton.

17.88.030 - Standards for lots or parcels.

- A. **Minimum Lot Area.** Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.

Response: The Preliminary Plans illustrate the subdivision meets the minimum lot area standards for the R-2 and R-3 zones.

- B. **Maximum Lot Area.** When single-family residential use is proposed for a lot with an area double or greater than the minimum density of the underlying zone the Planning Commission may take into consideration the potential for further division of the lot at a future date.

Response: As illustrated on the Preliminary Plans, the subdivision does not include lots with an area double or greater than the minimum density in the R-2 or R-3 zone. Therefore, this standard is not applicable.

- C. **Lot Width and Depth.** The depth of a lot or parcel shall not be more than three times the width of the parcel, with the exception that parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.

Response: The Preliminary Plans show the lot width and depth for each of the planned lots, and as shown, the depth of each lot is less than three times the width of the lot. This criterion is met.

- D. **Access.** All lots and parcels created after the effective date of the ordinance codified in this title shall provide a minimum frontage, on an existing or proposed public street, equal to twenty (20) feet. An exception shall apply when residential lots or parcels and planned unit developments, may be accessed via a private street or easement developed in accordance with the provisions of Chapter 17.64 or when the city finds that public street access is:

1. Infeasible due to parcel shape, terrain, or location of existing structures; and
2. Not necessary to provide for the future development of adjoining property.

Response: This application involves a subdivision for residential lots created after the effective date of the ordinance codified in this title (Ord. 619, 2003; Ord. No. 693, § 1(Exh. A), 12-12-2011). As shown on the Preliminary Plans (Exhibit A), this application includes a private street that is necessary due to existing physical constraints (topography and natural resources). The private street is an internal street and, and as illustrated on the Preliminary Plans, is not needed to provide access for adjoining properties. Additionally, the planned private street meets the applicable provisions for a private street as discussed in detail in 17.64.060.

As further shown on the Preliminary Plans, each of the lots has a minimum of twenty feet of frontage on a public street or private street within an access easement to a public street, or both. This criterion is met.

- E. **Flag Lots.** If a flag-lot is permitted, the following standards shall be met:

Response: As illustrated on the Preliminary Plans, the planned subdivision does not include flag lots. Therefore, this standard is not applicable.

- F. **Through Lots.** Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent nonresidential activities, or to overcome specific disadvantages of topography and orientation. A ten (10) foot wide screening or buffering easement, pursuant to the provision of Chapter 17.84, may be required by the city during the review of the land division request.

Response: As illustrated on the Preliminary Plans, the planned subdivision does not include through lots. Therefore, this standard is not applicable.

- G. **Lot Side Lines.** The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face.

Response: As illustrated on the Preliminary Plans, the side lot lines, as far as is practicable, run at right angles to the right-of-way line of the street upon which the lots face. Therefore, this standard is satisfied.

- H. **Lot Grading.** The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns and other pertinent data, shall be established by the building inspector.

Response: The Preliminary Plans include lot grading that demonstrates that lot elevations are sufficient to build structures and provide for positive drainage. This standard is met.

- I. **Utility Easements.** Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 17.76.020.

Response: The location and width of public utility easements are shown on the Preliminary Plans, consistent with the provision above. This requirement is satisfied.

17.88.040 - Standards for blocks.

- A. **General.** The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

Response: The Preliminary Plans illustrate that the planned block length, width, and shape are designed to provide adequate lot sizes for the future construction of single-family homes and a future multifamily building. Additionally, the Preliminary Plans illustrate the blocks are designed to provide adequate access, circulation, control, and safety of street traffic.

B. **Sizes.**

1. **Block Length.** Except as provided in Section 17.100.030 for the Main Street Special Transportation Area (STA), blocks in residential and commercial districts shall be a minimum of one hundred (100) feet long and shall not exceed six hundred (600) feet in length between street right-of-way lines, unless the previous adjacent development pattern or topographical conditions justify a variation. Blocks that exceed six hundred (600) feet in length shall provide additional pedestrian and bicycle accessways.
2. **Block Perimeter.** Block perimeters in residential and commercial districts shall not exceed one thousand four hundred (1,400) feet.

Response: As illustrated on the Preliminary Plans, the site has existing topographical constraints and natural areas. As a result, there is one block within the subdivision that exceeds the block length and perimeter standards, and as such, a Public Access Easement (PAE) for a pedestrian connection through Tract B is planned. As further shown on the Preliminary Plans, each of the other blocks in the subdivision are in compliance with the 600-foot maximum block length and 1,400-foot perimeter block perimeter standards. To the extent applicable, these standards are met.

- C. Alleys. Alleys may be provided in all districts, however, alleys shall be provided in commercial and industrial areas, unless other permanent provisions for access to off-street parking and loading facilities are provided.

Response: This application does not include alleys; therefore, this standard is not applicable.

17.88.050 - Improvement requirements.

All improvements required by this title or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the city, the developer shall provide a security guarantee satisfactory to the city that all improvements will be constructed in conformance with all city standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to two hundred fifty (250) feet, the applicant may request to sign and the city may grant an improvement deferral agreement or non-remonstrance agreement.

Response: This requirement is understood and can be met, as applicable.

- A. Frontage Improvements. Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Chapter 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the city shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

Response: The subject site does not have frontage along a public street. Therefore, this requirement is not applicable.

- B. Project Streets. All public or private streets within the land division shall be constructed as required by the provisions of Chapter 17.64. Private driveways serving flag lots or private streets shall be surfaced as per the requirements of this title.

Response: The Preliminary Plans illustrate the streets planned to be constructed within the subdivision, S 7th Street, S 8th Street, E Wilson Street, and E Cleveland Street, and the private street that provides access to Lots 59-67, are consistent with the provisions of Chapter 17.64. Please refer to the responses in Chapter 17.64, above.

- C. Monuments. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.

Response: This requirement can be satisfied.

- D. Bench Marks. Elevation benchmarks shall be set at intervals established by the city engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

Response: This requirement is understood and can be met.

- E. **Surface Drainage and Storm Sewer System.** Drainage facilities shall be provided within the land division and to connect the land division drainage to drainage-ways or to storm sewers outside the land division and shall be consistent with the most current adopted storm water master plan. Design of drainage within the land division shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the land division and to provide extension of the system to serve such areas. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the city, cannot be served otherwise.

Response: The Preliminary Plans demonstrate that the planned stormwater management system accommodates stormwater runoff from areas draining through the subdivision and provides for the future connections to extend the system to other properties in the area, consistent with the requirements above.

- F. **Sanitary Sewers.** Sanitary sewer shall be installed to serve the land division and to connect the Land division to existing mains both on and off the property being divided. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the city, cannot be served otherwise. The city may require that the construction of sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed.

Response: The Preliminary Plans show the planned sanitary sewer improvements, which are designed to provide adequate capacity and provide for the extension of the system to other properties in the area, consistent with the requirements above.

- G. **Water System.** Water lines with valves and fire hydrants serving the land division and connecting the land division to the city mains shall be installed. The design shall take into account provisions for extension beyond the land division to adequately grid the city system and to serve the area within which the development is located when the area is ultimately developed. However, the city will not expect the developer to pay for the extra pipe material cost of mains exceeding eight inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan shows the planned water system infrastructure including waterlines, water valves, and fire hydrants that are planned serve the subdivision. As further illustrated, the water system has been designed to extend to the site's boundaries as appropriate to provide extension to adjoining properties. Therefore, this standard is met.

- H. **Pedestrian Facilities and Bicycle Ways.** Sidewalks shall be installed along both sides of each public street and in any pedestrian or bicycle ways within the land division as well as along all frontages to existing streets. Sidewalks shall be extended as required to connect to other sidewalk systems. The city may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks, sidewalks fronting public property, or sidewalks adjacent to existing structures shall not be deferred.

Response: As shown on the Preliminary Plans (Exhibit A), sidewalks are planned to be installed along both sides of the public streets. In addition to the planned sidewalks, this application includes planned pathways through open space areas. No other pedestrian facilities are planned or warranted. Therefore, this criterion is satisfied.

I. **Pedestrian/Bicycle Design Standards.** Pedestrian/bicycle access ways shall meet the following design standards:

Response: This application does not include pedestrian or bicycle accessways. Therefore, these criteria are not applicable.

J. **Other.**

1. Curb cuts and driveway installations, excluding common drives, are not required of the land divider but, if installed, shall be according to the city standards;
2. Street tree planting is not required of the land divider but, if planted, shall be in accordance with city requirements and of a species compatible with the width of the planting strip;

Response: Curb cuts and street tree plantings will be reviewed at the time of building permit's submittal. These criteria can be met.

3. **Streetlights.** The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by city standards following the making of necessary arrangements with the serving electric;
4. **Street Signs.** The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by city standards.

Response: This application includes new public streets that are planned to include streetlights and street signs, as necessary. These improvements will be designed and constructed in accordance with the requirements of the City of Carlton. Therefore, these criteria have been met.

17.88.060 - **Improvement procedures.**

In addition to other requirements, improvements installed by a developer for any land division, either as a requirement of these regulations or at his or her own option, shall conform to the requirements of this title and improvement standards and specifications adopted by the city, and shall be installed in accordance with the following procedure:

A. Improvement work shall not commence until plans have been checked for adequacy and approved by the city engineer. Plans shall be prepared in accordance with requirements of the city.

Response: This procedural requirement is understood and can be met.

B. Improvement work shall not commence until the city has been notified in advance; and, if work has been discontinued for any reason, it shall not be resumed until the city has been notified.

Response: This procedural requirement is understood and can be met.

- C. Improvements shall be constructed under the inspection and to the satisfaction of the city engineer. The city may require changes in typical sections and details in the public interest, if unusual conditions arise during construction to warrant the change.

Response: This procedural requirement is understood and to the extent applicable, can be met.

- D. All underground utilities, sanitary sewers, and storm drains installed in streets by the developer shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length eliminating the necessity for disturbing the street improvements when service connections are made. Unless otherwise approved by the city, this shall be interpreted as extending to the right-of-way or easement line.

Response: This procedural requirement is understood and can be met.

- E. Upon completion of the public improvements and prior to final acceptance of the improvements by the city, the developer shall provide two certified as-built drawings of all public utility improvements to the city. As-built conditions and information shall be reflected on one set of Mylar base as-built drawings. The developer's engineer shall submit the as-built drawings to the city.

Response: This procedural requirement is understood and can be met.

Chapter 17.92 - YARD AND LOT STANDARDS

17.92.010 - New buildings—Required to be located on a lot.

Every building erected shall be located on a lot as herein defined.

Response: As illustrated on the Preliminary Plans, this application involves a residential subdivision. Each of the newly created lots is designed to be suitable for the future construction of a new single-family home or multifamily building. Therefore, this standard is satisfied.

17.92.020 - Yards apply only to one building.

No required yard or other open space or required driveway provided around or for any building or structure for the purpose of complying with the provisions of this title shall be considered as providing a yard or open space for any other building, nor shall any yard or other required space on an adjoining lot be considered as providing a yard or open space on the lot whereon the building is to be erected.

Response: The planned setbacks are illustrated on the Preliminary Plans, which show that setbacks are associated with an individual lot, consistent with this standard. Therefore, this standard is satisfied.

17.92.030 - No parking in yard areas.

Exclusive of city-approved paved or gravel driveways, no parking shall be allowed within the required front yard area or yards located adjacent to a street. The side yard and rear yard areas may not be used for parking of vehicles, except in city-approved parking areas. The yard areas adjacent to a street shall not be used for the permanent storage of utility trailers, house or vacation trailers, boats, or other similar vehicles.

Response: This application involves a subdivision for the future construction of single-family homes and future multifamily dwellings. A minimum of two off-street parking spaces will be

provided in the garage and/or driveway of each of the single-family homes. Required parking areas for the multifamily homes will be included in a future site design review application. This standard is satisfied.

17.92.040 - Front yard projections.

Planter boxes, chimneys and flues, steps, cornices, eaves, gutters, belt courses, leaders, sills, pilasters, lintels, and other ornamental features which extend not more than eighteen (18) inches from main buildings are exempt from the front yard setback provisions and need not be included when determining the setback.

Response: Compliance with this standard is to be addressed at the time of building permit review.

17.92.050 - Side yard projections.

- A. Cornices, eaves, gutters, and fire escapes, when not prohibited by any other code or ordinance, may project into a required side yard not more than one-third (1/3) of the width of the side yard provided a minimum setback of thirty-six (36) inches is maintained.
- B. Chimneys, flues, belt courses, leaders, sills, pilasters, lintels, and ornamental features may project not more than eighteen (18) inches into a required side yard, provided, however, chimneys and flues shall not exceed six (6) feet in width.
- C. Uncovered decks and patios attached to the main building when measured directly beneath the outside edge of the deck or patio may be extended to the side yard property line when they are thirty-six (36) inches or less in height from ground level.

Response: Compliance with the standards above is to be addressed at the time of building permit review.

17.92.060 - Rear yard projections.

- A. Chimneys, flues, belt courses, leaders, sills, pilasters, lintels, gutters and other ornamental features, may project not more than eighteen (18) inches into a required rear yard, provided, however, chimneys and flues shall not exceed six (6) feet in width.
- B. A fire escape, balcony, outside stairway, cornice or other unenclosed, unroofed projections may project not more than five (5) feet into a required rear yard and set back at least six (6) feet from any property line.
- C. Planter boxes, steps, uncovered porches when not more thirty-six (36) inches above grade are exempt from the minimum rear yard depth requirements.
- D. Uncovered decks and patios attached to the main building when measured directly beneath the outside edge of the deck or patio may be extended to the rear yard property line when they are thirty-six (36) inches or less in height from ground level.

Response: Compliance with the standards above is to be addressed at the time of building permit review.

17.92.070 - Vision clearance.

- A. A vision clearance area shall be maintained at each access to a public street and on each corner of property at the intersection of two streets

or a street and a railroad. A vision clearance area shall contain no planting, sight-obscuring fence (open chain link excluded), wall, structure, or temporary or permanent obstruction exceeding three (3) feet in height, measured from the ground. The preceding provisions shall not apply to the following:

1. Public utility poles;
2. A tree trimmed (to the trunk) to a line at least eight (8) feet above the level of the intersection;
3. Another plant species of open growth habit that is not planted in the form of a hedge and which is so planted and trimmed as to leave at all seasons a clear and unobstructed cross-view;
4. A supporting member or appurtenance to a permanent building lawfully existing on the date this standard becomes effective;
5. An official warning sign or signal;
6. A place where the natural contour of the ground is such that there can be no cross-visibility at the intersection;
7. The post section of a pole sign when there are no more than two posts and any post is less than eight inches in diameter;
8. Telephone switch boxes provided they are less than ten (10) inches wide at the widest dimension.

Response: The required vision clearance areas are shown on the Preliminary Plans is consistent with the provisions above.

- B. For single use residential driveways, the vision clearance area shall consist of a triangular area, two sides of which are the curb line and the edge of the driveway. Where no curbs exist, the future location of the curb, based on future full street improvements shall be used.

Response: The required vision clearance areas are shown on the Preliminary Plans is consistent with the provisions above.

- C. The following measurements shall establish the vision clearance areas:

Type of Intersection	Measurement Along Each Lot Line or Drive Edge*
Controlled intersection (stop sign or signal)	15 feet
Uncontrolled intersection	40 feet
Commercial and industrial driveways	20 feet
Residential driveways	10 feet
Alley	15 feet

Response: The vision clearance areas for intersections shown on the Preliminary Plans are compliant with the requirements of Section 17.92.070(C). Vision clearance areas for driveways will be reviewed at the time of building permit review. Therefore, to the extent applicable, this provision is met.

- 17.92.080 - Fences, walls and hedges.
- A. Materials.
1. Fences and walls shall not be constructed of nor contain any material that could cause bodily harm, such as barbed wire, broken glass, spikes, or any other hazardous or dangerous materials. Electric fences are not permitted;
 2. Electric or barbed wire fences intended to contain or restrict cattle, sheep, horses or other livestock, and existing prior to annexation to the city, may remain;
 3. All required swimming pool and hot tub fencing shall be a minimum of four (4) feet in height and be equipped with a self-locking gate that closes automatically.

Response: Fencing is not relevant to this subdivision application. To the extent fencing is installed in the future, these requirements are understood.

- B. Standards.
1. Every fence shall be maintained in a condition of reasonable repair and shall not be allowed to become and remain in a condition of disrepair including noticeable leaning, missing sections, broken supports, non-uniform height, and uncontrolled growth of vegetation;
 2. Fences shall not exceed four (4) feet in height in any front yard;
 3. The maximum fence height in a street side yard shall not exceed six (6) feet;
 4. Fences within a front or street side yard shall also conform to the clear vision requirements at intersections, which further restrict the use or height of sight-obscuring fences;
 5. In no instance shall a fence extend beyond the property line including into a public right-of-way. It is the responsibility of the property owner to determine the property line.
 6. Fences shall not exceed seven (7) feet in height.

Response: Fencing is not relevant to this subdivision application. To the extent fencing is installed in the future, these requirements are understood.

Chapter 17.100 - ACCESS CONTROL STANDARDS

- 17.100.020 - Applicability.
This title shall apply to all public streets within Carlton and to all properties that abut these roadways
- 17.100.030 - Access spacing standards.
A hierarchy of spacing standards is established that is dependent on the functional classification of the street.

Function Street Classification	Posted Speed Range	Minimum Spacing Between Driveways and/or Streets
Highway 47		
Yamhill to Pine Street (Main Street STA)	20 mph	Streets: Existing city block spacing Driveways: 175 feet or mid-block if block is less than 350 feet
North city limits to Main Street	20—30 mph	450—600 feet
South city limits to Main Street	20—30 mph	450—600 feet
Collector	20—25 mph	75 feet
Local	20—25 mph	50 feet

Response: The Preliminary Plans illustrate the on-site circulation and access spacing of the conceptual driveway locations and planned public streets. The planned streets include new local streets and collector streets (S 7th Street and E Wilson Street). The conceptual driveway locations have been designed to meet local street spacing standards. For the homes that take access from S 7th Street or E Wilson Street, the conceptual driveway locations have been designed to provide the maximum spacing possible, which is consistent with the first phase of JR Meadows.

17.100.040 - General standards.

- A. Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification.

Response: As shown on the Preliminary Plans, this application includes corner lots (Lots 42, 44, 45, 48, 49, 53, 54, 71, 72, 86, and 87). Lots 71 and 72 have frontage on two streets with the same functional classification (local); therefore, vehicular access for each of those lots could be from either street. Lots 45, 48, and 49 have frontage on two streets with the same functional classification (collector); therefore, vehicular access for each of those lots could be from either street. Lots 42, 44, 53, 54, 86, and 87 have frontages on a local street and a collector street. Similar to vehicular access for the corner lots within the JR Meadows subdivision, vehicular access for these lots is planned from the collector streets, providing for cohesive streetscapes.

- B. When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a marginal access or local street. Access rights of these lots, to the arterial shall be dedicated to the City of Carlton and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial.

Response: The subject site does not abut an arterial street. This standard does not apply.

- C. Subdivisions with frontage on the state highway system shall be designed to share access points to and from the highway. If access off of a secondary street is possible, then access should not be allowed onto the state highway.

Response: The subject site does not have frontage on a state highway system; therefore, this standard is not applicable.

- D. Wherever a proposed development abuts unplatted developable land within the urban growth boundary, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area.

Response: The subject site is located adjacent to developable land within the urban growth boundary. As illustrated on the Preliminary Plans, stub streets are planned to be located to provide access to the abutting properties, consistent with the standard above.

- E. Local streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.

Response: The subject site does not abut existing streets. As shown on the Preliminary Plans, S 7th Street is planned to be extended into the subdivision. As further shown on the Preliminary Plans, future street connections are facilitated through the project's street design. The planned connections are designed to minimize/avoid through traffic on local streets. Therefore, this standard is met.

- F. In all cases reasonable access or the minimum number of access connections, direct or indirect, necessary to provide safe access to and from a street shall be granted.

Response: The Preliminary Plans illustrate that each planned lot is provided adequate and safe access to and from on- and off-site streets. Therefore, this standard is satisfied.

- G. New connections shall not be permitted within the functional area of an intersection as defined by the connection spacing standards of this title, unless no other reasonable access to the property is available.

Response: As previously discussed, as required by the City's TSP, there are two collector level streets within this application (S 7th Street and E Wilson Street). Due to the required transportation improvements, the layout includes lots that will take access from S 7th Street and E Wilson Street as the only reasonable access. The conceptual driveway locations have been designed to provide the maximum spacing possible, which is consistent with the first phase of JR Meadows. Therefore, this standard is satisfied.

17.100.050 - Joint and cross access.

- A. Adjacent commercial properties classified as major traffic generators (i.e. shopping plazas, office parks), shall provide a cross access drive and pedestrian access to allow circulation between sites.

Response: This application involves a residential subdivision and does not include commercial property. Therefore, the standards included in this section are not applicable.

17.100.060 - Nonconforming access features.

Legal access connections in place as of the effective date of the ordinance codified in this title that do not conform with the standards

herein are considered nonconforming features and shall be brought into compliance with applicable standards under the following conditions:

Response: The subject site is currently vacant, unimproved land and does not contain existing, non-conforming access features. Therefore, the standards included in this section do not apply.

17.100.070 - Review procedures.

- A. Access Permit Required. Access to a public street (e.g., a new curb cut or driveway approach) requires an access permit. An access permit may be in the form of a letter to the applicant, or it may be attached to a land use decision notice as a condition of approval. In either case, approval of an access permit shall follow the procedures and requirements of the applicable road authority, as determined through the Type I review procedures found in Section 17.188.010.

Response: As shown on the Preliminary Plans (Exhibit A) access to the site is planned to be taken from S 7th Street and permits for access will be obtained as required.

B. Traffic Study Requirements.

1. The City shall require a traffic impact analysis (TIA) prepared by a qualified professional to determine access, circulation, and other transportation requirements when:
 - a. The development generates twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips.
 - b. An access spacing exception is required for the site access driveway(s) and the development generates ten (10) or more peak-hour trips or one hundred (100) or more daily trips.
 - c. The development is expected to impact intersections that are currently operating at the upper limits of the acceptable range of level of service during the peak operating hour.
 - d. The development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as a schools.

Response: The project is expected to generate traffic in excess of 25 p.m. peak hour trips and 250 average daily trips. Therefore, a Transportation Impact Analysis (TIA) prepared by a transportation engineer is included in Exhibit E. As discussed in the TIA, the intersections that were analyzed (E Main Street at 7th Street and S Pine Street at E Polk Street) function at acceptable levels before and after the planned improvements. This submittal requirement is met.

2. Transportation Assessment. If a TIA is not required, the applicant's traffic engineer shall submit a transportation assessment letter to the City indicating the proposed land use action is exempt. This letter shall outline the trip-generating characteristics of the proposed land use and

verify that the site-access driveways or roadways meet City of Carlton sight-distance requirements and roadway design standards.

The Public Works Director may waive the requirement for a transportation assessment letter if a clear finding can be made that the proposed land use action does not generate twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips and the existing and or proposed driveway(s) meet the City's sight-distance requirements and access spacing standards.

Response: As noted in the response above, a Transportation Impact Analysis is required; therefore, the requirements above do not apply.

- C. Conditions of Approval. The City may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system.

Response: As shown on the Preliminary Plans, the site has access to NE Old McMinnville Highway through an Emergency Access Easement, and the main access for the subdivision is planned to be taken from S 7th Street. Reciprocal easements are not necessary for this subdivision, and, as discussed in the Transportation Impact Analysis (Exhibit E), traffic mitigation is not needed or warranted. To the extent applicable, this requirement is satisfied.

- D. Access permit reviews shall address the following criteria:

1. Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access;

Response: As shown on the Preliminary Plans, S 7th Street is planned to be extended into this site, aligned with the centerline of the current S 7th Street, to be the primary access for this subdivision. No other new accesses are planned. To the extent applicable, this requirement is satisfied.

2. The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and service vehicles;

Response: The planned internal streets shown on the Preliminary Plans provide access for each of the planned new homes for residents. This requirement is satisfied.

3. The access shall be consistent with the access management standards in the most current adopted City of Carlton Transportation System Plan.

Response: As shown on the Preliminary Plans, the extension of S 7th Street is consistent with the City of Carlton's Transportation System. This requirement is satisfied.

- E. Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards.

Response: This application does not involve access to the State Highway System. Therefore, this requirement does not apply.

Chapter 17.106 - RESIDENTIAL DESIGN STANDARDS

17.106.020 - Applicability.

This section applies to the following building types:

- A. Single-family non-attached (non-common wall) dwellings are not subject to site development review, but new dwellings are required to comply with subsection 17.106.030(A); no other provisions of Chapter 17.106 apply to non-attached single-family dwellings;
- B. Duplexes, triplexes, and attached single-family dwellings (e.g., townhomes) are subject to all provisions of Chapter 17.106;
- C. Multi-family housing, including residential care facilities, are subject to all provisions of Chapter 17.106;
- D. Mixed-use buildings (residential and other use combined) are subject to all provisions of Chapter 17.106.

Response: This application includes a residential subdivision that includes one lot for the future construction of a multifamily building. A site design review application addressing design standards for a multifamily building is required to be submitted and reviewed separately in the future.

Chapter 17.132 - GENERAL EXCEPTIONS

17.132.010 - General exception to building height.

Projections such as chimneys, spires, domes, elevator shaft housing, flagpoles, and other similar objects not used for human occupancy are not subject to the building height limitations of the underlying zone.

Response: Compliance with building height is to be addressed at the time of building permit review. Exceptions to building height are not applicable at this time.

17.132.020 - Height exceptions for public buildings.

Public or quasi-public buildings, hospitals, places of worship, and educational institutions may be constructed to a height not to exceed forty-five (45) feet provided the required yards are increased one foot for each foot of additional building height above the height regulation for the zone.

Response: This application involves an application for a residential subdivision, and not the construction of public buildings. Therefore, this exception is not applicable.

17.132.030 - Public dedications.

Setback restrictions of this title shall not apply to existing structures whose setback is reduced by a public dedication.

Response: This application does not include setbacks that are reduced by a public dedication. Therefore, this standard is not applicable.

17.132.040 - Miscellaneous setback exceptions.

Setback limitations stipulated elsewhere in this title may be modified as follows:

- A. Bus shelters that are intended for use by the general public and are under public ownership and/or control shall be exempt from setback requirements.
- B. Side and rear yards of underground structures may be reduced to three (3) feet except all openings into the structure, including doors, windows, skylights, plumbing, intake and exhaust vents, shall meet the minimum setbacks of the district.

Response: This application does not include exceptions to the minimum setback standards. Therefore, the standards included in this section do not apply.

Chapter 17.140 - USES PERMITTED IN ALL ZONES

17.140.010 - Permitted uses.

The following uses and activities are permitted in all zones:

- A. Placement and maintenance of underground or above ground wires, cables, pipes, guys, support structures, pump stations, drains, and detention basins within rights-of-ways by public agencies and utility companies for telephone, TV cable, or electrical power transmission, or transmission of natural gas, petroleum products, geothermal water, water, wastewaters, sewage and rainwater.

Response: As permitted by this provision, this application involves a residential subdivision that includes underground utilities.

- B. Railroad tracks and related structures and facilities located within rights-of-ways controlled by a railroad operator.

Response: The subject site does not contain railroad tracks or related structures/facilities. Therefore, this is not applicable.

Division VI. - APPLICATION REQUIREMENTS AND REVIEW CRITERIA

Chapter 17.144 - SUMMARY OF APPLICATION TYPES

17.144.010 - Generally.

All development permits and land use actions are processed under the administrative procedures provided for in this chapter. There are four types of actions, each with its own procedures.

17.144.030 - Type II action.

- A. Type II action is a quasi-judicial review in which the Planning Commission applies a mix of objective and subjective standards that allow considerable discretion. Public notice and a public hearing is provided, see Chapter 17.192. Appeal of a Type II decision is to the City Council. The following actions are processed under a Type II procedure:

- A. Major variance;
- B. Conditional use permit, major;
- C. Site design review, major;
- D. Code interpretation;
- E. Nonconforming uses, Type II modification;
- F. Partitions;

G. Subdivision;

Response: This application involves a residential subdivision. Therefore, this application will be reviewed through a Type II action.

Chapter 17.176 - SUBDIVISIONS AND PLANNED UNIT DEVELOPMENTS

17.176.010 - General provisions.

- A.** All subdivisions and planned unit developments (PUDs) shall conform to all applicable zoning district Standards, development standards and other provisions of this title.

Response: As demonstrated through the responses within this narrative, Preliminary Plans, and supplemental materials, this application complies with the applicable R-2 and R-3 zoning district Standards, development standards, and other provisions of this title.

- B.** A master plan for development is required for any application that leaves a portion of the subject property capable of redevelopment.

Response: As shown on the Preliminary Plans, the subdivision is a complete parcelization of the property. Therefore, this requirement is not applicable.

17.176.020 - Application and fee.

- A.** The following submittal requirements shall apply to all preliminary plan applications for subdivisions and PUDs:

1. All applications shall be submitted on forms provided by the city to the city recorder along with the appropriate fee. It shall be the applicant's responsibility to submit a complete application that addresses the review criteria of this chapter;

Response: The required City application forms and appropriate fee are included with the application materials. Therefore, this submittal requirement is satisfied.

2. The applicant shall submit ten (10) clear and legible copies of the preliminary plan on sheets that are twenty-four (24) inches by thirty-six (36) inches in size. Preliminary plans shall be drawn to a scale of one-inch equals one hundred (100) feet or larger;

Response: Preliminary Plans are included in the application materials, consistent with the provision above. Therefore, this submittal requirement is satisfied.

3. **General Information.** The following general information shall be shown on the preliminary plan:

- a. Vicinity map extending one thousand two hundred (1,200) feet in each direction showing all streets, property lines, streams, and other pertinent data to locate the proposal;
- b. North arrow, scale of drawing and date of preparation;
- c. Tax map and tax lot number or tax account of the subject property;
- d. Dimensions and size in square feet or acres of the subject property;

- e. The names and addresses of the property owner, partitioner and engineer, surveyor, or other individual responsible for laying out the partition.

Response: The Preliminary Plans included in the application materials show the information required above. Therefore, this submittal requirement is satisfied.

- 4. Existing Conditions. The preliminary plan shall show:
 - a. Location of all existing easements within the property;
 - b. Location of city utilities (water, sanitary sewer, storm drainage) within or adjacent to the property proposed for use to serve the development;
 - c. The location and direction of watercourses or drainage swales. The location and disposition of any wells, wetlands identified on the State Wetland Inventory, septic tanks, and drain fields in the development;
 - d. Existing uses of the property, including location of existing structures on the property. It should be noted whether the existing structures are to be removed or to remain on the property;
 - e. Contour lines related to an established benchmark, having the following minimum intervals:
 - i. Areas with less than five percent slope: one-foot contours;
 - ii. Areas with slope between five percent and ten (10) percent: two-foot contours;
 - iii. Areas with slope greater than ten (10) percent: five-foot contours;

Response: The Preliminary Plans included in the application materials show the information required above, as applicable. Therefore, this submittal requirement is satisfied.

- 5. Proposed Plan. The preliminary plan shall clearly show to scale the following:
 - a. Proposed name of the PUD or subdivision;
 - b. Locations, approximate dimensions and area in square feet of all proposed lots. Identification of each lot and block by number;
 - c. Proposed streets and their names, approximate grade, radius of curves, and right-of-way widths;
 - d. Any other legal access to the subdivision or PUD, other than a public street;
 - e. Location, width and purpose of any proposed easements;
 - f. If the development is to be constructed in phases, indicate the area of each phase.
- 6. Supplemental Information. Proposed deed restrictions, if any, in outline form.

7. A traffic impact analysis if requested by the city manager.

Response: The Preliminary Plans included in the application materials show the information required above, as applicable. Additionally, a Transportation Impact Analysis is included in Exhibit E. This application includes two tracts that are intended as open space areas. These tracts will either be owned and maintained by a future Homeowners' Association or the City of Carlton (if the City will accept them). Therefore, this submittal requirement is satisfied.

B. The following supplemental information shall be required for all PUD preliminary plan applications:

1. Calculations justifying the proposed density of development as required by Section 17.112.050(C);
2. Proposed uses of the property, including sites, if any, for attached dwelling units, recreational facilities, parks and playgrounds or other public or semi-public uses, with the purpose, condition and limitations of such reservations clearly indicated;
3. The approximate location and dimensions of all commercial or multi-family structures proposed to be located on the site;
4. Statement of improvements to be made or installed including streets, sidewalks, bikeways, trails, lighting, tree planting, landscaping, and time such improvements are to be made or completed;
5. Written statement-outlining proposals for ownership and maintenance of all open space areas, private streets and any commonly owned facilities.

Response: This application involves a subdivision and not a PUD; therefore, this submittal requirement does not apply.

17.176.030 - Process.

- A. Preliminary plans for subdivisions and PUDs shall be reviewed in accordance with the Type II review procedures.
- B. Approvals of any preliminary plans for a subdivision or PUD shall be valid for eighteen (18) months after the date of the written decision. A final plat for a subdivision shall be recorded within this time period or the approvals shall lapse. PUDs that do not involve the subdivision of property shall show substantial progress toward the construction of the project within the 18-month period or the approval shall lapse.
- C. The Planning Commission may extend the approval period for any subdivision or PUD for not more than one additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period.
- D. If the approval period is allowed to lapse, the applicant must resubmit the proposal, including all applicable fees, for public hearing before the Planning Commission. The applicant will be subject to all applicable standards currently in effect.

Response: This application involves a residential subdivision. It is understood that this application is to be reviewed through a Type II procedure.

V. Conclusion

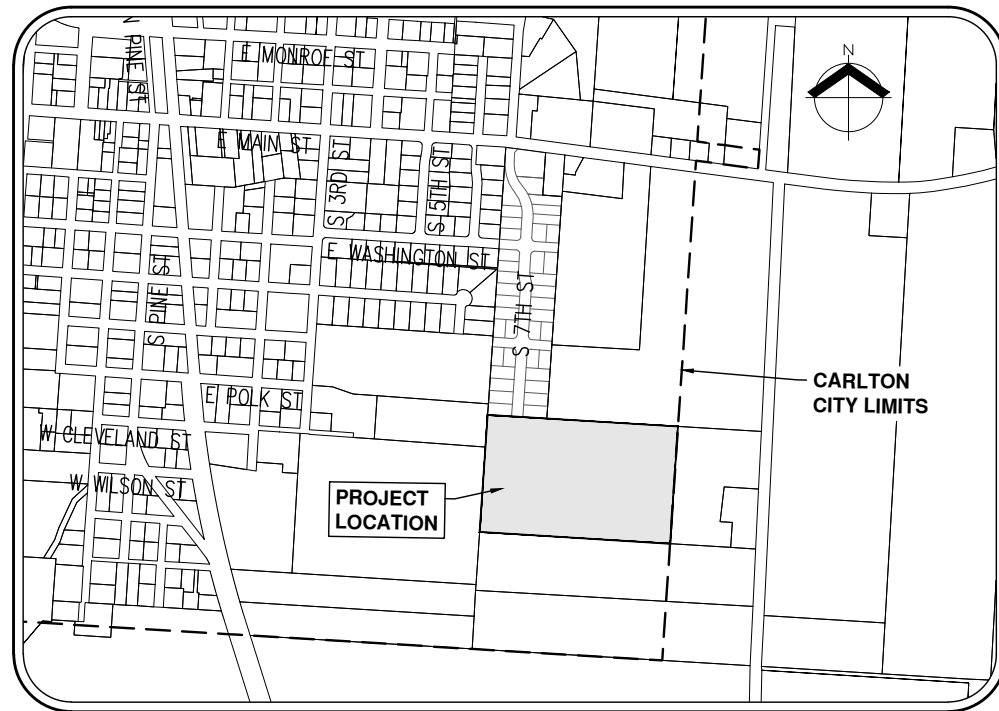
The required findings have been made, and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the City of Carlton Community Development Code. The evidence in the record is substantial, and the City can rely upon this information in its approval of the application.



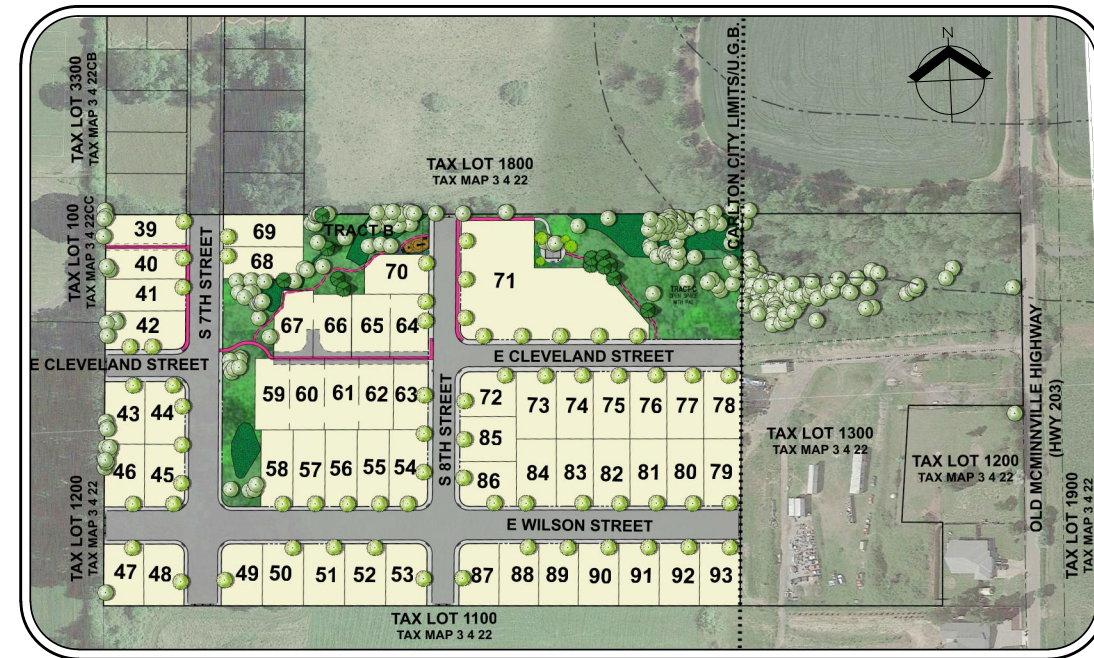
Exhibit A: Preliminary Plans

JR MEADOWS NO. 2

PRELIMINARY PLANS



VICINITY MAP
 1" = 500'



SITE MAP
 1" = 150'

LEGEND			
EXISTING		PROPOSED	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	
MAILBOX		COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	
EXISTING		PROPOSED	
RIGHT-OF-WAY LINE		BOUNDARY LINE	
BOUNDARY LINE		PROPERTY LINE	
PROPERTY LINE		CENTERLINE	
CENTERLINE		DITCH	
DITCH		CURB	
CURB		EDGE OF PAVEMENT	
EDGE OF PAVEMENT		EASEMENT	
EASEMENT		FENCE LINE	
FENCE LINE		GRAVEL EDGE	
GRAVEL EDGE		POWER LINE	
POWER LINE		OVERHEAD WIRE	
OVERHEAD WIRE		COMMUNICATIONS LINE	
COMMUNICATIONS LINE		FIBER OPTIC LINE	
FIBER OPTIC LINE		GAS LINE	
GAS LINE		STORM DRAIN LINE	
STORM DRAIN LINE		SANITARY SEWER LINE	
SANITARY SEWER LINE		WATER LINE	
WATER LINE			

APPLICANT: TJA, LLC
 9110 NW CLAY PIT ROAD
 YAMHILL, OR 97148

PLANNING / ENGINEERING / SURVEYING TEAM: AKS ENGINEERING & FORESTRY, LLC
 CONTACT: MONTY HURLEY / AMY DOWNHOUR / CHRIS GOODELL
 12965 SW HERMAN RD, SUITE 100
 TUALATIN, OR 97062
 PH: 503-563-6151

PROJECT LOCATION: SOUTH OF THE INTERSECTION OF E MAIN STREET AND 7TH STREET CARLTON, OREGON

PROPERTY DESCRIPTION: TAX LOT 1300, YAMHILL COUNTY ASSESSOR'S MAP 3S 4W 22, TOWNSHIP 3 SOUTH, RANGE 4 WEST, LOCATED IN SECTION 22, WILLAMETTE MERIDAN, CITY OF CARLTON, YAMHILL COUNTY, OREGON.

EXISTING LAND USE: VACANT

PROJECT PURPOSE: SUBDIVISION FOR FUTURE RESIDENTIAL DWELLING UNITS.

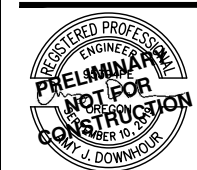
VERTICAL DATUM: VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U98 (PID RD0845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET. ELEVATION = 202.08 FEET (NAVD 88)

HORIZONTAL DATUM: HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING A PROJECT MEAN GROUND SCALE FACTOR OF 1.00010743905367 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID COORDINATES N604280.514, E7515183.436. STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.

SHEET INDEX

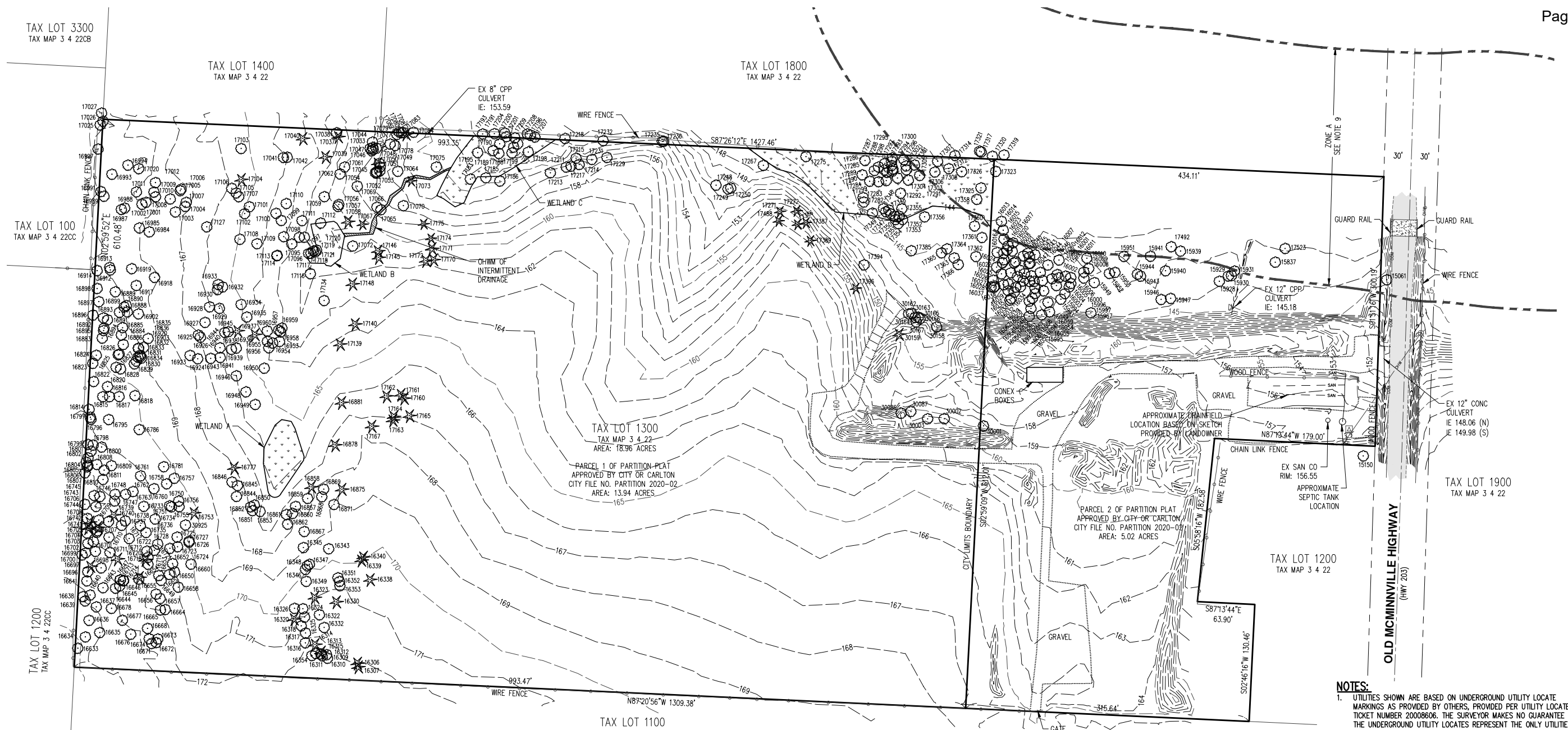
- P-01 COVER SHEET WITH LEGEND, VICINITY, AND SITE MAPS
- P-02 PRELIMINARY EXISTING CONDITIONS PLAN
- P-03 PRELIMINARY OPEN SPACE AND LANDSCAPE PLAN
- P-04 PRELIMINARY SUBDIVISION PLAT WITH FUTURE BUILDING SETBACKS
- P-05 CONCEPTUAL NEIGHBORHOOD CIRCULATION PLAN
- P-06 PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
- P-07 PRELIMINARY DEMOLITION PLAN
- P-08 PRELIMINARY GRADING AND EROSION CONTROL PLAN
- P-09 PRELIMINARY COMPOSITE UTILITY PLAN
- P-10 PRELIMINARY STREET PLAN AND CROSS SECTIONS
- P-11 PRELIMINARY STREET PROFILES
- P-12 PRELIMINARY STREET PROFILES
- P-13 PRELIMINARY AERIAL PHOTOGRAPH PLAN

**COVER SHEET WITH LEGEND,
 VICINITY, AND SITE MAPS
 JR MEADOWS NO. 2
 CARLTON, OREGON**

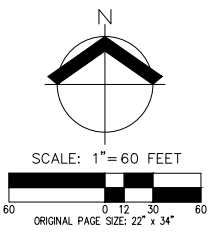


RENEWED:	DECEMBER 31, 2021
JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	AJD
DRAWN BY:	CL
CHECKED BY:	RSW

P-01



- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 2000806. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITY LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED JANUARY 15-30, AND FEBRUARY 2, 2020.
 - VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U 98 (PID R00845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET ELEVATION = 202.08 FEET (NAVD 88).
 - HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011) EPOCH: 2010.0000 BY MULTIPLYING A PROJECT MEAN GROUND SCALE FACTOR OF 1.0010743905367 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID COORDINATES N604280.514, E7515183.436. STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
 - THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. SEE ARBORIST REPORT FOR DETAILED TREE INFORMATION.
 - ZONE A FLOOD PLAIN BOUNDARY IS SHOWN PER GIS OVERLAY OF FEMA FIRM MAP 41071C0191D, WITH AN EFFECTIVE DATE OF MARCH 2, 2010.
 - WETLAND AND WATER BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON 11/11/2019 AND WERE PROFESSIONALLY SURVEYED BY AKS ON 11/13/2019. A FOLLOW-UP SITE VISIT WAS CONDUCTED ON 8/12/2020 AND ADDITIONAL WETLAND DATA WAS GPS SURVEYED USING A TRIMBLE GEO7X GPS RECEIVER WITH SUB-METER ACCURACY. WETLAND BOUNDARY STUDY AREA ONLY WITHIN CITY LIMITS BOUNDARY.



**PRELIMINARY EXISTING
 CONDITIONS PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**

REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
 NOT FOR CONSTRUCTION
 COMPLETED 8/14/2020
 BENJAMIN R HUFF
 84738PLS
 RENEWS: 6/30/21

JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AK
 DRAWN BY: BRH
 CHECKED BY: BRH



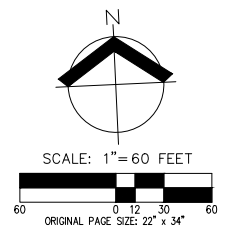
PRELIMINARY OPEN SPACE AND LANDSCAPE PLAN
JR MEADOWS NO. 2
CARLTON, OREGON

JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH

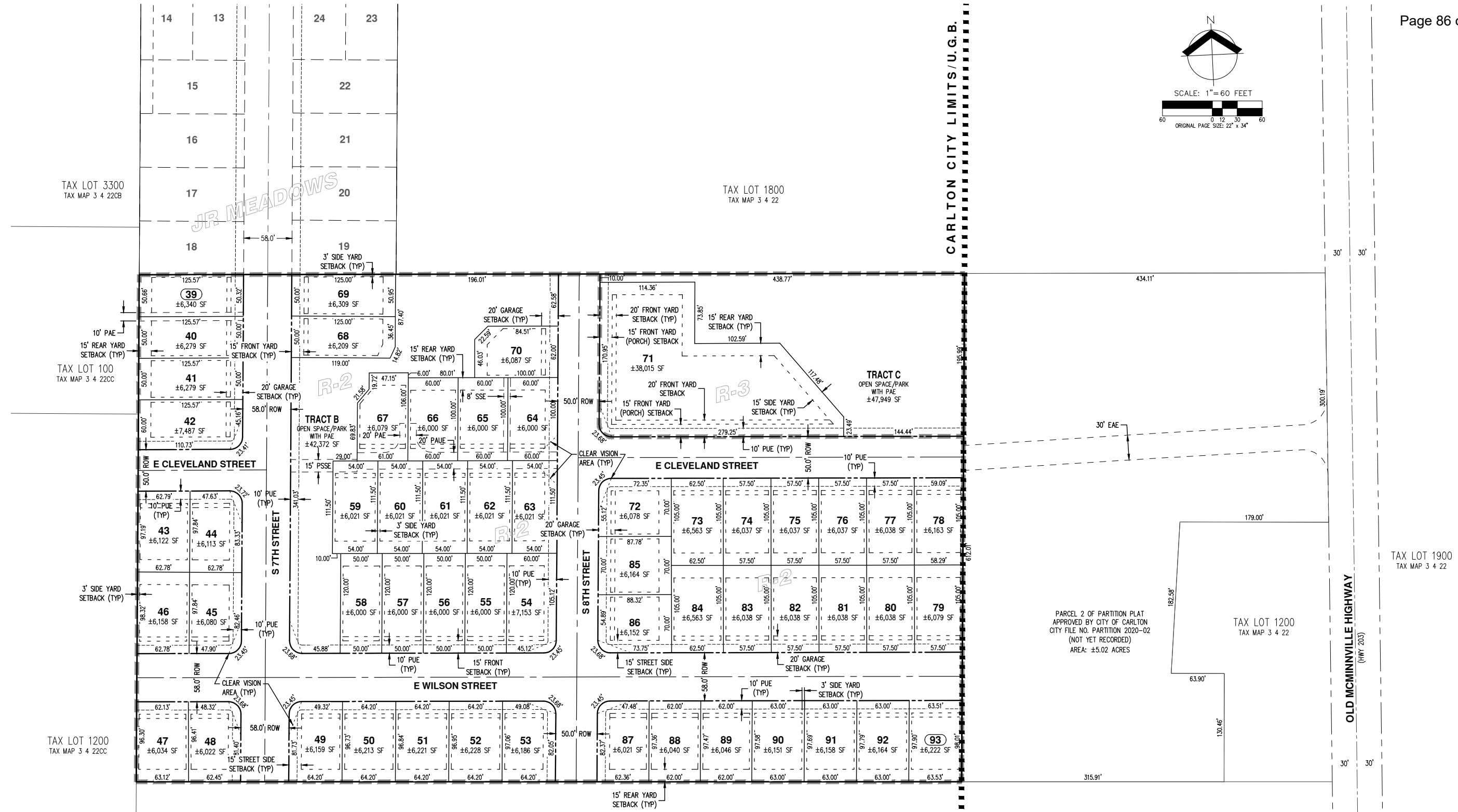
P-03

NOTE: POTENTIAL PLAN ELEMENTS AS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE.

AKS DRAWING FILE: 7395-01 MASTER PLAN EXHIBIT.DWG | LAYOUT: CTB



CARLTON CITY LIMITS / U.G.B.



PARCEL 2 OF PARTITION PLAT
 APPROVED BY CITY OF CARLTON
 CITY FILE NO. PARTITION 2020-02
 (NOT YET RECORDED)
 AREA: ±5.02 ACRES

TAX LOT 1200
 TAX MAP 3 4 22

TAX LOT 1900
 TAX MAP 3 4 22

OLD MCMINVILLE HIGHWAY
 (HWY 203)

EASEMENT LEGEND

PUBLIC UTILITY EASEMENT PUE
 PUBLIC ACCESS AND UTILITY EASEMENT PAUE
 PUBLIC ACCESS EASEMENT PAE
 PUBLIC SANITARY SEWER EASEMENT PSSE
 EMERGENCY ACCESS EASEMENT EAE
 PRIVATE SANITARY SEWER EASEMENT SSE

OPEN SPACE NOTES:

1. TRACT B & C SHALL EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON AS A PARK.

ACREAGE

R-2 ZONE 11.97 AC
 R-3 ZONE 1.97 AC
 TOTAL 13.94 AC

REQUIRED SETBACKS & LOT COVERAGE

R-2 DISTRICT
 FRONT YARD 15 FT
 FRONT YARD TO GARAGE 20 FT
 SIDE YARD 3 FT
 STREET SIDE YARD 15 FT
 REAR YARD 15 FT
 COMBINED MAXIMUM LOT COVERAGE:
 BUILDING HEIGHT < 20 FT 80%
 BUILDING HEIGHT > 20 FT 65%

R-3 DISTRICT
 FRONT YARD 20 FT
 FRONT YARD TO PORCH 15 FT
 SIDE YARD 7 FT
 STREET SIDE YARD 20 FT
 REAR YARD 15 FT
 COMBINED MAXIMUM LOT COVERAGE: 70%

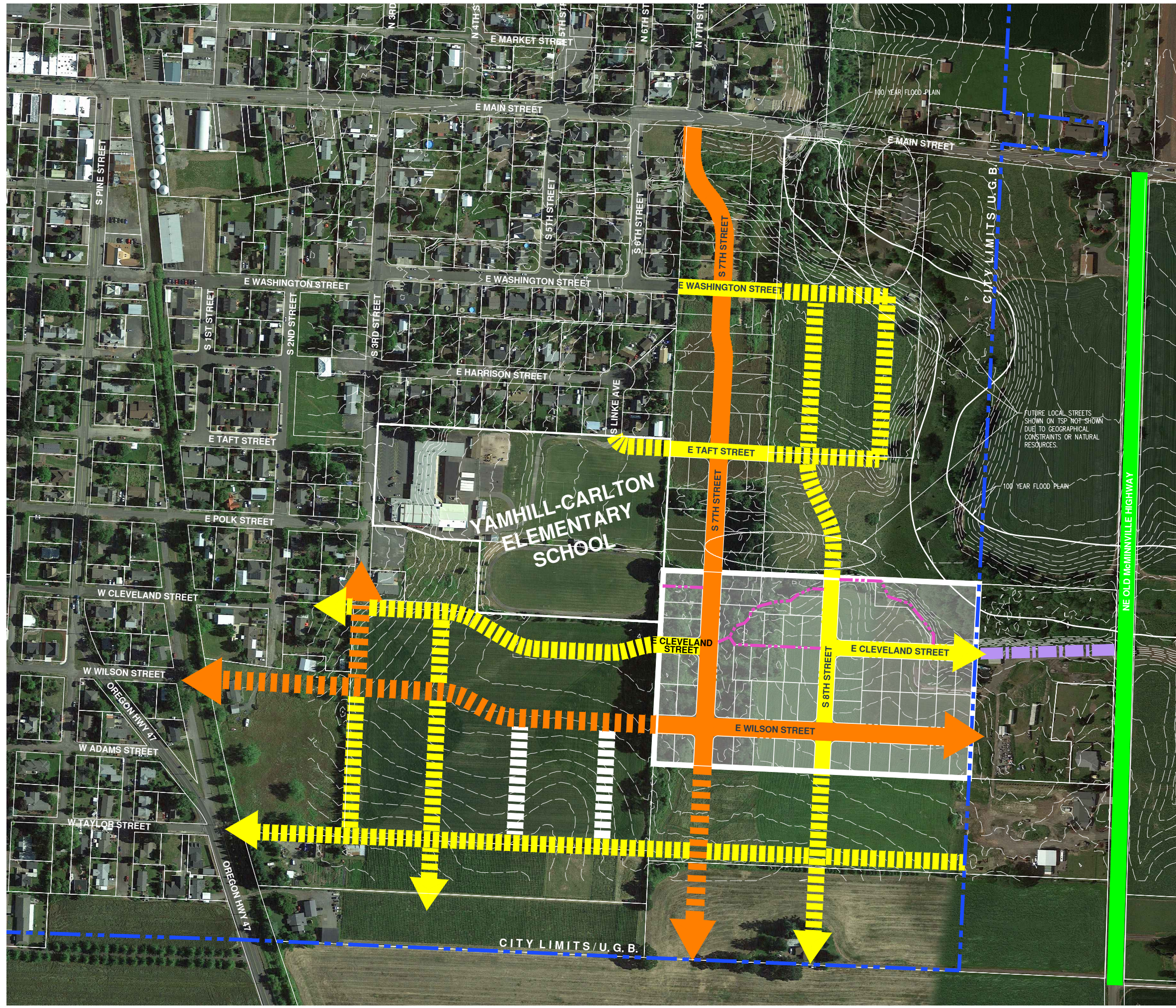
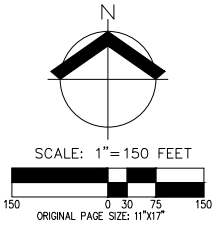
NOTE:

THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.

**PRELIMINARY SUBDIVISION PLAT
 WITH FUTURE BUILDING SETBACKS
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



LEGEND

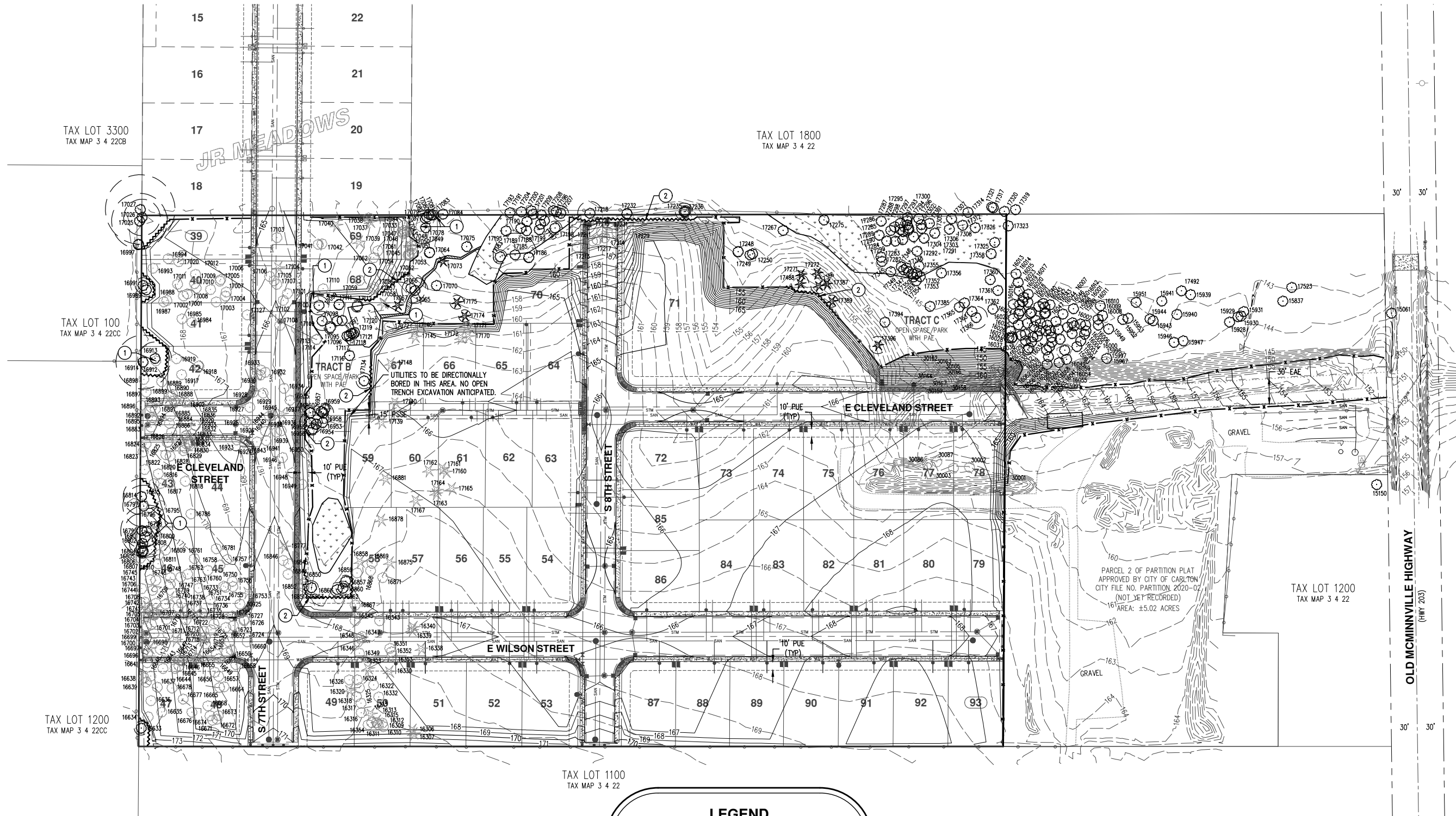
- CITY LIMITS/U.G.B.
- PROJECT SITE BOUNDARY
- * PLANNED LOCAL STREET
- * PLANNED COLLECTOR
- CONCEPTUAL FUTURE COLLECTOR (ON TSP)
- CONCEPTUAL FUTURE LOCAL STREET (ON TSP)
- YAMHILL COUNTY EXISTING LOCAL
- CONCEPTUAL FUTURE LOCAL STREET (NOT ON TSP)
- EMERGENCY ACCESS
- PEDESTRIAN TRAIL
- * INCLUDES PLANNED ON-SITE STREETS AND OFF-SITE STREETS THAT ARE UNDER CONSTRUCTION AT THE TIME OF THIS APPLICATION.

- NOTES:**
1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS FOR THE CITY OF CARLTON.
 2. CONCEPTUAL FUTURE STREET LOCATIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES FOR THE LAND USE APPLICATION ONLY AND ARE NOT PROPOSED WITH THIS PARTITION AND ARE NOT BINDING ON ANY OFF-SITE PROPERTIES.
 3. THIS DRAWING DOES NOT REPRESENT A FIELD VERIFIED TOPOGRAPHIC/PROPERTY BOUNDARY SURVEY.
 4. DATA SOURCES FOR THIS CONCEPTUAL DRAWING INCLUDE INFORMATION EXTRAPOLATED FROM CITY OF CARLTON FUTURE STREET PLAN, GIS AND NOAA LIDAR TOPOGRAPHY.
 5. AREAS, DIMENSIONS, EASEMENT LOCATIONS, AERIAL PHOTO FEATURES, ETC. ARE THEREFORE CONSIDERED APPROXIMATE.

**CONCEPTUAL NEIGHBORHOOD
 CIRCULATION PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWS:	DECEMBER 31, 2021
JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	AJD
DRAWN BY:	CL
CHECKED BY:	RSW



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 1800
TAX MAP 3 4 22

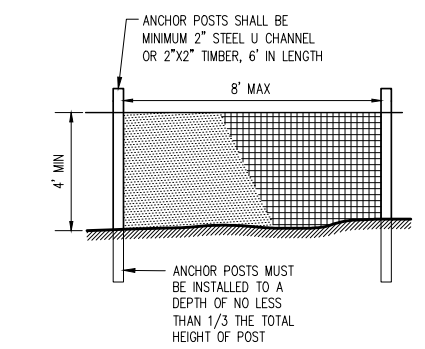
TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1900
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1100
TAX MAP 3 4 22



- NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
 2. AVOID DAMAGE TO ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

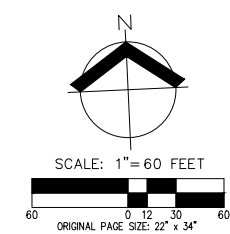
TREE PROTECTION / CONSTRUCTION FENCE

LEGEND	
EXISTING GROUND CONTOUR (1 FT)	--- 149 ---
EXISTING GROUND CONTOUR (5 FT)	--- 150 ---
FINISHED GRADE CONTOUR (1 FT)	--- 149 ---
FINISHED GRADE CONTOUR (5 FT)	--- 150 ---
EXISTING CONIFEROUS TREE	★
EXISTING DECIDUOUS TREE	○
TREE REMOVAL	★
TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA)	~ ~ ~ ~ ~
SEDIMENT FENCE (TO SERVE AS TREE PROTECTION FENCE WHERE SHOWN)	- x - x -
ASSUMED TREE ROOT ZONE (1-FT RADIUS PER 1-IN-OF DBH)	○

NOTE:
SEE ATTACHED ARBORIST REPORT FOR DETAILED TREE INFORMATION.

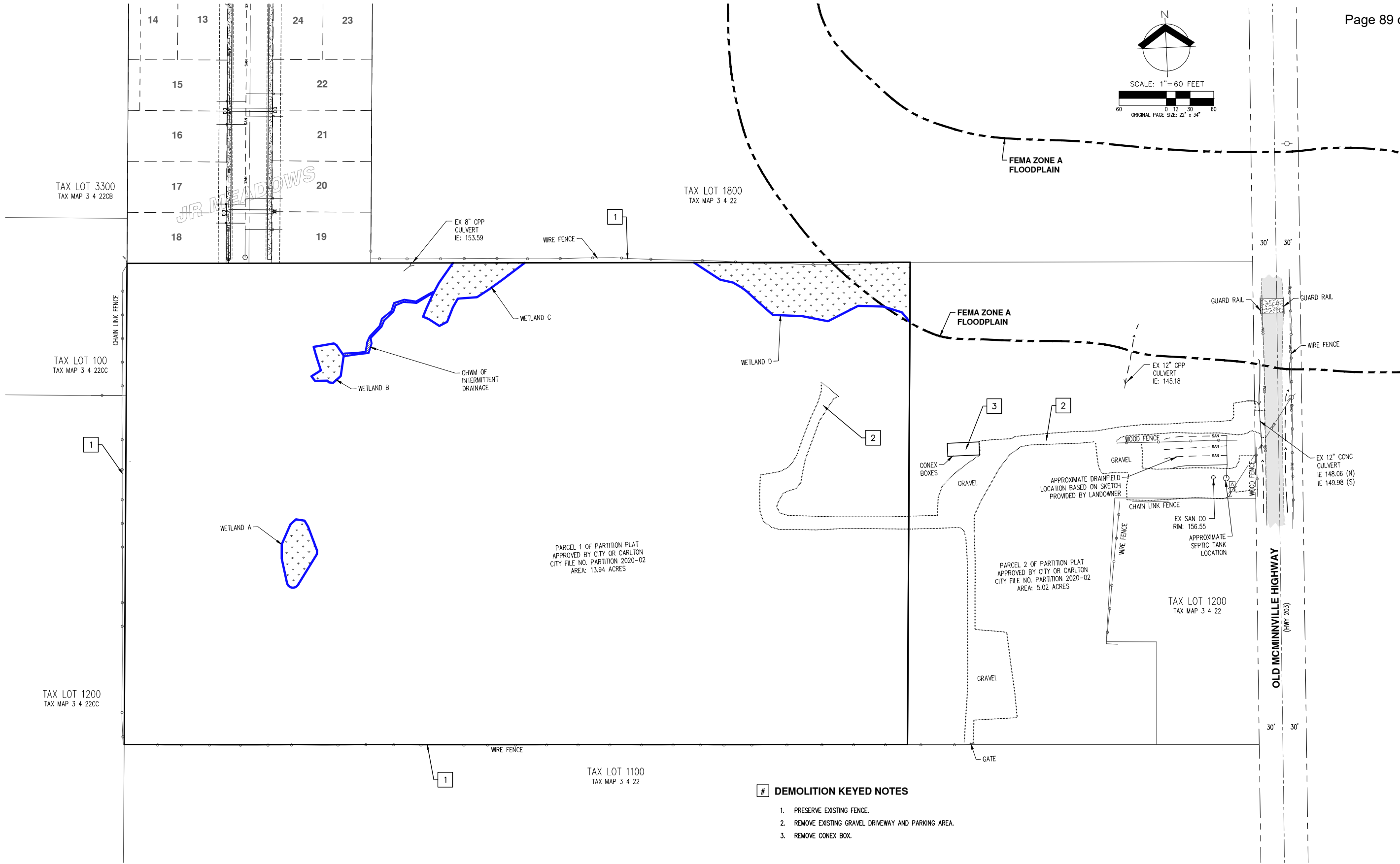
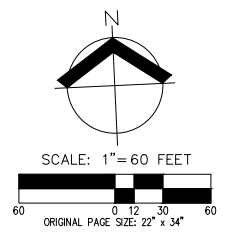
EASEMENT LEGEND	
PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

- KEYED NOTES:**
1. ARBORIST OBSERVATION RECOMMENDED DURING TREE REMOVAL BEHIND TREE PROTECTION FENCE.
 2. INSTALL STRAW WATTLE WITH TREE PROTECTION FENCE.



**PRELIMINARY TREE PRESERVATION
 AND REMOVAL PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY
 NOT FOR CONSTRUCTION
 J. DOWNHUR
 RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



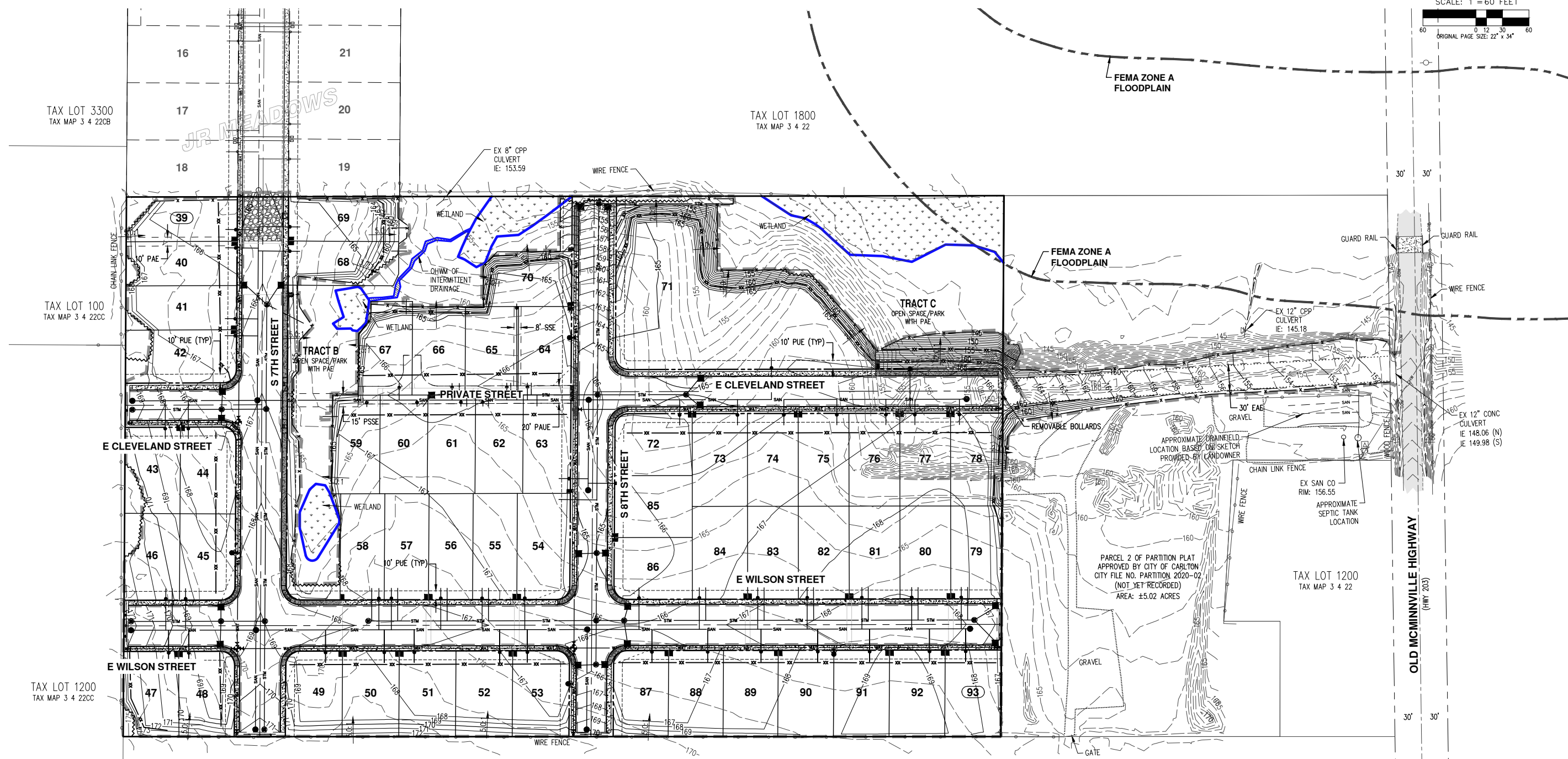
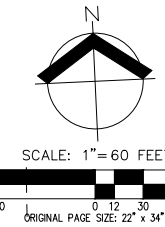
DEMOLITION KEYED NOTES

1. PRESERVE EXISTING FENCE.
2. REMOVE EXISTING GRAVEL DRIVEWAY AND PARKING AREA.
3. REMOVE CONEX BOX.

**PRELIMINARY
 DEMOLITION PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 1800
TAX MAP 3 4 22

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1200
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1100
TAX MAP 3 4 22

EASEMENT LEGEND

PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

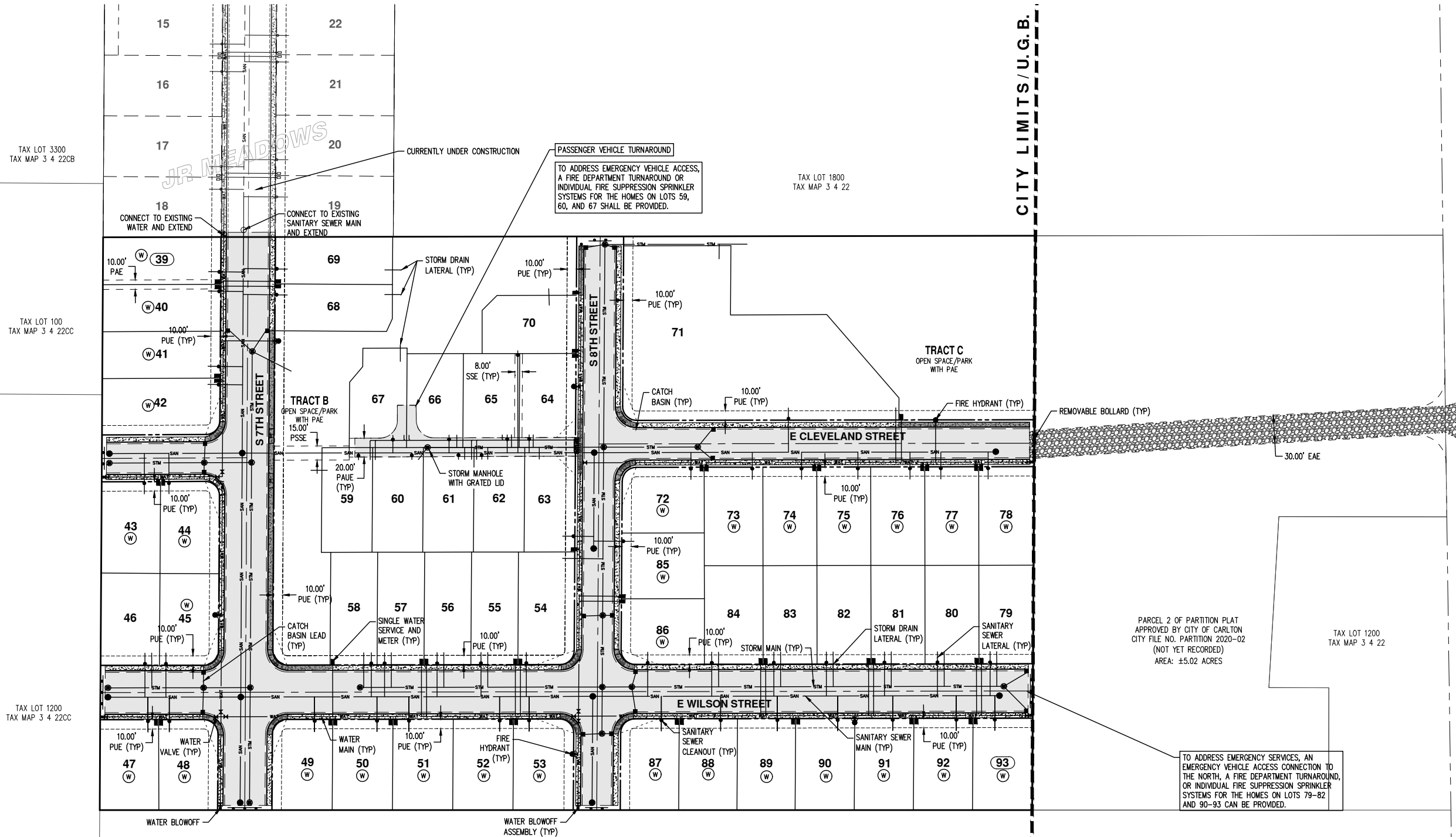
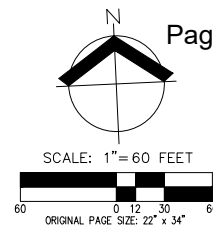
LEGEND

EXISTING GROUND CONTOUR (1 FT)	---
EXISTING GROUND CONTOUR (5 FT)	---160---
FINISHED GRADE CONTOUR	---160---
SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)	---x---
SEDIMENT FENCE (TO BE INSTALLED AFTER GRADING)	---xx---
AREA DRAIN PROTECTION (TYP) PER CATCH BASIN INSERT BAG DETAIL	□
CONCRETE WASHOUT AREA	■
GRAVEL CONSTRUCTION ENTRANCE	■
GRADING LIMITS	---

**PRELIMINARY GRADING AND
EROSION CONTROL PLAN
JR MEADOWS NO. 2
CARLTON, OREGON**



RENEWED: DECEMBER 31, 2021
JOB NUMBER: 7395-01
DATE: 08/19/2020
DESIGNED BY: AJD
DRAWN BY: CL
CHECKED BY: RSW



JR MEADOWS

PASSENGER VEHICLE TURNAROUND
 TO ADDRESS EMERGENCY VEHICLE ACCESS, A FIRE DEPARTMENT TURNAROUND OR INDIVIDUAL FIRE SUPPRESSION SPRINKLER SYSTEMS FOR THE HOMES ON LOTS 59, 60, AND 67 SHALL BE PROVIDED.

PARCEL 2 OF PARTITION PLAT APPROVED BY CITY OF CARLTON CITY FILE NO. PARTITION 2020-02 (NOT YET RECORDED) AREA: ±5.02 ACRES

TO ADDRESS EMERGENCY SERVICES, AN EMERGENCY VEHICLE ACCESS CONNECTION TO THE NORTH, A FIRE DEPARTMENT TURNAROUND, OR INDIVIDUAL FIRE SUPPRESSION SPRINKLER SYSTEMS FOR THE HOMES ON LOTS 79-82 AND 90-93 CAN BE PROVIDED.

EASEMENT LEGEND

- PUBLIC UTILITY EASEMENT PUE
- PUBLIC ACCESS AND UTILITY EASEMENT PAUE
- PUBLIC ACCESS EASEMENT PAE
- PUBLIC SANITARY SEWER EASEMENT PSSE
- EMERGENCY ACCESS EASEMENT EAE
- PRIVATE SANITARY SEWER EASEMENT SSE

NOTES:

- (W) LOTS SHALL UTILIZE CURB WEEP HOLES FOR ROOF DRAIN CONNECTIONS.
- 1. LOTS 59-62, 65-67 TO BE SERVED BY A WATER SERVICE METER BANK AT S 8TH STREET.

TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1800
TAX MAP 3 4 22

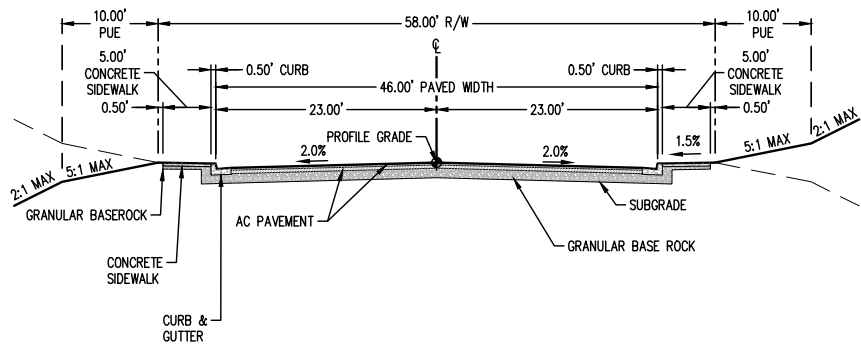
TAX LOT 1200
TAX MAP 3 4 22

TAX LOT 1100
TAX MAP 3 4 22

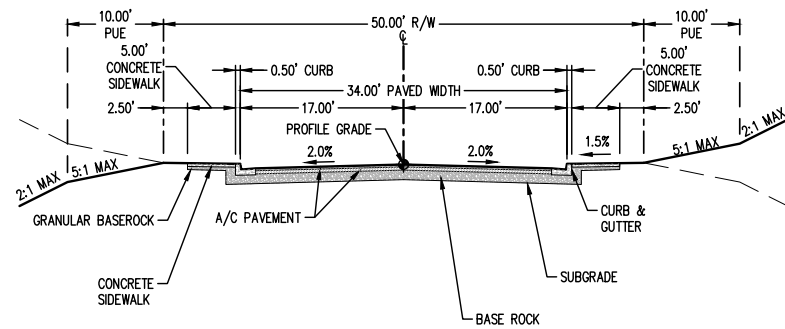
**PRELIMINARY COMPOSITE
 UTILITY PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



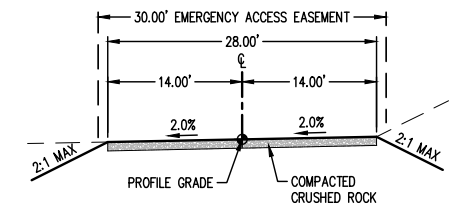
RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: A.J.D.
 DRAWN BY: C.L.
 CHECKED BY: R.S.W.



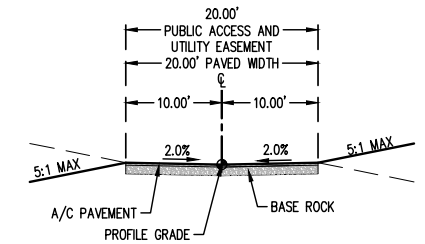
A TYPICAL COLLECTOR STREET CROSS SECTION
 SCALE: 1" = 10'



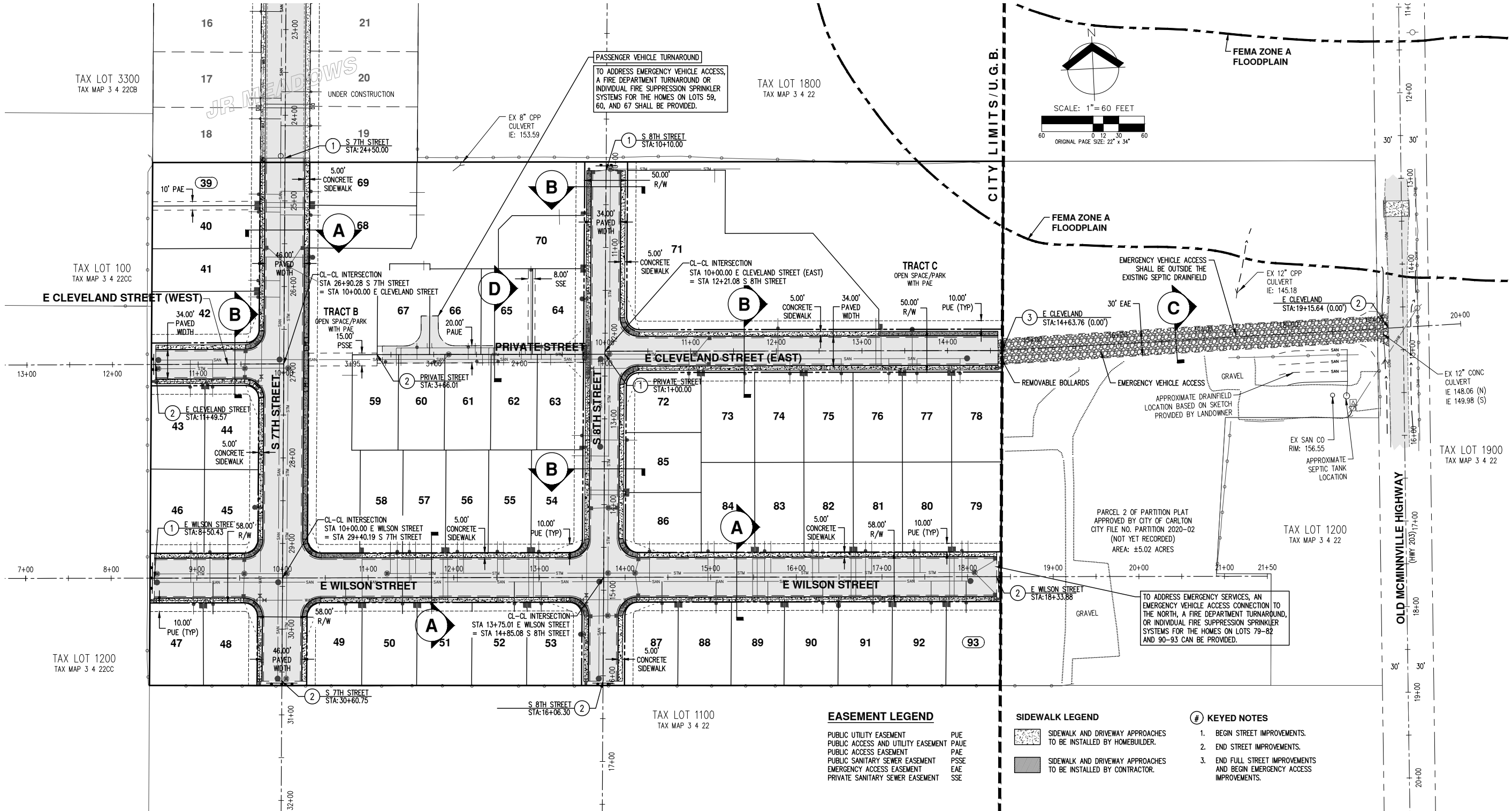
B TYPICAL LOCAL STREET CROSS SECTION
 SCALE: 1" = 10'



C TYPICAL EMERGENCY ACCESS SECTION
 SCALE: 1" = 10'

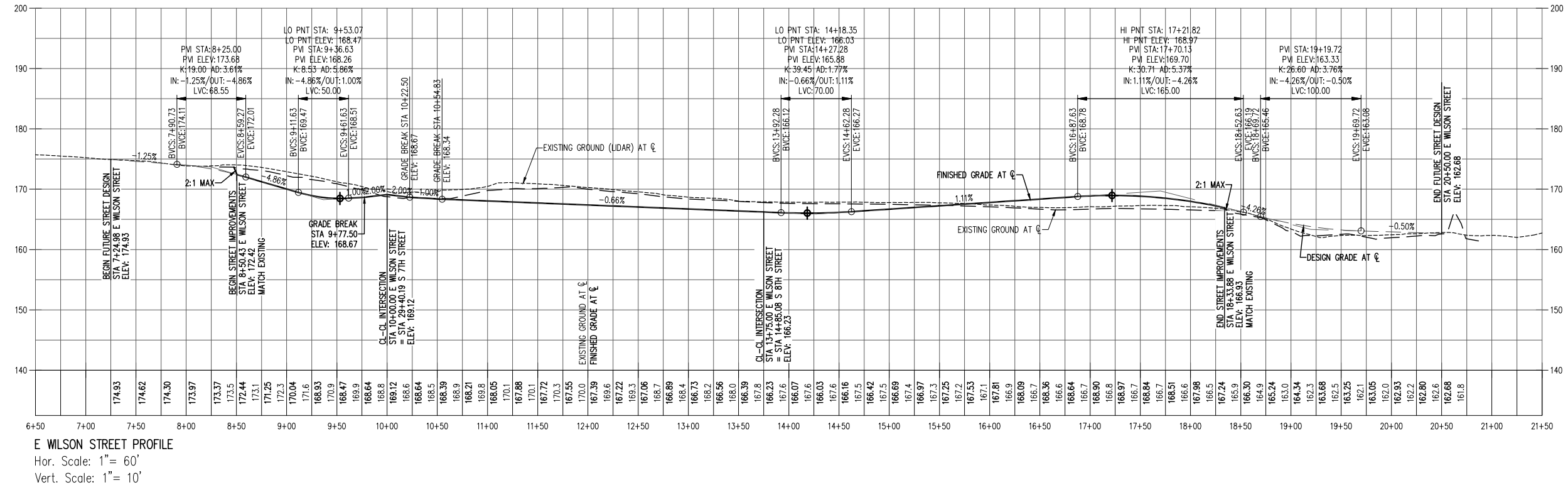
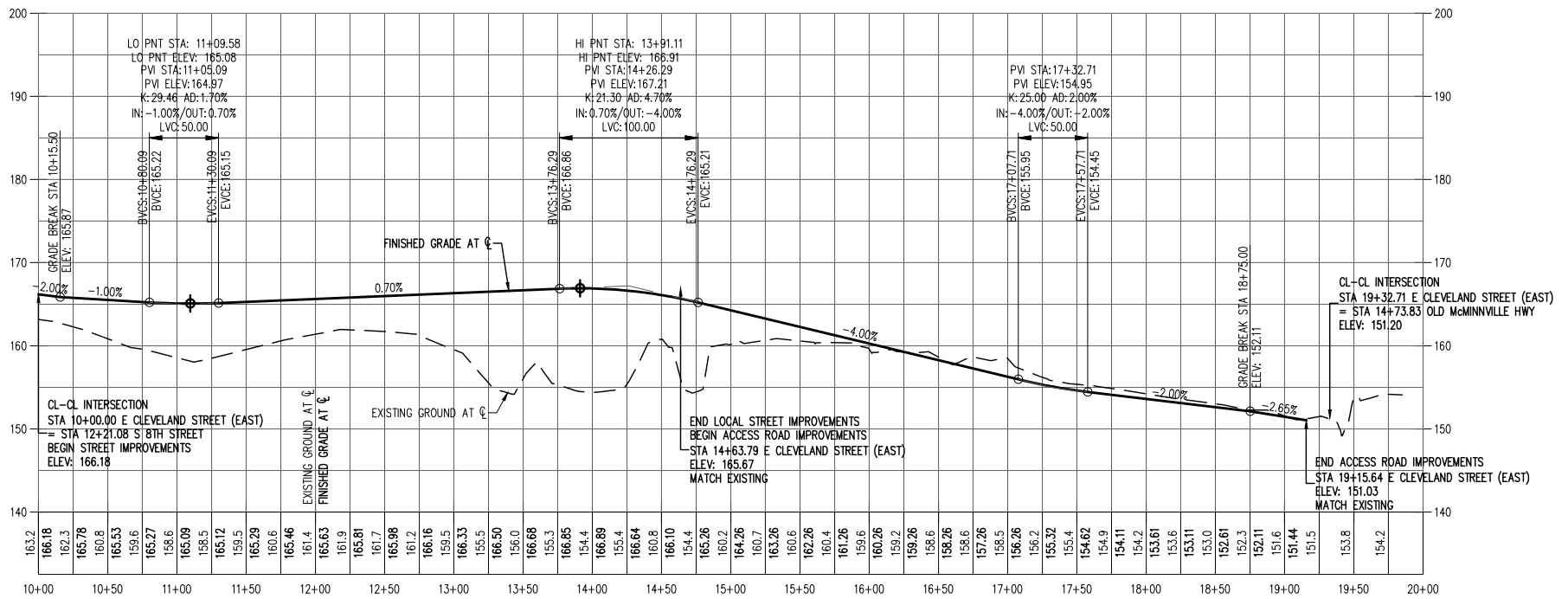
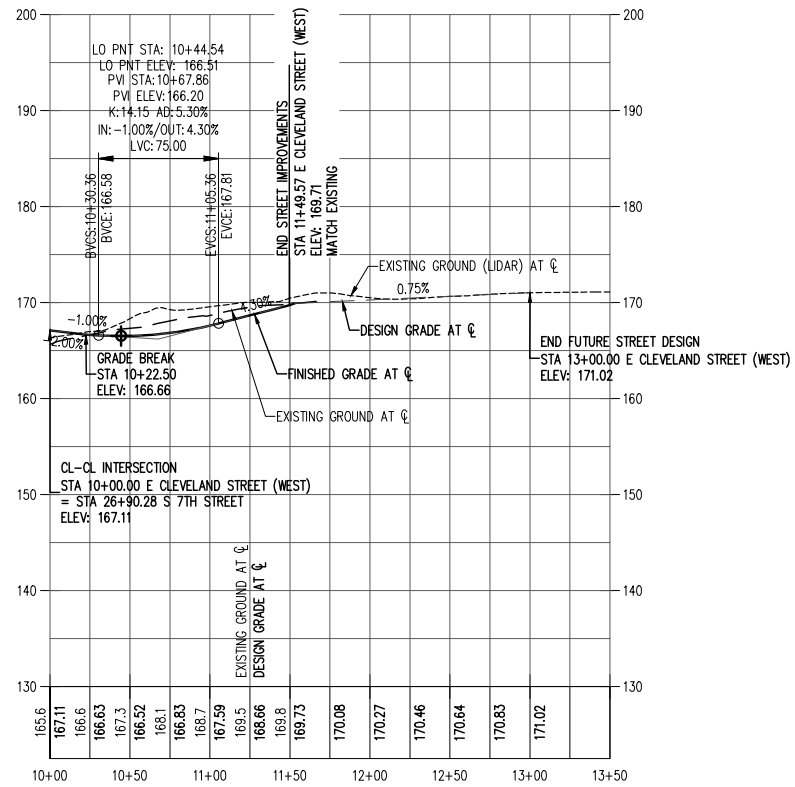


D TYPICAL PRIVATE STREET SECTION
 SCALE: 1" = 10'



**PRELIMINARY STREET PLAN
 AND CROSS SECTIONS
 JR MEADOWS NO. 2
 CARLTON, OREGON**

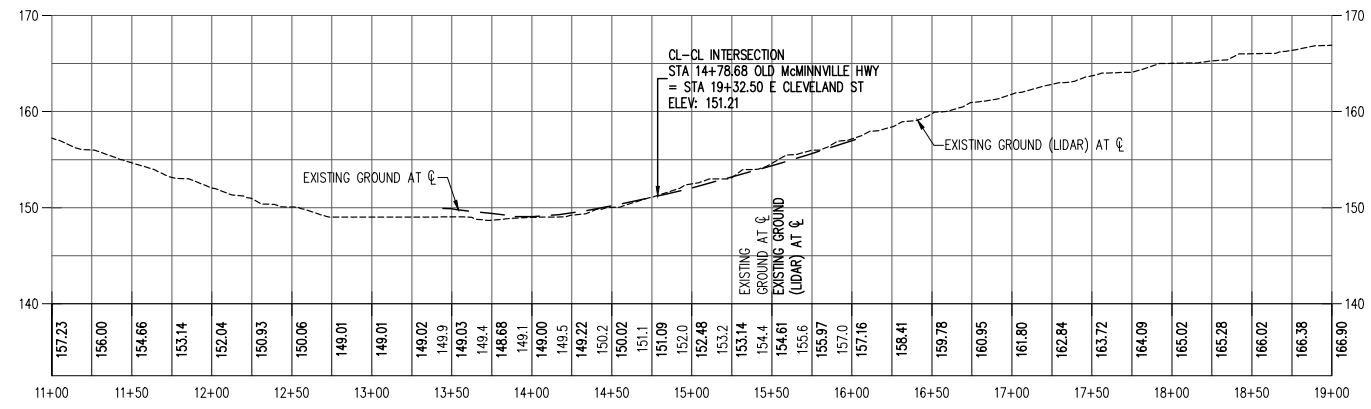
REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY PLAN
 NOT FOR CONSTRUCTION
 J. DOWNHUR
 RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



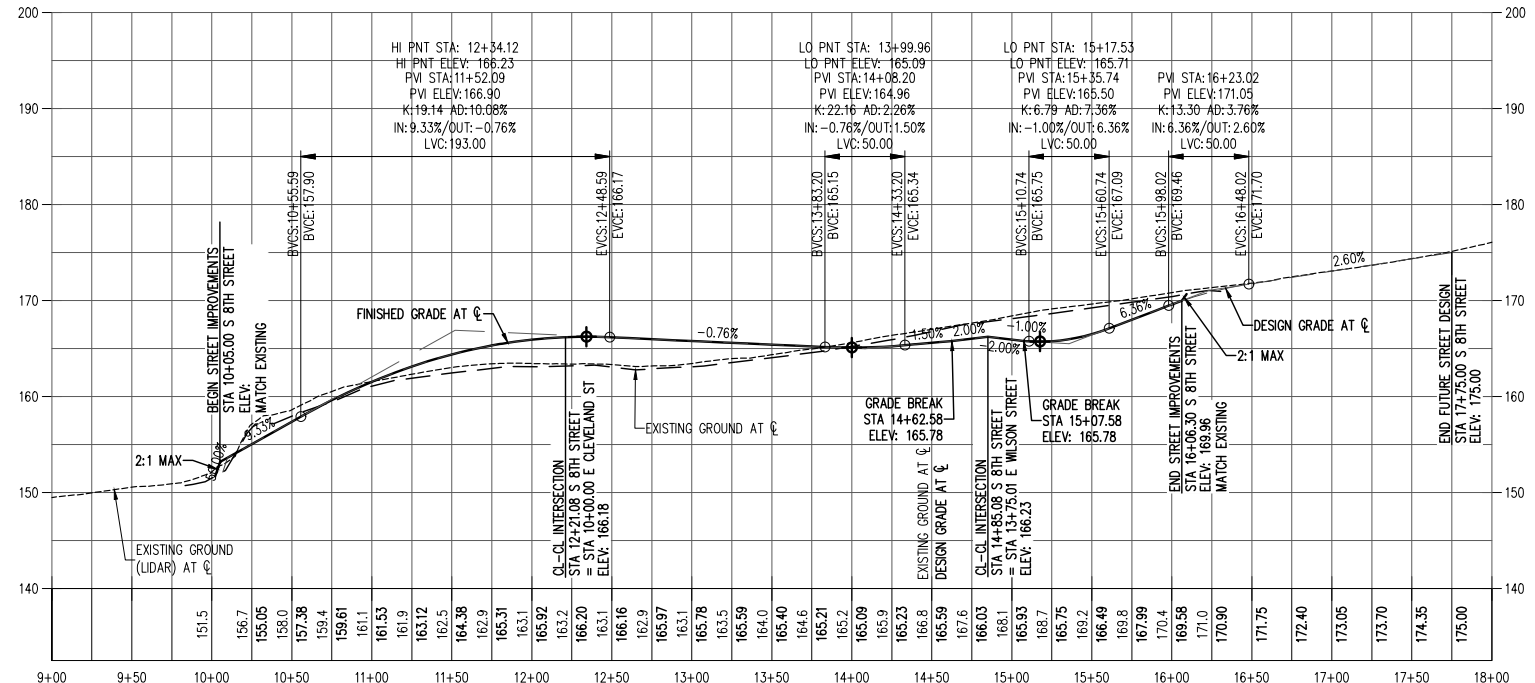
**PRELIMINARY
 STREET PROFILES
 JR MEADOWS NO. 2
 CARLTON, OREGON**

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY PLAN
 NOT FOR CONSTRUCTION
 DECEMBER 10 2020
 J. DOWNING
 RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW

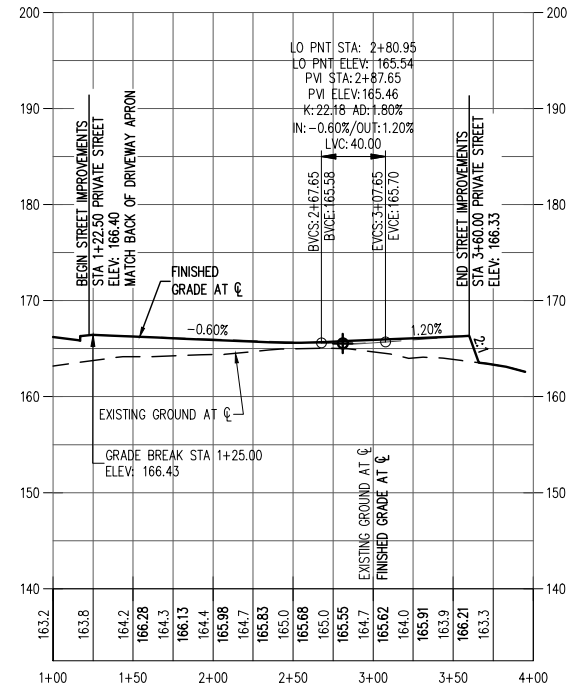
AKS DRAWING FILE: 7395-01 STR PROFILES.DWG | LAYOUT: P-11



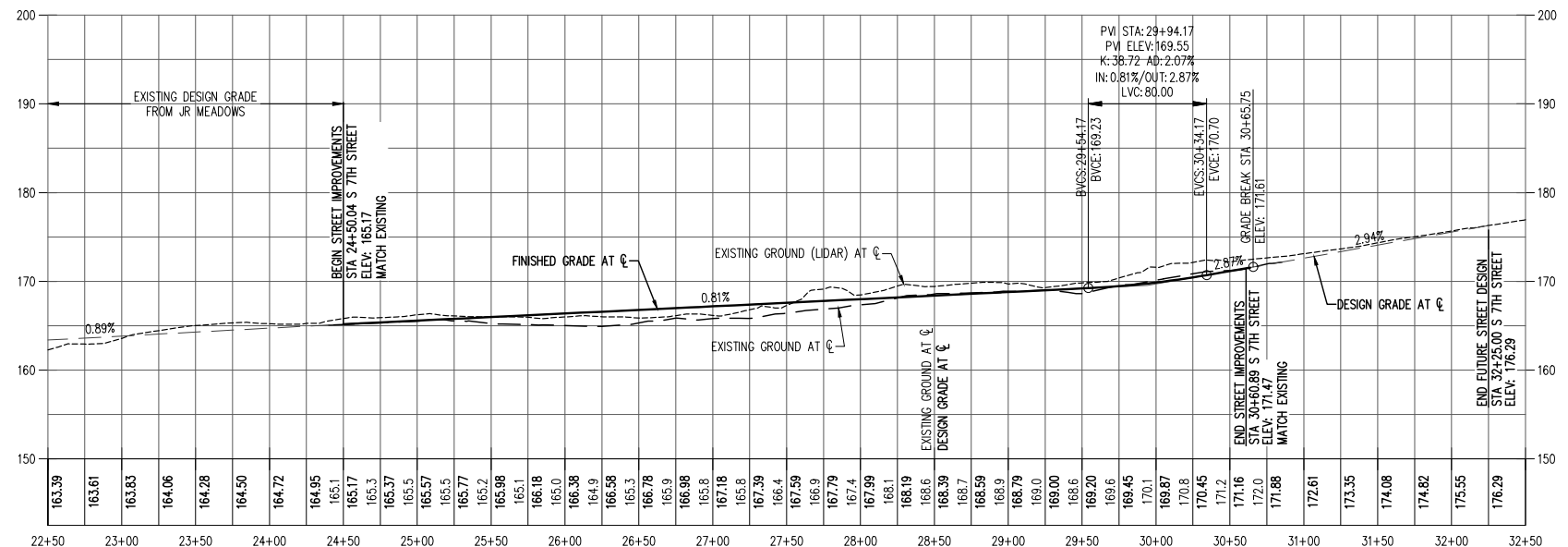
OLD McMINNVILLE HWY PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



S 8TH STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



PRIVATE STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



S 7TH STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'

**PRELIMINARY
 STREET PROFILES
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWED: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



**PRELIMINARY AERIAL
PHOTOGRAPH PLAN
JR MEADOWS NO. 2
CARLTON, OREGON**



RENEWS: DECEMBER 31, 2021
JOB NUMBER: 7395-01
DATE: 08/19/2020
DESIGNED BY: AJD
DRAWN BY: CL
CHECKED BY: RSW



Exhibit B: Application Form and Checklist

Applicant's Consultant:
AKS Engineering & Forestry, LLC
Contact: Chris Goodell
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151 - Email: chrisg@aks-eng.com

Subdivision Application

City of Carlton

Docket No.: _____

Date: _____

Fee: _____

Receipt No.: _____

Applicant: Name _____

Mailing Address _____

Phone _____

Title Holder: Name _____

Mailing Address _____

Surveyor and/or Engineer (if applicable):

Name _____

Phone _____

Location: Street Address South of S 7th Avenue and west of NE Old McMinnville Highway

Tax Lot Number Portion of 1300 Map _____

Description: Comprehensive Plan Designation _____

Current Zoning *Residential-Medium Density (R-2) and Residential-Medium High Density (R-3)

* Approved - Pending Second Reading

Prerequisites: In accordance with Carlton Development Code Section 17.12.020, Subdivision is defined as:

Subdivision: To divide a tract of land into four or more lots within a single calendar year when such land exists as a unit or contiguous units under a single ownership at the beginning of the year.

To request a hearing and approval of a subdivision by the City Planning Commission, there shall be submitted to the City Recorder with this application and filing fee, the following information:

____ A preliminary subdivision plan on sheets that are no larger than 24 by 36 inches in size. Preliminary plans shall be drawn to a scale of one-inch equals 100 feet or larger.

- ✓1. The following general information shall be shown on the preliminary plan:
 - a. Vicinity map extending 1,200 feet in each direction showing all streets, property lines, streams, and other pertinent data to locate the proposal.
 - b. North arrow, scale of drawing, and date of preparation.
 - c. Tax map and tax lot number or tax account of the subject property.
 - d. Dimensions and size in square feet or acres of the subject property.
 - e. The names and addresses of the property owner, subdivider (if different), and engineer, surveyor, or other individual responsible for laying out the partition.
 - f. Location of all existing easements within the property.
 - g. Location of City utilities (water, sanitary sewer, storm drainage) within or adjacent to the property proposed for use to serve the development.
 - h. The location and direction of watercourses or drainage swales. The location and disposition of any wells, wetlands identified on the State Wetland Inventory, septic tanks, and drain fields in the development.
 - i. Existing uses of the property, including location of existing structures on the property. It should be noted whether the existing structures are to be removed or to remain on the property.
 - j. Contour lines related to an established benchmark, having the following minimum intervals:
 - (1) Areas with less than 5% slope: One-foot contours
 - (2) Areas with slope between 5% and 10%: Two-foot contours.
 - (3) Areas with slope greater than 10%: Five-foot contours.
- ✓2. The preliminary plan shall clearly show to scale the following:
 - a. Proposed name of the PUD or subdivision.
 - b. Locations, approximate dimensions and area in square feet of all proposed lots. Identification of each lot and block by number.
 - c. Proposed streets and their names, approximate grade, radius of curves, and right-of-way widths.
 - d. Any other legal access to the subdivision or PUD, other than a public street.
 - e. Location, width and purpose of any proposed easements.
 - f. If the development is to be constructed in phases, indicate the area of each phase.
- 3. Supplemental Information.
 - a. Proposed deed restrictions, if any, in outline form.

____ The names and addresses of all property owners within 100 feet of the site boundaries, as shown on the last preceding tax roll of the Yamhill County Assessor. Note: A list of property owner names and addresses within 100 feet of the property may be obtained from a title company or the Yamhill County Assessor Department located at: 535 NE 5th Street, Room 42, McMinnville, OR, phone: (503) 434-7521.

One (1) paper copy and one (1) electronic copy (PDF format preferred) of this application and all of the application attachments. Copies must be clear and legible.

Review Standards: All subdivisions shall conform to all applicable Zoning District standards, development standards, and other provisions of the Carlton Development Code.

Variance Application: When necessary, the Planning Commission may authorize variances to the requirements of the Carlton Development Code in conjunction with a subdivision request. Application for a variance shall be made by petition of the subdivider, stating fully the grounds for the application. The Planning Commission shall review the Variance in accordance with Development Code Section 17.148. An Application for a Variance **Does** **Does Not** accompany this subdivision application.

I HEREBY CERTIFY THAT ALL STATEMENTS CONTAINED HEREIN, ALONG WITH THE EVIDENCE SUBMITTED, ARE IN ALL RESPECTS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Steve Reiman
Applicant's Signature

8/18/2020
Date

Applicant's Signature

Date

Title Holder's Signature

Date

Title Holder's Signature

Date

NOTE: ALL OWNERS MUST SIGN THIS APPLICATION OR SUBMIT LETTERS OF CONSENT. INCOMPLETE OR MISSING INFORMATION MAY DELAY THE APPROVAL PROCESS.

One (1) paper copy and one (1) electronic copy (PDF format preferred) of this application and all of the application attachments. Copies must be clear and legible.

Review Standards: All subdivisions shall conform to all applicable Zoning District standards, development standards, and other provisions of the Carlton Development Code.

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I HEREBY CERTIFY THAT ALL STATEMENTS CONTAINED HEREIN, ALONG WITH THE EVIDENCE SUBMITTED, ARE IN ALL RESPECTS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Cheryl A Park dotloop verified
08/19/20 11:53 AM PDT
SWHP-SZ3K-MWYO-3FKI

Title Holder's ~~Signature~~ Applicant's Signature
08/19/2020

Date

Applicant's Signature

Date

Title Holder's Signature

Date

Title Holder's Signature

Date

NOTE: ALL OWNERS MUST SIGN THIS APPLICATION OR SUBMIT LETTERS OF CONSENT. INCOMPLETE OR MISSING INFORMATION MAY DELAY THE APPROVAL PROCESS.

City of Carlton
191 E. Main St.
Carlton, OR 97111
 Phone: 503-852-7575
 Fax: 503-852-7761
www.ci.carlton.or.us



Subdivision

A subdivision means to divide a tract of land into four (4) or more lots within a single calendar year when such land exists as a unit or contiguous units under a single ownership at the beginning of the year. Lots created through the subdivision process shall meet the Development Standards for Land Divisions found in Carlton Development Code (CDC) Chapter 17.88*, and other applicable development standards found in the Carlton Development Code and Public Works Design Standards (PWDS). Each lot shall satisfy the dimensional standards of the applicable zoning district, unless a variance from these standards is approved. In addition, adequate public facilities shall be available to serve the existing and newly created lots (CDC 17.176).

A master plan is required for any application that leaves a portion of the subject property capable of redevelopment (CDC 17.176.010).

Application Process

Subdivisions are reviewed through a two-step process. Preliminary plats for subdivisions are first reviewed in accordance with the Type II land use review procedures found in CDC Section 17.188.020. The Planning Commission conducts a public hearing to review the request and makes a final decision on whether or not to grant preliminary subdivision approval. The Planning Commission's decision may be appealed to the City Council by filing an appeal application within twelve (12) days following the final written notice of the Commission's decision.

Upon receiving preliminary subdivision approval, the applicant has eighteen (18) months to complete the required conditions of approval and record the final survey plat. Final plats are reviewed in accordance with the provisions found in CDC 17.176.040-17.176.050. No final plat shall be approved by the city unless:

1. The plat is in substantial conformance with the Carlton Development Code and the provisions of the preliminary plan as approved, including any conditions imposed in connection therewith;
2. The plat contains free and clear of all liens and encumbrances a donation to the public of all common improvements, including but not limited to streets, roads, sewage disposal and water supply systems, the donation of which is required by the Carlton Development Code or was made a condition of the approval of the preliminary plat;

3. Explanations of all common improvements required as conditions of approval of the preliminary plan have been recorded and referenced on the plat;
4. All reserve blocks shown on the preliminary plan or required as conditions of approval have been deeded in fee simple to the city;
5. The city has received adequate assurances that the applicant has agreed to make all public improvements that are required as conditions of approval of the preliminary plan. The following constitute acceptable adequate assurances:
 - a. Certification by the City Engineer that all required public improvements are completed and approved by the city; or
 - b. The City Engineer certifies that seventy-five (75) percent of the improvements are completed and a performance guarantee as provided by Section 17.216.010.

Application Requirements

To request a subdivision, there shall be submitted to the City Recorder:

___ **One (1) paper copy** and **one (1) electronic copy** (PDF format preferred) of the application form and the application attachments. Copies must be clear and legible.

___ Application filing **fee**

Expiration of Approval

If the final survey plat is not recorded within eighteen (18) months, the preliminary approval shall lapse. The City Manager shall upon written request by the applicant and payment of the required fee; grant an extension not to exceed six (6) months provided that:

1. No changes are made to the approved preliminary plat;
2. There have been no changes in existing conditions, facts, or applicable policies or ordinance provisions on which the original approval was based (CDC 17.172.050).

The Planning Commission may extend the approval period for any subdivision or PUD for not more than one (1) additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period.

*The Carlton Development Code is available online at: www.ci.carlton.or.us/municode



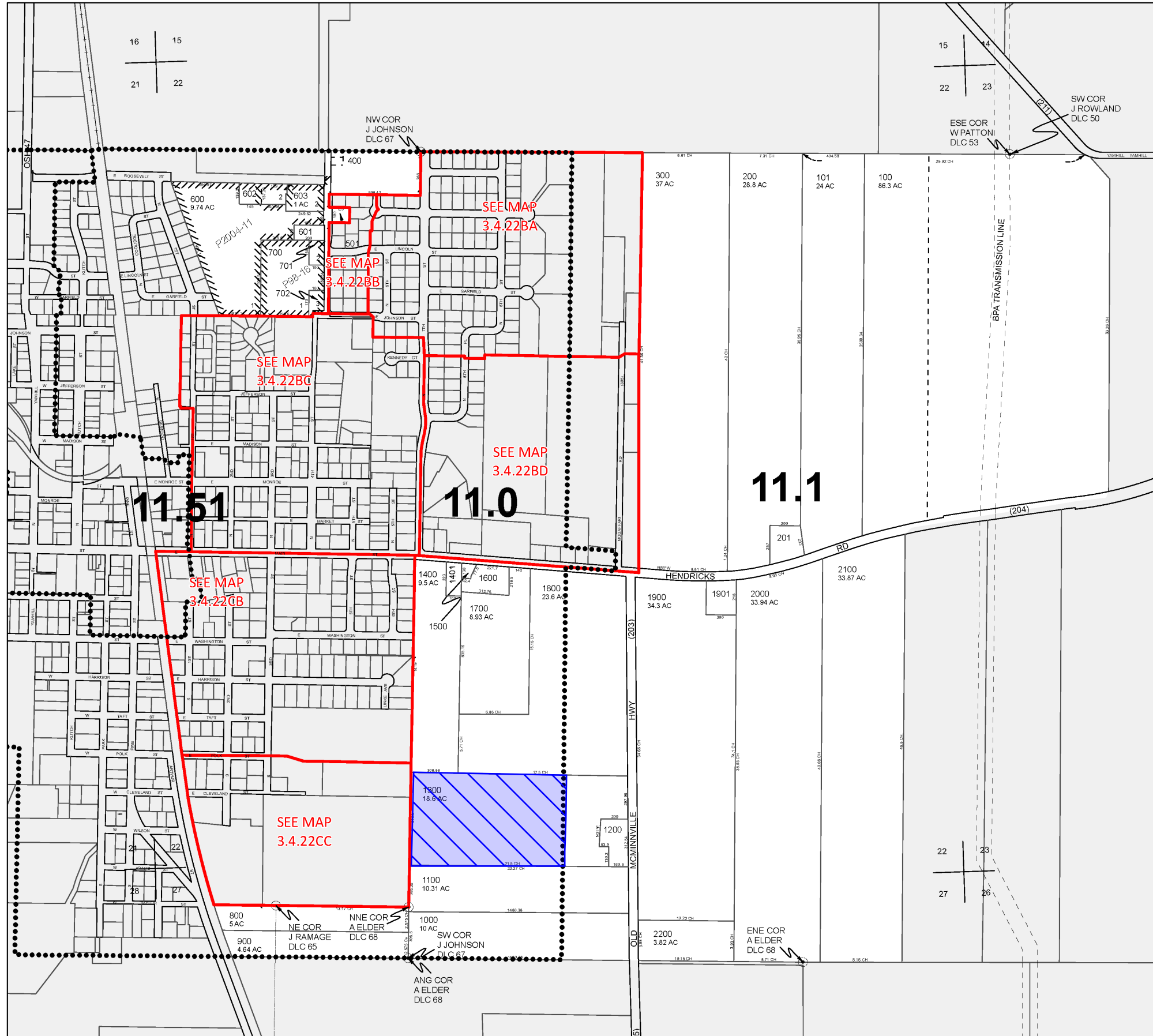
Exhibit C: Yamhill County Assessor's Map

3 4 22



ASSESSMENT & TAX
CARTOGRAPHY

SECTION 22 T.3S. R.4W. W.M.
YAMHILL COUNTY OREGON
1" = 400'



CANCELLED TAXLOTS:
502
500

DATE PRINTED: 8/16/2018

This product is for Assessment and Taxation (A&T) purposes only and has not been prepared or is suitable for legal, engineering, surveying or any purposes other than assessment and taxation.

3 4 22



Exhibit D: Ownership Information

1994 MAR 31 PM 2:33

F306P0602

BARGAIN AND SALE DEED

LARRY JAMES PARK, Grantor conveys to LARRY JAMES PARK and CHERYL A. PARK, husband and wife, Grantee, the following described real property:

---See attached Exhibit "A"---

The true consideration paid for this transfer, stated in terms of dollars is \$-0-

However, the actual consideration consists of or includes other property or value given or promised which is the whole of the consideration.

THE PROPERTY DESCRIBED IN THIS INSTRUMENT MAY NOT BE WITHIN A FIRE PROTECTION DISTRICT PROTECTING STRUCTURES. THE PROPERTY IS SUBJECT TO LAND USE LAWS AND REGULATIONS, WHICH, IN FARM OR FOREST ZONES, MAY NOT AUTHORIZE CONSTRUCTION OR SITING OF A RESIDENCE AND WHICH LIMIT LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND EXISTENCE OF FIRE PROTECTION FOR STRUCTURES.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

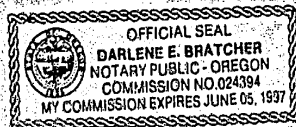
In Witness Whereof, the grantor has executed this 31st day of MARCH, 1994.

Larry James Park
LARRY JAMES PARK

Bargain and Sale Deed:	After Recording Return to:	Send Tax Statements to:
LARRY JAMES PARK	Drabkin and Tankersley	No change
to: CHERYL A. PARK	701 N. Evans	
Larry James Park	McMinnville, OR 97128	
STATE OF OREGON)		
) ss.		

County of Yamhill)
Personally appeared LARRY JAMES PARK and acknowledged said instrument to be his free act and deed.

Before me:



Darlene E. Bratcher
NOTARY PUBLIC FOR OREGON
My Commission Expires: _____

PAGE 1 - BARGAIN AND SALE DEED

DRABKIN AND TANKERSLEY
P.O. Box 625, 701 North Evans Street
McMinnville, Oregon 97128
(503) 472-0111

3-31-94

1994 MAR 31 PM 2:33

F 306P0603

Exhibit "A"

Beginning on the West line of the James Johnson and wife Donation Land Claim No. 27, Notification No. 1563, Township 3 South, Range 4 West of the Willamette Meridian at a point which is 18-1/2 rods North of the Southwest corner of said Claim; thence North along the West line of said Claim, 55-1/4 rods; thence East parallel with the South line of said Claim, 86 rods and 61 links to the center line of the county road; thence Southerly along the center of said county road to a point which is East from the point of beginning, which point is also the Northeast corner of the property described in Book 137, Page 442, Deed Records; thence West along the North line of said property a distance of 86 rods and 93 links to the place of beginning in Yamhill County, Oregon. SAVE AND EXCEPT THE FOLLOWING: Being a part of the South one-half of the Donation Land Claim of James Johnson and wife, Claim No. 67, Notification No. 1563 in Township 3 South, Range 4 West of the Willamette Meridian, Yamhill County, Oregon, beginning at an iron pipe set in the center of the County road No. 205 at a point 1482.0 feet East and North 00° 55' West 610.50 feet from stone and iron pipe at the Southwest corner of said Johnson Claim; thence West parallel with South line of said Claim, 160.3 feet to an iron pipe; thence North 130.2 feet to an iron pipe; thence West 63.9 feet to iron pipe; thence North 3° 12' East 122.58 feet to iron pipe; thence East 209.0 feet to a point in the center of the county road; thence South 00° 55' East along road 312.54 feet to beginning.

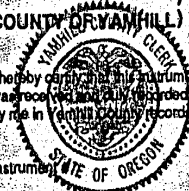
SUBJECT TO: Right of the public in streets, roads and highways and easement recorded in Book 181, Page 703, Deed Records.

005170

10-00
10-00
00-50

STATE OF OREGON)
COUNTY OF YAMHILL) ss.

I hereby certify that this instrument was received and duly recorded by me in Yamhill County records.



Instrument No. _____

Charles Stern
CHARLES STERN,
COUNTY CLERK

3-31-94



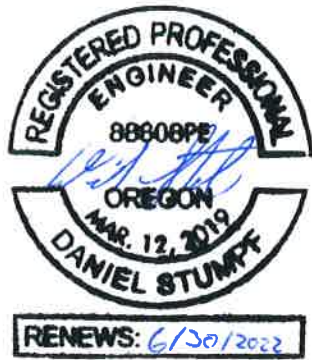
Exhibit E: Transportation Impact Analysis



JR Meadows No. 2

Transportation Impact Analysis

Carlton, OR



Date:
August 19, 2020

Prepared for:
Steve Reiman,
TJA, LLC

Prepared by:
Terrington Smith, EIT
Daniel Stumpf, PE

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Executive Summary

1. A residential subdivision is proposed for construction on approximately 13.94 acres located at/near 10215 NE Old McMinnville Highway in Carlton, Oregon.
2. The proposed JR Meadows No. 2 subdivision is estimated to generate 50 trips during the morning peak hour, 65 trips during the evening peak hour, and 672 trips each weekday.
3. No crashes were found to have been reported at either of the study intersections and no safety concerns were identified.
4. Preliminary traffic signal warrants are not projected to be met at either of the study intersections under any analysis scenario.
5. Left-turn lane warrants are projected to be met at the intersection of E Main Street at 7th Street for the eastbound direction under future year 2022 conditions, regardless of whether the proposed subdivision is constructed. In addition, warrants are met for the southbound approach at the intersection of S Pine Street at E Polk Street. Although warrants are met, the site will not impact the left-turning movements of the eastbound approach of E Main Street at 7th Street and the southbound approach of S Pine Street at E Polk Street. Additionally, neither intersection had reported crashes during a five-year analysis period that could have been mitigated with the inclusion of a left-turn lane. Accordingly, no new turn lanes are recommended at these intersections.
6. The future segment of 7th Street will be classified as a Collector and is expected to have more than sufficient capacity to accommodate projected traffic utilizing the roadway safely and efficiently.
7. All study intersections are projected to operate acceptably under all analysis scenarios.



Project Description

Introduction

A residential subdivision is proposed for construction on a portion of the property located at/near 10215 NE Old McMinnville Highway (Tax Lot 1300) in Carlton, Oregon. The proposed subdivision will consist of 54 single family homes and up to 22 multifamily dwelling units and will have internal roadway connections to S 7th Street and subsequently E Washington Street.

Traffic impacts related to the proposed subdivision were analyzed at the following intersections:

1. E Main Street at 7th Street
2. S Pine Street at E Polk Street

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses in the area, and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Location Description

The subject site is located south of E Main Street, east of S Arthur Street, and west of NE Old McMinnville Highway in Carlton, Oregon. The site includes a portion of tax lot #1300 which encompasses an approximate total of 13.94 acres. The site will be provided future access to the north by way of the in-process JR Meadows Subdivision (subsequently, access to E Washington Street will also be available), and will provide seven future connections to adjacent properties via four additional streets which end as stubs along the northern, southern, eastern, and western edges of the site.

Vicinity Roadways

The proposed development is expected to impact four vicinity roadways. Table 1 on page 6 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Roadway	Jurisdiction	Functional Classification	Speed	On-street Parking	Curbs	Sidewalks
S Pine Street (OR Hwy 47)	ODOT	Rural Minor Arterial	30 mph Posted	Not Permitted	None	Yes
E Main Street	City of Carlton	Arterial	25 mph Posted	Permitted	Partial	Yes
E Polk Street	City of Carlton	School Zone Collector	25 mph Statutory	Partially Permitted	Partial	Partial
N 7th Street	Yamhill County	Collector	25 mph Statutory	Permitted	Partial	Partial

S Pine Street is under the jurisdiction of the Oregon Department of Transportation (ODOT) and is also identified as Tualatin Valley Highway or Oregon Highway 47. It is classified as a Rural Minor Arterial in the *2012 ODOT Highway Design Manual* and as a Regional Highway in the *1999 Oregon Highway Plan*.

Study Intersections










The proposed subdivision is expected to impact two vicinity intersections of significance. Table 2 below provides a summarized description of each study intersection.

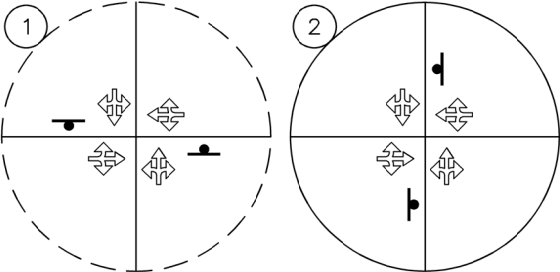
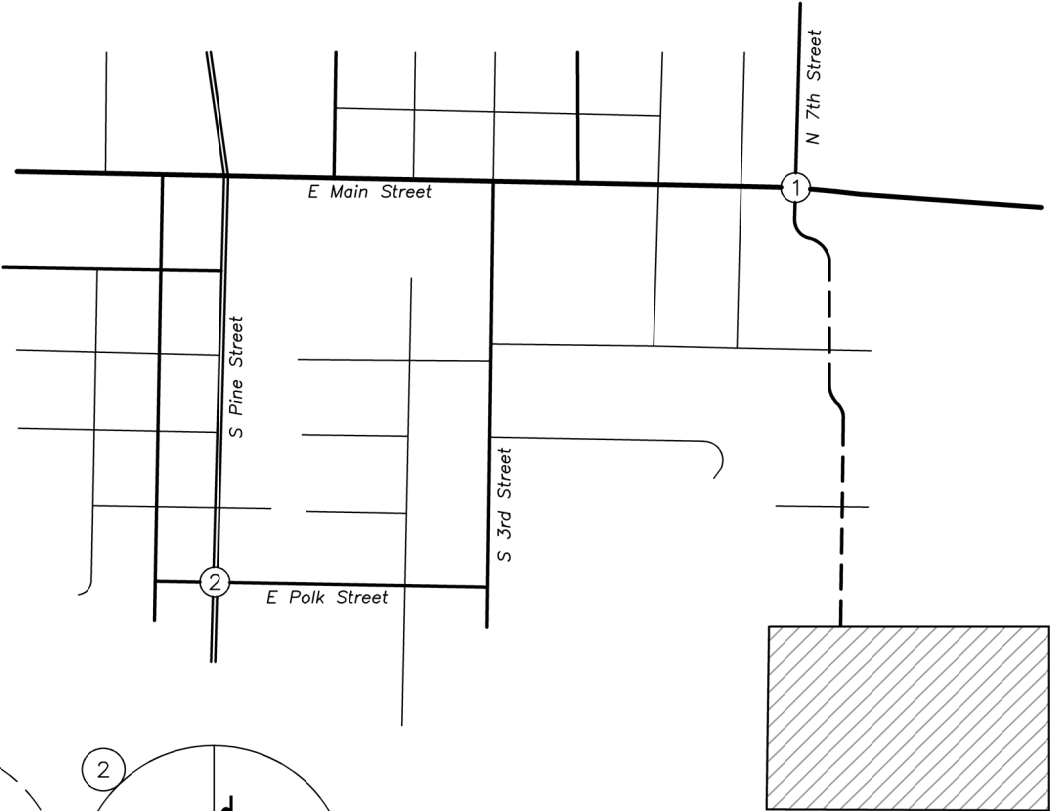
Table 2: Vicinity Intersection Descriptions

Number	Name	Geometry	Traffic Control	Phasing/Stopped Approaches
1	E Main Street at N 7th Street	Three-Legged	Stop Controlled	Stop-Controlled Southbound Approach
2	S Pine Street at E Polk Street	Four-Legged	Stop Controlled	Stop-Controlled Eastbound and Westbound Approaches

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations and control types is shown in Figure 1 on page 7.

LEGEND

-  STUDY INTERSECTION (EXISTING)
-  STUDY INTERSECTION (FUTURE)
-  STOP SIGN
-  PROJECT SITE
-  RURAL MINOR ARTERIAL
-  ARTERIAL
-  COLLECTOR
-  FUTURE COLLECTOR
-  LOCAL ROADWAY



no scale

Site Trips

Trip Generation

The proposed subdivision will include the construction of 54 single family homes and up to 22 multifamily dwelling units. To estimate the number of trips generated by the proposed development, trips rates from the *Trip Generation Manual*¹ were used, data from land use codes 210, *Single-Family Detached Housing*, and 220, *Multifamily Housing (Low-Rise)*, were used based on the number of dwelling units.

The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix to this report.

Table 3: Trip Generation Summary

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Proposed Development									
Single Family Home	210	54 Units	10	30	40	33	20	53	510
Multifamily Housing	220	22 Units	2	8	10	8	4	12	162
Total			12	38	50	41	24	65	672

Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of site trips will travel to/from the west along E Main Street;
- Approximately 25 percent of site trips will travel to/from the east along E Main Street;
- Approximately 20 percent of site trips will travel to/from the north on N Yamhill Street;
- Approximately 15 percent of site trips will travel to/from the south on S Pine Street; and
- Approximately 10 percent of site trips will travel to/from the north on S 3rd Street.

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

Based on the site plan and the locations of available access to the transportation system, site trips are expected to access the greater transportation system via the following locations:

- Approximately 85 percent of site trips will utilize S 7th Street to access E Main Street; and
- Approximately 15 percent of site trips will utilize E Polk Street to access S Pine Street

To access E Polk Street from the project site, vehicle trips may travel north along S 7th Street until E Washington Street, turn left at the intersection, turn south on S 3rd Street, and then turn west onto E Polk Street. The same path of travel in the opposite direction can be used by vehicle trips arriving to the site.

Traffic Volumes

Existing Conditions

Year 2019 traffic volumes were referenced from the traffic study conducted for the adjacent JR Meadows Subdivision (dated August 2nd, 2019). To reflect existing year 2020 conditions, the volumes were increased by applying a compounded growth rate of two percent per year over a one year period at each of the study intersections.

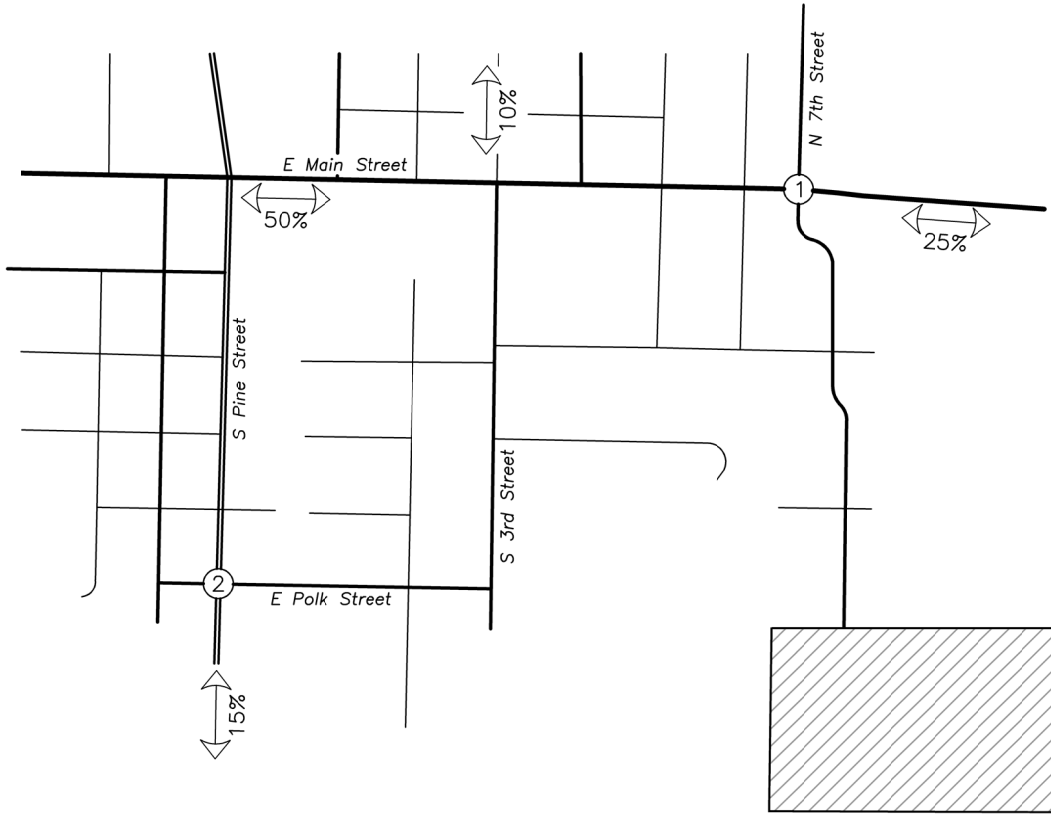
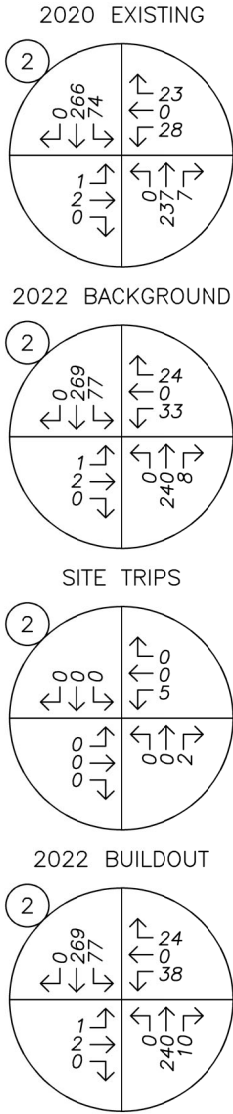
Year 2022 Background Conditions

In order to calculate the future traffic volumes on local streets, a compounded growth rate of two percent per year was used for analysis. Growth rates for traffic volumes on Oregon Highway 47 were derived using ODOT's 2038 Future Volume Tables in accordance with the Analysis Procedures Manual (APM). Using data corresponding to milepost 38.18, a linear growth rate of 0.53 percent was calculated and applied to through volumes on the highway.

Two years of growth were applied to existing volumes in order to obtain the year 2022 background conditions for a "no-build" scenario. In addition, background volumes were adjusted to account for trips associated with the adjacent JR Meadows Subdivision. The JR Meadows Subdivision Transportation Impact Analysis (TIA) was used to obtain trip generation and trip assignment data to quantify the total number of trips travelling through the study intersections related to this report. These in-process trips were included in the year 2022 background volumes for each study intersection.

Year 2022 Buildout Conditions

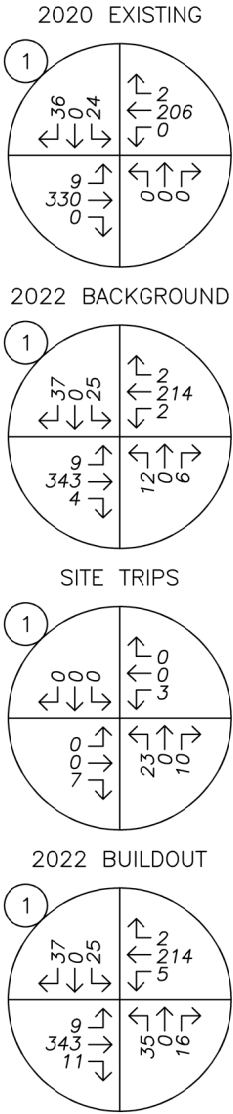
Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected year 2022 buildout volumes. The traffic volumes used to analyze the proposed development scenario are shown in Figure 2 and Figure 3 for the morning and evening peak hours, respectively.

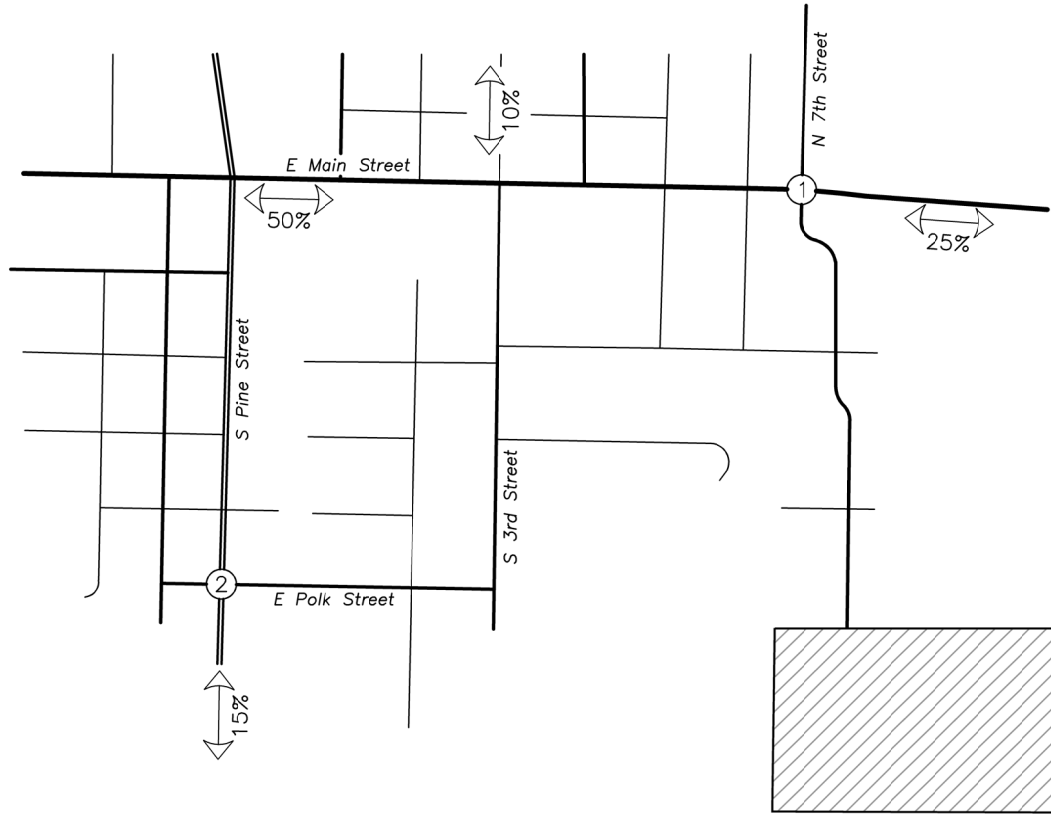
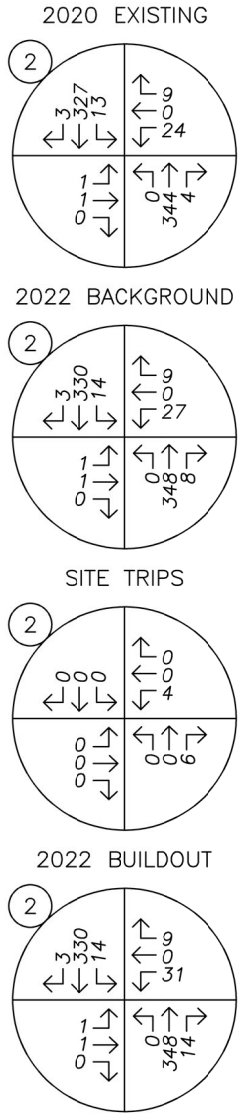


LEGEND

XX% PERCENT OF SITE TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	12	38	50

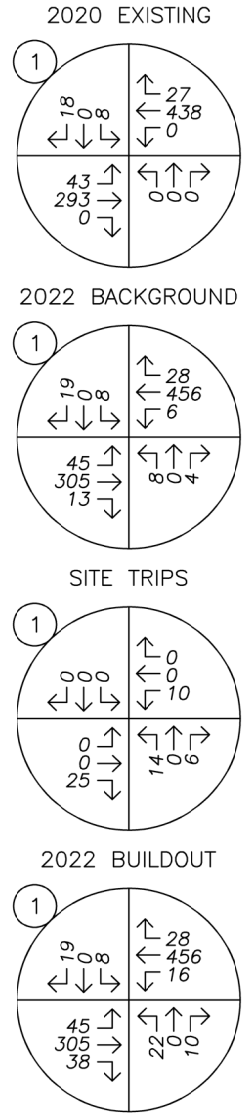




LEGEND

XX% PERCENT OF SITE TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
PM	41	24	65



Safety Analysis

Crash History Review

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (January 2013 to December 2017) at the study intersection was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection.

Based on a review of the crash data, no reported crashes were found at the intersections of E Main Street at 7th Street and S Pine Street at E Polk Street during the analysis period. Accordingly, no safety concerns were identified at the study intersections.

Warrant Analysis

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of a new traffic signal will be warranted at the intersections upon completion of the proposed development.

Low volumes were observed for the minor street approaches at each unsignalized study intersection. By examination, traffic signal warrants are not projected to be met under any of the analysis scenarios. No new installations of traffic signals are recommended.

Left-Turn Lane Warrants

Left-turn lane warrants were examined for both study intersections. A left-turn refuge is primarily a safety consideration for the major-street approach, removing left-turning vehicles from the through traffic stream.

Warrants for an eastbound or westbound left-turn lane at the intersection of E Main Street at 7th Street were based on the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report Number 457² while warrants for a southbound or northbound left-turn lane at the intersection of S Pine Street at E Polk Street were based on design curves developed by the Texas Transportation Institute as adopted by ODOT. Both methodologies evaluate the need for a left-turn lane based on the number of left-turning vehicles, the number of travel lanes, the number of advancing and opposing vehicles, and the roadway travel speed.

An eastbound left-turn lane is projected to be warranted at the intersection of E Main Street at 7th Street under year 2022 background conditions, without construction of the proposed subdivision. It should be noted that the proposed development is not anticipated to contribute site trips to the eastbound left-turn approach.

Additionally, based on the crash data analysis, there were no crashes reported that could be mitigated by the installation of a turn lane whereby no turn lanes are recommended at this intersection.

Left-turn lane warrants are met for the southbound approach at the intersection of S Pine Street at E Polk Street under existing conditions. The proposed development is not expected to contribute site trips to the southbound left-turn approach nor were any rear-end collisions reported at the intersection. Since the proposed

² Bonneson, James A. and Michael D. Fontaine, NCHRP Report 457: An Engineering Study Guide for Evaluating Intersection Improvements, Transportation Research Board, 2001.

development is not expected to contribute vehicle trips to this movement and the crash data does not indicate any significant safety issue that could be remedied by a dedicated left-turn lane, no new turn lane is recommended at this intersection.

No other turn lanes are projected to be warranted. Detailed warrant analyses for each study intersection are included in the technical appendix to this report.

S 7th Street Traffic Volumes

Once constructed, the segment of 7th Street located south of E Main Street will be classified as a Collector roadway. Collector roadways are considered a higher classification of road than a Local Street and a lower classification than an Arterial. Generally, the higher the roadway classification, the more traffic the roadway can safely and efficiently serve.

Upon inspecting the traffic volumes at the intersection of E Main Street at 7th Street, the segment of 7th Street south of the intersection is anticipated to serve approximately 890 average daily trips (i.e. approximately 10 times the evening peak hour traffic volumes along the road). Generally, Local Streets are designed to accommodate up to 1,000 vehicle trips per day. Given the future segment of 7th Street will be classified as a Collector, the roadway is expected to have more than sufficient capacity to accommodate traffic in a safe and efficient manner.

Operational Analysis

A capacity and delay analysis was conducted for the study intersections per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual*³ (HCM). Study intersections were evaluated during the morning and evening peak hours under the following conditions:

- Year 2020 existing conditions;
- Year 2022 background traffic conditions, assuming no additional development on site; and
- Year 2022 buildout traffic conditions, assuming the proposed development is completed and occupied;

Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

The City of Carlton does not have an adopted performance standard for intersection operation. Generally, unsignalized intersections operating at LOS E are considered to be operating acceptably.

The intersection of S Pine Street at E Polk Street is under the jurisdiction of ODOT. The applicable minimum operational standards for ODOT facilities are established under the Oregon Highway Plan⁴ and are based on the classification of the roadway and its v/c ratio. Regional Highways with speed limits less than 35 mph that are

³ Transportation Research Board, *Highway Capacity Manual, 6th Edition, 2016*.

⁴ Oregon Department of Transportation, 1999 Oregon Highway Plan, Including Amendments November 1999 through May 2015, 1999.

inside the Urban Growth Boundary but aren't within a Metropolitan Planning Organization are required to operate with a v/c ratio of 0.90 or better.

The v/c, delay, and LOS results of the capacity analysis are shown in Table 4 on page 14 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 4: Intersection Capacity Analysis

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1 E Main Street at 7th Street						
2020 Existing Conditions	B	12	0.11	B	14	0.06
2022 Background Conditions	B	14	0.13	C	18	0.07
2022 Buildout Conditions	C	15	0.14	C	21	0.13
2 S Pine Street at E Polk Street						
2020 Existing Conditions	C	17	0.13	C	17	0.12
2022 Background Conditions	C	17	0.16	C	18	0.14
2022 Buildout Conditions	C	17	0.18	C	19	0.15

BOLDED results indicate operation above acceptable jurisdictional standards.

Based on the above results, all study intersections are currently operating acceptably per their respective jurisdictional standards and are projected to continue operating acceptably all analysis scenarios.

Conclusions

No crashes were found to have been reported at either of the study intersections and no safety concerns were identified.

Preliminary traffic signal warrants are not projected to be met at either of the study intersections under any analysis scenario.

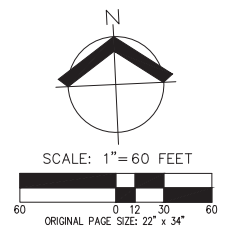
Left-turn lane warrants are projected to be met at the intersection of E Main Street at 7th Street for the eastbound direction under future year 2022 conditions, regardless of whether the proposed subdivision is constructed. In addition, warrants are met for the southbound approach at the intersection of S Pine Street at E Polk Street. Although warrants are met, the site will not impact the left-turning movements of the eastbound approach of E Main Street at 7th Street and the southbound approach of S Pine Street at E Polk Street. Additionally, neither intersection had reported crashes during a five-year analysis period that could have been mitigated with the inclusion of a left-turn lane. Accordingly, no new turn lanes are recommended at these intersections.

The future segment of 7th Street will be classified as a Collector and is expected to have more than sufficient capacity to accommodate projected traffic utilizing the roadway safely and efficiently.

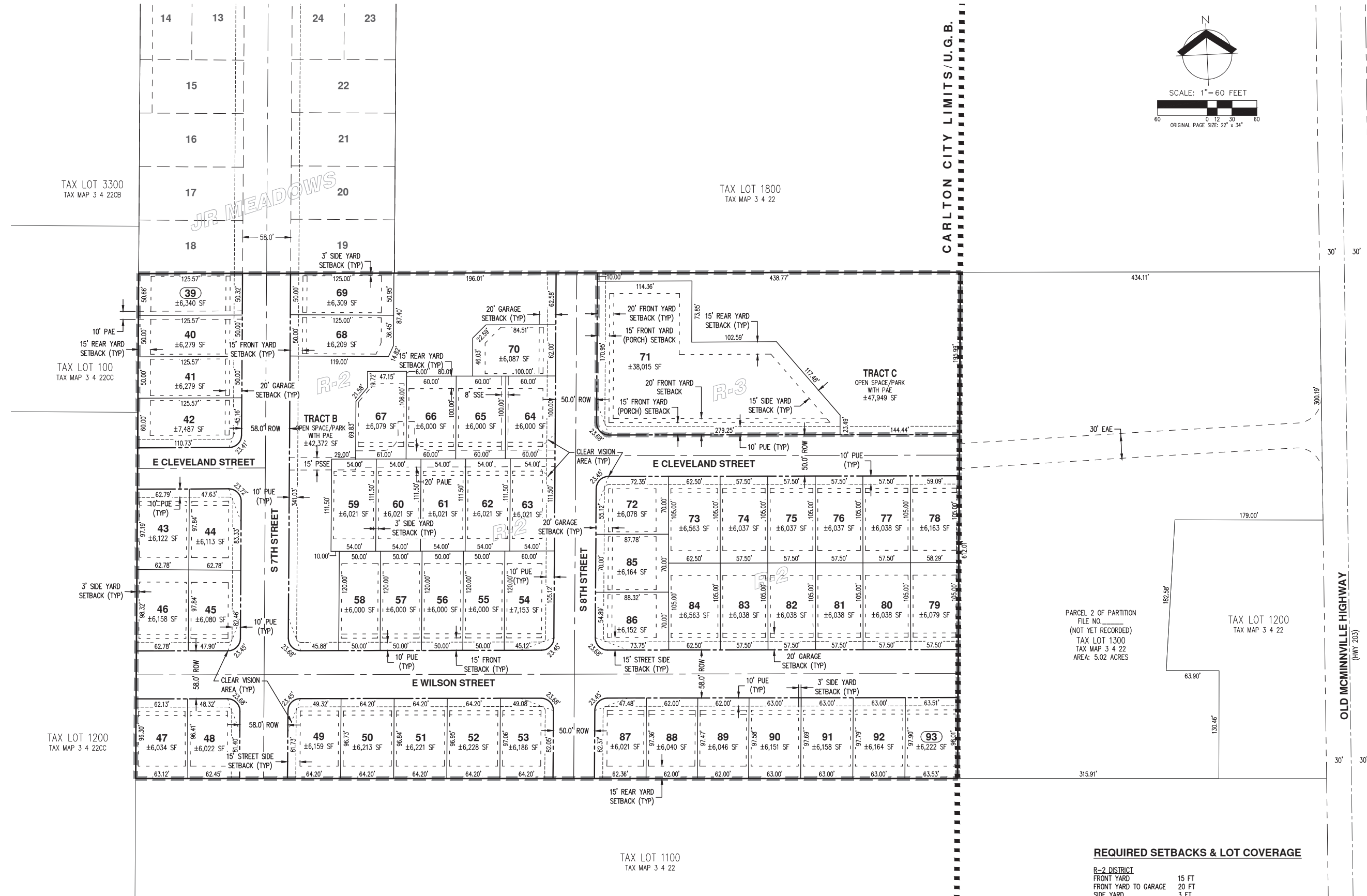
All study intersections are projected to operate acceptably under all analysis scenarios.

Appendix





CARLTON CITY LIMITS / U.G.B.



EASEMENT LEGEND

PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

OPEN SPACE NOTES:

- TRACT B & C SHALL EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION OR DEDICATED TO THE CITY OF CARLTON.

ACREAGE

R-2 ZONE	11.97 AC
R-3 ZONE	1.97 AC
TOTAL	13.94 AC

REQUIRED SETBACKS & LOT COVERAGE

R-2 DISTRICT	
FRONT YARD	15 FT
FRONT YARD TO GARAGE	20 FT
SIDE YARD	3 FT
STREET SIDE YARD	15 FT
REAR YARD	15 FT
COMBINED MAXIMUM LOT COVERAGE:	
BUILDING HEIGHT < 20 FT	80%
BUILDING HEIGHT > 20 FT	65%
R-3 DISTRICT	
FRONT YARD	20 FT
FRONT YARD TO PORCH	15 FT
SIDE YARD	7 FT
STREET SIDE YARD	20 FT
REAR YARD	15 FT
COMBINED MAXIMUM LOT COVERAGE:	70%

NOTE:
 THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.

**PRELIMINARY SUBDIVISION PLAT
 WITH FUTURE BUILDING SETBACKS
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWED: DECEMBER 31, 2021

JOB NUMBER:	7395-01
DATE:	08/13/2020
DESIGNED BY:	AJD
DRAWN BY:	CL
CHECKED BY:	RSW



TRIP GENERATION CALCULATIONS Proposed Conditions

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 54

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	10	30	40

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	33	20	53

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	255	255	510

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	258	258	516

Source: Trip Generation Manual, Tenth Edition



TRIP GENERATION CALCULATIONS

Land Use: Multifamily Housing (Low-Rise)
Land Use Code: 220
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 22

AM PEAK HOUR

Trip Rate: 0.46

	Enter	Exit	Total
Directional Distribution	23%	77%	
Trip Ends	2	8	10

PM PEAK HOUR

Trip Rate: 0.56

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	8	4	12

WEEKDAY

Trip Rate: 7.32

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	81	81	162

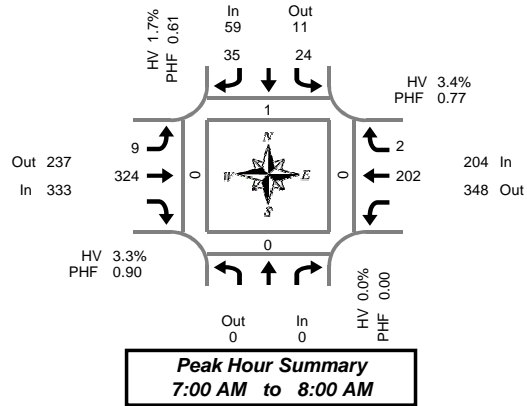
SATURDAY

Trip Rate: 8.14

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	90	90	180

Source: TRIP GENERATION, Tenth Edition

Total Vehicle Summary



N 7th St & E Main St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	North	South		East	West		
7:00 AM				0	3	4	0	0	29	0	10	0	0	46	1	0	0	0		
7:05 AM				0	3	5	0	0	28	0	10	0	0	46	0	0	0	0		
7:10 AM				0	7	2	0	0	23	0	10	0	0	42	0	0	0	0		
7:15 AM				0	2	4	0	1	29	0	13	0	0	49	0	0	0	0		
7:20 AM				0	1	1	0	1	22	0	14	0	0	39	0	0	0	0		
7:25 AM				0	1	4	0	0	23	0	17	1	0	46	0	0	0	0		
7:30 AM				0	2	4	0	0	30	0	21	1	0	58	0	0	0	0		
7:35 AM				0	0	1	0	0	28	0	25	0	1	54	0	0	0	0		
7:40 AM				0	0	4	0	3	31	0	16	0	0	54	0	0	0	0		
7:45 AM				0	2	3	0	0	27	0	24	0	0	56	0	0	0	0		
7:50 AM				0	1	2	0	1	21	0	25	0	0	50	0	0	0	0		
7:55 AM				0	2	1	0	3	33	0	17	0	0	56	0	0	0	0		
8:00 AM				0	0	3	0	1	23	0	16	0	0	43	0	0	0	0		
8:05 AM				0	0	2	0	2	23	0	8	0	0	35	1	0	0	0		
8:10 AM				0	1	2	0	0	20	0	9	1	0	33	1	0	0	0		
8:15 AM				0	1	1	0	2	28	0	5	0	0	37	0	0	0	0		
8:20 AM				0	2	2	0	0	23	0	14	0	0	41	0	0	0	0		
8:25 AM				0	1	4	0	0	23	0	16	0	0	44	0	0	0	0		
8:30 AM				0	1	2	0	0	18	0	16	1	0	38	0	0	0	0		
8:35 AM				0	1	1	0	2	30	0	9	0	0	43	1	0	0	0		
8:40 AM				0	1	1	0	1	24	0	9	1	0	37	0	0	0	0		
8:45 AM				0	0	2	0	2	15	0	8	0	0	27	0	0	0	0		
8:50 AM				0	2	1	0	2	13	0	9	0	0	27	0	0	0	0		
8:55 AM				0	2	2	0	0	18	0	13	1	0	36	0	0	0	0		
Total Survey				0	36	58	0	21	582	0	334	6	1	1,037	4	0	0	0		

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	North	South		East	West		
7:00 AM				0	13	11	0	0	80	0	30	0	0	134	1	0	0	0		
7:15 AM				0	4	9	0	2	74	0	44	1	0	134	0	0	0	0		
7:30 AM				0	2	9	0	3	89	0	62	1	1	166	0	0	0	0		
7:45 AM				0	5	6	0	4	81	0	66	0	0	162	0	0	0	0		
8:00 AM				0	1	7	0	3	66	0	33	1	0	111	2	0	0	0		
8:15 AM				0	4	7	0	2	74	0	35	0	0	122	0	0	0	0		
8:30 AM				0	3	4	0	3	72	0	34	2	0	118	1	0	0	0		
8:45 AM				0	4	5	0	4	46	0	30	1	0	90	0	0	0	0		
Total Survey				0	36	58	0	21	582	0	334	6	1	1,037	4	0	0	0		

Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St				Westbound E Main St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	59	11	70	0	333	237	570	0	204	348	552	1	596	1	0	0	0
%HV	0.0%				1.7%				3.3%				3.4%				3.2%				
PHF	0.00				0.61				0.90				0.77				0.90				

By Movement	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St				Westbound E Main St				Total
	Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total				
Volume	0	24	35	59	9	324	333	202	2	204	596	2	204	596			
%HV	NA	NA	NA	0.0%	0.0%	NA	2.9%	1.7%	0.0%	3.4%	NA	3.3%	NA	3.0%	50.0%	3.4%	3.2%
PHF		0.00	0.46	0.80	0.61	0.56	0.91	0.90		0.77	0.25	0.77		0.90			

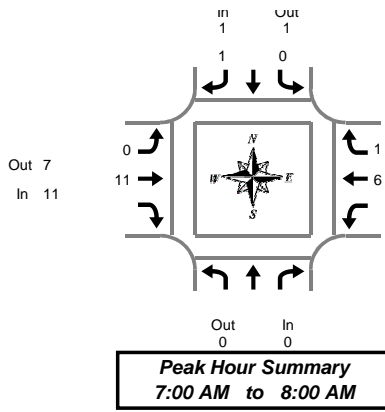
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	North	South		East	West		
7:00 AM				0	24	35	0	9	324	0	202	2	1	596	1	0	0	0		
7:15 AM				0	12	31	0	12	310	0	205	3	1	573	2	0	0	0		
7:30 AM				0	12	29	0	12	310	0	196	2	1	561	2	0	0	0		
7:45 AM				0	13	24	0	12	293	0	168	3	0	513	3	0	0	0		
8:00 AM				0	12	23	0	12	258	0	132	4	0	441	3	0	0	0		

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	0	0	0	0	0	0	1	0	1	1
7:05 AM			0	0	0	0	0	0	2	2	0	0	0	2
7:10 AM			0	0	0	0	0	0	2	2	1	0	1	3
7:15 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM			0	0	0	0	0	0	0	0	0	1	1	1
7:35 AM			0	0	0	0	0	2	2	2	1	0	1	3
7:40 AM			0	0	1	1	0	0	0	0	1	0	1	2
7:45 AM			0	0	0	0	0	1	1	1	2	0	2	3
7:50 AM			0	0	0	0	0	1	1	1	0	0	0	1
7:55 AM			0	0	0	0	0	3	3	3	0	0	0	3
8:00 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:10 AM			0	0	0	0	0	0	0	0	1	0	1	1
8:15 AM			0	0	0	0	0	2	2	2	1	0	1	3
8:20 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:25 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:30 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM			0	0	1	1	0	2	2	2	1	0	1	4
8:40 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM			0	0	0	0	1	0	1	1	2	0	2	3
8:50 AM			0	0	0	0	0	1	1	1	2	0	2	3
8:55 AM			0	0	0	0	0	3	3	3	1	0	1	4
Total Survey			0	0	2	2	1	22	23	23	14	1	15	40

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	0	0	0	4	4	4	2	0	2	6
7:15 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM			0	0	1	1	0	2	2	2	2	1	3	6
7:45 AM			0	0	0	0	0	5	5	5	2	0	2	7
8:00 AM			0	0	0	0	0	1	1	1	1	0	1	2
8:15 AM			0	0	0	0	0	4	4	4	1	0	1	5
8:30 AM			0	0	1	1	0	2	2	2	1	0	1	4
8:45 AM			0	0	0	0	1	4	5	5	5	0	5	10
Total Survey			0	0	2	2	1	22	23	23	14	1	15	40

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	1	2	11	7	18	7	11	18	19
PHF	0.00			0.25			0.55			0.44			0.59

By Movement	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
Volume			0	0	1	1	0	11	11		6	1	7	19
PHF			0.00	0.00	0.25	0.25	0.00	0.55	0.55		0.38	0.25	0.44	0.59

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	1	1	0	11	11	11	6	1	7	19
7:15 AM			0	0	1	1	0	8	8	8	5	1	6	15
7:30 AM			0	0	1	1	0	12	12	12	6	1	7	20
7:45 AM			0	0	1	1	0	12	12	12	5	0	5	18
8:00 AM			0	0	1	1	1	11	12	12	8	0	8	21

Peak Hour Summary

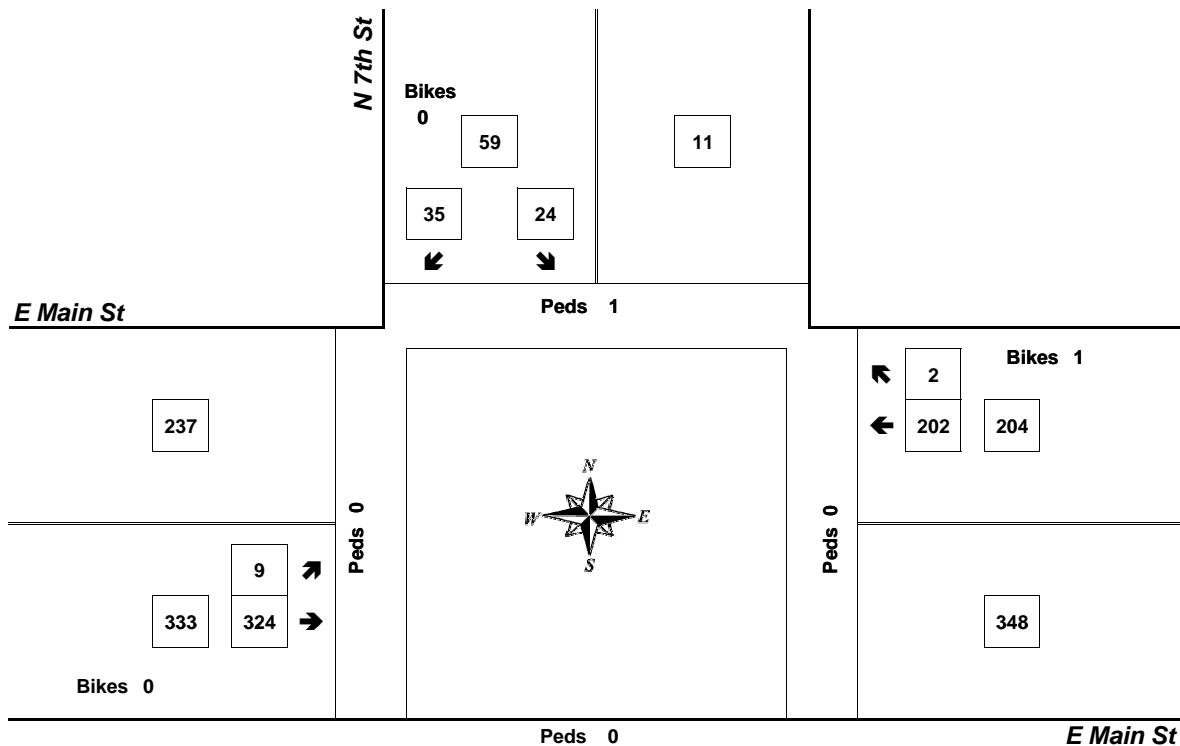


Clay Carney
(503) 833-2740

N 7th St & E Main St

7:00 AM to 8:00 AM

Tuesday, May 14, 2019



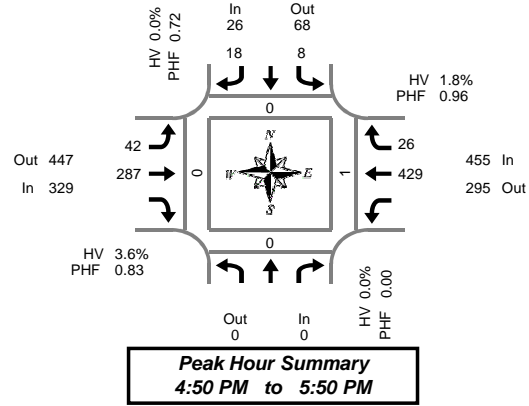
Approach	PHF	HV%	Volume
EB	0.90	3.3%	333
WB	0.77	3.4%	204
NB	0.00	0.0%	0
SB	0.61	1.7%	59
Intersection	0.90	3.2%	596

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	2	0	2	0	2	17	0	21	1	0	43	0	0	0	0
4:05 PM	0	2	2	0	2	0	3	23	0	26	3	0	59	0	0	0	0		
4:10 PM	0	1	1	0	1	0	1	18	0	34	3	0	59	0	0	0	0		
4:15 PM	0	1	1	0	1	0	1	28	0	31	3	0	65	0	0	0	0		
4:20 PM	0	0	0	0	1	0	1	19	0	41	2	0	64	0	0	0	0		
4:25 PM	0	0	0	0	0	0	1	25	0	49	1	0	76	0	0	0	0		
4:30 PM	0	0	0	0	2	0	3	25	0	20	0	0	50	0	0	0	0		
4:35 PM	0	1	1	0	2	0	4	21	0	30	3	0	61	0	0	0	0		
4:40 PM	0	1	1	0	1	0	3	25	0	30	2	0	62	0	0	0	0		
4:45 PM	0	0	0	0	2	0	0	28	0	27	2	0	59	0	0	0	0		
4:50 PM	0	0	0	0	0	0	2	24	0	32	1	0	59	0	0	0	0		
4:55 PM	0	0	0	0	0	0	4	29	0	41	3	0	77	0	0	0	0		
5:00 PM	0	1	1	0	3	0	4	24	0	36	4	0	72	0	0	0	0		
5:05 PM	0	1	1	0	2	0	3	14	0	32	1	0	53	0	0	0	0		
5:10 PM	0	1	1	0	1	0	3	25	0	37	0	0	67	0	0	0	0		
5:15 PM	0	1	1	0	2	0	4	25	0	36	0	0	68	0	0	0	0		
5:20 PM	0	0	0	0	1	0	8	17	0	42	2	0	70	0	0	0	0		
5:25 PM	0	0	0	0	4	0	1	27	0	29	2	0	63	0	0	0	0		
5:30 PM	0	0	0	0	1	0	5	27	0	37	2	0	72	0	0	0	0		
5:35 PM	0	1	1	0	1	0	4	35	0	34	2	0	77	0	0	1	0		
5:40 PM	0	1	1	0	0	0	2	21	1	40	4	0	68	0	0	0	0		
5:45 PM	0	2	2	0	3	0	2	19	0	33	5	0	64	0	0	0	0		
5:50 PM	0	0	0	0	3	0	2	33	0	16	4	0	58	0	0	0	0		
5:55 PM	0	1	1	0	2	0	0	20	0	22	2	0	47	0	0	0	0		
Total Survey	0	0	0	0	15	38	0	63	569	1	776	52	0	1,513	0	0	1	0	

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	3	6	0	6	58	0	81	7	0	161	0	0	0	0	
4:15 PM	0	1	1	0	2	0	3	72	0	121	6	0	205	0	0	0	0		
4:30 PM	0	2	2	0	5	0	10	71	0	80	5	0	173	0	0	0	0		
4:45 PM	0	0	0	0	2	0	6	81	0	100	6	0	195	0	0	0	0		
5:00 PM	0	3	3	0	6	0	10	63	0	105	5	0	192	0	0	0	0		
5:15 PM	0	1	1	0	7	0	13	69	0	107	4	0	201	0	0	0	0		
5:30 PM	0	2	2	0	2	0	11	83	1	111	8	0	217	0	0	1	0		
5:45 PM	0	3	3	0	8	0	4	72	0	71	11	0	169	0	0	0	0		
Total Survey	0	0	0	0	15	38	0	63	569	1	776	52	0	1,513	0	0	1	0	

Peak Hour Summary 4:50 PM to 5:50 PM

By Approach	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	Bikes	North	South	East	West
Volume	0	0	0	0	26	68	94	0	329	447	776	1	455	295	750	0	810	0	0	1	0
%HV	0.0%				0.0%				3.6%			1.8%			2.5%						
PHF	0.00				0.72				0.83			0.96			0.93						

By Movement	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Total	Pedestrians Crosswalk					
		Total	L	R	Total	L	T	Total	T	R	Total	T	R	Total		North	South	East	West		
Volume	0	8	18	26	42	287	329	429	26	455	810	0	0	0	0	0	0	0	0	0	
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	4.2%	NA	3.6%	NA	1.6%	3.8%	1.8%	2.5%				
PHF		0.00	0.50	0.64	0.72	0.70	0.81	0.83	0.93	0.59	0.96	0.93	0.96	0.93							

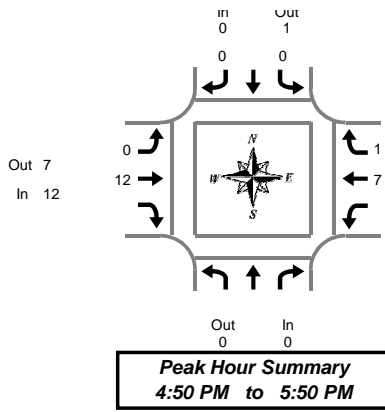
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	6	15	0	25	282	0	382	24	0	734	0	0	0	0	
4:15 PM	0	0	0	0	6	15	0	29	287	0	406	22	0	765	0	0	0	0	
4:30 PM	0	0	0	0	6	20	0	39	284	0	392	20	0	761	0	0	0	0	
4:45 PM	0	0	0	0	6	17	0	40	296	1	423	23	0	805	0	0	1	0	
5:00 PM	0	0	0	0	9	23	0	38	287	1	394	28	0	779	0	0	1	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:05 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	
4:10 PM	0	0	0	0	0	0	0	0	0	3	0	3	3	
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4	
4:20 PM	0	0	0	0	0	0	0	0	0	2	0	2	2	
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	
4:30 PM	0	0	0	0	0	0	2	2	2	1	0	1	3	
4:35 PM	0	1	1	0	1	1	0	0	0	3	0	3	4	
4:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	
4:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	1	
4:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	
4:55 PM	0	0	0	0	0	0	1	1	1	0	0	0	1	
5:00 PM	0	0	0	0	0	0	2	2	2	2	0	2	4	
5:05 PM	0	0	0	0	0	0	1	1	1	1	0	1	2	
5:10 PM	0	0	0	0	0	0	2	2	2	0	0	0	2	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:20 PM	0	0	0	0	0	0	1	1	1	1	0	1	2	
5:25 PM	0	0	0	0	0	0	2	2	2	0	0	0	2	
5:30 PM	0	0	0	0	0	0	1	1	1	1	0	1	2	
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:40 PM	0	0	0	0	0	0	2	2	2	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	2	
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	
5:55 PM	0	0	0	0	0	0	1	1	1	0	0	0	1	
Total Survey			0	1	0	1	0	16	16		24	1	25	42

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4	
4:15 PM	0	0	0	0	0	0	0	0	0	7	0	7	7	
4:30 PM	0	1	1	0	1	1	2	2	2	5	0	5	8	
4:45 PM	0	0	0	0	0	0	2	2	2	1	0	1	3	
5:00 PM	0	0	0	0	0	0	5	5	5	3	0	3	8	
5:15 PM	0	0	0	0	0	0	3	3	3	1	0	1	4	
5:30 PM	0	0	0	0	0	0	3	3	3	1	0	1	4	
5:45 PM	0	0	0	0	0	0	1	1	1	2	1	3	4	
Total Survey			0	1	0	1	0	16	16		24	1	25	42

Heavy Vehicle Peak Hour Summary 4:50 PM to 5:50 PM

By Approach	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	1	1	12	7	19	8	12	20	20
PHF	0.00			0.00			0.60			0.67			0.63

By Movement	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
Volume			0	0	0	0	0	12	12		7	1	8	20
PHF			0.00	0.00		0.00	0.00	0.00	0.60	0.60		0.58	0.25	0.67

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	1	1	0	1	1	0	4	4	17	0	17	22
4:15 PM	0	1	1	0	1	1	0	9	9	16	0	16	26
4:30 PM	0	1	1	0	1	1	0	12	12	10	0	10	23
4:45 PM	0	0	0	0	0	0	0	13	13	6	0	6	19
5:00 PM	0	0	0	0	0	0	0	12	12	7	1	8	20

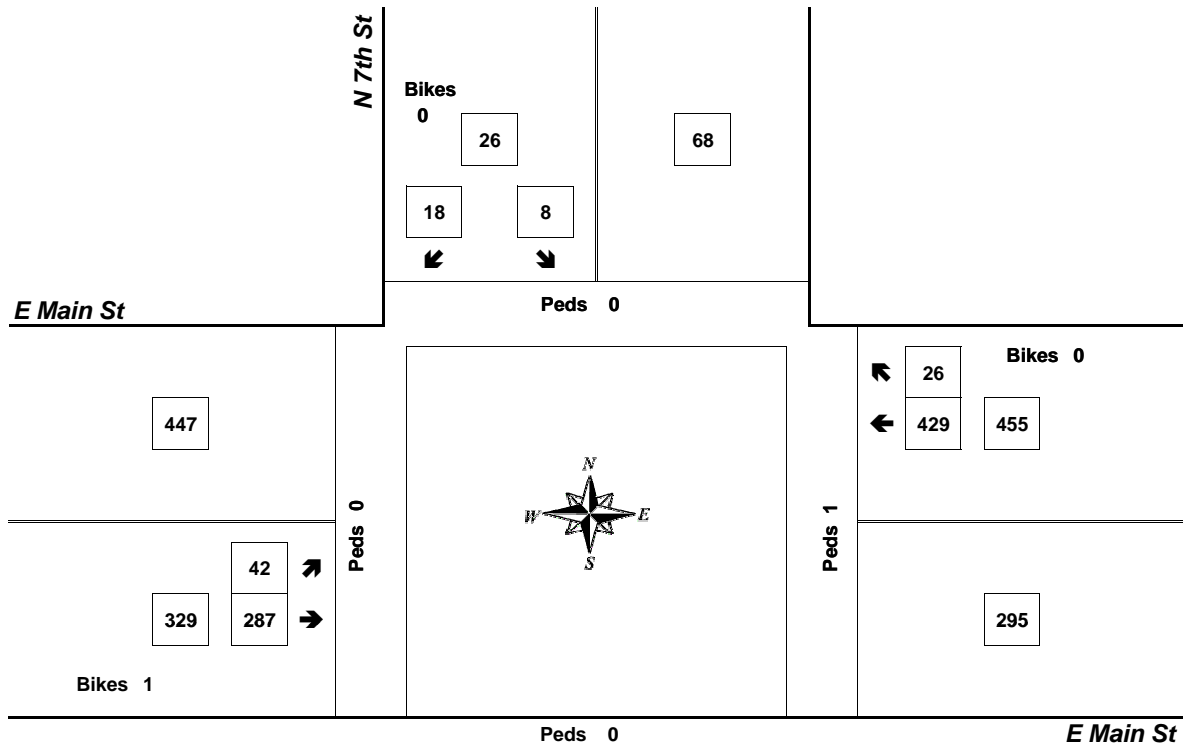
Peak Hour Summary



Clay Carney
(503) 833-2740

N 7th St & E Main St

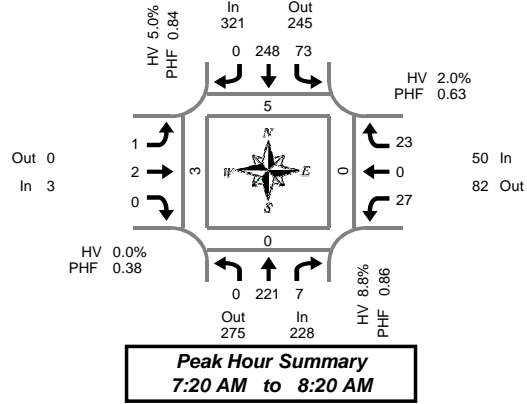
4:50 PM to 5:50 PM
Tuesday, May 14, 2019



Approach	PHF	HV%	Volume
EB	0.83	3.6%	329
WB	0.96	1.8%	455
NB	0.00	0.0%	0
SB	0.72	0.0%	26
Intersection	0.93	2.5%	810

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



S Pine St & W Polk St

Tuesday, May 14, 2019

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk						
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West			
7:00 AM	0	21	1	0	0	11	0	0	0	0	0	0	0	0	1	0	0	0	0	34	1	0	0	1
7:05 AM	0	12	0	0	0	14	0	0	0	2	0	0	0	0	1	0	0	0	0	29	0	0	0	0
7:10 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0
7:15 AM	0	15	0	0	2	18	0	0	0	0	0	0	0	2	0	1	0	0	0	38	1	0	0	0
7:20 AM	0	18	0	0	3	22	0	0	0	0	0	0	2	0	1	0	0	0	0	46	2	0	0	2
7:25 AM	0	14	1	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	32	2	0	0	1
7:30 AM	0	28	0	0	5	18	0	0	0	0	0	0	3	0	2	0	0	0	0	56	0	0	0	0
7:35 AM	0	14	1	0	5	31	0	0	0	0	0	0	2	0	0	0	0	0	0	53	0	0	0	0
7:40 AM	0	23	0	0	7	22	0	0	0	0	0	0	1	0	2	0	0	0	0	55	0	0	0	0
7:45 AM	0	25	1	0	7	24	0	0	0	1	0	0	3	0	1	0	0	0	0	62	1	0	0	0
7:50 AM	0	9	2	0	6	23	0	0	0	1	0	0	2	0	3	0	0	0	0	46	0	0	0	0
7:55 AM	0	24	1	0	4	18	0	0	0	0	0	0	3	0	0	0	0	0	0	50	0	0	0	0
8:00 AM	0	11	0	0	13	13	0	0	1	0	0	0	2	0	5	0	0	0	0	45	0	0	0	0
8:05 AM	0	17	0	0	10	23	0	0	0	0	0	0	0	0	4	0	0	0	0	54	0	0	0	0
8:10 AM	0	12	1	0	8	20	0	0	0	0	0	0	6	0	3	0	0	0	0	50	0	0	0	0
8:15 AM	0	26	0	0	4	18	0	0	0	0	0	0	3	0	2	0	0	0	0	53	0	0	0	0
8:20 AM	0	16	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0
8:25 AM	0	14	0	0	0	19	0	0	0	0	0	0	0	0	1	0	0	0	0	34	0	0	0	0
8:30 AM	0	21	0	0	0	8	0	0	0	0	0	0	1	0	0	0	0	0	0	30	0	0	0	0
8:35 AM	0	21	0	0	0	25	0	0	0	0	0	0	2	0	0	0	0	0	0	48	0	0	0	0
8:40 AM	0	17	0	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0
8:45 AM	0	13	0	0	1	20	0	0	0	0	0	0	1	0	1	0	0	0	0	36	0	0	0	0
8:50 AM	0	13	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0
8:55 AM	0	24	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0
Total Survey	0	424	8	0	77	436	0	0	1	4	0	0	33	0	28	0	0	0	0	1,011	7	0	0	4

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk						
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West			
7:00 AM	0	49	1	0	0	34	0	0	0	2	0	0	0	0	2	0	0	0	0	88	1	0	0	1
7:15 AM	0	47	1	0	6	56	0	0	0	0	0	0	4	0	2	0	0	0	0	116	5	0	0	3
7:30 AM	0	65	1	0	17	71	0	0	0	0	0	0	6	0	4	0	0	0	0	164	0	0	0	0
7:45 AM	0	58	4	0	17	65	0	0	0	2	0	0	8	0	4	0	0	0	0	158	1	0	0	0
8:00 AM	0	40	1	0	31	56	0	0	1	0	0	0	8	0	12	0	0	0	0	149	0	0	0	0
8:15 AM	0	56	0	0	4	48	0	0	0	0	0	0	3	0	3	0	0	0	0	114	0	0	0	0
8:30 AM	0	59	0	0	1	49	0	0	0	0	0	0	3	0	0	0	0	0	0	112	0	0	0	0
8:45 AM	0	50	0	0	1	57	0	0	0	0	0	0	1	0	1	0	0	0	0	110	0	0	0	0
Total Survey	0	424	8	0	77	436	0	0	1	4	0	0	33	0	28	0	0	0	0	1,011	7	0	0	4

Peak Hour Summary

7:20 AM to 8:20 AM

By Approach	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	228	275	503	0	321	245	566	0	3	0	3	0	50	82	132	0	602	5	0	0	3
%HV	8.8%				5.0%				0.0%				2.0%				6.1%				
PHF	0.86				0.84				0.38				0.63				0.89				

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	221	7	228	73	248	0	321	1	2	0	3	27	0	23	50	602
%HV	0.0%	8.1%	28.6%	8.8%	11.0%	3.2%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%	2.0%	6.1%
PHF	0.00	0.85	0.44	0.86	0.59	0.81	0.00	0.84	0.25	0.25	0.00	0.38	0.75	0.00	0.48	0.63	0.89

Rolling Hour Summary

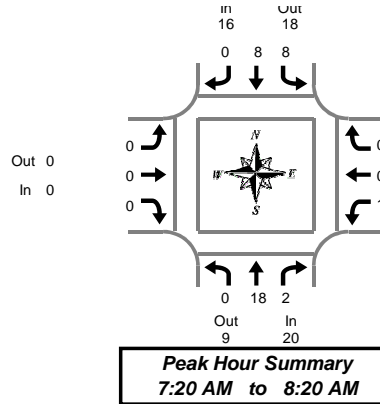
7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	219	7	0	40	226	0	0	0	4	0	0	18	0	12	0	526	7	0	0	4
7:15 AM	0	210	7	0	71	248	0	0	1	2	0	0	26	0	22	0	587	6	0	0	3
7:30 AM	0	219	6	0	69	240	0	0	1	2	0	0	25	0	23	0	585	1	0	0	0
7:45 AM	0	213	5	0	53	218	0	0	1	2	0	0	22	0	19	0	533	1	0	0	0
8:00 AM	0	205	1	0	37	210	0	0	1	0	0	0	15	0	16	0	485	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	4
7:05 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
7:10 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	0	5
7:20 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:25 AM	0	1	1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
7:35 AM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	3
7:40 AM	0	3	0	3	1	1	0	2	0	0	0	0	0	0	0	0	0	5
7:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	2
7:50 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
7:55 AM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	2	0	2	2	0	0	2	0	0	0	0	0	0	0	0	0	4
8:05 AM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0	3
8:10 AM	0	1	0	1	0	2	0	2	0	0	0	0	1	0	0	1	0	4
8:15 AM	0	5	0	5	0	1	0	1	0	0	0	0	0	0	0	0	0	6
8:20 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:25 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	3
8:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:35 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	4
8:40 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	2	0	2	0	6	0	6	0	0	0	0	0	0	0	0	0	8
8:50 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
8:55 AM	0	6	0	6	0	1	0	1	0	0	0	0	0	0	0	0	0	7
Total Survey	0	47	2	49	8	22	0	30	0	1	0	1	1	0	1	2	0	82

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	8	0	8	0	1	0	1	0	1	0	1	0	0	0	0	0	10
7:15 AM	0	5	1	6	0	3	0	3	0	0	0	0	0	0	0	0	0	9
7:30 AM	0	5	0	5	3	1	0	4	0	0	0	0	0	0	0	0	0	9
7:45 AM	0	2	1	3	2	2	0	4	0	0	0	0	0	0	0	0	0	7
8:00 AM	0	4	0	4	3	3	0	6	0	0	0	0	1	0	0	1	0	11
8:15 AM	0	9	0	9	0	1	0	1	0	0	0	0	0	0	1	1	0	11
8:30 AM	0	6	0	6	0	2	0	2	0	0	0	0	0	0	0	0	0	8
8:45 AM	0	8	0	8	0	9	0	9	0	0	0	0	0	0	0	0	0	17
Total Survey	0	47	2	49	8	22	0	30	0	1	0	1	1	0	1	2	0	82

Heavy Vehicle Peak Hour Summary 7:20 AM to 8:20 AM

By Approach	Northbound S Pine St			Southbound S Pine St			Eastbound W Polk St			Westbound W Polk St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	20	9	29	16	18	34	0	0	0	1	10	11	37
PHF	0.71			0.67			0.00			0.25			0.71

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	18	2	20	8	8	0	16	0	0	0	0	1	0	0	1	37
PHF	0.00	0.64	0.50	0.71	0.50	0.50	0.00	0.67	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.71

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	20	2	22	5	7	0	12	0	1	0	1	0	0	0	0	0	35
7:15 AM	0	16	2	18	8	9	0	17	0	0	0	0	1	0	0	1	0	36
7:30 AM	0	20	1	21	8	7	0	15	0	0	0	0	1	0	1	2	0	38
7:45 AM	0	21	1	22	5	8	0	13	0	0	0	0	1	0	1	2	0	37
8:00 AM	0	27	0	27	3	15	0	18	0	0	0	0	1	0	1	2	0	47

Peak Hour Summary

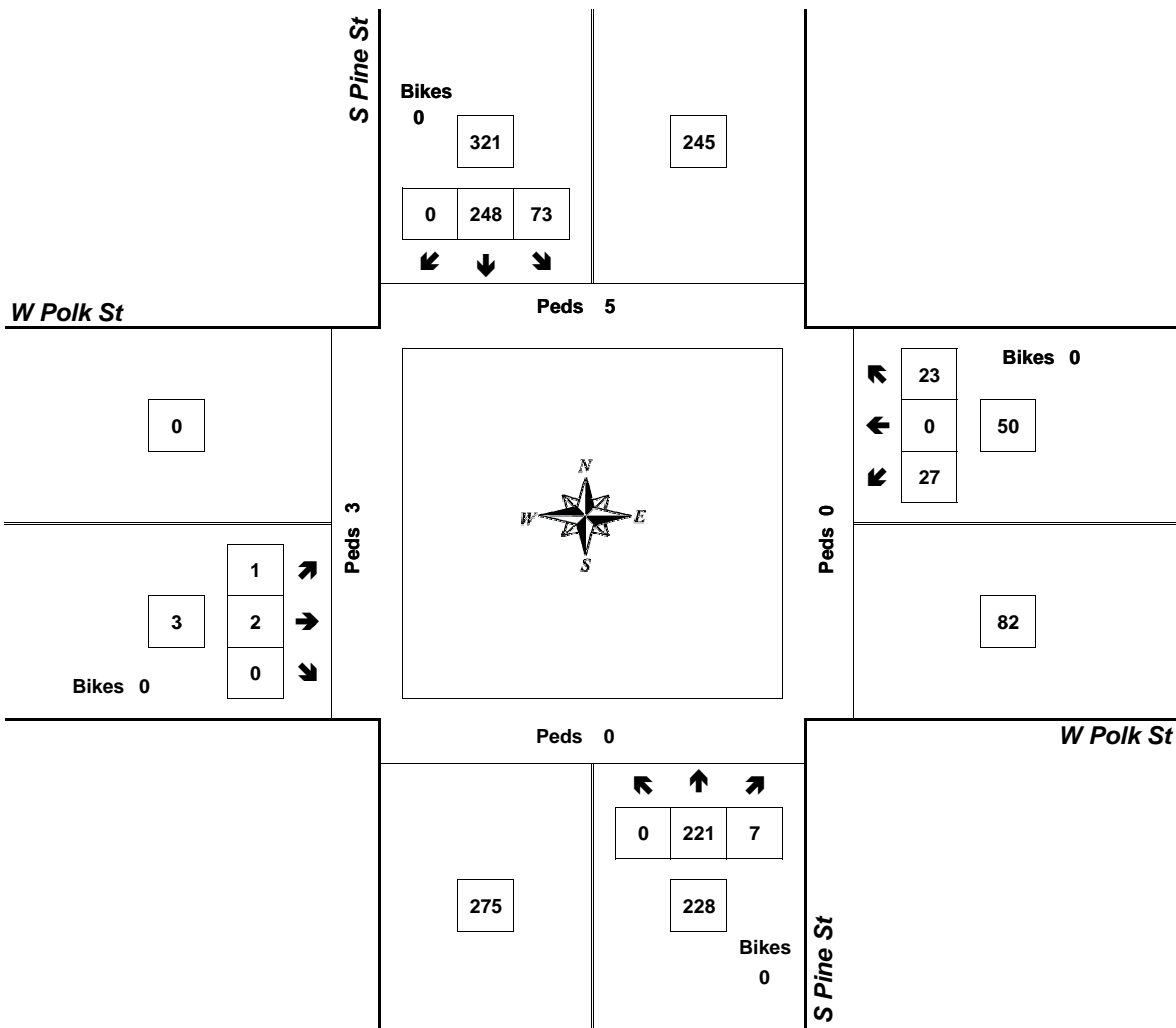


Clay Carney
(503) 833-2740

S Pine St & W Polk St

7:20 AM to 8:20 AM

Tuesday, May 14, 2019



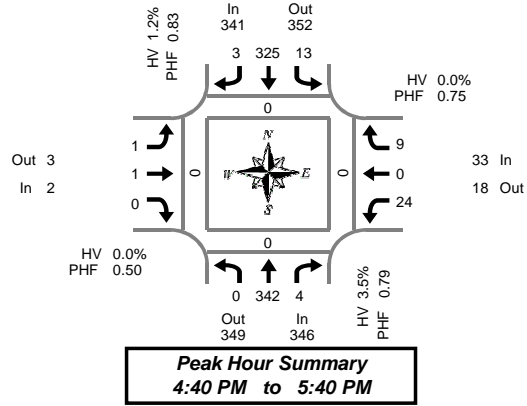
Approach	PHF	HV%	Volume
EB	0.38	0.0%	3
WB	0.63	2.0%	50
NB	0.86	8.8%	228
SB	0.84	5.0%	321
Intersection	0.89	6.1%	602

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	23	1	0	0	22	0	0	0	0	0	0	1	0	1	0	48	0	0	0	0
4:05 PM	0	16	0	0	1	16	0	0	0	0	0	0	0	1	2	0	36	0	0	0	0
4:10 PM	0	20	0	0	0	32	0	0	0	1	0	0	1	0	2	0	56	0	0	0	0
4:15 PM	0	24	0	0	1	23	0	0	0	0	0	0	0	0	1	0	49	0	0	0	0
4:20 PM	0	35	0	0	0	22	0	0	0	0	0	0	1	0	1	0	59	0	0	0	0
4:25 PM	0	26	0	0	0	24	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
4:30 PM	0	31	0	0	4	30	0	0	0	0	0	0	3	0	1	0	69	0	0	0	0
4:35 PM	0	25	0	0	1	22	2	0	1	0	0	0	1	0	0	0	52	0	0	0	0
4:40 PM	0	30	0	0	0	32	0	0	0	0	0	0	2	0	1	0	65	0	0	0	0
4:45 PM	0	23	0	0	0	28	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0
4:50 PM	0	20	0	0	2	26	0	0	0	0	0	0	2	0	0	0	50	0	0	0	0
4:55 PM	0	33	0	0	0	29	0	0	0	0	0	0	4	0	1	0	67	0	0	0	0
5:00 PM	0	18	0	0	1	40	2	0	0	1	0	0	1	0	0	0	63	0	0	0	0
5:05 PM	0	26	3	0	0	16	0	0	0	0	0	0	3	0	1	0	49	0	0	0	0
5:10 PM	0	31	1	0	4	20	0	0	0	0	0	0	1	0	1	0	58	0	0	0	0
5:15 PM	0	22	0	0	1	17	0	0	0	0	0	0	3	0	0	0	43	0	0	0	0
5:20 PM	0	30	0	0	1	26	0	0	0	0	0	0	1	0	1	0	59	0	0	0	0
5:25 PM	0	34	0	0	0	36	0	0	0	0	0	0	3	0	1	0	74	0	0	0	0
5:30 PM	0	37	0	0	3	36	1	0	1	0	0	0	2	0	2	0	82	0	0	0	0
5:35 PM	0	38	0	0	1	19	0	0	0	0	0	0	2	0	1	0	61	0	0	0	0
5:40 PM	0	25	0	0	1	34	0	0	0	0	0	0	1	0	0	0	61	0	0	0	0
5:45 PM	0	24	0	0	2	18	0	0	0	0	0	0	1	0	1	0	46	0	0	0	0
5:50 PM	0	26	0	0	2	22	0	0	0	0	0	0	1	1	0	0	52	0	0	0	0
5:55 PM	1	28	0	0	1	14	0	0	0	0	0	0	2	0	1	0	47	0	0	0	0
Total Survey	1	645	5	0	26	604	5	0	2	2	0	0	36	2	19	0	1,347	0	0	0	0

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	59	1	0	1	70	0	0	0	1	0	0	2	1	5	0	140	0	0	0	0
4:15 PM	0	85	0	0	1	69	0	0	0	0	0	0	1	0	2	0	158	0	0	0	0
4:30 PM	0	86	0	0	5	84	2	0	1	0	0	0	6	0	2	0	186	0	0	0	0
4:45 PM	0	76	0	0	2	83	0	0	0	0	0	0	6	0	1	0	168	0	0	0	0
5:00 PM	0	75	4	0	5	76	2	0	0	1	0	0	5	0	2	0	170	0	0	0	0
5:15 PM	0	86	0	0	2	79	0	0	0	0	0	0	7	0	2	0	176	0	0	0	0
5:30 PM	0	100	0	0	5	89	1	0	1	0	0	0	5	0	3	0	204	0	0	0	0
5:45 PM	1	78	0	0	5	54	0	0	0	0	0	0	4	1	2	0	145	0	0	0	0
Total Survey	1	645	5	0	26	604	5	0	2	2	0	0	36	2	19	0	1,347	0	0	0	0

Peak Hour Summary 4:40 PM to 5:40 PM

By Approach	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	346	349	695	0	341	352	693	0	2	3	5	0	33	18	51	0	722	0	0	0	0
%HV	3.5%				1.2%				0.0%				0.0%				2.2%				
PHF	0.79				0.83				0.50				0.75				0.83				

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	342	4	346	13	325	3	341	1	1	0	2	24	0	9	33	722
%HV	0.0%	3.2%	25.0%	3.5%	0.0%	1.2%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%
PHF	0.00	0.78	0.25	0.79	0.54	0.83	0.38	0.83	0.25	0.25	0.00	0.50	0.75	0.00	0.56	0.75	0.83

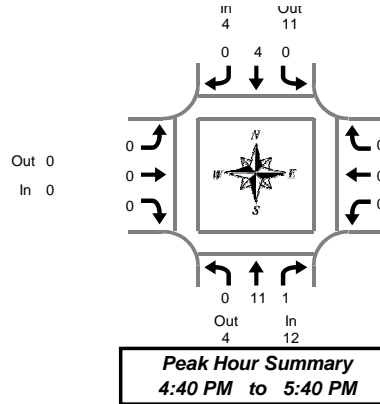
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	306	1	0	9	306	2	0	1	1	0	0	15	1	10	0	652	0	0	0	0
4:15 PM	0	322	4	0	13	312	4	0	1	1	0	0	18	0	7	0	682	0	0	0	0
4:30 PM	0	323	4	0	14	322	4	0	1	1	0	0	24	0	7	0	700	0	0	0	0
4:45 PM	0	337	4	0	14	327	3	0	1	1	0	0	23	0	8	0	718	0	0	0	0
5:00 PM	1	339	4	0	17	298	3	0	1	1	0	0	21	1	9	0	695	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	3
4:05 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	2
4:10 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:20 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	0	5
4:35 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
4:40 PM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
Total Survey	0	15	1	16	1	20	0	21	0	0	0	0	0	0	0	0	0	37

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	1	0	1	1	5	0	6	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0	0	10
4:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	2	1	3	0	1	0	1	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3
Total Survey	0	15	1	16	1	20	0	21	0	0	0	0	0	0	0	0	0	37

Heavy Vehicle Peak Hour Summary 4:40 PM to 5:40 PM

By Approach	Northbound S Pine St			Southbound S Pine St			Eastbound W Polk St			Westbound W Polk St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	12	4	16	4	11	15	0	0	0	0	1	1	16
PHF	0.75			0.33			0.00			0.00			0.67

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
Volume	0	11	1	12	0	4	0	4	0	0	0	0	0	0	0	0	0	16
PHF	0.00	0.92	0.25	0.75	0.00	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	8	0	8	1	15	0	16	0	0	0	0	0	0	0	0	0	24
4:15 PM	0	9	1	10	0	11	0	11	0	0	0	0	0	0	0	0	0	21
4:30 PM	0	11	1	12	0	8	0	8	0	0	0	0	0	0	0	0	0	20
4:45 PM	0	9	1	10	0	3	0	3	0	0	0	0	0	0	0	0	0	13
5:00 PM	0	7	1	8	0	5	0	5	0	0	0	0	0	0	0	0	0	13

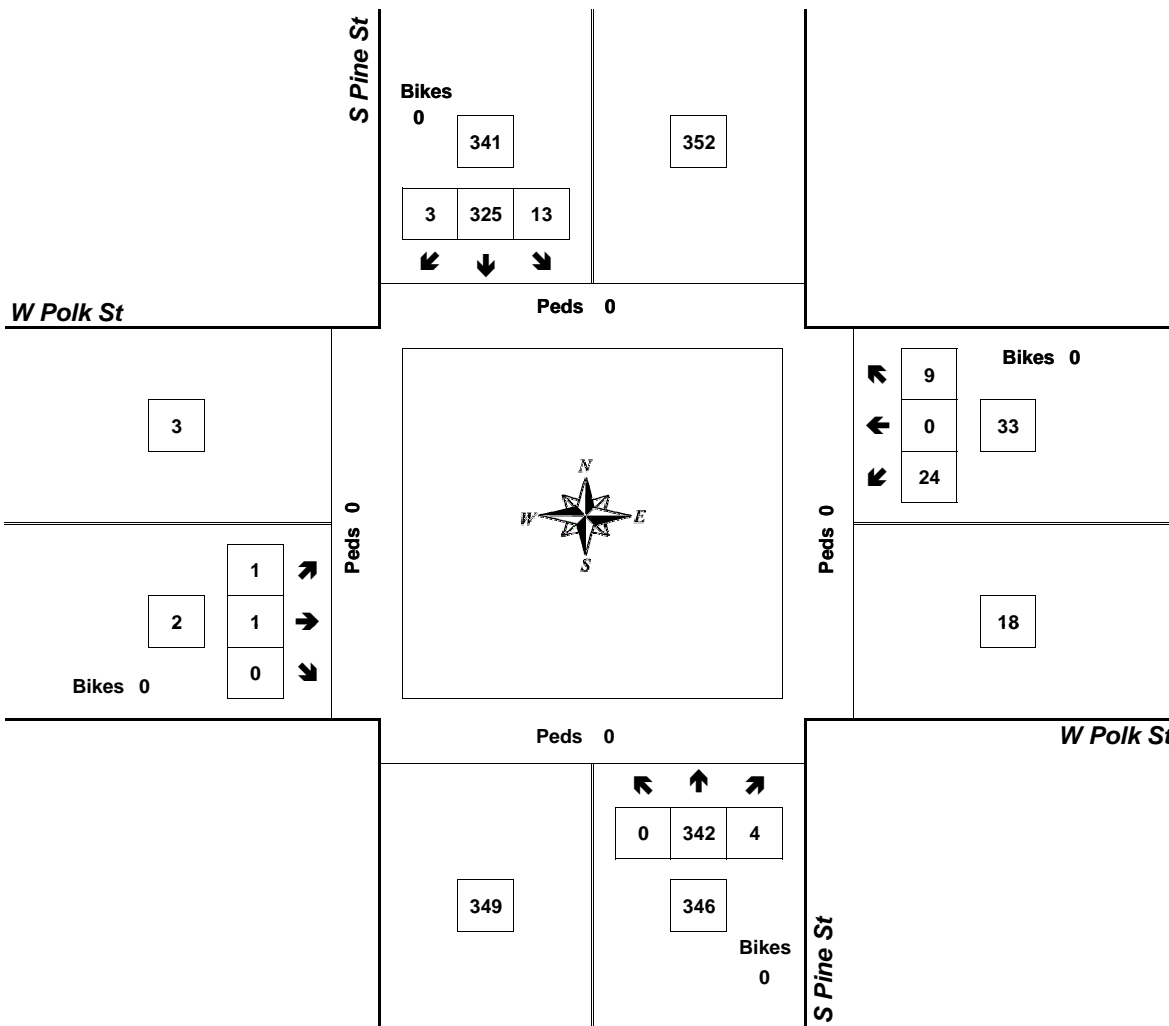
Peak Hour Summary



Clay Carney
(503) 833-2740

S Pine St & W Polk St

4:40 PM to 5:40 PM
Tuesday, May 14, 2019



Approach	PHF	HV%	Volume
EB	0.50	0.0%	2
WB	0.75	0.0%	33
NB	0.79	3.5%	346
SB	0.83	1.2%	341
Intersection	0.83	2.2%	722

Count Period: 4:00 PM to 6:00 PM

Left-Turn Lane Warrant Analysis



Project: JR Meadows Phase 2
 Intersection: E Main Street at N 7th Street - Eastbound
 Date: 8/17/2020
 Scenario: Year 2022 Buildout Conditions AM

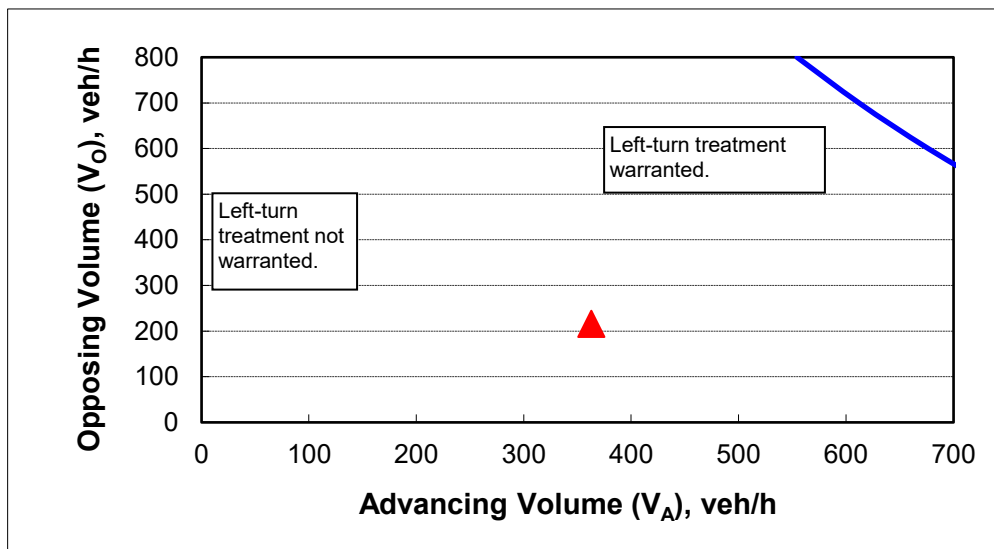
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V _A), %:	2%
Advancing volume (V _A), veh/h:	363
Opposing volume (V _O), veh/h:	216

OUTPUT

Variable	Value
Limiting advancing volume (V _A), veh/h:	1017
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: JR Meadows Phase 2
 Intersection: E Main Street at N 7th Street - Westbound
 Date: 8/17/2020
 Scenario: Year 2022 Buildout Conditions AM

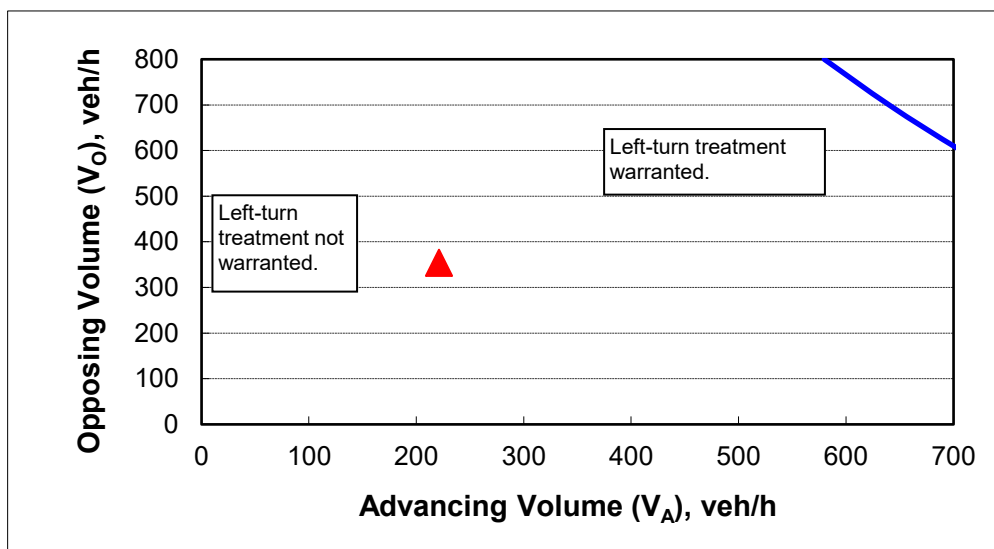
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	221
Opposing volume (V_O), veh/h:	354

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	914
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: JR Meadows Phase 2
 Intersection: E Main Street at N 7th Street - Eastbound
 Date: 8/17/2020
 Scenario: Year 2022 Background Conditions PM

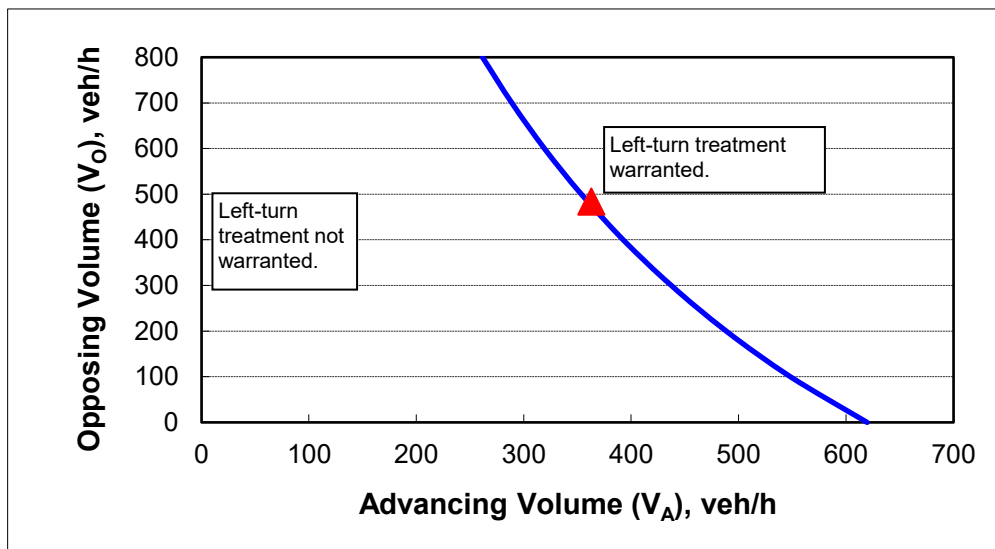
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V _A), %:	12%
Advancing volume (V _A), veh/h:	363
Opposing volume (V _O), veh/h:	484

OUTPUT

Variable	Value
Limiting advancing volume (V _A), veh/h:	360
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis



Project: JR Meadows Phase 2
 Intersection: E Main Street at N 7th Street - Westbound
 Date: 8/17/2020
 Scenario: Year 2022 Buildout Conditions PM

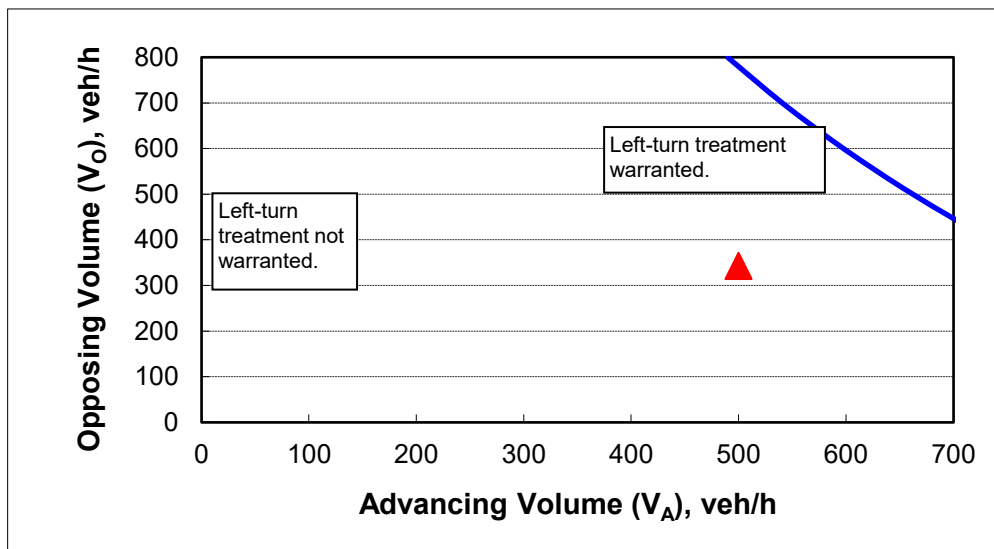
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	500
Opposing volume (V_O), veh/h:	343

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	781
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

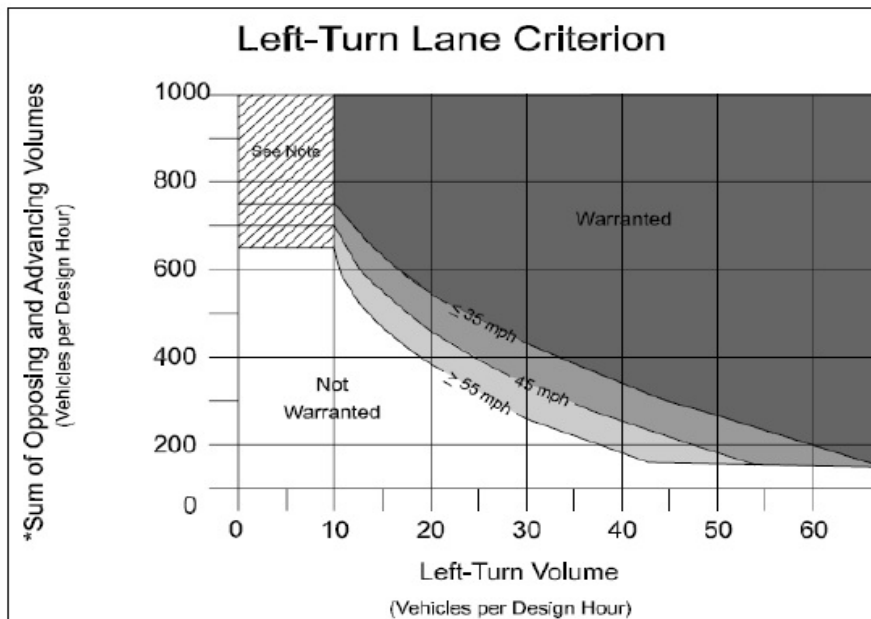
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Project: JR Meadows Phase 2
 Intersection: E Polk Street at S Pine Street
 Date: 8/17/2020
 Scenario: 2022 Buildout Conditions - Northbound

Speed: 30 mph

AM Peak Hour		PM Peak Hour	
Left-Turn Volume	0	Left-Turn Volume	0
Approaching DHV	250	Approaching DHV	362
# of Advancing Through Lanes	1	# of Advancing Through Lanes	1
Opposing DHV	269	Opposing DHV	333
# of Opposing Through Lanes	1	# of Opposing Through Lanes	1
O+A DHV	519	O+A DHV	695
Lane Needed?	No	Lane Needed?	No



Source: Oregon DOT Analysis Procedures Manual 2008

$$*(\text{Advancing Vol} / \# \text{ of Advancing Through Lanes}) + (\text{Opposing Vol} / \# \text{ of Opposing Through Lanes})$$

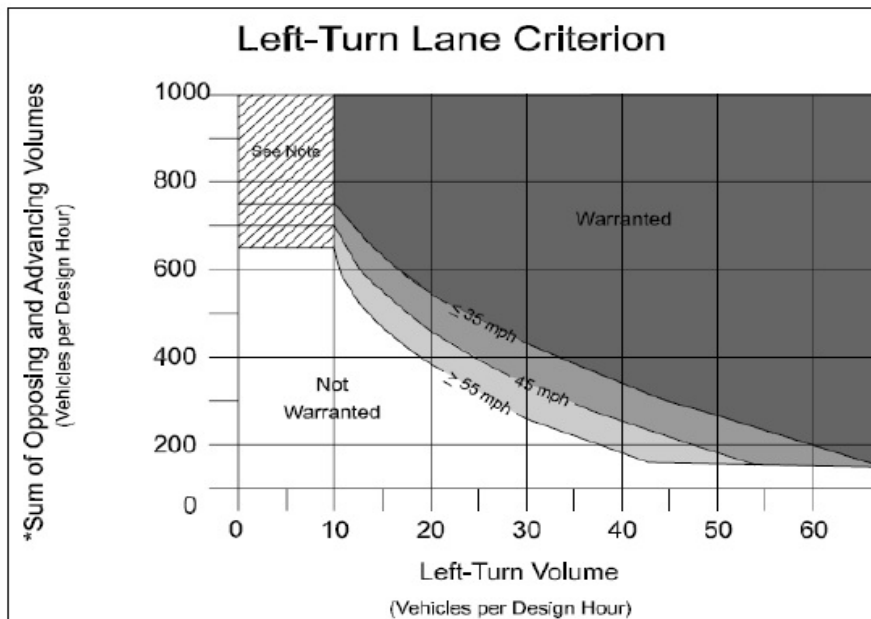
Note: The criterion is not met from zero to ten left turn vehicles per hour, but careful consideration should be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operational impacts may require installation of a left turn. The final determination will be based on a field study.



Project: JR Meadows Phase 2
 Intersection: E Polk Street at S Pine Street
 Date: 8/17/2020
 Scenario: 2020 Existing Conditions - Southbound

Speed: 30 mph

AM Peak Hour		PM Peak Hour	
Left-Turn Volume	74	Left-Turn Volume	13
Approaching DHV	340	Approaching DHV	343
# of Advancing Through Lanes	1	# of Advancing Through Lanes	1
Opposing DHV	244	Opposing DHV	348
# of Opposing Through Lanes	1	# of Opposing Through Lanes	1
O+A DHV	584	O+A DHV	691
Lane Needed?	Yes	Lane Needed?	Yes



Source: Oregon DOT Analysis Procedures Manual 2008

$$*\left(\frac{\text{Advancing Vol}}{\# \text{ of Advancing Through Lanes}}\right) + \left(\frac{\text{Opposing Vol}}{\# \text{ of Opposing Through Lanes}}\right)$$

Note: The criterion is not met from zero to ten left turn vehicles per hour, but careful consideration should be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operational impacts may require installation of a left turn. The final determination will be based on a field study.



Traffic Signal Warrant Analysis

Project: JR Meadows Phase 2
 Date: 3/18/2020
 Scenario: Year 2022 Buildout Conditions

Major Street:	E Main Street	Minor Street:	7th Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	888	PM Peak Hour Volumes:	30

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)	ADT on Minor St. (higher-volume approach)		
<u>Major St.</u>	<u>Minor St.</u>	100% <u>Warrants</u>	70% <u>Warrants</u>	100% <u>Warrants</u>	70% <u>Warrants</u>
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	8,880	6,200	
Minor Street*	300	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	8,880	9,300	
Minor Street*	300	950	No
<i>Combination Warrant</i>			
Major Street	8,880	7,440	
Minor Street*	300	1,480	No

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis



Project: JR Meadows Phase 2
 Date: 3/18/2020
 Scenario: Year 2022 Buildout Conditions

Major Street:	S Pine Street	Minor Street:	E Polk Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	709	PM Peak Hour Volumes:	38

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess
 _____ of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)	ADT on Minor St. (higher-volume approach)		
		100%	70%	100%	70%
<u>WARRANT 1, CONDITION A</u>		<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>Major St.</u>	<u>Minor St.</u>				
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	7,090	6,200	
Minor Street*	380	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	7,090	9,300	
Minor Street*	380	950	No
<i>Combination Warrant</i>			
Major Street	7,090	7,440	
Minor Street*	380	1,480	No

* Minor street right-turning traffic volumes reduced by 25%



LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



*LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

*LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th TWSC

1: E Main Street & N 7th Street

02/24/2020

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	9	330	206	2	24	36
Future Vol, veh/h	9	330	206	2	24	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	10	367	229	2	27	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	231	0	-	0	617 230
Stage 1	-	-	-	-	230 -
Stage 2	-	-	-	-	387 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1331	-	-	-	453 809
Stage 1	-	-	-	-	808 -
Stage 2	-	-	-	-	686 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1331	-	-	-	449 809
Mov Cap-2 Maneuver	-	-	-	-	449 -
Stage 1	-	-	-	-	801 -
Stage 2	-	-	-	-	686 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	613
HCM Lane V/C Ratio	0.008	-	-	-	0.109
HCM Control Delay (s)	7.7	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

02/24/2020

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	28	0	23	0	237	7	74	266	0
Future Vol, veh/h	1	2	0	28	0	23	0	237	7	74	266	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	31	0	26	0	266	8	83	299	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	748	739	299	736	735	270	299	0	0	274	0	0
Stage 1	465	465	-	270	270	-	-	-	-	-	-	-
Stage 2	283	274	-	466	465	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	331	347	745	335	347	769	1223	-	-	1272	-	-
Stage 1	581	566	-	736	686	-	-	-	-	-	-	-
Stage 2	728	687	-	577	563	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	301	320	745	313	320	769	1223	-	-	1272	-	-
Mov Cap-2 Maneuver	301	320	-	313	320	-	-	-	-	-	-	-
Stage 1	581	522	-	736	686	-	-	-	-	-	-	-
Stage 2	704	687	-	530	519	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.6		14.7		0		1.7	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	313	427	1272	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.134	0.065	-	-
HCM Control Delay (s)	0	-	-	16.6	14.7	8	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

HCM 6th TWSC

1: E Main Street & N 7th Street

02/24/2020

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	43	293	438	27	8	18
Future Vol, veh/h	43	293	438	27	8	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	46	315	471	29	9	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	500	0	-	0	893 486
Stage 1	-	-	-	-	486 -
Stage 2	-	-	-	-	407 -
Critical Hdwy	4.14	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.236	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1054	-	-	-	315 585
Stage 1	-	-	-	-	623 -
Stage 2	-	-	-	-	676 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1054	-	-	-	298 585
Mov Cap-2 Maneuver	-	-	-	-	298 -
Stage 1	-	-	-	-	590 -
Stage 2	-	-	-	-	676 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1054	-	-	-	451
HCM Lane V/C Ratio	0.044	-	-	-	0.062
HCM Control Delay (s)	8.6	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

02/24/2020

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	24	0	9	0	344	4	13	327	3
Future Vol, veh/h	1	1	0	24	0	9	0	344	4	13	327	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	29	0	11	0	414	5	16	394	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	850	847	396	846	847	417	398	0	0	419	0	0
Stage 1	428	428	-	417	417	-	-	-	-	-	-	-
Stage 2	422	419	-	429	430	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	283	301	658	284	301	640	1150	-	-	1145	-	-
Stage 1	609	588	-	617	595	-	-	-	-	-	-	-
Stage 2	613	593	-	608	587	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	275	296	658	279	296	640	1150	-	-	1145	-	-
Mov Cap-2 Maneuver	275	296	-	279	296	-	-	-	-	-	-	-
Stage 1	609	577	-	617	595	-	-	-	-	-	-	-
Stage 2	603	593	-	596	576	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	17.7		17.4		0			0.3		
HCM LOS	C		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1150	-	-	285	330	1145	-	-
HCM Lane V/C Ratio	-	-	-	0.008	0.12	0.014	-	-
HCM Control Delay (s)	0	-	-	17.7	17.4	8.2	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0	-	-

HCM 6th TWSC

1: N 7th Street & E Main Street

02/24/2020

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	343	4	2	214	2	12	0	6	25	0	37
Future Vol, veh/h	9	343	4	2	214	2	12	0	6	25	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	92	92	90	90	92	92	92	90	92	90
Heavy Vehicles, %	3	3	2	2	3	3	2	2	2	2	2	2
Mvmt Flow	10	381	4	2	238	2	13	0	7	28	0	41

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	240	0	0	385	0	0	667	647	383	650	648	239
Stage 1	-	-	-	-	-	-	403	403	-	243	243	-
Stage 2	-	-	-	-	-	-	264	244	-	407	405	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1321	-	-	1173	-	-	372	390	664	382	389	800
Stage 1	-	-	-	-	-	-	624	600	-	761	705	-
Stage 2	-	-	-	-	-	-	741	704	-	621	598	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1321	-	-	1173	-	-	350	385	664	375	384	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	385	-	375	384	-
Stage 1	-	-	-	-	-	-	618	594	-	753	704	-
Stage 2	-	-	-	-	-	-	702	703	-	609	592	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.2		0.1		14.1		12.5	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	415	1321	-	-	1173	-	-	549
HCM Lane V/C Ratio	0.047	0.008	-	-	0.002	-	-	0.125
HCM Control Delay (s)	14.1	7.7	0	-	8.1	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

02/24/2020

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	33	0	24	0	240	8	77	269	0
Future Vol, veh/h	1	2	0	33	0	24	0	240	8	77	269	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	37	0	27	0	270	9	87	302	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	764	755	302	752	751	275	302	0	0	279	0	0
Stage 1	476	476	-	275	275	-	-	-	-	-	-	-
Stage 2	288	279	-	477	476	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	323	340	742	327	340	764	1220	-	-	1267	-	-
Stage 1	574	560	-	731	683	-	-	-	-	-	-	-
Stage 2	724	683	-	569	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	292	312	742	304	312	764	1220	-	-	1267	-	-
Mov Cap-2 Maneuver	292	312	-	304	312	-	-	-	-	-	-	-
Stage 1	574	514	-	731	683	-	-	-	-	-	-	-
Stage 2	698	683	-	519	511	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.9		15.5		0		1.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	305	407	1267	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.157	0.068	-	-
HCM Control Delay (s)	0	-	-	16.9	15.5	8	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.2	-	-

HCM 6th TWSC

1: N 7th Street & E Main Street

02/24/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	305	13	6	456	28	8	0	4	8	0	19
Future Vol, veh/h	45	305	13	6	456	28	8	0	4	8	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	92	92	93	93	92	92	92	93	92	93
Heavy Vehicles, %	4	4	2	2	2	2	2	2	2	0	2	0
Mvmt Flow	48	328	14	7	490	30	9	0	4	9	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	520	0	0	342	0	0	960	965	335	952	957	505
Stage 1	-	-	-	-	-	-	431	431	-	519	519	-
Stage 2	-	-	-	-	-	-	529	534	-	433	438	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1036	-	-	1217	-	-	236	255	707	241	258	571
Stage 1	-	-	-	-	-	-	603	583	-	544	533	-
Stage 2	-	-	-	-	-	-	533	524	-	605	579	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1036	-	-	1217	-	-	216	238	707	228	241	571
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	238	-	228	241	-
Stage 1	-	-	-	-	-	-	569	550	-	513	529	-
Stage 2	-	-	-	-	-	-	510	520	-	567	546	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			18.4			14.8		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	281	1036	-	-	1217	-	-	395
HCM Lane V/C Ratio	0.046	0.047	-	-	0.005	-	-	0.073
HCM Control Delay (s)	18.4	8.6	0	-	8	0	-	14.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

02/24/2020

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	27	0	9	0	348	8	14	330	3
Future Vol, veh/h	1	1	0	27	0	9	0	348	8	14	330	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	33	0	11	0	419	10	17	398	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	864	863	400	859	860	424	402	0	0	429	0	0
Stage 1	434	434	-	424	424	-	-	-	-	-	-	-
Stage 2	430	429	-	435	436	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	277	295	654	279	296	634	1146	-	-	1136	-	-
Stage 1	604	585	-	612	590	-	-	-	-	-	-	-
Stage 2	607	587	-	604	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	268	289	654	274	290	634	1146	-	-	1136	-	-
Mov Cap-2 Maneuver	268	289	-	274	290	-	-	-	-	-	-	-
Stage 1	604	574	-	612	590	-	-	-	-	-	-	-
Stage 2	597	587	-	591	572	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.1		18.1		0		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1146	-	-	278	319	1136	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.136	0.015	-	-
HCM Control Delay (s)	0	-	-	18.1	18.1	8.2	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

HCM 6th TWSC

1: N 7th Street & E Main Street

08/17/2020

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	343	11	5	214	2	35	0	16	25	0	37
Future Vol, veh/h	9	343	11	5	214	2	35	0	16	25	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	92	92	90	90	92	92	92	90	92	90
Heavy Vehicles, %	3	3	2	2	3	3	2	2	2	2	2	2
Mvmt Flow	10	381	12	5	238	2	38	0	17	28	0	41
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	393	0	0	677	657	387	665	662	239
Stage 1	-	-	-	-	-	-	407	407	-	249	249	-
Stage 2	-	-	-	-	-	-	270	250	-	416	413	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1321	-	-	1166	-	-	367	385	661	374	382	800
Stage 1	-	-	-	-	-	-	621	597	-	755	701	-
Stage 2	-	-	-	-	-	-	736	700	-	614	594	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1321	-	-	1166	-	-	344	379	661	360	376	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	379	-	360	376	-
Stage 1	-	-	-	-	-	-	615	591	-	747	697	-
Stage 2	-	-	-	-	-	-	695	697	-	592	588	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			15.3			12.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	405	1321	-	-	1166	-	-	536				
HCM Lane V/C Ratio	0.137	0.008	-	-	0.005	-	-	0.129				
HCM Control Delay (s)	15.3	7.7	0	-	8.1	0	-	12.7				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.4				

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

08/17/2020

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	38	0	24	0	240	10	77	269	0
Future Vol, veh/h	1	2	0	38	0	24	0	240	10	77	269	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	43	0	27	0	270	11	87	302	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	765	757	302	753	752	276	302	0	0	281	0	0
Stage 1	476	476	-	276	276	-	-	-	-	-	-	-
Stage 2	289	281	-	477	476	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	323	339	742	326	339	763	1220	-	-	1264	-	-
Stage 1	574	560	-	730	682	-	-	-	-	-	-	-
Stage 2	723	682	-	569	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	292	311	742	304	311	763	1220	-	-	1264	-	-
Mov Cap-2 Maneuver	292	311	-	304	311	-	-	-	-	-	-	-
Stage 1	574	514	-	730	682	-	-	-	-	-	-	-
Stage 2	697	682	-	519	511	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17		16		0		1.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	304	396	1264	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.176	0.068	-	-
HCM Control Delay (s)	0	-	-	17	16	8.1	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.2	-	-

HCM 6th TWSC

1: N 7th Street & E Main Street

08/17/2020

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	305	38	16	456	28	22	0	10	8	0	19
Future Vol, veh/h	45	305	38	16	456	28	22	0	10	8	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	92	92	93	93	92	92	92	93	92	93
Heavy Vehicles, %	4	4	2	2	2	2	2	2	2	0	2	0
Mvmt Flow	48	328	41	17	490	30	24	0	11	9	0	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	520	0	0	369	0	0	994	999	349	989	1004	505
Stage 1	-	-	-	-	-	-	445	445	-	539	539	-
Stage 2	-	-	-	-	-	-	549	554	-	450	465	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.12	6.52	6.22	7.1	6.52	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.52	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.518	4.018	3.318	3.5	4.018	3.3
Pot Cap-1 Maneuver	1036	-	-	1190	-	-	224	243	694	228	242	571
Stage 1	-	-	-	-	-	-	592	575	-	530	522	-
Stage 2	-	-	-	-	-	-	520	514	-	592	563	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1036	-	-	1190	-	-	203	224	694	211	223	571
Mov Cap-2 Maneuver	-	-	-	-	-	-	203	224	-	211	223	-
Stage 1	-	-	-	-	-	-	557	541	-	499	512	-
Stage 2	-	-	-	-	-	-	491	504	-	548	530	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.3			20.9			15.3		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	261	1036	-	-	1190	-	-	379				
HCM Lane V/C Ratio	0.133	0.047	-	-	0.015	-	-	0.077				
HCM Control Delay (s)	20.9	8.6	0	-	8.1	0	-	15.3				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.2				

HCM 6th TWSC

2: S Pine Street & W Polk Street/E Polk Street

08/17/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	31	0	9	0	348	14	14	330	3
Future Vol, veh/h	1	1	0	31	0	9	0	348	14	14	330	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	37	0	11	0	419	17	17	398	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	867	870	400	863	864	428	402	0	0	436	0	0
Stage 1	434	434	-	428	428	-	-	-	-	-	-	-
Stage 2	433	436	-	435	436	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	275	292	654	277	294	631	1146	-	-	1129	-	-
Stage 1	604	585	-	609	588	-	-	-	-	-	-	-
Stage 2	605	583	-	604	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	266	286	654	272	288	631	1146	-	-	1129	-	-
Mov Cap-2 Maneuver	266	286	-	272	288	-	-	-	-	-	-	-
Stage 1	604	574	-	609	588	-	-	-	-	-	-	-
Stage 2	595	583	-	591	572	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.2		18.6		0		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1146	-	-	276	312	1129	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.154	0.015	-	-
HCM Control Delay (s)	0	-	-	18.2	18.6	8.2	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-



Exhibit F: Geotechnical Engineering Report



Geotechnical Engineering Report

JR Meadows No. 2
10215 NE Old McMinnville Hwy
Carlton, Oregon 97111
Tax Lot 1300, Yamhill County Tax Map 3 4 22

GeoPacific Engineering, Inc. Job No. 20-5415
August 20, 2020



**Real-World Geotechnical Solutions
Investigation • Design • Construction Support**

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**Real-World Geotechnical Solutions
Investigation • Design • Construction Support**

August 20, 2020
Project No. 20-5415

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TJA, LLC
9110 NW Clay Pit Road
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**SUBJECT: GEOTECHNICAL ENGINEERING REPORT
JR MEADOWS NO. 2
10215 NE OLD MCMINNVILLE HWY
CARLTON, OREGON 97111
TAX LOT 1300 YAMHILL COUNTY TAX MAP 3 4 22**

1.0 PROJECT INFORMATION

This report presents the results of a geotechnical engineering study conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our investigation was to evaluate subsurface conditions at the site, and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with GeoPacific Proposal No. P-7137, dated October 22, 2019, and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*.

Site Location: 10215 NE Old McMinnville Hwy
Carlton, Oregon 97111
(see Figures 1 through 3)

Civil Engineer: AKS Engineering, LLC
12965 SW Herman Rd, STE 100
Tualatin, Oregon 97062
Phone: (503) 563-6151

Jurisdictional Agency: Yamhill County, Oregon

Geotechnical Engineer: GeoPacific Engineering, Inc
14835 SW 72nd Avenue
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Phone: (503) 598-8445
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2.0 SITE AND PROJECT DESCRIPTION

As indicated on Figures 1 through 3, the subject site is located at 10215 NE Old McMinnville Hwy in Carlton, Oregon. The site is comprised Yamhill County Tax Lot 1300 on tax map 3 4 22, totaling approximately 18.6-acres in size. Approximately 14.35-acres of the property is proposed for development. The site latitude and longitude are 45.288798, -123.166317, and the legal description is the SE ¼ of Section 22, T3S, R4W, Willamette Meridian. The site is bordered by NE Old McMinnville Hwy to the east, and by existing agricultural and residential properties to the north, west, and south. Topography at the site is relatively level to moderately sloping. The northeastern portion of the site contains an area which slopes at an approximate 50 percent gradient over an approximately 12-foot vertical change. In general, the site slopes are gentle and slope to the north and west. Site elevations ranging from approximately 144 to 172 feet above mean sea level (amsl).

The property contains an existing residential home and various storage areas for vehicles and equipment, primarily located in the 4.28-acres not currently proposed for development. Gravel drives extend into the site from NE Old McMinnville Hwy, soil stockpiles have been bermed along the margins of the gravel drives. At the western end of the gravel drive there is an area where some vehicles and soil stockpiles are present within the proposed development area. The remainder of the site consists of an open grassy field surrounded by heavily vegetated coniferous areas. As shown on Figure 2, the heavily vegetated areas are present at the western and northeastern portions of the site. The coniferous areas also contain thick scrub oak, blackberries, and understory vegetation.

Based upon our review of site plans and communication with the civil engineer, GeoPacific understands that the proposed development at the site will consist of construction of 55 residential building lots, new public streets, and new underground utilities. We anticipate that the homes will be constructed with typical spread foundations and wood framing, with maximum structural loading on column footings and continuous strip footings on the order of 10 to 35 kips, and 2 to 4 kips respectively. We have not reviewed a grading plan at this time but anticipate that cuts and fills will be proposed on the order of 10 feet or less. We understand that the northeastern portion of the site is located within the FEMA 100-Year flood zone, and that a seasonal stream is mapped as flowing through the area. Based on our review of the proposed development it appears that this area is largely located outside of the development area, however the proposed stormwater Tract A may encroach into the zone.

3.0 REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

According to the *Geologic Map of the Carlton Quadrangle, Yamhill County, Oregon, U.S. Geological Survey, Open-File Report 2009-1172, 2009*, the site is underlain by upper Pleistocene-aged (approximately 14,000 years ago), unconsolidated fine-grained sediment

Geotechnical Engineering Report
Project No. 20-5415, JR Meadows No. 2, Carlton, Oregon

consisting of clay, silt, and fine sand, deposited by repeated catastrophic glacial outburst flooding of Glacial Lake Missoula (Qff) that flowed down the Columbia River and re-deposited in the Willamette Valley. The geologic map indicates that in the northeastern portion of the site, the site is underlain by Holocene-aged (approximately 10,000 years ago to present), alluvial deposits (Qa) consisting of unconsolidated clay, silt, sand, and gravel deposited on floodplains and in stream channels.



Geologic Map of the Carlton Quadrangle, Yamhill County, Oregon, 2009. Site Location Indicated with Red Diamond.

The *Web Soil Survey* (United States Department of Agriculture, Natural Resource Conservation Service (USDA NRCS 2020 Website), indicates that near-surface soils primarily consist of the Amity, Waldo, and Woodburn silt loam soils series. These soils generally consist of very deep, poorly drained, to moderately well drained soils, that formed in silty stratified, glaciolacustrine deposits.

4.0 REGIONAL SEISMIC SETTING

At least three major fault zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone.

4.1 Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults reportedly vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills and is located approximately 28 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills and is located approximately 25.5 miles northeast of the site. The East Bank Fault occurs along the eastern margin of the Willamette River, and is located approximately 29 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000).

According to the USGS Earthquake Hazards Program, the fault was originally mapped as a down-to-the-northeast normal fault but has also been mapped as part of a regional-scale zone of right-lateral, oblique slip faults, and as a steep escarpment caused by asymmetrical folding above a south-west dipping, blind thrust fault. The Portland Hills fault offsets Miocene Columbia River Basalts, and Miocene to Pliocene sedimentary rocks of the Troutdale Formation. No fault scarps on surficial Quaternary deposits have been described along the fault trace, and the fault is mapped as buried by the Pleistocene aged Missoula flood deposits. No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

4.2 Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 6.5 miles northeast of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek Fault or Newberg Fault (the fault closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

According to the USGS Earthquake Hazards Program, the Mount Angel fault is mapped as a high-angle, reverse-oblique fault, which offsets Miocene rocks of the Columbia River Basalts, and Miocene and Pliocene sedimentary rocks. The fault appears to have controlled emplacement of the Frenchman Spring Member of the Wanapum Basalts, and thus must have a history that predates the Miocene age of these rocks. No unequivocal evidence of deformation of Quaternary deposits has been described, but a thick sequence of sediments deposited by the Missoula floods covers much of the southern part of the fault trace.

4.3 Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies approximately along the Oregon Coast at depths of between 20 and 40 kilometers below the surface.

5.0 FIELD EXPLORATION AND SUBSURFACE CONDITIONS

Our subsurface explorations for this report were conducted on February 19, 2019. Eight exploratory test pits (TP-1 through TP-8) were excavated at the site to a maximum depth of approximately 11 feet bgs using a Case, 16,000 lbs rubber-tired backhoe subcontracted by GeoPacific. Explorations were conducted under the full-time observation of a GeoPacific geologist. During the explorations, pertinent information including soil sample depths, stratigraphy, soil engineering characteristics, and groundwater occurrence were recorded. Soils were classified in accordance with the Unified Soil Classification System (USCS). Soil samples obtained from the explorations were placed in relatively air-tight plastic bags. Upon completion of excavation and testing the explorations were loosely backfilled with onsite soils. The approximate locations of the explorations are indicated on Figures 2 and 3. It should be noted that exploration locations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate. Summary exploration logs are attached. The stratigraphic contacts shown on the individual test pit logs represent the approximate boundaries between soil types. The actual transitions may be more gradual. The soil and groundwater conditions depicted are only for the specific dates and locations reported, and therefore, are not necessarily representative of other locations and times. Soil and groundwater conditions encountered in the explorations are summarized below.

5.1 Soil Descriptions

Topsoil:

At the locations of our test pit explorations in the grassy portions of the property the topsoil horizon was typically observed to consist of 6 to 8 inches of brown, moderately organic SILT (OL-ML), containing fine roots. At the locations of test pits TP-5 and TP-6 which were conducted in the densely wooded western portion of the site, the topsoil horizon was observed to consist of 24 to 30 inches dark brown, highly organic SILT (OL-ML), containing abundant roots.

SILT: Underlying the topsoil within our test pit explorations soils were observed to consist of brown with some orange mottling, medium stiff to stiff, very moist to wet, low plasticity, SILT (ML). In general soil strength was observed to increase at depths of 2 to 3 feet below the existing ground surface. The soil type was observed to extend to the maximum depth of exploration (11 feet bgs).

Soils laboratory testing conducted on representative samples collected from test pits TP-1 and TP-3 indicated that the soil type classified as SILT (ML) according to the USCS soil classification system, and as A-6(13), A-6(14), and A-7-5(20) according to AASHTO standards. Sieve analysis indicated 98 to 99 percent by weight passing the U.S. No. 200 sieve, and moisture content of 32 to 38 percent. Atterberg Limit testing indicated a liquid limit of 38 to 48, and a plasticity index of 10 to 16. Pocket penetrometer measurements conducted within the upper four feet of the ground surface below the topsoil layers ranged from approximately 1.5 to greater than 4.0 tons/ft².

5.2 Shrink-Swell Potential

Fine-grained soils were encountered within test pit explorations conducted at the site. Based upon the results of our soils laboratory testing and our local experience with the soil layers in the vicinity of the subject site, the plasticity of the soils is low, and the shrink-swell potential of the soil types is considered to be low. Special design measures are not considered necessary to minimize the risk of uncontrolled damage of foundations as a result of potential soil expansion at this site.

5.3 Groundwater and Soil Moisture

On February 19, 2020, observed soil moisture conditions were generally very moist to wet. Light perched groundwater seepage was observed within test pits TP-7 and TP-8 at depths of approximately 2 to 4 feet bgs. Surface streaming flow was observed in the western portion of the site at the approximate location indicated on Figure 2. Test pit TP-5 conducted in that area show that the standing water was perched on the ground surface and is likely seasonal. According to review of available Oregon State well logs in the vicinity of the subject site, groundwater has been encountered at depths ranging from approximately 15 to 30 feet bgs in the vicinity of the subject site. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors. Perched groundwater may be encountered in localized areas. Seeps and springs may exist in areas not explored and may become evident during site grading.

5.4 Infiltration Testing

Soil infiltration testing was performed using the encased falling-head test method at a depth of 10 feet bgs within test pit TP-3 in accordance with the methodology of ASTM standards, and the 2016 City of Portland Stormwater Management Manual. The approximate location of the subsurface exploration is indicated on Figures 2 and 3. The test location was pre-saturated prior to testing. During testing the water level was measured to the nearest 0.01 foot (1/8 inch) from a fixed point, and the change in water level was recorded at regular intervals until three successive measurements showing a consistent infiltration rate were achieved.

Table 1 summarizes the results of the infiltration testing. Infiltration rates have been reported without applying a factor of safety. Soils at the test locations were observed and sampled in order to characterize the subsurface profile. Tested native soils classified as Silt (ML).

Table 1: Summary of Infiltration Test Results

Test Location	Test Designation	Depth (feet)	Soil Type	% Passing U.S. No 200 Sieve	Infiltration Rate (inches/hr)	Hydraulic Head Range (inches)	Test Type
TP-3	IT-1	10	ML	99.1	0	0-12	Encased-Falling Head

No infiltration was measured at the location and depth tested. During testing the water level was observed to rise within the encased tube indicating near saturated soil conditions. Based upon the results of our testing it appears that stormwater infiltration systems are not geotechnically feasible at the location and depth tested.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned disposal systems. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies. Evaluating environmental implications of stormwater disposal at this site are beyond the scope of this study.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Our site investigation indicates that the proposed construction appears to be geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The primary geotechnical concerns associated with site development are 1) thick topsoil layers in heavily wood portions of the site; and 2) the presence of soil stockpiles in areas proposed for development.

6.1 Site Preparation Recommendations

Areas of proposed construction and areas to receive fill should be cleared of any organic and inorganic debris, and loose stockpiled soils. Inorganic debris and organic materials from clearing should be removed from the site. Organic-rich soils and root zones should then be stripped from construction areas of the site or where engineered fill is to be placed. Depth of stripping of existing organic topsoil is estimated to be approximately 6 to 8 inches in the open grassy portions of the site and should be anticipated to increase to 18 to 36 inches in areas where trees and vegetation are present.

The final depth of soil removal should be determined by the geotechnical engineer or designated representative during site inspection while stripping/excavation is being performed. Stripped topsoil should be removed from areas proposed for placement of engineered fill and structures. Any remaining topsoil should be stockpiled only in designated areas and stripping operations should be observed and documented by the geotechnical engineer or his representative.

Where/if encountered, except as noted above, undocumented fills and any subsurface structures (dry wells, basements, driveway and landscaping fill, old utility lines, septic leach fields, etc.) should be completely removed and the excavations backfilled with engineered fill. As indicated on Figure 2, stockpiled soils are present in the northeastern portion of the site.

Site earthwork may be impacted by wet weather conditions. Stabilization of subgrade soils may require aeration and recompaction. If subgrade soils are found to be difficult to stabilize, over-excavation, placement of granular soils, or cement treatment of subgrade soils may be feasible options. GeoPacific should be onsite to observe preparation of subgrade soil conditions prior to placement of engineered fill.

6.2 Engineered Fill

We have not reviewed a grading plan at this time but anticipate that cuts and fills will be proposed on the order of 10 feet or less. All grading for the proposed construction should be performed as engineered grading in accordance with the applicable building code at the time of construction with the exceptions and additions noted herein. Site grading should be conducted in accordance with

the requirements outlined in the 2018 International Building Code (IBC), and 2019 Oregon Structural Specialty Code (OSSC), Chapter 18 and Appendix J. Areas proposed for fill placement should be prepared as described in Section 6.1, *Site Preparation Recommendations*. Surface soils should then be scarified and recompacted prior to placement of structural fill. Site preparation, soil stripping, and grading activities should be observed and documented by a geotechnical engineer or his representative. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill.

Onsite native soils appear to be suitable for use as engineered fill. Soils containing greater than 5 percent organic content should not be used as structural fill. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 12 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95 percent of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Soils should be moisture conditioned to within two percent of optimum moisture. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd³, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Site earthwork may be impacted by shallow groundwater, soil moisture and wet weather conditions. Earthwork in wet weather would likely require extensive use of additional crushed aggregate, cement or lime treatment, or other special measures, at considerable additional cost compared to earthwork performed under dry-weather conditions.

6.3 Excavating Conditions and Utility Trench Backfill

We anticipate that onsite soils can generally be excavated using conventional heavy equipment. Bedrock was not encountered within our subsurface explorations which extended to a maximum depth of 11 feet bgs. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926) or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. These cut slope inclinations are applicable to excavations above the water table only.

Shallow, perched groundwater may be encountered at the site and should be anticipated in excavations and utility trenches. Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

Underground utility pipes should be installed in accordance with the procedures specified in ASTM D2321 and Yamhill County standards. We recommend that structural trench backfill be compacted to at least 95 percent of the maximum dry density obtained by the Standard Proctor (ASTM D698, AASHTO T-99) or equivalent. Initial backfill lift thicknesses for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 100-lineal-foot section of trench.

6.4 Erosion Control Considerations

During our field exploration program, we did not observe soil conditions which are considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw wattles, fiber rolls, and silt fences. If used, these erosion control devices should remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

6.5 Wet Weather Earthwork

Soils underlying the site are likely to be moisture sensitive and will be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will require expensive measures such as cement treatment or imported granular material to compact areas where fill may be proposed to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;

- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent passing the No. 200 sieve. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

6.6 Spread Foundations

Based upon our review of site plans and communication with the civil engineer, GeoPacific understands that the proposed development at the site will consist of construction of 55 residential building lots. We anticipate that the homes will be constructed with typical spread foundations and wood framing, with maximum structural loading on column footings and continuous strip footings on the order of 10 to 35 kips, and 2 to 4 kips respectively.

The proposed structures may be supported on shallow foundations bearing on stiff, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 12 inches below exterior grade. If soft soil conditions are encountered at footing subgrade elevation, they should be removed and replaced with compacted crushed aggregate.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft² for footings bearing on competent, native soil and/or engineered fill. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For loads heavier than 35 kips, the geotechnical engineer should be consulted. If heavier loads than described above are proposed, it may be necessary to over-excavate point load areas and replace with additional compacted crushed aggregate to achieve a higher allowable bearing capacity. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.42, which includes no factor of safety. The maximum anticipated total and differential footing movements (generally from soil expansion and/or settlement) are 1 inch and ¾ inch over a span of 20 feet, respectively. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil and any disturbed soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require over-excavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for residential construction incorporating raised wood floors and conventional spread footing foundations. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

6.7 Concrete Slabs-on-Grade

Preparation of areas beneath concrete slab-on-grade floors should be performed as described in Section 6.1, *Site Preparation Recommendations* and Section 6.6, *Spread Foundations*. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed, and the removal zone backfilled with additional crushed rock.

For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 150 kcf (87 pci) should be assumed for the medium dense, fine to coarse-grained soils anticipated to be present at foundation subgrade elevation following adequate site preparation as described above. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of 8 inches of 1½"-0 crushed aggregate beneath the slab. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of construction and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D1557 (Modified Proctor) or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. A commonly applied vapor barrier system consists of a 10-mil polyethylene vapor barrier placed directly over the capillary break material. Other damp/vapor barrier systems may also be feasible. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

6.8 Footing and Roof Drains

Construction should include typical measures for controlling subsurface water beneath the structures, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the exposed ground in the crawlspace, and crawlspace ventilation (foundation vents). The client should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the structures given these

other design elements incorporated into construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point and storm system well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Perimeter footing drains may be eliminated at the discretion of the geotechnical engineer based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed. If concrete slab-on-grade floors are used, perimeter footing drains should be installed as recommended below.

Where deemed necessary, perimeter footing drains should consist of 3 or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, free-draining drain rock. The drain-pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. Figure 4 presents a typical perimeter footing drain detail. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to meet the street.

6.9 Permanent Below-Grade Walls

Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

If the subject retaining walls will be free to rotate at the top, they should be designed for an active earth pressure equivalent to that generated by a fluid weighing 35 pcf for level backfill against the wall. For restrained wall, an at-rest equivalent fluid pressure of 52 pcf should be used in design, again assuming level backfill against the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 6.5H, where H is the total height of the wall.

We assume relatively level ground surface below the base of the walls. As such, we recommend a passive earth pressure of 320 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and GeoPacific should be contacted for additional recommendations.

A coefficient of friction of 0.42 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12 to 18-inch wide zone of sand and gravel containing less than 5 percent passing the No. 200 sieve against the walls. A 3-inch minimum diameter perforated, plastic drain-pipe should be installed at the base of the walls and connected to a suitable discharge point to remove water in this zone of sand and gravel. The drain-pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging.

Wall drains are recommended to prevent detrimental effects of surface water runoff on foundations – not to dewater groundwater. Drains should not be expected to eliminate all potential sources of water entering a basement or beneath a slab-on-grade. An adequate grade to a low point outlet drain in the crawlspace is required by code. Underslab drains are sometimes added beneath the slab when placed over soils of low permeability and shallow, perched groundwater.

Water collected from the wall drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. Down spouts and roof drains should not be connected to the wall drains in order to reduce the potential for clogging. The drains should include clean-outs to allow periodic maintenance and inspection. Grades around the proposed structure should be sloped such that surface water drains away from the building.

GeoPacific should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Structures should be located a horizontal distance of at least 1.5H away from the back of the retaining wall, where H is the total height of the wall. GeoPacific should be contacted for additional foundation recommendations where structures are located closer than 1.5H to the top of any wall.

7.0 SEISMIC DESIGN

The Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon HazVu: 2020 Statewide GeoHazards Viewer indicates that the site is in an area where *very strong* ground shaking is anticipated during an earthquake. Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2018 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2019). We recommend Site Class D be used for design as defined in ASCE 7-16, Chapter 20, and Table 20.3-1. Design values determined for the site using the ATC Hazards by Location 2020 Seismic Design Maps Summary Report are summarized in Table 2 and are based upon observed existing soil conditions.

Table 2: Recommended Earthquake Ground Motion Parameters (ASCE-7-16)

Parameter	Value
Location (Lat, Long), degrees	45.288, -123.166
Probabilistic Ground Motion Values, 2% Probability of Exceedance in 50 yrs	
Peak Ground Acceleration PGA_M	0.499 g
Short Period, S_s	0.909 g
1.0 Sec Period, S_1	0.453 g
Soil Factors for Site Class D:	
F_a	1.136
* F_v	1.847
$SD_s = 2/3 \times F_a \times S_s$	0.689 g
* $SD_1 = 2/3 \times F_v \times S_1$	0.558 g
Seismic Design Category	D

* F_v value reported in the above table is a straight-line interpolation of mapped spectral response acceleration at 1-second period, S_1 per Table 1613.2.3(2) with the assumption that Exception 2 of ASCE 7-16 Chapter 11.4.8 is met per the Structural Engineer. If Exception 2 is not met, and the long-period site coefficient (F_v) is required for design, GeoPacific Engineering can be consulted to provide a site-specific procedure as per ASCE 7-16, Chapter 21.

7.1 Soil Liquefaction

The Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon HazVu: 2020 Statewide GeoHazards Viewer indicates that the site is in an area considered to be at *high* risk for soil liquefaction during an earthquake. Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to ground shaking caused by strong earthquakes. Soil liquefaction is generally limited to loose sands and granular soils located below the water table, and fine-grained soils with a plasticity index less than 15. The upper 11 feet of the site was observed to be underlain by medium stiff to stiff, low plasticity, SILT located above the static water table, with plasticity indexes ranging from 10 to 16. On February 19, 2020, observed soil moisture conditions were generally very moist to wet. Light perched groundwater seepage was observed within test pits TP-7 and TP-8 at depths of approximately 2 to 4 feet bgs. Static groundwater was not observed. Surface streaming flow was observed in the western portion

of the site at the approximate location indicated on Figure 2. Based upon the results of our study, it is our opinion that the risk of soil liquefaction in the upper 11 feet of the ground surface during a seismic event at the subject site should be considered to be low, however if sandy soil layers are present at greater depths located below the static groundwater table (anticipated to be 15 to 30 feet bgs), then the risk of soil liquefaction may be higher.

If additional information is desired or required regarding the soil liquefaction potential of the subject site during an earthquake, quantitative liquefaction analysis can be performed by GeoPacific. Additional study of liquefaction potential would include conducting an electronic cone penetrometer test (CPT) to a depth of 60 feet bgs, or bedrock refusal, and quantitative liquefaction calculations to estimate seismically induced vertical settlements and lateral spreading.

8.0 UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

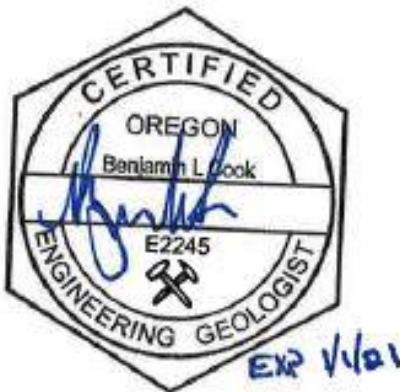
Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, GeoPacific attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

We appreciate this opportunity to be of service.

Sincerely,

GEO-PACIFIC ENGINEERING, INC.



Benjamin L. Cook, C.E.G.
Senior Engineering Geologist



James D. Imbrie, G.E.
Principal Geotechnical Engineer

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CHECKLIST OF RECOMMENDED GEOTECHNICAL TESTING AND OBSERVATION

Item No.	Procedure	Timing	By Whom	Done
1	Preconstruction meeting	Prior to beginning site work	Contractor, Developer, Civil and Geotechnical Engineers	
2	Fill removal from site or sorting and stockpiling	Prior to mass stripping	Soil Technician/ Geotechnical Engineer	
3	Stripping, aeration, and root-picking operations	During stripping	Soil Technician	
4	Compaction testing of engineered fill (95% of Standard Proctor)	During filling, tested every 2 vertical feet	Soil Technician	
5	Foundation Subgrade Compaction (95% of Modified Proctor)	During Foundation Preparation, Prior to Placement of Reinforcing Steel	Soil Technician/ Geotechnical Engineer	
6	Compaction testing of trench backfill (95% of Standard Proctor)	During backfilling, tested every 4 vertical feet for every 200 linear feet	Soil Technician	
7	Street Subgrade Inspection (95% of Standard Proctor)	Prior to placing base course	Soil Technician	
8	Base course compaction (95% of Modified Proctor)	Prior to paving, tested every 200 linear feet	Soil Technician	
9	Asphalt Compaction (92% Rice Value)	During paving, tested every 100 linear feet	Soil Technician	
10	Final Geotechnical Engineer's Report	Completion of project	Geotechnical Engineer	



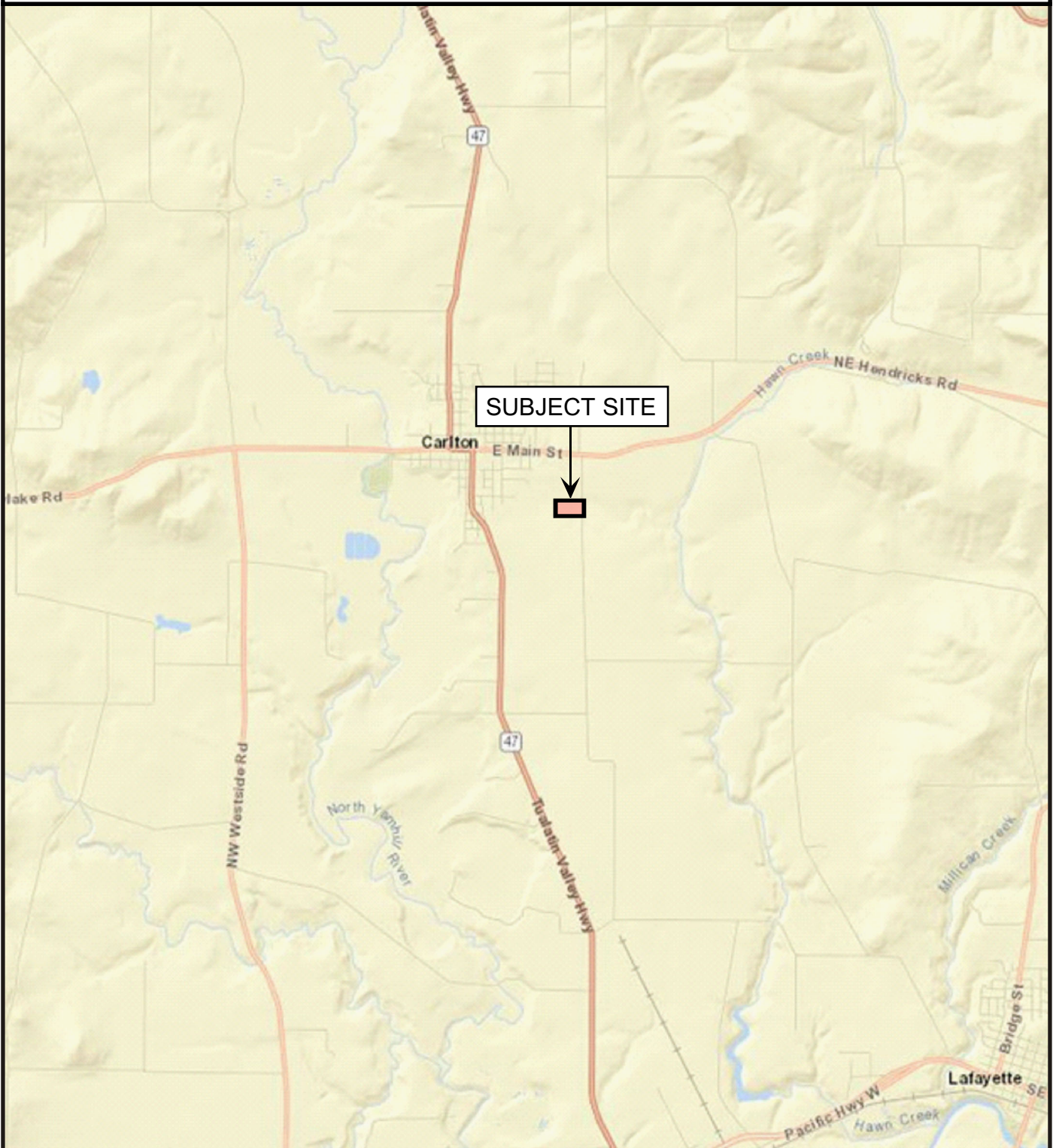
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FIGURES



14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

SITE VICINITY MAP



Base Map: Street View, 2020
Date: 3/6/2020
Drawn by: BLC



Project: 10215 NE Old McMinnville Hwy
Tax Lot 1300 Yamhill County Tax Map 3 4 22
Carlton, Oregon 97111

Project No. 20-5415

FIGURE 1



14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

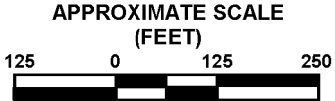
SITE AERIAL AND EXPLORATION LOCATIONS



Base Map Obtained From Google Earth 2020

Legend:

-  Test Pit Exploration Designation and Approximate Location
-  Test Pit With Infiltration Test Exploration Designation and Approximate Location



Drawn By: BLC
Date: 8/21/2020



Project: JR Meadows No. 2
10215 NE Old McMinnville Hwy
Carlton, Oregon 9711

Project No. 20-5415

FIGURE 2





14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

SITE PLAN AND EXPLORATION LOCATIONS



Base Map: AKS Engineering, Preliminary Aerial Photograph Plan, JR Meadows No. 2, Sheet P-12, dated 8/13/2020

Legend:

-  Test Pit Exploration Designation and Approximate Location
-  Test Pit With Infiltration Test Exploration Designation and Approximate Location

APPROXIMATE SCALE
(AS NOTED)
Drawn By: BLC
Date: 8/20/2020



Project: JR Meadows No. 2
10215 NE Old McMinnville Hwy
Carlton, Oregon 9711

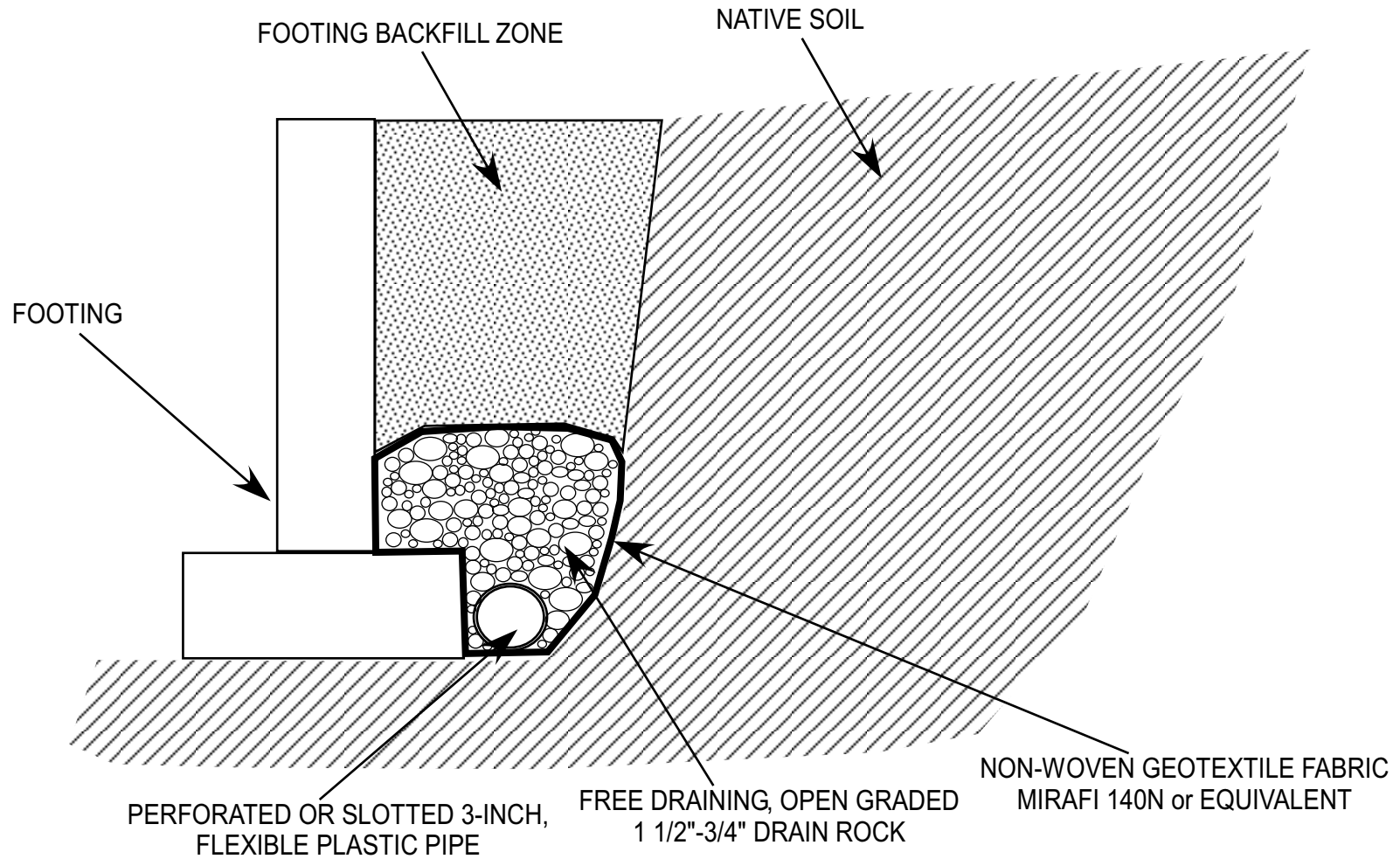
Project No. 20-5415

FIGURE 3



14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TYPICAL PERIMETER FOOTING DRAIN DETAIL



Notes:

- 1) Drain rock should contain no more than 5 percent fines passing the U.S. No. 200 Sieve.
- 2) Trench bottom and drain pipe should be sloped to drain to approved discharge location.

Date: 3/6/2020
Drawn by: BLC

Project: 10215 NE Old McMinnville Hwy
Tax Lot 1300, Yamhill County Tax Map 3 4 22
Carlton, Oregon 9711

Project No. 20-5415

FIGURE 4



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EXPLORATION LOGS






14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy
Carlton, Oregon

Project No. 20-5415

Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 8 inches bgs.
2	3.0						SILT (ML), brown with some mottling and minor mica content, medium stiff to stiff, very moist, low to moderate plasticity.
3	3.5			98.5	38.8		AASHTO Classification= A-7-5(20); LL=48; PI=16
4	3.5						
5							
6				99.1	37.7		AASHTO Classification= A-6(14); LL=40; PI=11
7							
8							
9				99.7	35.2		AASHTO Classification= A-6(13); LL=38; PI=10
10							
11							Test pit terminated at 11 feet bgs. No groundwater observed
12							
13							
14							
15							
16							
17							

LEGEND



Bag Sample



5 Gal. Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 2/19/2020

Logged By: B. Cook

Surface Elevation: 157 Feet









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy Carlton, Oregon	Project No. 20-5415	Test Pit No. TP-2
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	3.5						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 8 inches bgs.
2	3.5						SILT (ML), brown with some mottling and minor mica content, medium stiff to stiff becoming hard below 4 feet, very moist, low to moderate plasticity.
3	3.5						
4	4.0						
5							
6							
7							
8							
9							
10							
11							
12							Test pit terminated at 12 feet bgs. No groundwater observed
13							
14							
15							
16							
17							

LEGEND

 Bag Sample	 Bucket Sample	 Shelby Tube Sample	 Seepage	 Water Bearing Zone	 Water Level at Abandonment
---	--	---	--	---	--

Date Excavated: 2/19/2020
 Logged By: B. Cook
 Surface Elevation: 159 Feet




14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy
Carlton, Oregon

Project No. 20-5415

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.5						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 8 inches bgs.
2	3.0						SILT (ML), brown with some mottling and minor mica content, medium stiff to stiff becoming hard below 4 feet, very moist, low to moderate plasticity.
3	3.5						
4	4.0						
5							
6							
7							
8							
9				99.1	31.8		AASHTO Classification= A-7-5(20); LL=46; PI=16
10							Test pit terminated at 10 feet bgs. No groundwater observed
11							
12							Infiltration test IT-1 conducted at -10 feet. Encased falling head test method, 6-inch diameter pipe. Measured infiltration rate 0.1 inches per hour.
13							
14							
15							
16							
17							

LEGEND



Bag Sample



5 Gal. Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 2/19/2020

Logged By: B. Cook

Surface Elevation: 158 Feet



14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy
Carlton, Oregon

Project No. 20-5415

Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 6 inches bgs.
2	3.0						SILT (ML), brown with some mottling and minor mica content, medium stiff to stiff, very moist, low to moderate plasticity.
3	3.5						
4	3.5						
5							
6							
7							
8							
9							Test pit terminated at 9 feet bgs. No groundwater observed
10							
11							
12							
13							
14							
15							
16							
17							

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 2/19/2020

Logged By: B. Cook

Surface Elevation: 165 Feet



14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy
Carlton, Oregon

Project No. 20-5415

Test Pit No. **TP-5**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	0.25						TOPSOIL. Heavily wooded area. Surface stream flow in area of test pit. Organic SILT (OL-ML), dark brown, wet, tree roots, extends to approximately 30 inches bgs.
2	0.25						
3	0.25						SILT (ML), brown with orange mottling, medium stiff to stiff, very moist, low to moderate plasticity.
4	3.0						
5							Test pit terminated at 10 feet bgs. No groundwater observed
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							

LEGEND



Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 2/19/2020

Logged By: B. Cook

Surface Elevation: 166 Feet









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy Carlton, Oregon	Project No. 20-5415	Test Pit No. TP-6
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	0.25						TOPSOIL. Heavily wooded area. Organic SILT (OL-ML), dark brown, very moist, tree roots, extends to approximately 24 inches bgs.
2	0.5						SILT (ML), brown with orange mottling, medium stiff to stiff, very moist, low to moderate plasticity.
3	3.0						
4	3.0						
5							
6							
7							
8							
9							
10							Test pit terminated at 10 feet bgs. No groundwater observed
11							
12							
13							
14							
15							
16							
17							

LEGEND

 Bag Sample	 Bucket Sample	 Shelby Tube Sample	 Seepage	 Water Bearing Zone	 Water Level at Abandonment
--	---	--	---	--	---



Date Excavated: 2/19/2020
 Logged By: B. Cook
 Surface Elevation: 171 Feet









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy Carlton, Oregon	Project No. 20-5415	Test Pit No. TP-7
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 6 inches bgs.
2	3.0						SILT (ML), brown with some mottling and minor mica content, medium stiff, very moist to wet, low to moderate plasticity.
3	3.5						Light perched groundwater seepage 2 to 3.5 feet bgs.
4	3.5						SILT (ML), brown with some mottling and minor mica content, stiff, very moist, low to moderate plasticity.
5							
6							
7							
8							
9							Test pit terminated at 9 feet bgs.
10							Light perched groundwater seepage observed 2 to 3.5 feet bgs.
11							
12							
13							
14							
15							
16							
17							

LEGEND

 Bag Sample	 Bucket Sample	 Shelby Tube Sample	 Seepage	 Water Bearing Zone	 Water Level at Abandonment
--	---	--	---	--	---


Date Excavated: 2/19/2020
 Logged By: B. Cook
 Surface Elevation: 165 Feet









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: 10215 NE Old McMinnville Hwy Carlton, Oregon	Project No. 20-5415	Test Pit No. TP-8
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Torvane Shear (tons/ft ²)	Sample Type	% Passing No. 200 Sieve	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5						TOPSOIL. Grassy area. Organic SILT (OL-ML), brown, very moist, fine roots, extends to approximately 6 inches bgs.
2	2.0						SILT (ML), brown with some mottling and minor mica content, medium stiff, very moist to wet, low to moderate plasticity.
3	3.0						Light perched groundwater seepage 3 to 4 feet bgs.
4	3.0						SILT (ML), brown with some mottling and minor mica content, stiff, very moist, low to moderate plasticity.
5							
6							
7							
8							
9							
10							Test pit terminated at 10 feet bgs.
11							Light perched groundwater seepage observed 3-4 feet bgs.
12							
13							
14							
15							
16							
17							

LEGEND

 Bag Sample	 Bucket Sample	 Shelby Tube Sample	 Seepage	 Water Bearing Zone	 Water Level at Abandonment
--	---	--	---	--	---
















Date Excavated: 2/19/2020
 Logged By: B. Cook
 Surface Elevation: 166 Feet



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LABORATORY TEST RESULTS

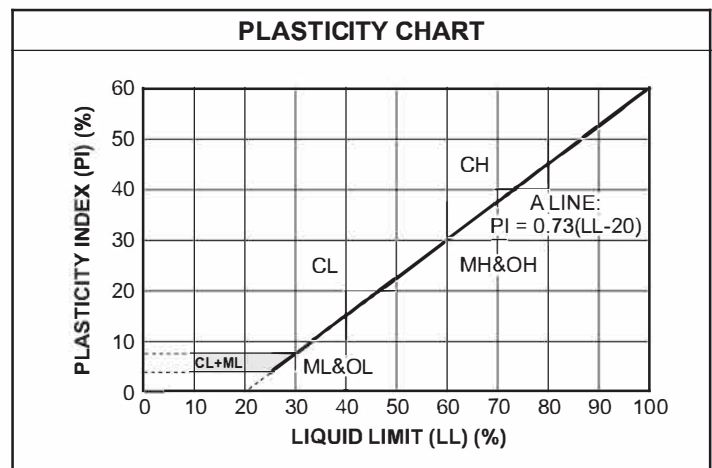
UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART		
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
Clean Gravels (Less than 5% fines)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	 GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	 GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	
	 GM	Silty gravels, gravel-sand-silt mixtures
	 GC	Clayey gravels, gravel-sand-clay mixtures
Clean Sands (Less than 5% fines)		
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	 SW	Well-graded sands, gravelly sands, little or no fines
	 SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	 SM	Silty sands, sand-silt mixtures
	 SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)		
SILTS AND CLAYS Liquid limit less than 50%	 ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	 CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	 OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater	 MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	 CH	Inorganic clays of high plasticity, fat clays
	 OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	 PT	Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA		
GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent GW, GP, SW, SP
 More than 12 percent GM, GC, SM, SC
 5 to 12 percent Borderline cases requiring dual symbols



SOIL DESCRIPTION AND CLASSIFICATION GUIDELINES

Particle-Size Classification

COMPONENT	ASTM/USCS		AASHTO	
	size range	sieve size range	size range	sieve size range
Cobbles	> 75 mm	greater than 3 inches	> 75 mm	greater than 3 inches
Gravel	75 mm – 4.75 mm	3 inches to No. 4 sieve	75 mm – 2.00 mm	3 inches to No. 10 sieve
Coarse	75 mm – 19.0 mm	3 inches to 3/4-inch sieve	-	-
Fine	19.0 mm – 4.75 mm	3/4-inch to No. 4 sieve	-	-
Sand	4.75 mm – 0.075 mm	No. 4 to No. 200 sieve	2.00 mm – 0.075 mm	No. 10 to No. 200 sieve
Coarse	4.75 mm – 2.00 mm	No. 4 to No. 10 sieve	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve
Medium	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve	-	-
Fine	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve
Fines (Silt and Clay)	< 0.075 mm	Passing No. 200 sieve	< 0.075 mm	Passing No. 200 sieve

Consistency for Cohesive Soil

CONSISTENCY	SPT N-VALUE (BLOWS PER FOOT)	POCKET PENETROMETER (UNCONFINED COMPRESSIVE STRENGTH, tsf)
Very Soft	2	less than 0.25
Soft	2 to 4	0.25 to 0.50
Medium Stiff	4 to 8	0.50 to 1.0
Stiff	8 to 15	1.0 to 2.0
Very Stiff	15 to 30	2.0 to 4.0
Hard	30 to 60	greater than 4.0
Very Hard	greater than 60	-

Relative Density for Granular Soil

RELATIVE DENSITY	SPT N-VALUE (BLOWS PER FOOT)
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	more than 50

Moisture Designations

TERM	FIELD IDENTIFICATION
Dry	No moisture. Dusty or dry.
Damp	Some moisture. Cohesive soils are usually below plastic limit and are moldable.
Moist	Grains appear darkened, but no visible water is present. Cohesive soils will clump. Sand will bulk. Soils are often at or near plastic limit.
Wet	Visible water on larger grains. Sand and silt exhibit dilatancy. Cohesive soil can be readily remolded. Soil leaves wetness on the hand when squeezed. Soil is much wetter than optimum moisture content and is above plastic limit.

AASHTO SOIL CLASSIFICATION SYSTEM

TABLE 1. Classification of Soils and Soil-Aggregate Mixtures

General Classification	Granular Materials (35 Percent or Less Passing .075 mm)				Silt-Clay Materials (More than 35 Percent Passing 0.075)		
	A-1	A-3	A-2	A-4	A-5	A-6	A-7
Sieve analysis, percent passing:							
2.00 mm (No. 10)	-	-	-	-	-	-	-
0.425 mm (No. 40)	50 max	51 min	-	-	-	-	-
0.075 mm (No. 200)	25 max	10 max	35 max	36 min	36 min	36 min	36 min
<u>Characteristics of fraction passing 0.425 mm (No. 40)</u>							
Liquid limit				40 max	41 min	40 max	41 min
Plasticity index	6 max	N.P.		10 max	10 max	11 min	11 min
General rating as subgrade	Excellent to good				Fair to poor		

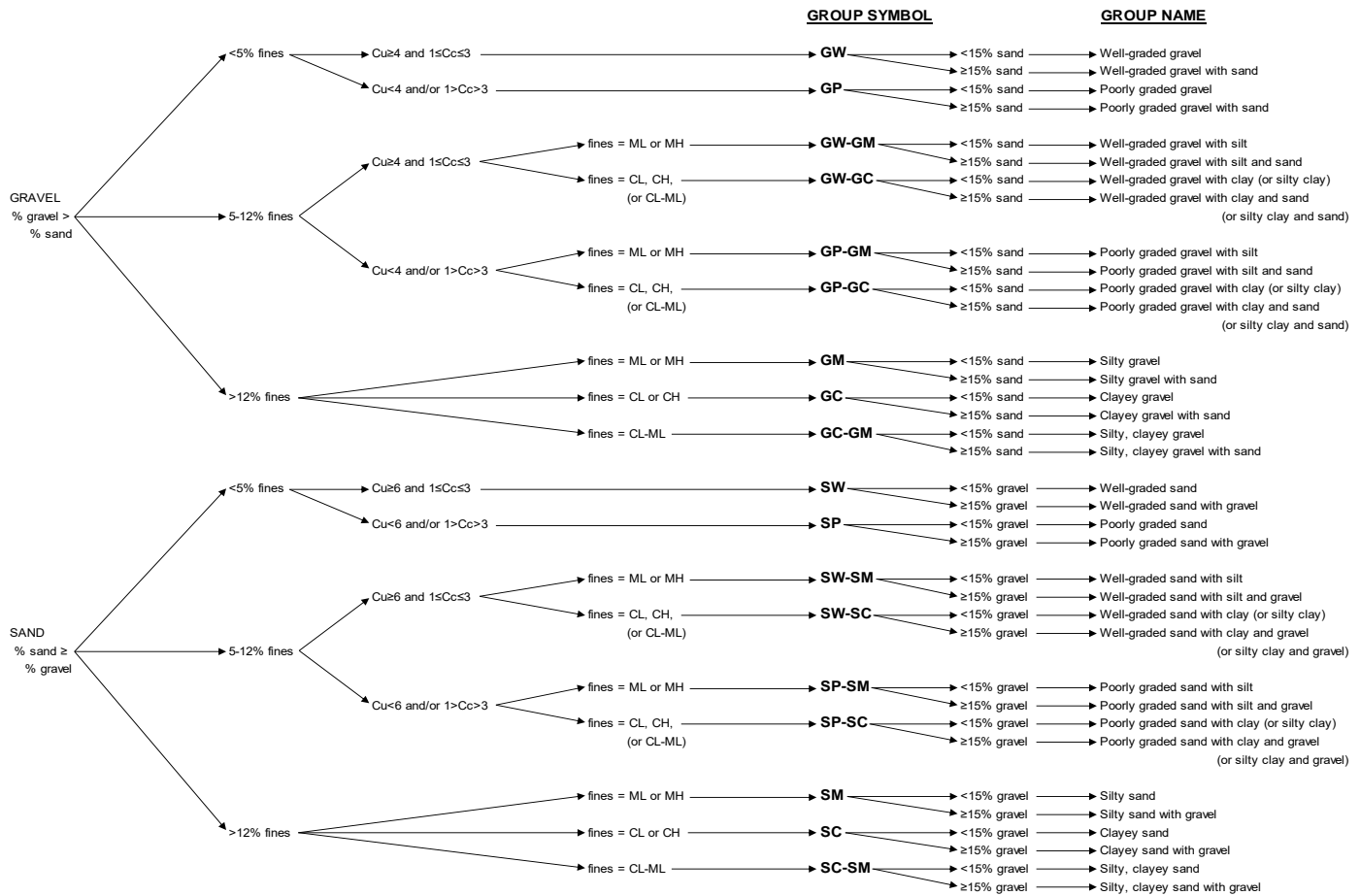
Note: The placing of A-3 before A-2 is necessary in the "left to right elimination process" and does not indicate superiority of A-3 over A-2.

TABLE 2. Classification of Soils and Soil-Aggregate Mixtures

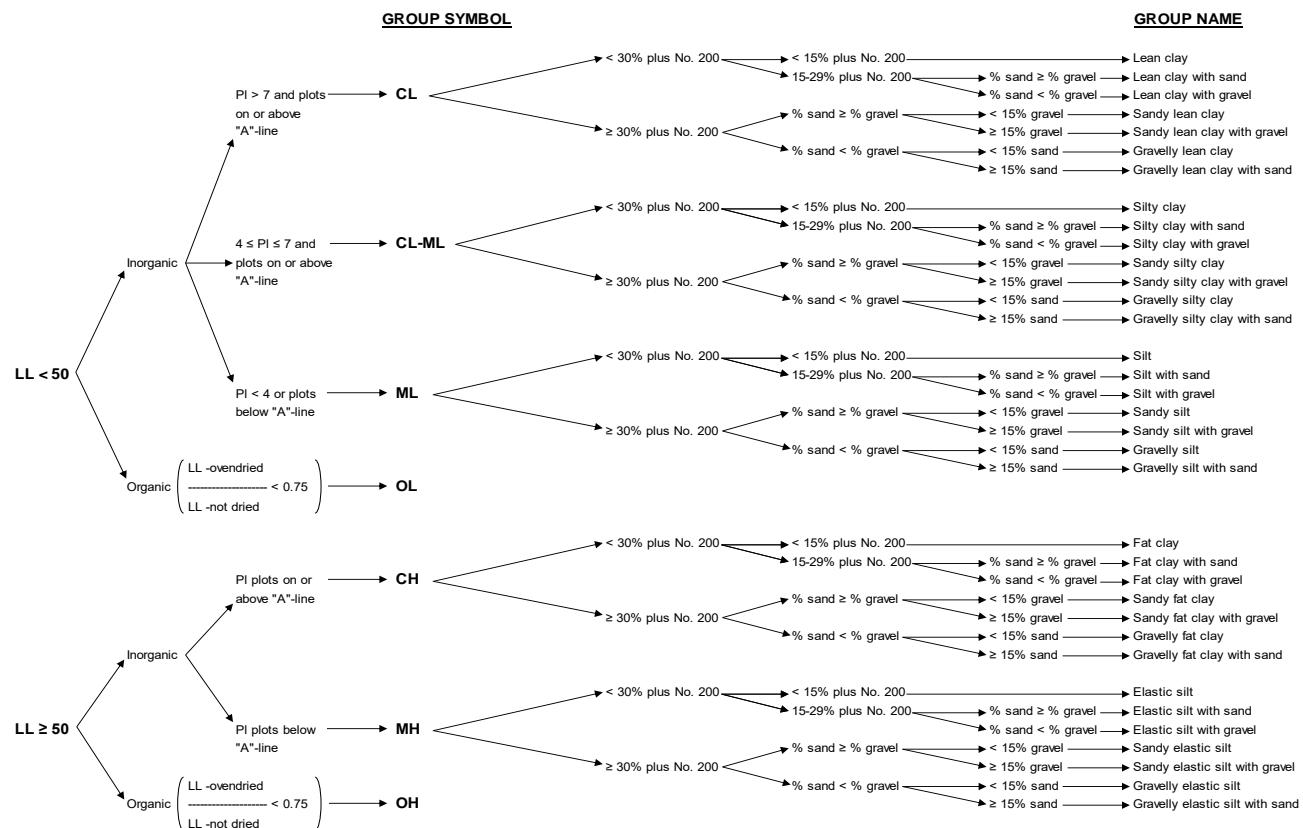
General Classification	Granular Materials (35 Percent or Less Passing 0.075 mm)							Silt-Clay Materials (More than 35 Percent Passing 0.075 mm)			
	A-1		A-2					A-7			
Group Classification	A-1-a	A-1-b	A-3	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7-5, A-7-6
Sieve analysis, percent passing:											
2.00 mm (No. 10)	50 max	-	-	-	-	-	-	-	-	-	-
0.425 mm (No. 40)	30 max	50 max	51 min	-	-	-	-	-	-	-	-
0.075 mm (No. 200)	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
<u>Characteristics of fraction passing 0.425 mm (No. 40)</u>											
Liquid limit				40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
Plasticity index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11 min
Usual types of significant constituent materials	Stone fragments, gravel and sand		Fine sand	Silty or clayey gravel and sand				Silty soils		Clayey soils	
General ratings as subgrade	Excellent to Good							Fair to poor			

Note: Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30 (see Figure 2).

AASHTO = American Association of State Highway and Transportation Officials

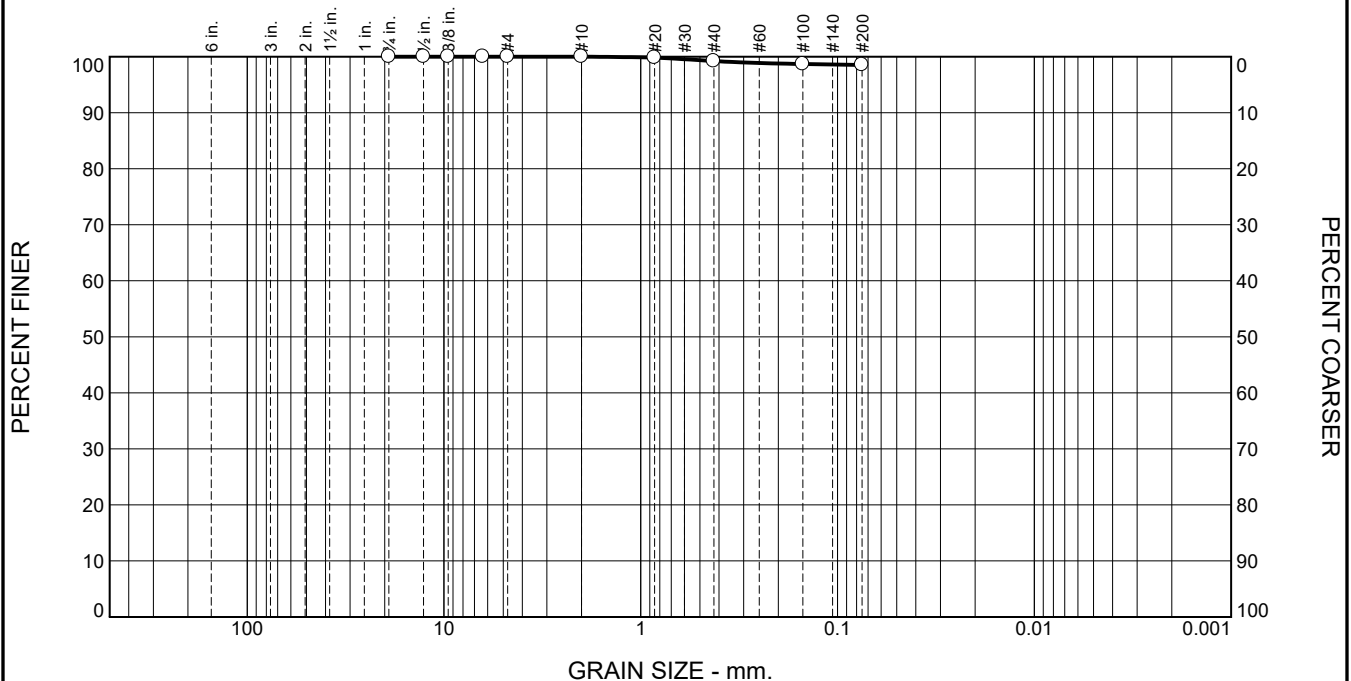


Flow Chart for Classifying Coarse-Grained Soils (More Than 50% Retained on No. 200 Sieve)



Flow Chart for Classifying Fine-Grained Soil (50% or More Passes No. 200 Sieve)

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.8	0.7	98.5	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.2		
#100	98.7		
#200	98.5		

Material Description

Silt

Atterberg Limits (ASTM D 4318)

PL= 31.8 LL= 47.9 PI= 16.1

Classification

USCS (D 2487)= ML AASHTO (M 145)= A-7-5(20)

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

Moisture 38.8%

Date Received: _____ Date Tested: 2/27/2020

Tested By: SJC

Checked By: _____

Title: _____

* (no specification provided)

Location: TP-1
Sample Number: S20-034 Depth: 3'

Date Sampled: 2/19/2020

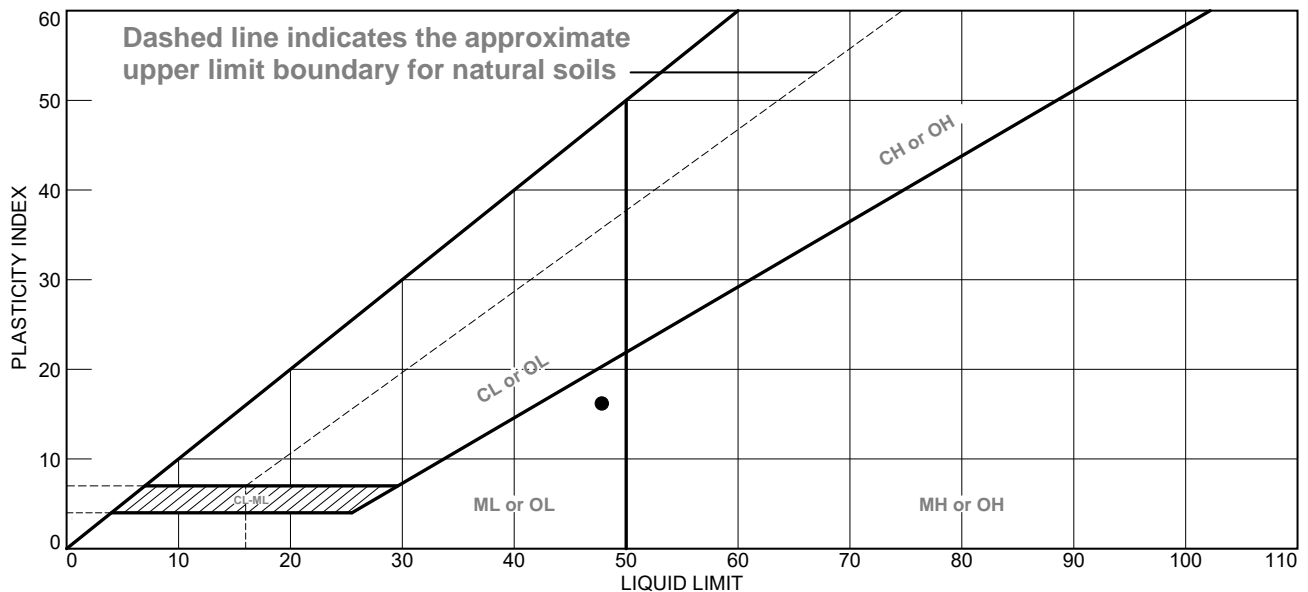
GEOPACIFIC ENGINEERING, INC.

Client: TJA, LLC
Project: 10215 NE Old McMinnville Hwy.

Project No: 20-5415

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Silt	47.9	31.8	16.1	99.2	98.5	ML

Project No. 20-5415 **Client:** TJA, LLC
Project: 10215 NE Old McMinnville Hwy.
Location: TP-1
Sample Number: S20-034 **Depth:** 3'

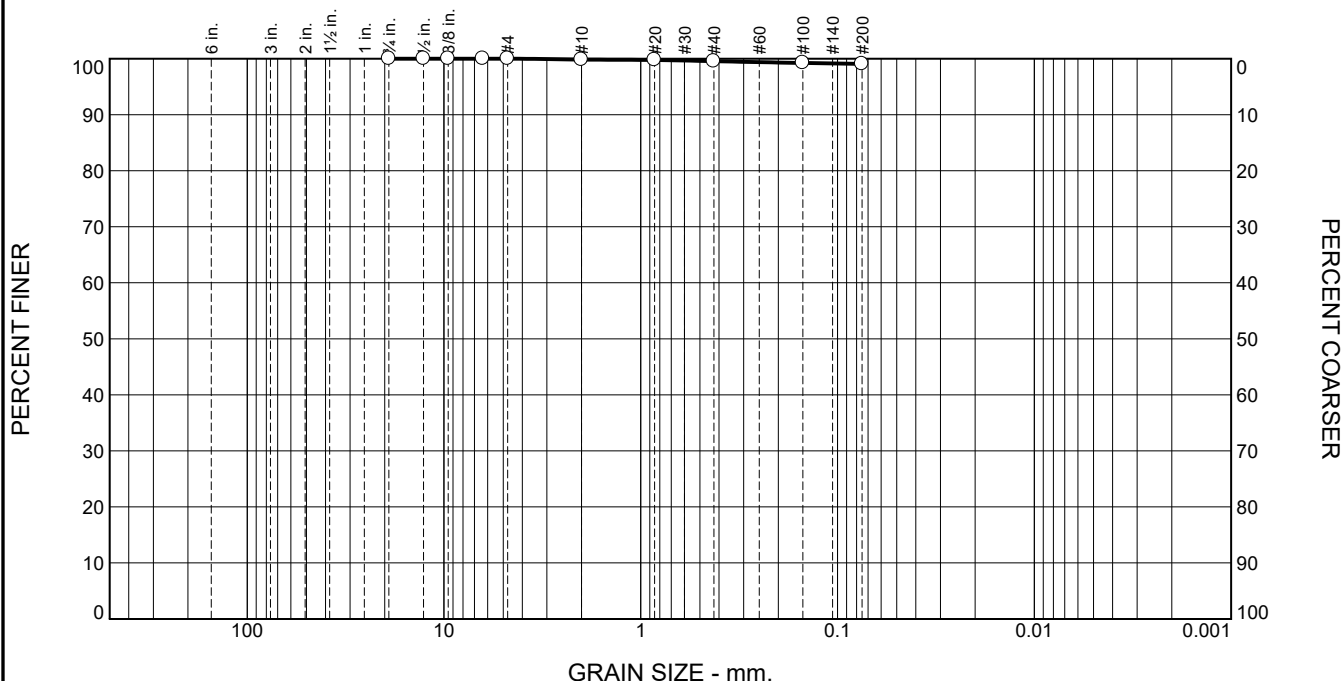
Remarks:

GEOPACIFIC ENGINEERING, INC.

Figure

Tested By: SJC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	0.2	0.5	99.1	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#10	99.8		
#20	99.8		
#40	99.6		
#100	99.2		
#200	99.1		

Material Description

Silt

Atterberg Limits (ASTM D 4318)

PL= 28.9 LL= 40.5 PI= 11.6

Classification

USCS (D 2487)= ML AASHTO (M 145)= A-6(14)

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

Moisture 37.7%

Date Received: _____ Date Tested: 20/27/2020

Tested By: SJC

Checked By: _____

Title: _____

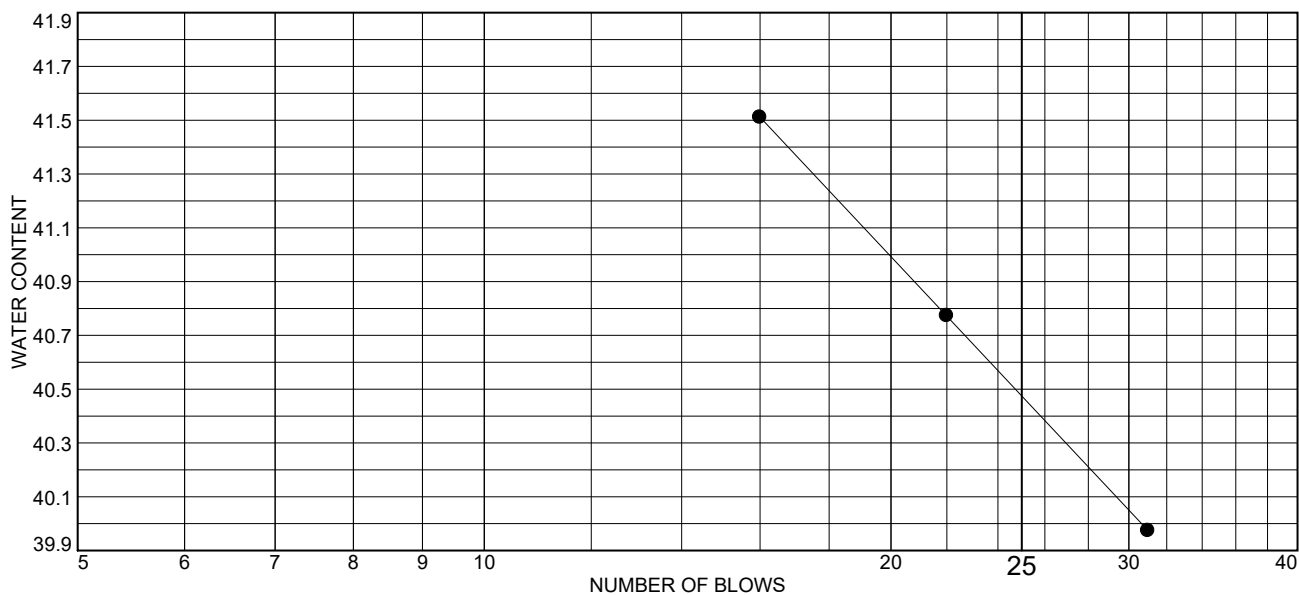
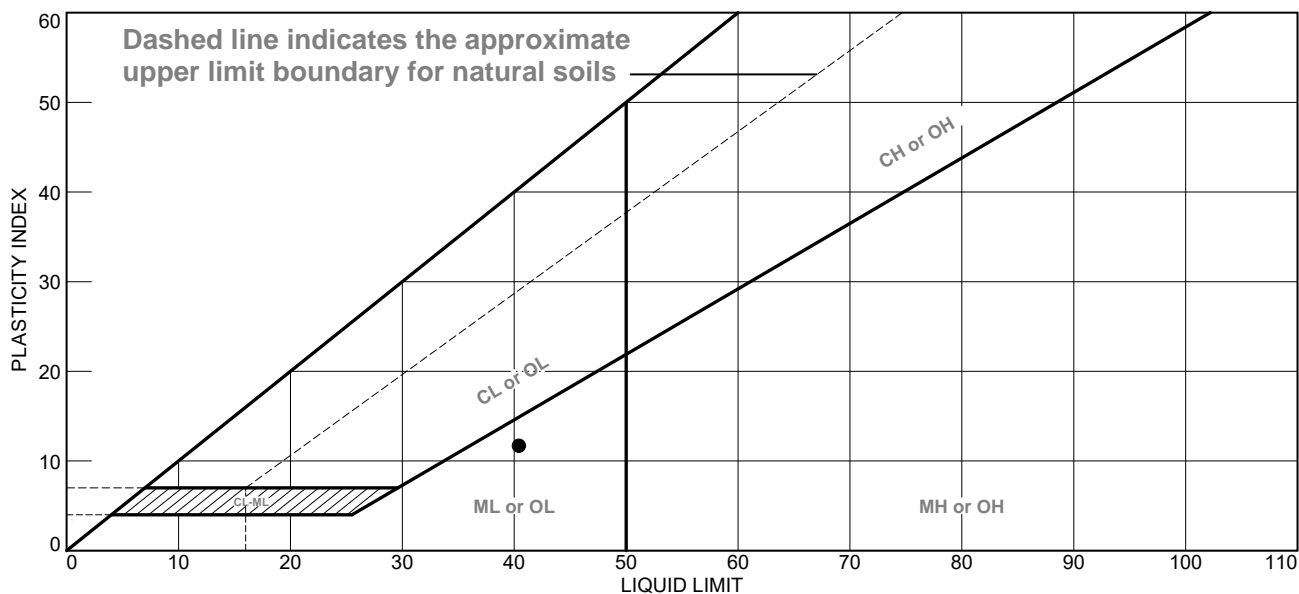
* (no specification provided)

Location: TP-1
Sample Number: S20-035 Depth: 6'

Date Sampled: 2/19/2020

<h1 style="margin: 0;">GEOPACIFIC ENGINEERING, INC.</h1>	<p>Client: TJA, LLC Project: 10215 NE Old McMinnville Hwy. Project No: 20-5415</p>
<p>Figure</p>	

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● Silt	40.5	28.9	11.6	99.6	99.1	ML

Project No. 20-5415 **Client:** TJA, LLC
Project: 10215 NE Old McMinnville Hwy.
Location: TP-1
Sample Number: S20-035 **Depth:** 6'

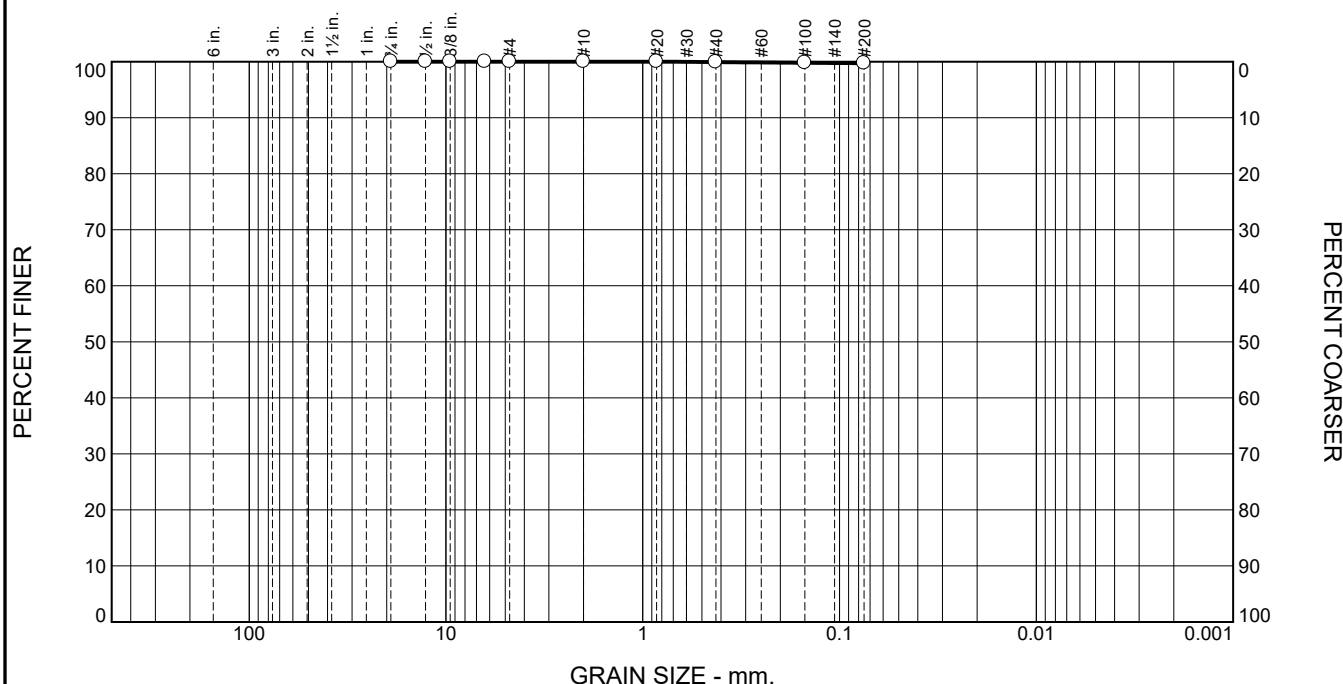
Remarks:

GEOPACIFIC ENGINEERING, INC.

Figure

Tested By: SJC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	0.2	99.7	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#100	99.8		
#200	99.7		

Material Description

Silt

Atterberg Limits (ASTM D 4318)

PL= 27.3 LL= 38.1 PI= 10.8

Classification

USCS (D 2487)= ML AASHTO (M 145)= A-6(13)

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

Moisture 35.2%

Date Received: _____ Date Tested: 2/27/2020

Tested By: SJC

Checked By: _____

Title: _____

* (no specification provided)

Location: TP-1
Sample Number: S20-036 Depth: 9'

Date Sampled: 2/19/2020

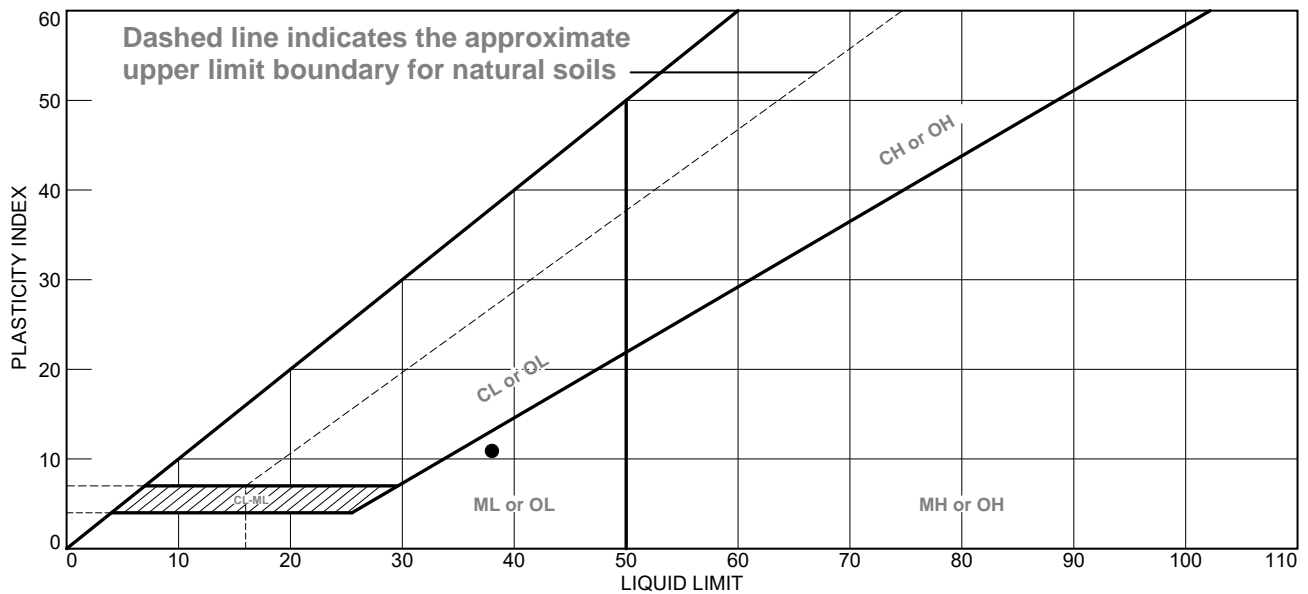
GEO PACIFIC
ENGINEERING, INC.

Client: TJA, LLC
Project: 10215 NE Old McMinnville Hwy.

Project No: 20-5415

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
Silt	38.1	27.3	10.8	99.9	99.7	ML

Project No. 20-5415 Client: TJA, LLC
 Project: 10215 NE Old McMinnville Hwy.
 Location: TP-1
 Sample Number: S20-036 Depth: 9'

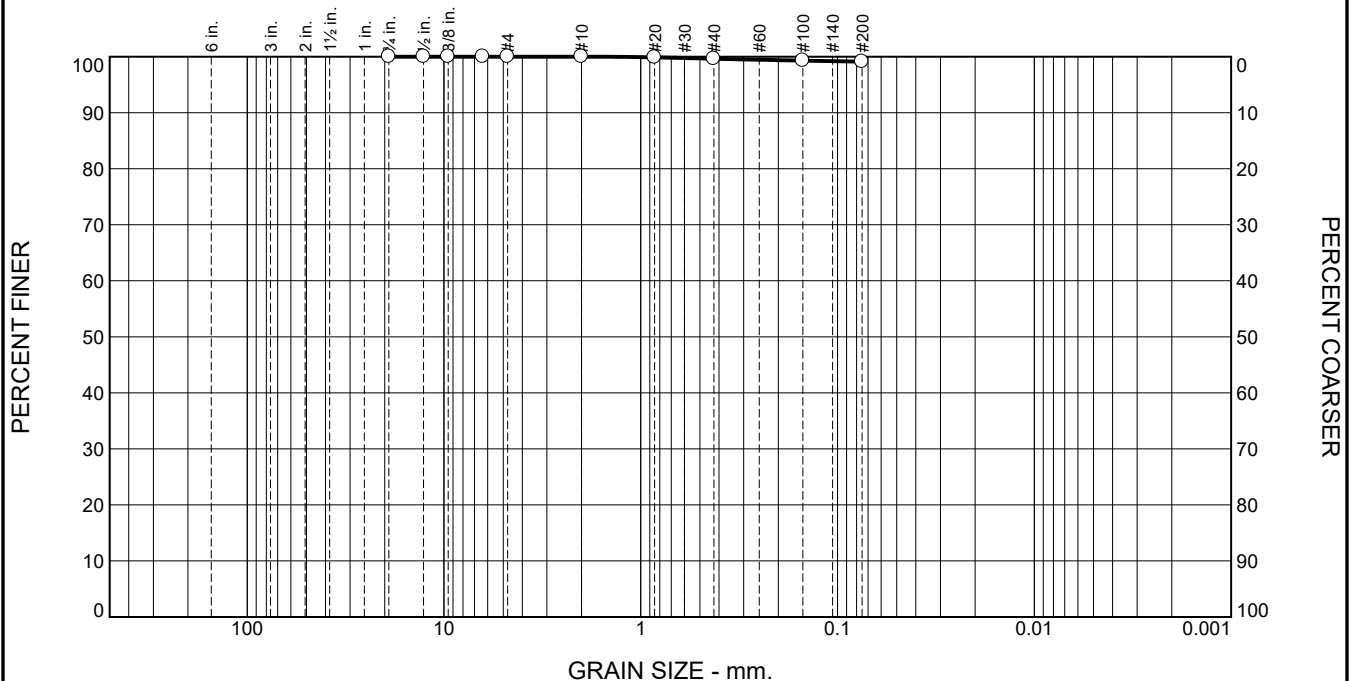
Remarks:

GEOPACIFIC ENGINEERING, INC.

Figure

Tested By: SJC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	0.5	99.1	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.6		
#100	99.3		
#200	99.1		

Material Description

Silt

Atterberg Limits (ASTM D 4318)

PL= 30.0 LL= 46.5 PI= 16.5

Classification

USCS (D 2487)= ML AASHTO (M 145)= A-7-5(20)

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

Moisture 31.8%

Date Received: _____ Date Tested: 2/27/2020

Tested By: SJC

Checked By: _____

Title: _____

* (no specification provided)

Location: TP-3
Sample Number: S20-037 Depth: 10'

Date Sampled: 2/19/2020

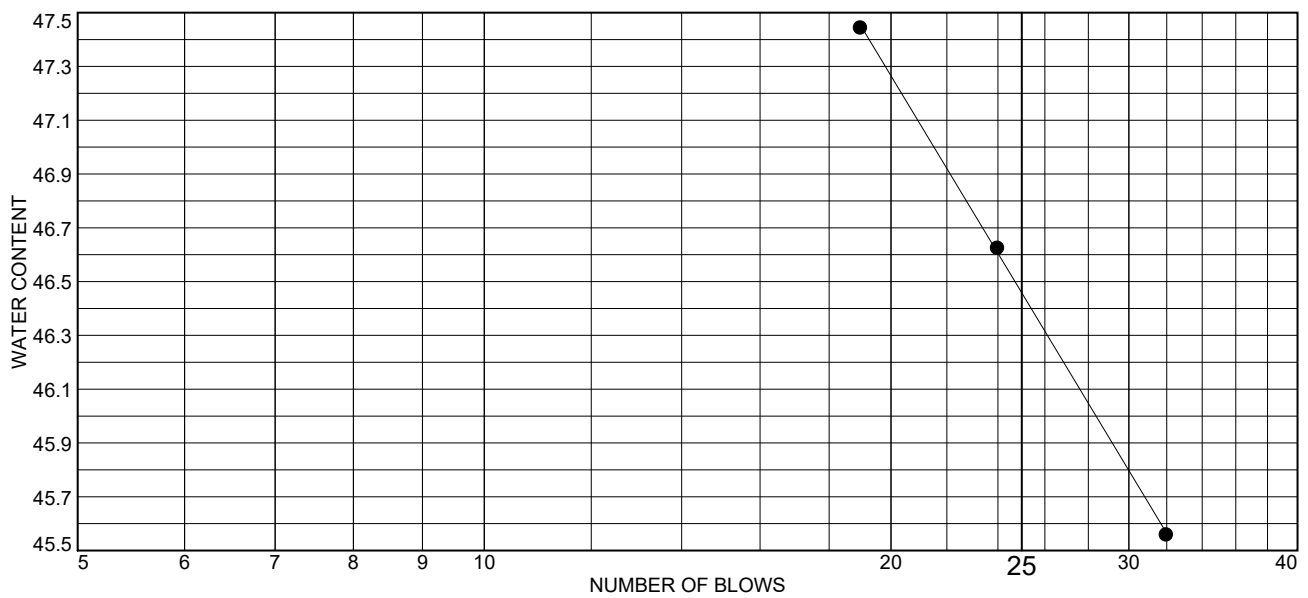
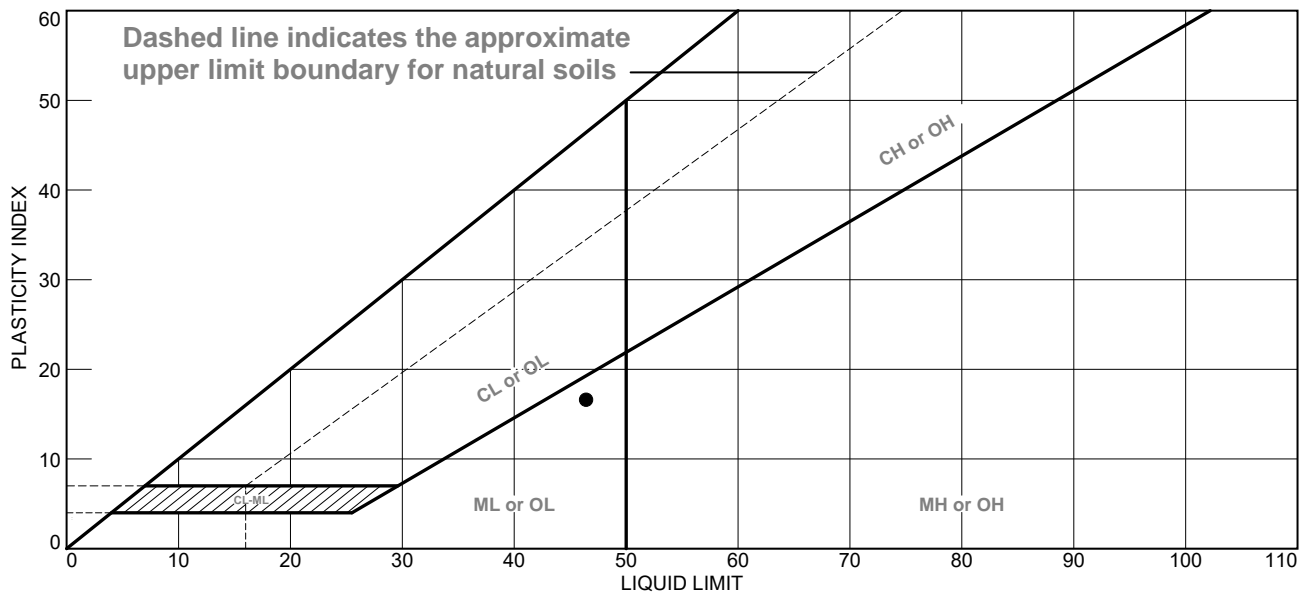
GEOPACIFIC ENGINEERING, INC.

Client: TJA, LLC
Project: 10215 NE Old McMinnville Hwy.

Project No: 20-5415

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
Silt	46.5	30.0	16.5	99.6	99.1	ML

Project No. 20-5415 **Client:** TJA, LLC

Project: 10215 NE Old McMinnville Hwy.

Location: TP-3

Sample Number: S20-037 **Depth:** 10'

Remarks:

GEOPACIFIC ENGINEERING, INC.

Figure

Tested By: SJC



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Investigation • Design • Construction Support

SITE RESEARCH

Soil Map—Yamhill County, Oregon



Map Scale: 1:6,190 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters


0 300 600 1200 1800 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 10N WGS84




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils




 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yamhill County, Oregon
 Survey Area Data: Version 7, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 16, 2015—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

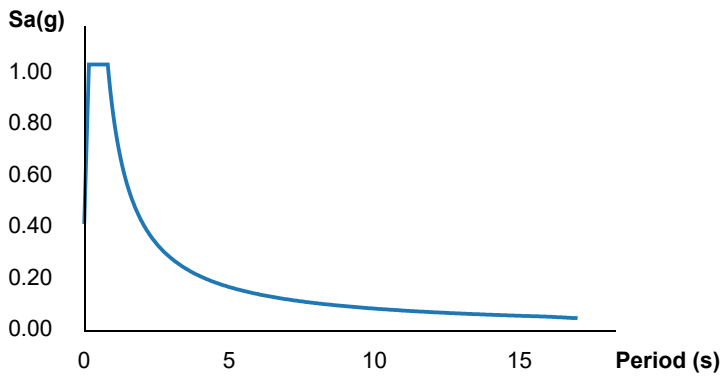
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2012A	Waldo silty clay loam, 0 to 3 percent slopes	10.9	7.2%
2301A	Amity silt loam, 0 to 3 percent slopes	46.2	30.5%
2310A	Woodburn silt loam, 0 to 3 percent slopes	66.8	44.1%
2310C	Woodburn silt loam, 3 to 12 percent slopes	14.1	9.3%
2310D	Woodburn silt loam, 12 to 20 percent slopes	13.4	8.9%
Totals for Area of Interest		151.4	100.0%

Search Information

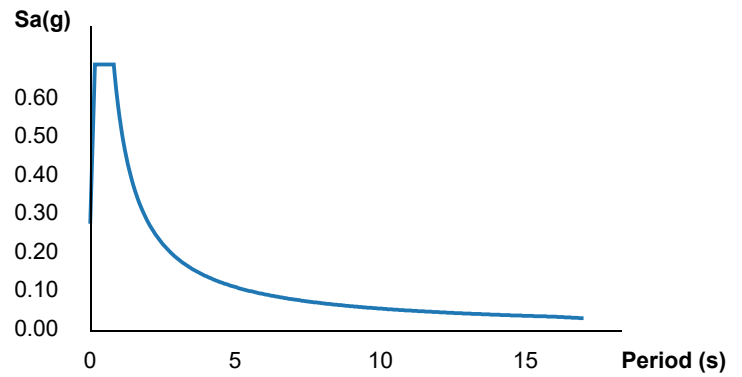
Coordinates: 45.288798, -123.166317
Elevation: 167 ft
Timestamp: 2020-03-11T20:33:59.541Z
Hazard Type: Seismic
Reference Document: NEHRP-2015
Risk Category: II
Site Class: D



MCE_R Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S _S	0.909	MCE _R ground motion (period=0.2s)
S ₁	0.453	MCE _R ground motion (period=1.0s)
S _{MS}	1.033	Site-modified spectral acceleration value
S _{M1}	* 0.837	Site-modified spectral acceleration value
S _{DS}	0.689	Numeric seismic design value at 0.2s SA
S _{D1}	* 0.558	Numeric seismic design value at 1.0s SA

* See Section 11.4.7

Additional Information

Name	Value	Description
SDC	* D	Seismic design category
F _a	1.136	Site amplification factor at 0.2s
F _v	* 1.847	Site amplification factor at 1.0s

CR _S	0.875	Coefficient of risk (0.2s)
CR ₁	0.867	Coefficient of risk (1.0s)
PGA	0.424	MCE _G peak ground acceleration
F _{PGA}	1.176	Site amplification factor at PGA
PGA _M	0.499	Site modified peak ground acceleration
T _L	16	Long-period transition period (s)
SsRT	0.909	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.039	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.453	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.523	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.754	Factored deterministic acceleration value (1.0s)
PGAd	0.641	Factored deterministic acceleration value (PGA)

* See Section 11.4.7

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.



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PHOTOGRAPHIC LOG

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-1



Test Pit TP-1

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-2



Test Pit TP-2

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-3 With Infiltration Testing at -10 Feet bgs



Test Pit TP-3

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-4



Test Pit TP-4

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-5



Test Pit TP-5

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-6



Test Pit TP-6

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-7



Test Pit TP-7

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Test Pit TP-8



Test Pit TP-8

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Existing Gravel Drive



Fill Piles

JR MEADOWS NO. 2 GEOTECHNICAL SITE INVESTIGATION PHOTOGRAPHIC LOG



Fill Piles



Facing South



Exhibit G: FEMA Flood Insurance Rate Map (FIRM)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSM-C-3, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), ORWA Bureau of Land Management (2005), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

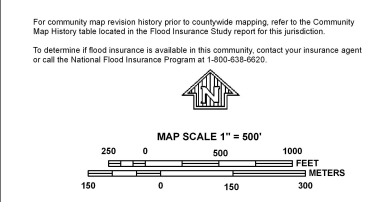
Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://fims.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nfp/>.



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
 - ZONE AE** Base Flood Elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
 - ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
 - ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
 - ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
 - OTHER AREAS** Areas determined to be outside the 0.2% annual chance floodplain.
 - ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% Annual Chance Floodplain Boundary
 - 0.2% Annual Chance Floodplain Boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
 - Base Flood Elevation line and value; elevation in feet*
(EL 907)
 - Base Flood Elevation value where uniform within zone; elevation in feet*
- *Referenced to the North American Vertical Datum of 1988
- Cross section line
 - - - - ○ Transsect line
- 45° 02' 06", 53° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT 5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
100-meter Universal Transverse Mercator grid values, zone 10N
- OX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)
- * M1.5 River Mile
- MAP REPOSITORIES
Refer to Map Repositories list on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 2, 2010
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0191D

FIRM
FLOOD INSURANCE RATE MAP
YAMHILL COUNTY,
OREGON
AND INCORPORATED AREAS

PANEL 191 OF 675
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CARLTON CITY OF	410251	0191	D
YAMHILL COUNTY	410249	0191	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41071C0191D
EFFECTIVE DATE
MARCH 2, 2010
Federal Emergency Management Agency



Exhibit H: Preliminary Stormwater Report

*JR Meadows No. 2
10215 NE Old McMinnville Hwy
Carlton, Oregon*

**Preliminary Stormwater
Report**

Date: August 19, 2020

Client: TJA, LLC
9110 NW Clay Pit Road
Yamhill, OR 97148

Engineering Contact: Amy Downhour, PE
Downhoura@aks-eng.com

Engineering Firm: AKS Engineering & Forestry, LLC

AKS Job Number: 7395-01



12965 SW Herman RD., STE 100
Tualatin, OR 97062
P: (503) 563-6151
www.aks-eng.com



RENEWS: DECEMBER 31, 2021

Table of Contents

1.0	Purpose of Report	1
2.0	Project Location/Description	1
3.0	Design Methodology	1
4.0	Design Conditions.....	1
4.1	PRE-DEVELOPED SITE CONDITIONS	1
4.1.1	Site Topography	1
4.1.2	Land Use.....	1
4.2	POST-DEVELOPED SITE CONDITIONS	1
4.2.1	Site Topography	1
4.2.2	Land Use.....	1
4.2.3	Post-Developed Input Parameters.....	2
4.2.4	Description of Off-Site Contributing Basins	2
5.0	Stormwater Analyses	2
5.1	PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING.....	2
5.2	HAWN CREEK EVALUATION	2

Exhibits

- FIGURE 1:** VICINITY MAP
- FIGURE 2:** PRE-DEVELOPED BASIN MAP
- FIGURE 3:** POST-DEVELOPED BASIN MAP
- FIGURE 4:** POST-DEVELOPED STORM DRAINAGE PLAN
- FIGURE 5:** TIME OF CONCENTRATION MAP
- FIGURE 6:** HAWN CREEK CAPACITY MAP AND CALCULATION

Appendices

- APPENDIX A:** POST-DEVELOPED SITE STORM EVENT ANALYSES (10-year) USING RATIONAL METHOD
 - APPENDIX B:** CITY OF CARLTON STORMWATER MANAGEMENT
 - APPENDIX C:** STREAMSTATS REPORT
-

Preliminary Stormwater Report

**JR MEADOWS NO. 2
10215 NE OLD MCMINNVILLE HWY
CARLTON, OREGON**

1.0 Purpose of Report

The purpose of this report is to analyze the effects the proposed development will have on the existing overland drainage; document the criteria, methodology, and informational sources used to design the proposed stormwater system; and present the results of the hydraulic analysis.

2.0 Project Location/Description

The residential subdivision project is located south of the intersection of E Main Street and N 7th Street in Carlton, Oregon. It encompasses approximately 13.94 acres (a portion of Tax Lot 1300 Yamhill County Assessor's Map 3S 4W 22).

The project will consist of R-2 and R-3 zoning. The site improvements will include construction of public streets and underground utilities.

3.0 Design Methodology

The Rational Method as described in Appendix F – Rational Method of the Oregon Department of Transportation (ODOT) *Hydraulics Manual* (April 2014) was used to calculate the storm peak discharge per City of Carlton Stormwater Management Design Standards.

4.0 Design Conditions

4.1 PRE-DEVELOPED SITE CONDITIONS

4.1.1 Site Topography

Existing on-site grades generally vary from ± 1 to ± 22 percent, with the site draining to the northeast (toward Hawn Creek). The site has a high point of ± 177 feet in the southwest property corner and a low point of ± 144 feet along the northeastern boundary of the site.

4.1.2 Land Use

The existing site is vacant with field and treed areas.

4.2 POST-DEVELOPED SITE CONDITIONS

4.2.1 Site Topography

The on-site slopes will be modified with cuts and fills to accommodate the construction of public streets.

4.2.2 Land Use

The post-developed site land use will consist of a 55-lot subdivision, with 54 lots for single-family residential and one lot for multifamily residential, and associated streets, sidewalks, and underground utilities.

4.2.3 Post-Developed Input Parameters

The time of concentration was calculated using the travel time for overland sheet flow. The rainfall intensity was determined using ODOT Zone 8 Intensity-Duration-Frequency (IDF) Curve Tabular Data (Carlton). The flow rate was determined using the 10-year storm event. Calculations are shown in Appendix A. Catchment areas are provided in Figure 3.

4.2.4 Description of Off-Site Contributing Basins

The properties to the south and west drain stormwater through the subject site. The areas are shown in Figure 3 and in the analysis as Subcatchment 11S, 12S and 13S.

5.0 Stormwater Analyses

5.1 PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING

The proposed storm system reaches 1R through 16R have been sized using Manning's equation, based on peak flows from the Rational Method for a 10-year storm event to convey stormwater-runoff through this development and upstream development.

A Manning's Roughness Coefficient N of 0.009 is used for all pipe reaches. These reaches are specified as PVC pipe and the pipe manufacturer recommends a design Manning's Roughness Coefficient N of 0.009.

The time of concentration for each reach has been calculated using Appendix F – Rational Method of the ODOT *Hydraulics* Manual. This was used to accurately calculate the time of concentration and intensity of each reach.

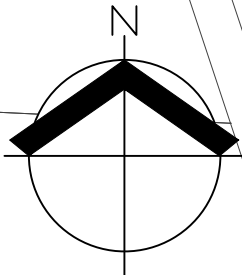
5.2 HAWN CREEK EVALUATION

The site currently drains to Hawn Creek and the storm system will continue to drain to Hawn Creek. The increase in flow created by the subdivision has been calculated in this report under Appendix A. The increase in flow is calculated to be 5.88 ft³/sec at a 100-year event. The current peak flow at a 100-year in Hawn Creek at the outfall has been determined using StreamStats. The StreamStats report is included under Appendix C. The current peak flow is 282 ft³/sec.

Exhibit F includes the calculation of the capacity of Hawn Creek downstream from JR Meadows No. 2 using LiDAR contours. The capacity of Hawn Creek is 205,321 ft³/sec. The new peak flow at a 100-year event will be 287.88 ft³/sec, which is within the capacity of Hawn Creek.



SUBJECT SITE



SCALE: 1" = 500 FEET



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DATE: 08/19/2020

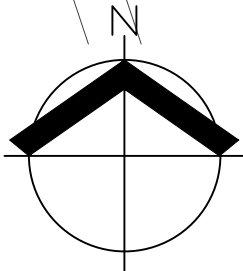
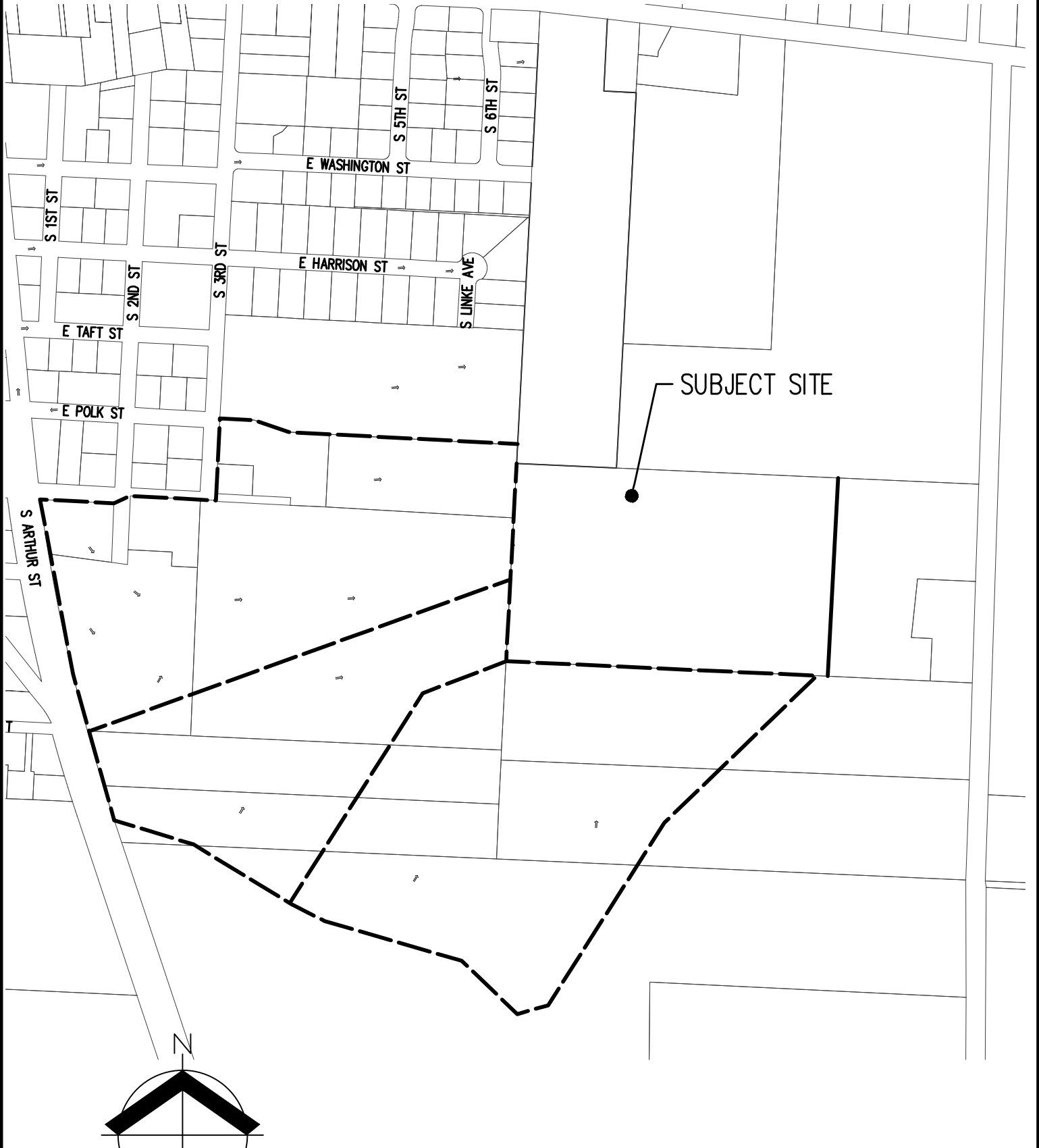
**JR MEADOWS NO. 2
VICINITY MAP**

**FIGURE
1**

AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 TUALATIN, OR 97062
 503.563.6151 WWW.AKS-ENG.COM



DRWN: AJD
 CHKD: VN
 AKS JOB:
 7395-01



SCALE: 1" = 400 FEET



ORIGINAL PAGE SIZE: 8.5"x11"

DATE: 08/19/2020

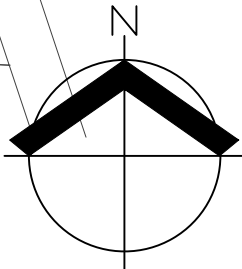
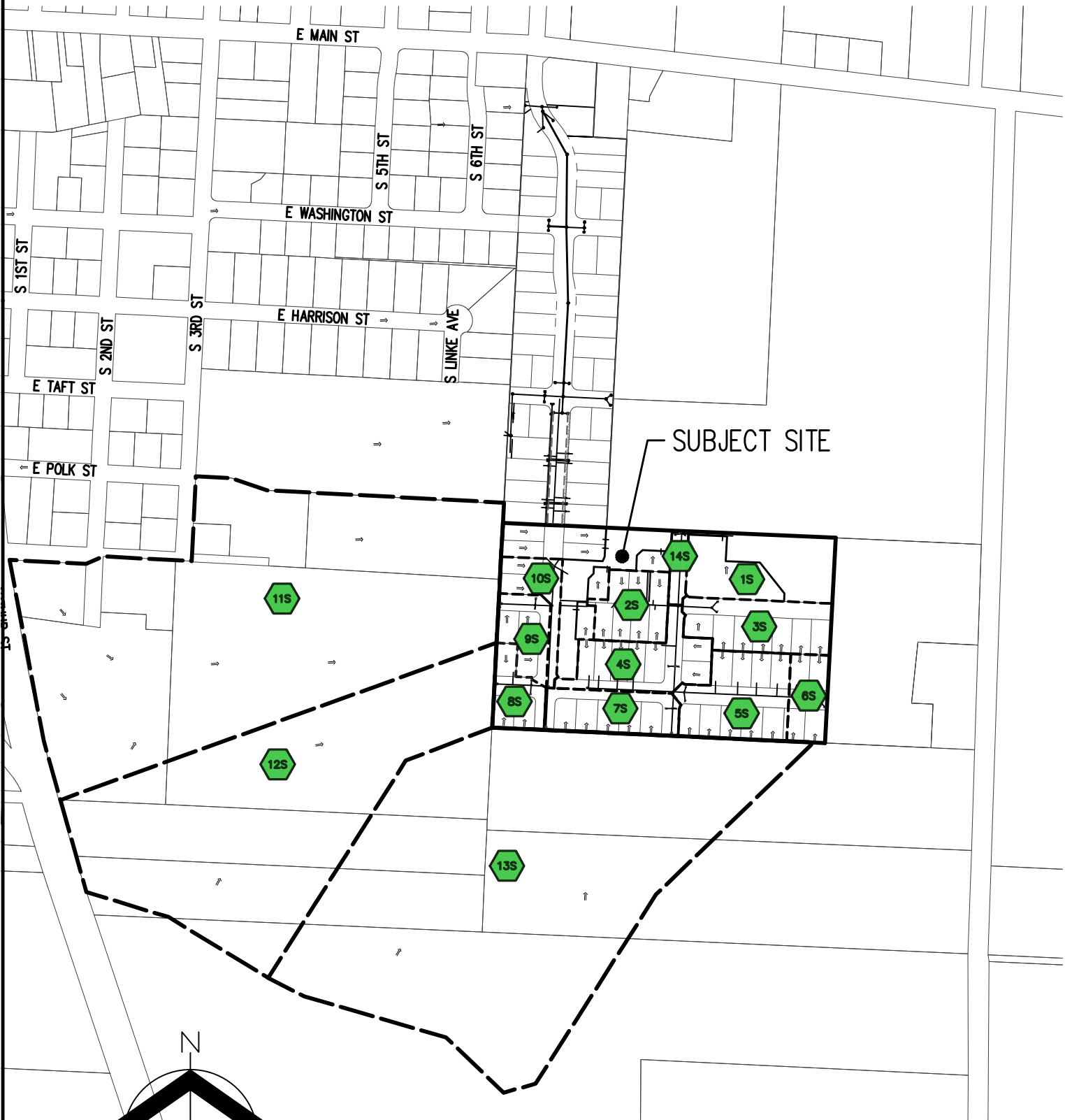
**JR MEADOWS NO. 2
PRE-DEVELOPED BASIN MAP**

AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 TUALATIN, OR 97062
 503.563.6151 WWW.AKS-ENG.COM



FIGURE
2

DRWN: AJD
 CHKD: VN
 AKS JOB:
 7395-01



SCALE: 1" = 400 FEET

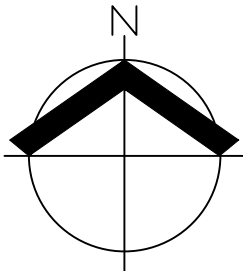
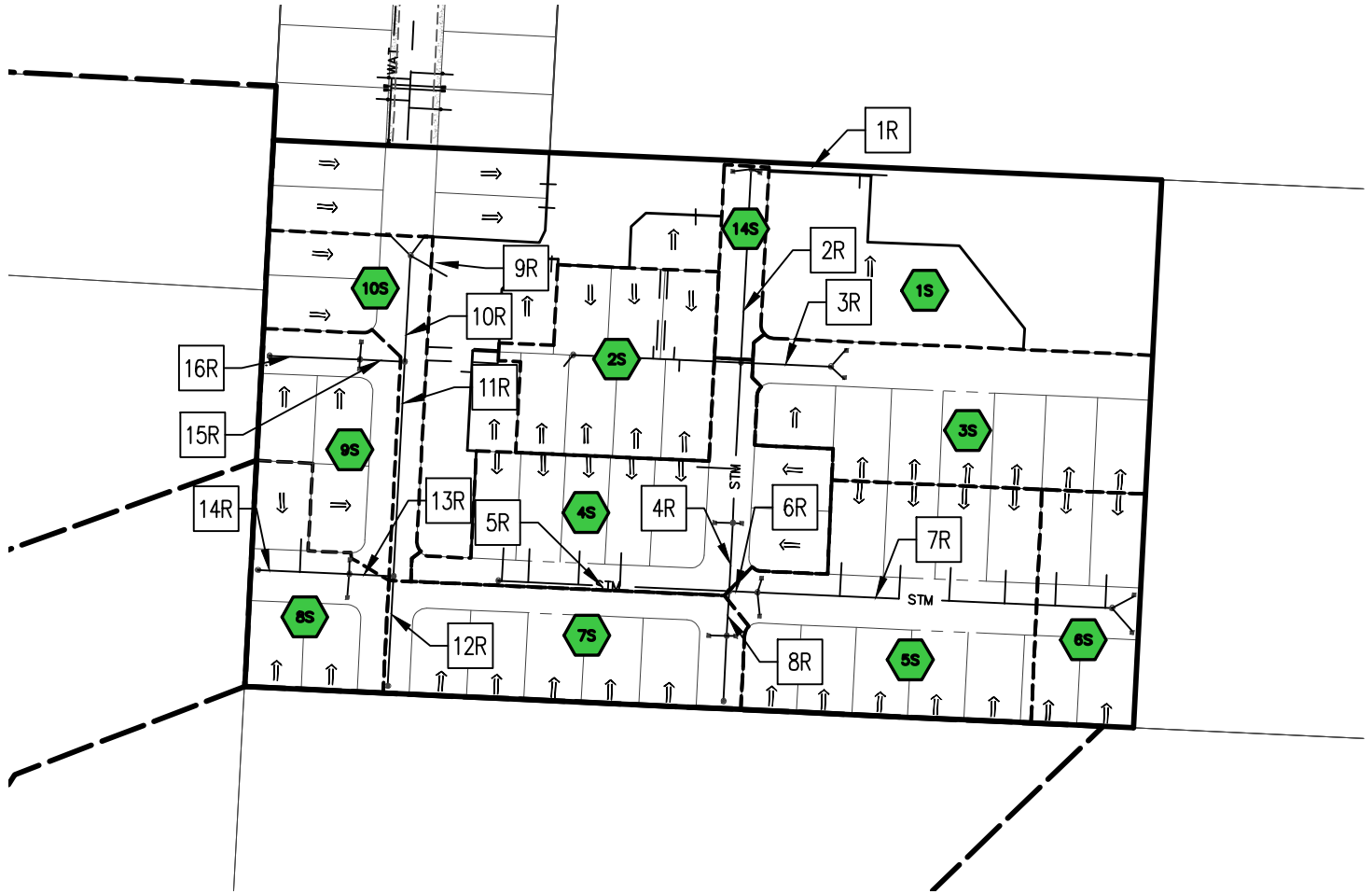


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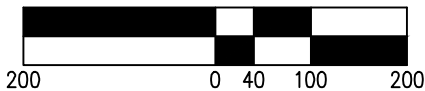
DATE: 08/19/2020

JR MEADOWS NO. 2 POST-DEVELOPED BASIN MAP		FIGURE 3
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: AJD CHKD: VN AKS JOB: 7395-01





SCALE: 1" = 200 FEET



ORIGINAL PAGE SIZE: 8.5"x11"

DATE: 08/19/2020

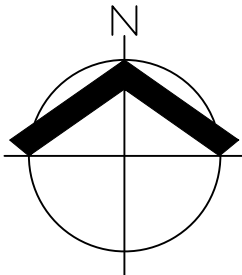
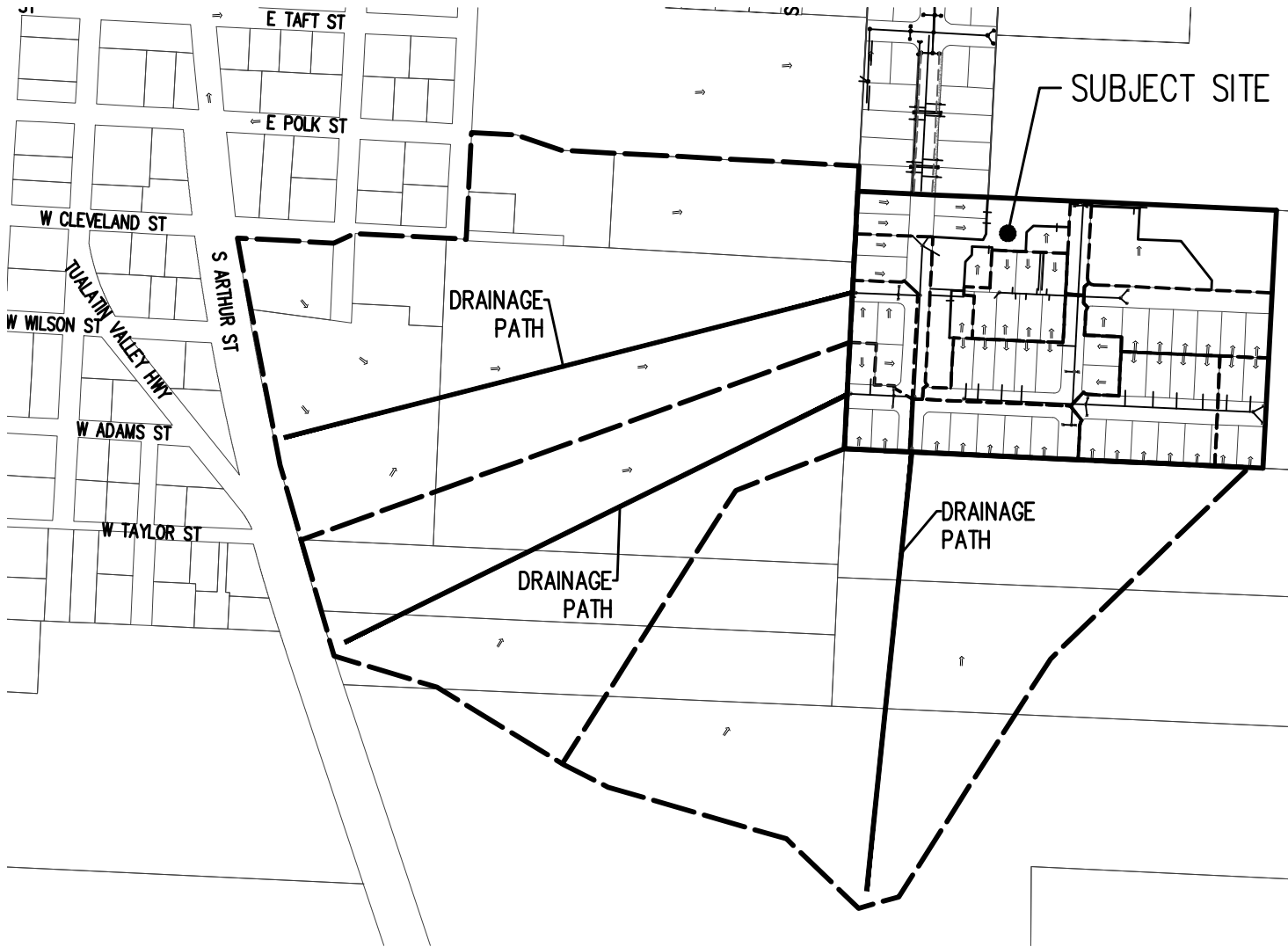
**JR MEADOWS NO. 2
POST-DEVELOPED STORM DRAINAGE PLAN**

**FIGURE
4**

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



DRWN: AJD
CHKD: VN
AKS JOB:
7395-01



SCALE: 1" = 400 FEET



ORIGINAL PAGE SIZE: 8.5"x11"

DATE: 08/19/2020

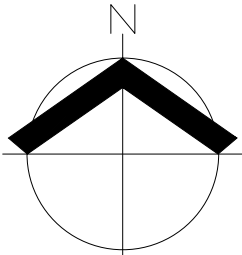
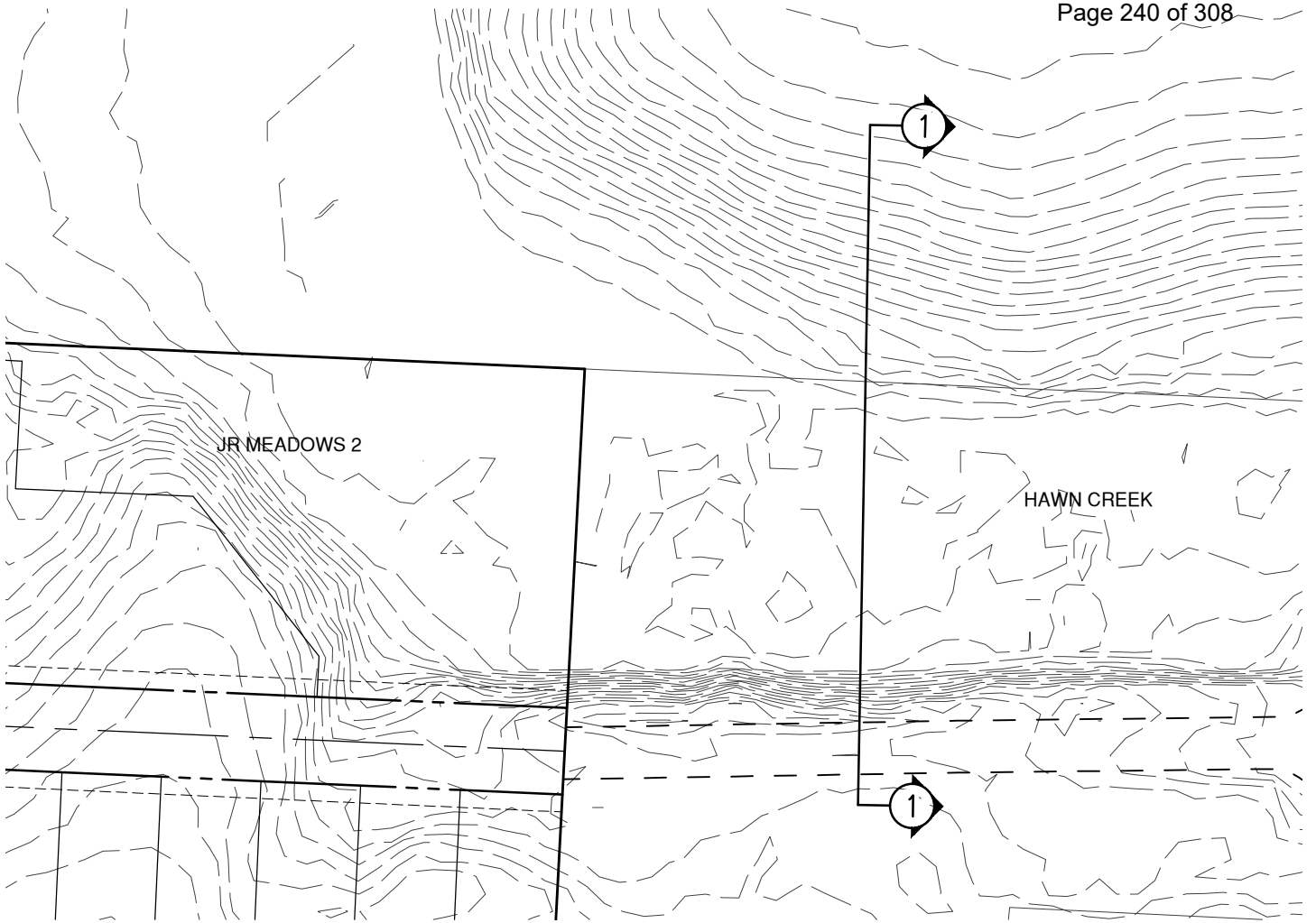
**JR MEADOWS NO. 2
TIME OF CONCENTRATION MAP**

AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 TUALATIN, OR 97062
 503.563.6151 WWW.AKS-ENG.COM

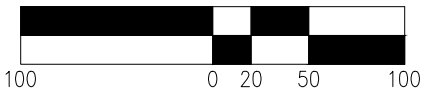


FIGURE 5

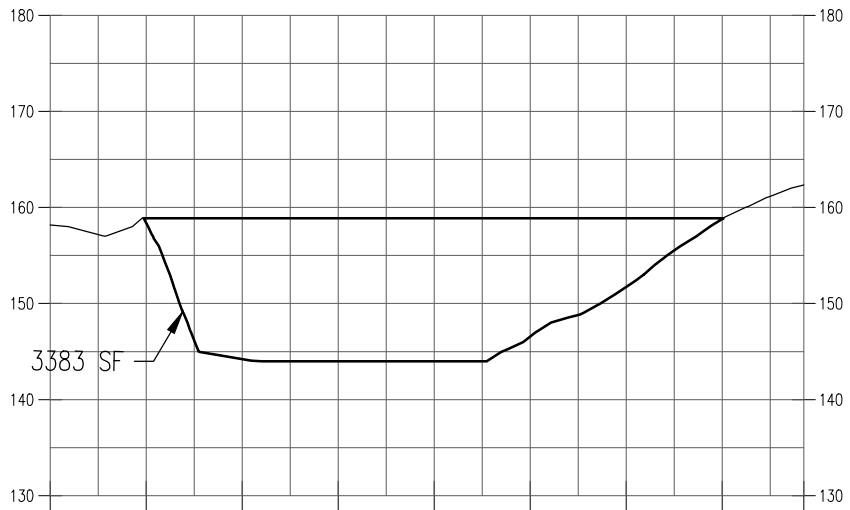
DRWN: AJD
 CHKD: VN
 AKS JOB:
 7395-01



SCALE: 1" = 100 FEET



ORIGINAL PAGE SIZE: 8.5" x 11"



HAWN CREEK
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 12'

CHANNEL	EXISTING DITCH AREA	MANNING'S N	EXISTING DITCH SLOPE	DITCH CAPACITY	VELOCITY	q
	(ft ²)	(coefficient)	(ft/ft)	(ft ³ /sec)	(ft/sec)	(ft ³ /sec)
Hawn Creek	3383.0	0.0300	0.0025	205320.82	60.69	24.89

DATE: 08/19/2020

NOTE: CONTOURS SHOWN ARE BASED ON LIDAR AND HAVE NOT BEEN VERIFIED.

**JR MEADOWS NO. 2
 HAWN CREEK CAPACITY MAP AND CALCULATION**

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FIGURE
6

DRWN: AJD
 CHKD: AJD
 AKS JOB:
 7395-01



**Appendix A:
Post-Developed Site Storm Event Analysis
(10-year) using Rational Method**

PIPE	PROPOSED PIPE DIAMETER	MANNING'S N	PROPOSED PIPE SLOPE	PIPE CAPACITY	VELOCITY	Q
(XR)	(inches)	(coefficient)	(ft/ft)	(ft ³ /sec)	(ft/sec)	(ft ³ /sec)
1R	12.0	0.0090	0.0110	5.40	6.87	5.31
2R	12.0	0.0090	0.0090	4.88	6.22	4.69
3R	12.0	0.0090	0.0035	3.04	3.88	1.07
4R	12.0	0.0090	0.0060	3.99	5.08	3.62
5R	12.0	0.0090	0.0035	3.04	3.88	1.08
6R	12.0	0.0090	0.0035	3.04	3.88	1.73
7R	12.0	0.0090	0.0035	3.04	3.88	0.49
8R	12.0	0.0090	0.0035	3.04	3.88	0.82
9R	18.0	0.0090	0.0070	12.69	7.18	12.44
10R	18.0	0.0090	0.0070	12.69	7.18	12.63
11R	18.0	0.0090	0.0030	8.31	4.70	7.91
12R	12.0	0.0090	0.0095	5.02	6.39	4.89
13R	12.0	0.0090	0.0060	3.99	5.08	3.87
14R	12.0	0.0090	0.0060	3.99	5.08	3.7
15R	18.0	0.0090	0.0020	6.79	3.84	5.9
16R	12.0	0.0090	0.0130	5.87	7.47	5.87

Project Name: JR Meadows No. 2

Job #: 7395-01

Date: June 2020

SUBJECT: Peak Flow Calculation Per Rational Method

Q = CiA

$$T_c = T_{osf} + T_{scf} = 0.93(L_1^{0.6} n^{0.6}) / (i^{0.4} S^{0.3}) + L_2 / 60V$$

Q: Peak Flow (cfs)

C: Runoff Coefficient

i: Rainfall Intensity (inches/hr)

A: Drainage Area (acres)

T_c: Time of Concentration (min)T_{osf}: Travel time for the overland sheet flow segment in minutes (min.)T_{scf}: Travel time for the shallow concentrated flow segment in minutes (min.)L₁: Length of overland sheet flow (first 300 ft) (ft)L₂: Length of overland sheet flow (after first 300 ft) (ft)

n: Mannings roughness coefficient

i: Rainfall intensity (in/hr)

S: Average slope of overland area (ft/ft)

V: Average flow velocity in feet per section (ft/s) (Figure 1 of ODOT Appendix F - Rational Method)

10-year**16R**

L ₁ =	300 feet
L ₂ =	1,090 feet
V=	4.5
n=	0.15
i =	0.98 inches/hr
S=	0.02 ft/ft
T _c =	$0.93 * (300^{0.6} * 0.15^{0.6}) / (0.98^{0.4} * 0.02^{0.3}) + 1090 / (60 * 4.5)$
Time of Concentration =	33.80 minutes
A = 11S	19.97 acres
C =	0.30
i =	0.98 inches/hr
Q = CiA =	$(0.30) * (0.98) * (19.97)$
Q =	5.87 ft³/sec

15R

T _c = T _{c16R} + T _{c15R} =	$33.8 + 100 / (60 * 1.5)$
T _c =	34.91 minutes
A = 9S+11S	20.71 acres
C =	0.30
i =	0.94 inches/hr
Q = Q _{16R} + CiA =	$(0.30) * (0.94) * (20.71)$
Q =	5.90 ft³/sec

14R

L ₁ =	300 feet
L ₂ =	1,030 feet

V=	4.5
n=	0.15
i =	0.96 inches/hr
S=	0.02 ft/ft
$T_c=$	$0.93*(300^{0.6}*0.15^{0.6})/(0.96^{0.4}*0.02^{0.3})+1030/(60*4.5)$
Time of Concentration =	33.82 minutes
A = 12S	12.83 acres
C =	0.30
i =	0.96 inches/hr
Q = CiA =	$(0.30) * (0.96) * (12.83)$
Q =	3.70 ft³/sec

13R	
$T_c= T_{c14R} + T_{c13R}=$	$33.82+100/(60*1.5)$
$T_c=$	34.93 minutes
A = 12S+8S	13.50 acres
C =	0.31
i =	0.94 inches/hr
Q = CiA =	$(0.31) * (0.94) * (13.50)$
Q =	3.87 ft³/sec

12R	
$L_1=$	300 feet
$L_2=$	750 feet
V=	4.5
n=	0.15
i =	0.77 inches/hr
S=	0.008 ft/ft
$T_c=$	$0.93*(300^{0.6}*0.15^{0.6})/(0.77^{0.4}*0.008^{0.3})+750/(60*4.5)$
Time of Concentration =	45.92 minutes
A = 13S	21.18 acres
C =	0.30
i =	0.77 inches/hr
Q = CiA =	$(0.30) * (0.77) * (21.18)$
Q =	4.89 ft³/sec

11R	
$T_c= T_{c12R} + T_{c11R}=$	$45.92+100/(60*1.5)$
$T_c=$	47.03 minutes
A = 13S+12S+8S	34.68 acres
C =	0.30
i =	0.76 inches/hr
Q = CiA =	$(0.30) * (0.76) * (34.68)$
Q =	7.91 ft³/sec

10R	
$T_c= T_{c11R} + T_{c10R}=$	$47.03+245/(60*1.5)$
$T_c=$	49.75 minutes
A = 13S+12S+8S+11S+9S	55.39 acres

C =	0.30
i =	0.76 inches/hr
Q = CiA =	(0.30) * (0.76)* (55.39)
Q =	12.63 ft³/sec
9R	
T _c = T _{c9R} + T _{c10R} =	49.75+100/(60*1.5)
T _c =	50.86 minutes
A = 13S+12S+8S+11S+9S+10S	56.04 acres
C =	0.30
i =	0.74 inches/hr
Q = CiA =	(0.30) * (0.74)* (56.04)
Q =	12.44 ft³/sec
8R	
T _c =	10.00 minutes
A = 7S	1.15 acres
C =	0.40
i =	1.78 inches/hr
Q = CiA =	(0.40) * (1.78)* (1.15)
Q =	0.82 ft³/sec
7R	
T _c =	10.00 minutes
A = 6S	0.69 acres
C =	0.40
i =	1.78 inches/hr
Q = CiA =	(0.40) * (1.78)* (0.69)
Q =	0.49 ft³/sec
6R	
T _c =	10.00 minutes
A = 5S+6S	2.43 acres
C =	0.40
i =	1.78 inches/hr
Q = CiA =	(0.40) * (1.78)* (2.43)
Q =	1.73 ft³/sec
5R	
T _c =	10.00 minutes
A = 4S	1.51 acres
C =	0.40
i =	1.78 inches/hr
Q = CiA =	(0.40) * (1.78)* (1.51)
Q =	1.08 ft³/sec
4R	
Q = Q_{5R} + Q_{8R} + Q_{6R}	3.62 ft³/sec

3R

$T_c =$	10.00 minutes
$A = 3S$	1.50 acres
$C =$	0.40
$i =$	1.78 inches/hr
$Q = CiA =$	$(0.40) * (1.78) * (1.50)$
Q =	1.07 ft³/sec

2R

$$Q = Q_{4R} + Q_{3R} \quad 4.69 \text{ ft}^3/\text{sec}$$

1R

$T_c =$	10.00 minutes
$A = 14S + 1S + 3S + 6S + 5S + 4S + 7S$	7.46 acres
$C =$	0.40
$i =$	1.78 inches/hr
$Q = CiA =$	$(0.40) * (1.78) * (7.46)$
Q =	5.31 ft³/sec

SUBJECT: Additional Flow to Hawn Creek Using Rational Method**100-year****Existing Flow**

$$C = ((0.3)(8.12) + (0.1)(5.82)) / (13.94) =$$

0.22

$$T_c = T_{osf} + T_{scf} = 0.93(L^{0.6}n^{0.6}) / (i^{0.4}S^{0.3}) + L_2/60V = .93(300^{0.6}.15^{0.6}) / (1.60^{0.4}0.02^{0.3}) + 840 / (60 * 4.5) =$$

27.57 minutes

$$i =$$

1.6 inches/hr

$$Q = CiA = 0.22 * 1.60 * 13.94$$

4.91 cfs

Proposed Flow

$$C = ((11.87)(0.4) + (2.07)(0.1)) / (13.94) =$$

0.36

$$T_c = T_{osf} + T_{scf} = 0.93(L^{0.6}n^{0.6}) / (i^{0.4}S^{0.3}) + L_2/60V = .93(130^{0.6}.15^{0.6}) / (2.15^{0.4}0.02^{0.3}) + 890 / (60 * 4.5) =$$

16.46 minutes

$$i =$$

2.15 inches/hr

$$Q = CiA = 0.36 * 2.15 * 13.94 =$$

10.79 cfs

$$\text{Additional Flow to Hawn Creek Using Rational Method} = 10.79 - 4.91 =$$

5.88 cfs



Appendix B: City of Carlton Stormwater Management

- j) Maintenance, including accessibility for cleaning and inspection personnel and equipment.

3.10 **DESIGN CALCULATIONS AND CAPACITY**

a. **Design Calculations**

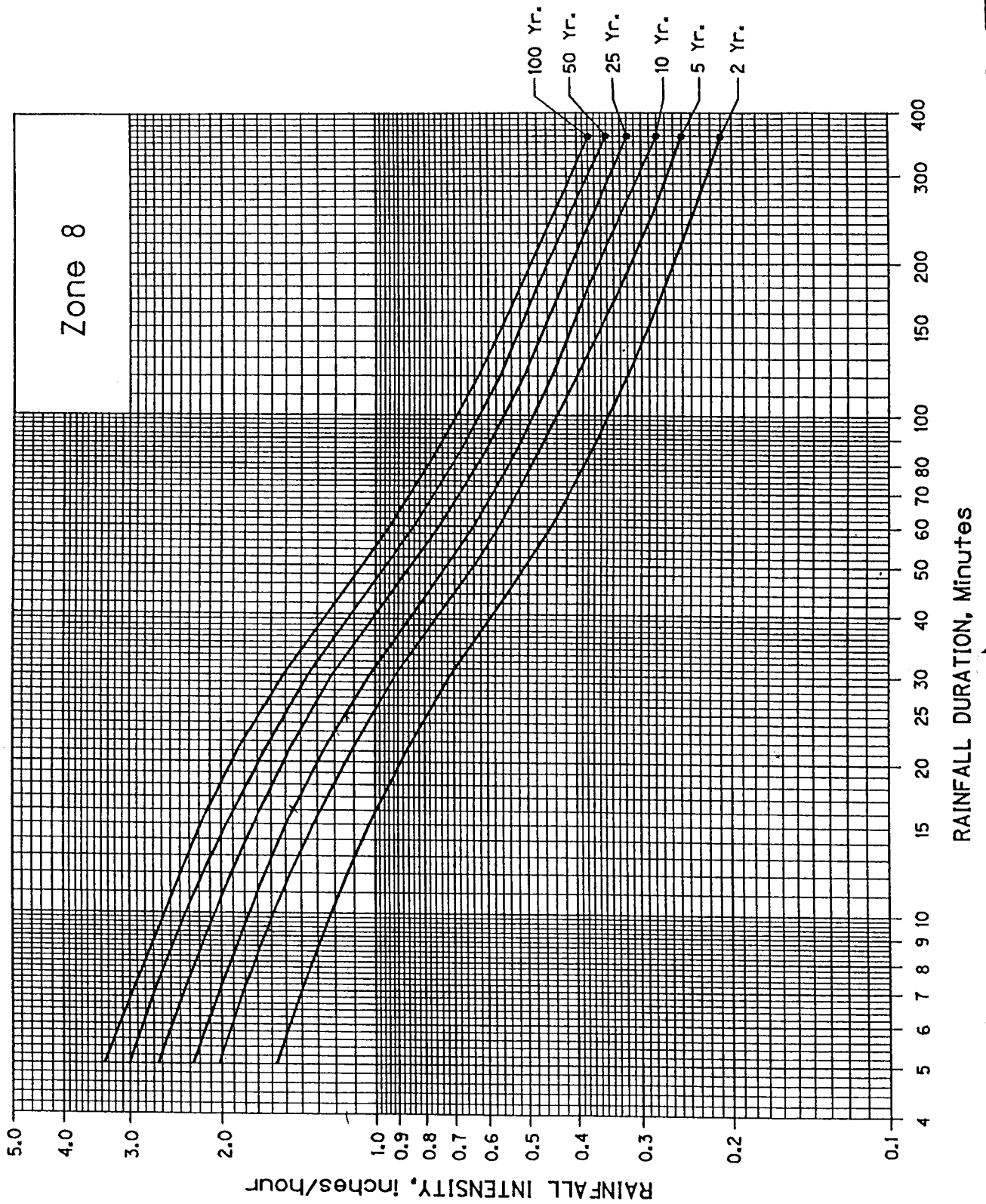
- 1) Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a professional engineer licensed in the State of Oregon.
- 2) Peak design discharges shall be computed using the rational formula, $Q=CiA$.
- 3) If use of a Santa Barbara Urban Hydrograph (SBUH) based computer program is proposed for use in sizing storm drain pipes for peak discharge, a 50 year SBUH storm event must be used in lieu of the 10 year or 25 year rational storm frequency to provide equivalent capacity. All CN parameters shall be as or more conservative than the equivalent runoff coefficients listed in these standards. The City Engineer reserves the right to verify all calculations using the rational method, and require larger pipe sizes if the rational calculations result in higher flows than the SBUH methodology.

b. **Design Storm**

- 1) Rainfall Intensity-Duration Curve - The rainfall intensity-duration-frequency (IDF) curve for use in the City of Carlton is the ODOT Zone 8 IDF curve (enclosed herein).
- 2) Design Frequency - The intensity-duration design frequency is based on the time of concentration for the area and the size of the drainage facility. The adopted criteria are listed in the following table.

DESIGN STORM FREQUENCY	
AREA	FREQUENCY
Residential areas	10-year storm
Commercial and high value districts	10-year storm
Trunk lines (18" pipe and larger)	25-year storm
Minor creeks and drainage ways (not shown as a flood plain on the Flood Insurance Rate Map (FIRM))	50-year storm
Major creeks (shown as a flood plain on the FIRM)	100-year storm

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES



ODOT Zone 8 IDF Curve Tabular Data (Carlton)

Rainfall Duration (Min)	Rainfall Intensity, inches/hour				
	5 year Storm	10 year Storm	25 year Storm	50 year Storm	100 year Storm
5	2.01	2.25	2.63	3.00	3.35
6	1.90	2.12	2.50	2.81	3.12
7	1.81	2.01	2.35	2.68	2.95
8	1.71	1.91	2.24	2.55	2.80
9	1.65	1.83	2.14	2.43	2.69
10	1.60	1.78	2.07	2.33	2.58
11	1.51	1.70	1.98	2.25	2.48
12	1.48	1.65	1.90	2.18	2.40
13	1.41	1.60	1.85	2.10	2.31
14	1.38	1.55	1.79	2.01	2.24
15	1.32	1.50	1.72	1.95	2.19
20	1.13	1.30	1.50	1.69	1.90
25	1.00	1.14	1.35	1.50	1.69
30	0.91	1.02	1.21	1.36	1.51
35	0.82	0.92	1.10	1.21	1.38
40	0.75	0.84	0.98	1.11	1.24
45	0.69	0.78	0.92	1.02	1.15
50	0.64	0.73	0.85	0.95	1.08
55	0.60	0.68	0.80	0.89	1.00
60	0.57	0.64	0.75	0.84	0.94
70	0.53	0.59	0.68	0.76	0.85
80	0.49	0.54	0.63	0.70	0.78
90	0.46	0.52	0.59	0.66	0.74
100	0.44	0.49	0.56	0.62	0.69
110	0.42	0.47	0.53	0.60	0.66
120	0.40	0.45	0.51	0.57	0.63
130	0.385	0.44	0.49	0.55	0.60
140	0.37	0.420	0.48	0.53	0.58
150	0.36	0.410	0.46	0.520	0.56
160	0.35	0.400	0.45	0.50	0.540
170	0.340	0.390	0.44	0.49	0.53
180	0.33	0.38	0.43	0.48	0.52

- 3) If use of a Santa Barbara Urban Hydrograph (SBUH) based computer program is proposed for use in sizing storm drain pipes for peak discharge, a 50 year SBUH storm event must be used in lieu of the 10 year or 25 year rational storm frequency to provide equivalent capacity. All CN parameters shall be as or more conservative than the equivalent runoff coefficients listed in these standards. The City Engineer reserves the right to verify all calculations using the rational method, and require larger pipe sizes if the rational calculations result in higher flows than the SBUH methodology.

c. **Runoff Coefficients**

- 1) The coefficients of runoff "C" are listed below. Use of coefficients other than those listed must be based on field investigations which demonstrate conclusively that the proposed coefficients are justified.

RUNOFF COEFFICIENTS			
SOIL COVER	FLAT TERRAIN S<2%	ROLLING TERRAIN 2%<S≤10%	STEEP TERRAIN S>10%
Cultivated Land	0.30	0.35	0.40
Parks & Cemeteries	0.15	0.20	0.30
Woodlands & Forests	0.10	0.15	0.20
Meadows & Pasture Land	0.25	0.30	0.35
1) Single-family residential in urban areas, except corner lots with duplex potential	0.40	0.45	0.50
2) Gravel parking lots	0.50	0.55	0.60
3) Mobile home parks	0.60	0.65	0.70
4) Multi-family residential, zero-lot-line single-family residential and potential duplex lots in single-family residential	0.70	0.75	0.80
Highly impermeable (roofs and paved areas)	0.90	0.90	0.90

d. **Time of Concentration**

- 1) For land in a pre-development condition, the minimum time of concentration

from the most remote point in the basin to the first defined channel (e.g. gutter, ditch or pipe) shall be 10 minutes. Pre-development shall be defined as a site with natural vegetation on native soil.

- 2) For developed residential and commercial/industrial property, the maximum time of concentration from the most remote point in the development to the closest inlet shall be 10 minutes, unless calculations by an acceptable method show the time to be longer.

3.11 OPEN CHANNELS

- a. Within the UGB, creation of new open channels will not generally be allowed. Where allowed by the City, ditches shall be located along or adjacent to lot lines.
- b. For reasons of maintenance and safety, bank slopes generally shall be 3H:1V or flatter unless otherwise required by the Public Works Superintendent or the Public Works Superintendent.
- c. The maximum allowable design velocity shall be 7 fps.
- d. The minimum allowable design velocity shall be 2 fps. The installation of a concrete lined low-flow channel may be required to achieve minimum velocity.
- e. Unless otherwise approved by the City Engineer, all piped discharges to open channels (existing or new) shall be mitered to match the channel side slope and include a reinforced concrete collar (6" minimum thickness) to prevent settlement or erosion of the pipe trench at the discharge location, and to protect the end of the pipe. Unless otherwise approved by Public Works and the City Engineer, the concrete collar shall extend from the channel bottom to the top of bank. Grates shall be provided on all inlets or outlets 18" or larger unless otherwise specifically approved by Public Works and the City Engineer, as well as at any locations required by Public Works to accommodate maintenance or mowing requirements.

3.12 ALIGNMENT AND LOCATION

a. General

- 1) Generally, storm drains shall be laid on a straight alignment between catch basins and between manholes. Lines 15-inch in diameter and smaller may be laid on horizontal curves conforming to the street curvature provided the radius of the horizontal curve is not less than 200 feet.
- 2) Variance for horizontal curves on larger size pipes shall be reviewed by the City Engineer on a case by case basis.
- 3) Where storm drains are being designed for installation parallel to other utility



Appendix C: Streamstats Report

StreamStats Report

Region ID:

OR

Workspace ID:

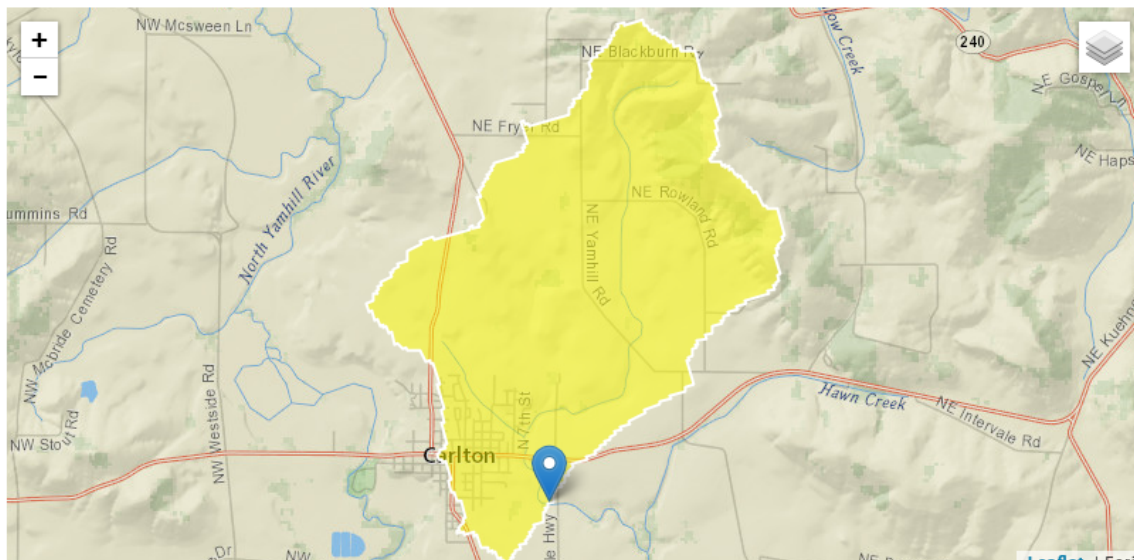
OR20200819162409896000

Clicked Point (Latitude, Longitude):

45.29017, -123.16551

Time:

2020-08-19 09:24:28 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.86	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	1.97	inches
SOILPERM	Average Soil Permeability	0.75	inches per hour
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	45.9	degrees F
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.18	inches
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	3.21	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	33.1	degrees F

Parameter Code	Parameter Description	Value	Unit
ELEV	Mean Basin Elevation	242	feet
WATCAPORR	Available water capacity from STATSGO data using methods from SIR 2008-5126	0.18	inch per inch

General Disclaimers

Parameter values have been edited, computed flows may not apply.

Upstream regulation was checked for this watershed.

This watershed is percent regulated, computed flows may not apply.

This watershed has been edited, computed flows may not apply.

The resulting delineations are derived from digital elevation data and storm drain vectors that have been processed to enforce drainage through storm drains.

Urban regression equations for peak flows were not developed using streamgages which incorporate storm drain delineations and therefore should be used with caution.

Peak-Flow Statistics Parameters [Reg 2B Western Interior LT 3000 ft Cooper]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.86	square miles	0.37	7270
BSLOPD	Mean Basin Slope degrees	3.21	degrees	5.62	28.3
I24H2Y	24 Hour 2 Year Precipitation	1.97	inches	1.53	4.48
ELEV	Mean Basin Elevation	242	feet		
ORREG2	Oregon Region Number	10001	dimensionless		

Peak-Flow Statistics Disclaimers [Reg 2B Western Interior LT 3000 ft Cooper]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Peak-Flow Statistics Flow Report [Reg 2B Western Interior LT 3000 ft Cooper]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit
2 Year Peak Flood	94.7	ft ³ /s
5 Year Peak Flood	141	ft ³ /s
10 Year Peak Flood	174	ft ³ /s
25 Year Peak Flood	217	ft ³ /s
50 Year Peak Flood	249	ft ³ /s
100 Year Peak Flood	282	ft ³ /s
500 Year Peak Flood	360	ft ³ /s

Peak-Flow Statistics Citations

Cooper, R.M.,2005, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5116, 76 p.

USGS Storm Drain Disclaimer: The Storm Drain methods are being provided to meet the need for timely best science and are released on the condition that neither the USGS nor the U.S. Government may be held liable for any damages resulting from authorized or unauthorized use. At his time these methods are provisional and are subject to revision until thoroughly reviewed and approved.

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.4.0



Exhibit I: Arborist Report

JR Meadows No. 2 Arborist Report

Date: August 26, 2020

Prepared For: TJA, LLC
9110 NW Clay Pit Road
Yamhill, OR 97148

Prepared By: Bruce R. Baldwin
ISA Certified Arborist No.: PN-6666A
ISA Qualified Tree Risk Assessor
bruce@aks-eng.com

Site Information: South of the Intersection of
E Main Street & S 7th Street, Carlton, OR 97111
Tax Lot 1300; Tax Map 3S 4W 22



12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

Project Summary

This project consists of a 55-lot subdivision for future residential dwelling units. The purpose of this Arborist Report is to document information related to existing onsite trees, planned tree preservation and removal for the project, and protection measures for trees to be preserved.

Tree Inventory & Evaluation

A site visit was conducted on August 24th & 25th, 2020 to evaluate existing on-site trees. The trees were evaluated for species, DBH, average crown radius, and visual assessment of tree health and condition. Please refer to "Appendix A – Tree Inventory" for the above-mentioned information as well as additional tree related information.

Tree Preservation & Removal Plan

The Preliminary Tree Preservation and Removal Plan (dated August 19, 2020) was reviewed by a Certified Arborist. Trees in good health have been prioritized for preservation where feasible and tree protection measures shown appear to be sufficient. For additional tree protection measures and tree protection fencing locations, please refer to "Appendix B – Preliminary Tree Preservation and Removal Plan."

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Bruce R. Baldwin

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Appendix A - Tree Inventory

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
15061	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15150	22	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15837	9,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15928	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15929	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15930	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15931	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15939	12,11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15940	16,15,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15941	12,10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15943	11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15944	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15946	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15947	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15949	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15951	16,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15952	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15953	9,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15967	10,9,9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15992	11,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15993	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15994	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15995	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15996	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15997	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15998	10,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15999	12	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16000	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16001	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16002	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16003	13	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16004	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16005	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16006	7,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16007	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16008	14	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16009	10,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16010	8,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16011	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16012	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16013	14	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16014	7,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16015	9,8,8,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16016	10,9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16017	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16018	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16019	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16020	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve

Detailed Tree Inventory for JR Meadows No. 2

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
16021	11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16022	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16023	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16024	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16025	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16026	9,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16027	8,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16028	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16029	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16032	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16033	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16034	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16035	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16036	7,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16037	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16038	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16039	14,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16040	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16041	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16042	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16043	13	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16044	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16045	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16046	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16047	8,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16048	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16049	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16050	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16051	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16052	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16053	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16054	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16055	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16056	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16057	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16058	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16059	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16060	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16061	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16062	8,8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16306	9	11	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
16307	9	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
16309	29	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
16310	9	17	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)	1	2	Remove
16311	14	20	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); Large cavity with decay	2	2	Remove
16312	10	12	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed	2	2	Remove
16313	17	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Butt sweep; Abnormal dead branches	2	1	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species		Comments	Health Rating*	Structure Rating**	Remove/Preserve
			Common Name	Scientific name				
16314	26	15	Douglas-fir	<i>Pseudotsuga menziesii</i>	Sweep; Exposed buttress roots	1	2	Remove
16315	9	20	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (S); Abnormal dead branches	2	2	Remove
16316	25	20	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (S); Abnormal dead branches	2	2	Remove
16317	24	22	Oregon White Oak	<i>Quercus garryana</i>	High canopy	1	2	Remove
16318	27	25	Oregon White Oak	<i>Quercus garryana</i>	Lean (SW); 1-sided canopy (SW)	1	2	Remove
16320	29	0	Douglas-fir	<i>Pseudotsuga menziesii</i>	Dead	3	3	Remove
16322	21	17	Oregon White Oak	<i>Quercus garryana</i>	High canopy; Sparse canopy; Many abnormal dead branches; Dead codominant stem	3	2	Remove
16323	31	0	Douglas-fir	<i>Pseudotsuga menziesii</i>	Dead	3	3	Remove
16324	7	10	Willow	<i>Salix sp.</i>	Lean (W)	1	2	Remove
16325	6	10	English Hawthorn	<i>Crataegus monogyna</i>	Lean (W)	1	2	Remove
16326	7	10	Willow	<i>Salix sp.</i>	Lean (W)	1	2	Remove
16330	36	20	Douglas-fir	<i>Pseudotsuga menziesii</i>	1-sided canopy (E)	1	2	Remove
16332	6	12	English Hawthorn	<i>Crataegus monogyna</i>	Lean (E)	1	2	Remove
16338	15	14	Douglas-fir	<i>Pseudotsuga menziesii</i>		1	1	Remove
16339	12	12	Douglas-fir	<i>Pseudotsuga menziesii</i>		1	1	Remove
16340	13	12	Douglas-fir	<i>Pseudotsuga menziesii</i>		1	1	Remove
16343	29	27	Oregon White Oak	<i>Quercus garryana</i>	Failed codominant stem leaving large cavity with decay; 1-sided canopy (S)	2	3	Remove
16345	15,10,8,6	18	Cherry	<i>Prunus sp.</i>	Crooked; Abnormal dead branches; Exposed roots	2	2	Remove
16346	6	10	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Remove
16347	6	10	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Remove
16348	6	8	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Remove
16349	24	20	Oregon White Oak	<i>Quercus garryana</i>		1	1	Remove
16351	6	8	Cherry	<i>Prunus sp.</i>		1	1	Remove
16352	6,6	7	Cherry	<i>Prunus sp.</i>		1	1	Remove
16353	7	7	Cherry	<i>Prunus sp.</i>		1	1	Remove
16354	15	20	Oregon White Oak	<i>Quercus garryana</i>	Epicormic sprouts; 1-sided canopy (S); Abnormal dead branches	2	2	Remove
16633	8	7	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Preserve
16634	6	10	English Hawthorn	<i>Crataegus monogyna</i>		2	2	Remove
16635	11	8	English Hawthorn	<i>Crataegus monogyna</i>	Lean (S); Abnormal dead branches	2	1	Remove
16636	32	27	Oregon White Oak	<i>Quercus garryana</i>	Abnormal dead branches	1	1	Remove
16637	21	19	Oregon White Oak	<i>Quercus garryana</i>	High canopy; Abnormal dead branches	2	2	Remove
16638	26	35	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (W)	1	2	Remove
16639	7	10	Cherry	<i>Prunus sp.</i>		1	1	Remove
16640	12	30	Oregon White Oak	<i>Quercus garryana</i>	Large cavity with decay; Deformed bole; Suppressed; Sparse canopy	3	2	Remove
16641	39	30	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (W)	1	2	Remove
16643	8	10	Cherry	<i>Prunus sp.</i>		1	1	Remove
16644	22	20	Oregon White Oak	<i>Quercus garryana</i>	Abnormal dead branches	2	1	Remove
16645	18	18	Oregon White Oak	<i>Quercus garryana</i>	High canopy	1	2	Remove
16646	7	10	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Remove
16647	6	11	Willow	<i>Salix sp.</i>	Lean (W); Crooked bole	1	2	Remove
16649	26	23	Oregon White Oak	<i>Quercus garryana</i>		1	1	Remove
16650	27	22	Oregon White Oak	<i>Quercus garryana</i>	High canopy	1	2	Remove
16651	8	10	English Hawthorn	<i>Crataegus monogyna</i>		1	1	Remove
16652	9	16	English Hawthorn	<i>Crataegus monogyna</i>	Lean (E)	1	2	Remove
16653	13	14	Oregon White Oak	<i>Quercus garryana</i>	Sparse canopy; High canopy; Abnormal dead branches	2	2	Remove
16654	17	15	Douglas-fir	<i>Pseudotsuga menziesii</i>	Sparse canopy; High canopy; Abnormal dead branches	2	2	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
16655	12	18	Cherry (<i>Prunus sp.</i>)	Lean (S); Abnormal dead branches	2	2	Remove
16656	7	10	Willow (<i>Salix sp.</i>)	Lean (W); Abnormal dead branches	2	2	Remove
16657	7,6	7	Willow (<i>Salix sp.</i>)	Broken top; Abnormal dead branches	3	2	Remove
16658	7	14	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Exposed roots	1	2	Remove
16660	30	25	Oregon White Oak (<i>Quercus garryana</i>)	Lean (E); 1-sided canopy (E)	1	2	Remove
16664	8,8	10	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (E)	1	2	Remove
16665	6	7	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16668	6,6	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove
16671	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove
16672	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16673	7	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16674	7	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16676	10,7,6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16677	27,14	30	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove
16678	10,6,6	13	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches	2	1	Remove
16696	21	20	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Epicormic sprouts; High canopy	2	2	Remove
16697	23	18	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches	2	1	Remove
16698	20	19	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches	2	2	Remove
16699	11	15	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Epicormic sprouts; High canopy	2	2	Remove
16700	28	27	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); Broken branches; 1-sided canopy (W); Abnormal dead branches	2	2	Remove
16701	11	0	Oregon White Oak (<i>Quercus garryana</i>)	Fallen snag	3	3	Remove
16702	17	16	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Very sparse canopy; Many epicormic sprouts	3	2	Remove
16703	12	9	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Very sparse canopy; Many epicormic sprouts	3	2	Remove
16704	27	35	Oregon White Oak (<i>Quercus garryana</i>)	Deformed bole; Lean (W); 1-sided canopy (W); Abnormal dead branches	2	2	Remove
16705	28	18	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
16706	14	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove
16707	10	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove
16708	17	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Broken top	3	2	Remove
16709	12	8	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Sparse canopy; Epicormic sprouts; Suppressed	3	2	Remove
16710	10	0	Oregon White Oak (<i>Quercus garryana</i>)	Dead	3	3	Remove
16711	17	20	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove
16712	39	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)	1-sided canopy (S)	1	2	Remove
16713	6	10	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove
16714	6	11	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove
16717	8	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16718	7	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Dead	3	3	Remove
16719	8	10	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches	2	1	Remove
16720	11	12	Cherry (<i>Prunus sp.</i>)	Crooked bole; Abnormal dead branches	2	2	Remove
16721	12	9	Cherry (<i>Prunus sp.</i>)	Many abnormal dead branches; Dead codominant stem	3	2	Remove
16722	11	15	Cherry (<i>Prunus sp.</i>)	Lean (W)	1	2	Remove
16723	6	10	Cherry (<i>Prunus sp.</i>)	Crooked bole; Lean (S)	1	2	Remove
16724	10	11	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16725	28	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
16726	7	16	Willow (<i>Salix sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove
16727	8	16	Willow (<i>Salix sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove
16728	9	9	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove
16733	20	16	Oregon White Oak (<i>Quercus garryana</i>)	Dead scaffold branches; High canopy	2	2	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species		Comments	Health Rating*	Structure Rating**	Remove/Preserve
			Common Name	Scientific name				
16734	8	18	English Hawthorn	<i>Crataegus monogyna</i>	1-sided canopy (S); Abnormal dead branches	1	1	Remove
16735	22	22	Oregon White Oak	<i>Quercus garryana</i>	Dead scaffold branches; Sparse canopy	2	2	Remove
16736	19	14	Oregon White Oak	<i>Quercus garryana</i>	High canopy; Abnormal dead branches	2	2	Remove
16737	23	20	Oregon White Oak	<i>Quercus garryana</i>	Abnormal dead branches; Lean (S)	2	2	Remove
16738	6	17	Willow	<i>Salix sp.</i>	Large conks up bole; Many abnormal dead branches	2	2	Remove
16739	20	14	Douglas-fir	<i>Pseudotsuga menziesii</i>	Dead	3	3	Remove
16740	15	0	Oregon White Oak	<i>Quercus garryana</i>	Abnormal dead branches; Exposed buttress roots (E)	3	3	Remove
16741	19	16	Douglas-fir	<i>Pseudotsuga menziesii</i>	High canopy	2	1	Remove
16742	22	14	Oregon White Oak	<i>Quercus garryana</i>	Lean (W); 1-sided canopy (W)	1	2	Remove
16743	8,8	11	English Hawthorn	<i>Crataegus monogyna</i>	High canopy; Epicormic sprouts; Sparse canopy	1	1	Remove
16744	24	35	Oregon White Oak	<i>Quercus garryana</i>	Lean (N); Crooked bole	1	2	Remove
16745	15	10	Oregon White Oak	<i>Quercus garryana</i>	Broken branches; High canopy; Sparse canopy	2	2	Remove
16746	6	11	Willow	<i>Salix sp.</i>	Many abnormal dead branches; Sparse canopy; In decline	1	1	Remove
16747	22	19	Oregon White Oak	<i>Quercus garryana</i>	Many abnormal dead branches; Sparse canopy; In decline	2	2	Remove
16748	8	10	English Hawthorn	<i>Crataegus monogyna</i>	Bore holes; Abnormal dead branches; Lean (E)	3	2	Remove
16750	12	11	Cherry	<i>Prunus sp.</i>	Abnormal dead branches	3	2	Remove
16751	12	11	Cherry	<i>Prunus sp.</i>	Crooked bole; Lean (W); Abnormal dead branches	3	2	Remove
16753	42	30	Douglas-fir	<i>Pseudotsuga menziesii</i>	Codominant with included bark	1	2	Remove
16755	10	17	Cherry	<i>Prunus sp.</i>	Many abnormal dead branches; Sparse canopy; In decline	1	1	Remove
16756	14	16	Cherry	<i>Prunus sp.</i>	Bore holes; Abnormal dead branches; Lean (E)	3	2	Remove
16757	10	12	Holly	<i>Ilex sp.</i>	Abnormal dead branches	2	2	Remove
16758	20	20	Oregon White Oak	<i>Quercus garryana</i>	Crooked bole; Lean (W); Abnormal dead branches	2	1	Remove
16760	6,6	10	English Hawthorn	<i>Crataegus monogyna</i>	High canopy; Lean (N)	2	2	Remove
16761	7	9	Willow	<i>Salix sp.</i>	Snag	1	1	Remove
16762	23	23	Oregon White Oak	<i>Quercus garryana</i>	Abnormal dead branches; Exposed buttress roots	1	2	Remove
16763	8	0	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (W)	3	3	Remove
16777	33	20	Douglas-fir	<i>Pseudotsuga menziesii</i>	1-sided canopy (S)	2	1	Remove
16781	19	13	English Hawthorn	<i>Crataegus monogyna</i>	Snag	1	2	Remove
16786	7	11	Cherry	<i>Prunus sp.</i>	1-sided canopy (W)	1	1	Remove
16795	9,6	12	Cherry	<i>Prunus sp.</i>	1-sided canopy (S)	1	1	Remove
16796	24	20	Oregon White Oak	<i>Quercus garryana</i>	Many abnormal dead branches; Dead scaffold branches; 1-sided (W); In decline	1	2	Preserve
16797	13	0	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (W); Abnormal dead branches	3	3	Remove
16798	30	30	Oregon White Oak	<i>Quercus garryana</i>	Crooked bole; Suppressed	3	2	Remove
16799	20	20	Oregon White Oak	<i>Quercus garryana</i>	Lean (W); 1-sided canopy (W)	2	2	Preserve
16800	10,8	14	English Hawthorn	<i>Crataegus monogyna</i>	Lean (W); 1-sided canopy (W)	1	1	Remove
16801	11	11	Oregon White Oak	<i>Quercus garryana</i>	Lean (W); 1-sided canopy (W)	2	2	Remove
16802	16,15	22	Oregon White Oak	<i>Quercus garryana</i>	Lean (W); 1-sided canopy (W)	2	2	Preserve
16804	7	10	Cherry	<i>Prunus sp.</i>	Lean (W); 1-sided canopy (W)	1	2	Preserve
16805	6	10	Cherry	<i>Prunus sp.</i>	Lean (W); 1-sided canopy (W)	1	2	Preserve
16806	7	10	English Hawthorn	<i>Crataegus monogyna</i>	Lean (W)	1	2	Preserve
16807	21	18	Oregon White Oak	<i>Quercus garryana</i>	Lean (W); High canopy; Many abnormal dead branches; Dead foliage	3	2	Remove
16808	12,12	17	Oregon White Oak	<i>Quercus garryana</i>	Suppressed; Sparse canopy	2	2	Remove
16809	8	11	English Hawthorn	<i>Crataegus monogyna</i>	Suppressed; Sparse canopy	2	2	Remove
16810	28	31	Oregon White Oak	<i>Quercus garryana</i>	Dead	1	1	Remove
16811	14	0	Oregon White Oak	<i>Quercus garryana</i>	1-sided canopy (W)	3	3	Remove
16814	21,21	20	Oregon White Oak	<i>Quercus garryana</i>	Cavity with decay	1	2	Preserve
16815	15,15	21	Oregon White Oak	<i>Quercus garryana</i>		2	1	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species		Comments	Health Rating*	Structure Rating**	Remove/Preserve
			Common Name (Scientific name)					
16816	22	25	Oregon White Oak (<i>Quercus garryana</i>)		Lean (S); Crooked bole	1	2	Remove
16817	8	11	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Remove
16818	18.24	18	Oregon White Oak (<i>Quercus garryana</i>)		Abnormal dead branches; Sparse canopy	2	2	Remove
16820	21	23	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
16822	27.22	31	Oregon White Oak (<i>Quercus garryana</i>)		Cavity with decay; 1-sided canopy (W)	2	2	Remove
16823	23	20	Oregon White Oak (<i>Quercus garryana</i>)		Crooked bole; 1-sided canopy (W)	1	2	Remove
16824	14	15	Oregon White Oak (<i>Quercus garryana</i>)		Crooked bole; Suppressed	2	2	Remove
16825	11	0	Oregon White Oak (<i>Quercus garryana</i>)		Snag	3	3	Remove
16826	17	20	Oregon White Oak (<i>Quercus garryana</i>)		Broken scaffold branches with decay; 1-sided canopy (SE)	2	2	Remove
16827	7	10	Willow (<i>Salix sp.</i>)			1	1	Remove
16828	7	11	Willow (<i>Salix sp.</i>)			1	1	Remove
16829	12	15	Cherry (<i>Prunus sp.</i>)			1	1	Remove
16830	10	15	Cherry (<i>Prunus sp.</i>)		Lean (E); 1-sided canopy (E)	1	2	Remove
16831	9	15	Cherry (<i>Prunus sp.</i>)		Lean (E)	1	2	Remove
16832	9	15	Cherry (<i>Prunus sp.</i>)		Lean (E)	1	2	Remove
16833	7	15	Cherry (<i>Prunus sp.</i>)		Lean (E)	1	2	Remove
16834	6	15	Cherry (<i>Prunus sp.</i>)		Lean (E)	1	2	Remove
16835	10	12	Cherry (<i>Prunus sp.</i>)		Cavities with decay	2	2	Remove
16836	6	10	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Remove
16844	7	12	English Hawthorn (<i>Crataegus monogyna</i>)		Cavity with decay	2	1	Remove
16845	6	0	Willow (<i>Salix sp.</i>)		Dead	3	3	Remove
16846	6.6	10	Willow (<i>Salix sp.</i>)			1	1	Remove
16850	22	19	Oregon White Oak (<i>Quercus garryana</i>)		High canopy	1	2	Remove
16851	10	14	Oregon White Oak (<i>Quercus garryana</i>)		High canopy	1	2	Remove
16852	6	16	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (N)	1	2	Remove
16853	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (E)	1	2	Preserve
16857	7	7	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (W); Abnormal dead branches	2	2	Preserve
16858	32	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		Dead top; Abnormal dead branches; Epicormic sprouts; Sparse canopy	3	2	Remove
16859	8.8, 8	16	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (W)	1	2	Remove
16860	8	9	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (W)	1	2	Preserve
16861	8	11	English Hawthorn (<i>Crataegus monogyna</i>)		Lean (W)	1	2	Preserve
16862	15,14,10,7,6,6	20	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
16867	6	10	Cherry (<i>Prunus sp.</i>)			1	1	Remove
16868	24	22	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
16869	18	20	Oregon White Oak (<i>Quercus garryana</i>)		1-sided canopy (W); Epicormic sprouts; Broken branches with decay	2	2	Remove
16871	27, 10	32	Oregon White Oak (<i>Quercus garryana</i>)		10' stem is dead; 1-sided canopy (S)	2	2	Remove
16875	33, 22	19	Douglas-fir (<i>Pseudotsuga menziesii</i>)		Codominant base; Sap seepage; Sluffing bark; Abnormal dead branches	2	2	Remove
16878	40	16	Douglas-fir (<i>Pseudotsuga menziesii</i>)			1	1	Remove
16881	47	16	Douglas-fir (<i>Pseudotsuga menziesii</i>)			1	1	Remove
16883	36, 18	25	Oregon White Oak (<i>Quercus garryana</i>)		Failed 18" stem leaving large cavity with decay; Abnormal dead branches	2	2	Remove
16884	24	25	Oregon White Oak (<i>Quercus garryana</i>)		1-sided canopy (E)	1	2	Remove
16885	18	30	Oregon White Oak (<i>Quercus garryana</i>)		Epicormic sprouts; Abnormal dead branches	2	1	Remove
16886	10	0	English Hawthorn (<i>Crataegus monogyna</i>)		Dead	3	3	Remove
16888	31	35	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
16889	22	25	Oregon White Oak (<i>Quercus garryana</i>)		Suppressed; Cavities; Dead scaffold branches	2	2	Remove
16890	12	0	English Hawthorn (<i>Crataegus monogyna</i>)		Dead	3	3	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species		Comments	Health Rating*	Structure Rating**	Remove/Preserve
			Common Name	(Scientific name)				
16891	14	11	Oregon White Oak	(<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts	2	2	Remove
16892	11	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16893	6	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16894	6.7	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove
16895	14	9	Oregon White Oak	(<i>Quercus garryana</i>)	Very sparse canopy; Epicormic sprouts; High canopy; In decline	3	2	Remove
16896	25	0	Oregon White Oak	(<i>Quercus garryana</i>)	Dead	3	3	Remove
16897	8,6,6	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16898	22	20	Oregon White Oak	(<i>Quercus garryana</i>)	Dead primary stem; Very sparse canopy; 1-sided canopy (W)	3	2	Remove
16899	32	25	Oregon White Oak	(<i>Quercus garryana</i>)	Abnormal dead branches; Sparse canopy	2	2	Remove
16902	7	7	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16903	7,7,6	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16912	20	0	Oregon White Oak	(<i>Quercus garryana</i>)	Snag	3	3	Remove
16913	19	35	Oregon White Oak	(<i>Quercus garryana</i>)	1-sided canopy (N)	1	2	Preserve
16914	31	30	Oregon White Oak	(<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Preserve
16917	6	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16918	24	20	Oregon Ash	(<i>Fraxinus latifolia</i>)		1	1	Remove
16919	10,8	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Very sparse canopy; In decline	3	2	Remove
16920	7	0	English Hawthorn	(<i>Crataegus monogyna</i>)	Dead	3	3	Remove
16923	11	13	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16924	12,8	19	Oregon White Oak	(<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove
16925	7,7,6,6	12	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16926	6	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove
16927	11	13	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16928	6,6	12	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove
16929	7	15	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Remove
16930	9,8	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches	2	2	Remove
16932	10	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Deformed bole; Failed codominant stems; Abnormal dead branches	3	2	Remove
16933	8	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Deformed bole; Failed codominant stems; Abnormal dead branches	3	2	Remove
16934	11,10	12	English Hawthorn	(<i>Crataegus monogyna</i>)	Abnormal dead branches	2	1	Remove
16935	7	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove
16936	18	17	Douglas-fir	(<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; In decline	3	2	Remove
16937	21,13,10	15	Douglas-fir	(<i>Pseudotsuga menziesii</i>)	Codominant base; Many abnormal dead branches; Exposed buttress roots; In decline	3	2	Remove
16938	7,6	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove
16939	9	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16940	9	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove
16941	12,8	12	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16943	6,6	15	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16944	9	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16945	7	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove
16946	8	13	Willow	(<i>Salix sp.</i>)	1-sided canopy (S)	1	2	Remove
16948	8	11	Cherry	(<i>Prunus sp.</i>)		1	1	Remove
16949	8	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16950	6	10	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches	2	2	Remove
16953	6	10	English Hawthorn	(<i>Crataegus monogyna</i>)		1	1	Remove
16954	6	17	English Hawthorn	(<i>Crataegus monogyna</i>)	Lean (E)	1	2	Preserve
16955	13	17	English Hawthorn	(<i>Crataegus monogyna</i>)	1-sided canopy (E)	1	2	Preserve

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
16956	7	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Preserve
16957	6.6	0	English Hawthorn (<i>Crataegus monogyna</i>)	Snag	3	3	Preserve
16958	12.6	16	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (E); Bore holes; Cavities	2	2	Preserve
16959	7	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Preserve
16960	6	7	Willow (<i>Salix</i> sp.)	Lean (N); Abnormal dead branches	2	2	Preserve
16984	8,7,7,6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16985	10	10	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
16987	8	0	English Hawthorn (<i>Crataegus monogyna</i>)	Dead	3	3	Remove
16988	8.8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Remove
16989	8.7	12	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Preserve
16991	9	9	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Lean (N)	1	2	Preserve
16993	6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
16994	9.8	10	Apple (<i>Malus domestica</i>)	Cavities with decay	2	2	Remove
16997	6	9	English Hawthorn (<i>Crataegus monogyna</i>)	OFFSITE ; 1-sided canopy (W)	1	2	Preserve
17001	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17002	6	11	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove
17003	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17004	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17005	13	15	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
17006	6	12	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S)	1	2	Remove
17007	8	7	Oregon White Oak (<i>Quercus garryana</i>)	Sparse canopy; Many abnormal dead branches; in decline	3	2	Remove
17008	9	10	English Hawthorn (<i>Crataegus monogyna</i>)	Broken top	3	2	Remove
17009	8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove
17010	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove
17011	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Broken top	3	2	Remove
17012	8.8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17020	7	6	Cherry (<i>Prunus</i> sp.)		1	1	Remove
17025	32	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE ; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17026	21	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE ; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17027	40	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE ; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17033	12,10,8	13	Oregon White Oak (<i>Quercus garryana</i>)	8" stem dead; High canopy; 1-sided canopy (S)	2	2	Remove
17037	27	13	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17038	13	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S); Abnormal dead branches	2	2	Remove
17039	33	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove
17040	33	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove
17041	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17042	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17043	10	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; in decline	3	2	Remove
17044	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; in decline	3	2	Remove
17045	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; in decline	3	2	Remove
17046	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; in decline	3	2	Remove
17047	6	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; in decline	3	2	Remove
17048	23	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; in decline	3	2	Remove
17049	11	14	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts; bulges; Dead scaffold branches	2	2	Remove
17050	8	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts; bulges; Dead scaffold branches	2	2	Remove
17051	18,15	35	Oregon White Oak (<i>Quercus garryana</i>)	Lean (SE); 1-sided canopy (SE); Abnormal dead branches	2	2	Remove
17052	9	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)	1	2	Remove

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species		Comments	Health Rating*	Structure Rating**	Remove/Preserve
			Common Name (Scientific name)					
17053	9	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)		1	2	Remove
17054	6	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag		3	3	Remove
17056	7,7	17	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches; Cavities; Lean		2	2	Remove
17057	10	17	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches; Cavities; Lean		2	2	Remove
17058	27	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; In decline		3	2	Remove
17059	15	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S)		1	2	Remove
17061	20,20	21	Oregon White Oak (<i>Quercus garryana</i>)	Lean (E); Abnormal dead branches		2	2	Remove
17062	11	18	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); Dead codominant stems with decay; Bulges; Sparse canopy; In decline		3	2	Remove
17064	6	6	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Preserve
17065	15	16	Oregon White Oak (<i>Quercus garryana</i>)	Dead scaffold branches		2	1	Preserve
17066	17	14	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Preserve
17067	27	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches; Dead foliage		2	1	Preserve
17069	7	0	Willow (<i>Salix sp.</i>)	Dead		3	3	Remove
17070	20	20	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Preserve
17072	20	20	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
17073	11	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)			1	1	Preserve
17075	14	12	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Preserve
17077	6	0	Oregon White Oak (<i>Quercus garryana</i>)			3	3	Remove
17078	17,8	28	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S)		1	2	Preserve
17079	8	11	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches		2	2	Preserve
17080	13	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches		2	2	Preserve
17081	13	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches		2	2	Preserve
17082	12	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches		2	2	Preserve
17083	12	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag; Lean (S)		3	3	Remove
17084	30	40	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; 1-sided canopy (E)		1	2	Preserve
17095	7	17	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (SW)		1	2	Preserve
17096	7,7	13	English Hawthorn (<i>Crataegus monogyna</i>)	Very sparse canopy; Many abnormal dead branches; In decline		3	2	Preserve
17097	20	20	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches		2	1	Preserve
17098	11	16	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Crooked bole		2	2	Preserve
17099	11	14	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; 1-sided canopy (S)		1	2	Preserve
17100	19	20	Oregon White Oak (<i>Quercus garryana</i>)	Epicormic sprouts; Abnormal dead branches		2	1	Remove
17101	7	8	Willow (<i>Salix sp.</i>)	Abnormal dead branches		2	1	Remove
17102	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)		1	2	Remove
17103	29	23	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
17104	41	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag		3	3	Remove
17105	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches		2	1	Remove
17106	9	10	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches		2	1	Remove
17107	6,6	9	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Remove
17108	17	16	Oregon White Oak (<i>Quercus garryana</i>)	High canopy		1	2	Remove
17109	7	11	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)		1	2	Remove
17110	10	12	Oregon White Oak (<i>Quercus garryana</i>)			1	1	Remove
17111	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Deformed bole; Lean (E)		1	2	Preserve
17112	7	9	English Hawthorn (<i>Crataegus monogyna</i>)			1	1	Preserve
17113	17	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag		3	3	Remove
17114	10	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches		2	2	Remove
17116	20	20	Oregon White Oak (<i>Quercus garryana</i>)	Lean (SW)		1	2	Preserve
17117	8	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)		1	2	Preserve

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
17118	6	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)	1	2	Preserve
17119	7.6	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (S)	1	2	Preserve
17120	12	20	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (SE)	1	2	Preserve
17121	10	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S); 1-sided canopy (S)	1	2	Preserve
17127	7.6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
17134	9.8	16	Cherry (<i>Prunus sp.</i>)	Crooked bole	1	2	Preserve
17139	36	21	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant stems with included bark; Crooked bole	1	2	Remove
17140	35	21	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches	2	1	Remove
17145	7	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17146	6	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17148	29	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17160	13	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17161	9	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17162	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17163	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17164	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17165	8.8	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant with included bark	1	2	Remove
17167	6	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17170	8	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17171	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17172	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
17174	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17175	8	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17183	8.7.7	11	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17185	25	25	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17186	6	6	Willow (<i>Salix sp.</i>)	Abnormal dead branches	2	1	Preserve
17188	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17189	7	8	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17190	8	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17191	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17193	11	11	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17195	6	8	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17196	8	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17197	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17198	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17199	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17200	7	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17201	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17204	6	11	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE; 1-sided canopy (N)	1	2	Preserve
17207	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17208	8	11	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17209	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17211	6	12	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S)	1	2	Remove
17213	6	10	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove
17214	12	13	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove
17215	10.10.9.8	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark	1	2	Remove
17217	7	13	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches	2	1	Remove

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
17218	14,12,9,9,7	15	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17229	11	12	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Remove
17231	15,14	13	Cherry (<i>Prunus sp.</i>)	Sluffing bark; Cavities with decay; Many abnormal dead branches; In decline	3	2	Remove
17232	6	9	Cherry (<i>Prunus sp.</i>)	OFFSITE ; Crooked bole; Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17235	10,8,6	18	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17236	7,6,6	16	Willow (<i>Salix sp.</i>)	OFFSITE	1	1	Preserve
17248	6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17249	9,6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17250	7,6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17267	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17271	10	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17272	16	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17275	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Dead foliage	2	1	Preserve
17282	9,6	17	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17283	16	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17284	8,7,7	9	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Epicormic sprouts	2	1	Preserve
17285	20	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (W)	2	2	Preserve
17286	14	17	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17287	10	14	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17288	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17289	10	11	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17290	13,7	12	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17291	9	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17292	16	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17293	7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17294	6	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17295	7	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17296	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17297	8,7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17298	10,6	0	Oregon Ash (<i>Fraxinus latifolia</i>)	Broken top	3	2	Preserve
17299	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17300	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17301	8,6	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17302	8	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Lean (N)	2	2	Preserve
17303	11	9	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17304	9	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S); Abnormal dead branches	2	2	Preserve
17305	11	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N) Abnormal dead branches	2	2	Preserve
17306	18	16	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17307	8	12	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17308	16,12	20	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S)	1	2	Preserve
17312	18	19	Oregon Ash (<i>Fraxinus latifolia</i>)	Exposed roots; Cavities; Dead codominant stem; Sparse canopy	3	2	Preserve
17314	17	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17317	18	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17319	14,12	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17320	11	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17321	18,8	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17323	12	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve
17325	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17326	19	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N); Many dead branches; Many epicormic sprouts; Exposed roots	3	2	Preserve
17345	14,12	18	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (NW)	1	2	Preserve
17346	9,7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (NW)	1	2	Preserve
17347	6	14	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed	2	2	Preserve
17348	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed; In decline	3	2	Preserve
17349	7	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (W)	1	2	Preserve
17350	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)	1	2	Preserve
17351	10,9	16	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17352	9	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17353	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N); Abnormal dead branches	2	2	Preserve
17354	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17355	7,7,6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed; Abnormal dead branches	2	2	Preserve
17356	16	20	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17358	13	15	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17360	11,9,9	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark; Lean (W)	1	2	Preserve
17361	13	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Cavity; Abnormal dead branches	2	1	Preserve
17363	17	19	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17364	16	16	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17365	23	20	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17366	13,13	17	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark	1	2	Preserve
17385	18	18	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17386	9	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17387	14	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17389	7	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17394	6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
17396	10	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17488	10	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17492	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
17523	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
30001	34	22	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE	1	1	Remove
30002	24	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
30003	45	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
30086	18	13	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove
30087	31	22	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove
30158	16	8	Oregon White Oak (<i>Quercus garryana</i>)	Very sparse canopy; Many dead branches; In decline	3	2	Remove
30159	44	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
30162	15	17	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (N); Dead scaffold branches	2	2	Remove
30163	8	17	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; 1-sided canopy (N); In decline	3	2	Remove
30164	35	35	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (N)	1	2	Remove
30165	12	16	Oregon White Oak (<i>Quercus garryana</i>)	Scars; 1-sided canopy (N); Cavities	2	2	Remove
30166	7	9	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; 1-sided canopy (N); In decline	3	2	Remove
30167	7	9	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove
30925	8	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove

Total # of Existing Trees Inventoried = 559

Total # of Existing Onsite Trees = 443

Total # of Existing Onsite Trees to be Preserved = 126

Total # of Existing Onsite Trees to be Removed = 317

Total # of Existing Offsite Trees = 116

Total # of Existing Offsite Trees to be Preserved = 115

Total # of Existing Offsite Trees to be Removed = 1

***Health Rating:**

- 1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
- 2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
- 3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

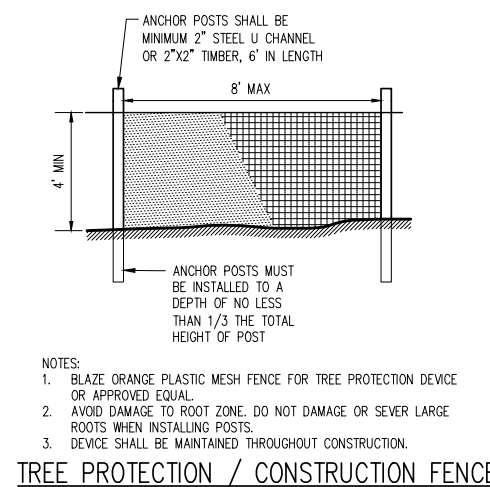
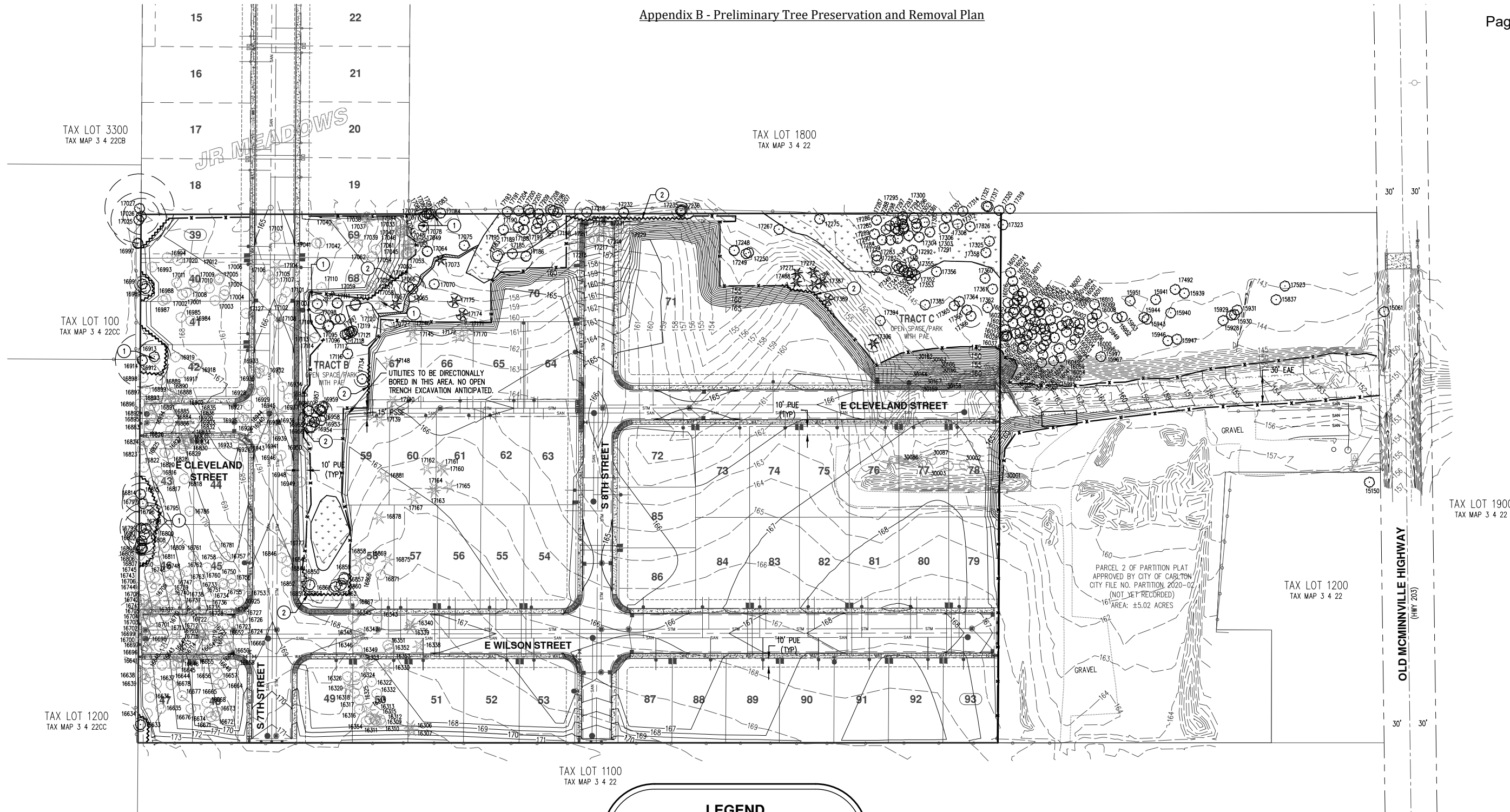
****Structure Rating:**

- 1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
- 2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
- 3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.



LEGEND

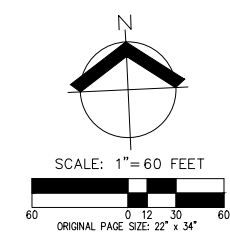
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EXISTING GROUND CONTOUR (5 FT)	---	150
FINISHED GRADE CONTOUR (1 FT)	---	149
FINISHED GRADE CONTOUR (5 FT)	---	150
EXISTING CONIFEROUS TREE	★	
EXISTING DECIDUOUS TREE	○	
TREE REMOVAL	○★	
TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA)	~~~~~	
SEDIMENT FENCE (TO SERVE AS TREE PROTECTION FENCE WHERE SHOWN)	---x---	
ASSUMED TREE ROOT ZONE (1-FT RADIUS PER 1-IN OF DBH)	○	

EASEMENT LEGEND

PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

- KEYED NOTES:**
- ARBORIST OBSERVATION RECOMMENDED DURING TREE REMOVAL BEHIND TREE PROTECTION FENCE.
 - INSTALL STRAW WATTLE WITH TREE PROTECTION FENCE.

NOTE:
 SEE ATTACHED ARBORIST REPORT FOR DETAILED TREE INFORMATION.



**PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY
 NOT FOR CONSTRUCTION
 J. DOWNHUR
 RENEWS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



Exhibit J: List of Surrounding Property Owners

R3422 01100
Catherine Liedtke
16300 Sw Hart Rd
Beaverton, OR 97007

R3422CC 01200
Jeffrey Degrauw
9680 Ne Old McMinnville Hwy
Carlton, OR 97111

R3422 01300
Larry & Cheryl Park
PO Box 698
Carlton, OR 97111

R3422 01900
Ronald & Kathy Sticka
PO Box 579
Carlton, OR 97111

R3422 01800
Ronald & Linda Tribbett
PO Box 549
Carlton, OR 97111

R3422CC 00100
School District No 11
535 Ne 5th St
McMinnville, OR 97128

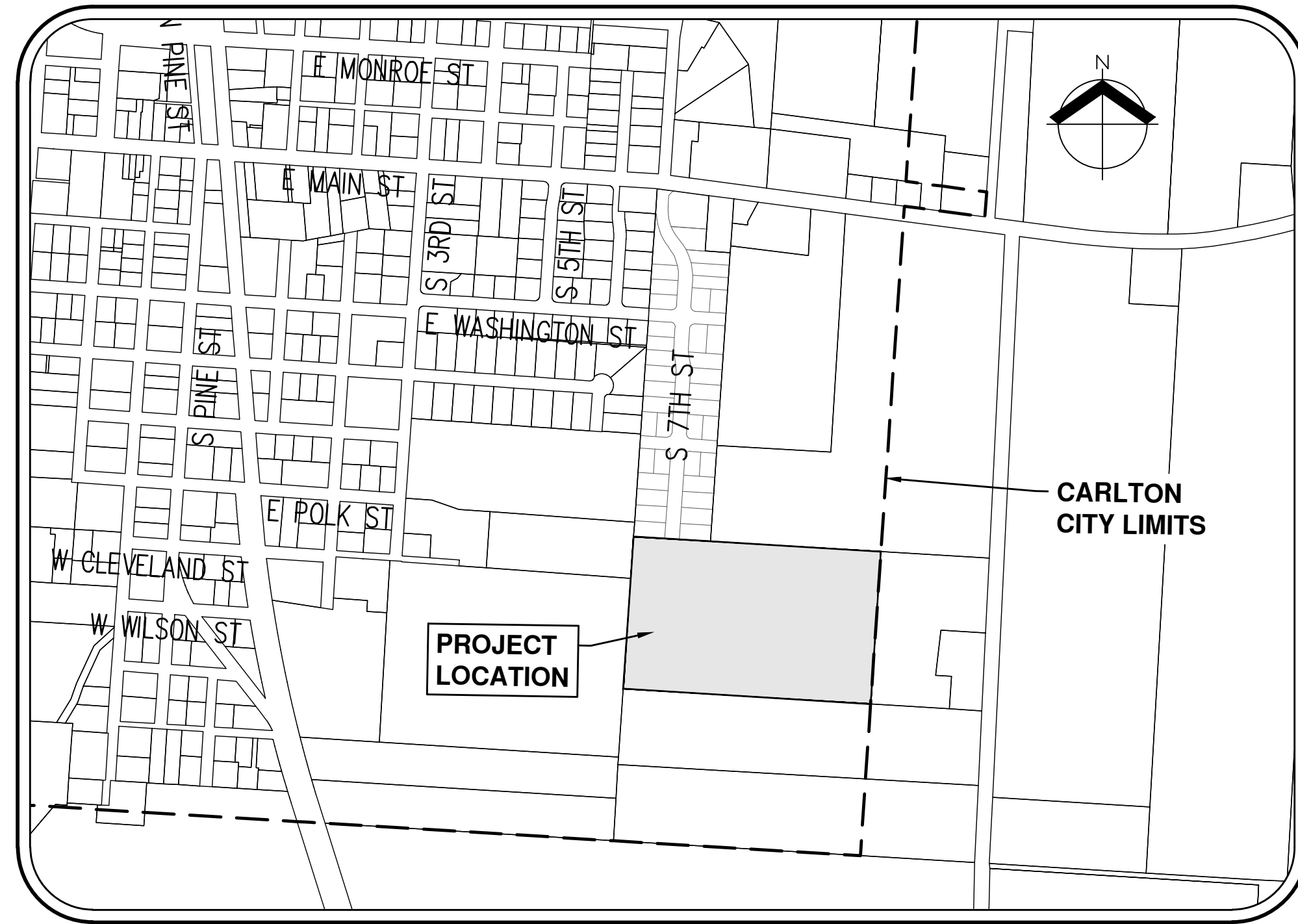
R3422CB 03300
School District No 11
535 Ne 5th St
McMinnville, OR 97128

R3422 01200
Stephen Hoff li & Amy Hoff
10051 Ne Old McMinnville Hwy
Carlton, OR 97111

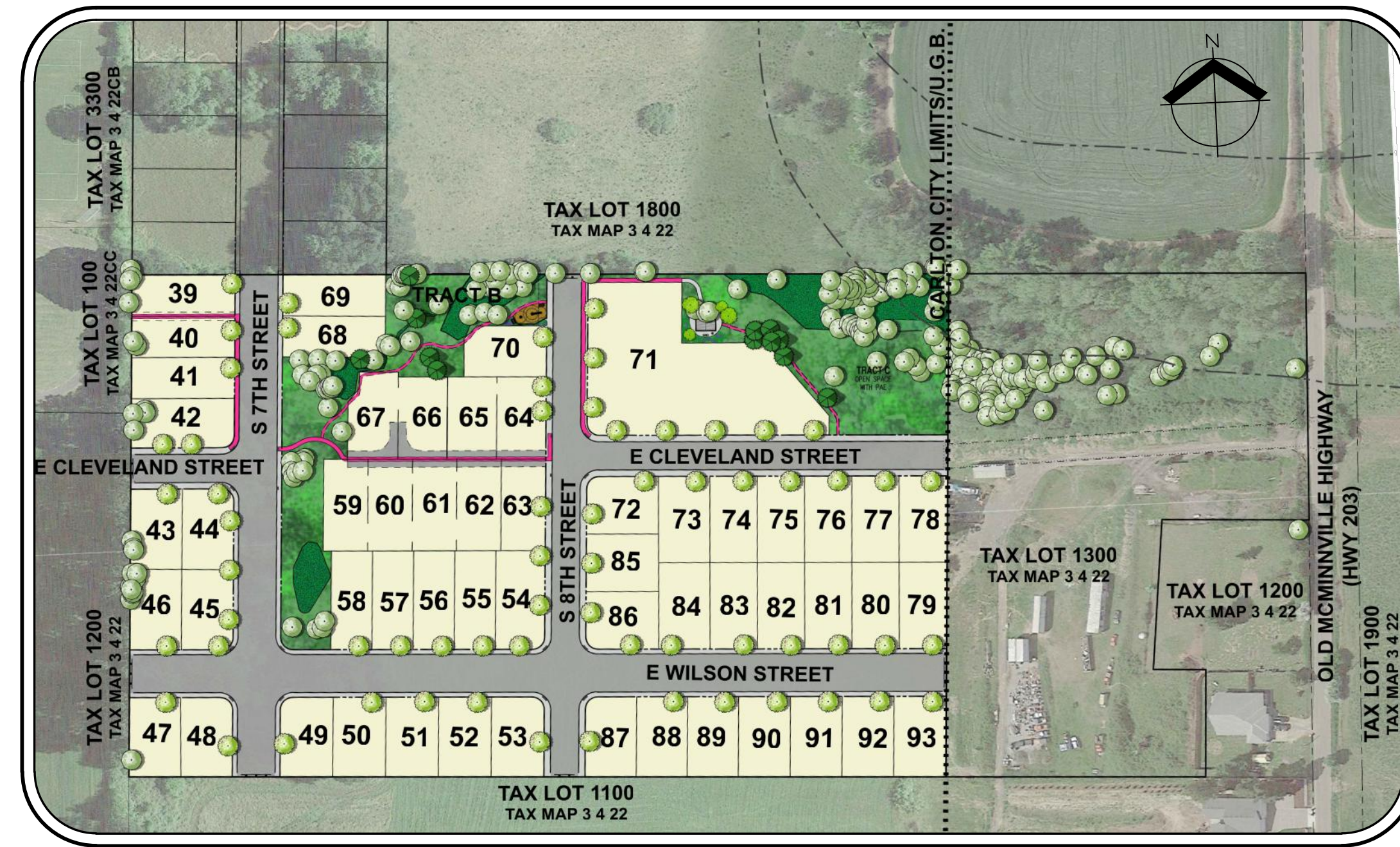
R3422 01400
Steve Reimann
9110 Nw Clay Pit Rd
Yamhill, OR 97148

JR MEADOWS NO. 2

PRELIMINARY PLANS



VICINITY MAP
1" = 500'



SITE MAP
1" = 150'

LEGEND			
	EXISTING	PROPOSED	
DECIDUOUS TREE			STORM DRAIN CLEAN OUT
CONIFEROUS TREE			STORM DRAIN CATCH BASIN
FIRE HYDRANT			STORM DRAIN AREA DRAIN
WATER BLOWOFF			STORM DRAIN MANHOLE
WATER METER			GAS METER
WATER VALVE			GAS VALVE
DOUBLE CHECK VALVE			GUY WIRE ANCHOR
AIR RELEASE VALVE			UTILITY POLE
SANITARY SEWER CLEAN OUT			POWER VAULT
SANITARY SEWER MANHOLE			POWER JUNCTION BOX
SIGN			POWER PEDESTAL
STREET LIGHT			COMMUNICATIONS VAULT
MAILBOX			COMMUNICATIONS JUNCTION BOX
			COMMUNICATIONS RISER
RIGHT-OF-WAY LINE			
	EXISTING	PROPOSED	
BOUNDARY LINE			
PROPERTY LINE			
CENTERLINE			
DITCH			
CURB			
EDGE OF PAVEMENT			
EASEMENT			
FENCE LINE			
GRAVEL EDGE			
POWER LINE			
OVERHEAD WIRE			
COMMUNICATIONS LINE			
FIBER OPTIC LINE			
GAS LINE			
STORM DRAIN LINE			
SANITARY SEWER LINE			
WATER LINE			

APPLICANT: TJA, LLC
9110 NW CLAY PIT ROAD
YAMHILL, OR 97148

PLANNING / ENGINEERING / SURVEYING TEAM: AKS ENGINEERING & FORESTRY, LLC
CONTACT: MONTY HURLEY / AMY DOWNHOUR / CHRIS GOODELL
12965 SW HERMAN RD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151

PROJECT LOCATION: SOUTH OF THE INTERSECTION OF E MAIN STREET AND 7TH STREET CARLTON, OREGON

PROPERTY DESCRIPTION: TAX LOT 1300, YAMHILL COUNTY ASSESSOR'S MAP 3S 4W 22, TOWNSHIP 3 SOUTH, RANGE 4 WEST, LOCATED IN SECTION 22, WILLAMETTE MERIDAN, CITY OF CARLTON, YAMHILL COUNTY, OREGON.

EXISTING LAND USE: VACANT

PROJECT PURPOSE: SUBDIVISION FOR FUTURE RESIDENTIAL DWELLING UNITS.

VERTICAL DATUM: VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U98 (PID RD0845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET. ELEVATION = 202.08 FEET (NAVD 88)

HORIZONTAL DATUM: HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING A PROJECT MEAN GROUND SCALE FACTOR OF 1.00010743905367 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID COORDINATES N604280.514, E7515183.436. STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.

SHEET INDEX

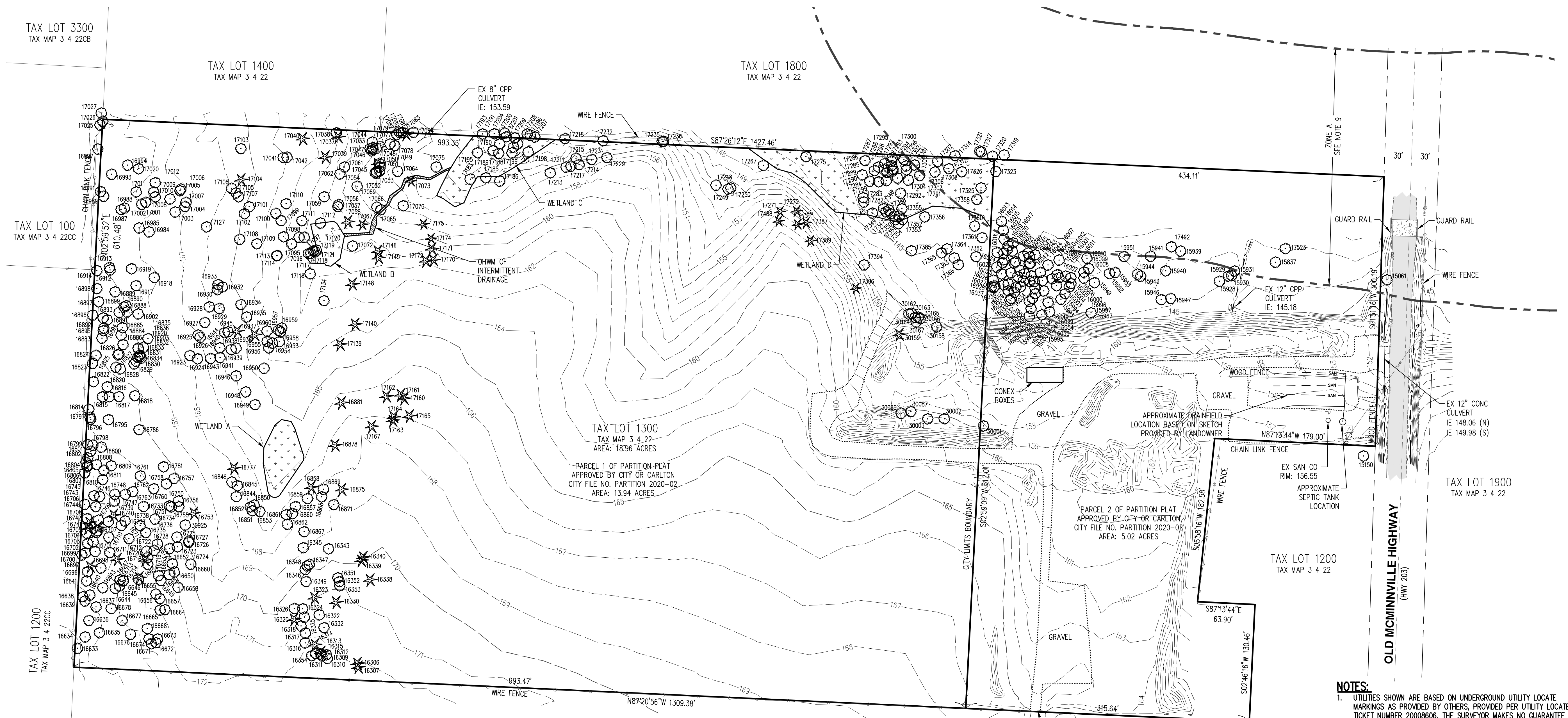
- P-01 COVER SHEET WITH LEGEND, VICINITY, AND SITE MAPS
- P-02 PRELIMINARY EXISTING CONDITIONS PLAN
- P-03 PRELIMINARY OPEN SPACE AND LANDSCAPE PLAN
- P-04 PRELIMINARY SUBDIVISION PLAT WITH FUTURE BUILDING SETBACKS
- P-05 CONCEPTUAL NEIGHBORHOOD CIRCULATION PLAN
- P-06 PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
- P-07 PRELIMINARY DEMOLITION PLAN
- P-08 PRELIMINARY GRADING AND EROSION CONTROL PLAN
- P-09 PRELIMINARY COMPOSITE UTILITY PLAN
- P-10 PRELIMINARY STREET PLAN AND CROSS SECTIONS
- P-11 PRELIMINARY STREET PROFILES
- P-12 PRELIMINARY STREET PROFILES
- P-13 PRELIMINARY AERIAL PHOTOGRAPH PLAN

COVER SHEET WITH LEGEND, VICINITY, AND SITE MAPS
JR MEADOWS NO. 2
CARLTON, OREGON

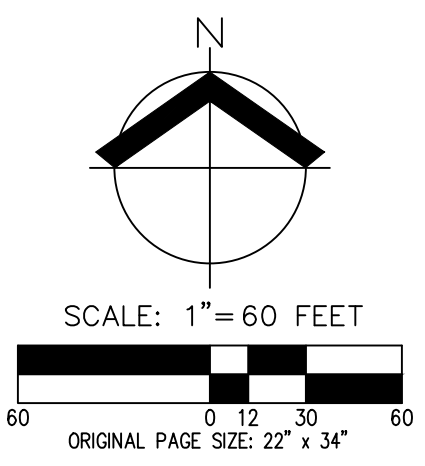


RENEWALS: DECEMBER 31, 2021
JOB NUMBER: 7395-01
DATE: 08/19/2020
DESIGNED BY: AJD
DRAWN BY: CL
CHECKED BY: RSW

P-01



- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 2000806. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITY LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED JANUARY 15-30, AND FEBRUARY 2, 2020.
 - VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U 98 (PID R00845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET ELEVATION = 202.08 FEET (NAVD 88).
 - HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING A PROJECT MEAN GROUND SCALE FACTOR OF 1.00010743905367 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID COORDINATES N604280.514, E7515183.436. STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
 - THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREST HEIGHT. SEE ARBORIST REPORT FOR DETAILED TREE INFORMATION.
 - ZONE A FLOOD PLAIN BOUNDARY IS SHOWN PER GIS OVERLAY OF FEMA FIRM MAP 41071C0191D, WITH AN EFFECTIVE DATE OF MARCH 2, 2010.
 - WETLAND AND WATER BOUNDARIES SHOWN WERE DELINEATED BY AKS ENGINEERING & FORESTRY, LLC ON 11/13/2019 AND WERE PROFESSIONALLY SURVEYED BY AKS ON 11/13/2019. A FOLLOW-UP SITE VISIT WAS CONDUCTED ON 8/12/2020 AND ADDITIONAL WETLAND DATA WAS GPS SURVEYED USING A TRIMBLE GEO7X GPS RECEIVER WITH SUB-METER ACCURACY. WETLAND BOUNDARY STUDY AREA ONLY WITHIN CITY LIMITS BOUNDARY.



**PRELIMINARY EXISTING
 CONDITIONS PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**

REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
 NOT FOR CONSTRUCTION
 CONDUCTED 2017
 BENJAMIN R HUFF
 84738PLS
 RENEWS: 6/30/21

JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AK
 DRAWN BY: BRH
 CHECKED BY: BRH

P-02

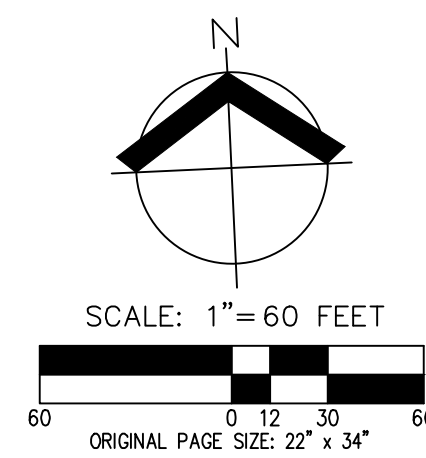


PRELIMINARY OPEN SPACE AND LANDSCAPE PLAN
JR MEADOWS NO. 2
CARLTON, OREGON

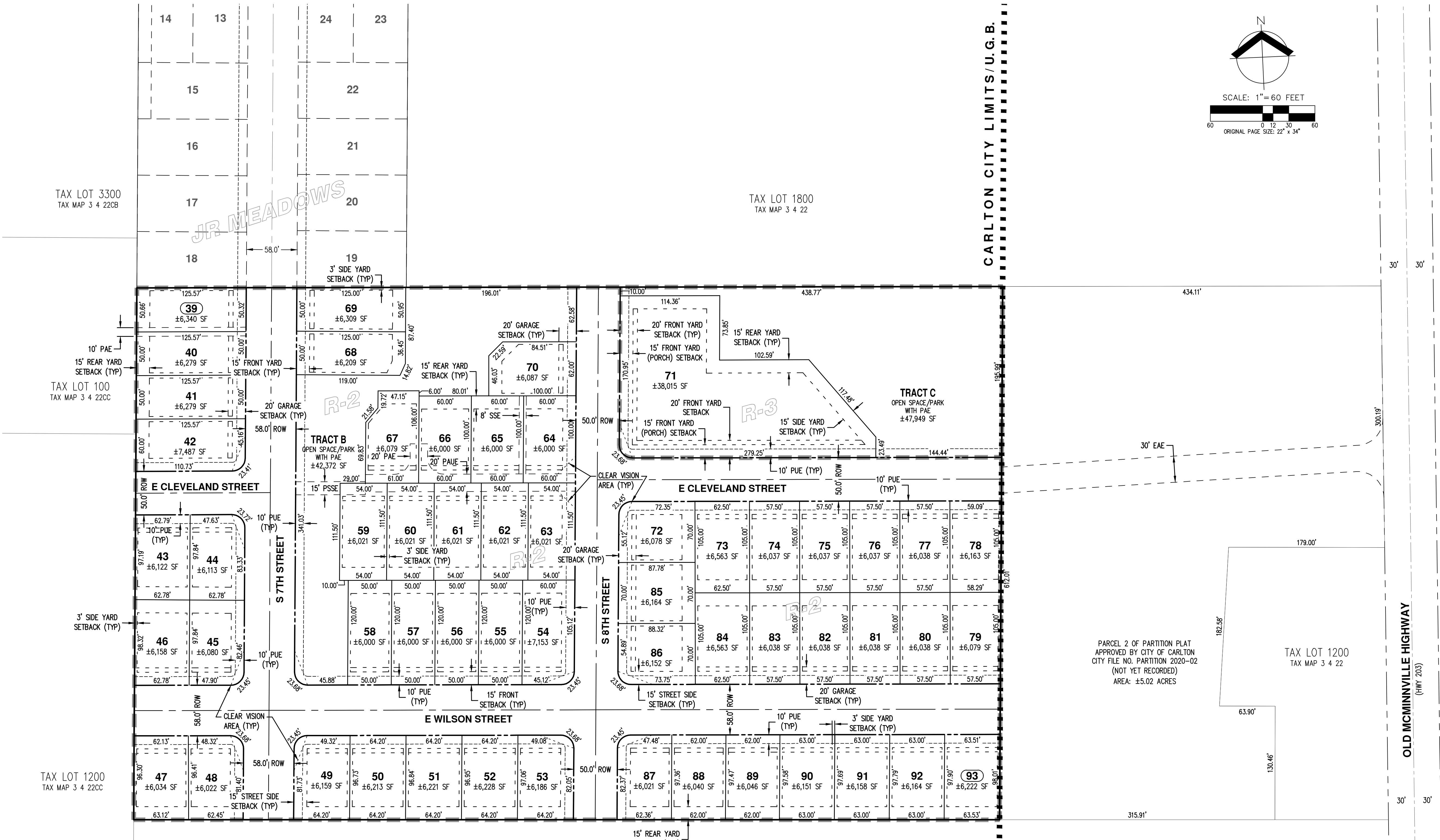
JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH

NOTE: POTENTIAL PLAN ELEMENTS AS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE.

AKS DRAWING FILE: 7395-01 MASTER PLAN EXHIBIT.DWG | LAYOUT: CTB



CARLTON CITY LIMITS / U.G.B.



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 1800
TAX MAP 3 4 22

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1900
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22

PARCEL 2 OF PARTITION PLAT
APPROVED BY CITY OF CARLTON
CITY FILE NO. PARTITION 2020-02
(NOT YET RECORDED)
AREA: ±5.02 ACRES

TAX LOT 1100
TAX MAP 3 4 22

EASEMENT LEGEND

PUBLIC UTILITY EASEMENT PUE
 PUBLIC ACCESS AND UTILITY EASEMENT PAUE
 PUBLIC ACCESS EASEMENT PAE
 PUBLIC SANITARY SEWER EASEMENT PSSE
 EMERGENCY ACCESS EASEMENT EAE
 PRIVATE SANITARY SEWER EASEMENT SSE

OPEN SPACE NOTES:

1. TRACT B & C SHALL EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON AS A PARK.

ACREAGE

R-2 ZONE 11.97 AC
 R-3 ZONE 1.97 AC
 TOTAL 13.94 AC

REQUIRED SETBACKS & LOT COVERAGE

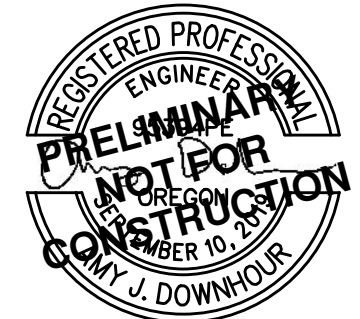
R-2 DISTRICT
 FRONT YARD 15 FT
 FRONT YARD TO GARAGE 20 FT
 SIDE YARD 3 FT
 STREET SIDE YARD 15 FT
 REAR YARD 15 FT
 COMBINED MAXIMUM LOT COVERAGE:
 BUILDING HEIGHT < 20 FT 80%
 BUILDING HEIGHT > 20 FT 65%

R-3 DISTRICT
 FRONT YARD 20 FT
 FRONT YARD TO PORCH 15 FT
 SIDE YARD 7 FT
 STREET SIDE YARD 20 FT
 REAR YARD 15 FT
 COMBINED MAXIMUM LOT COVERAGE: 70%

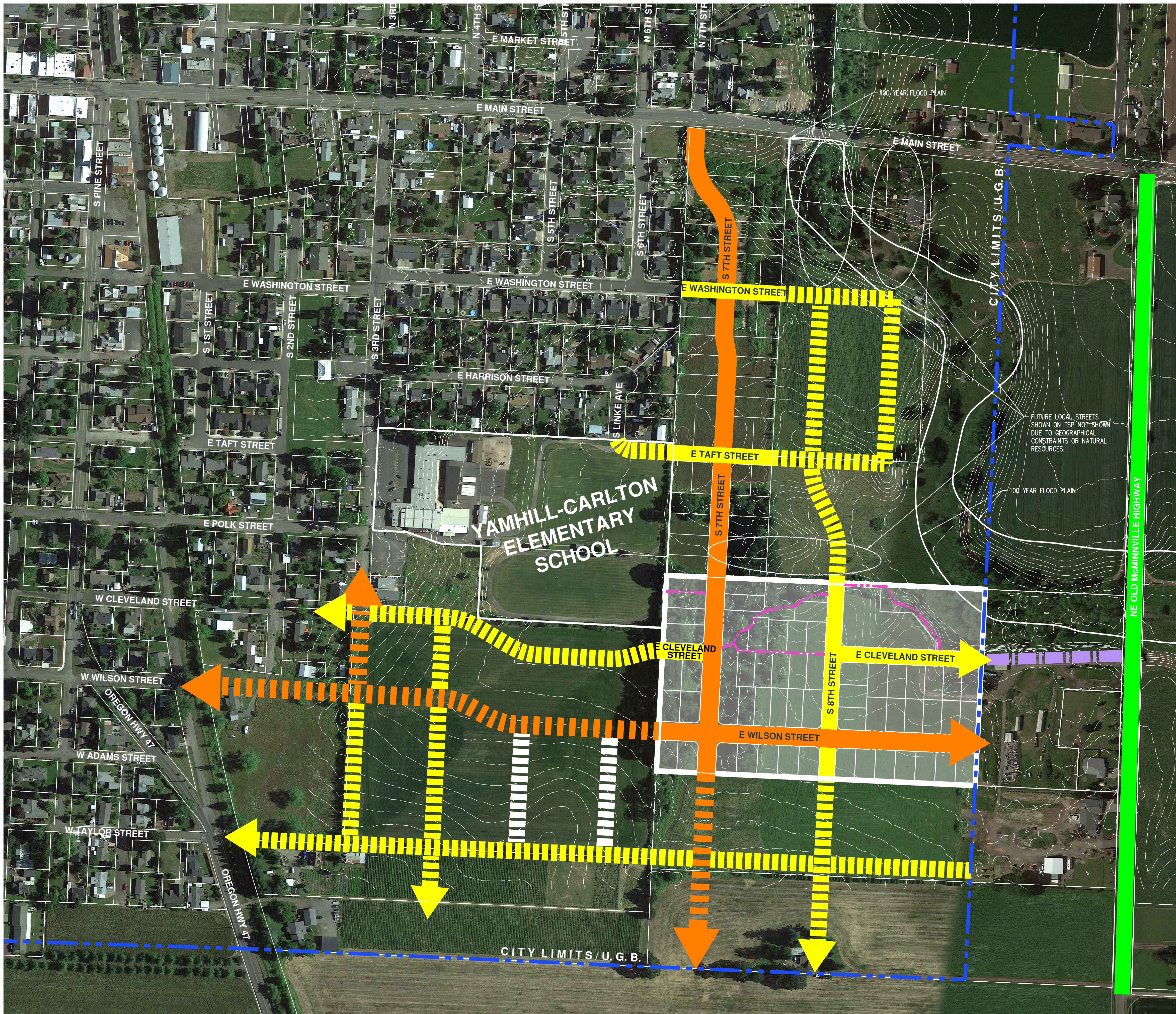
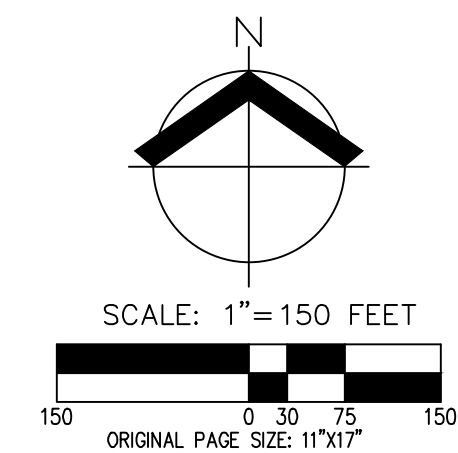
NOTE:

THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.

**PRELIMINARY SUBDIVISION PLAT
 WITH FUTURE BUILDING SETBACKS
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWALS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW

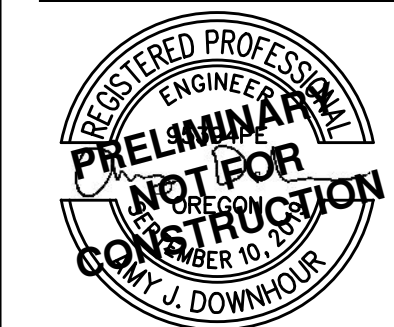


LEGEND

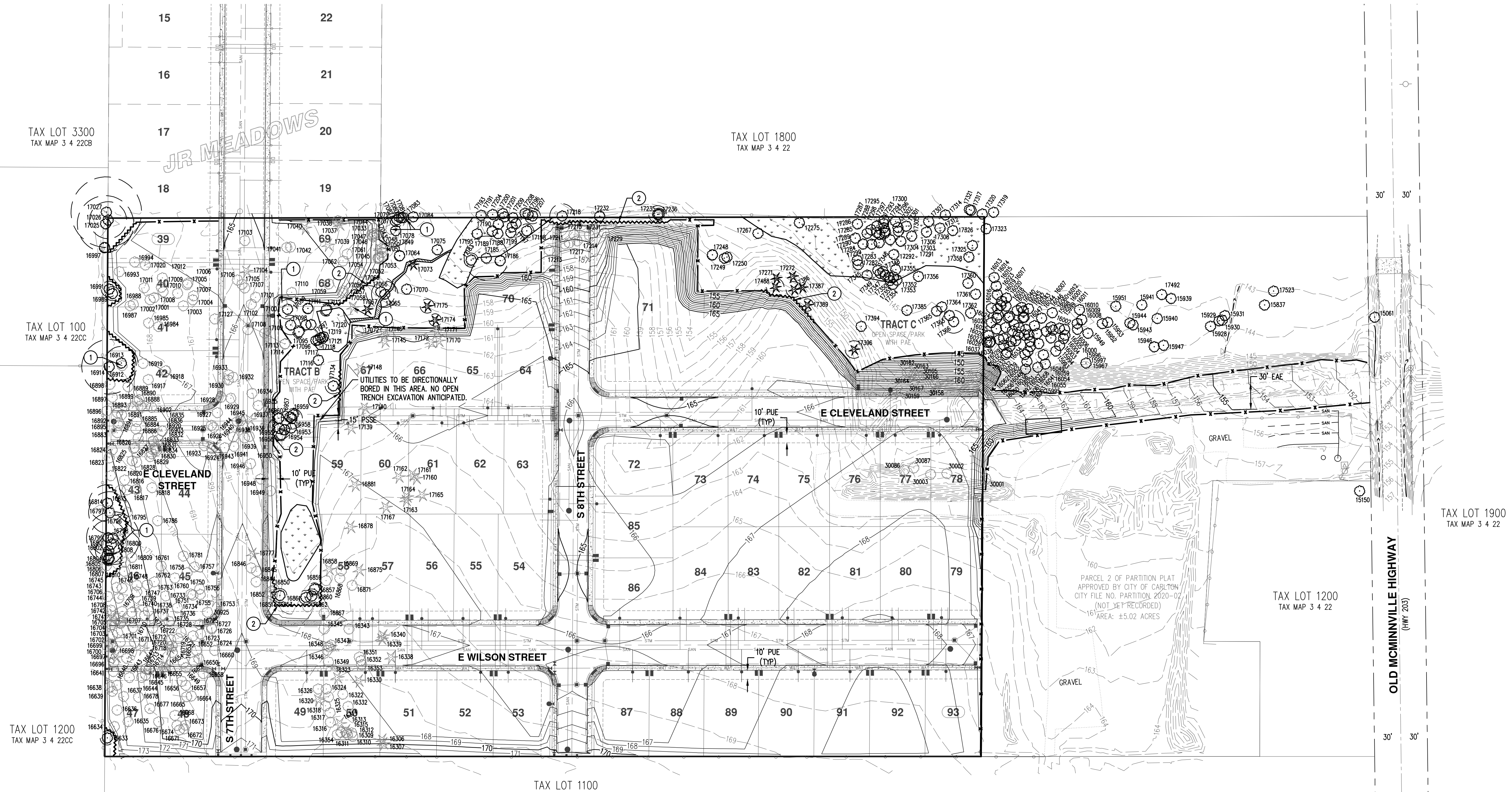
- CITY LIMITS/U.G.B.
 - PROJECT SITE BOUNDARY
 - * PLANNED LOCAL STREET
 - * PLANNED COLLECTOR
 - CONCEPTUAL FUTURE COLLECTOR (ON TSP)
 - CONCEPTUAL FUTURE LOCAL STREET (ON TSP)
 - YAMHILL COUNTY EXISTING LOCAL
 - CONCEPTUAL FUTURE LOCAL STREET (NOT ON TSP)
 - EMERGENCY ACCESS
 - PEDESTRIAN TRAIL
- * INCLUDES PLANNED ON-SITE STREETS AND OFF-SITE STREETS THAT ARE UNDER CONSTRUCTION AT THE TIME OF THIS APPLICATION.

- NOTES:**
1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS FOR THE CITY OF CARLTON.
 2. CONCEPTUAL FUTURE STREET LOCATIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES FOR THE LAND USE APPLICATION ONLY AND ARE NOT PROPOSED WITH THIS PARTITION AND ARE NOT BINDING ON ANY OFF-SITE PROPERTIES.
 3. THIS DRAWING DOES NOT REPRESENT A FIELD VERIFIED TOPOGRAPHIC/PROPERTY BOUNDARY SURVEY.
 4. DATA SOURCES FOR THIS CONCEPTUAL DRAWING INCLUDE INFORMATION EXTRAPOLATED FROM CITY OF CARLTON FUTURE STREET PLAN, GIS AND NOAA LIDAR TOPOGRAPHY.
 5. AREAS, DIMENSIONS, EASEMENT LOCATIONS, AERIAL PHOTO FEATURES, ETC. ARE THEREFORE CONSIDERED APPROXIMATE.

**CONCEPTUAL NEIGHBORHOOD
 CIRCULATION PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



REVISIONS:	DECEMBER 31, 2021
JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	AJD
DRAWN BY:	CL
CHECKED BY:	RSW



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 1800
TAX MAP 3 4 22

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1900
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22

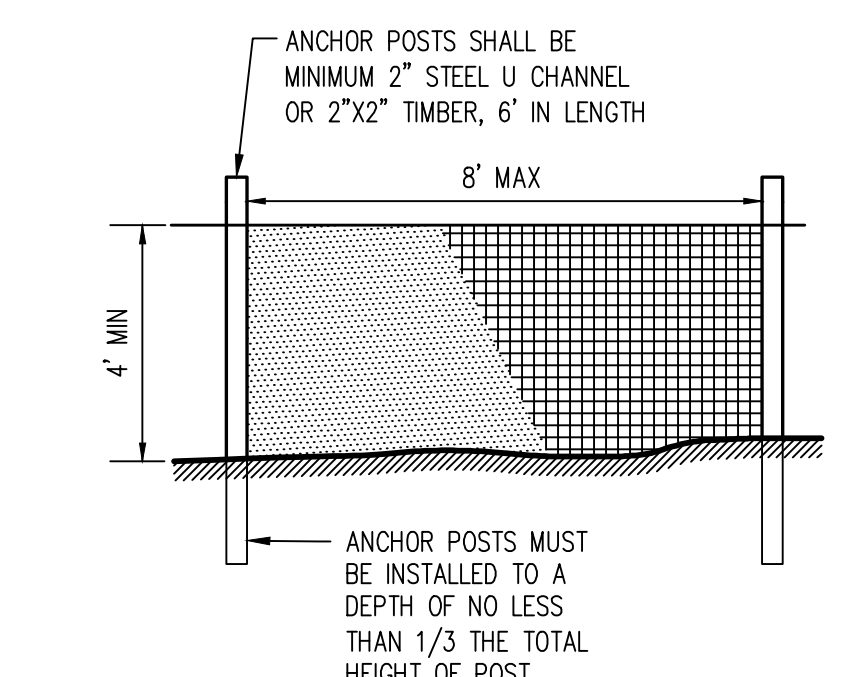
TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1100
TAX MAP 3 4 22

JR MEADOWS

UTILITIES TO BE DIRECTIONALLY BORED IN THIS AREA. NO OPEN TRENCH EXCAVATION ANTICIPATED.

PARCEL 2 OF PARTITION PLAT APPROVED BY CITY OF CARLTON CITY FILE NO. PARTITION 2020-02 (NOT YET RECORDED) AREA: ±5.02 ACRES



- NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
 2. AVOID DAMAGE TO ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION / CONSTRUCTION FENCE

LEGEND

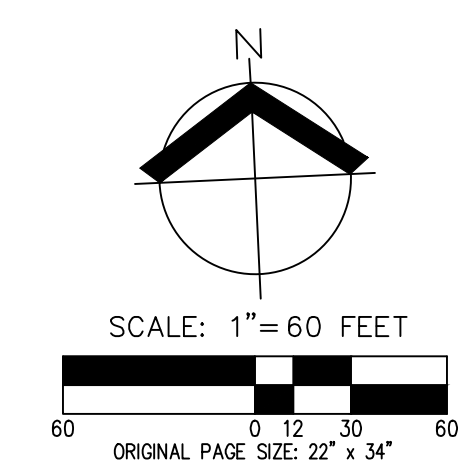
EXISTING GROUND CONTOUR (1 FT)	---	149
EXISTING GROUND CONTOUR (5 FT)	---	150
FINISHED GRADE CONTOUR (1 FT)	---	149
FINISHED GRADE CONTOUR (5 FT)	---	150
EXISTING CONIFEROUS TREE	★	
EXISTING DECIDUOUS TREE	○	
TREE REMOVAL	○★	
TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA)	~~~~~	
SEDIMENT FENCE (TO SERVE AS TREE PROTECTION FENCE WHERE SHOWN)	-x-x-	
ASSUMED TREE ROOT ZONE (1-FT RADIUS PER 1-IN OF DBH)	○	

NOTE: SEE ATTACHED ARBORIST REPORT FOR DETAILED TREE INFORMATION.

EASEMENT LEGEND

PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

- KEYED NOTES:**
1. ARBORIST OBSERVATION RECOMMENDED DURING TREE REMOVAL BEHIND TREE PROTECTION FENCE.
 2. INSTALL STRAW WATTLE WITH TREE PROTECTION FENCE.

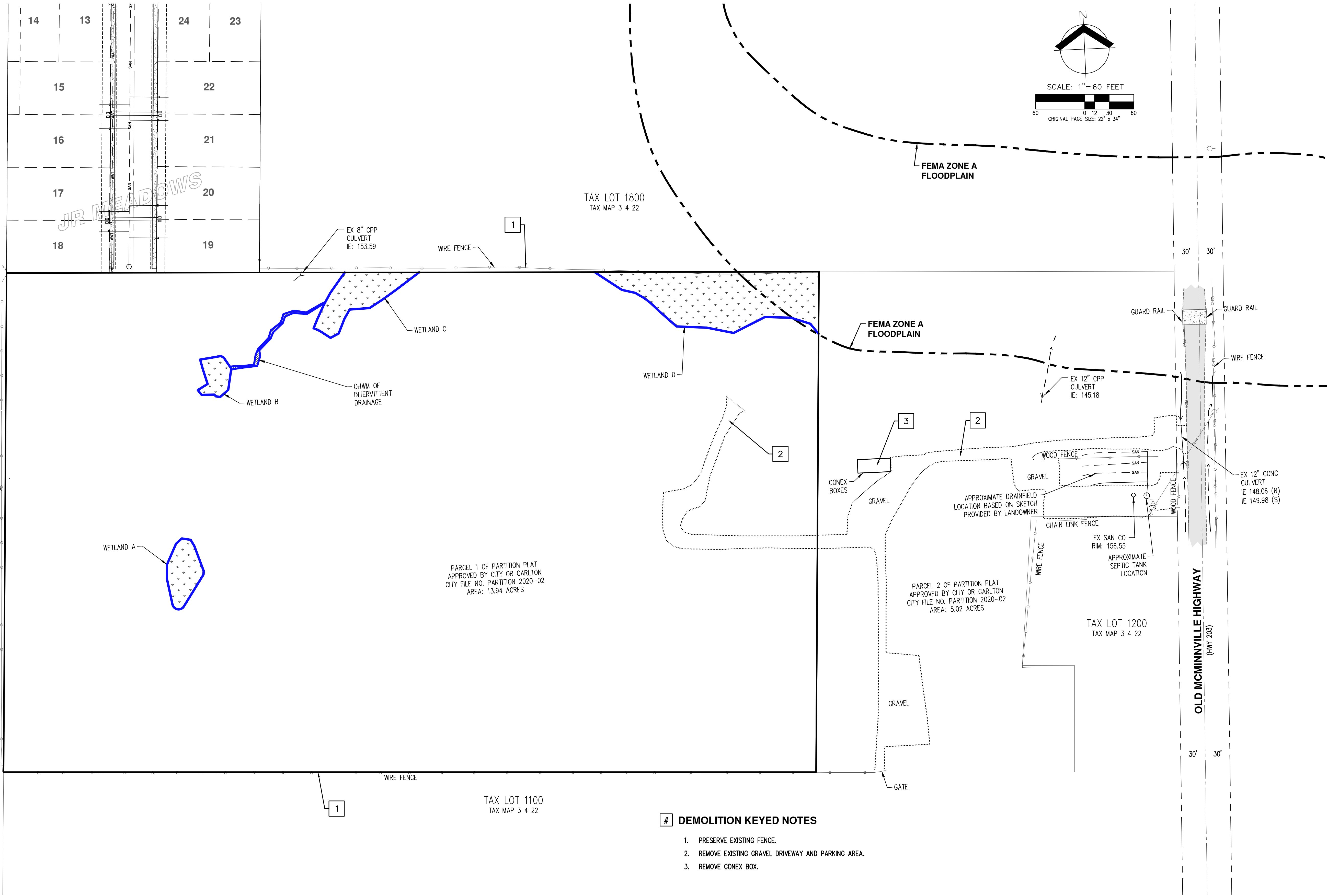
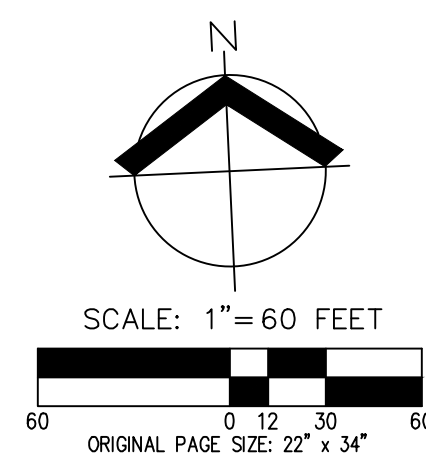


PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
JR MEADOWS NO. 2
CARLTON, OREGON

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY PLAN
 NOT FOR CONSTRUCTION
 J. DOWNHUR

RENEW: DECEMBER 31, 2021

JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



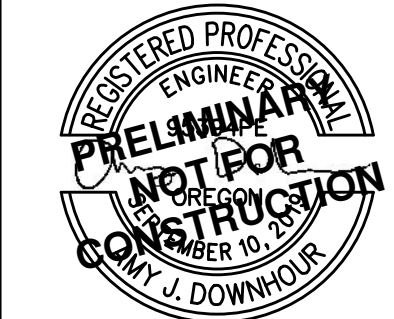
PARCEL 1 OF PARTITION PLAT
 APPROVED BY CITY OF CARLTON
 CITY FILE NO. PARTITION 2020-02
 AREA: 13.94 ACRES

PARCEL 2 OF PARTITION PLAT
 APPROVED BY CITY OF CARLTON
 CITY FILE NO. PARTITION 2020-02
 AREA: 5.02 ACRES

DEMOLITION KEYED NOTES

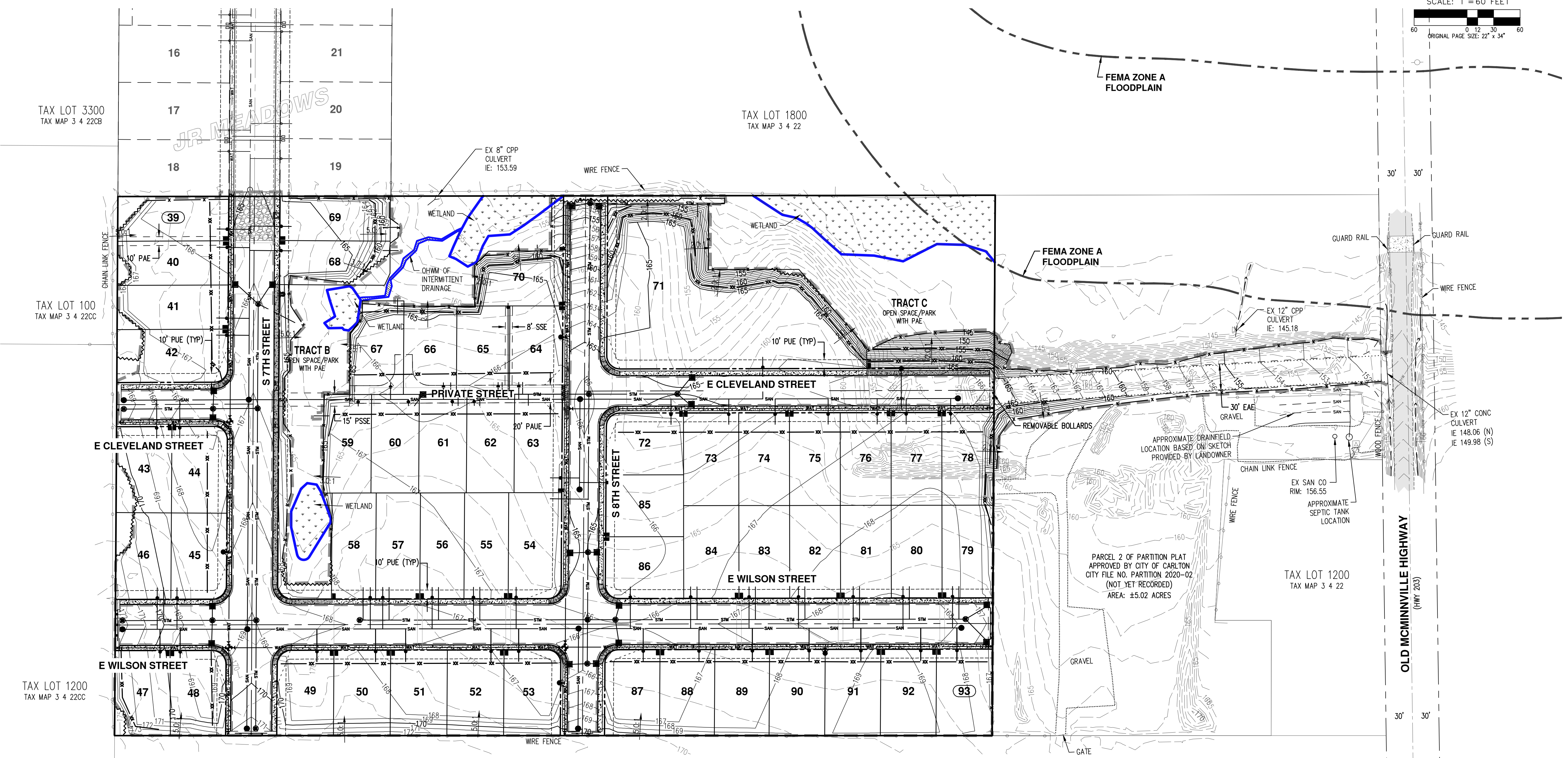
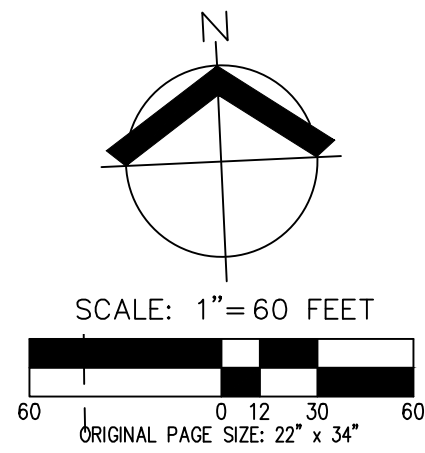
1. PRESERVE EXISTING FENCE.
2. REMOVE EXISTING GRAVEL DRIVEWAY AND PARKING AREA.
3. REMOVE CONEX BOX.

**PRELIMINARY
 DEMOLITION PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEWS: DECEMBER 31, 2021

JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1800
TAX MAP 3 4 22

FEMA ZONE A
FLOODPLAIN

FEMA ZONE A
FLOODPLAIN

TRACT C
OPEN SPACE/PARK
WITH PAE

TRACT B
OPEN SPACE/PARK
WITH PAE

PARCEL 2 OF PARTITION PLAT
APPROVED BY CITY OF CARLTON
CITY FILE NO. PARTITION 2020-02
(NOT YET RECORDED)
AREA: ±5.02 ACRES

TAX LOT 1200
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1100
TAX MAP 3 4 22

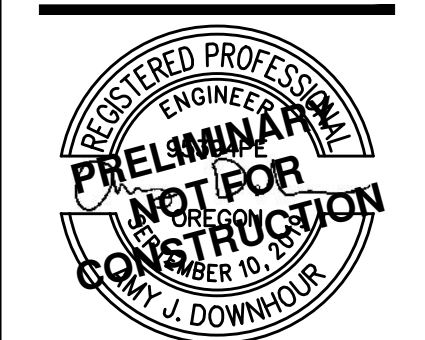
EASEMENT LEGEND

- PUBLIC UTILITY EASEMENT PUE
- PUBLIC ACCESS AND UTILITY EASEMENT PAUE
- PUBLIC ACCESS EASEMENT PAE
- PUBLIC SANITARY SEWER EASEMENT PSSE
- EMERGENCY ACCESS EASEMENT EAE
- PRIVATE SANITARY SEWER EASEMENT SSE

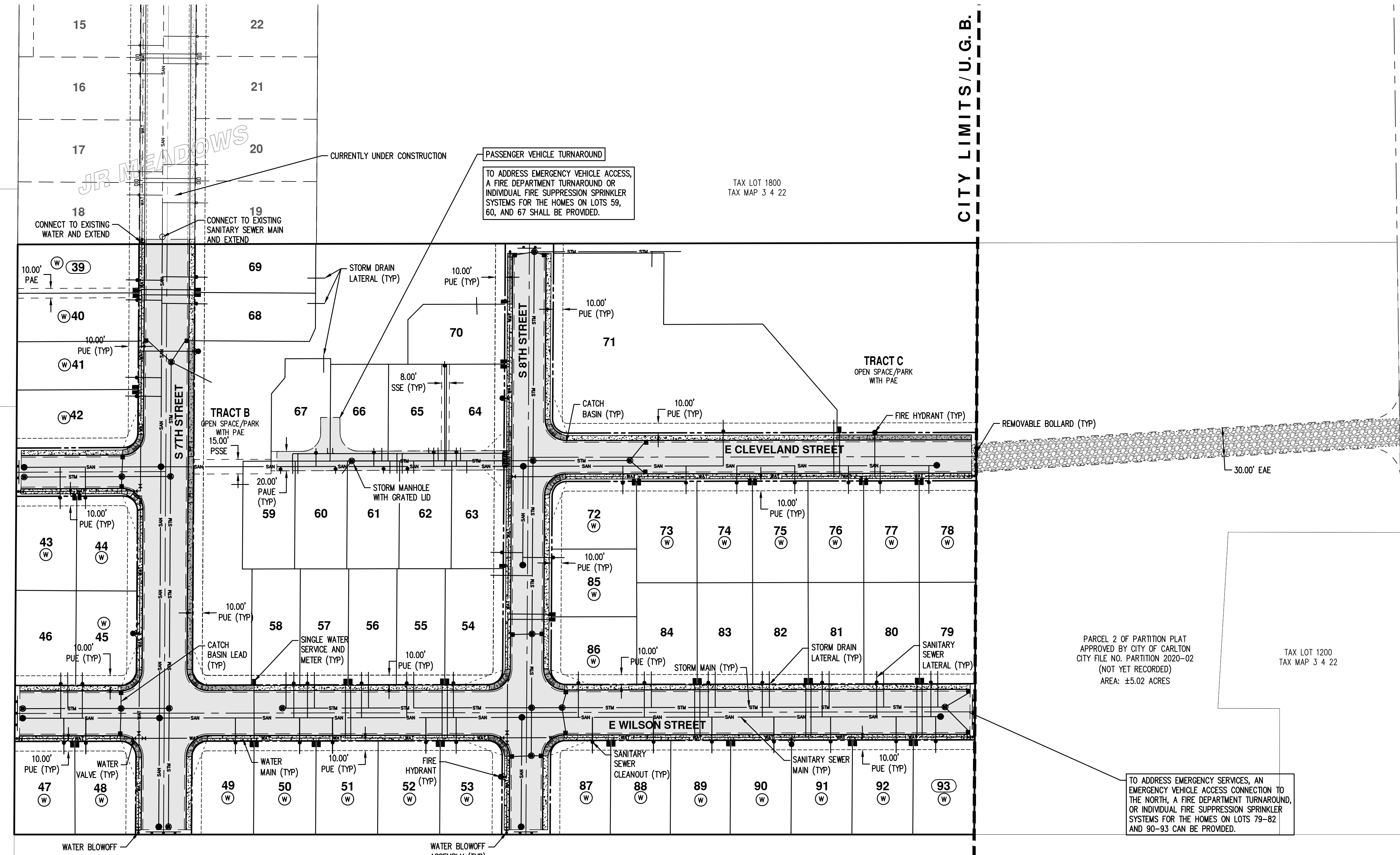
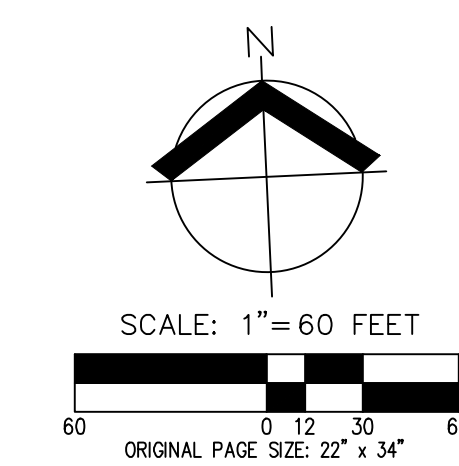
LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- SEDIMENT FENCE (TO BE INSTALLED AFTER GRADING)
- AREA DRAIN PROTECTION (TYP) PER CATCH BASIN INSERT BAG DETAIL
- CONCRETE WASHOUT AREA
- GRAVEL CONSTRUCTION ENTRANCE
- GRADING LIMITS

**PRELIMINARY GRADING AND
 EROSION CONTROL PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**



RENEW: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



TAX LOT 3300
TAX MAP 3 4 22CB

TAX LOT 100
TAX MAP 3 4 22CC

TAX LOT 1200
TAX MAP 3 4 22CC

TAX LOT 1800
TAX MAP 3 4 22

TAX LOT 1200
TAX MAP 3 4 22

TAX LOT 1100
TAX MAP 3 4 22

PARCEL 2 OF PARTITION PLAT
APPROVED BY CITY OF CARLTON
CITY FILE NO. PARTITION 2020-02
(NOT YET RECORDED)
AREA: ±5.02 ACRES

TO ADDRESS EMERGENCY SERVICES, AN
EMERGENCY VEHICLE ACCESS CONNECTION TO
THE NORTH, A FIRE DEPARTMENT TURNAROUND,
OR INDIVIDUAL FIRE SUPPRESSION SPRINKLER
SYSTEMS FOR THE HOMES ON LOTS 79-82
AND 90-93 CAN BE PROVIDED.

PASSENGER VEHICLE TURNAROUND
TO ADDRESS EMERGENCY VEHICLE ACCESS,
A FIRE DEPARTMENT TURNAROUND OR
INDIVIDUAL FIRE SUPPRESSION SPRINKLER
SYSTEMS FOR THE HOMES ON LOTS 59,
60, AND 67 SHALL BE PROVIDED.

EASEMENT LEGEND

- PUBLIC UTILITY EASEMENT
- PUBLIC ACCESS AND UTILITY EASEMENT
- PUBLIC ACCESS EASEMENT
- PUBLIC SANITARY SEWER EASEMENT
- EMERGENCY ACCESS EASEMENT
- PRIVATE SANITARY SEWER EASEMENT
- PUE
- PAUE
- PAE
- PSSE
- EAE
- SSE

NOTES:

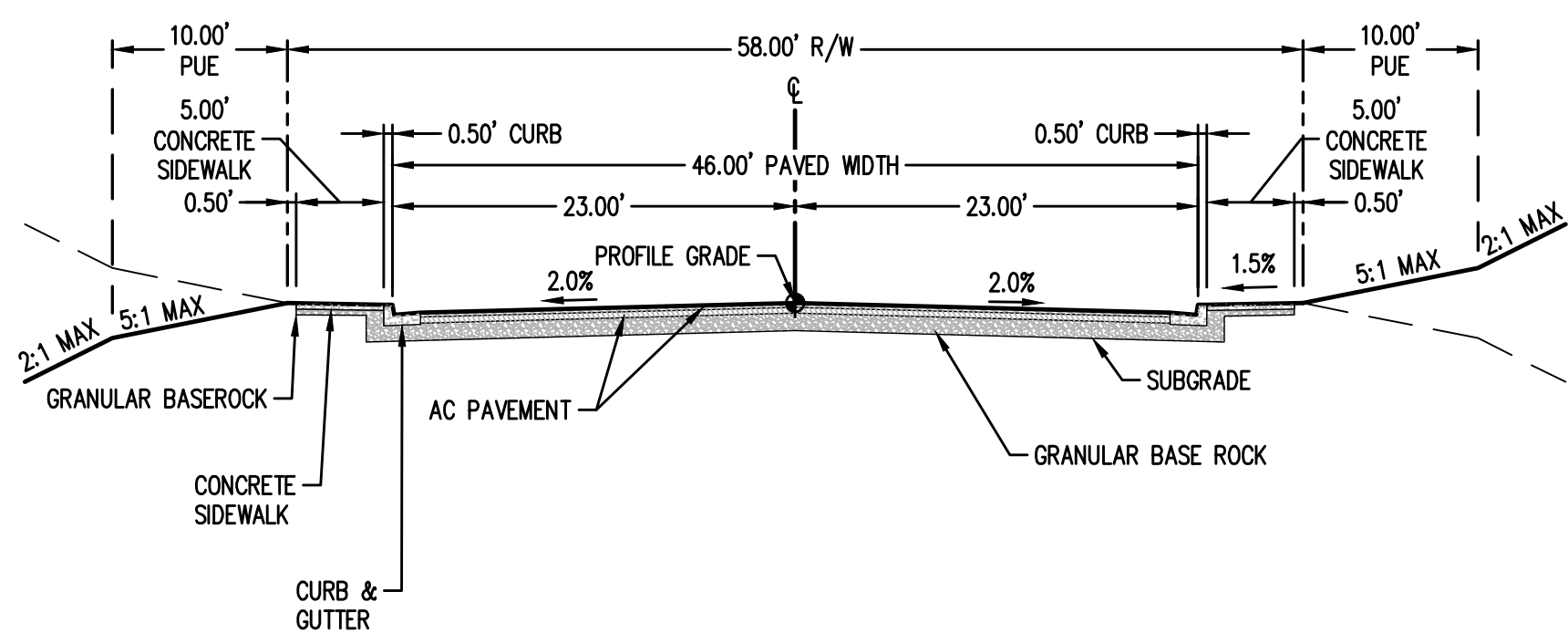
- (W) LOTS SHALL UTILIZE CURB WEEP HOLES FOR ROOF DRAIN CONNECTIONS.
- 1. LOTS 59-62, 65-67 TO BE SERVED BY A WATER SERVICE METER BANK AT S 8TH STREET.

**PRELIMINARY COMPOSITE
 UTILITY PLAN
 JR MEADOWS NO. 2
 CARLTON, OREGON**

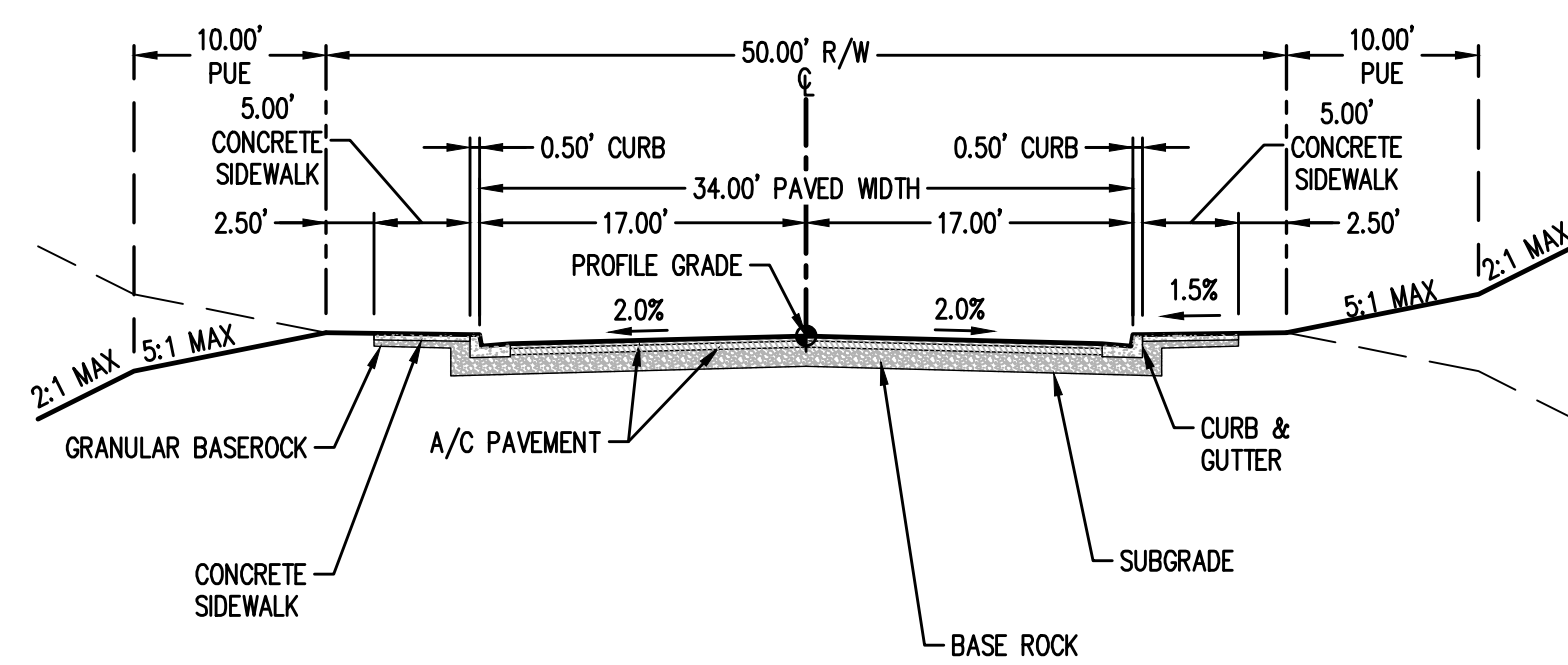


REVISIONS: DECEMBER 31, 2021

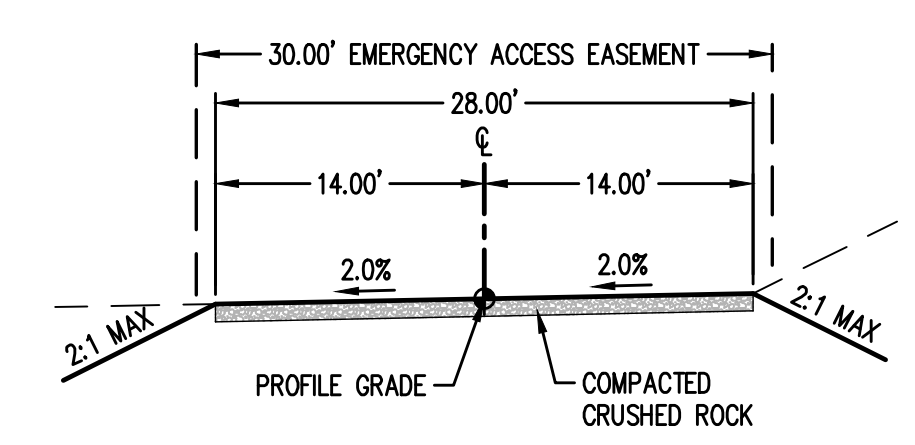
JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



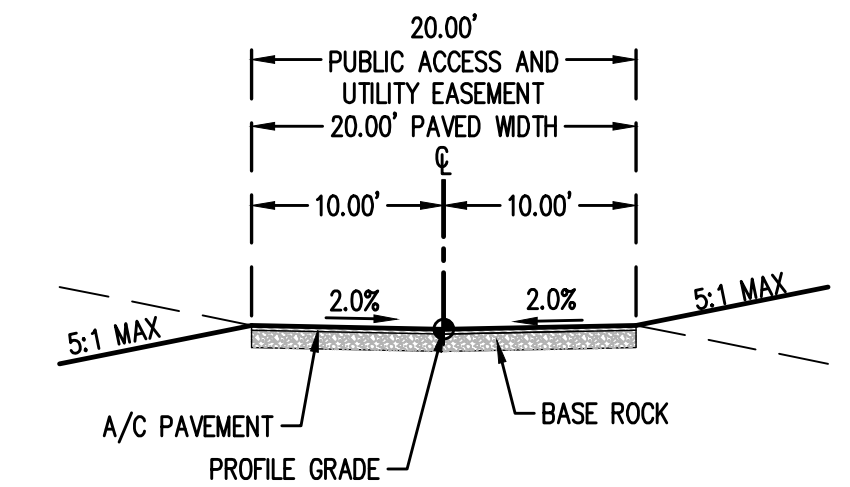
A TYPICAL COLLECTOR STREET CROSS SECTION
 SCALE: 1" = 10'



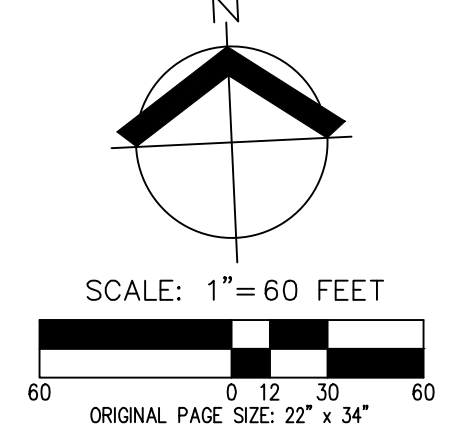
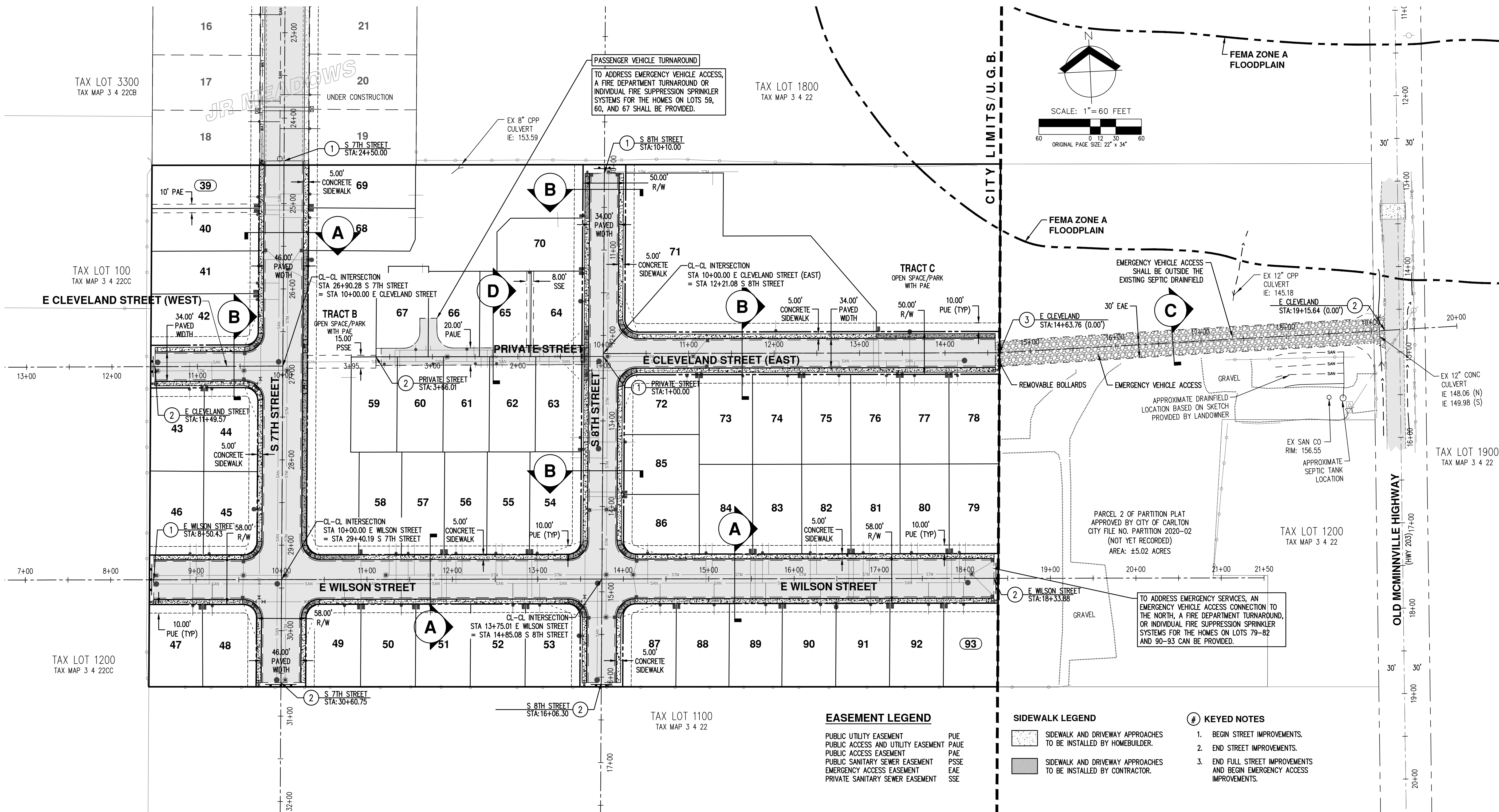
B TYPICAL LOCAL STREET CROSS SECTION
 SCALE: 1" = 10'



C TYPICAL EMERGENCY ACCESS SECTION
 SCALE: 1" = 10'



D TYPICAL PRIVATE STREET SECTION
 SCALE: 1" = 10'



EASEMENT LEGEND

PUBLIC UTILITY EASEMENT	PUE
PUBLIC ACCESS AND UTILITY EASEMENT	PAUE
PUBLIC ACCESS EASEMENT	PAE
PUBLIC SANITARY SEWER EASEMENT	PSSE
EMERGENCY ACCESS EASEMENT	EAE
PRIVATE SANITARY SEWER EASEMENT	SSE

SIDEWALK LEGEND

[Pattern]	SIDEWALK AND DRIVEWAY APPROACHES TO BE INSTALLED BY HOMEOWNER.
[Pattern]	SIDEWALK AND DRIVEWAY APPROACHES TO BE INSTALLED BY CONTRACTOR.

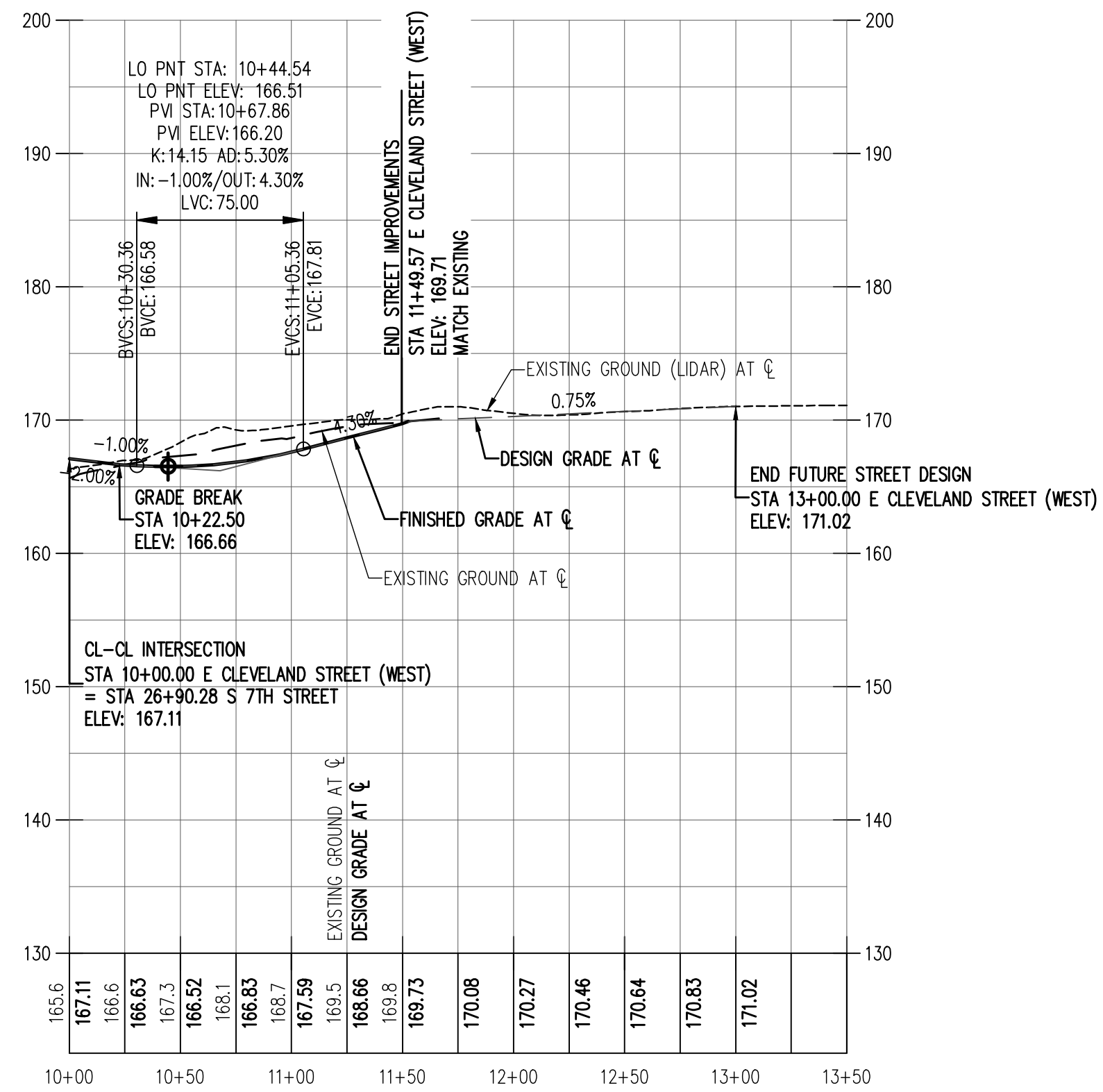
- KEYED NOTES**
- BEGIN STREET IMPROVEMENTS.
 - END STREET IMPROVEMENTS.
 - END FULL STREET IMPROVEMENTS AND BEGIN EMERGENCY ACCESS IMPROVEMENTS.

**PRELIMINARY STREET PLAN
 AND CROSS SECTIONS
 JR MEADOWS NO. 2
 CARLTON, OREGON**

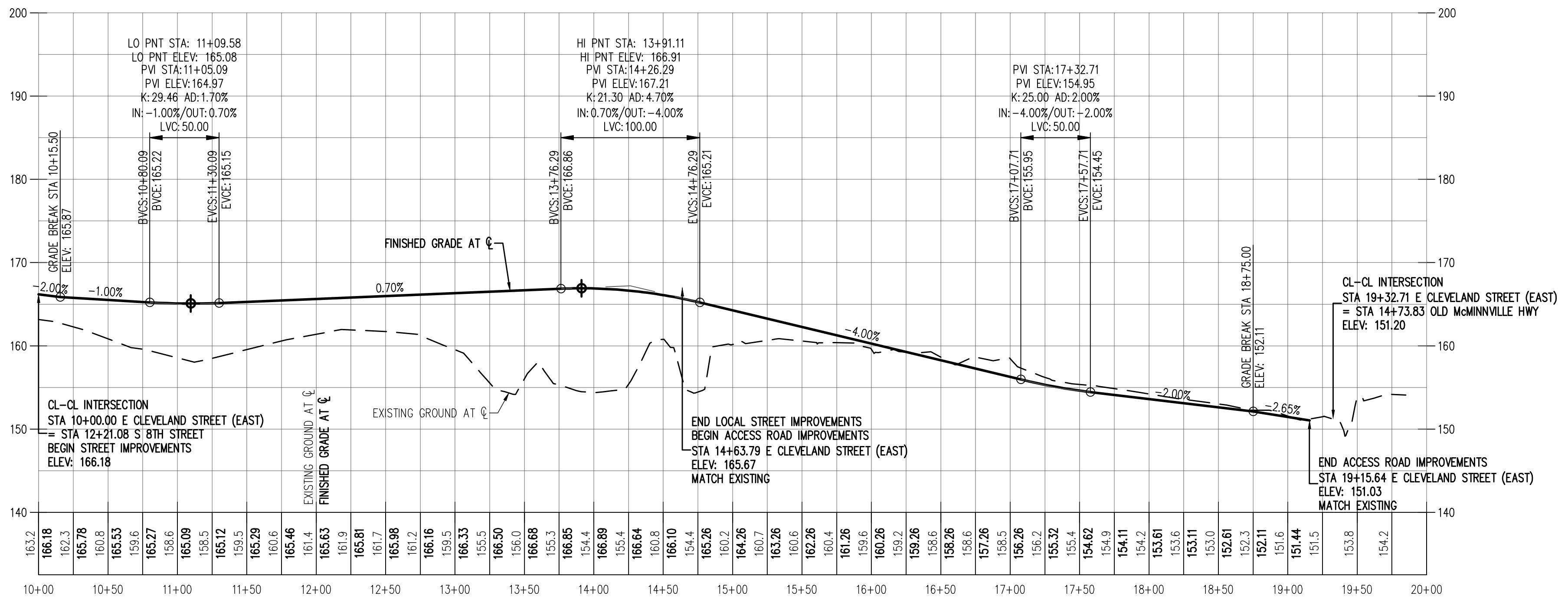


REVISIONS: DECEMBER 31, 2021

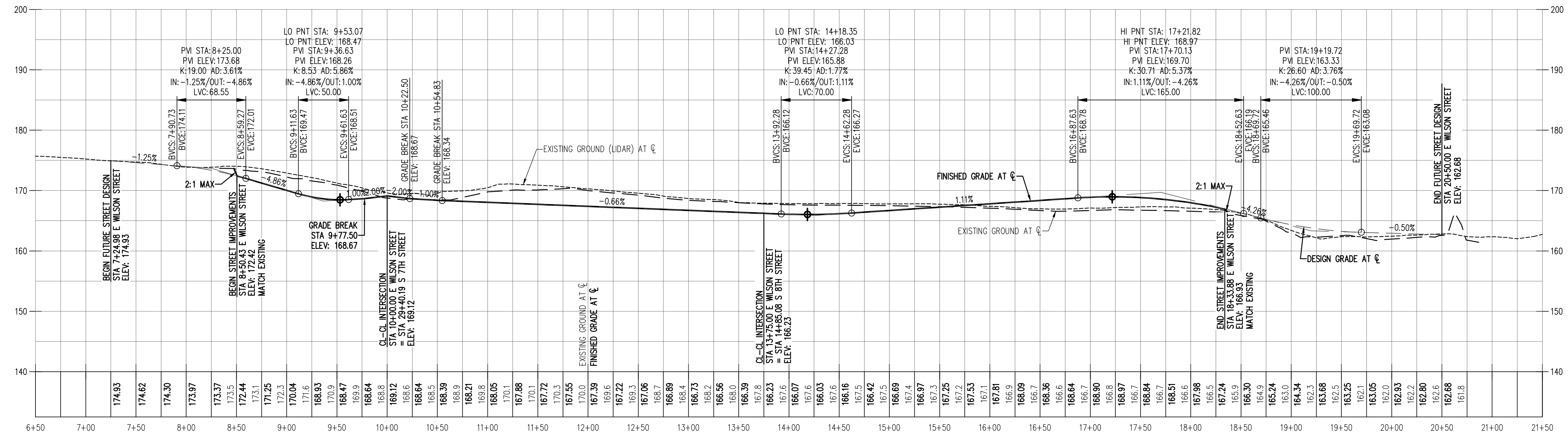
JOB NUMBER:	7395-01
DATE:	08/19/2020
DESIGNED BY:	AJD
DRAWN BY:	CL
CHECKED BY:	RSW



E CLEVELAND STREET (WEST) PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



E CLEVELAND STREET (EAST) PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'

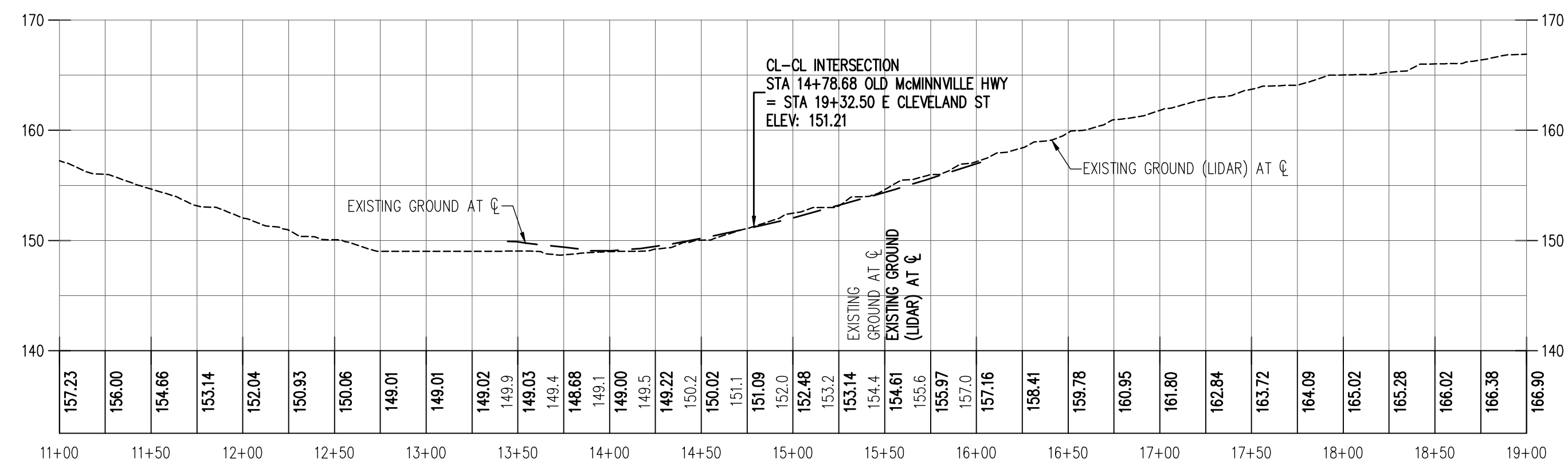


E WILSON STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'

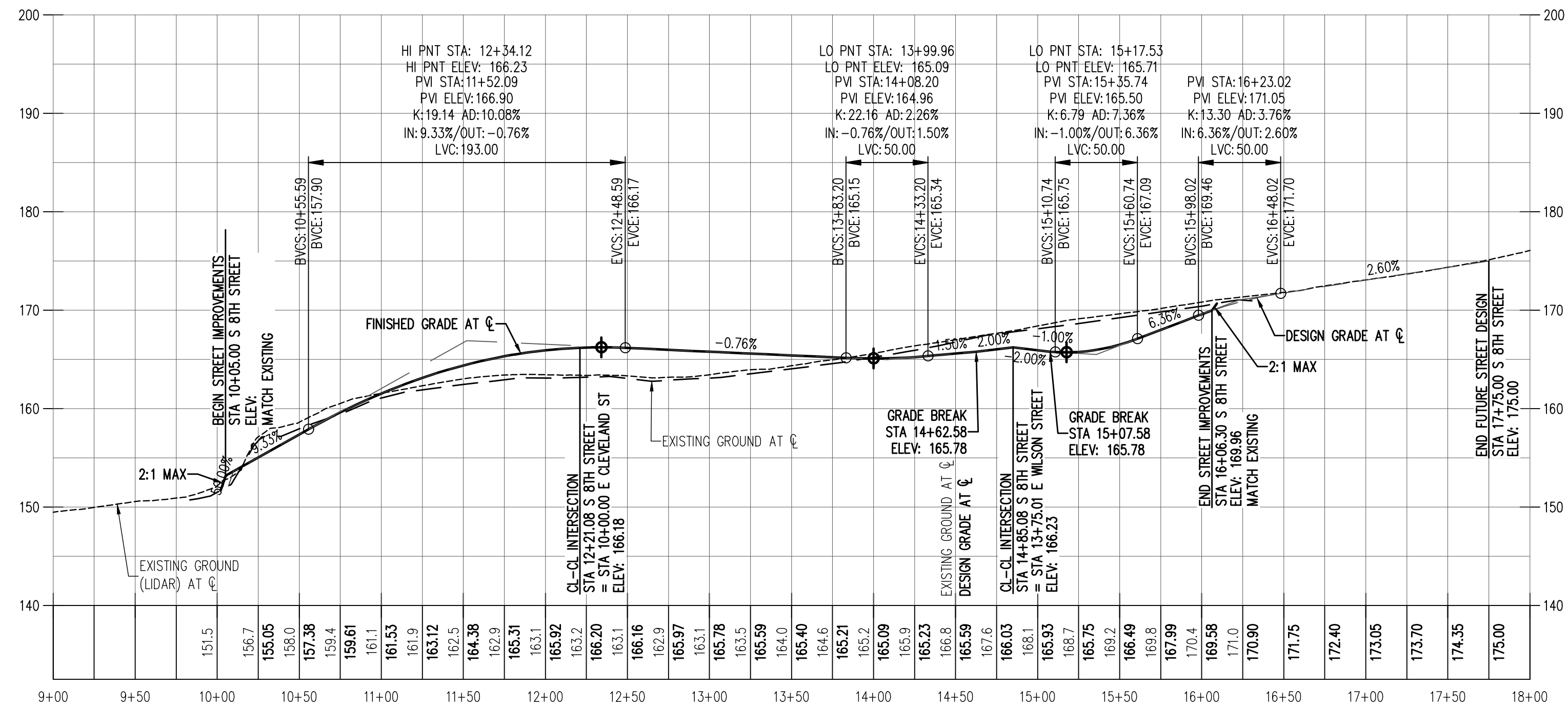
**PRELIMINARY
 STREET PROFILES
 JR MEADOWS NO. 2
 CARLTON, OREGON**



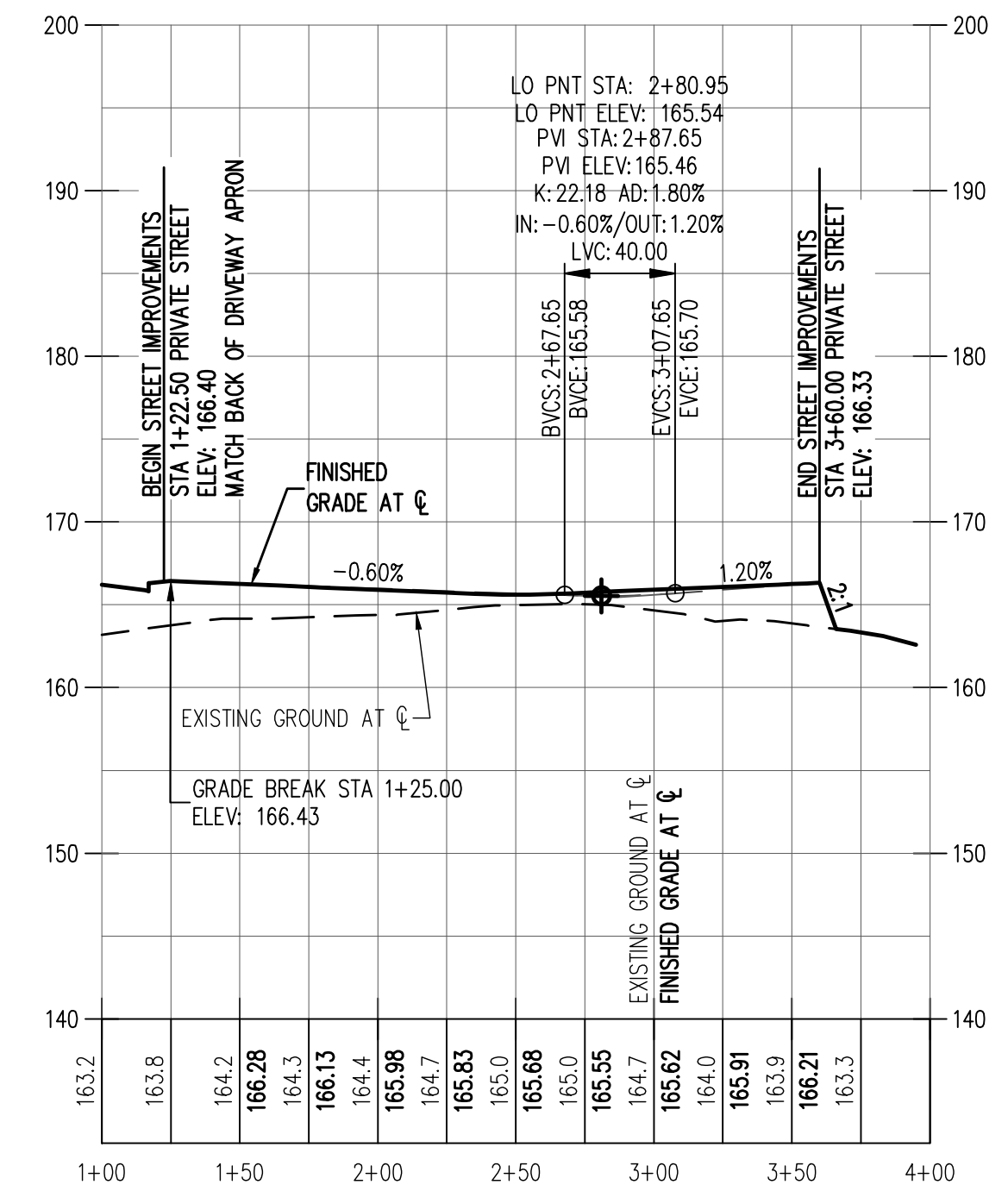
REVISIONS: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



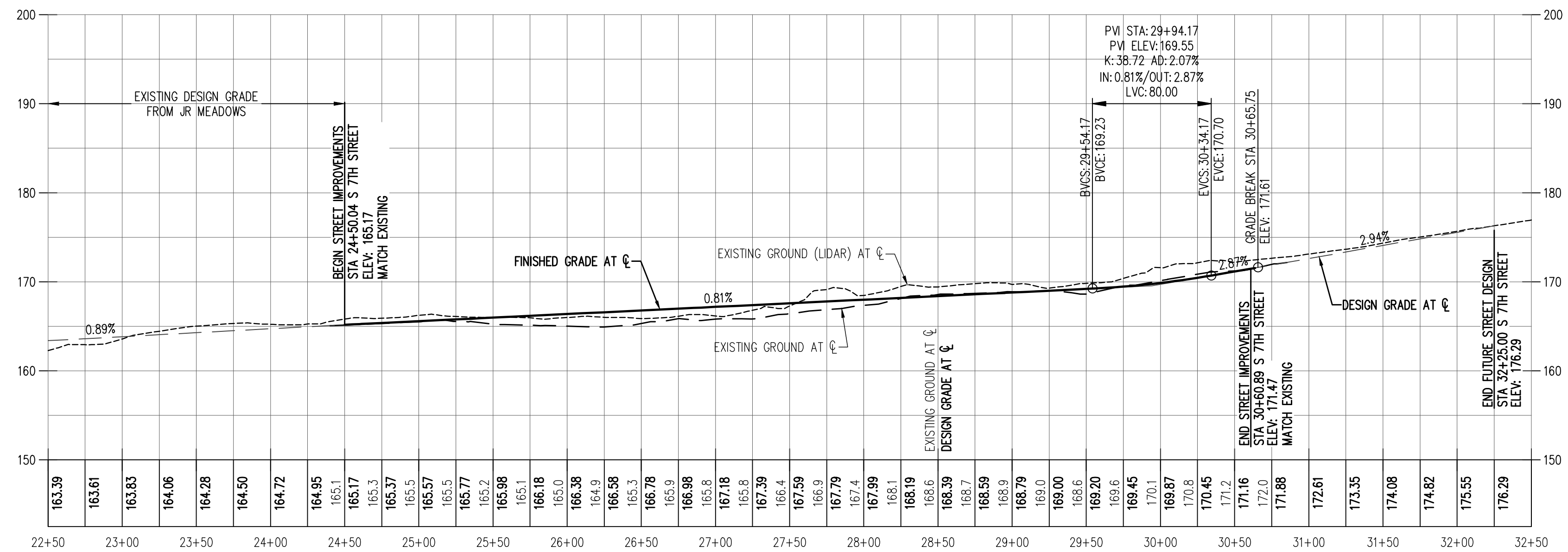
OLD McMINNVILLE HWY PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



S 8TH STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'

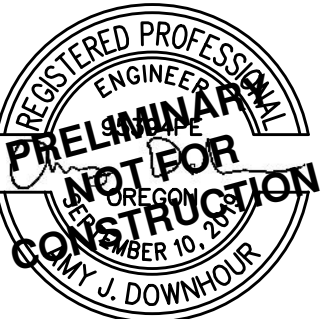


PRIVATE STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'



S 7TH STREET PROFILE
 Hor. Scale: 1" = 60'
 Vert. Scale: 1" = 10'

PRELIMINARY STREET PROFILES JR MEADOWS NO. 2 CARLTON, OREGON



RENEWED: DECEMBER 31, 2021
 JOB NUMBER: 7395-01
 DATE: 08/19/2020
 DESIGNED BY: AJD
 DRAWN BY: CL
 CHECKED BY: RSW



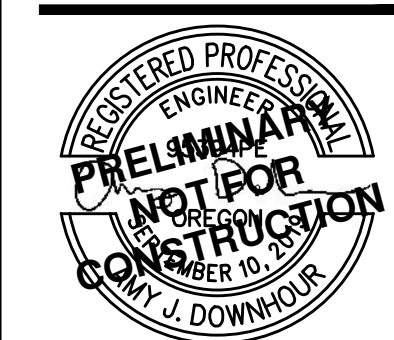
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SCALE: 1"=150 FEET
0 30 75 150
ORIGINAL PAGE SIZE: 22" x 34"

**PRELIMINARY AERIAL
PHOTOGRAPH PLAN
JR MEADOWS NO. 2
CARLTON, OREGON**



RENEWALS: DECEMBER 31, 2021
JOB NUMBER: 7395-01
DATE: 08/19/2020
DESIGNED BY: AJD
DRAWN BY: CL
CHECKED BY: RSW

Detailed Tree Inventory for JR Meadows No. 2							
AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020							
Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
15061	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15150	22	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15837	9,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15928	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15929	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15930	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15931	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15939	12,11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15940	16,15,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15941	12,10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15943	11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15944	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15946	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15947	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15949	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15951	16,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15952	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15953	9,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15967	10,9,9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15992	11,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15993	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15994	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15995	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15996	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15997	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15998	10,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
15999	12	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16000	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16001	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16002	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16003	13	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16004	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16005	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16006	7,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16007	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16008	14	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16009	10,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16010	8,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16011	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16012	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16013	14	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16014	7,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16015	9,8,8,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16016	10,9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16017	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16018	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16019	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16020	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16021	11	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16022	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16023	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16024	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16025	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16026	9,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16027	8,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16028	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16029	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16032	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16033	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16034	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16035	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16036	7,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16037	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16038	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16039	14,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16040	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16041	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16042	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16043	13	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16044	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16045	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16046	10	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16047	8,6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16048	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16049	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16050	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16051	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16052	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16053	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16054	7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16055	8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16056	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16057	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16058	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16059	6	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16060	9	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16061	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16062	8,8,7	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
16306	9	11	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ¹
16307	9	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
16309	29	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16310	9	17	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)	1	2	Remove ^{1,2}
16311	14	20	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); Large cavity with decay	2	2	Remove ^{1,2}
16312	10	12	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed	2	2	Remove ^{1,2}

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16313	17	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Butt sweep; Abnormal dead branches	2	1	Remove ^{1,2}
16314	26	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Sweep; Exposed buttress roots	1	2	Remove ^{1,2}
16315	9	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,2}
16316	25	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,2}
16317	24	22	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,2}
16318	27	25	Oregon White Oak (<i>Quercus garryana</i>)	Lean (SW); 1-sided canopy (SW)	1	2	Remove ¹
16320	29	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Dead	3	3	Remove ^{1,2,5}
16322	21	17	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Sparse canopy; Many abnormal dead branches; Dead codominant stem	3	2	Remove ^{1,2,5}
16323	31	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Dead	3	3	Remove ^{1,4,5}
16324	7	10	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove ^{1,2}
16325	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,2}
16326	7	10	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove ^{1,2}
16330	36	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)	1-sided canopy (E)	1	2	Remove ^{1,4}
16332	6	12	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,2}
16338	15	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,3}
16339	12	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,3}
16340	13	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,3}
16343	29	27	Oregon White Oak (<i>Quercus garryana</i>)	Failed codominant stem leaving large cavity with decay; 1-sided canopy (S)	2	3	Remove ^{1,3,5}
16345	15,10,8,6	18	Cherry (<i>Prunus sp.</i>)	Crooked; Abnormal dead branches; Exposed roots	2	2	Remove ^{1,3}
16346	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16347	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16348	6	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16349	24	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,3}
16351	6	8	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,3}
16352	6,6	7	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,3}
16353	7	7	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,3}
16354	15	20	Oregon White Oak (<i>Quercus garryana</i>)	Epicormic sprouts; 1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,2}
16633	8	7	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
16634	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S); Abnormal dead branches	2	2	Remove ^{1,2}
16635	11	8	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches	2	1	Remove ^{1,2}
16636	32	27	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16637	21	19	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches	2	2	Remove ^{1,2}
16638	26	35	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove ^{1,2}
16639	7	10	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,2}
16640	12	12	Oregon White Oak (<i>Quercus garryana</i>)	Large cavity with decay; Deformed bole; Suppressed; Sparse canopy	3	2	Remove ^{1,2,5}
16641	39	30	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove ^{1,3}
16643	8	10	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,3}
16644	22	20	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove ^{1,4}
16645	18	18	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,4}
16646	7	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16647	6	11	Willow (<i>Salix sp.</i>)	Lean (W); Crooked bole	1	2	Remove ^{1,3}
16649	26	23	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,3}
16650	27	22	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,3}
16651	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16652	9	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,3}
16653	13	14	Oregon White Oak (<i>Quercus garryana</i>)	Sparse canopy; High canopy; Abnormal dead branches	2	2	Remove ^{1,3}
16654	17	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Sparse canopy; High canopy; Abnormal dead branches	2	2	Remove ^{1,3}
16655	12	18	Cherry (<i>Prunus sp.</i>)	Lean (S); Abnormal dead branches	2	2	Remove ^{1,3}
16656	7	10	Willow (<i>Salix sp.</i>)	Lean (W); Abnormal dead branches	2	2	Remove ¹
16657	7,6	7	Willow (<i>Salix sp.</i>)	Broken top; Abnormal dead branches	3	2	Remove ^{1,2,5}
16658	7	14	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Exposed roots	1	2	Remove ^{1,3}
16660	30	25	Oregon White Oak (<i>Quercus garryana</i>)	Lean (E); 1-sided canopy (E)	1	2	Remove ^{1,3}
16664	8,8	10	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (E)	1	2	Remove ^{1,2}
16665	6	7	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16668	6,6	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,2}
16671	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,2}
16672	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16673	7	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16674	7	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16676	10,7,6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16677	27,14	30	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,2}
16678	10,6,6	13	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches	2	1	Remove ^{1,2}
16696	21	20	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Epicormic sprouts; High canopy	2	2	Remove ^{1,3}
16697	23	18	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
16698	20	19	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches	2	2	Remove ^{1,3}
16699	11	15	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Epicormic sprouts; High canopy	2	2	Remove ^{1,3}
16700	28	27	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); Broken branches; 1-sided canopy (W); Abnormal dead branches	2	2	Remove ^{1,3}
16701	11	0	Oregon White Oak (<i>Quercus garryana</i>)	Fallen Snag	3	3	Remove ^{1,3,5}
16702	17	16	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Very sparse canopy; Many epicormic sprouts	3	2	Remove ^{1,3,5}
16703	12	9	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Very sparse canopy; Many epicormic sprouts	3	2	Remove ^{1,3,5}
16704	27	35	Oregon White Oak (<i>Quercus garryana</i>)	Deformed bole; Lean (W); 1-sided canopy (W); Abnormal dead branches	2	2	Remove ^{1,3}
16705	28	18	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,3}
16706	14	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{1,3,5}
16707	10	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{1,3,5}
16708	17	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Broken top	3	2	Remove ^{1,3,5}
16709	12	8	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Sparse canopy; Epicormic sprouts; Suppressed	3	2	Remove ^{1,5}
16710	10	0	Oregon White Oak (<i>Quercus garryana</i>)	Dead	3	3	Remove ^{1,3,5}
16711	17	20	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
16712	39	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)	1-sided canopy (S)	1	2	Remove ^{1,3}
16713	6	10	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove ^{1,3}

Detailed Tree Inventory for JR Meadows No. 2

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16714	6	11	Willow (<i>Salix sp.</i>)	Lean (W)	1	2	Remove ^{1,3}
16717	8	8	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16718	7	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Dead	3	3	Remove ^{1,3,5}
16719	8	10	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
16720	11	12	Cherry (<i>Prunus sp.</i>)	Crooked bole; Abnormal dead branches	2	2	Remove ^{1,3}
16721	12	9	Cherry (<i>Prunus sp.</i>)	Many abnormal dead branches; Dead codominant stem	3	2	Remove ^{1,3,5}
16722	11	15	Cherry (<i>Prunus sp.</i>)	Lean (W)	1	2	Remove ^{1,3}
16723	6	10	Cherry (<i>Prunus sp.</i>)	Crooked bole; Lean (S)	1	2	Remove ^{1,3}
16724	10	11	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16725	28	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,3}
16726	7	16	Willow (<i>Salix sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove ^{1,3}
16727	8	16	Willow (<i>Salix sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove ^{1,3}
16728	9	9	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches; Lean (E)	2	2	Remove ^{1,3}
16733	20	16	Oregon White Oak (<i>Quercus garryana</i>)	Dead scaffold branches; High canopy	2	2	Remove ^{1,2}
16734	8	18	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16735	22	22	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,3}
16736	19	14	Oregon White Oak (<i>Quercus garryana</i>)	Dead scaffold branches; Sparse canopy	2	2	Remove ^{1,4}
16737	23	20	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches	2	2	Remove ^{1,4}
16738	6	17	Willow (<i>Salix sp.</i>)	Abnormal dead branches; Lean (S)	2	2	Remove ^{1,4}
16739	20	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Large conks up bole; Many abnormal dead branches	3	3	Remove ^{1,2,5}
16740	15	0	Oregon White Oak (<i>Quercus garryana</i>)	Dead	3	3	Remove ^{1,5}
16741	19	16	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches; Exposed buttress roots (E)	2	1	Remove ¹
16742	22	14	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ¹
16743	8,8	11	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16744	24	35	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); 1-sided canopy (W)	1	2	Remove ^{1,2}
16745	15	10	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Epicormic sprouts; Sparse canopy	2	2	Remove ^{1,2}
16746	6	11	Willow (<i>Salix sp.</i>)	Lean (N); Crooked bole	1	2	Remove ^{1,2}
16747	22	19	Oregon White Oak (<i>Quercus garryana</i>)	Broken branches; High canopy; Sparse canopy	2	2	Remove ^{1,2}
16748	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16750	12	11	Cherry (<i>Prunus sp.</i>)	Many abnormal dead branches; Sparse canopy; In decline	3	2	Remove ^{1,2,5}
16751	12	11	Cherry (<i>Prunus sp.</i>)	Many abnormal dead branches; Sparse canopy; In decline	3	2	Remove ^{1,2,5}
16753	42	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant with included bark	1	2	Remove ^{1,3}
16755	10	17	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,2}
16756	14	16	Cherry (<i>Prunus sp.</i>)	Many abnormal dead branches; Sparse canopy; In decline	3	2	Remove ^{1,2,5}
16757	10	12	Holly (<i>Ilex sp.</i>)	Bore holes; Abnormal dead branches; Lean (E)	2	2	Remove ^{1,2}
16758	20	20	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove ^{1,2}
16760	6,6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Crooked bole; Lean (W); Abnormal dead branches	2	2	Remove ^{1,2}
16761	7	9	Willow (<i>Salix sp.</i>)		1	1	Remove ^{1,2}
16762	23	23	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Lean (N)	1	2	Remove ^{1,2}
16763	8	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{1,2,5}

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16777	33	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches; Exposed buttress roots	2	1	Remove ^{1,3}
16781	19	13	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (W)	1	2	Remove ^{1,2}
16786	7	11	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,2}
16795	9,6	12	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,2}
16796	24	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S)	1	2	Preserve
16797	13	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{2,5}
16798	30	30	Oregon White Oak (<i>Quercus garryana</i>)	Many abnormal dead branches; Dead scaffold branches; 1-sided (W); In decline	3	2	Preserve
16799	20	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W); Abnormal dead branches	2	2	Preserve
16800	10,8	14	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ¹
16801	11	11	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Suppressed	2	2	Preserve
16802	16,15	22	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W); Abnormal dead branches	2	2	Preserve
16804	7	10	Cherry (<i>Prunus sp.</i>)	Lean (W); 1-sided canopy (W)	1	2	Preserve
16805	6	10	Cherry (<i>Prunus sp.</i>)	Lean (W); 1-sided canopy (W)	1	2	Preserve
16806	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Preserve
16807	21	18	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); High canopy; Many abnormal dead branches; Dead foliage	3	2	Remove ^{2,5}
16808	12,12	17	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Sparse canopy	2	2	Remove ^{1,2}
16809	8	11	English Hawthorn (<i>Crataegus monogyna</i>)	Suppressed; Sparse canopy	2	2	Remove ^{1,2}
16810	28	31	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16811	14	0	Oregon White Oak (<i>Quercus garryana</i>)	Dead	3	3	Remove ^{1,2,5}
16814	21,21	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Preserve
16815	15,15	21	Oregon White Oak (<i>Quercus garryana</i>)	Cavity with decay	2	1	Remove ^{1,2}
16816	22	25	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); Crooked bole	1	2	Remove ^{1,2}
16817	8	11	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16818	18 24	18	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches; Sparse canopy	2	2	Remove ^{1,2}
16820	21	23	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16822	27,22	31	Oregon White Oak (<i>Quercus garryana</i>)	Cavity with decay; 1-sided canopy (W)	2	2	Remove ^{1,2}
16823	23	20	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; 1-sided canopy (W)	1	2	Remove ¹
16824	14	15	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Suppressed	2	2	Remove ¹
16825	11	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{1,5}
16826	17	20	Oregon White Oak (<i>Quercus garryana</i>)	Broken scaffold branches with decay; 1-sided canopy (SE)	2	2	Remove ¹
16827	7	10	Willow (<i>Salix sp.</i>)		1	1	Remove ^{1,2}
16828	7	11	Willow (<i>Salix sp.</i>)		1	1	Remove ^{1,2}
16829	12	15	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,4}
16830	10	15	Cherry (<i>Prunus sp.</i>)	Lean (E); 1-sided canopy (E)	1	2	Remove ^{1,4}
16831	9	15	Cherry (<i>Prunus sp.</i>)	Lean (E)	1	2	Remove ^{1,4}
16832	9	15	Cherry (<i>Prunus sp.</i>)	Lean (E)	1	2	Remove ^{1,4}
16833	7	15	Cherry (<i>Prunus sp.</i>)	Lean (E)	1	2	Remove ^{1,4}
16834	6	15	Cherry (<i>Prunus sp.</i>)	Lean (E)	1	2	Remove ^{1,4}
16835	10	12	Cherry (<i>Prunus sp.</i>)	Cavities with decay	2	2	Remove ^{1,3}
16836	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16844	7	12	English Hawthorn (<i>Crataegus monogyna</i>)	Cavity with decay	2	1	Remove ^{1,3}
16845	6	0	Willow (<i>Salix sp.</i>)	Dead	3	3	Remove ^{1,3,5}

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16846	6,6	10	Willow (<i>Salix sp.</i>)		1	1	Remove ^{1,3}
16850	22	19	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,3}
16851	10	14	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,3}
16852	6	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (N)	1	2	Remove ^{1,3}
16853	8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Preserve
16857	7	7	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Preserve
16858	32	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Dead top; Abnormal dead branches; Epicormic sprouts; Sparse canopy	3	2	Remove ^{1,2,5}
16859	8,8,8	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,2}
16860	8	9	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Preserve
16861	8	11	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Preserve
16862	15,14,10,7,6,6	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ¹
16867	6	10	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,4}
16868	24	22	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16869	18	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W); Epicormic sprouts; Broken branches with decay	2	2	Remove ^{1,2}
16871	27, 10	32	Oregon White Oak (<i>Quercus garryana</i>)	10" stem is dead; 1-sided canopy (S)	2	2	Remove ^{1,2}
16875	33,22	19	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant base; Sap seepage; Sluffing bark; Abnormal dead branches	2	2	Remove ^{1,2}
16878	40	16	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
16881	47	16	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
16883	36,18	25	Oregon White Oak (<i>Quercus garryana</i>)	Failed 18" stem leaving large cavity with decay; Abnormal dead branches	2	2	Remove ^{1,3}
16884	24	25	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (E)	1	2	Remove ^{1,3}
16885	18	30	Oregon White Oak (<i>Quercus garryana</i>)	Epicormic sprouts; Abnormal dead branches	2	1	Remove ^{1,3}
16886	10	0	English Hawthorn (<i>Crataegus monogyna</i>)	Dead	3	3	Remove ^{1,5}
16888	31	35	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,3}
16889	22	25	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Cavities; Dead scaffold branches	2	2	Remove ^{1,2}
16890	12	0	English Hawthorn (<i>Crataegus monogyna</i>)	Dead	3	3	Remove ^{1,5}
16891	14	11	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts	2	2	Remove ^{1,3}
16892	11	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16893	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16894	6.7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,3}
16895	14	9	Oregon White Oak (<i>Quercus garryana</i>)	Very sparse canopy; Epicormic sprouts; High canopy; In decline	3	2	Remove ^{1,3,5}
16896	25	0	Oregon White Oak (<i>Quercus garryana</i>)	Dead	3	3	Remove ^{1,3,5}
16897	8,6,6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ¹
16898	22	20	Oregon White Oak (<i>Quercus garryana</i>)	Dead primary stem; Very sparse canopy; 1-sided canopy (W)	3	2	Remove ⁵
16899	32	25	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches; Sparse canopy	2	2	Remove ^{1,2}
16902	7	7	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16903	7,7,6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16912	20	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{2,5}
16913	19	35	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (N)	1	2	Preserve
16914	31	30	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Preserve
16917	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16918	24	20	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Remove ^{1,2}
16919	10,8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
16920	7	0	English Hawthorn (<i>Crataegus monogyna</i>)	Dead	3	3	Remove ^{1,3,5}
16923	11	13	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16924	12,8	19	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove ^{1,3}
16925	7,7,6,6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16926	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,3}
16927	11	13	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16928	6,6	12	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove ^{1,3}
16929	7	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Remove ^{1,3}
16930	9,8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches	2	2	Remove ^{1,3}
16932	10	10	English Hawthorn (<i>Crataegus monogyna</i>)	Deformed bole; Failed codominant stems; Abnormal dead branches	3	2	Remove ^{1,3,5}
16933	8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Deformed bole; Failed codominant stems; Abnormal dead branches	3	2	Remove ^{1,3,5}
16934	11,10	12	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
16935	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,3}
16936	18	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; In decline	3	2	Remove ^{1,3,5}
16937	21,13,10	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant base; Many abnormal dead branches; Exposed buttress roots; In decline	3	2	Remove ^{1,3,5}
16938	7,6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,3}
16939	9	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16940	9	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,3}
16941	12,8	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16943	6,6	15	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16944	9	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16945	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ^{1,3}
16946	8	13	Willow (<i>Salix sp.</i>)	1-sided canopy (S)	1	2	Remove ^{1,3}
16948	8	11	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,3}
16949	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
16950	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches	2	2	Remove ^{1,3}
16953	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
16954	6	17	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Preserve
16955	13	17	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (E)	1	2	Preserve
16956	7	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Preserve
16957	6,6	0	English Hawthorn (<i>Crataegus monogyna</i>)	Snag	3	3	Preserve
16958	12,6	16	English Hawthorn (<i>Crataegus monogyna</i>)	1-sided canopy (E); Bore holes; Cavities	2	2	Preserve
16959	7	16	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Preserve
16960	6	7	Willow (<i>Salix sp.</i>)	Lean (N); Abnormal dead branches	2	2	Preserve
16984	8,7,7,6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16985	10	10	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
16987	8	0	English Hawthorn (<i>Crataegus monogyna</i>)	Dead	3	3	Remove ^{1,2,5}
16988	8,8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W); Abnormal dead branches	2	2	Remove ^{1,2}
16989	8,7	12	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Preserve

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
16991	9	9	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; Lean (N)	1	2	Preserve
16993	6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
16994	9,8	10	Apple (<i>Malus domestica</i>)	Cavities with decay	2	2	Remove ^{1,2}
16997	6	9	English Hawthorn (<i>Crataegus monogyna</i>)	OFFSITE; 1-sided canopy (W)	1	2	Preserve
17001	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
17002	6	11	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,2}
17003	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
17004	6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
17005	13	15	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
17006	6	12	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S)	1	2	Remove ^{1,2}
17007	8	7	Oregon White Oak (<i>Quercus garryana</i>)	Sparse canopy; Many abnormal dead branches; In decline	3	2	Remove ^{1,2,5}
17008	9	10	English Hawthorn (<i>Crataegus monogyna</i>)	Broken top	3	2	Remove ^{1,2,5}
17009	8	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove ^{1,2}
17010	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (S)	1	2	Remove ^{1,2}
17011	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Broken top	3	2	Remove ^{1,2,5}
17012	8,8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2}
17020	7	6	Cherry (<i>Prunus sp.</i>)		1	1	Remove ^{1,2}
17025	32	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17026	21	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17027	40	27	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; 50% lvy coverage; Abnormal dead branches	2	1	Preserve
17033	12,10,8	13	Oregon White Oak (<i>Quercus garryana</i>)	8" stem dead; High canopy; 1-sided canopy (S)	2	2	Remove ^{1,2}
17037	27	13	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17038	13	20	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,2}
17039	33	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove ^{1,2,5}
17040	33	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove ^{1,2,5}
17041	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2,4}
17042	8	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,2,4}
17043	10	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
17044	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
17045	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
17046	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
17047	6	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; In decline	3	2	Remove ^{1,2,5}
17048	23	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; In decline	3	2	Remove ^{1,4,5}
17049	11	14	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts; bulges; Dead scaffold branches	2	2	Remove ^{1,4}
17050	8	10	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Epicormic sprouts; bulges; Dead scaffold branches	2	2	Remove ^{1,4}
17051	18,15	35	Oregon White Oak (<i>Quercus garryana</i>)	Lean (SE); 1-sided canopy (SE); Abnormal dead branches	2	2	Remove ^{1,4}
17052	9	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)	1	2	Remove ^{1,4}
17053	9	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S)	1	2	Remove ^{1,4}
17054	6	0	Oregon White Oak (<i>Quercus garryana</i>)	Snag	3	3	Remove ^{1,4,5}
17056	7,7	17	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches; Cavities; Lean	2	2	Remove ^{1,2}
17057	10	17	English Hawthorn (<i>Crataegus monogyna</i>)	Abnormal dead branches; Cavities; Lean	2	2	Remove ^{1,2}

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
17058	27	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Many abnormal dead branches; Dead foliage; In decline	3	2	Remove ^{2,5}
17059	15	16	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S)	1	2	Remove ^{1,2}
17061	20,20	21	Oregon White Oak (<i>Quercus garryana</i>)	Lean (E); Abnormal dead branches	2	2	Remove ^{1,2}
17062	11	18	Oregon White Oak (<i>Quercus garryana</i>)	Lean (W); Dead codominant stems with decay; Bulges; Sparse canopy; In decline	3	2	Remove ^{1,2,5}
17064	6	6	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
17065	15	16	Oregon White Oak (<i>Quercus garryana</i>)	Dead scaffold branches	2	1	Preserve
17066	17	14	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Preserve
17067	27	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches; Dead foliage	2	1	Preserve
17069	7	0	Willow (<i>Salix sp.</i>)	Dead	3	3	Remove ^{1,2,5}
17070	20	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Preserve
17072	20	20	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
17073	11	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17075	14	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
17077	6	0	Oregon White Oak (<i>Quercus garryana</i>)		3	3	Remove ⁵
17078	17,8	28	Oregon White Oak (<i>Quercus garryana</i>)	Lean (S); 1-sided canopy (S)	1	2	Preserve
17079	8	11	Oregon White Oak (<i>Quercus garryana</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17080	13	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches	2	2	Preserve
17081	13	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches	2	2	Preserve
17082	12	15	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; High canopy; Abnormal dead branches	2	2	Preserve
17083	12	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag; Lean (S)	3	3	Remove ⁵
17084	30	40	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE; 1-sided canopy (E)	1	2	Preserve
17095	7	17	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (SW)	1	2	Preserve
17096	7,7	13	English Hawthorn (<i>Crataegus monogyna</i>)	Very sparse canopy; Many abnormal dead branches; In decline	3	2	Preserve
17097	20	20	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17098	11	16	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Crooked bole	2	2	Preserve
17099	11	14	Oregon White Oak (<i>Quercus garryana</i>)	Crooked bole; 1-sided canopy (S)	1	2	Preserve
17100	19	20	Oregon White Oak (<i>Quercus garryana</i>)	Epicormic sprouts; Abnormal dead branches	2	1	Remove ^{1,2,3}
17101	7	8	Willow (<i>Salix sp.</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
17102	7	10	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,3}
17103	29	23	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,3}
17104	41	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove ^{1,3,5}
17105	7	10	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
17106	9	10	Oregon White Oak (<i>Quercus garryana</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
17107	6,6	9	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
17108	17	16	Oregon White Oak (<i>Quercus garryana</i>)	High canopy	1	2	Remove ^{1,3}
17109	7	11	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E)	1	2	Remove ^{1,3}
17110	10	12	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
17111	6	10	English Hawthorn (<i>Crataegus monogyna</i>)	Deformed bole; Lean (E)	1	2	Preserve
17112	7	9	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
17113	17	0	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Snag	3	3	Remove ^{1,4,5}
17114	10	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (E); Abnormal dead branches	2	2	Remove ^{1,4}
17116	20	20	Oregon White Oak (<i>Quercus garryana</i>)	Lean (SW)	1	2	Preserve
17117	8	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)	1	2	Preserve
17118	6	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)	1	2	Preserve

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
17119	7,6	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (S)	1	2	Preserve
17120	12	20	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (SE)	1	2	Preserve
17121	10	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S); 1-sided canopy (S)	1	2	Preserve
17127	7,6	10	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ^{1,3}
17134	9,8	16	Cherry (<i>Prunus sp.</i>)	Crooked bole	1	2	Preserve
17139	36	21	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant stems with included bark; Crooked bole	1	2	Remove ^{1,2,3,4}
17140	35	21	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Abnormal dead branches	2	1	Remove ^{1,2,3}
17145	7	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2,4}
17146	6	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2,4}
17148	29	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17160	13	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17161	9	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17162	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17163	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17164	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17165	8,8	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant with included bark	1	2	Remove ^{1,2}
17167	6	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ¹
17170	8	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17171	6	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ¹
17172	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,2}
17174	7	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17175	8	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17183	8,7,7	11	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17185	25	25	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17186	6	6	Willow (<i>Salix sp.</i>)	Abnormal dead branches	2	1	Preserve
17188	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17189	7	8	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17190	8	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17191	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17193	11	11	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17195	6	8	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17196	8	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17197	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17198	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17199	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17200	7	10	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17201	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17204	6	11	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE; 1-sided canopy (N)	1	2	Preserve
17207	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17208	8	11	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17209	8	10	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17211	6	12	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S)	1	2	Remove ^{1,3}
17213	6	10	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,3}
17214	12	13	Cherry (<i>Prunus sp.</i>)	Lean (S); 1-sided canopy (S); Abnormal dead branches	2	2	Remove ^{1,3}

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
17215	10,10,9,8	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark	1	2	Remove ^{1,3}
17217	7	13	Cherry (<i>Prunus sp.</i>)	Abnormal dead branches	2	1	Remove ^{1,3}
17218	14,12,9,9,7	15	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Remove ^{1,2,4}
17229	11	12	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Remove ^{1,2,4}
17231	15,14	13	Cherry (<i>Prunus sp.</i>)	Sluffing bark; Cavities with decay; Many abnormal dead branches; In decline	3	2	Remove ^{1,3,5}
17232	6	9	Cherry (<i>Prunus sp.</i>)	OFFSITE ; Crooked bole; Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17235	10,8,6	18	Oregon Ash (<i>Fraxinus latifolia</i>)	OFFSITE	1	1	Preserve
17236	7,6,6	16	Willow (<i>Salix sp.</i>)	OFFSITE	1	1	Preserve
17248	6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17249	9,6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17250	7,6	10	Willow (<i>Salix sp.</i>)	Lean (S)	1	2	Preserve
17267	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17271	10	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17272	16	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17275	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Dead foliage	2	1	Preserve
17282	9,6	17	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17283	16	19	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17284	8,7,7	9	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Epicormic sprouts	2	1	Preserve
17285	20	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (W)	2	2	Preserve
17286	14	17	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17287	10	14	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17288	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17289	10	11	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17290	13,7	12	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17291	9	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17292	16	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches	2	1	Preserve
17293	7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17294	6	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17295	7	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17296	6	9	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17297	8,7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17298	10,6	0	Oregon Ash (<i>Fraxinus latifolia</i>)	Broken top	3	2	Preserve
17299	6	10	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17300	6	7	Oregon Ash (<i>Fraxinus latifolia</i>)	Many abnormal dead branches; In decline	3	2	Preserve
17301	8,6	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; 1-sided canopy (N)	2	2	Preserve
17302	8	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Abnormal dead branches; Lean (N)	2	2	Preserve
17303	11	9	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17304	9	15	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S); Abnormal dead branches	2	2	Preserve
17305	11	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N) Abnormal dead branches	2	2	Preserve
17306	18	16	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy; Abnormal dead branches	2	2	Preserve
17307	8	12	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17308	16,12	20	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (S)	1	2	Preserve
17312	18	19	Oregon Ash (<i>Fraxinus latifolia</i>)	Exposed roots; Cavities; Dead codominant stem; Sparse canopy	3	2	Preserve
17314	17	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17317	18	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17319	14,12	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve
17320	11	-	Deciduous	OFFSITE ; Not Evaluated by an Arborist	-	-	Preserve

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Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
17321	18,8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
17323	12	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
17325	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17326	19	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N); Many dead branches; Many epicormic sprouts; Exposed roots	3	2	Preserve
17345	14,12	18	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (NW)	1	2	Preserve
17346	9,7	11	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (NW)	1	2	Preserve
17347	6	14	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed	2	2	Preserve
17348	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed; In decline	3	2	Preserve
17349	7	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (W)	1	2	Preserve
17350	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (W)	1	2	Preserve
17351	10,9	16	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17352	9	10	Oregon Ash (<i>Fraxinus latifolia</i>)	High canopy	1	2	Preserve
17353	6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Lean (N); Abnormal dead branches	2	2	Preserve
17354	9	12	Oregon Ash (<i>Fraxinus latifolia</i>)	1-sided canopy (N)	1	2	Preserve
17355	7,7,6	13	Oregon Ash (<i>Fraxinus latifolia</i>)	Suppressed; Abnormal dead branches	2	2	Preserve
17356	16	20	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17358	13	15	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17360	11,9,9	18	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark; Lean (W)	1	2	Preserve
17361	13	16	Oregon Ash (<i>Fraxinus latifolia</i>)	Cavity; Abnormal dead branches	2	1	Preserve
17363	17	19	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17364	16	16	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17365	23	20	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17366	13,13	17	Oregon Ash (<i>Fraxinus latifolia</i>)	Codominant with included bark	1	2	Preserve
17385	18	18	Oregon Ash (<i>Fraxinus latifolia</i>)		1	1	Preserve
17386	9	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17387	14	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17389	7	8	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17394	6	12	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Preserve
17396	10	10	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17488	10	9	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
17492	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
17523	8	-	Deciduous	OFFSITE; Not Evaluated by an Arborist	-	-	Preserve
30001	34	22	Oregon White Oak (<i>Quercus garryana</i>)	OFFSITE	1	1	Remove ^{1,2}
30002	24	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
30003	45	21	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
30086	18	13	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (W)	1	2	Remove ^{1,2}
30087	31	22	Oregon White Oak (<i>Quercus garryana</i>)		1	1	Remove ^{1,2}
30158	16	8	Oregon White Oak (<i>Quercus garryana</i>)	Very sparse canopy; Many dead branches; In decline	3	2	Remove ^{1,5}
30159	44	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove ^{1,3}
30162	15	17	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (N); Dead scaffold branches	2	2	Remove ¹
30163	8	17	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; 1-sided canopy (N); In decline	3	2	Remove ^{1,5}
30164	35	35	Oregon White Oak (<i>Quercus garryana</i>)	1-sided canopy (N)	1	2	Remove ¹
30165	12	16	Oregon White Oak (<i>Quercus garryana</i>)	Scars; 1-sided canopy (N); Cavities	2	2	Remove ¹
30166	7	9	Oregon White Oak (<i>Quercus garryana</i>)	Suppressed; Very sparse canopy; 1-sided canopy (N); In decline	3	2	Remove ^{1,5}
30167	7	9	English Hawthorn (<i>Crataegus monogyna</i>)		1	1	Remove ¹

Detailed Tree Inventory for JR Meadows No. 2

AKS Job No. 7395-01 - Evaluation Date: 8/24/2020 - 8/25/2020

Tree #	DBH (in.)	Avg. Crown Radius (ft)	Tree Species Common Name (<i>Scientific name</i>)	Comments	Health Rating*	Structure Rating**	Remove/Preserve***
30925	8	15	English Hawthorn (<i>Crataegus monogyna</i>)	Lean (W)	1	2	Remove ¹

Total # of Existing Trees Inventoried = 559

Total # of Existing Onsite Trees = 443

Total # of Existing Onsite Trees to be Preserved = 126
 Total # of Existing Onsite Trees to be Removed = 317

Total # of Existing Offsite Trees = 116

Total # of Existing Offsite Trees to be Preserved = 115
 Total # of Existing Offsite Trees to be Removed = 1

***Health Rating:**

- 1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
- 2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
- 3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

****Structure Rating:**

- 1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
- 2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
- 3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

***** Reason for Removal:**

- 1. Site Grading - Trees that are impacted by site grading.
- 2. Building Footprint - Trees that are within or near the building setbacks and building footprint.
- 3. Street Construction - Trees that are impacted by street construction.
- 4. Utility Installation - Trees that are impacted by utility installation.
- 5. Poor Condition - Trees that are diseased or defective in a manner that threatens their long-term viability.

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.



MEMORANDUM NAME

DATE: October 2, 2020

TO: Gordon Munro | Tetra Tech

FROM: Reah Flisakowski | DKS Associates
Kamilah Buker | DKS Associates

SUBJECT: JR Meadows No. 2 Traffic Impact Analysis Review

Project # 20170-000

DKS Associates has reviewed the transportation impact analysis (TIA) for the JR Meadows No. 2 development.¹ The proposed development is located at 10215 NE Old McMinnville Highway (Tax lot 1300) in Carlton, Oregon. The project proposes to construct 54 single family homes and up to 22 multifamily dwelling units with internal roadway connections to S 7th Street and E Washington Street. The general comments and recommendations are based on review of the TIA materials.

TRANSPORTATION IMPACT ANALYSIS SUMMARY

Key findings from the transportation impact analysis include:

- The proposed project will use S 7th Street to the north through the approved JR Meadows Subdivision to access E Main Street. The proposed project will also provide seven future connections to adjacent properties along the northern, southern, eastern, and western edges of the site.
- The proposed project would result in the following estimated increase in motor vehicle trip generation: 50 (12 in/38 out) weekday AM peak hour trips, 65 (41 in/24 out) weekday PM peak hour trips and 672 weekday daily trips. The estimates are based on applying ITE trips rates (Land Use Codes and 920) for the proposed single-family home and multifamily housing units.
- The trip distribution estimate showed 85% of site trips traveling along S 7th Street to access E Main Street and 15% of site trips traveling along E Washington Street, S 3rd Street and E Polk Street to access S Pine Street.

¹ JR Meadow No. 2 Transportation Impact Analysis, lancaster mobley, August 19, 2020.

- Traffic counts for the analysis were provided by the 2019 traffic study conducted for the approved JR Meadows subdivision to the north. A growth rate of 2% per year was applied to the 2019 counts to estimate 2020 existing condition volumes.
- A growth rate of 2% per year was applied to the 2020 existing condition volumes to estimate 2022 background volumes. Growth rates for traffic volumes along Oregon Highway 47 (S Pine Street) were derived from ODOT's 2038 Future Volume Tables. An annual growth rate of 0.53% was used to the S Pine Street/E Polk Street intersection.
- No significant safety issues were found from the review of the last five years of available collision data at the study intersections.
- The study conducted a preliminary signal warrant analysis for 2022 buildout conditions, no new signal installations are recommended due to the low intersection volumes.
- Left-turn lane warrants were met for the S Pine Street/E Polk Street intersection for the southbound direction under 2020 existing conditions. The need for a left-turn lane is not triggered by the proposed project.
- Left-turn lane warrants were projected to be met at the E Main Street/S 7th Street intersection for the eastbound direction under 2022 background conditions (prior to adding project trips). The need for a left-turn lane is not triggered by the proposed project.
- The future segment of S 7th Street was found to have more than enough capacity to accommodate the volume growth from the proposed project. No additional improvements are triggered by the proposed project.
- All study intersections were found to operate at an acceptable level of service through the 2022 AM and PM peak hours with full buildout of the proposed development. No additional improvements are triggered by the proposed project.
- The Carlton Transportation System Plan² (TSP) identifies S 7th Street and E Wilson Street as planned collectors through the proposed development. The site plan indicates there will be a 58-foot ROW for the future S 7th Street and E Wilson Street. The City has approved the use of a narrower collector street design for the proposed development.

ISSUES TO BE ADDRESSED

- The traffic study does not address how pedestrian and bicyclist trip generated by the proposed development will be accommodated. Yamhill Carlton Elementary School is located to the west of the site.

² Carlton Transportation System Plan, Figure 5-4, Kittleson & Associates Inc., June 2009.

RECOMMENDATIONS

The following recommendations should be considered in developing conditions of approval for the proposed development:

- The City has approved the use of a narrower collector street design for the proposed development.
- Minimum AASHTO sight distance requirements should be met at the proposed access. These should be approved by the City Engineer prior to final site plan approval.
- The final site plan should be approved by the City Engineer prior to construction.
- No off-site improvements or turn lanes are recommended.



Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN#*

WN2020-0634

Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Aimee Amerson	City	Carlton
Local case file #	County	
SUB 2020-01	Yamhill	

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
03S	04W	22		1300

Street Address

10215 NE Old McMinnville Hwy

Address Line 2

City

Carlton

Postal / Zip Code

97111

State / Province / Region

OR

Country

Yamhill

Latitude

45.288699

Longitude

-123.168009

Wetland/Waterway/Other Water Features

- There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.
- The National Wetlands Inventory shows wetland, waterway or other water features on the property
- The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.

Your Activity

- It appears that the proposed project **may** impact wetlands and **may** require a State permit.

- An onsite inspection by a qualified wetland consultant is recommended prior to site development to determine if the site has wetlands or other waters that may be regulated. The determination or delineation report should be submitted to DSL for review and approval. Approved maps will have a DSL stamp with approval date and expiration date.

Applicable Oregon Removal-Fill Permit Requirement(s)



- A state permit is required for 50 cubic yards or more of fill removal or other ground alteration in wetlands, below ordinary high water of waterways, within other waters of the state, or below highest measured tide.

Closing Information



Additional Comments

The wetland boundaries shown in the site plan have not been reviewed and approved by DSL. The wetland delineation WD2020-0435 was recently submitted but is still pending review. The wetland boundaries on the site plan should be considered subject to change until a concurrence is issued. After the wetland delineation concurrence, a determination of whether or not a wetland removal-fill permit is needed can be made.

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

- A Federal permit may be required by The Army Corps of Engineers: (503)808-4373

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: <http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx>
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: <https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf>

Response Date

9/25/2020

Response by:

Daniel Evans

Response Phone:

503-986-5271

From: [Carole Connell](#)
To: [Aimee Amerson](#); [Dennis Durham](#); [Chris Goodell](#)
Subject: Fwd: Notice of a Plan Amendment & Zone Change in the City of Carlton
Date: Friday, July 17, 2020 12:45:01 PM

Please add this letter to the 8/4 Council packet. I will include it in an updated staff report.
Thanks

Get [Outlook for Android](#)

From: Bill Rhoades <rhoadesb@yoschools.org>
Sent: Friday, July 17, 2020, 12:34 PM
To: connellpc@comcast.net
Cc: Susan Fitzgerald; Eric Kraft; jamieland@msn.com
Subject: Re: Notice of a Plan Amendment & Zone Change in the City of Carlton

July 17, 2020

Carole Connell, AICP
Carlton City Planner

Re: City File #CPA/ZC20-01

Dear Carol,

Thank you for your email and the information provided. Thank you too for the opportunity to consider the impact of this development on capacity in the Yamhill-Carlton School District. While COVID-19 has certainly altered our sense of "capacity," we believe that under general conditions the Yamhill-Carlton School District does have the capacity to serve and support the number of students that would likely be projected in the development described.

Thank you again for considering the impact on our schools in your deliberations.

Sincerely,

Bill Rhoades, Ed.D.
Superintendent
Yamhill-Carlton School District

On Thu, Jul 2, 2020 at 12:36 PM <connellpc@comcast.net> wrote:

July 2, 2020

Bill Rhoades, Yamhill Carlton School District Superintendent

Re: City File #CPA/ZC20-01

Dear Bill,

Please be informed the City of Carlton City Council is considering a Plan Amendment & Zone Change to designate 13.9 acres of Agricultural land to a Residential zone. The property is located south of E. Main Street and 7th Street in the vicinity of Carlton Elementary School. The applicant intends to develop the site for single and multi-family homes. The City's decision must include a finding that there is adequate capacity in the district's three school facilities to potentially serve Carlton children who will reside in an estimated 128 homes. Home construction will be phased over the next several years.

The City believes it is important to coordinate with the district regarding future growth impacts on the school district. The Council will consider this request at a public hearing on August 4, 2020 and welcome district comments as to whether school facilities have adequate capacity to serve the potential housing development. A copy of the preliminary staff report is attached. Please let me know if you need additional information about the request.

Sincerely,

Carole W. Connell, AICP

Carlton City Planner

4626 SW Hewett Blvd.

Portland, OR 97221

503-297-6660; 971-227-0634 cell

From: [susan turrell](#)
To: [Aimee Amerson](#)
Cc: [carolina](#)
Subject: Planning Commission Meeting
Date: Sunday, October 4, 2020 8:32:44 PM

Hi Aimee,

During her phone conversation with me, Carole Connell requested that I send specific input to you regarding JR Meadows 2 to pass on to the Planning Commission for its approval meeting for JR Meadows 2. I have three requests for the Planning Commission to consider as requirements for approval. The second request would be most important to me at this point.

1) Preservation of trees deemed healthy and structurally sound by the arborists: Mature trees that are growing on boundary lines would add beauty to the neighborhood if preserved. Specifically, the Douglas Fir #17037 growing just East of where 7th Street will continue seems reasonable to preserve.

2) Specification of a landscape strip between the sidewalks and the roads in the subdivision: Separating the road from the sidewalk with trees and landscaping creates an inviting pedestrian experience and serves to calm vehicular traffic. If you walk in Carlton neighborhoods (the old section of Kutch Street several blocks from downtown is a good example for reference) you will notice how much more pleasant it is to be divided from the street by trees and grassy strips. Good neighborhood planning will always have the sidewalks buffered from street traffic with landscape strips. The sidewalk should never be right against the street curb when designing new neighborhoods. *Please* don't allow the developer to make sidewalks right against the streets with no separation.

3) Inclusion of Oak species/varieties (*Quercus palustris*, *Quercus robur*, *Quercus coccinea*) and inclusion of Sweetgum (*Liquidambar styraciflua*) and Sugar Maple (*Acer saccharum*) varieties in the landscaping. These species are staying healthy and are structurally sound in neighborhoods around here even during drought and extreme summer heat. Commercial landscapers tend to dominate new subdivisions with American Red Maples which have been overused and become stressed during our long hot summers. A few mixed with other species are fine, but endless lines of American Red Maples make for an unattractive boring streetscape. We live in a state famous for its nurseries (in fact JR Meadows is being built over a former nursery site) and this new subdivision deserves to have a beautiful landscaped strip along each street to shade the sidewalks from traffic. Ideally, many varieties of trees will be mixed along the landscape strip. I only mentioned the oaks, sweet gums and sugar maples because you can see beautiful mature healthy specimens of these trees among the older neighborhoods in town.

Again, my second request is *very* important to me. Landscape strips separating the sidewalk from the street are best practice in good urban planning for walkable communities. It is one small thing that will make the neighborhood a more pedestrian friendly and healthy. It is a simple practice that will have a huge impact. I would very much appreciate the Planning Commission working hard to mandate this requirement.

Thank you,
Susan Turrell



**Planning Commission Regular Session Minutes
October 19, 2020, 6:00 PM
Carlton City Hall, Council Chambers (191 E. Main Street)**

1. CALL MEETING TO ORDER & ROLL CALL

Vice Chair Grant Erickson called the meeting to order at 6:01 PM.

Members Present: Bob Graham
Grant Erickson
Jessica Sampson (resigned)

Mackenzie Davis
Guilherme Brandao

Members Absent: Anthony Stuart

Staff Present: Christy Martinez, Interim City Manager
Carole Connell, City Planner
Gordon Munro, City Engineer
Aimee Amerson, Planning/Administrative Manager
Morgan Shelton, Utility and Court Clerk

Others: Monty Hurley, Steve Reimann, G. Frugia, Laura, Mark Hall, Mike, Suzy Turrell, Cheryl, Shirley Ward-Mullen, Starla Pointer, Linzy, Jeri, Linda Watkins, Deb, Lydia Zimmerman, Anne Stewart, Edward DeGrauw, Katrina Brunette and Jennifer Hurley

2. CITY STAFF REPORTS

6:02 PM

A) Guilherme Brandao and MacKenzie Davis Oath of Office
Brandao and Davis performed their Oath of Office as the newest Planning Commissioners.

3. MINUTES APPROVAL- July 20 and September 21, 2020

MOTION: Graham/Erickson: to approve the Planning Commission minutes from July 20 and September 21, 2020, as submitted. Motion carried (4 Yes/0 No/1 Absent[Stuart]/0 Abstain).

4. CITIZEN COMMENTS

6:05 PM

None given.

5. PUBLIC HEARING

A) City File #SUB 2020-01 Public Hearing

6:05 PM

Subdivision Request at 10251 Old McMinnville Highway from TJA, LLC

Vice Chair Erickson opens the public hearing at 6:05 PM and reads the Hearing Disclosure statement. He then asked the Commissioners for ex-parte contact, bias or abstentions regarding the meeting topic. None were given.

Erickson then turned the meeting to the applicant for their testimony. Attorney Mark Hoyt began by explaining the history of the land use process for this property as well as how the current development plan addressed many public concerns and comments.

Steve Reimann of 9110 NW Clay Pit Road, Yamhill- As the developer and applicant, he explained his past development history and his connection to the local area. He also described how his application meets city codes and standards as well as public concerns.

Monty Hurley of AKS Engineering is the applicant's Engineer for the project. Hurley explained details regarding the green space in the right of way, open green space tracts and the pedestrian walking trail of the subdivision and of the proposed subdivision plan and how they meet the city standards. He also explained the Wetland permitting process and their suggested condition of approval wording changes in the staff report.

City Planner Carole Connell read through the staff report and highlighted the wetland requirements, updated right of way spaces, open spaces, parks and development process.

City Engineer Gordon Munro stated all of the infrastructure upgrades and utility changes necessary to meet city code.

Vice Chair Erickson asked for any proponents and opponents. No one came forward. Erickson asked for neutral parties, and citizen Suzy Turrell of 416 Linke street spoke that she was pleased with the applicant's proposal and that they are including the landscape strip in the right of way.

Vice Chair Erickson closed the public hearing at 7:12 PM.

The Planning Commissioners deliberated. They asked questions to the staff regarding: types of street trees, Cleveland street, the private street and access on it, DSL permitting, ROW widths on collector streets, possibility of a HOA, upgrades to the Hawn Creek Pump Station and a public access easement in lieu of a city owned park.

MOTION: Erickson/Graham: move to approve the JR Meadows Phase 2 Subdivision Preliminary Plan based upon the findings in this report and in compliance with the modified conditions of approval as amended by the Commission. Motion carried (4 Yes/ 0 No/ 1 Absent[Erickson]/0 Abstain).

6. COMMISSIONER COMMENTS

6:58 PM

7. ADJOURNMENT

The meeting adjourned at 8:48 PM.

ATTEST:



Aimee Amerson,
Community and Economic Development Coordinator



Grant Erickson, Planning Commissioner Vice Chair



**CITY OF CARLTON
PLANNING COMMISSION AGENDA
MONDAY, MARCH 20, 2023, 6:00 P.M.
VIA ZOOM AND 945 WEST GRANT STREET**

The Mission of the City of Carlton is to sustain and enhance the viability of the community by providing essential services with professionalism and integrity.

	<u>Pages</u>
1. Call to Order – Roll Call	
A) Changes to the Agenda	
B) Oath of Office- Amaya	2
2. Minutes Approval- February 21, 2023	3
3. Citizen Comments (Topics not on Agenda)	
4. Discussion topics/Action Items	
A. SUB 2023-01; JR Meadows Phase 3 (near 3 rd and West of South 7 th streets) Applicant: Chad E Davis Construction, LLC	7
5. Commissioner comments	
6. Adjournment	

Due to spacing issues at City Hall, the public is invited to attend this meeting virtually. To attend or participate or attend the meeting, you can log in with a computer using the link below, or the phone option below:

<https://us02web.zoom.us/j/83402554308?pwd=Vk5LVDbhQSmZ3d1VJbEg3K0F5a2pSQTO9>

This meeting ID: 834 0255 4308

Passcode: 069304

Or you can call **1-253-215-8782**, input the meeting ID and password and enter the meeting using your phone.



Oath of Office

PLANNING COMMISSIONER

Noelle Amaya

January 16, 2023 – December 31, 2023

State of OREGON)
) §
 County of YAMHILL)

*I, **Noelle Amaya**, the undersigned duly appointed **Planning Commissioner** for the City of Carlton, do hereby solemnly swear I will support the Constitution and laws of the United States of America and the State of Oregon and the Charter and Ordinances of the City of Carlton; and I will faithfully perform my duties as Planning Commissioner to the best of my ability.*

Noelle Amaya, Planning Commissioner

Signed and sworn to before me on February 21, 2023 by Noelle Amaya.

*Aimee Amerson, City Recorder
 Notary Public for the State of Oregon*

Commissioner Turrell Closed the Citizen Comments at 6:22 PM

City Manager Beaucaire clarified the TSP update noting that \$175,000 was secured to work on the update and recently more funds were awarded for additional research and that the scope of work has been completed and that a timeline of around a year has been estimated for the update.

2. MINUTES APPROVAL- January 17, 2023

6:24 PM

MOTION: Bandy/Nordstrom: to approve the Planning Commission minutes from January 17, 2023. Motion carried (5 Yes/0 No/2 Absent [Stuart, Amaya]/0 Abstain).

MOTION: Bandy/Geck: to present commissioner Turrell's document regarding South 7th Street improvements to City Council. Motion carried (5 Yes/0 No/2 Absent [Stuart, Amaya]/0 Abstain).

4. DISCUSSION TOPIC

A) Stormwater topics for future presentation from City Engineer

6:26 PM

Commissioner Turrell opened the discussion surrounding stormwater drainage. Commissioners and staff clarified the reasons for coming up with a list of questions to be answered in presentation by the City Engineer rather than having multiple meetings.

Commissioners discussed and came up with a list of question topics for the City Engineer including:

- Low Intensity Development Strategies (LIDS) for stormwater mitigation
- Implementation of LIDS at a federal level and barriers that might inhibit achievement of suggested code changes
- Most appropriate systems for regional soil type
- Reduced filtration for building near waterways and how to improve
- Sensitivity towards environmental areas and inclusion of guardrails to ensure future code implementation
- How to specifically include filtration of pollutants into code
- Mirroring practices of other cities
- Addition of suggested storm drainage strategies as conditions of approval
- Interpretation of Engineer's understanding of code in relation to the understanding of contractors, community, and the City
- Removal of language allowing for development loopholes
- Cooperation with engineer to attract developers with "green practices"
- System maintenance and monitoring of efficacy
- Encouraged planting of native species to prevent water runoff in situations of high water events
- Burden on City staff of proposed systems
- Improved education for citizens affected by proposed systems and easements
- Inclusion of resident input and encouraged community involvement
- Involvement of City staff in design process on proposed stormwater systems for large developments

5. COMMISSIONER COMMENTS

7:07 PM

Beaucaire thanked the commission for their thoughtfulness and consideration and interpretation of design standards, she cautioned commissioners against altering the code in such a way that there is no room for situational consideration for best practice design elements. Commissioners discussed their appreciation for staff

work and the thoughtfulness and informative nature of discussions in light of the competing interests between working in the field and living in the community.

6. ADJOURNMENT

The meeting adjourned at 7:18 PM.

ATTEST:

Morgan Shelton, Finance Specialist

Anthony Stuart, Planning Commissioner



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NOTICE OF PUBLIC HEARING CITY OF CARLTON

NOTICE IS HEREBY GIVEN that the City of Carlton Planning Commission will hold a public hearing on **Monday, March 20, 2023 at 6:00 pm** via Zoom and at 945 West Grant street to consider a proposed subdivision plan.

City File# SUB 2023-01 JR Meadows Preliminary Subdivision Plan for Phase III – located southeast of the terminus of 3rd street and west of South 7th street, or Assessor Map 3422 Tax Lot 1200. The applicant is requesting to subdivide existing parcel into 63 detached family home lots, and 38 attached single family homes with the intent of future construction. The subject property is currently zoned R-2 with final Council approval on November 2, 2021. The relevant subdivision standards and approval criteria in the Carlton Municipal Code are as follows:

- Public notice and hearing procedures: 17.192 - 196
- R-2 Zone Standards: 17.22
- General Development Standards: 17.60 - 17.140
- Subdivisions: 17.176 – 17.176.050
- Type II Application type: 17.144.030
- *Please note- architectural plans are not subject to review at this time.*

HOW TO PARTICIPATE: Any person desiring to speak either for or against the proposal may do so in person or by an authorized representative at the public hearing. In addition, written comments may be submitted prior to the hearing with the City Recorder at City Hall at 945 West Grant Street, Carlton. Comments can also be mailed to 191 East Main Street, Carlton OR, 97111. The documents, evidence or staff report relied upon will be available for inspection at City Hall seven days prior to the hearing at no cost and will be provided at reasonable cost. Public comments shall address the relevant criteria. Failure of an issue to be raised in the hearing, in person or in writing, or failure to provide sufficient specificity to afford the Planning Commission an opportunity to respond to an issue means that an appeal on that issue cannot be filed with the State Land Use Board of Appeals. If you need more information, please feel free to email Kiel Jenkins at kjenkins@mwvcog.org or contact City Hall at 503-852-7575.

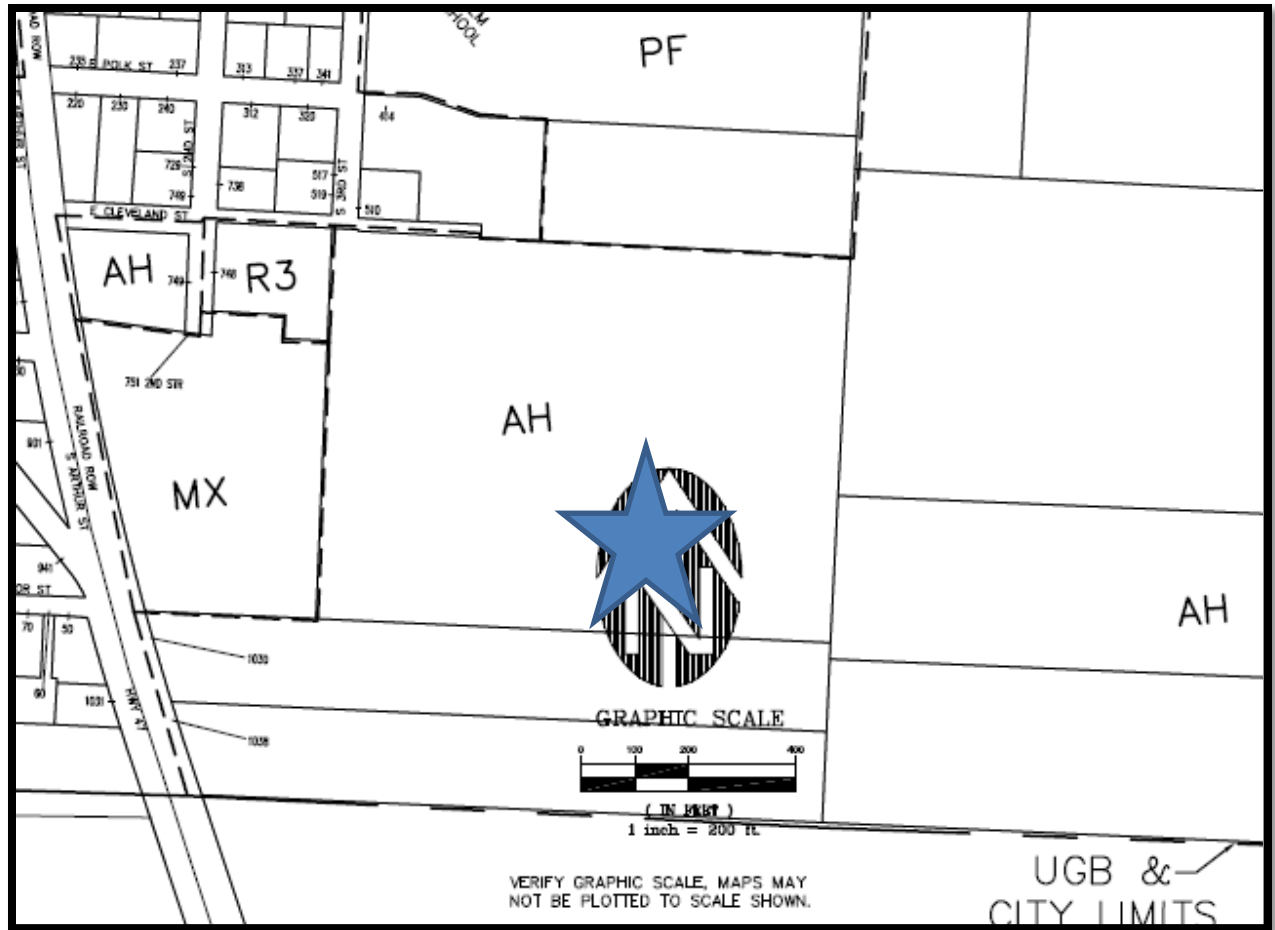
The meeting is accessible to the disabled. If you have the need for special accommodation to attend or participate in the hearing, notify the City Recorder 48 hours before the hearing. For further information, contact City Hall at (503) 852-7575.

Zoom meeting Access details

To join the Planning Commission meeting on March 20th at 6 PM, please follow the directions below.

- To join meeting on a computer, please use this link:
<https://us02web.zoom.us/j/83402554308?pwd=Vk5LVDbhZ3d1VjBjEg3K0F5a2pSQT09>
- To join using a phone, call 1-253-215-8782 and Enter Meeting ID #: 834 0255 4308 and then Enter Passcode: 069304

Meeting agenda packet will be posted on the city's website prior to the meeting date for review here:
<https://www.ci.carlton.or.us/bc-pc/page/planning-commission-meeting-43>



**CITY OF CARLTON
PLANNING COMMISSION**

STAFF REPORT: SUB 2023-01

DATE: March 13, 2023

APPLICANT: Chad E. Davis Construction, LLC
Consultant: AKS Engineering

PROPERTY OWNER: Chad E. Davis Construction, LCC

FILE NUMBER: SUB 23-01

REQUEST: Preliminary subdivision approval for 101 residential lots.

SITE LOCATION: South of Carlton Elementary School, bounded by 3rd St. to the West and S. 7th St. to the East.
3 4 22 CC Tax Lot 1200

SITE SIZE: 16 acres

DESIGNATION: Comprehensive Plan Map: Residential [R]
Zoning: Residential Medium Density R-2

CRITERIA: Carlton Development Code

- Section 17.28 Residential Medium Density R-2 Zone
- Section 17.60.030 Development and Design Standards
- Section 17.64 Street Standards
- Section 17.72 Storm Drainage
- Section 17.76 Utility Lines and Facilities
- Section 17.88 Development Standards for Land Divisions
- Section 100 Access Control Standards
- Section 17.176 Subdivisions and PUD's
- Section 17.196 Public Hearings
- Section 17.216 Performance Agreement

EXHIBITS: Exhibit A: Vicinity Map
Exhibit B: City Engineer's Comments
Exhibit C: Preliminary Subdivision Plans
Exhibit D: Subdivision Application Narrative
Exhibit E: DSL Wetland Response

I. REQUEST

The applicant is requesting preliminary subdivision approval for 101 residential lots. Of the 101 lots, 63 will accommodate detached single-family homes and 38 will accommodate attached single family homes. The subdivision proposal includes an extension of 3rd St. from the North and off-site improvements to 3rd St. North of the subject property between Cleveland and Polk Streets. The subdivision also includes the continuation of Wilson and Cleveland Streets from the East, the development of Taylor Street as a new East-West street, and 5th Street as a new North-South Street.

II. PROCEDURE

Subdivision applications are processed as Type II actions and shall be considered in accordance with the provisions of Section 17.188.020.

The application and fee were received and docketed on January 13, 2023 and deemed incomplete on February 1st. The application was resubmitted on February 27, 2023 and deemed complete on March 1, 2023. The city has until June 29, 2023, or 120 days from the date the application was deemed complete to approve, modify and approve or deny this proposal, including an appeal decision if applicable. Notice of the Planning Commission public hearing was mailed on March 1st, 2023. The hearing will be conducted in accordance with Section 17.196 of the Carlton Development Code.

A request for comment was sent to ODOT, DSL, the City Engineer, applicable private utility agencies, and the Carlton Fire District. Comments from the City Engineer are attached as Exhibit B. No other comment has been received as of the date of the staff report.

III. APPEAL

Appeals are governed by the Carlton Development Code CDC Section 17.204. An appeal of the Commission's decision shall be made, in writing, to the City Council within 10 days of the Planning Commission's final written decision.

IV. SITE AND SURROUNDINGS:

The subject property is vacant and located directly south of Yamhill-Carlton Elementary School, and to the West of the JR Meadows 2 Subdivision. Abutting properties to the South and East are zoned AH and R-2 respectively. Adjacent properties to the West are zoned R-3 and MX and PF and R-1 to the North. There are residential structures with associated outbuildings located to the Southwest, West, and North of the subject property.

The subject property was rezoned and re-designated from Agricultural Holding (AH) to Residential Medium Density (R-2) in November 2021.

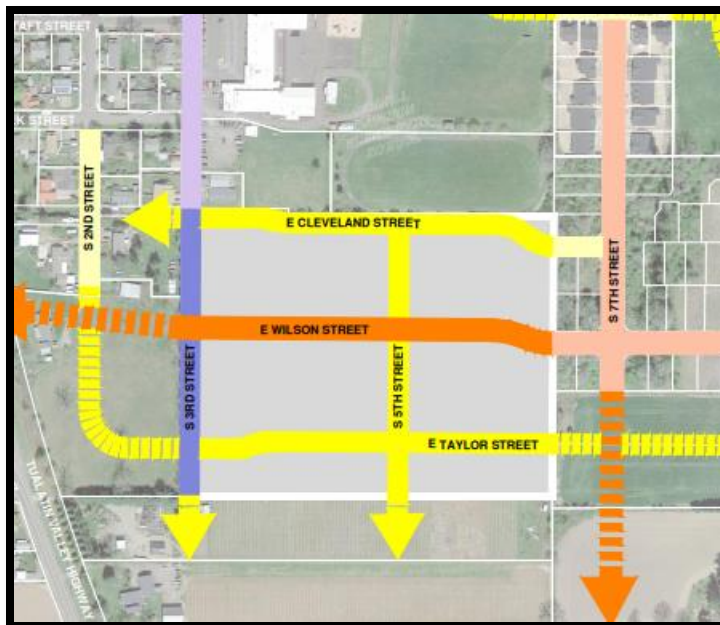


Figure 1

V. CRITERIA AND FINDINGS:

Criteria for subdivision are located in Section 17.176 of the Carlton Development Code.

17.176.010 - General provisions.

A. All subdivisions and planned unit developments (PUDs) shall conform to all applicable zoning district Standards, development standards and other provisions of this title.

17.22.010 - Purpose.

The Residential-Medium Density (R-2) district provides for single-family and duplex housing at an average density of ten (10) dwelling units per acre or less. The R-2 district is consistent with the new Residential Medium-Density comprehensive plan designation.

Findings: The subject site is 16 acres and the application proposes 101 residential units. The proposed density is therefore approximately 6.3 units per acre, within the permitted density range.

17.22.020- Permitted uses:

Findings: Single Family Detached and Single Family Attached dwelling units are both permitted uses in the R-2 zone.

17.22.040- Dimensional Standards

Minimum Lot Area	
Single-family dwelling	
(1) Non-common wall dwelling	6,000 square feet – Lots designed for single-family detached development range from 6000 SF to 6700 SF, meeting the standard.
(2) Attached (townhome) dwelling—Maximum of two (2) consecutively attached units	2,400 square feet for an interior lot and 4,000 square feet for a corner lot- Interior lots designed for single-family attached development range from 2,570 SF to 2,906 SF. Corner lots designed for single-family attached development range from 4,005-4,087 SF. All lots meet the minimum lot size standard.
Duplex	7,000 square feet, provided duplexes on corner lots shall have each unit access a different street, unless the lot is located on an arterial street- No duplexes are proposed.
Public utility structures	Lot area shall be adequate to contain all proposed structures within the required yard setbacks- The proposed lots are of adequate size to contain any needed public utility structures. It should be noted that sidewalks are located in easements along the frontage of lots abutting Cleveland and Wilson Streets.
Minimum Yard Setback Requirements, except as provided for Accessory Structures under Chapter 17.96 :	
Front yard	Front yard 15 feet, except 20 feet for a garage or carport opening when facing street, and 10 feet for uncovered porches and covered but unenclosed porches not more than one story high (except where easements preclude closer setback)- All setbacks will be reviewed at the time of building permits (for the detached single family homes) and/or Site Design Review (for the attached single family homes). For lots bordering sidewalks within a sidewalk easement, a condition of approval is included requiring a 26-foot Public ROW easement to ensure a 20-foot front setback is maintained from the edge of sidewalk.
Rear yard	15 feet- Sheet P-04 of Exhibit C shows a proposed 15-foot setback. All setbacks will be reviewed at the time of building permits (for the detached single-family homes) and/or Site Design Review (for the attached single-family homes). Staff finds all lots are capable of supporting the required rear setback.
Side yard (interior)	3 feet, except 0 feet for adjoining townhome units- Plan sheet P-04 of Exhibit C shows a proposed 3-foot setback between lots. Adjoining townhome lots will have a zero-lot line. All setbacks will be reviewed at the time of building permits (for the detached single-family homes) and/or Site Design Review (for the attached single family homes)
Side yard (adjacent to street)	10 feet- Corner lots are required to a 10 foot side lot line. Sheet P-04 of Exhibit C shows all corner lots are capable of supporting a 10-foot streetside setback. All

	setbacks will be reviewed at the time of building permits (for the detached single-family homes) and/or Site Design Review (for the attached single family homes)
Nonconforming structures	Regardless of the above the minimum distance between a proposed structure and an existing structure on another parcel shall be 6 feet- The required 3-foot side setbacks on lots intended for attached housing total 6 feet between structures and are therefore will not create any nonconforming structures. All setbacks will be reviewed at the time of building permits (for the detached single-family homes) and/or Site Design Review (for the attached single-family homes).
Maximum structure height	35 feet, except where a new building (any use) is proposed on a lot platted prior to [effective date of Code], the height of the new building shall not exceed the average height of all dwellings (residential uses) located within 50 feet of the subject lot, plus 5 feet. – Building heights will be reviewed at building permit level.
Minimum lot width at building line	24 feet, except 40 feet for corner lot- All interior lots have lot widths ranging from 25-60 feet, meeting the standard. All corner lots have lot widths ranging from 40-43 feet, meeting the standard.

Findings: Findings are shown in red in the table above. A condition of approval is included mandating compliance with all structure-related dimensional standards at the time of site development review and building permit submittal.

17.22.050 - Development standards.

All development in the R-2 district shall comply with the applicable provisions of Chapters 17.128 through 17.140. In addition, the following specific standards shall apply:

A. Accessory Structures. Accessory structures as provided for in Chapter 17.96.

Findings: No accessory structures are included with the submitted subdivision application. Future accessory structures shall meet all provisions of Chapter 17.96 at the time of building permit submittal.

B. Off-Street Parking. Parking shall be as specified in Chapter 17.68.

Findings: Findings related to off-street parking are provided under Chapter 17.68 below.

C. Subdivisions and Partitions. Land divisions shall be reviewed in accordance with the provisions of Chapters 17.172 through 17.176 as applicable.

Findings: This application has been reviewed and processed in accordance with the provisions of Chapter 17.172.

D. Lot Coverage. The following standards are applied to parcel area or lot area, as applicable:

1. *Maximum lot coverage by buildings: fifty (50) percent where a building exceeds twenty (20) feet in height, and sixty (60) percent where all buildings on the site are twenty (20) feet or less in height;*

2. *Maximum lot coverage by impervious surfaces, including pavement and roofed areas not considered buildings: thirty (30) percent;*

3. *Combined maximum lot coverage: eighty (80) percent where a building exceeds twenty (20) feet in height, and eighty-five (85) percent where all buildings on the site are twenty (20) feet or less in height.*

Findings: Lot coverage will be reviewed at the time of building permit review. A condition of approval is included requiring compliance with all development standards, including lot coverage.

E. Yards and Lots. Yards and lots shall conform to the standards of Chapter 17.92.

Findings: Findings related to yards and lots are addressed under Chapter 17.92 below.

F. Signs. Signs shall conform to the requirements of Chapter 17.80.

Findings: No signs are proposed with the subdivision application. Subsection F is inapplicable

G. Driveways. Driveways shall conform to the standards 17.68.060.

Findings: Findings related to driveways are addressed under Chapter 17.68 below.

H. Landscaping and Screening. All front and street side yards shall be landscaped pursuant to Section 17.84.050. Other landscaping, fencing or other screening may be required pursuant to land division approval or other land use approval. All landscaping shall be installed in accordance with Chapter 17.84 and approved plans prior to issuance of building occupancy permits.

Findings: Findings related to landscaping are addressed under Chapter 17.84 below.

I. Building and Site Design. All residential structures shall conform to the design standards of Chapter 17.106.

Findings: Building and site design requirements are addressed at the Site Design Review stage for the single-family attached homes and at the building permit stage for single-family detached homes. All applicable standards in Chapter 17.106 shall be addressed at the SDR and building permit stages.

17.64- Street Standards

.030 General Provisions

A. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets.

B. Development proposals shall provide for the continuation, and connection to, all streets, bikeways and pedestrian facilities within the development and to existing streets, bikeways and pedestrian facilities outside the development.

C. Alignment. All streets other than minor streets or culs-de-sac, as far as practical, shall be in alignment with existing streets by continuation of the centerline thereof. The staggering of street alignments resulting in "T" intersections shall leave a minimum distance recommended by the city engineer.

D. Future Extension of Streets. In order to promote the development of an efficient network of city streets and connections to state and county roads, development shall provide future street extensions as shown on the Future Street Plan found in the Carlton Transportation System Plan.

Findings: All street improvements shall be constructed in accordance with existing streets and to the applicable standards of the development code and PWDS design standards.

E. Existing Streets.

1. Three-quarter improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required at the time of partitioning or subdivision, unless the applicant demonstrates to the satisfaction of the city engineer that the condition and sections of the existing streets meet city standards and are in satisfactory condition to handle projected traffic loads.

2. For infill development that does not include partitioning or subdivision, construction of sidewalks, including curb and gutter where necessary, along all property frontages shall be the minimum requirement of development. A three-quarter street improvement shall be required if the city engineer determines that the existing streets are not in condition to handle projected traffic loads.

Findings: The site is accessed via South 3rd St. to the Northwest, and East Wilson and East Cleveland Streets to the East. 3rd St. Wilson and Cleveland Streets are fully improved, and a ¾ Street is required for the off-site portion of 3rd Street necessary to serve the subject property.

Per Exhibit B, City Engineer's Comments:

S. Third St. Off-Site: This is designated as a school zone collector street in the TSP. The requirements are: 49' ROW, 34' pavement, 5' bike lane, curb & gutter, and a 6' sidewalk.

- a. There is an existing 50' ROW. This is acceptable.
- b. The street cross section is a ¾ street with 25' pavement, curb & gutter and 6' sidewalk on one side. This section is acceptable.
- c. The bike lane shall be striped.
- d. No-parking signs shall be provided on both sides of the street.
- e. The shoulder shall be comprise of 1' wide crushed rock.

f. Accommodations will be required for storm drainage on the west side of the street where there is no curb and gutter.

All requirements are listed as conditions of approval.

F. New Streets. Where new streets are created, full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements on boundary streets when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed. The city may allow three-quarter street improvements if all of the following criteria are met:

1. The adjoining land abutting the opposite side of the street is undeveloped; and

2. Storm water drainage is provided for on the non-curbed side of three-quarter street improvements in areas judged by the city engineer to have drainage concerns.

Findings: All streets within the subdivision are considered new streets. $\frac{3}{4}$ streets are permitted along the North (Cleveland St.) and West (3rd Street) borders of the subject property where there is minimal development adjacent to the subject tract and where additional development triggering the remaining $\frac{1}{4}$ street is likely to occur in the future when the adjacent properties are further developed. While there is an existing track on the TL 100 comprising one of the abutting properties, there is undeveloped property (TL 200) abutting the that is likely to develop in the future. The City Engineer has required that stormwater accommodations will be required on the side of the street without curb and gutter. This requirement is included as a condition of approval.

H. Dead-End Streets. When it appears necessary to continue a street or public access way into a future subdivision or adjacent acreage, streets, or public access way shall be platted to a boundary of a subdivision or partition. The street may be platted without a turnaround unless the Planning Commission finds that a turnaround is necessary.

Findings: S. 3rd, S. 5th, and S. Taylor Street dead-end on the border of the subdivision. Staff finds that it is appropriate to plat these streets without a turnaround to provide future access to abutting properties.

I. Street Names. Street names and numbers shall conform to the established pattern in the city and shall be subject to the approval of the city. Street names shall be required for all new publicly dedicated streets and private streets.

Findings: All streets within the proposed subdivision are extensions of existing City of Carlton public streets and are named in accordance with the TSP.

J. Grades and Curves. Grades shall not exceed six percent on arterials, ten (10) percent on collectors, or twelve (12) percent on any other public or private street. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. Center line radii of curves shall not be less than three hundred (300) feet on major arterials, two hundred (200) feet on minor arterials, or one hundred (100) feet on other streets, and shall be to an even ten (10) feet. On arterials there shall be a tangent of not less than one hundred (100) feet between reversed curves. Where existing conditions, particularly

topography, make it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper curves.

Findings: The proposed street design complies with the provisions of subsection J and will be reviewed again at the time of construction plan submittal.

K. Marginal Access Streets. If a development abuts or contains an existing or proposed arterial street or railroad right-of-way, the city may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Findings: The development does not abut or contain an existing or proposed arterial street or railroad ROW. Criterion K is therefore inapplicable.

L. Vision Clearance Area. Vision clearance areas shall be maintained on corner lots at the intersection of all public streets and at the intersections of a public street with a private street as outlined in Section 17.92.080.

Findings: Vision clearance areas shall be maintained in accordance with the provisions of this section and reviewed at time of construction plan submittal. This requirement is included as a condition of approval.

M. Spacing Between Public Road Intersections. Spacing between public road intersections for each functional class of road shall conform to access spacing standards found in Section 17.100.030.

Findings: All streets meet the access spacing requirements of Section 17.100.030 as described in the findings for Section 17.100 below.

N. Landscape Strip.

Findings: 5-foot landscape strips are required in the design of new collector streets. A five-foot landscape strip is proposed along Wilson St. and the West side of 5th Street between Cleveland and Wilson Streets.

17.64.040 ROW Improvements and Widths

Findings:

S. Wilson Street: Wilson Street is designated as a new collector street in the City of Carlton Transportation Systems Plan. New collector streets require a 71' ROW, 46' of pavement, 6' sidewalks, on-street parking, a 5-foot bike lane, and a 5' landscape strip. The applicant is proposing a 58' ROW, 46' of pavement, 6' sidewalks in sidewalk easements, on-street parking, a 5-foot bike lane, and a 5' landscape strip. While all required street elements are proposed in the appropriate dimensions, a ROW reduction to allow for the sidewalks to be placed in easements is proposed. Findings for the modification are included under Section 17.64.050 below.

South 3rd Street: 3rd Street is designated as a school zone collector. While the development code states that 3rd Street is only a school zone collector between Main St. and Polk St., staff finds that continuing 3rd St. as a school-zone collector is appropriate to provide continuity and reduced street width in neighborhoods adjacent to the school, while aligning with the intent of the TSP. Designing South 3rd Street as a school zone collector was recommended by staff during discussions with the applicant. As discussed under Subsection F, the applicant is proposing a $\frac{3}{4}$ Street section and off-site improvements to S. 3rd St.

Per Exhibit B:

Street requirements for South 3rd are: 49' ROW, 34' pavement, 5' bike lane, curb & gutter, and a 6' sidewalk.

- a. The proposed layout provides a 47.3' ROW dedication with the rest of the ROW coming from the lot to the west when it develops. This is acceptable.
- b. The street cross section is a $\frac{3}{4}$ street with 25' pavement, curb & gutter and 6' sidewalk on one side. A 5' landscape strip has been included. This section is acceptable.
- c. The bike lane shall be striped.
- d. No-parking signs shall be provided on both sides of the street.
- e. The shoulder shall be 1' wide crushed rock.
- f. Accommodations will be required for storm drainage on the west side of the street where there is no curb & gutter.

S. Cleveland Street: Cleveland Street is designated as a local street in the City of Carlton TSP. As discussed in Subsection F, a $\frac{3}{4}$ street improvement is proposed in addition to an asphalt curb and walking path on the north side. The asphalt curb and path is surplus to what is required; however, the developer felt it appropriate due to the proximity of the school. The developer consulted with the school on the design on the proposed offsite improvements. The asphalt curb and path are easily removed should development occur on the north side of the street such that a full street section is constructed. This is acceptable.

E. Taylor Street and S. 5th Street are both designated as local streets in the City of Carlton Transportation Systems Plan. Per the City Engineer's comments:

Local street requirements are: 50' ROW, 34' pavement, curb & gutter, and a 5' sidewalk.

- a. This street section is shown for Taylor St. and a portion of 8th St. This is acceptable.
- b. For 5th St. between Wilson St. and Cleveland Street, a 5' landscape strip has been added on the west side. This matches the rest of the block. The lots in this block are narrower, and the sidewalk separated from the curb allows for the sidewalk to be constructed at an even grade. This modification was recommended by staff and is in compliance with the City Design Standards detail 213. This is acceptable.

c. Taylor St. is shown to stop short of the eastern boundary of the development. The street and all utilities should be extended close to the property boundary unless there is significant reason in cannot be.

All requirements listed in this section are listed as conditions of approval.

17.64.050 - Modification of right-of-way and improvement width.

The city, pursuant to the review procedures of Chapter 17.196, may allow modification to the public street standards of Section 17.64.040, when both of the following criteria are satisfied:

A. The modification is necessary to provide design flexibility in instances where:

- 1. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or*
- 2. Parcel shape or configuration precludes accessing a proposed development with a street which meets the full standards of Section 17.64.040; or*
- 3. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or*
- 4. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.*

B. Modification of the standards of Section 17.64.040 shall only be approved if the city finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes.

Findings: The applicant is requesting a modification to reduce the Wilson St. ROW from 71 feet to 58 feet. While all street components (sidewalk, landscape strip, bike lane, on-street parking, and travel lanes) are proposed, the applicant is requesting that the sidewalks be located in sidewalk easements rather than within the public ROW.

The modification request does not meet the wording of CDC Section 17.64.050 as the request is not due to unusual topographic conditions, parcel shape, preservation, natural features, or a planned unit development. However, staff finds that the intent of the code -- ensuring the required street elements are included in the street design -- is met. Criterion B is also met, as the requested modification does not affect vehicular access.

It should be noted that the PUE overlaps the sidewalk which is where the City requires the water line to be located. To provide sufficient room for both the water line and the private utilities, an 11-foot PUE along the side of Wilson where the water line is located is will be required. Additionally, front yard setbacks are measured from the edge of ROW, not the edge of easement. Should the Planning Commission find that that the modification request meets the criteria for a modification, the City shall require a 26-foot public ROW easement benefitting the City of Carlton across all properties with frontage on streets where sidewalks are located within easements. The easement will ensure an adequate setback is maintained from future garages to the edge of sidewalk to prevent parked vehicles

from encroaching upon the sidewalk. Both the 11-foot PUE and the 26-foot public ROW easement are included as conditions of approval.

17.64.060 - Private streets.

- A. *Streets and other rights-of-way serving a planned unit development that are not dedicated for public use shall comply with the following:*
1. *Private streets shall only be allowed where the applicable criteria of [Section 17.88.030\(C\)](#) are satisfied. Private streets shall have a minimum easement width of twenty (20) feet and a minimum paved or curbed width of eighteen (18) feet.*
 2. *Unless otherwise specified in the Standard Specifications for Public Works Construction in the City of Carlton, all private streets serving more than two dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.*
 3. *A turn-around shall be required for any private street which has only one outlet and which is in excess of two hundred (200) feet long or which serves more than two residences. Turn-arounds for private streets shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.*
- A. *Any grant of a private street or land functioning as an easement shall not be accepted by the city and dedicated for public use except upon approval of the council and upon meeting the specifications of Sections [17.64.020](#) and [17.64.040](#).*

Findings: No private streets are proposed. Section 17.64.040 is therefore inapplicable.

17.68- Off-Street Parking and Loading

.050- Off-street parking requirements

- A. *1 and 2 family dwellings must have 2 spaces per unit.*

Findings: Parking requirements for the proposed residential units will be reviewed at the time of SDR submittal for the portion of the subdivision containing attached homes and at building permit level for the portion of the development containing detached homes. Staff finds that the proposed lots are capable of providing two spaces per unit.

.060- Residential driveways: All single and joint use driveways shall be paved and have a maximum 20-foot approach width.

Findings: Driveway access shall be reviewed at the time of SDR submittal. All driveways shall meet the 20-foot maximum approach width upon design submittal. This is included as a condition of approval.

17.72- Storm Drainage

.030- Plan for storm drainage and erosion control

A. The methods to be used to minimize the amount of runoff, siltation, and pollution created from the development both during and after construction.

B. Plans for the construction of storm sewers, open drainage channels, and other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the storm drainage plans.

C. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed using the rational formula and based upon the design criteria outlined in the Standard Specifications for Public Works Construction in the City of Carlton and the most current adopted storm drainage master plan.

Findings: Per the City Engineer's Comments:

Storm Drainage: The current drainage is generally to the East, over land to Hawn Creek. There are no public storm drainage improvements or drainage ways across the property. The contours show a slight drainage path to the north-east which flattens out near the school property with no apparent continuation, ditch or creek. There are two discharge location through the JR Meadows 2 subdivision; one that flows across City property to Hawn Creek, and one that discharges to a historic drainage way on private property north of the JR Meadows 2 subdivision.

a. A preliminary storm drainage report was completed as part of the application. It notes that the discharge to the private property will not increase. It also notes that there will be surcharges in some of the pipes in the JR Meadows 2 subdivision during the design storm event. On Cleveland St. the surcharge is such that in is within a 1.5' of the ground, and on Wilson St. it is within 5' on the ground.

b. The surcharge is not acceptable. On Cleveland St. the surcharge is very close to the ground surface and may not be within the accuracy of the modeling. On Wilson St. the surcharge may impact the ability of the service lines to operate. The storm system will need to be modified to avoid the surcharges. This may require detention.

Storm Drainage: There are drainage tiles on this property that will need to be located and dealt with. The tiles through the subdivision would need to be removed or filled to prevent settlement. Providing a drainage path/facilities for any tile that is upstream of the development.

Storm Drainage Pipe: The minimum main line pipe will be 12", and the minimum lateral to catch basins will be 10".

Storm Drainage Service: Each property shall have a storm drainage service lateral with a minimum pipe size of 4". The proposed plans appears to show that the attached homes share a storm service. This can be considered based upon the attached home design and may require a 6" pipe.

All required design elements shall be reviewed and approved by the City Engineer prior to approval of the final plat at the time of construction plan submittal. All requirements are listed as conditions of approval.

17.76- Utility Lines and Facilities

This section denotes city design, construction and maintenance standards for water improvements, sanitary sewer improvements, streetlights, underground utilities, private utilities and easements.

The City Engineer has reviewed the proposed plans and provided suggested changes to the proposed sanitary and storm sewer line as outlined in this report and in the recommended conditions of approval. His comments are listed below and find that the submitted plans either meet requirements or can meet requirements based on suggested conditions of approval. Specific analysis of water, sewer, and storm drainage are included under their respective chapters of the CDC. Analysis of sewer requirements is provided in Exhibit B and under the findings for CDC 17.88.030.

Water: The application shows a connection to the 8" water lines on Wilson St. and Cleveland St. extending from JR Meadows 2 subdivision, as well as the 6" water line on Third St. at the intersection of Polk St. This creates a looped system that is beneficial for the water system and all the residence in the S.E. section of the community.

- a. A minimum 8" water line would be required in all the streets in the proposed development. The lines would be extended to the ends of the streets.
- b. An evaluation of the fire flow was conducted using hydrant flow tests and hydraulic modeling. The model results predict fire flow slightly over 1,900 gpm. This is acceptable for a residential neighborhood.

Water Service: All lots require separate water services and meters. **10. Sanitary Sewer:** The application shows a connection to the 8" water lines on Wilson St. and Cleveland St. extending from JR Meadows 2 subdivision.

- a. The new gravity sanitary sewer pipe would be 8" on all the streets and will need to be extended to the end of the streets.
- b. The sanitary sewer on Third St. needs to be extended to the south end of the development.
- c. The sanitary sewer on Third St. needs to be extended north to the intersection of Cleveland St. **11. WWTP:** The biological improvements to the WWTP will need to be completed and operational before the homes from this development can be put on-line.

Sanitary Service: All lots require separate sanitary sewer services.

A condition of approval is included all design requirements to be met as determined by the City Engineer prior to approval of the final plat.

17.84- Landscaping Installation and Compliance

.050- Minimum landscaped area and requirements

E. Single-Family and Duplex Dwellings: All yard areas not otherwise improved with structures, parking, and circulation (driveways, walkways, etc.) shall be landscaped. At least fifty (50) percent of front yard

areas not covered with driveways, patios, or paths shall contain planted areas (includes any trees retained in the development).

Findings: No Site Design Review application has been submitted concurrent to the subdivision application. A SDR application is required for the block of lots intended for attached single family housing. Compliance with landscaping requirements shall be reviewed at the time of SDR for attached homes and at building permit level for detached single family.

A condition of approval is included requiring compliance with the provisions of this section.

.070- Screening and buffering

A. Screening shall be used to eliminate or reduce the visual and noise impacts of the following uses:

- 1. Commercial and industrial uses when abutting residential uses;*
- 2. Industrial uses when abutting commercial uses;*
- 3. Service areas and facilities, including garbage and waste disposal containers, recycling bins, and loading areas;*
- 4. Outdoor storage areas;*
- 5. Parking areas for ten (10) or more vehicles for multi-family developments, or twenty (20) or more vehicles for commercial or industrial uses;*
- 6. At and above-grade electrical and mechanical equipment, such as transformers, heat pumps, and air conditioners;*
- 7. Any other area or use as required by this title.*

Findings: The proposed uses are residential and are compatible with surrounding uses and therefore do not require screening or buffering.

.084- Planting and Maintenance

Findings: All homeowners will be responsible for maintenance of their landscaped areas. Private property front yards and ROW landscape strips are less than 1000 square feet, so will not be required to be irrigated with automatic sprinkler systems.

17.88 Development Standards for Land Divisions

A. Minimum Lot Area. Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.

Findings: Compliance with minimum lot area standards is achieved by the submitted proposal. As discussed under the findings for Section 17.22.040, all lots meet or exceed the minimum lot area in the R-2 zone.

B. Maximum Lot Area. When single-family residential use is proposed for a lot with an area double or greater than the minimum density of the underlying zone the Planning Commission may take into consideration the potential for further division of the lot at a future date.

Findings: There is no identified minimum density in the R-2 zone. All lots are within 100% of the minimum lot size in the R-2 zone, meeting the standard.

C. Lot Width and Depth. The depth of a lot or parcel shall not be more than three times the width of the parcel, with the following exceptions:

- 1. Parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.*
- 2. Lots within residential zones where the permitted minimum lot width is less than forty (40) feet may be permitted to have a width-depth ratio of no greater than 5:1*

Findings: Sheet P-04 of the preliminary subdivision plans (Exhibit C) shows lot dimensions for the lots proposed. All interior lots proposed for attached single family development have lot widths of 25 feet and maximum lot depths of 117 feet- Below the maximum of 125 feet permitted per subsection C2. All lots intended for single family detached development have maximum lot widths of 50 feet, and maximum lot depths of 120 feet- Below the maximum of 150 feet permitted per Subsection C1.

D. Access. All lots and parcels created after the effective date of the ordinance codified in this title shall provide a minimum frontage, on an existing or proposed public street, equal to twenty (20) feet. An exception shall apply when residential lots or parcels and planned unit developments, may be accessed via a private street or easement developed in accordance with the provisions of Chapter 17.64 or when the city finds that public street access is:

- 1. Infeasible due to parcel shape, terrain, or location of existing structures; and*
- 2. Not necessary to provide for the future development of adjoining property.*

Findings: All lots have a minimum of 25 feet of frontage on a public street as shown in Exhibit C.

E. Flag Lots. If a flag-lot is permitted, the following standards shall be met:

- 1. The access strip shall not be less than twenty (20) feet wide. The access strip shall be improved with minimum twelve (12) foot wide paved driveways that meet applicable city standards. If said access strip is over two hundred (200) feet in length, the driveway shall terminate in a turn-around capable of accommodating emergency fire vehicles;*
- 2. The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this title.*

Findings: No flag lots are proposed within the subdivision. Staff finds Criterion E is inapplicable.

F. Through Lots. Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent nonresidential activities, or to overcome specific disadvantages of topography and orientation. A ten (10) foot wide screening or buffering easement, pursuant to the provision of chapter 17.84, may be required by the city during the review of the land division request.

Findings: No through lots are proposed within the proposed subdivision. Staff finds Criterion F is inapplicable.

G. Lot Side Lines. The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face.

Findings: The front lot lines of each proposed lot are perpendicular to the public street upon which they front. Staff finds the standard is met.

H. Lot Grading. The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns and other pertinent data, shall be established by the building inspector.

Findings: Building permits shall be submitted prior to development on the site. This is included as a condition of approval.

I. Utility Easements. Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in [Section 17.76.020](#).

An exception shall apply when residential lots or parcels and Planned Unit Developments, may be accessed via a private street or easement developed in accordance with the provisions of Section 2.202 or when the City finds that public street access is:

- a. Infeasible due to parcel shape, terrain, or location of existing structures; and*
- b. Not necessary to provide for the future development of adjoining property.*

Findings: PUEs are shown along the proposed public streets to accommodate the necessary utilities. Staff finds that Criterion I is met. As stated under the findings for Section 17.64, an 11-foot PUE will be required along the side of Wilson Street where the water line will be located to ensure there is adequate space for the water line and private utilities.

.040- Standards for Blocks

A. General. The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

B. Sizes.

1. Block Length. Except as provided in Section 17.100.030 for the Main Street Special Transportation Area (STA), blocks in residential and commercial districts shall be a minimum of one hundred (100) feet long and shall not exceed six hundred (600) feet in length between street right-of-way lines, unless the previous adjacent development pattern or topographical conditions justify a variation. Blocks that exceed six hundred (600) feet in length shall provide additional pedestrian and bicycle accessways.

2. Block Perimeter. Block perimeters in residential and commercial districts shall not exceed one thousand four hundred (1,400) feet.

C. Alleys. Alleys may be provided in all districts, however, alleys shall be provided in commercial and industrial areas, unless other permanent provisions for access to off-street parking and loading facilities are provided.

Findings: All blocks are below the 600-foot maximum length. The two westerly blocks slightly exceed the block perimeter maximum (by approximately 76 and 34 feet respectively). Staff finds that the slight increase in width is acceptable to align with existing development patterns and meet the street alignments shown in the Carlton TSP. Pedestrian access is provided around the perimeter of all blocks. Bike lanes are provided on Wilson and 3rd Streets.

Section 17.88.050 Improvement Requirements

All improvements required by this ordinance or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the Developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the Developer and accepted by the City, the Developer shall provide a security guarantee satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to 250 feet, the applicant may request to enter into, and the City may grant an improvement deferral agreement.

A. Frontage Improvements: Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Section 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

Findings: City infrastructure requirements and the conditions of subdivision approval shall be completed prior to issuance of building permits unless a security guarantee is agreed upon by the developer and the City.

The City Engineer's public utility improvement comments have been included in previous sections discussing storm drainage, water and sewer lines, and streets improvements.

B. Project Streets: All public or private streets within the land division shall be constructed as required by the provisions of Section 17.64. Private driveways serving flag lots or private streets shall be surfaced as per the requirements of this Ordinance.

Findings: Findings for the design of the public streets are included under Section 17.64. Should the Planning Commission approve the requested modification to Wilson St., all standards are met.

- C. *Monuments: Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.*

Findings: All required monuments are to be established per the standards of this section as a condition of approval.

- D. *Benchmarks: Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.*

FINDING: This is included as a condition of approval.

- E. *Surface Drainage and Storm Sewer System: Drainage facilities shall be provided within the land division and to connect the land division drainage to drainage-ways or to storm sewers outside the land division and shall be consistent with the most current adopted Storm Water Master Plan. Design of drainage within the land division shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the land division and to provide extension of the system to serve such areas. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.*

FINDING: A condition of approval includes the above and that the storm water system design and layout shall be approved by the City Engineer and Public Works prior to final plat approval.

- F. *Sanitary Sewers: Sanitary sewer shall be installed to serve the land division and to connect the Land division to existing mains both on and off the property being divided. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the City, cannot be served otherwise.*

The City may require that the construction of sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed.

Findings: Per Exhibit B:

Sanitary Sewer: The application shows a connection to the 8" water lines on Wilson St. and Cleveland St. extending from JR Meadows 2 subdivision.

- a. The new gravity sanitary sewer pipe would be 8" on all the streets, and would be extended to the end of the streets.
- b. The sanitary sewer on Third St. needs to be extended to the south end of the development.
- c. The sanitary sewer on Third St. needs to be extended north to the intersection of Cleveland St.

Waste Water Treatment Plant: The biological improvements to the WWTP will need to be completed and operational before the homes from this development can be put on-line.

Sanitary Service: All lots require separate sanitary sewer services. This is included as a condition of approval.

- G. *Water System: Water lines with valves and fire hydrants serving the land division and connecting the land division to the City mains shall be installed. The design shall take into account provisions for extension beyond the land division to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the City will not expect the developer to pay for the extra pipe material cost of mains exceeding eight (8) inches in size. Installation costs shall remain entirely the developer's responsibility.*

Findings: All water improvements shall be designed in accordance with the Carlton PWDS as approved by the City Engineer. Comments from the City Engineer are included in Exhibit B and recommended conditions of approval are included at the end of this report.

- H. *Pedestrian Facilities and Bicycle ways: Sidewalks shall be installed along both sides of each public street and in include any pedestrian or bicycle ways within the land division as well as along all frontages to existing streets. Sidewalks shall be extended as required to connect to other sidewalk systems. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks, sidewalks fronting public property, or sidewalks adjacent to existing structures shall not be deferred.*

- I. *Pedestrian/Bicycle Design Standards. Pedestrian/bicycle access ways shall meet the following design standards:*

- a. *Minimum dedicated width: 10 feet*
- b. *Minimum improved width: 5 feet*
- c. *Vision Clearance: A clear line of visions for the entire length of the access way shall be required.*
- d. *Pedestrian scale lighting fixtures shall be provided along the walkway and lighted to a level where the system can be used at night.*
- e. *The access way shall be designed to prohibit vehicle traffic.*

Findings: There are no specific pedestrian/bicycle accessways proposed for the subdivision aside from the required public improvements and the 5-foot pathway on the North side of Cleveland Street as agreed to by the Carlton School District. 6-foot sidewalks are proposed along all collector street and 5-foot sidewalks are proposed along all local streets within the subdivision.

- J. *Other:*

1. *Curb cuts and driveway installations, excluding common drives, are not required of the land divider but, if installed, shall be according to the City standards.*
2. *Street tree planting is not required of the land divider but, if planted, shall be in accordance with City requirements and of a species compatible with the width of the planting strip.*
3. *Streetlights. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.*

4. *Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards.*

Findings: All required street elements shall be installed prior to final plat approval.

17.100.030 Access Control Standards

A. 50 feet of spacing between access points is required on lots intended for single family detached development. 25 feet is required between access points is required on lots intended for single family attached development. These standards apply to both local and collector streets.

Findings: Per Exhibit C, all lots are capable of meeting the access spacing requirement. The applicant shall provide evidence of compliance at the time of construction plan submittal. Compliance with access spacing requirements is mandated as a condition of approval.

17.100.040 - General standards.

A. Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification.

Findings: All lots on streets with varying functional classifications shall take access from the street with the lower classification. This requirement is included as a condition of approval and shall be reviewed at the time of construction plan submittal.

B. When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a marginal access or local street. Access rights of these lots, to the arterial shall be dedicated to the City of Carlton and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial.

Findings: The proposed subdivision does not abut an arterial. Criterion B is inapplicable.

C. Subdivisions with frontage on the state highway system shall be designed to share access points to and from the highway. If access off of a secondary street is possible, then access should not be allowed onto the state highway.

Findings: The subdivision does not have frontage on a state highway. Criterion C is inapplicable.

D. Wherever a proposed development abuts unplatted developable land within the urban growth boundary, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area.

Findings: Street stubs for Taylor, Wilson, and 5th Streets are required as conditions of approval.

E. Local streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control

such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.

Findings: Staff finds that all local streets have been designed to permit convenient movement of traffic between neighborhoods connected by 3rd St. to the North and Wilson/Cleveland Streets to the East. The design allows for traffic circulation through the neighborhood and allows for future connections to the West and South.

F. In all cases reasonable access or the minimum number of access connections, direct or indirect, necessary to provide safe access to and from a street shall be granted.

Findings: Two permanent accesses are required per the fire code when a subdivision exceeds 30 lots. The subdivision has three access points via Cleveland, Wilson, and 3rd Streets, meeting the standard.

G. New connections shall not be permitted within the functional area of an intersection as defined by the connection spacing standards of this title, unless no other reasonable access to the property is available.

Findings: All lots shall be required to meet the access spacing provisions and classification access requirements of the code. Compliance with the applicable sections is included as conditions of approval.

17.100.070 - Review procedures.

A. Access Permit Required. Access to a public street (e.g., a new curb cut or driveway approach) requires an access permit. An access permit may be in the form of a letter to the applicant, or it may be attached to a land use decision notice as a condition of approval. In either case, approval of an access permit shall follow the procedures and requirements of the applicable road authority, as determined through the Type I review procedures found in Section 17.188.010.

B. Traffic Study Requirements.

1. The City shall require a traffic impact analysis (TIA) prepared by a qualified professional to determine access, circulation, and other transportation requirements when:

a. The development generates twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips.

b. An access spacing exception is required for the site access driveway(s) and the development generates ten (10) or more peak-hour trips or one hundred (100) or more daily trips.

c. The development is expected to impact intersections that are currently operating at the upper limits of the acceptable range of level of service during the peak operating hour.

d. The development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as a schools.

2. Transportation Assessment. If a TIA is not required, the applicant's traffic engineer shall submit a transportation assessment letter to the City indicating the proposed land use action is exempt. This letter shall outline the trip-generating characteristics of the proposed land use and verify that the site-access driveways or roadways meet City of Carlton sight-distance requirements and roadway design standards.

The Public Works Director may waive the requirement for a transportation assessment letter if a clear finding can be made that the proposed land use action does not generate twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips and the existing and or proposed driveway(s) meet the City's sight-distance requirements and access spacing standards.

Findings: Per Exhibit B:

Traffic Study: A traffic study is required if more than 250 daily trips are generated. The proposed subdivision has 101 lots and is projected to generate approximately 868 trips per day. A traffic study has been prepared by Lancaster Mobley.

a. The study shows that the only two intersections that would require traffic control are Yamhill St. and Main St, and Pine St. and Main St. These are both on Highway 47 and are under the jurisdiction of ODOT. ODOT is currently evaluating the intersections.

b. All other intersections evaluated show that they operate acceptably.

c. Consideration for school traffic was also evaluated. It is acknowledged that there is considerable queuing currently on the streets during the pick-up and drop-off time periods due to the school. However, the study indicates that the intersections evaluated show that they operate acceptably.

C. Conditions of Approval. The City may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system.

D. Access permit reviews shall address the following criteria:

1. Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access;

2. The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and service vehicles;

3. The access shall be consistent with the access management standards in the most current adopted City of Carlton Transportation System Plan.

Findings: An access permit shall be required prior to site development. This requirement is listed as a condition of approval.

E. Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards.

Findings: This application does not involve access to the State Highway System. Criterion E is therefore inapplicable. ODOT was given notice of the submitted subdivision application.

Section 17.176 Subdivisions and Planned Unit Development

All applications for a subdivision shall be submitted on forms provided by the city with the required information and accompanied by 10 copies and the application fee. All subdivisions shall conform to the applicable zoning district standards, development standards and other provisions of the Carlton Development Code.

FINDING: A complete application, copies, mailing labels and the required fee was submitted to the City for consideration and approval.

B. A master plan for development is required for any application that leaves a portion of the subject property capable of redevelopment.

Findings: The subdivision application does not leave a portion of the subject property capable of redevelopment. Criterion B is therefore inapplicable.

VII. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings in this report, staff recommends approval of SUB 23-01 with the following conditions:

1. **Prior to final plat approval**, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, grading and erosion control, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Engineer for approval prior to constructions of any improvements.
 - a. All utility easements shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76.
 - b. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.
 - c. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.
 - d. Curb cuts and driveway installations by the developer shall be according to the City standards.
 - e. An 11-foot PUE shall be shown on the final plat on the side of Wilson Street containing the water line.

- f. Taylor Street and the public utilities within Taylor Street shall extend to the eastern boundary of the development unless the applicant provides justification showing why Taylor Street cannot be extended.
- g. There shall be no-parking signs provided on both sides of 3rd Street, and the 3rd Street shoulder shall be one-foot in width comprised of crushed rock. The shoulder shall also provide accommodations for storm drainage on the west side of the street as determined by the City Engineer.
- h. The sanitary sewer on Third St. shall be extended to the South end of the development, and North to the intersection with Cleveland St.
- i. The storm system will need to be modified to avoid surcharges. This may require detention. The final storm system design shall be reviewed at the time of construction plan submittal and meet applicable City of Carlton development code standards.
- j. The drainage tiles through the subdivision will need to be removed or filled to prevent settlement. The applicant shall provide a drainage path/facilities for any tile that is upstream of the development for approval by the City Engineer.
- k. The applicant shall provide a public right-of-way easement, to a width of 26-feet, encumbering all lots shown to border Wilson Street, 3rd Street, and Cleveland Street where a sidewalk easement is proposed in-lieu of public right-of-way. The location of this easement is to be shown to final plat.
- l. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.
- m. Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.
- n. Compliance with the access spacing requirements of Section 17.100.030 intersections shall be shown on the final construction plans.
- o. All lots on streets with varying functional classifications shall take access from the street with the lower classification. Location of driveways and spacing shall be shown on the final construction plans.
- p. The applicant shall obtain a City of Carlton access permit for all new curb cuts within the subdivision.
- q. Compliance with vision clearance standards shall be demonstrated in the final construction plans.
- r. Street stubs shall be provided for Taylor, Wilson, and 5th Streets where these streets dead-end at the perimeter of the subject property.

- s. The applicant shall dedicate Tract A to the City of Carlton. A minimum of three street trees shall be planted within the Tract.
- t. Street trees planted in landscape strips shall be listed on the City Carlton Street Tree list.

2. Prior to issuance of building permits:

- a. A Site Design Review application shall be submitted and approved by the City for the block containing lots intended for single-family attached homes.
- b. The applicant shall demonstrate that no driveways exceed 20 feet in width at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- c. The applicant shall demonstrate compliance with the landscaping standards of Section 17.84 at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- d. All dwellings shall comply with the dimensional and development standards standards listed in CDC Sections 17.22.040 and 17.22.050.
- e. All dwellings shall comply with the design standards of Section 17.106.030 A Residential Design Standards as illustrated on the approved elevations, at the time of building permit submittal.

3. Additional

- a. The biological improvements to the City of Carlton WWTP shall be completed and operational before the homes from this development can be accepted. The plat can be approved, but no homes may be sold or connected to the system.
- 4. **Security Guarantee:** If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.
- 5. **Final Plat Submittal:** Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless and extension request is filed with the City

before the expiration date. An extension request shall be made in accordance with Section 17.176.050.

VI. MOTION OPTIONS

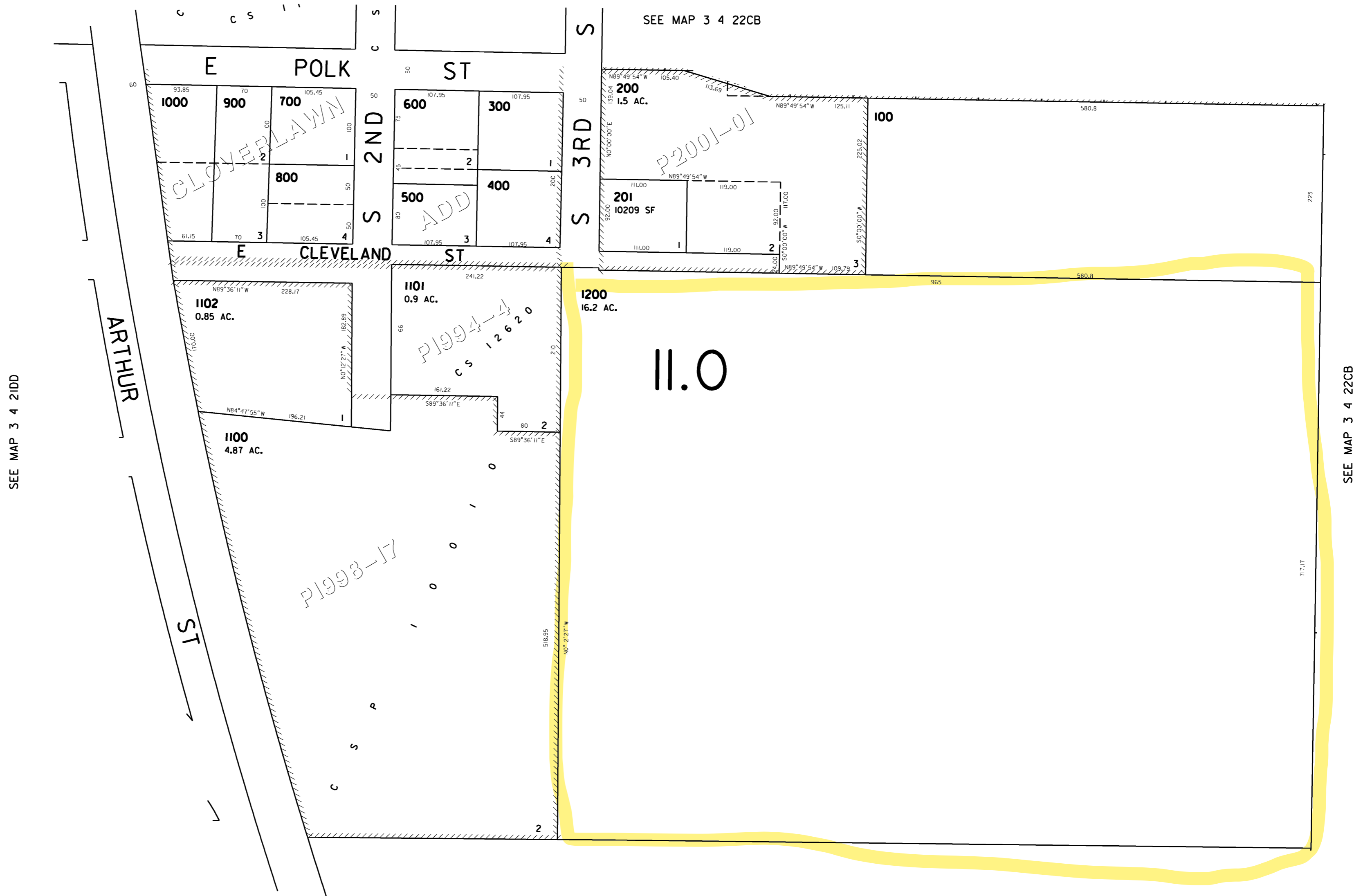
- A. I move to approve SUB 23-01 as recommended by staff based upon the findings in the staff report and in compliance with the conditions of approval, or
- B. I move to approve SUB 23-01 as recommended by staff based upon the findings in the staff report and in compliance with the conditions of approval as modified by the planning commission (stating the modifications), or
- C. I move to deny SUB 23-01 (stating how the application does not meet the required standards), or
- D. I move to continue the hearing to a time certain or indefinitely (considering the 120-day limit on the application decision).

THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSE ONLY

SW 1/4 SW 1/4 SEC22 T3S R4W W.M.
YAMHILL COUNTY
1" = 100'

3 4 22CC
CARLTON

CANCELLED
202
1101



CITY OF CARLTON – DEVELOPMENT

APPLICATION COMMENTS March 7, 2023

Tax Lot 1200 – residential development

The project was description: a 101-lot subdivision.

1. **Tract A:** They show Tract A as open space, but do not indicate who will own it or what will be done on the space.
2. **S. Third St.:** This is designated in the TSP as a school zone collector street. The requirements are: 49' ROW, 34' pavement, 5' bike lane, curb & gutter, and a 6' sidewalk.
 - a. The proposed layout provides a 47.3' ROW dedication with the rest of the ROW coming from the lot to the west when it develops. This is acceptable.
 - b. The street cross section is a ¾ street with 25' pavement, curb & gutter and 6' sidewalk on one side. A 5' landscape strip has been included. This section is acceptable.
 - c. The bike lane shall be striped.
 - d. No-parking signs shall be provided on both sides of the street.
 - e. The shoulder shall be 1' wide crushed rock.
 - f. Accommodate will be required for storm drainage on the west side of the street where there is no curb & gutter.
3. **S. Third St. Off-Site:** This is designated in the TSP as a school zone collector street. The requirements are: 49' ROW, 34' pavement, 5' bike lane, curb & gutter, and a 6' sidewalk.
 - a. There is an existing 50' ROW. This is acceptable.
 - b. The street cross section is a ¾ street with 25' pavement, curb & gutter and 6' sidewalk on one side. This section is acceptable.
 - c. The bike lane shall be striped.
 - d. No-parking signs shall be provided on both sides of the street.
 - e. The shoulder shall be 1' wide crushed rock.
 - f. Accommodate will be required for storm drainage on the west side of the street where there is no curb & gutter.
4. **S. Wilson St.:** This is designated in the TSP as a collector street. The requirements are: 71' ROW, 46' pavement (including a 5' bike lane and 7' parking lane), 5' landscape strip, curb & gutter, and a 6' sidewalk. The applicant has proposed an alternative section; therefore, a modification to the development code standards would need to be considered.
 - a. The alternative section consists of: 58' ROW, 46' pavement (includes 5' bike lanes and 7' parking), 6' sidewalks and landscape strip.
 - i. The ROW does not meet development code standards. The sidewalks would be located in a public utility easement.
 - ii. The sidewalk easement and PUE would overlap. This may cause an issue with the private utilities as the City standard is to have the water line beneath the sidewalk. Therefore, on one side of the street there would be no room for the private utilities. A wider PUE will be required where the water line is located.

- iii. While the pavement cross section meets the development code, it does not meet current safety provisions for bike lanes as no buffer is provided.
 - iv. Further, the pavement cross section is insufficient to provide a drive lane, parking lane and bike lane with a buffer.
 - b. The development code in section 17.64.050 has conditions for allowing modifications to the ROW and improvement width. The considerations are for unusual topographic conditions, parcel shape precluding site access, preservation of natural features or planned unit developments. It does not appear that these conditions are met.
 - c. While the standards for a modification are not met, all the facilities are still provided.
- 5. **Local St's.:** Local street requirements are: 50' ROW, 34' pavement, curb & gutter, and a 5' sidewalk.
 - a. This street section is shown for Taylor St. and a portion of 8th St. This is acceptable.
 - b. For 8th St. between Wilson St. and Cleveland St. a 5' landscape strip has been added on the west side. This matches the rest of the block. The lots in this block are narrower, and the sidewalk separated from the curb allows for the sidewalk to be constructed at an even grade. This modification was recommended by staff and is in compliance with the City Design Standards detail 213. This is acceptable.
 - c. Taylor St. is shown to stop short of the eastern boundary of the development. The street and all utilities should be extended close to the property boundary unless there is significant reason in cannot be.
 - d. On Cleveland St. the developer has proposed a ¾ street, plus an asphalt curb and walking path on the north side. The asphalt curb and path is in addition to what is required; however, the developer felt it appropriate due to the proximity of the school. The asphalt curb and path are easily removed should development occur on the north side of the street such that a full street section is constructed. This is acceptable.
- 6. **Secondary Access:** A second permanent access is required per the Oregon Fire Code when there are more than 30 homes. This has been provided with the Seventh St. and Third St. connections.
- 7. **Traffic Study:** A traffic study is required if more than 250 daily trips are generated. The proposed subdivision has 101 lots, and is projected to generate approximately 868 trips per day. A traffic study has been prepared by Lancaster Mobley.
 - a. The study shows that the only two intersections that would require traffic control are Yamhill St. and Main St, and Pine St. and Main St. These are both on Highway 47 and are under the jurisdiction of ODOT. They are currently evaluating the intersections.
 - b. All other intersections evaluated show that they operate acceptably.
 - c. Consideration for school traffic was also evaluated. It is acknowledged that there is considerable queuing currently on the streets during the pick-up and drop-off time periods due to the school. However, the study indicates that the intersections evaluated show that they operate acceptably.
- 8. **Water:** The application shows a connection to the 8" water lines on Wilson St. and Cleveland St. extending from JR Meadows 2 subdivision, as well as the 6" water line on Third St. at the intersection of Polk St. This creates a looped system that is beneficial for the water system and all the residence in the S.E. section of the community.

- a. A minimum 8" water line would be required in all the streets in the proposed development. The lines would be extended to the ends of the streets.
 - b. An evaluation of the fire flow was conducted using hydrant flow tests and hydraulic modeling. The model results predict fire flow slightly over 1,900 gpm. This is acceptable for a residential neighborhood.
9. **Water Service:** All lots require separate water services and meters.
10. **Sanitary Sewer:** The application shows a connection to the 8" water lines on Wilson St. and Cleveland St. extending from JR Meadows 2 subdivision.
 - a. The new gravity sanitary sewer pipe would be 8" on all the streets, and would be extended to the end of the streets.
 - b. The sanitary sewer on Third St. needs to be extended to the south end of the development.
 - c. The sanitary sewer on Third St. needs to be extended north to the intersection of Cleveland St.
11. **WWTP:** The biological improvements to the WWTP will need to be completed and operational before the homes from this development can be put on-line.
12. **Sanitary Service:** All lots require separate sanitary sewer services.
13. **Storm Drainage:** The current drainage is generally to the east overland to Hawn Creek. There are no public storm drainage improvements or drainage ways across the property. The contours show a slight drainage path to the north-east which flattens out near the school property with no apparent continuation, ditch or creek. There are two discharge location through the JR Meadows 2 subdivision; one that flows across City property to Hawn Creek, and one that discharges to a historic drainage way on private property north of the JR Meadows 2 subdivision.
 - a. A preliminary storm drainage report was completed as part of the application. It notes that the discharge to the private property will not increase. It also notes that there will be surcharges in some of the pipes in the JR Meadows 2 subdivision during the design storm event. On Cleveland St. the surcharge is such that in is within a 1.5' of the ground, and on Wilson St. it is within 5' on the ground.
 - b. The surcharge is not acceptable. On Cleveland St. the surcharge is very close to the ground surface and may not be within the accuracy of the modeling. On Wilson St. the surcharge may impact the ability of the service lines to operate. The storm system will need to be modified to avoid the surcharges. This may require detention.
14. **Storm Drainage:** There are drainage tiles on this property that will need to be located and dealt with. The tiles through the subdivision would need to be removed or filled to prevent settlement. Providing a drainage path/facilities for any tile that is upstream of the development.
15. **Storm Drainage Pipe:** The minimum main line pipe will be 12", and the minimum lateral to catch basins will be 10".
16. **Storm Drainage Service:** Each property shall have a storm drainage service lateral with a minimum pipe size of 4". The proposed plans appears to show that the attached homes share a

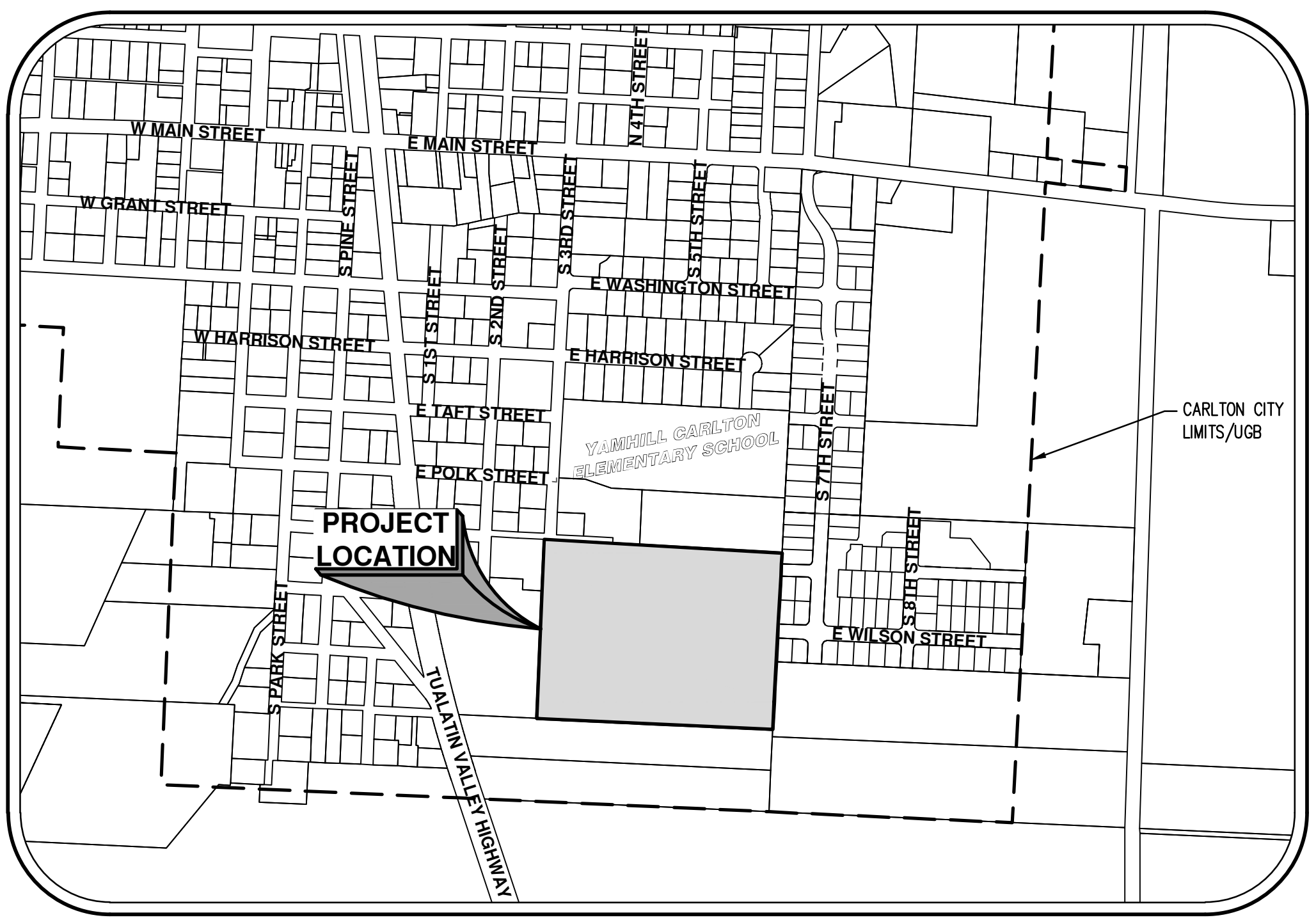
storm service. This can be considered based upon the attached home design, and may require a 6" pipe.

Proposed COA:

1. Taylor St. and the public utilities extend to the eastern boundary of the development unless significant reasons can be shown that it is not possible.
2. On Third St. there shall be no-parking signs shall be provided on both sides of the street, the shoulder shall be 1' wide crushed rock, and accommodate for storm drainage on the west side of the street shall be made.
3. The sanitary sewer on Third St. needs to be extended to the south end of the development, and north to the intersection of Cleveland St.
4. The biological improvements to the City of Carlton WWTP will need to be completed and operational before the homes from this development can be accepted. The plat can be approved, but the homes cannot be sold or connected to the system.
5. The storm system will need to be modified to avoid surcharges. This may require detention.
6. The drainage tiles through the subdivision would need to be removed or filled to prevent settlement. Provide a drainage path/facilities for any tile that is upstream of the development.
7. The PUE on Wilson Street shall be 11-feet wide on the side of the street with the water line.

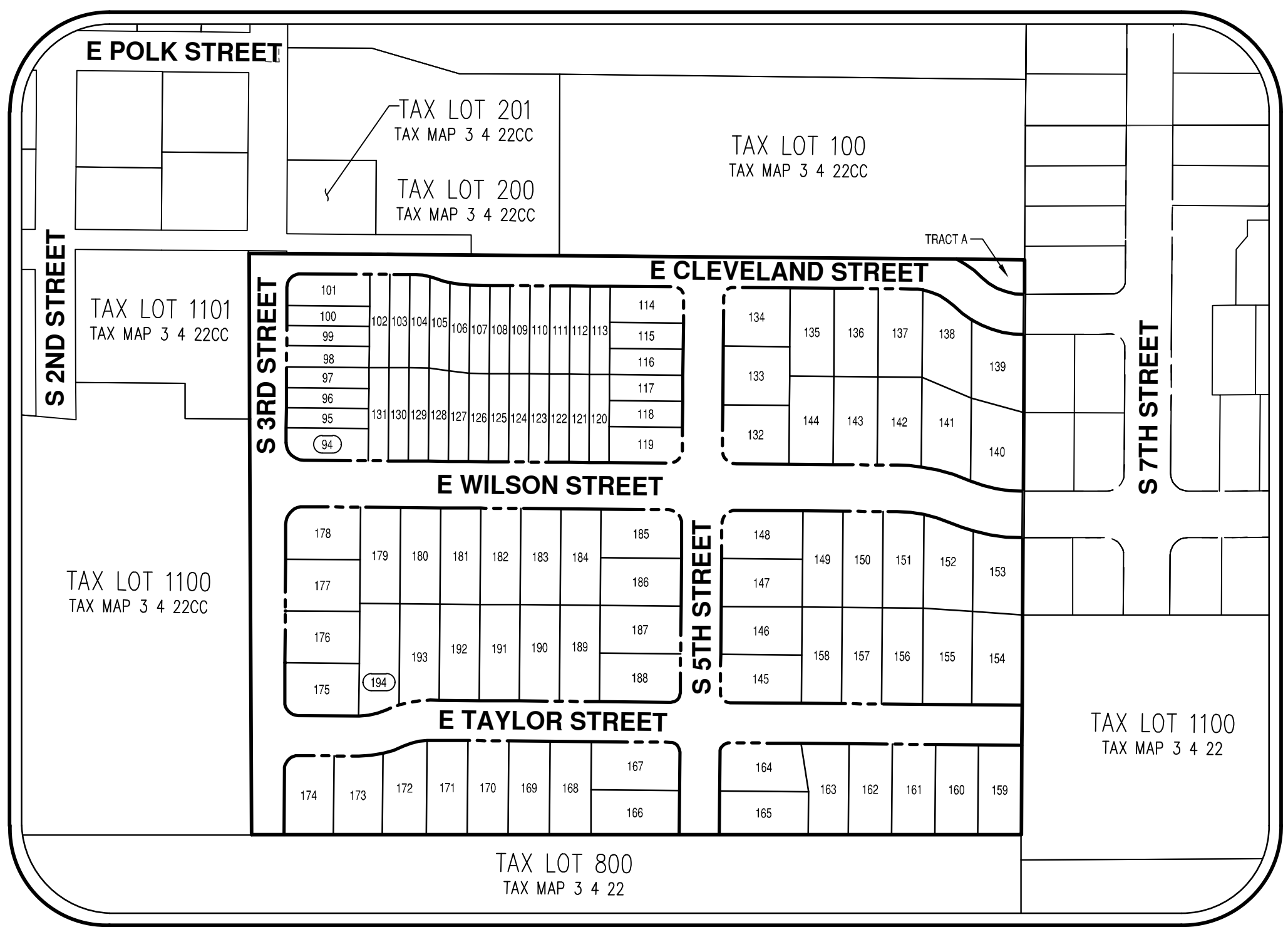
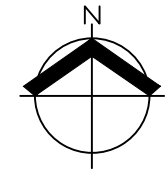
JR MEADOWS NO. 3

PRELIMINARY PLANS



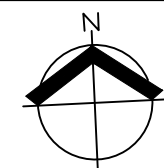
VICINITY MAP

1" = 500'



SITE MAP

1" = 150'



LEGEND			
EXISTING		PROPOSED	
DECIDUOUS TREE		STORM DRAIN CLEAN OUT	
CONIFEROUS TREE		STORM DRAIN CATCH BASIN	
FIRE HYDRANT		STORM DRAIN AREA DRAIN	
WATER BLOWOFF		STORM DRAIN MANHOLE	
WATER METER		GAS METER	
WATER VALVE		GAS VALVE	
DOUBLE CHECK VALVE		GUY WIRE ANCHOR	
AIR RELEASE VALVE		UTILITY POLE	
SANITARY SEWER CLEAN OUT		POWER VAULT	
SANITARY SEWER MANHOLE		POWER JUNCTION BOX	
SIGN		POWER PEDESTAL	
STREET LIGHT		COMMUNICATIONS VAULT	
MAILBOX		COMMUNICATIONS JUNCTION BOX	
		COMMUNICATIONS RISER	
EXISTING		PROPOSED	
RIGHT-OF-WAY LINE			
BOUNDARY LINE			
PROPERTY LINE			
CENTERLINE			
DITCH			
CURB			
EDGE OF PAVEMENT			
EASEMENT			
FENCE LINE			
GRAVEL EDGE			
POWER LINE			
OVERHEAD WIRE			
COMMUNICATIONS LINE			
FIBER OPTIC LINE			
GAS LINE			
STORM DRAIN LINE			
SANITARY SEWER LINE			
WATER LINE			

APPLICANT:

CHAD E. DAVIS CONSTRUCTION, LLC
 2808 19TH AVENUE
 FOREST GROVE, OR 97116

**LAND USE PLANNING /
 ENGINEERING / SURVEYING
 FIRM:**

AKS ENGINEERING & FORESTRY, LLC
 CONTACT: CHRIS GOODELL, AICP, LEED^{AP}
 12965 SW HERMAN ROAD, SUITE 100
 TUALATIN, OR 97062

PROJECT LOCATION:

SOUTHEAST OF THE INTERSECTION OF EAST CLEVELAND STREET AND SOUTH 3RD STREET IN CARLTON, OREGON

PROPERTY DESCRIPTION:

TAX LOT 1200, YAMHILL COUNTY ASSESSOR'S MAP 3S 4W 22, TOWNSHIP 3 SOUTH, RANGE 4 WEST, LOCATED IN SECTION 22, WILLAMETTE MERIDIAN, CITY OF CARLTON, YAMHILL COUNTY, OREGON.

EXISTING LAND USE:

VACANT

PROJECT PURPOSE:

RESIDENTIAL SUBDIVISION FOR 38 FUTURE ATTACHED SINGLE-FAMILY HOMES AND 63 FUTURE DETACHED SINGLE-FAMILY HOMES.

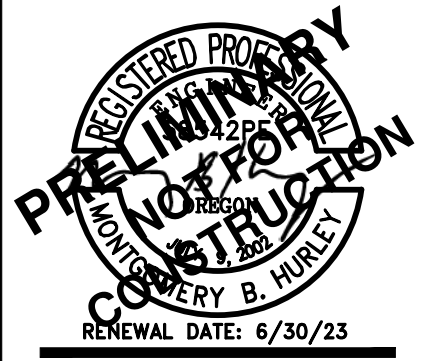
VERTICAL DATUM:

VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U 98 (PID RD0845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET ELEVATION = 202.08 FEET (NAVD 88).

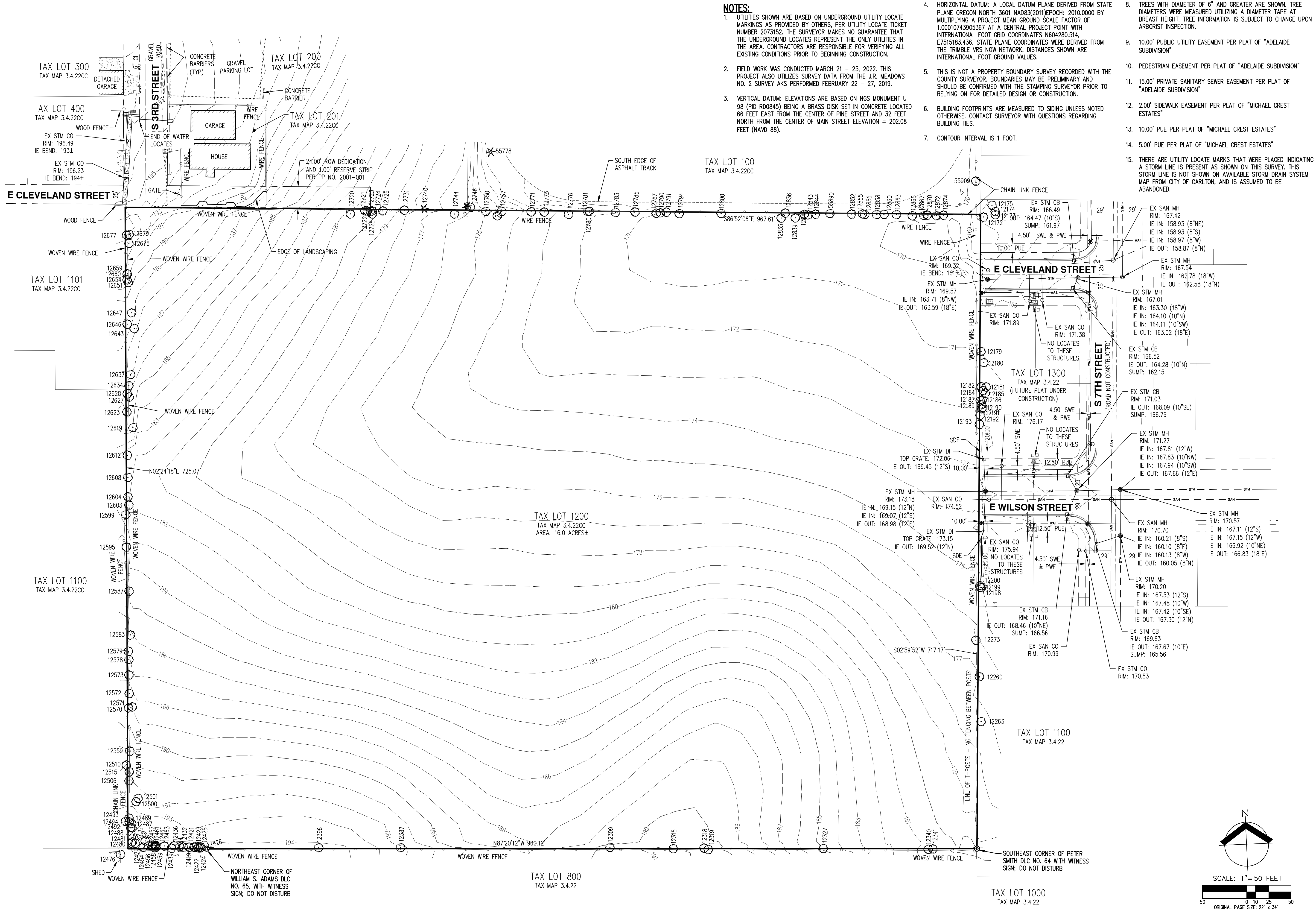
SHEET INDEX

- P-01 COVER SHEET WITH LEGEND, VICINITY, AND SITE MAPS
- P-02 EXISTING CONDITIONS PLAN
- P-03 EXISTING CONDITIONS PLAN
- P-04 PRELIMINARY SUBDIVISION PLAT WITH FUTURE BUILDING SETBACKS
- P-05 CONCEPTUAL NEIGHBORHOOD CIRCULATION PLAN
- P-06 PRELIMINARY DEMOLITION PLAN
- P-07 PRELIMINARY GRADING AND EROSION CONTROL PLAN
- P-08 PRELIMINARY STREET PLAN
- P-09 PRELIMINARY STREET CROSS SECTIONS
- P-10 PRELIMINARY STREET PROFILES
- P-11 PRELIMINARY STREET PROFILES
- P-12 PRELIMINARY STREET PROFILES
- P-13 PRELIMINARY COMPOSITE UTILITY PLAN
- P-14 PRELIMINARY AERIAL PHOTOGRAPH PLAN

COVER SHEET WITH LEGEND, VICINITY, AND SITE MAPS
JR MEADOWS NO. 3
CARLTON, OREGON



JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS

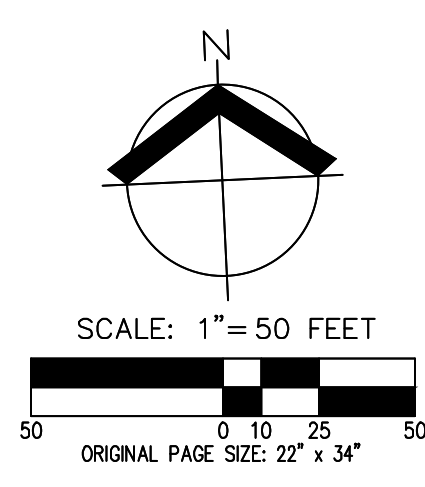


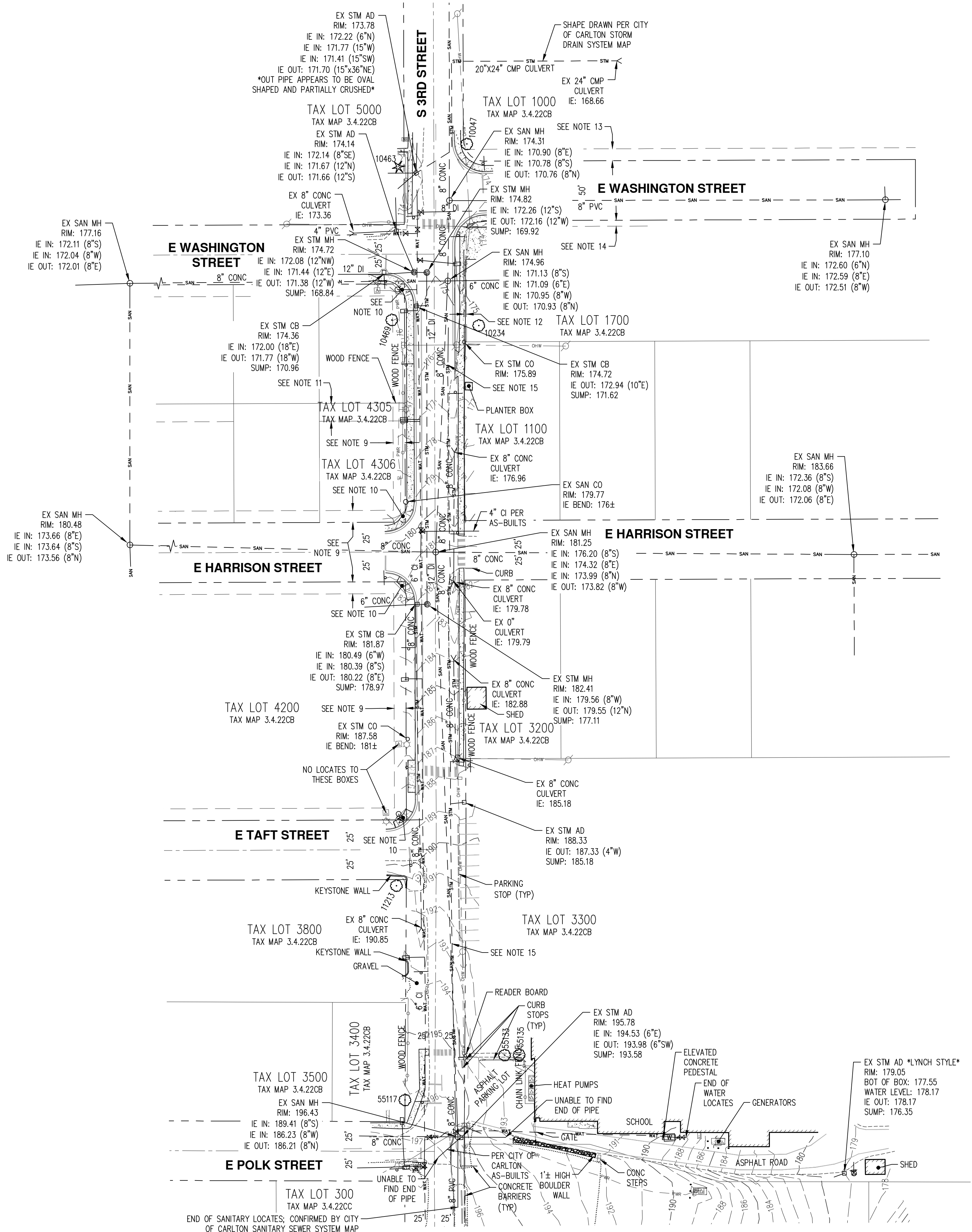
- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBER 2073152. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
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 - THIS IS NOT A PROPERTY BOUNDARY SURVEY RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
 - 10.00' PUBLIC UTILITY EASEMENT PER PLAT OF "ADELAIDE SUBDIVISION"
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**EXISTING CONDITIONS PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**

REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
 NOT FOR CONSTRUCTION
 JANUARY 12, 2018
 MSK S. KALINA
 89558PLS
 RENEWS: 6/30/23

JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: MSK
 DRAWN BY: MB
 CHECKED BY: MSK





TREE NUMBER	TYPE	DBH (IN.)
10047	DECIDUOUS	7
10234	DECIDUOUS	6,8,12
10463	CONIFEROUS	12
10469	DECIDUOUS	12
11213	DECIDUOUS	34
12172	DECIDUOUS	31
12173	DECIDUOUS	21
12174	DECIDUOUS	19
12175	DECIDUOUS	7
12179	DECIDUOUS	21,21
12180	DECIDUOUS	25
12181	DECIDUOUS	30
12182	DECIDUOUS	20
12184	DECIDUOUS	6
12185	DECIDUOUS	11
12186	DECIDUOUS	14
12187	DECIDUOUS	16
12189	DECIDUOUS	7
12190	DECIDUOUS	6
12191	DECIDUOUS	7
12193	DECIDUOUS	7
12198	DECIDUOUS	8
12199	DECIDUOUS	6
12200	DECIDUOUS	6
12260	DECIDUOUS	39
12263	DECIDUOUS	40
12273	DECIDUOUS	12
12309	DECIDUOUS	28
12315	DECIDUOUS	31
12318	DECIDUOUS	15,20
12319	DECIDUOUS	20
12327	DECIDUOUS	40
12340	DECIDUOUS	7
12341	DECIDUOUS	6,6
12387	DECIDUOUS	30
12396	DECIDUOUS	27
12419	DECIDUOUS	10
12421	DECIDUOUS	6,6
12422	DECIDUOUS	8

TREE NUMBER	TYPE	DBH (IN.)
12423	DECIDUOUS	6
12424	DECIDUOUS	8
12425	DECIDUOUS	6,8
12426	DECIDUOUS	6
12432	DECIDUOUS	7
12434	DECIDUOUS	6
12436	DECIDUOUS	8
12439	DECIDUOUS	6
12454	DECIDUOUS	8
12455	DECIDUOUS	6
12456	DECIDUOUS	7
12457	DECIDUOUS	8
12458	DECIDUOUS	6
12459	DECIDUOUS	6
12460	DECIDUOUS	6,9
12461	DECIDUOUS	7
12462	DECIDUOUS	6,6
12463	DECIDUOUS	7
12476	DECIDUOUS	6
12479	DECIDUOUS	6,9
12480	DECIDUOUS	12
12481	DECIDUOUS	8,9
12487	DECIDUOUS	6
12488	DECIDUOUS	6,6
12489	DECIDUOUS	8
12492	DECIDUOUS	6,7
12493	DECIDUOUS	7
12494	DECIDUOUS	10,11
12500	DECIDUOUS	7
12501	DECIDUOUS	6,6,7
12506	DECIDUOUS	6,7
12510	DECIDUOUS	11,20
12515	DECIDUOUS	8
12559	DECIDUOUS	6,7
12570	DECIDUOUS	5,6,6
12571	DECIDUOUS	11
12572	DECIDUOUS	6
12573	DECIDUOUS	6,6,7
12578	DECIDUOUS	6

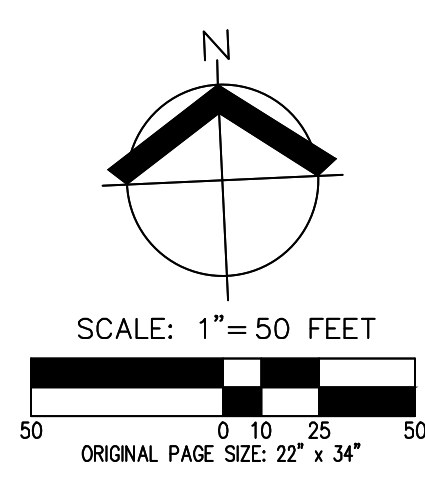
TREE NUMBER	TYPE	DBH (IN.)
12579	DECIDUOUS	7
12583	DECIDUOUS	6,7
12587	DECIDUOUS	6
12595	DECIDUOUS	12
12599	DECIDUOUS	9
12603	DECIDUOUS	6,6,8
12604	DECIDUOUS	6,7
12608	DECIDUOUS	9
12612	DECIDUOUS	12,15
12619	DECIDUOUS	7
12623	DECIDUOUS	23
12627	DECIDUOUS	7
12628	DECIDUOUS	6
12634	DECIDUOUS	6
12637	DECIDUOUS	6,7,11
12643	DECIDUOUS	6
12646	DECIDUOUS	15,18
12647	DECIDUOUS	6,6
12651	DECIDUOUS	6,6
12654	DECIDUOUS	6,8
12659	DECIDUOUS	7
12660	DECIDUOUS	6,6,6
12675	DECIDUOUS	6,6,7
12679	DECIDUOUS	6,7
12720	DECIDUOUS	6
12721	DECIDUOUS	6,7
12722	DECIDUOUS	6,6
12723	DECIDUOUS	6
12724	DECIDUOUS	6,6
12725	DECIDUOUS	6
12726	DECIDUOUS	6,6,6,7,7,8,9
12731	DECIDUOUS	6,7,7,8
12740	CONIFEROUS	12
12744	DECIDUOUS	6,6,7
12745	CONIFEROUS	11
12746	DECIDUOUS	6,6,6,7,8
12750	DECIDUOUS	6,12
12754	DECIDUOUS	6,6
12757	DECIDUOUS	6

TREE NUMBER	TYPE	DBH (IN.)
12771	DECIDUOUS	6,6,8,8,9,9
12773	DECIDUOUS	6,6,6
12776	DECIDUOUS	6
12780	DECIDUOUS	8
12781	DECIDUOUS	6
12783	DECIDUOUS	8,8,9,10
12785	DECIDUOUS	7
12787	DECIDUOUS	6,7,8,10
12790	DECIDUOUS	7
12791	DECIDUOUS	8
12794	DECIDUOUS	6,6,6,6,7,7
12800	DECIDUOUS	7,7,8,8,9
12835	DECIDUOUS	6
12836	DECIDUOUS	6
12839	DECIDUOUS	6,6,8
12842	DECIDUOUS	8
12843	DECIDUOUS	7
12844	DECIDUOUS	6,6,7
12852	DECIDUOUS	6,7,8,8
12855	DECIDUOUS	7
12856	DECIDUOUS	6
12858	DECIDUOUS	8
12860	DECIDUOUS	8
12863	DECIDUOUS	6
12865	DECIDUOUS	6,6,6,7,9
12867	DECIDUOUS	10
12870	DECIDUOUS	8
12872	DECIDUOUS	6
12874	DECIDUOUS	7,8
55117	DECIDUOUS	27
55133	DECIDUOUS	6
55135	DECIDUOUS	6,6
55778	CONIFEROUS	12
55779	CONIFEROUS	10
55780	CONIFEROUS	7
55781	DECIDUOUS	10
55890	DECIDUOUS	6,9,11
55909	TRCL	CLUSTER

NOTES:

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**EXISTING CONDITIONS PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**

REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
 NOT FOR CONSTRUCTION
 JANUARY 17, 2018
 KIMBERLY S. KALINA
 89558PLS
 RENEWS: 6/30/23

JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	MSK
DRAWN BY:	MB
CHECKED BY:	MSK

EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

NOTES:

1. THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAN IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAN AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.
2. TRACT A IS INTENDED TO EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON.

RESIDENTIAL-MEDIUM DENSITY (R-2) DEVELOPMENT STANDARDS:

- LOT DIMENSIONS**
- MIN. SINGLE FAMILY (NON-COMMON WALL) LOT SIZE - 6,000 SQ FT
 - ATTACHED (TOWNHOME) LOT SIZE - 2,400 SQ FT, 4,000 SQ FT CORNER LOT
 - MIN. LOT WIDTH AT BUILDING LINE - 24', 40' CORNER LOT

- MIN. SETBACKS:**
- FRONT - 15 FT, 10 FT UNCOVERED/UNENCLOSED PORCHES
 - GARAGE - 20 FT
 - SIDE YARD - 3 FT, 0 FT FOR ADJOINING ATTACHED (TOWNHOME) UNITS
 - STREET SIDE YARD - 10 FT
 - REAR YARD - 15 FT

- LOT COVERAGE:**
- MAX. LOT COVERAGE BY BUILDINGS: 50% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 60% WHERE BUILDING IS 20' OR LESS IN HEIGHT
 - MAX. LOT COVERAGE BY IMPERVIOUS SURFACE (NOT INCLUDING BUILDING): 30%
 - COMBINED MAX. LOT COVERAGE: 80% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 85% WHERE ALL BUILDINGS ON SITE ARE 20' OR LESS IN HEIGHT

- DENSITY:**
- AVERAGE DENSITY OF 10 DWELLING UNITS (DU) PER ACRE OR LESS

DENSITY CALCULATIONS:

GROSS SITE AREA = ±16.0 ACRES

DENSITY = GROSS ACRES * DU/GROSS ACRE
 DU/GROSS ACRE = 10

DENSITY = ±16.0 AC * 10 DU/GROSS ACRE
 = 160 UNITS

MAXIMUM DENSITY PERMITTED = 160 UNITS

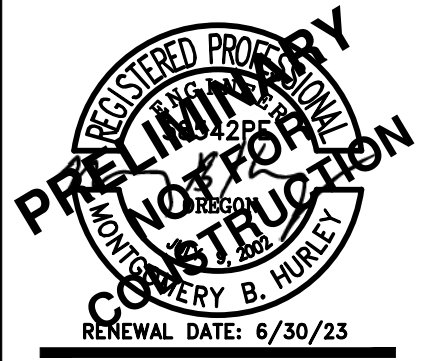
ACHIEVED DENSITY = 101 UNITS / ±16.0 ACRES
 = 6.3 DU/GROSS ACRE

SITE AREA FOR FUTURE SINGLE-FAMILY ATTACHED HOMES
 = ±110,925 SQ FT = ±2.5 ACRES

PRELIMINARY SUBDIVISION PLAN WITH FUTURE BUILDING SETBACKS

JR MEADOWS NO. 3

CARLTON, OREGON



RENEWAL DATE: 6/30/23

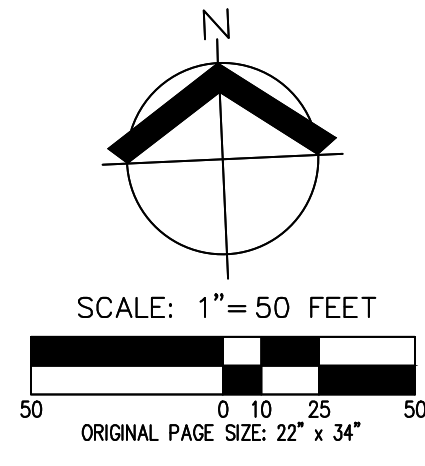
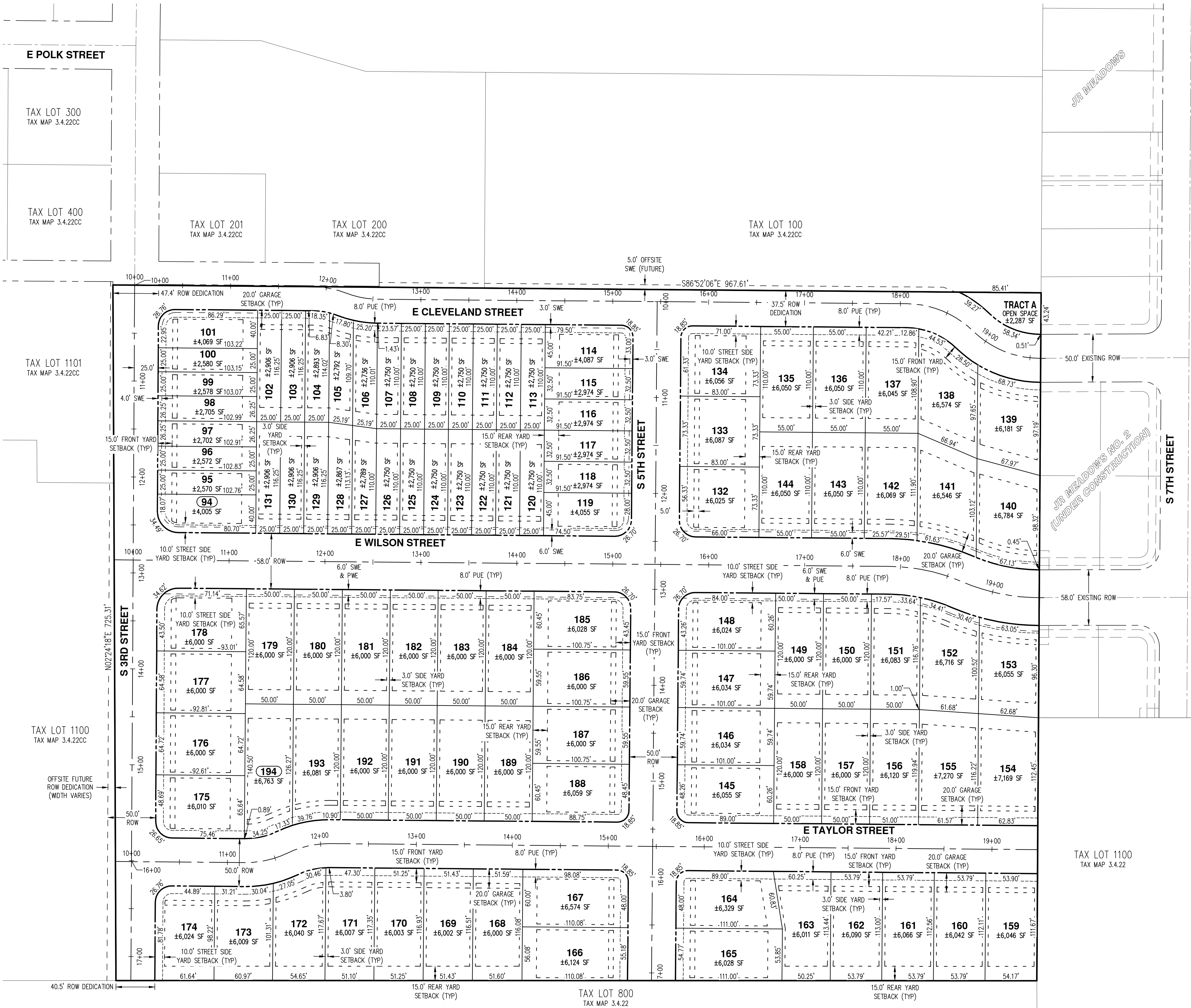
JOB NUMBER: 8632

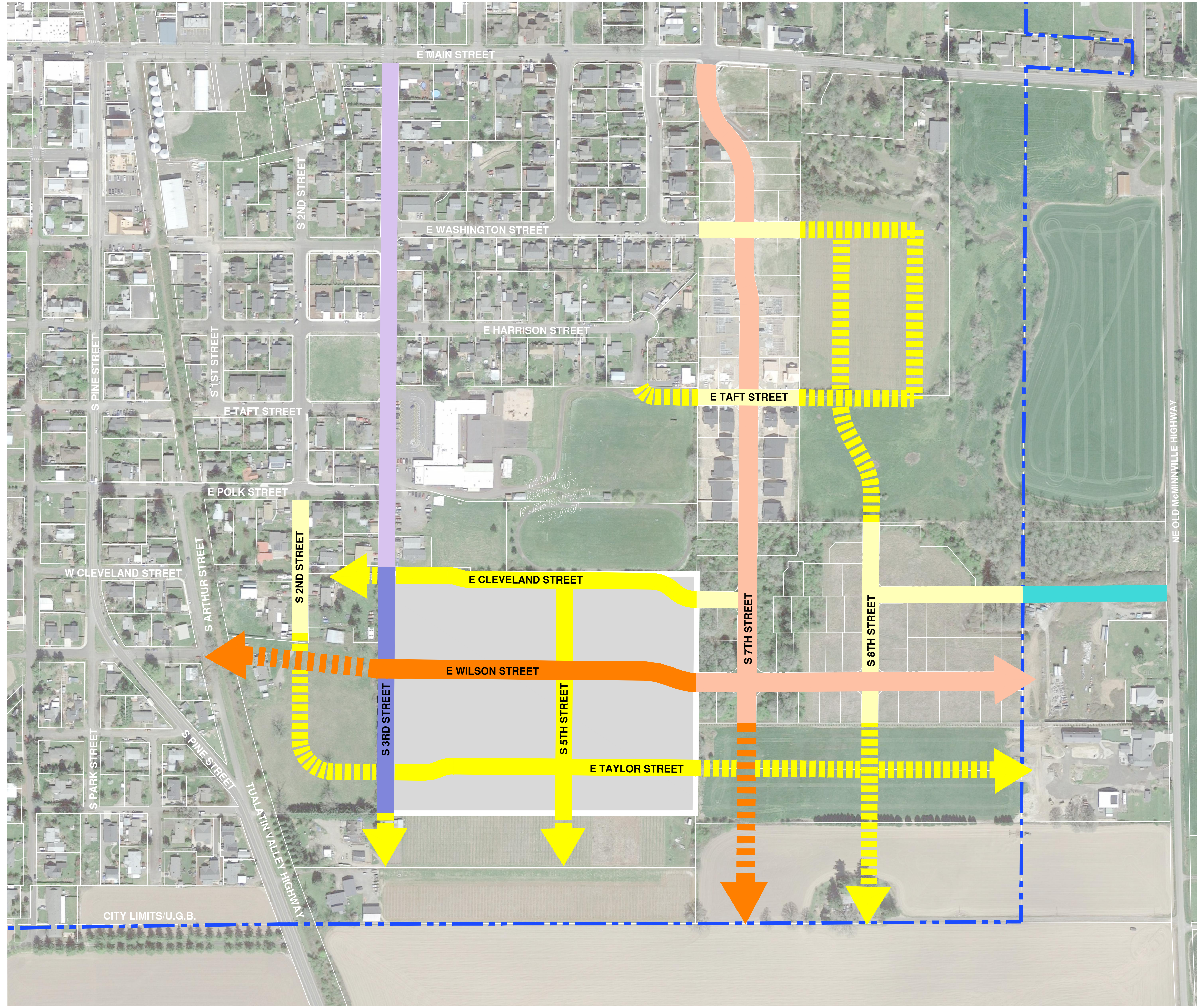
DATE: 02/21/2023

DESIGNED BY: NRA

DRAWN BY: NRA

CHECKED BY: CMS



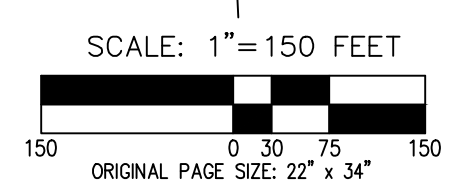
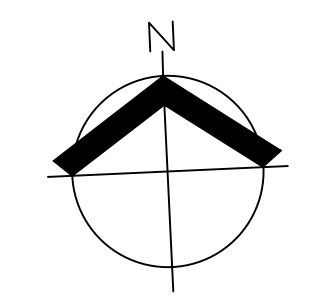


LEGEND:

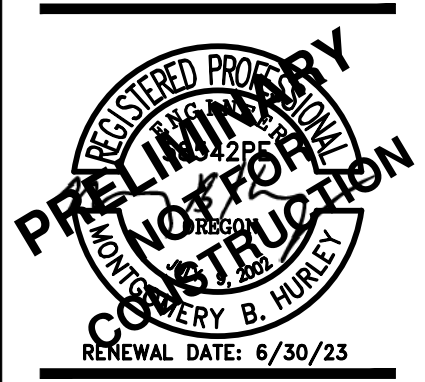
CITY LIMITS/U.G.B.	
PROJECT SITE BOUNDARY	
PLANNED LOCAL STREET	
PLANNED COLLECTOR STREET	
PLANNED SCHOOL-ZONE COLLECTOR STREET	
CONCEPTUAL FUTURE LOCAL STREET (ON TSP)	
CONCEPTUAL FUTURE COLLECTOR STREET (ON TSP)	
EXISTING LOCAL STREET	
EXISTING COLLECTOR STREET	
EXISTING SCHOOL-ZONE COLLECTOR STREET	
EXISTING EMERGENCY VEHICLE ACCESS	

NOTES:

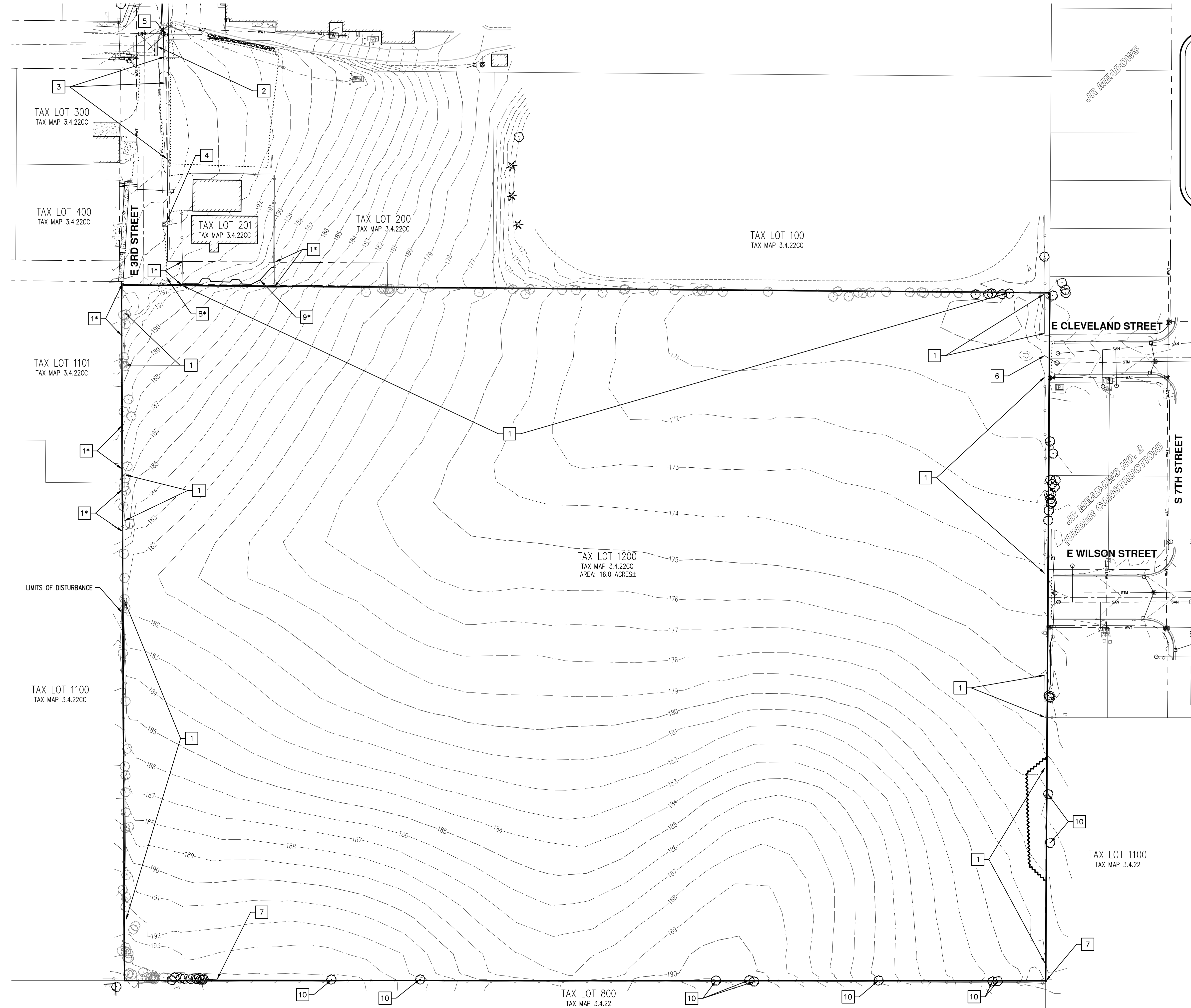
1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS FOR THE CITY OF CARLTON.
2. CONCEPTUAL FUTURE STREET LOCATIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES FOR THE LAND USE APPLICATION ONLY AND ARE NOT PROPOSED WITH THIS SUBDIVISION AND ARE NOT BINDING ON ANY OFF SITE PROPERTIES.
3. THIS DRAWING DOES NOT REPRESENT A FIELD VERIFIED TOPOGRAPHIC/PROPERTY BOUNDARY SURVEY.
4. DATA SOURCES FOR THIS CONCEPTUAL DRAWING INCLUDE INFORMATION EXTRAPOLATED FROM CITY OF CARLTON FUTURE STREET PLAN, GIS, AND NOAA LIDAR TOPOGRAPHY.
5. AREAS, DIMENSIONS, EASEMENT LOCATIONS, AERIAL PHOTO FEATURES, ETC. ARE CONSIDERED APPROXIMATE.



CONCEPTUAL NEIGHBORHOOD CIRCULATION PLAN
JR MEADOWS NO. 3
CARLTON, OREGON



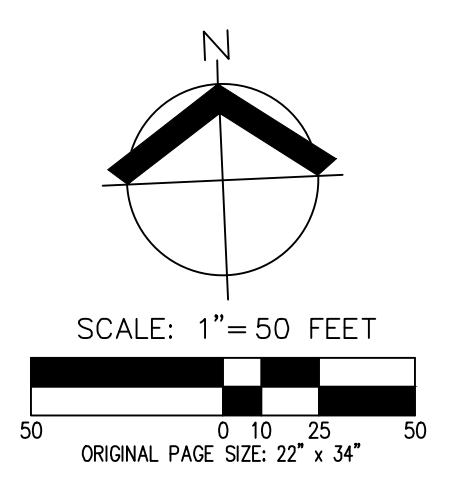
RENEWAL DATE:	6/30/23
JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



LEGEND

EXISTING GROUND CONTOUR (1 FT)	---	179
EXISTING GROUND CONTOUR (5 FT)	---	180
LIMITS OF DISTURBANCE	---	
EXISTING TREE TO REMAIN		
EXISTING TREE TO BE REMOVED		
ASPHALT PAVEMENT TO BE REMOVED		
TREE PROTECTION FENCE		

- DEMOLITION KEYED NOTES:**
1. REMOVE OR RELOCATE EXISTING FENCE.
 2. SAWCUT AND REMOVE EXISTING PAVEMENT.
 3. EXISTING CONCRETE BARRICADES TO BE RELOCATED OUT OF PUBLIC RIGHT-OF-WAY.
 4. EXISTING POWER STRUCTURE TO BE RELOCATED OUT OF PUBLIC RIGHT-OF-WAY.
 5. REMOVE OR ABANDON EXISTING AREA DRAIN AND STORM PIPES.
 6. REMOVE EXISTING STORM PIPE.
 7. PRESERVE EXISTING SIGN.
 8. REMOVE EXISTING GRAVEL.
 9. REMOVE EXISTING LANDSCAPING.
 10. EXISTING OFFSITE/LINE TREE TO BE PRESERVED. SEE NOTE B.
- NOTES:**
- ANY EXISTING SANITARY SEWER SEPTIC SYSTEMS AND DRAIN FIELD AND/OR WATER WELLS FOUND ON SITE SHALL BE DECOMMISSIONED PER APPLICABLE REQUIREMENTS.
 - ARBORIST OBSERVATION RECOMMENDED DURING ANY DEMOLITION WORK DONE BEHIND THE TREE PROTECTION FENCE.
- *COORDINATE WITH ADJACENT PROPERTY OWNER.



**PRELIMINARY DEMOLITION PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**

REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY
 WORK UNDER CONSTRUCTION
 CHRISTOPHER B. WURLEY
 RENEWAL DATE: 6/30/23

JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

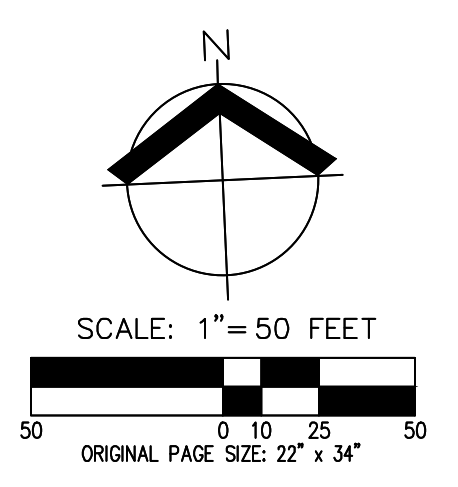
LEGEND

- EXISTING GROUND CONTOUR (1 FT) 349
- EXISTING GROUND CONTOUR (5 FT) 350
- FINISHED GRADE CONTOUR (1 FT) 349
- FINISHED GRADE CONTOUR (5 FT) 345
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- CATCH BASIN INLET PROTECTION (TYP)
- CONCRETE WASHOUT AREA
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- LIMITS OF DISTURBANCE
- TREE PROTECTION/CONSTRUCTION FENCE
- EXISTING TREE TO REMAIN

PRELIMINARY GRADING AND EROSION CONTROL PLAN

JR MEADOWS NO. 3

CARLTON, OREGON



REGISTERED PROFESSIONAL ENGINEER
 PRELIMINARY
 WORKS UNDER CONSTRUCTION
 CONSTRUCTION
 COUNTRY B. HURLEY
 RENEWAL DATE: 6/30/23

JOB NUMBER: 86.32
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
 CHECKED BY: CMS

EASEMENT LEGEND

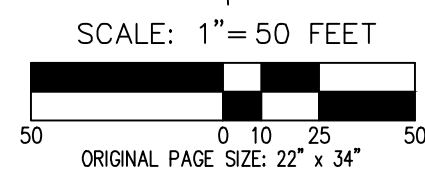
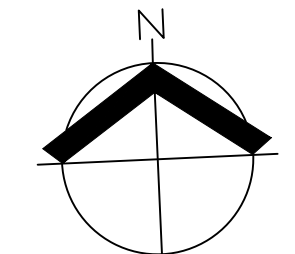
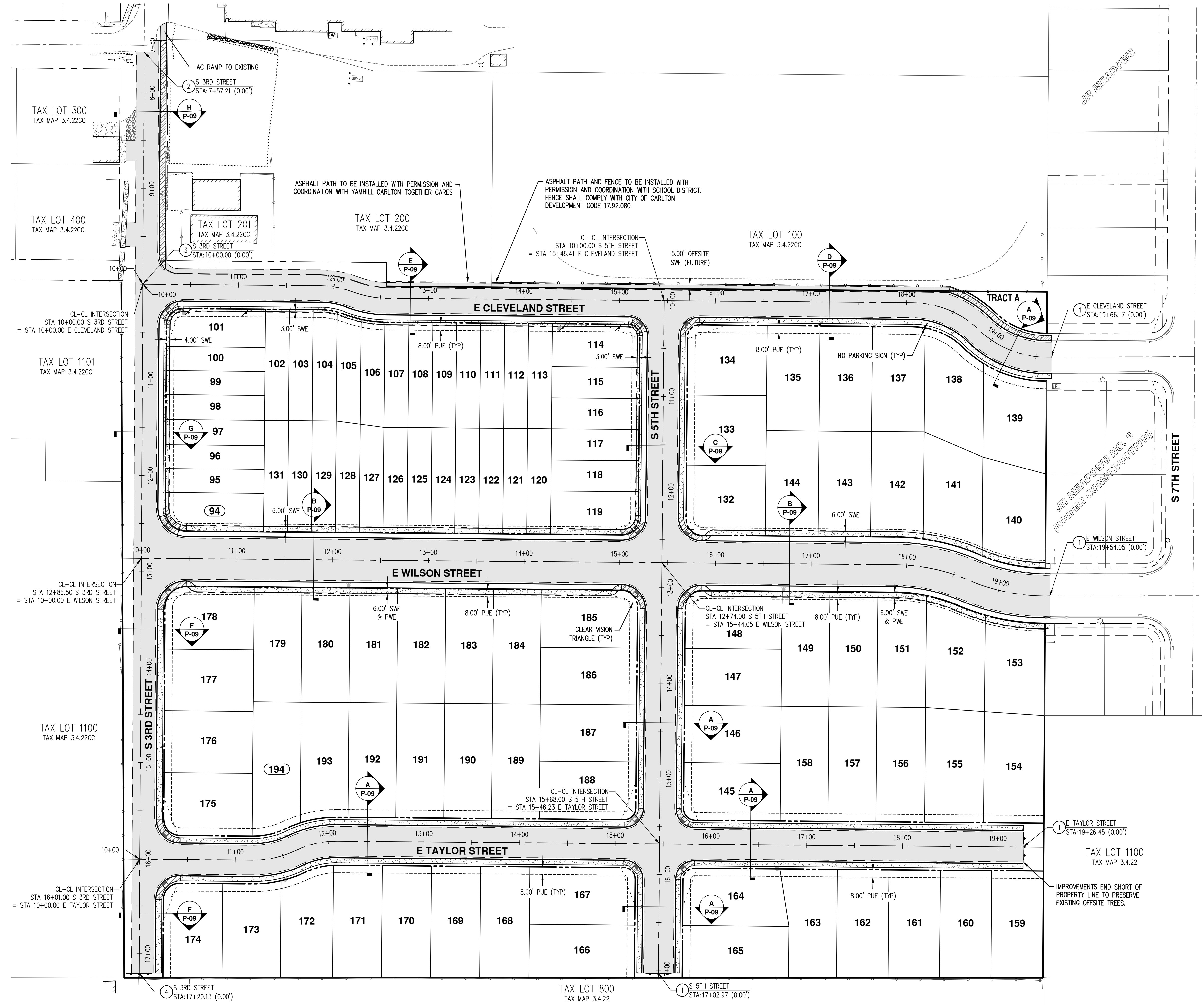
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- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

LEGEND

- NEW AC PAVEMENT
- NEW GRAVEL
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- SAWCUT LINE

KEYED NOTES:

1. END STREET IMPROVEMENTS
2. BEGIN 1/2 STREET IMPROVEMENTS
3. END 1/2 STREET IMPROVEMENTS, BEGIN 3/4 STREET IMPROVEMENTS
4. END 3/4 STREET IMPROVEMENTS



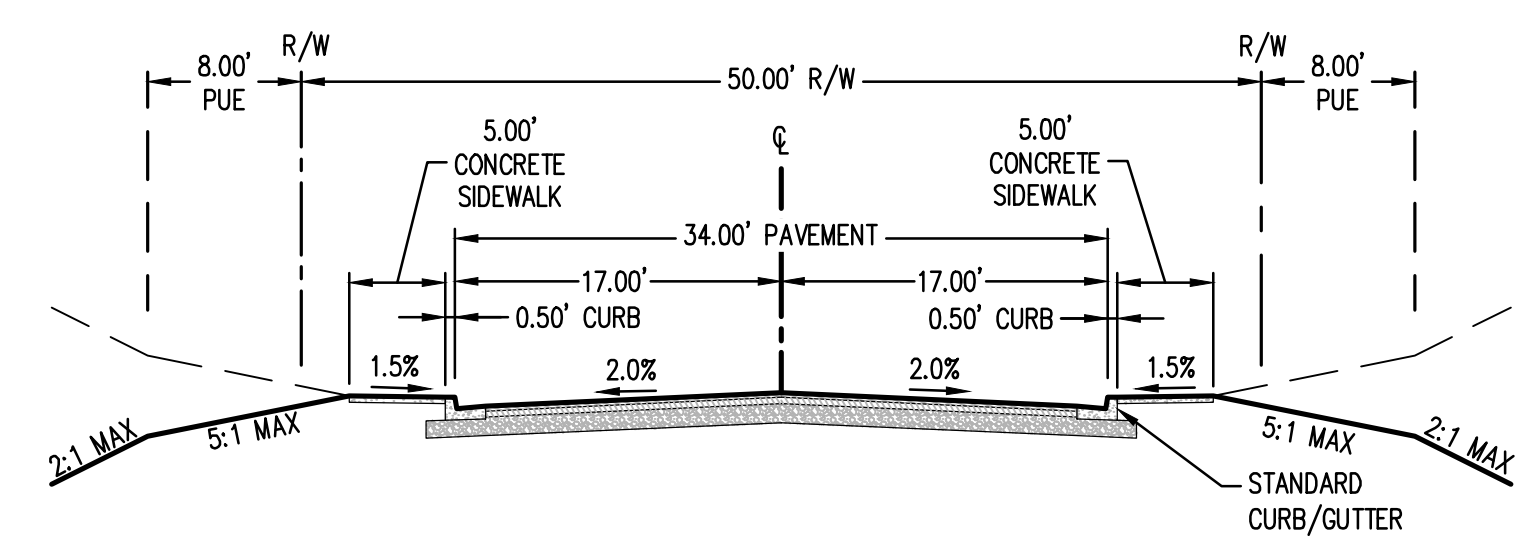
**PRELIMINARY STREET PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**



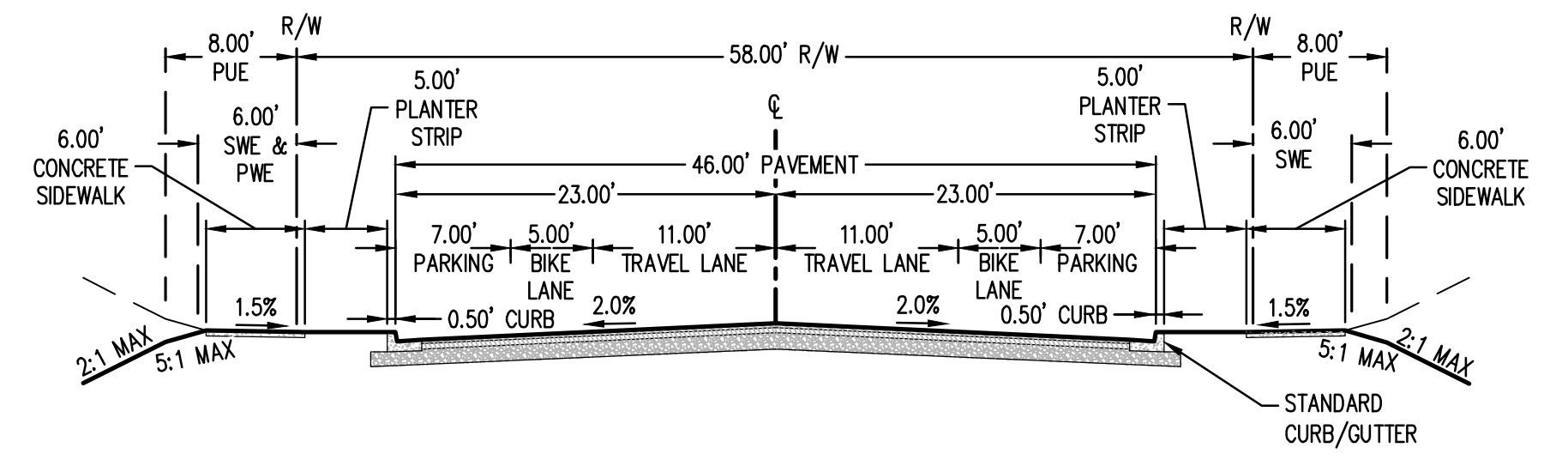
RENEWAL DATE: 6/30/23

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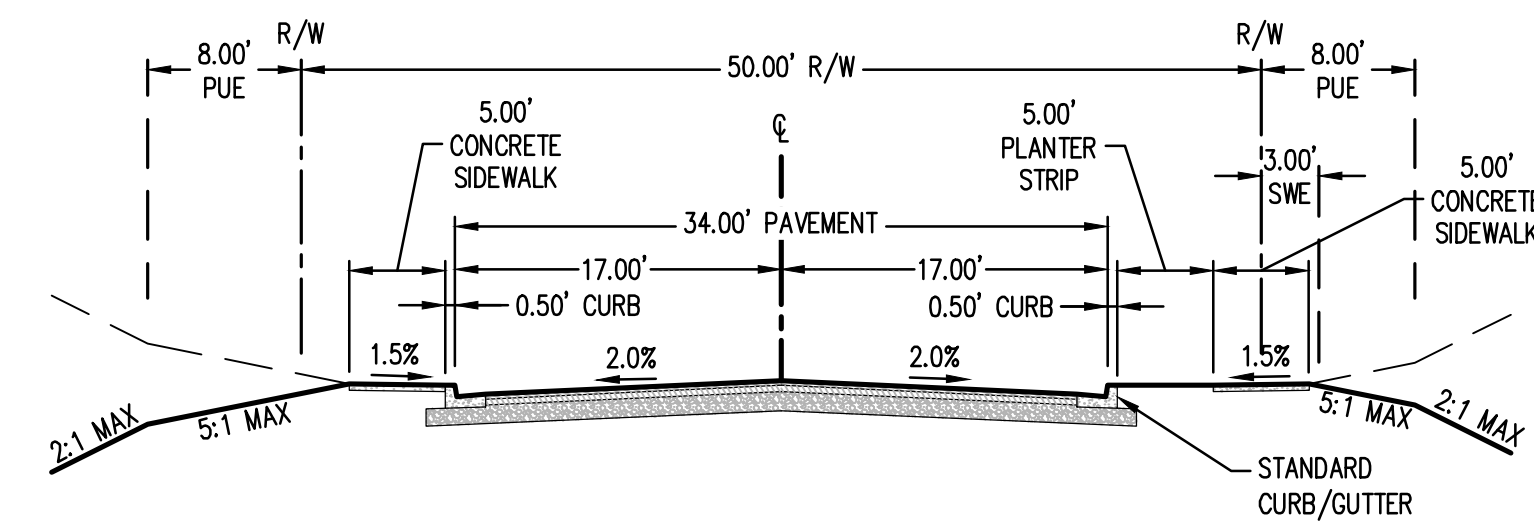
NOTE
 SEE REFERENCES TO SPECIFIC STREET CROSS SECTION LOCATIONS ON SHEET P-08.



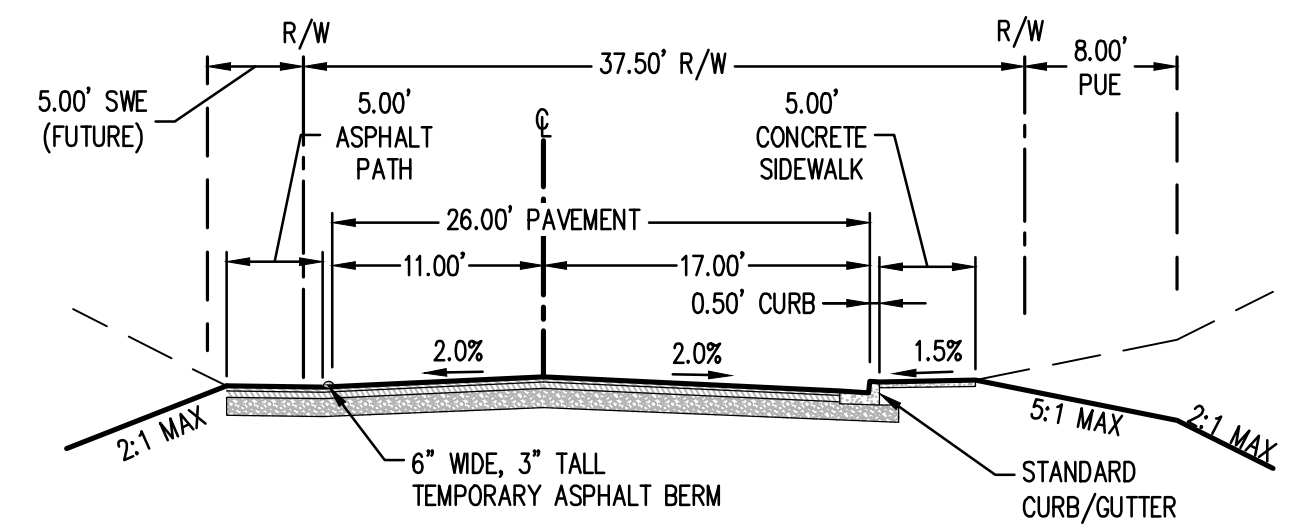
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 E TAYLOR STREET
 PORTION OF S 5TH STREET
 PORTION OF E CLEVELAND STREET
 NOT TO SCALE



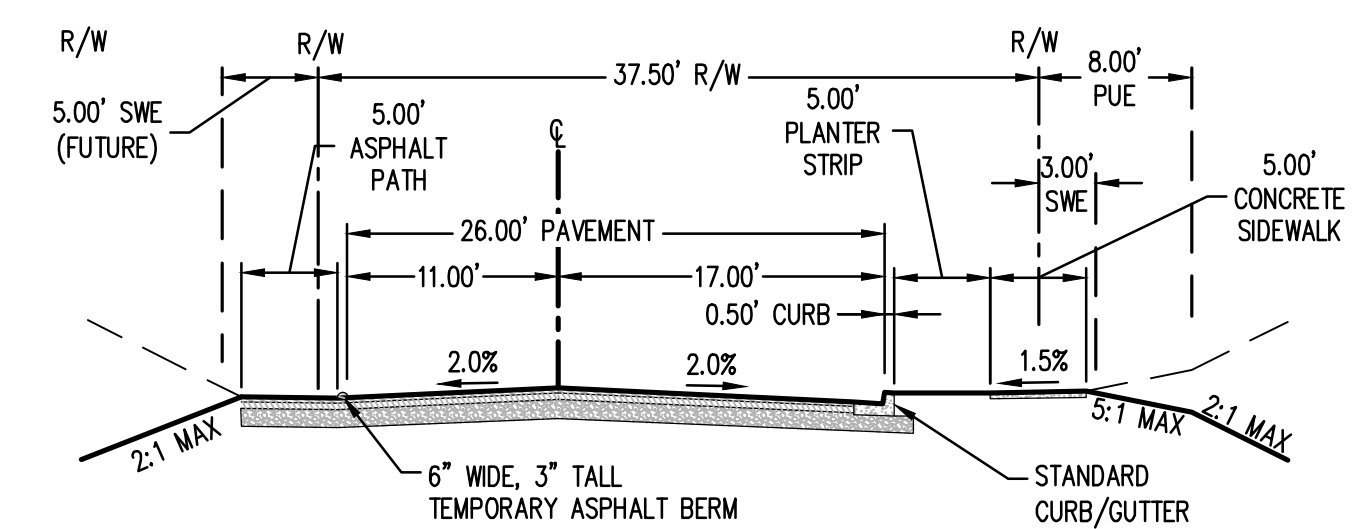
B **TYPICAL MODIFIED COLLECTOR STREET SECTION**
 E WILSON STREET
 NOT TO SCALE



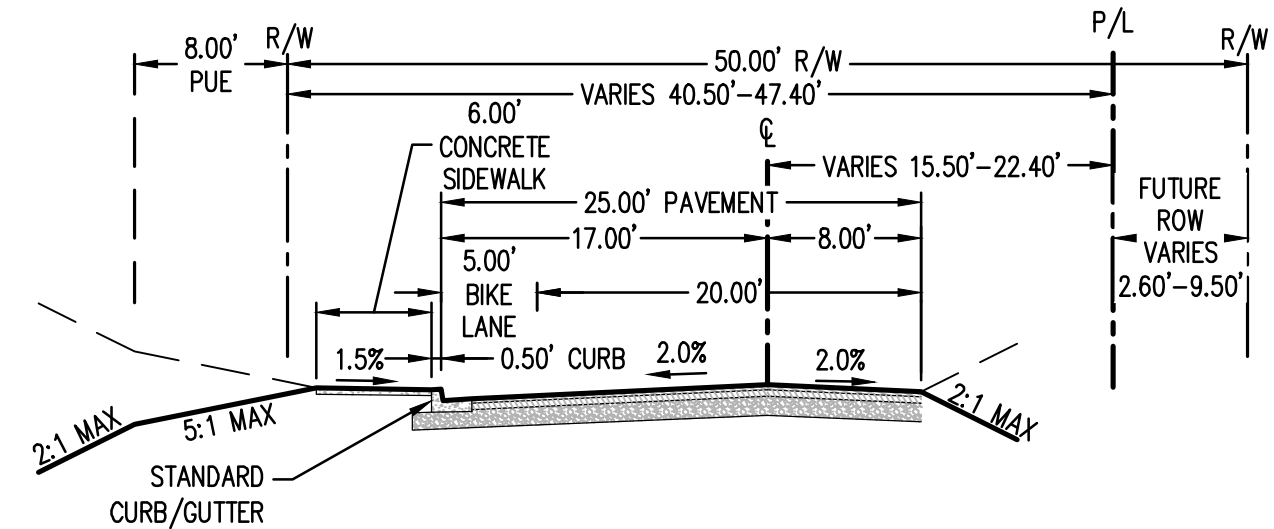
C **TYPICAL LOCAL STREET SECTION WITH PLANTER STRIP - RIGHT**
 PORTION OF S 5TH STREET
 NOT TO SCALE



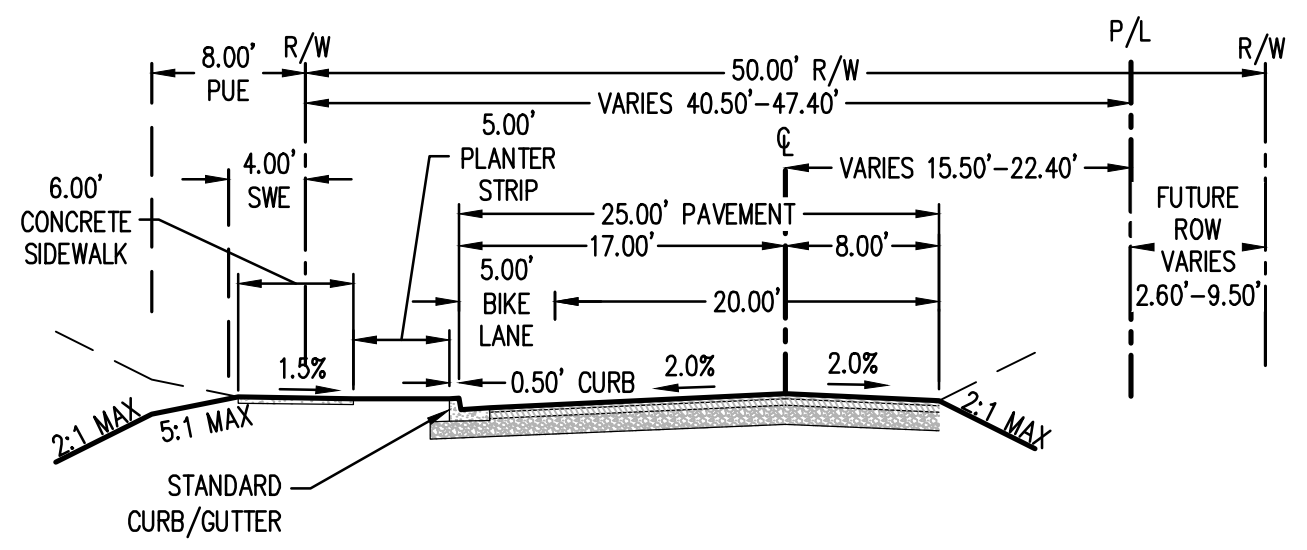
D **TYPICAL LOCAL 3/4 STREET SECTION**
 PORTION OF E CLEVELAND STREET
 NOT TO SCALE



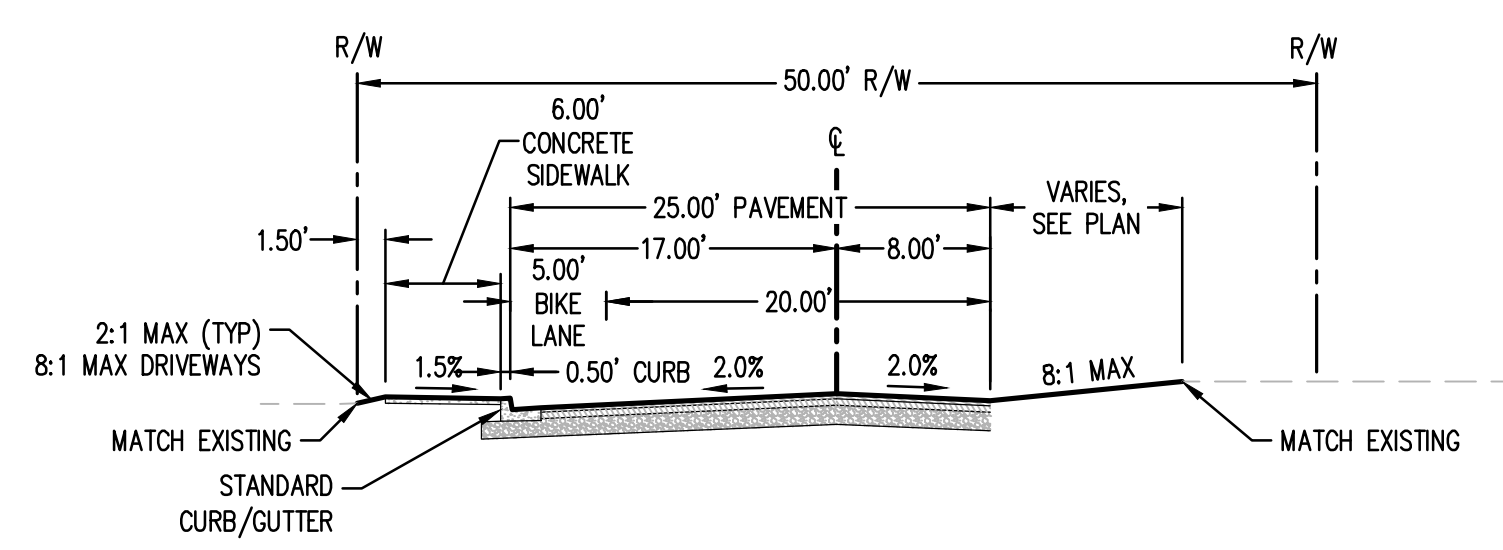
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 NOT TO SCALE



F **SCHOOL ZONE COLLECTOR 3/4 STREET IMPROVEMENTS**
 PORTION OF S 3RD STREET
 NOT TO SCALE

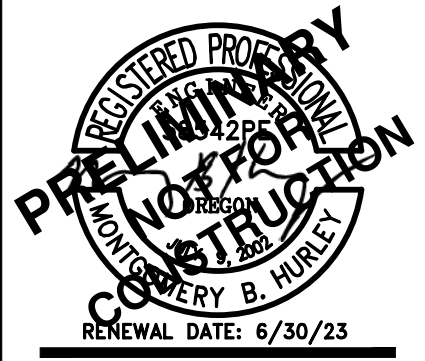


G **SCHOOL ZONE COLLECTOR 3/4 STREET SECTION WITH PLANTER - LEFT**
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 NOT TO SCALE

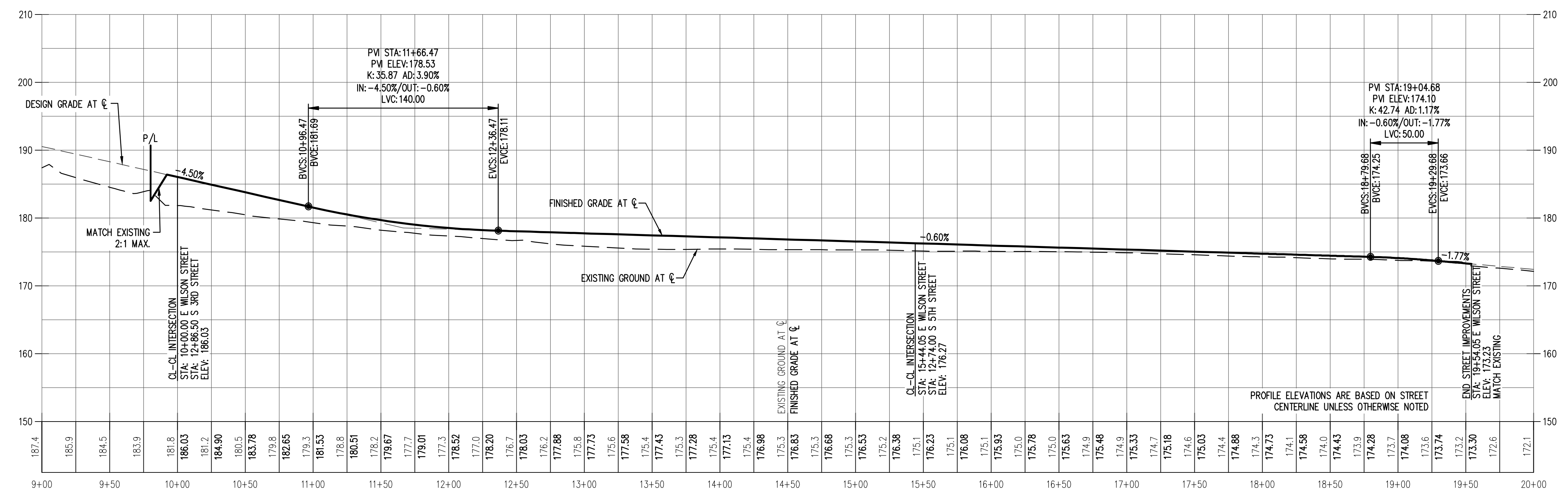
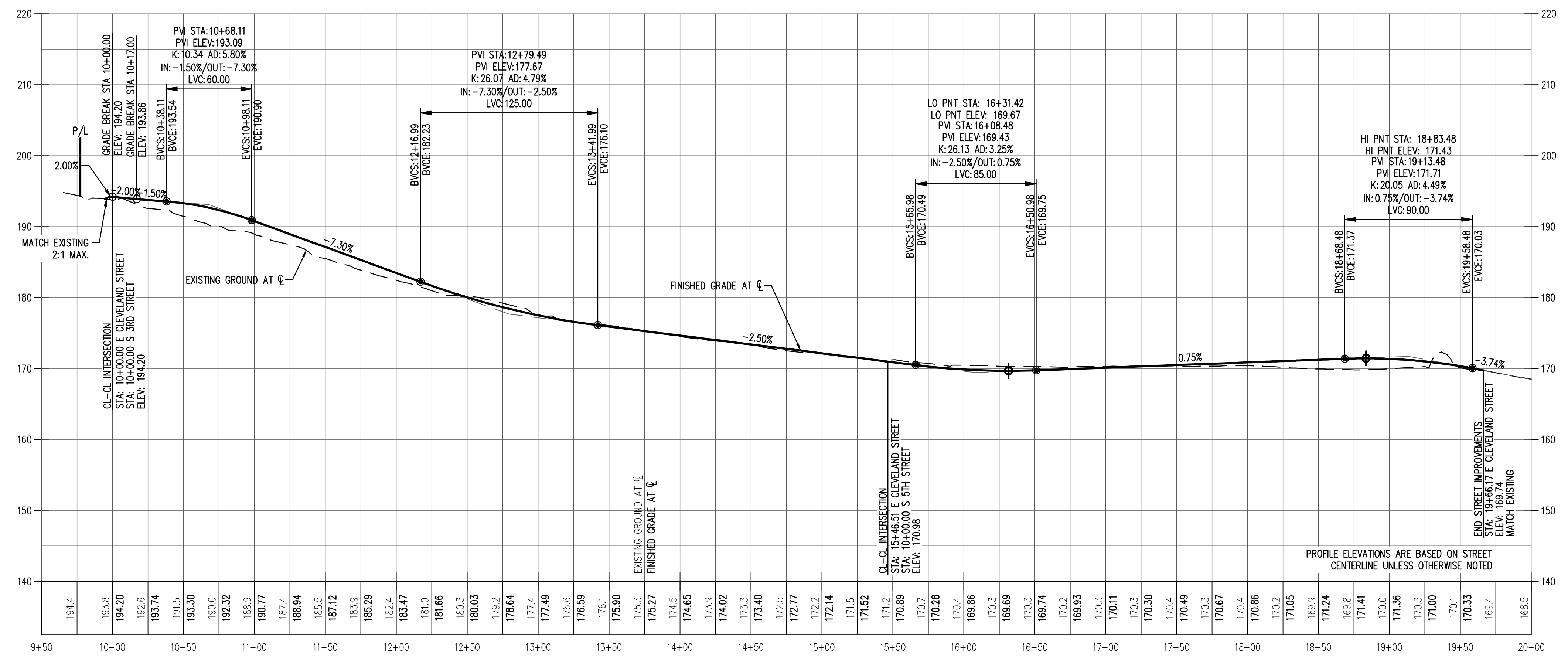


H **OFFSITE SCHOOL ZONE COLLECTOR 1/2 STREET SECTION**
 PORTION OF S 3RD STREET
 NOT TO SCALE

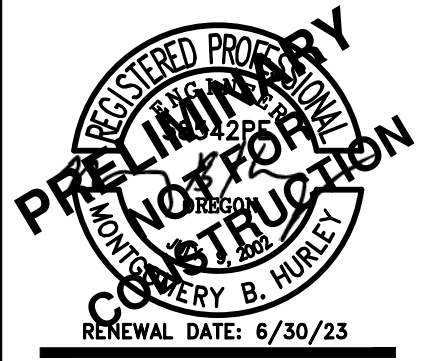
PRELIMINARY STREET CROSS SECTIONS
JR MEADOWS NO. 3
CARLTON, OREGON



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DATE:	02/21/2023
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DRAWN BY:	NRA
CHECKED BY:	CMS



PRELIMINARY STREET PROFILES
JR MEADOWS NO. 3
CARLTON, OREGON

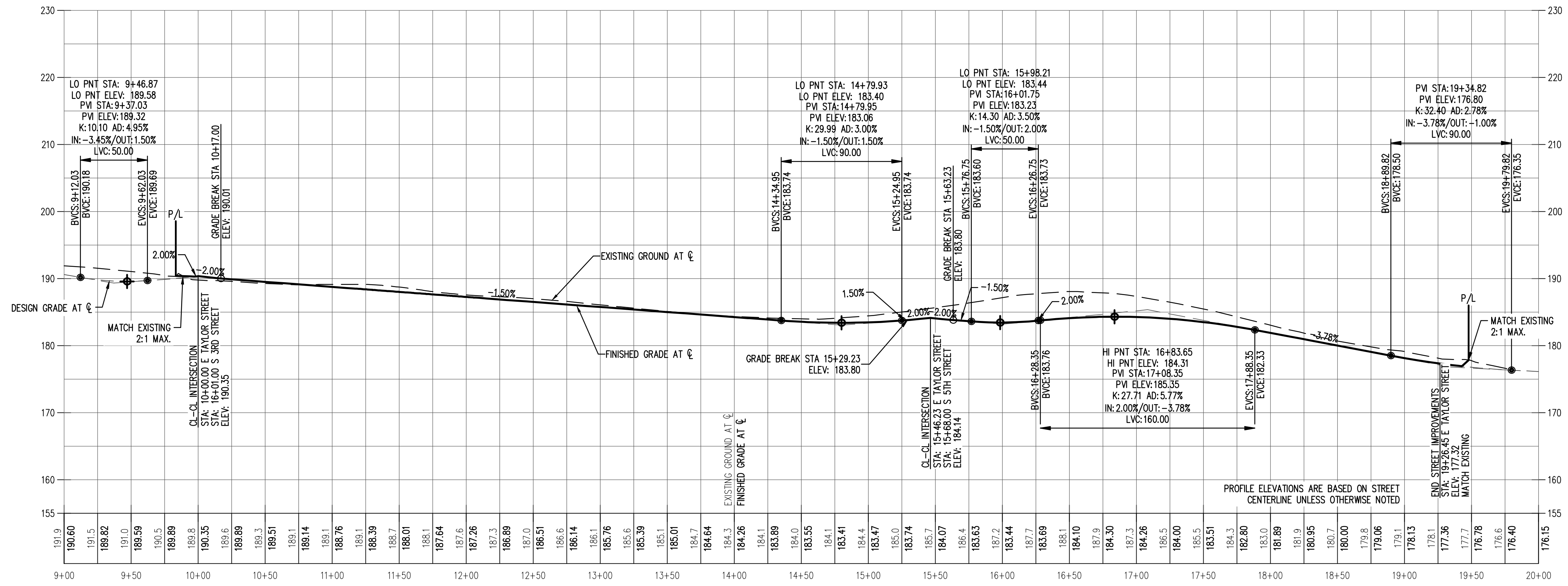


RENEWAL DATE:	6/30/23
JOB NUMBER:	86.32
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS

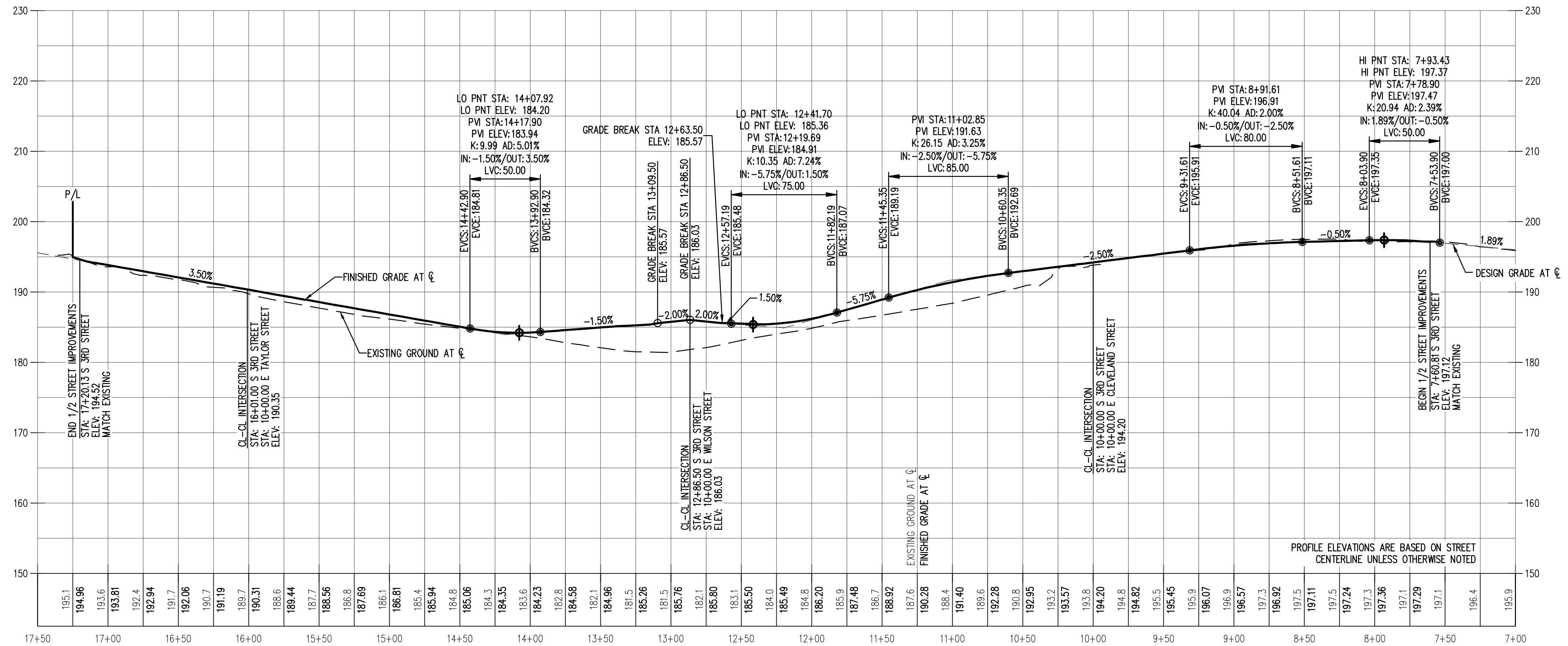


AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 TUALAIN, OR 97062
 503.563.6161
 WWW.AKS-ENG.COM

ENGINEERING - SURVEYING - NATURAL RESOURCES
 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

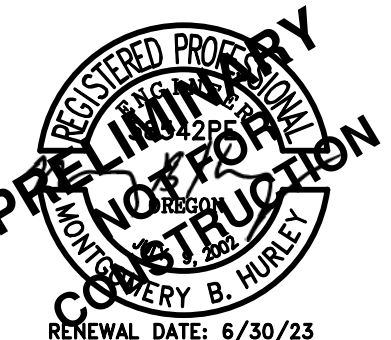


E TAYLOR STREET
 HORZ. SCALE: 1" = 50'
 VERT. SCALE: 1" = 10'

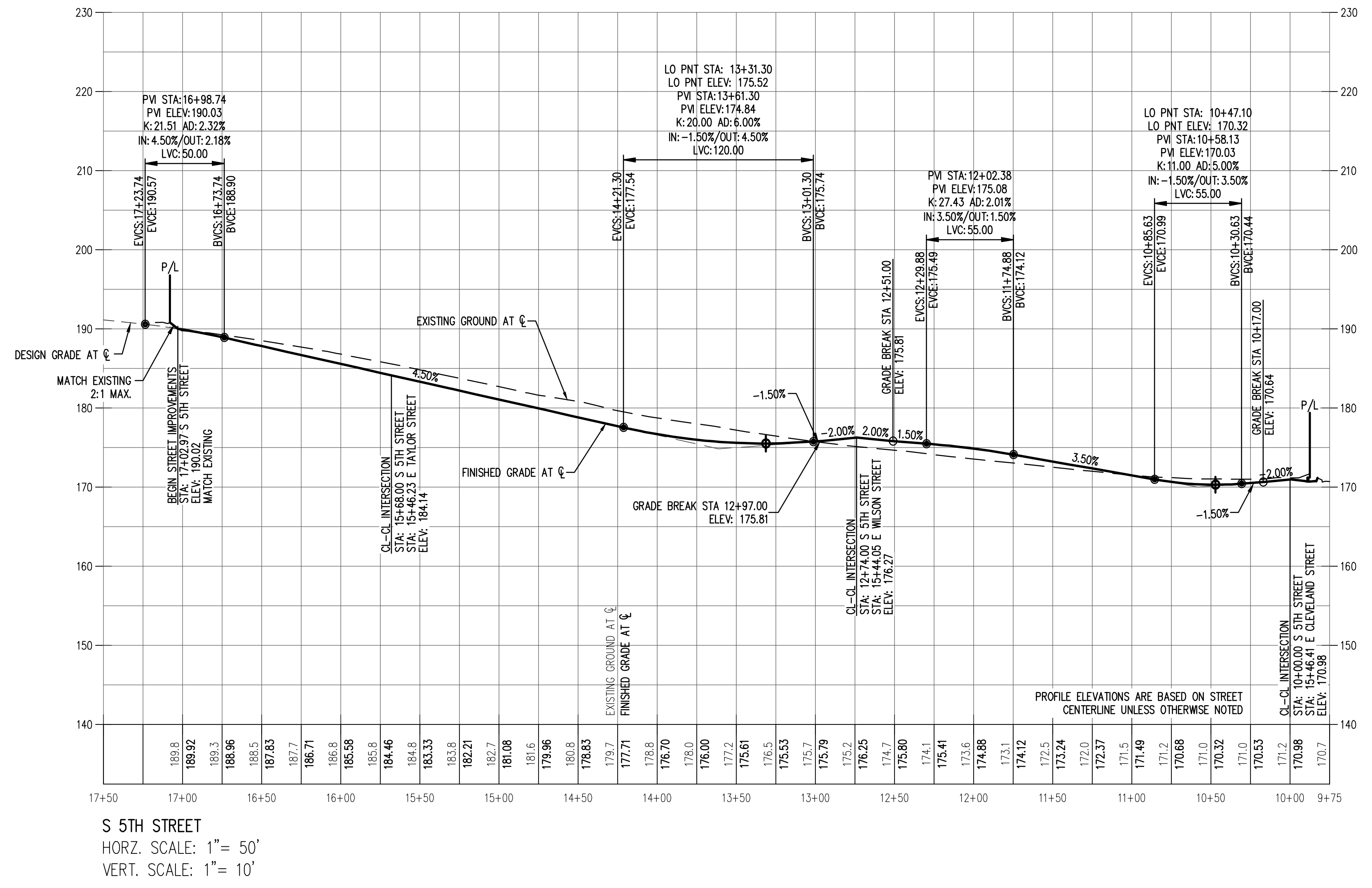


S 3RD STREET
 HORZ. SCALE: 1" = 50'
 VERT. SCALE: 1" = 10'

PRELIMINARY STREET PROFILES JR MEADOWS NO. 3 CARLTON, OREGON



RENEWAL DATE:	6/30/23
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PRELIMINARY STREET PROFILES
JR MEADOWS NO. 3
CARLTON, OREGON



JOB NUMBER:	8632
DATE:	02/21/2023
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CHECKED BY:	CMS

EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

NOTES:

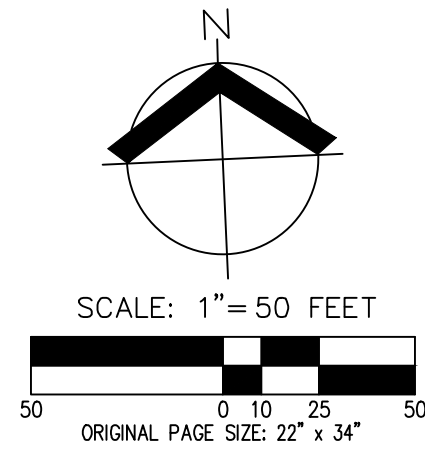
- W LOTS SHALL UTILIZE CURB WEEP HOLES FOR ROOF DRAIN CONNECTIONS.

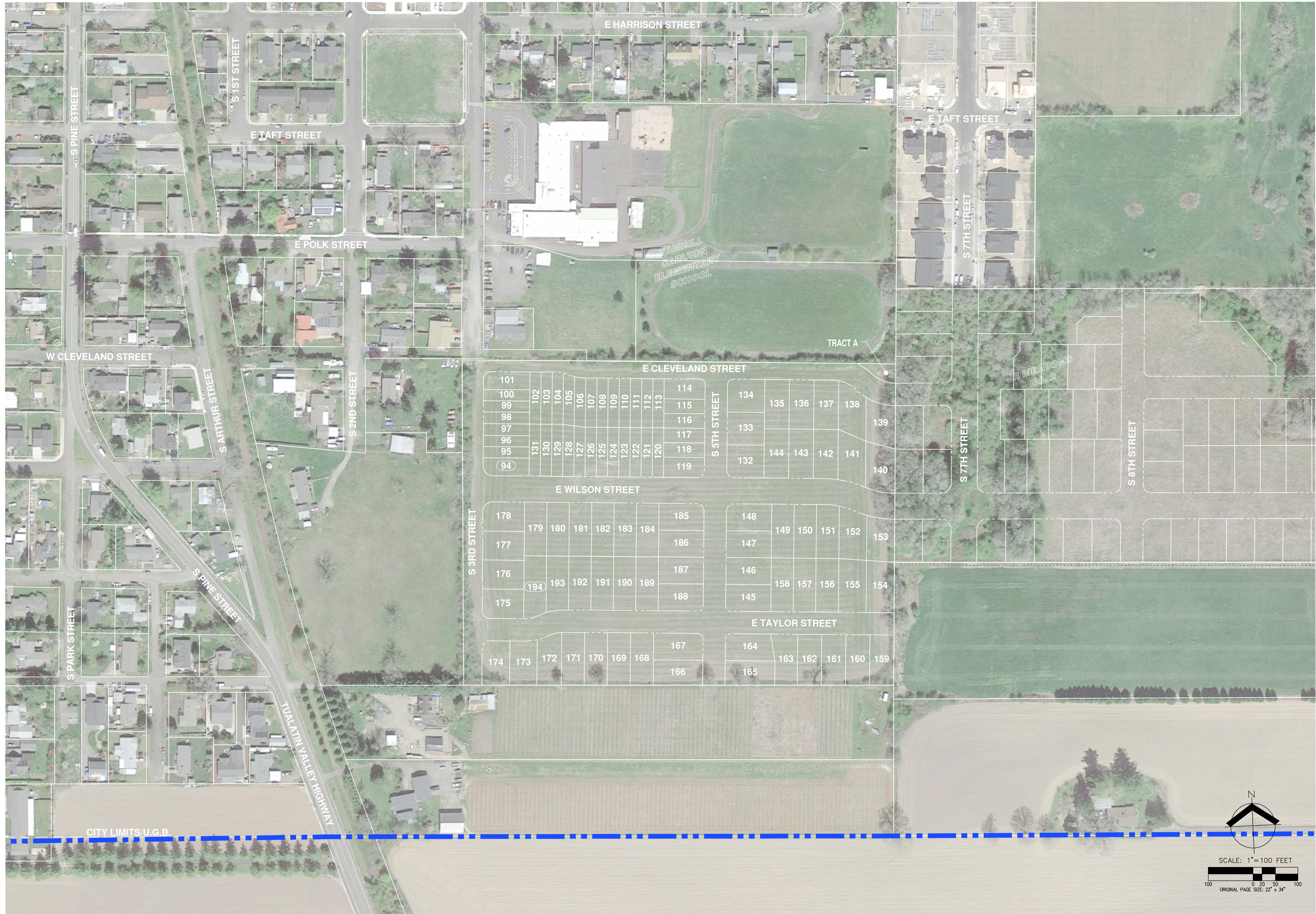


PRELIMINARY COMPOSITE UTILITY PLAN
JR MEADOWS NO. 3
CARLTON, OREGON

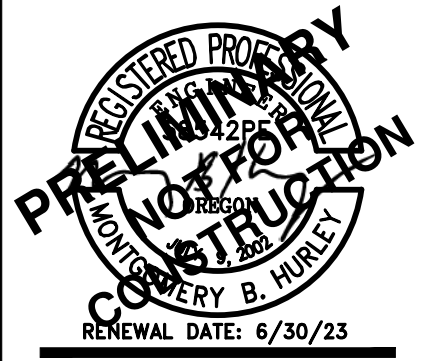


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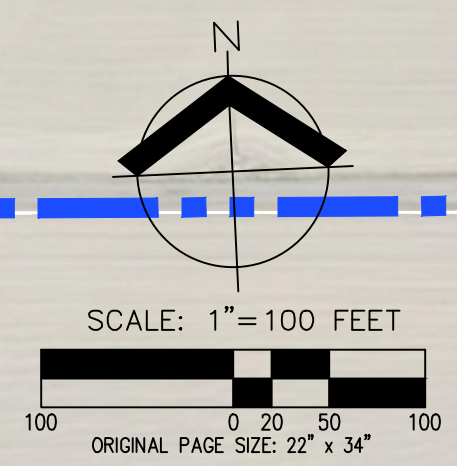




**PRELIMINARY AERIAL PHOTOGRAPH PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**



RENEWAL DATE: 6/30/23
 JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
 CHECKED BY: CMS



JR Meadows No. 3 Subdivision

Date: January 2023
Updated February 2023
Updated March 2023

Submitted to: City of Carlton
Planning Department
191 E Main Street
Carlton, OR 97111

Applicant: Chad E. Davis Construction, LLC
2808 19th Avenue
Forest Grove, OR 97116

AKS Job Number: 8632



12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

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Exhibits

- Exhibit A:** Preliminary Plans (**Updated February 2023**)
- Exhibit B:** Application Form and Checklist
- Exhibit C:** Transportation Impact Analysis (**Updated February 2023**)
- Exhibit D:** Preliminary Stormwater Report (**Updated February 2023**)
- Exhibit E:** FEMA Flood Insurance Rate Map (FIRM)
- Exhibit F:** Yamhill County Assessor’s Map
- Exhibit G:** Ownership Information
- Exhibit H:** List of Surrounding Property Owners
- Exhibit I:** Preliminary Water System Design Report (**Added February 2023**)
- Exhibit J:** Preliminary Driveway Schematic Exhibit (**Added February 2023**)

JR Meadows No. 3 Subdivision

Submitted to:	City of Carlton Planning Department 191 E Main Street Carlton, OR 97111
Applicant:	Chad E. Davis Construction, LLC 2808 19 th Avenue Forest Grove, OR 97116
Owner:	Chad E. Davis Construction, LLC 2808 19 th Avenue Forest Grove, OR 97116
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact: Chris Goodell, AICP, LEED ^{AP} Email: chrisg@aks-eng.com Phone: (503) 563-6151
Site Location:	No situs address. Site is located southeast of the terminus of S 3 rd Street and west of S 7 th Street
Yamhill County Assessor's Map:	3 4 22CC Tax Lot 1200
Site Size:	±16 acres
Land Use District:	Residential-Medium Density (R-2)

I. Executive Summary

JR Meadows No. 3 is a residential subdivision planned on ±16 acres of land within the City of Carlton (City). In 2021 the property was rezoned from Agricultural Holding (AH) to Residential-Medium Density (R-2) to accommodate future residential homes.

The City recently adopted development code amendments for the dimensional requirements for lots slated to accommodate single-family attached homes within the R-2 zone, and this project includes lots for future single-family attached homes that utilize those new provisions in order to provide single-family attached homes in the City of Carlton.

The subject site is directly west of the JR Meadows No. 2 Subdivision and east of S 3rd Street. JR Meadows No. 3 subdivision will provide east/west transportation connections shown on the City's Transportation System Plan (TSP) and will provide looped utility systems.

This application involves the creation of a new residential subdivision, JR Meadows No. 3. The project is consistent with City zoning and includes 101 residential lots; 63 of these are intended to accommodate future single-family detached homes and 38 are intended to accommodate future single-family attached homes. A separate site design review application for the single-family attached homes is required and planned to be submitted in the future.

Recognizing the need for additional housing, JR Meadows No. 3 incorporates features that the City has identified as critical to facilitating anticipated future growth while accommodating constraints imposed by required infrastructure and necessary utilities. The project includes:

- **Interconnected Transportation Network:** JR Meadows No. 3 will be served by a comprehensive transportation network that includes the extension of E Wilson Street (City collector street) from the east, S 3rd Street (City school collector street) from the north, E Cleveland Street (local street) from the east, and two new streets: S 5th Street and E Taylor Street (local streets) that align with the streets shown on the Future Street Plan (Figure 5-4) of the City's TSP. These street extensions help the City accomplish goals found in the City's TSP and provide the framework for future connectivity.
- **Linked Pedestrian Circulation System:** This project includes a network of sidewalks that create a walkable community for future residents. The proximity of the site to the Yamhill Carlton Elementary School has been considered in this site design, and the project has been discussed with this school district. Although not required, and with the permission and coordination of adjacent property owners, this project is planned to include an asphalt pathway on the north side of E Cleveland Street and an off-site sidewalk from E Cleveland Street to the school's property on S 3rd Street providing a direct route to the school.
- **Bicycle Circulation:** This project includes bike lanes on E Wilson Street and S 3rd Street, providing a framework for bicycle circulation in the community.
- **Infrastructure:** JR Meadows No. 3 includes a full range of underground utilities through the site and provides for potential future development opportunities for other properties in the area. This application includes sanitary sewer, stormwater facilities, water, and transportation improvements that have been designed to demonstrate that the infrastructure systems will have necessary capacity to accommodate the planned subdivision.

- **Housing Variety:** This application involves a subdivision that includes 63 lots for future detached single-family homes and 38 lots that are planned to accommodate future attached single-family homes. This mix of housing types is 62 percent single-family detached to 38 percent single-family attached; providing greater housing variety in the City of Carlton.

II. Site Description/Setting

The subject site is ±16 acres located in the southeastern portion of the City of Carlton within the Urban Growth Boundary (UGB) and is vacant. The property is west of JR Meadows No. 2 Subdivision, south of Yamhill Carlton Elementary School, and east of S 3rd Street.

III. Applicable Review Criteria

This application involves a “limited land use decision” as that term is defined in ORS 197.015(12). ORS 197.195(1) describes how certain standards can be applied as part of a limited land use application. The applicable land use regulations for this application are found in Carlton Development Code. Pursuant to ORS 197.195(1) Comprehensive Plan provisions (as well as goals, policies, etc. from within the adopted elements of the Comprehensive Plan) may not be used as a basis for a decision or an appeal of a decision unless they are specifically incorporated into the land use regulations. While this application may respond to Comprehensive Plan and/or related documents, such a response does not imply or concede that said provisions are applicable approval criteria. Similarly, the applicant does not waive its right to object to the attempted implementation of these provisions unless they are specifically listed in the applicable land use regulations, as is required by ORS 197.195(1).

Pursuant to ORS 197.522, if this application is found to be inconsistent with the applicable land use regulations, the applicant may offer an amendment or propose conditions of approval to make the application consistent with applicable regulations. In fact, the local government is obligated to consider and impose any conditions of approval proposed by the applicant if such conditions would allow the local government to approve an application that would not otherwise meet applicable approval criteria.

CARLTON DEVELOPMENT CODE

Division II. - ZONING AND DEVELOPMENT PROVISIONS

Chapter 17.22- RESIDENTIAL-MEDIUM DENSITY (R-2) DISTRICT

17.22.010 - Purpose.

The Residential-Medium Density (R-2) district provides for single-family and duplex housing at an average density of ten (10) dwelling units per acre or less. The R-2 district is consistent with the new Residential Medium-Density comprehensive plan designation.

Response: Pursuant to Section 17.12, density is based on gross acres. The subject site is ±16.0 gross acres and, as such, the maximum density permitted for the site is ±160 dwelling units. As shown on the Preliminary Plans (Exhibit A), this subdivision includes 101 lots for future single-family homes, well below the maximum permitted. This standard is met.

17.22.040 - Dimensional standards.

The following dimensional standards shall be the minimum requirements for all development in the R-2 district except for modifications permitted under Chapter 17.132.

Dimensional Standards in R-2 District	
Minimum Lot Area	
Single-family dwelling	
(1) Non-common wall dwelling ¹	6,000 square feet
(2) Attached (townhome) dwelling – Maximum of two (2) consecutively attached units)	2,400 square feet for an interior lot and 4,000 square feet for a corner lot
Minimum Yard Setback Requirements, except as provided for Accessory Structures under Chapter 17.96:	
Front yard	15 feet, except 20 feet for a garage or carport opening when facing street, and 10 feet for uncovered porches and covered but unenclosed porches not more than one story high (except where easements preclude closer setback)
Rear yard	15 feet
Side yard (interior)	3 feet, except 0 feet for adjoining townhome units
Side yard (adjacent to street)	10 feet
Maximum structure height	35 feet, except where a new building (any use) is proposed on a lot platted prior to [effective date of Code], the height of the new building shall not exceed the average height of all dwellings (residential uses) located within 50 feet of the subject lot, plus 5 feet.
Minimum lot width at building line	24 feet, except 40 feet for corner lot

Response: This application involves a subdivision intended to create lots for the future construction of attached (townhome) and detached single-family homes in the R-2 zoning district. As illustrated on the Preliminary Plans (Exhibit A), the lots meet the dimensional standards for the R-2 district, consistent with the table above.

17.22.050 - Development standards.

All development in the R-2 district shall comply with the applicable provisions of Chapters 17.128 through 17.140. In addition, the following specific standards shall apply:

- A. Accessory Structures. Accessory structures as provided for in Chapter 17.96.

Response: This application does not involve accessory structures. Therefore, provisions of Chapter 17.96 do not apply.

- B. Off-Street Parking. Parking shall be as specified in Chapter 17.68.

Response: Please refer to the responses to the provisions of Chapter 17.68 below.

- C. Subdivisions and Partitions. Land divisions shall be reviewed in accordance with the provisions of Chapters 17.172 through 17.176, as applicable.

Response: This application involves a subdivision. Please refer to the responses to the provisions of Chapter 17.176 discussed herein. The provisions of Chapter 17.172 Partitions are not applicable.

- D. Lot Coverage. The following standards are applied to parcel area or lot area, as applicable:

1. Maximum lot coverage by buildings: fifty (50) percent where a building exceeds 20 feet in height, and sixty (60) percent where all buildings on the site are 20 feet or less in height;
2. Maximum lot coverage by impervious surfaces, including pavement and roofed areas not considered buildings: thirty (30) percent;
3. Combined maximum lot coverage: eighty (80) percent where a building exceeds 20 feet in height, and eighty five (85) percent where all buildings on the site are 20 feet or less in height.

Response: The lot coverage standards for the single-family detached homes are to be applied and addressed at the time of building permit review, and the lot coverage standards for the single-family attached homes will be addressed in a future site design review application.

E. Yards and Lots. Yards and lots shall conform to the standards of Chapter 17.92.

Response: Please see the responses to the standards of Chapter 17.92, which demonstrate compliance with this provision.

F. Signs. Signs shall conform to the requirements of Chapter 17.80.

Response: This application does not involve signs; therefore, the provisions of Chapter 17.80 do not apply.

G. Driveways. Driveways shall conform to the standards 17.68.060.

Response: Compliance with the driveway standards of Section 17.68.060 will be addressed at the time of building permit review for the single-family detached homes, and driveway standards for the single-family attached homes will be addressed in a future site design review application.

H. Landscaping and Screening. All front and street side yards shall be landscaped pursuant to Section 17.84.050. Other landscaping, fencing or other screening may be required pursuant to land division approval or other land use approval. All landscaping shall be installed in accordance with Chapter 17.84 and approved plans prior to issuance of building occupancy permits.

Response: Compliance with the required landscaping and screening standards in front and side yards is to be demonstrated at the time of building permit review. Therefore, this criterion will be met.

I. Building and Site Design. All residential structures shall conform to the design standards of Chapter 17.106.

Response: As discussed in Chapter 17.106, this project is in compliance with the applicable provisions regarding site design. A site design review application showing compliance with building design is to be submitted and reviewed in the future. This criterion is satisfied.

Chapter 17.56- FLOODPLAIN MANAGEMENT (FP) OVERLAY ZONE

17.56.020 - Applicability.

- A. Lands To Which This Chapter Applies. This chapter shall apply to all areas of special flood hazards within the jurisdiction of the City of Carlton, Yamhill County, Oregon.
- B. Basis for Establishing the Areas of Special Flood Hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Yamhill County, Oregon and Incorporated Areas, dated March 2, 2010," with accompanying flood insurance map (FIRM) is hereby adopted by reference and declared to be part of this chapter. The flood insurance study and the FIRM are on file at the City Hall. The best available information for flood hazard area identification as outlined in Subsection 17.56.070 A. shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under Subsection 17.56.070 A.

Response: Pursuant to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate map included in Exhibit E, the subject site is not within a mapped flood hazard area. These provisions are not applicable.

Division III. - GENERAL DEVELOPMENT STANDARDS

Chapter 17.60- GENERAL PROVISIONS

17.60.020 - Application of standards.

- A. The standards set forth in this chapter shall apply to partitions; subdivisions; planned unit developments; commercial and industrial projects; single-family dwellings, duplexes, and multi-family structures. Developments outside the city which will tie into or take access from city streets, or increase the flow or change the point of discharge to the city storm drainage system shall be subject to the improvement standards set forth in this title to the extent necessary to mitigate the impacts to these systems.

Response: This application involves a residential subdivision; therefore, the standards of this chapter apply.

- B. The application of these standards to a particular development shall be modified as follows:
 1. Development standards that are unique to a particular use, or special use, shall be set forth within the district;
 2. Those development standards which are unique to a particular district shall be set forth in the section governing that district.

Response: To the extent applicable, the application of these standards can be modified as outlined in the provisions above.

- C. No public works construction shall be undertaken until an agreement is executed between the developer and the city specifying the period within which required improvements and repairs shall be completed, as well as referencing the terms and conditions under which the city has approved the development. The agreement shall be in the form acceptable to the city attorney.

Response: This requirement is understood.

17.60.030 - Application of public facility standards.

Standards for the provision and utilization of public facilities or services available within the City of Carlton shall apply to all land developments in accordance with the following table of reference. No development permit shall be approved unless the following improvements are provided for prior to occupancy or operation, or unless future provision is assured in accordance with Chapter 17.216.

Public Facilities Improvement Requirements Table						
	Fire Hydrant	Streets	Water Hookup	Sewer Hookup	Storm Drain	Street Lights
Partition, Subdivisions, PUD, or Manufactured Home Park	C-1	Yes	Yes	Yes	Yes	Yes
<p>Legend: No = Not required Yes = Required C = Conditional, as noted: C-1 Fire Hydrants for Commercial, Industrial Expansions, or Residential Uses: One or more fire hydrants are required as per the Uniform Building Code and Uniform Fire Code or if adequate fire flows are not available to the site. If the existing water lines are insufficient to provide adequate fire flows, water lines shall be upgraded to provide sufficient capacity at the developer's expense. C-2 New Single-Family Dwellings or Duplexes: Are responsible for sidewalk construction across all property frontages including curb and gutter where necessary. In addition, if so required by the city engineer, a three-quarter street improvement to city street standards for all boundary streets (See Section 17.128.050).</p>						

Response: As illustrated on the Preliminary Plans (Exhibit A), this project includes fire hydrants, streets, water, sanitary sewer, and stormwater improvements in compliance with the above standards. Electrical service for streetlights is being accommodated in the project design. Coordination with Portland General Electric for the streetlight system design is planned to occur in the future, prior to construction. This criterion is satisfied.

17.60.040 - Design standards.

The design of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required, shall comply with the requirements of the most recently adopted Standard Specifications for Public Works Construction in the City of Carlton.

Response: The required public facility improvements are designed to be in compliance with the most recently adopted Standard Specifications for Public Works Construction in the City of Carlton, as illustrated on the Preliminary Plans (Exhibit A). This criterion is satisfied.

Chapter 17.64- STREET STANDARDS

17.64.020 - Scope.

The provisions of this chapter shall be applicable to:

- A. The creation, dedication, or construction of all new public or private streets, pedestrian facilities, and bikeways in all subdivisions, partitions, or other developments in the city.
- B. The extension or widening of existing public or private street rights-of-way, easements, or street improvements including those which

may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.

- C. The construction or modification of any utilities, bikeways, or sidewalks in public rights-of-way or private street easements.
- D. The planting of street trees or other landscape materials in public rights-of-way (landscape strip).

Response: This application includes the design and construction of new public streets in association with a subdivision application. Therefore, the provisions of this chapter are applicable.

17.64.030 - General provisions.

The following provisions shall apply to the dedication, construction, improvement, or other development of all public streets in the city, and are intended to provide a general overview of typical minimum design standards. All streets shall be designed in conformance with the specific requirements of the most recently adopted Standard Specifications for Public Works Construction in the City of Carlton and the Transportation System Plan.

The standard sections contained in Standard Specifications for Public Works Construction in the City of Carlton and the Transportation System Plan are minimum requirements only and shall not be construed as prohibiting the city engineer from requiring thicker sections or engineer designed pavement sections in lieu of standard sections where conditions warrant.

- A. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets.

Response: The planned streets within the subject site are designed with consideration to relate to existing and planned streets, topographical conditions, resource constraints, public convenience and safety, and the layout of the planned residential subdivision, as illustrated on the Preliminary Plans.

As further shown on the Preliminary Plans, this application includes the roadways and transportation infrastructure shown on the City's Transportation System Plan (TSP) and provides long-term community connectivity. Therefore, this provision is met.

- B. Development proposals shall provide for the continuation, and connection to, all streets, bikeways and pedestrian facilities within the development and to existing streets, bikeways and pedestrian facilities outside the development.

Response: As shown on the Preliminary Plans in Exhibit A, the layout of the subdivision is designed to provide for the continuation and connection to streets, bikeways, and pedestrian facilities within the subject site and to existing streets, bikeways, and pedestrian facilities outside of the subject site. Therefore, this provision is met.

- C. **Alignment.** All streets other than minor streets or culs-de-sac, as far as practical, shall be in alignment with existing streets by continuation of the centerline thereof. The staggering of street alignments resulting in "T" intersections shall leave a minimum distance recommended by the city engineer.

Response: As illustrated on the Preliminary Plans in Exhibit A, the streets planned for construction within the subject site are designed to align with existing streets by the continuation of the centerline, to the extent practicable. Therefore, this provision is satisfied.

- D. **Future Extension of Streets.** In order to promote the development of an efficient network of city streets and connections to state and county roads, development shall provide future street extensions as shown on the Future Street Plan found in the Carlton Transportation System Plan.

In addition to providing for future street extensions shown on the Future Street Plan, streets, bikeways and pedestrian facilities, shall also be extended to the boundary of a tract being developed, where necessary to give access to or permit a satisfactory future development of adjoining land. Reserve strips and street plugs may be required to preserve the objectives of street extensions.

Response: The Preliminary Plans included in Exhibit A illustrate that this subdivision application includes street extensions (including streets, bikeways, and pedestrian facilities) that are consistent with the Future Street Plan found in the TSP. Additionally, this project includes the retention of two large existing oak trees east of the site and as such E Taylor Street has been designed to terminate at a location in order to preserve these trees. The Preliminary Plans further illustrate the remainder of the streets have been designed to extend to the boundary of the site. Reserve strips and/or street plugs can be provided (where relevant) on the final subdivision plat if desired by the City. This provision is met.

- E. **Existing Streets.**

1. **Three-quarter improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required at the time of partitioning or subdivision, unless the applicant demonstrates to the satisfaction of the city engineer that the condition and sections of the existing streets meet city standards and are in satisfactory condition to handle projected traffic loads.**

Full street improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required when it is determined that the vehicular and/or pedestrian impacts from the proposed development necessitate such improvements.

Response: As shown on the Preliminary Plans, this project includes full street improvements to E Wilson Street, E Taylor Street, and S 5th Street. It also includes full street improvements for a portion of E Cleveland Street where it connects to the existing street to the east, and pursuant to the provisions of Section 17.64.030.F, E Cleveland Street tapers down to a three-quarter street adjacent to Tax Lots 100, 200, and 201 to the north. As discussed in Section 17.64.030.F, this portion of E Cleveland Street is undeveloped at this time and the right-of-way can be improved with full street improvements in the future. It should be noted that although not required, this project includes an asphalt pathway on the north side of E Cleveland Street. The asphalt pathway is a material that is more temporary in nature and can be removed in the future when E Cleveland Street is improved to full street width improvements.

Additionally, as further discussed in Section 17.64.030.F, the project also includes a three-quarter street improvement to S 3rd Street along the site's frontage and three-quarter street improvements to S 3rd Street adjacent to Tax Lots 200 and 201. Similar to E Cleveland Street, Tax Lots 200 and 201 are undeveloped, and S 3rd Street can be improved with full street improvements in the future when those properties develop.

The planned street improvements and right-of-way dedications were discussed with the City engineer who found them to be satisfactory. Additionally, as discussed in the Transportation Impact Analysis (Exhibit C, the planned street widths are adequate to accommodate projected traffic. This provision is met.

2. For infill development that does not include partitioning or subdivision, construction of sidewalks, including curb and gutter where necessary, along all property frontages shall be the minimum requirement of development. A three-quarter street improvement shall be required if the city engineer determines that the existing streets are not in condition to handle projected traffic loads.

Response: This application involves a subdivision. Therefore, this provision is not applicable.

3. The city shall require the applicant to record an approved improvement deferral agreement or non-remonstrance agreement, see Section 17.216.030, in lieu of street improvements, where the following criteria are met:
 - a. The existing roadway condition and sections are adequate to handle existing and projected traffic loads; and
 - b. Existing public utilities (water, sanitary sewer and storm sewer) located within the existing roadway are adequate, or can be improved without damaging the existing roadway surface.

Response: As demonstrated through the written responses in this narrative coupled with the application materials, this application is in compliance with the required improvements. Therefore, a deferral agreement or non-remonstrance agreement in lieu of street improvements is not relevant, and these provisions do not apply.

- F. **New Streets.** Where new streets are created, full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements on boundary streets when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed. The city may allow three-quarter street improvements if all of the following criteria are met:
 1. The adjoining land abutting the opposite side of the street is undeveloped; and
 2. Storm water drainage is provided for on the non-curbed side of three-quarter street improvements in areas judged by the city engineer to have drainage concerns.

One-foot wide reserve strips and street plugs may be required to preserve the objectives of three-quarter streets.

Response: As illustrated on the Preliminary Plans (Exhibit A) and discussed in detail in Section 17.64.040, the new streets required to be constructed on the subject site are designed to be full street improvements, with the exception of S 3rd Street and a portion of E Cleveland Street (boundary streets). E Cleveland Street has been designed to include three-quarter improvements along the site's frontage and, although not required, an off-site asphalt pathway on the north side of E Cleveland Street on Tax Lots 100 and 200. The off-site pathway is planned to be constructed with asphalt so that it can be more easily removed in the future when E Cleveland Street is constructed to full street width improvement.

S 3rd Street has been designed to include three-quarter street improvements along the site's frontage. The project also includes off-site street improvements to S 3rd Street that include three-quarter-street improvements and a sidewalk on the east side of the street. As illustrated on the Preliminary Plans (Exhibit A), the areas adjacent to these streets are undeveloped, and as discussed in the Preliminary Stormwater Report (Exhibit D), stormwater for these areas has been included in the calculations and planned improvements. Additionally, the planned street improvements were discussed with the City engineer, who found them to be acceptable, at the pre-application conference.

G. **Culs-de-Sac.** Culs-de-sac shall have maximum lengths of four hundred (400) feet and serve no more than eighteen (18) dwelling units. All culs-de-sac shall terminate with circular turn-a-rounds.

Response: As shown on the Preliminary Plans (Exhibit A), this application does not include the creation of a public street with a cul-de-sac. Therefore, this criterion does not apply.

H. **Dead-End Streets.** When it appears necessary to continue a street or public access way into a future subdivision or adjacent acreage, streets, or public access way shall be platted to a boundary of a subdivision or partition. The street may be platted without a turnaround unless the Planning Commission finds that a turnaround is necessary.

Response: As shown on the Preliminary Plans (Exhibit A), this application includes the extension of E Cleveland Street and E Wilson Street from the east and S 3rd Street from the north. The plans further illustrate that S 3rd Street, S 5th Street, and E Taylor Street are planned to be platted to the site's southern and eastern boundaries and are planned future connections to adjacent properties. This criterion is met.

I. **Street Names.** Street names and numbers shall conform to the established pattern in the city and shall be subject to the approval of the city. Street names shall be required for all new publicly dedicated streets and private streets.

Response: As illustrated on the Preliminary Plans, the planned street names and numbers conform to the established pattern in the City. The planned street names are to be reviewed by the City for approval. Therefore, this criterion is satisfied.

J. **Grades and Curves.** Grades shall not exceed six percent on arterials, ten (10) percent on collectors, or twelve (12) percent on any other public or private street. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. Center line radii of curves shall not be less than three hundred (300) feet on major arterials, two hundred (200) feet on minor arterials, or one hundred (100) feet on

other streets and shall be to an even ten (10) feet. On arterials there shall be a tangent of not less than one hundred (100) feet between reversed curves. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper curves.

Response: As illustrated on the Preliminary Plans, the planned public streets are designed to be in compliance with the provision above. Therefore, this criterion is satisfied.

- K. **Marginal Access Streets.** If a development abuts or contains an existing or proposed arterial street or railroad right-of-way, the city may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Response: The subject site does not abut existing or proposed arterial streets or railroad right-of-way. Therefore, this criterion is not applicable.

- L. **Vision Clearance Area.** Vision clearance areas shall be maintained on corner lots at the intersection of all public streets and at the intersections of a public street with a private street as outlined in Section 17.92.080.

Response: Vision clearance areas are shown on the Preliminary Street Plan included in Exhibit A and are planned to be maintained, consistent with the provision above and as outlined in Section 17.92.080. Please refer to the response in Section 17.92.080.

- M. **Spacing Between Public Road Intersections.** Spacing between public road intersections for each functional class of road shall conform to access spacing standards found in Section 17.100.030.

Response: Please refer to the responses to access spacing standards found in Section 17.100.030 below, which demonstrate compliance with the provision above.

- N. **Landscape Strip.** The landscape strip includes the area located between a sidewalk and the curb (see figure below). This area serves many important functions including creating space for a variety of underground utilities such as telephone, cable television, fiber optic cables, etc. The landscape strip is also beneficial for locating utility poles, fire hydrants, benches, bus shelters and other features that might otherwise block or obstruct pedestrian travel along sidewalks. Landscaping helps to soften the hard edge created by pavement and curbs. Large trees can also provide cooling summer shade for parked cars and pedestrians. A canopy of street trees can help to slow traffic and enhance the beauty of the community. The physical separation from the street also improves the design of sidewalks by maintaining a constant grade without dipping at driveways, and makes American with Disabilities Act compliance easier. During winter months, snow can be plowed into these areas from the street and not block sidewalks. The landscape strip provides a physical separation from the adjacent roadway, providing enhanced pedestrian comfort and improved walking experience.

Landscaping and plant materials used in the landscape strip are subject to the provisions of Chapter 17.84. Maintenance of landscape

strips in the right-of-way is the continuing obligation of the adjacent property owner.

Response: As shown on the Preliminary Plans, this project includes new local streets (S 5th Street, E Cleveland Street, and E Taylor Street). It also includes a collector street (E Wilson Street) and a school collector street (S 3rd Street). Based on prior conversations with City staff and as discussed in Section 17.64.050, E Wilson Street has been designed with a modified collector street section.

This subdivision application includes planter strips between the streets and sidewalks on E Wilson Street and portions of E Cleveland Street, S 5th Street, and S 3rd Street. The remainder of the streets are local streets and are planned to have curb-tight sidewalks. Pursuant to Carlton Development Code Section 17.64.040, landscape strips are an optional improvement for local streets; therefore, street trees can be planted behind the curb-tight sidewalks in these locations.

17.64.040 - Right-of-way and improvement widths.

The following standards are general criteria for all types of public streets, bikeways, landscape strips and sidewalks in the city. These standards shall be the minimum requirements for all streets, except where modifications are permitted under Section 17.64.050.

Street Classification		ROW Width (ft.)	Pavement Width (ft.)	Sidewalk Width (ft.)	Landscape Strip (ft.)	Bikeway Width (ft.)	Parking
Local	Typical	47-57	34	5 ¹	5(optional)	N/R	2 sides
Collector	Existing Street	55	40	6 ¹	N/R	None ⁴	2 sides
	New Street	71	46	6 ¹	5	5	2 sides
	School Zone ³	49	34	6	N/R	5	
¹ Ten-foot sidewalks required along commercially zoned property. ³ Applies to 3 rd Street from Main Street to Polk Street and Polk Street from Pine Street to 3 rd Street. ⁴ Bicycle lanes required on Grant Street from Yamhill Street to Pine Street and Yamhill Street from Main Street to Grant Street.							

The property line radius at intersections of local streets shall be twenty (20) feet. All other intersection property line radii shall be according to the specifications of the city engineer.

Response: This application includes the extension of E Cleveland Street, E Wilson Street, and S 3rd Street, along with one new street (S 5th Street). The planned street widths are shown in the Preliminary Street Plans included in Exhibit A, and a summary of the planned improvements are as follows:

E Cleveland Street: This street is classified as a local road that largely abuts the Yamhill Carlton Elementary School (Tax Lot 100) and other undeveloped property to the north (Tax Lots 200, and 201). As shown on the Preliminary Plans (Exhibit A), the planned street improvements will match the existing cross section of the development east of the project

(JR Meadows No. 2), and pursuant to the provisions of Section 17.64.030.F, the cross-section tapers down to three-quarter street improvements where it abuts Tax Lots 100, 200, and 201.

As illustrated on the Preliminary Street Plan and Preliminary Street Cross Sections plan included in Exhibit A, where this planned street connects to the existing street in JR Meadows No. 2 the planned improvements include a ± 34 -foot-wide paved section, curbs on each side, and ± 5.0 -foot-wide curb tight sidewalks on each side within a 50-foot-wide right-of-way and tapers to a three-quarter street improvement that includes a 26-foot-wide paved section, 5-foot-wide curb-tight sidewalk on one side within a 37.50-foot-wide right of way.

This cross section then slightly changes where it abuts the lots that are designed to accommodate future single-family attached homes (Lots 101-114) to include a 5-foot-wide planter strip between the curb and sidewalk and a 5-foot-wide sidewalk that is partially within the right-of-way. The portion of sidewalk that is outside the right-of-way is planned to be within a sidewalk easement.

Due to the proximity to the Yamhill Carlton Elementary School to the site, this project has been discussed with the school district, and with the permission and coordination of the adjacent property owners, this project includes the installation of a 5-foot-wide asphalt pathway north of E Cleveland Street on Tax Lots 100 and 200. This portion of sidewalk is outside of the right-of-way, and a sidewalk easement can be recorded for public access. The sidewalk will then continue west of Tax Lot 200 to S 3rd Street within existing right-of-way.

E Wilson Street: This street is classified as a collector road. Per previous conversations with City staff, it is understood that the modified collector street design and right-of-way width of E Wilson Street shown on the Preliminary Plans is allowed by way of a modification (included in this application) and further discussed in Section 17.64.050. Therefore, as illustrated on the Preliminary Street Plan and Preliminary Street Cross Sections plan included in Exhibit A, the planned improvements include a ± 46 -foot-wide paved section that is designed to accommodate two travel lanes, 5-foot-wide bike lanes 7-foot-wide on-street parking on each side, curbs, and 5-foot-wide planter strips within a 58-foot-wide right-of-way. The planned improvements also include 6-foot-wide sidewalks on each side that are partially within the right-of-way. The portion of the sidewalk outside of the right-of-way is planned to be within a sidewalk easement.

E Taylor Street: This street is classified as a local street. Therefore, as illustrated on the Preliminary Street Plan and Preliminary Street Cross Sections plan included in Exhibit A, the planned improvements include ± 34 -foot-wide paved section, curbs on each side, and ± 5.0 -foot-wide curb tight sidewalks on each side within a 50-foot-wide right-of-way.

S 5th Street: This street is classified as a local street. Therefore, as illustrated on the Preliminary Street Plan and Preliminary Street Cross Sections plan included in Exhibit A, for the portion of S 5th Street from E Wilson Street to the southern boundary the planned improvements include ± 34 -foot-wide paved section, curbs on each side, and ± 5.0 -foot-

wide curb tight sidewalks on each side within a 50-foot-wide right-of-way. The portion of S 5th Street from E Cleveland Street to E Wilson Street includes a ±34-foot-wide paved section, and curbs on each side. On the east side of this portion of S 5th Street, the planned improvements also include ±5-foot-wide curb tight sidewalk. On the west side of this portion of S 5th Street, the planned improvements also include a 5-foot-wide planter strip and a 5-foot-wide sidewalk behind the planter strip that is partially within the right-of-way. The portion of sidewalk outside the right-of-way is planned to be within a sidewalk easement.

S 3rd Street: This street is classified as a school collector that abuts undeveloped property to the west and includes onsite and offsite improvements.

Onsite: Pursuant to the provisions of Section 17.64.030.F, this portion of S 3rd Street includes three-quarter street improvements. Therefore, as illustrated on the Preliminary Street Plan and Preliminary Street Cross Sections plan included in Exhibit A, for the portion of S 3rd Street from E Wilson Street to the southern boundary the planned improvements include a ±25-foot-wide paved section that includes a 5-foot-wide bike lane, curbs on one side, and a ±6.0-foot-wide curb tight sidewalk within a 50-foot-wide right-of-way. The portion of S 3rd Street from E Cleveland Street to E Wilson Street includes a ±25-foot-wide paved section that includes a 5-foot-wide bike lane, curbs on one side, and a 5-foot-wide planter strip. It also includes a 6-foot-wide sidewalk that is partially within the right-of-way. The portion of the sidewalk outside the right-of-way is planned to be within a sidewalk easement.

Offsite: As discussed with the City Engineer, offsite improvements of S 3rd Street are required with this project and should include 25 feet of paved section replacing the existing gravel surface. Therefore, as illustrated on the Preliminary Plans, offsite improvements to S 3rd Street are planned to include 25-foot-wide paved section with a curb. This project also includes a 6-foot-wide sidewalk that will connect from the sidewalk on E Cleveland Street to the Yamhill Carlton Elementary School, thus providing connectivity for students, faculty, and other members of the community.

17.64.050 - Modification of right-of-way and improvement width.

The city, pursuant to the review procedures of Chapter 17.196, may allow modification to the public street standards of Section 17.64.040, when both of the following criteria are satisfied:

- A. The modification is necessary to provide design flexibility in instances where:
 1. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 2. Parcel shape or configuration precludes accessing a proposed development with a street which meets the full standards of Section 17.64.040; or

Response: This application includes a modification of the right-of-way width of E Wilson Street, a new collector street. The modification provides all of the required improvements for a new collector, the only difference being the sidewalks are included in an easement, rather than as an expansion of the right-of-way allowing connection to, and extension of, surrounding streets while use of the site to provide needed housing in the City of Carlton is maximized.

This modification is necessary due the existing surrounding development patterns in which streets accessing the parcel were constructed under different standards, the parcels configuration, and the necessary right-of-way improvements required with this project. The streets connecting this project to the rest of the City of Carlton were constructed under prior standards requiring smaller rights-of way. Expanding the right-of way in this project would create conflicts in right-of-way widths at edge of the project. The requested modification will eliminate these conflicts while providing all of the improvements required of new collector streets. Thus, although the application seeks a technical modification to the right-of-way standard, the improvements to be provided meet the applicable standards and provide right-of-way and eliminate a conflict with surrounding rights of way. The modification was discussed with engineering staff at the pre-application conference, and it is understood that it is acceptable.

The modification is sought because of the configuration of surrounding properties and the configuration of streets stubbed to the edge of the property to which street improvements to be constructed as part of this project must be connected. The project includes two streets that are stubbed to adjacent properties, the extension of existing streets (included a collector street), and improvements to two boundary streets. This results in ±4.49 acres of land being required for right-of-way improvements, which represents approximately 28% of the total site area. The requested modification allows for orderly extension of existing streets to meet the configuration of surrounding streets while providing all of the improvements called for in construction of a new collector street. At the same time, the requested modification allows use of the property to provide much needed additional housing in the City of Carlton to be maximized.

The standard right-of-way improvements for a new collector include a 46-foot-wide paved section that includes two 11-foot-wide travel lanes, 5-foot-wide bike lanes on each side, 7-foot wide on-street parking on each side, and curbs. The standards also require a 5-foot-wide landscape strip and a 6-foot-wide sidewalk on each side. This is typically within a 71-foot-wide right-of-way. The modification reduces the right-of-way width from 71 feet; however, the planned improvements for E Wilson Street include all of the required physical improvements for a new collector (46-foot-wide paved section with two 11-foot-wide travel lanes, 5-foot-wide bike lanes, 7-foot-wide on-street parking, and curbs), 5-foot-wide landscape strips and 6-foot-wide sidewalks with the sidewalk within a sidewalk easement. The modification allows the site to accommodate the configuration of surrounding streets providing adequate access to the site while avoiding conflicts in the size of right-of-way on adjacent property and facilitating maximum use of the site to provide needed housing in the City of Carlton.

3. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or

Response: The planned modified right-of-way section does not preserve natural features. This criterion is not applicable.

4. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.

Response: This project is a subdivision, not a planned unit development. This criterion is not applicable.

- B. Modification of the standards of Section 17.64.040 shall only be approved if the city finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes.

Response: The proposed modification allows for seamless extension of surrounding access roads constructed under prior standards without conflict in right-of-way width, and provides adequate vehicular access based on anticipated traffic volumes. As discussed in the Transportation Impact Analysis (Exhibit C) prepared by Lancaster Mobley, the site and transportation impacts related to the planned subdivision were analyzed, and it was determined that existing and planned roadways are expected to provide sufficient capacity to accommodate traffic volumes in a safe and efficient manner.

Abutting portions of E Wilson Street were constructed under prior standards with narrower rights-of-way. This project must extend the already constructed portions of E Wilson Street. To avoid conflicts with adjacent rights-of-way, E Wilson Street is designed to a modified collector standard and, as such, a modification is included in this application. As illustrated on the Preliminary Plans (Exhibit A), the right-of-way width of E Wilson Street is 58 feet, smaller than what is shown in the table shown in Section 17.64.040 for new collector streets. However, the 58-foot right-of-way is larger than the right-of-way for existing collector streets and will match the existing street right-of-way of E Wilson Street to the east.

It is important to note that the planned physical street improvements for E Wilson Street includes all of the elements noted in Section 17.64.040, with a portion of the sidewalks on each side that will be outside the right-of-way within a sidewalk easement.

As shown on the Preliminary Plans, E Wilson Street is planned to include a ±46-foot-wide paved section that is designed to accommodate two travel lanes, 5-foot-wide bike lanes 7-foot-wide on-street parking on each side, curbs, and 5-foot-wide planter strips within a 58-foot-wide right-of-way. The planned improvements also include 6-foot-wide sidewalks on each side that are partially within the right-of-way. The portion of the sidewalk outside of the right-of-way is planned to be within a sidewalk easement. The planned right-of-way width is consistent with street widths in residential neighborhoods and will provide continuity between the new section of E Wilson Street and existing E Wilson Street. These standards are satisfied.

17.64.060 - Private streets.

- A. Streets and other rights-of-way serving a planned unit development that are not dedicated for public use shall comply with the following:
1. Private streets shall only be allowed where the applicable criteria of Section 17.88.030(C) are satisfied. Private streets shall have a minimum easement width of twenty (20) feet and a minimum paved or curbed width of eighteen (18) feet.
 2. Unless otherwise specified in the Standard Specifications for Public Works Construction in the City of Carlton, all private streets serving more than two dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.
 3. A turn-around shall be required for any private street which has only one outlet and which is in excess of two hundred (200) feet long or which serves more than two residences. Turn-arounds for private streets shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.

Response: This project does not include private streets. These criteria do not apply.

- B. Any grant of a private street or land functioning as an easement shall not be accepted by the city and dedicated for public use except upon approval of the council and upon meeting the specifications of Sections 17.64.020 and 17.64.040.

Response: This application does not include a grant of a private street to the public. This standard is not applicable.

17.64.070 - Access easements.

A private access easement created as the result of an approved partitioning shall conform to the following:

- A. Partition access easements shall only be allowed where the applicable criteria of Section 17.88.030(D) are satisfied. The easement shall comply with the following standards:
1. Minimum width: twenty (20) feet;
 2. Minimum paved or curb to curb width: twenty (20) feet;
 3. Maximum length: two hundred fifty (250) feet;
 4. No more than three dwelling units shall have sole access to the easement.
- B. Unless otherwise specified in the Standard Specifications for Public Works Construction in the City of Carlton, all private streets serving more than two dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.

- C. A turn-around shall be required for any access easement which has only one outlet and which is in excess of two hundred (200) feet long or which serves more than two residences. Turn-arounds shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet, or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.
- D. All private access easements serving more than two residences shall be designated as fire lanes and signed for no parking.

Response: This project does not include access easements. Therefore, the provisions above do not apply.

Chapter 17.68- OFF-STREET PARKING AND LOADING

17.68.020 - Scope.

Development of off-street parking and loading areas for commercial, industrial, or multi-family development shall be subject to the site design review procedures of Chapter 17.156. The provisions of this chapter shall apply to the following types of development:

Response: This application involves a residential subdivision for the future construction of single-family detached and single-family attached homes. It does not involve commercial, industrial, or multi-family development; therefore, these provisions are not applicable.

17.68.030 - Location.

Off-street parking and loading areas shall be provided on the same lot with the main building or structure or use except that:

- A. In any residential zone or for any residential use permitted in a nonresidential zone, automobile parking areas may be located on another lot if such lot is within two hundred (200) feet of the lot containing the main building, structure or use.
- B. In any nonresidential zone, the parking area may be located off the site of the main building, structure or use if it is within five hundred (500) feet of such site.

Response: This application involves a residential subdivision and does not involve nonresidential uses that would warrant loading areas. The required off-street parking for each of the future single-family homes is planned to be provided and located on the same individual lot. Compliance with these provisions is to be addressed at the time of building permit review. Therefore, to the extent applicable, this provision is met.

17.68.040 - Joint use.

Parking area may be used for a loading area during those times when the parking area is not needed or used. Parking areas may be shared subject to city approval for nonresidential uses where hours of operation or use are staggered such that peak demand periods do not occur simultaneously. The requirements of Section 17.68.050 may be reduced accordingly. Such joint use shall not be approved unless satisfactory legal evidence is presented which demonstrates the access and parking rights of parties.

Response: This application involves a residential subdivision and does not involve a nonresidential or joint use. This provision is not applicable.

17.68.050 - Off-street parking requirements.

Except where other city code provisions waive off-street parking requirements or allow credit for on-street parking in lieu of off-street parking, developments and changes in use that are subject to site design review shall provide off-street parking as required by Section 17.68.080 and approved by the city in the amount not less than listed below. The Planning Commission may reduce the off-street parking requirements contained herein without the need for a variance upon finding that the specific characteristics of a proposed use are different than a typical use regulated by this section and the proposed use warrants less parking, as demonstrated by evidence in the record.

Residential		
A.	1 and 1 family dwellings	2 spaces/ dwelling unit
B.	Multi-family dwellings	1 spaces/dwelling unit

Response: The minimum off-street parking requirement is two spaces per dwelling unit for single-family dwellings. Two required off-street parking spaces are planned to be provided and located on each individual lot/driveway of the single-family homes. These provisions are met.

17.68.060 - Residential driveways.

All single and joint use residential driveways shall be paved and have a maximum twenty (20) foot approach width from the curb line.

Response: This application involves a residential subdivision that includes lots for future single-family attached homes and single-family detached homes. A site design review application for the single-family attached homes will be submitted and reviewed separately and will include information regarding driveway widths. Compliance with the standards for residential driveways for the single-family detached homes will be addressed at the time of building permit review. This criterion will be met.

17.68.070 - Off-street loading requirements.

Buildings or structures to be built or substantially altered which receive and distribute materials and merchandise by trucks shall provide and maintain off-street loading berths in sufficient number and size to adequately handle the needs of the particular use.

Response: This application involves a residential subdivision and does not include a use that involves receiving or distributing materials and merchandise that would require loading berths. Therefore, the provision above does not apply.

17.68.080 - Parking and loading area requirements.

All parking and loading areas, except those for single-family dwellings, shall be developed and maintained as follows:

Response: This application involves a residential subdivision for the future construction of single-family homes. Therefore, this criterion is not applicable.

17.68.090 - General provisions—Off-street parking and loading.

- A. The provision and maintenance of off-street parking and loading space is a continuing obligation of the property owner. No building permit shall be issued until plans are presented that show an area that

is and will remain available for exclusive use as off-street parking and loading space. The subsequent use of property for which the building permit is issued shall be conditional upon the unqualified continuance and availability of the amount of parking and loading space required by this title. Should the owner or occupant of any lot or building change the use to which the lot or building is put, thereby increasing off-street parking and loading requirements, it shall be unlawful and a violation of this title to begin or maintain such altered use until such time as the increased off-street parking and loading requirements are observed.

Response: This application is for a residential subdivision not a building permit. Compliance with Section 17.68.090 is to be demonstrated at the time of building permit review.

- B. Requirements for types of buildings and uses not specifically listed herein shall be determined by the Planning Commission based upon the requirements of comparable uses listed and expectations of parking and loading need.

Response: This application involves a residential subdivision, and the responses above in Section 17.68.050 demonstrate that compliance with the off-street parking requirements can be met. Therefore, this requirement is not applicable.

- C. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately, unless a reduction is approved for shared parking pursuant to Section 17.68.040.

Response: As noted above, this application involves a residential subdivision. This application does not involve more than one use for a single structure or parcel of land. Therefore, this requirement is not applicable.

- D. Required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for the parking of trucks used in conducting the business or use.

Response: As noted above, the required off-street parking is associated with a residential subdivision. To the extent applicable, this requirement can be met.

17.68.100 - Parking lot landscaping and screening standards.

All parking lots, which for purposes of this section include areas of vehicle maneuvering, parking, and loading, shall be landscaped and screened as follows:

Response: This application involves a residential subdivision and does not include a use that requires a parking lot. Therefore, this provision is not applicable.

17.68.110 - Bicycle parking.

- A. The following minimum number of bicycle parking spaces shall be provided:

Type of Use	Minimum Number
Single-Family Residential	0
Duplex, Triplex and Multi-Family	Minimum two or one per every two dwelling units, whichever is greater.

Response: This application involves a residential subdivision and, pursuant to the above-table, bicycle parking is not required. Therefore, this provision is not applicable.

Chapter 17.72- STORM DRAINAGE

17.72.020 - Scope.

- A. The provisions of this chapter shall apply to all new residential land partitions and subdivisions, planned unit developments, multi-family developments, commercial developments, and industrial development; and to the reconstruction or expansion of such developments.

Response: This application involves a residential subdivision; therefore, the provisions of this chapter are applicable.

- B. The provisions of this chapter shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or easement dedicated to or located within all off-street parking and loading areas.

Response: This provision is understood.

- C. All storm water runoff shall be conveyed to a public storm sewer or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. In the case of private development, the developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

Response: The planned stormwater management system is illustrated on the Preliminary Plans (Exhibit A) and described in the Preliminary Stormwater Report (Exhibit D). The stormwater management system is designed to collect and convey runoff to the existing underground stormwater system that was constructed with the JR Meadows No. 2 Subdivision. This standard is met.

17.72.030 - Plan for storm drainage and erosion control.

No construction of any facilities in a development included in Section 17.72.020 shall be permitted until a storm drainage and erosion control plan for the project is prepared by an engineer registered in the State of Oregon and approved by the city. This plan shall contain at a minimum:

- A. The methods to be used to minimize the amount of runoff, siltation, and pollution created from the development both during and after construction.
- B. Plans for the construction of storm sewers, open drainage channels, and other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the storm drainage plans.

- C. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed using the rational formula and based upon the design criteria outlined in the Standard Specifications for Public Works Construction in the City of Carlton and the most current adopted storm drainage master plan.

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A). These plans illustrate methods/measures for the planned storm drainage and erosion control measures for this subdivision. A Preliminary Stormwater Report that provides design calculations is included with this application (Exhibit D). These criteria are satisfied.

17.72.040 - General standards.

- A. All development shall be planned, designed, constructed and maintained to:
1. Protect and preserve existing natural drainage channels to the maximum practicable extent;

Response: The subject site does not have an existing drainage channel; therefore, this standard is not applicable.

2. Protect development from flood hazards;

Response: Pursuant to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps included in Exhibit E, the subject site is not within a mapped flood hazard area. To the extent applicable, this standard is met.

3. Provide a system by which water within the development will be controlled without causing damage or harm to the natural environment, or to property or persons within the drainage basin;

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A). A Preliminary Stormwater Report, which includes design calculations of the stormwater system, is included with this application (Exhibit D). This standard is satisfied.

4. Assure that waters drained from the development are substantially free of pollutants, through such construction and drainage techniques as sedimentation ponds, reseeded, phasing or grading;

Response: The subdivision design includes a conveyance system consisting of curb inlets, laterals, manholes, and piping. Erosion control measures are planned, including seeding (as necessary), such that sedimentation ponds are not necessary. A Preliminary Stormwater Report (Exhibit D) is included with this application. Together, this information demonstrates that the project satisfies this standard.

5. Assure that waters are drained from the development in such a manner that will not cause erosion to any greater extent than would occur in the absence of development;

Response: Storm drainage and erosion control measures are included in the Preliminary Plans (Exhibit A) and design calculations of the stormwater system are included in the

Preliminary Stormwater Report (Exhibit D). The plans and report demonstrate that this application meets these requirements. Therefore, this standard is satisfied.

6. Provide dry wells; French drains, or similar methods, as necessary to supplement storm drainage systems;

Response: The Preliminary Plans (Exhibit A) show the planned stormwater facilities for the site that do not require dry wells or French drains. To the extent applicable, this standard is met.

7. Avoid placement of surface detention or retention facilities in road rights-of-way.

Response: The Preliminary Plans do not include surface detention or retention facilities in road rights-of-way. This standard is met.

- B. Where culverts cannot provide sufficient capacity without significant environmental degradation, the city may require the watercourse to be bridged or spanned.

Response: This application does not involve crossing drainageways with culverts or bridges. Therefore, this standard does not apply.

- C. In the event a development or any part thereof is traversed by any watercourse, channel, stream or creek, gulch, or other natural drainage channel, adequate easements for storm drainage purposes shall be provided to the city. This does not imply maintenance by the city.

Response: As shown on the Existing Conditions Plan included in Exhibit A, the subject site does not include the noted features, and as such, easements are not necessary. This standard is not applicable.

- D. Channel obstructions are not allowed except as approved for the creation of detention or retention facilities approved under the provisions of this title. Fences with swing gates may be utilized.

Response: This application does not involve obstructions to drainage facilities. Therefore, to the extent applicable, this standard is met.

- E. Prior to acceptance of a storm sewer system by the city, the storm sewers shall be flushed and inspected by the city. All costs shall be borne by the developer.

Response: This provision is understood. Compliance with this provision is to be addressed at the time it is applicable.

- F. Easements for creeks and other watercourses shall be provided and shall extend fifteen (15) feet in each direction from the waterway centerline, ten (10) feet from the top of a recognizable bank, or sufficient width to pass 10-year flood flows or 100-year floodway on FEMA regulated stream, whichever is greater. The easements required by this chapter shall be held to prohibit the placement of any building on or over the easement, but shall not preclude landscaping, and shall be held to require restoration of the site following any excavation or other disturbance permitted by the easement.

Response: As previously stated, the subject site does not have existing creeks or watercourses. Therefore, this standard does not apply.

Chapter 17.76- UTILITY LINES AND FACILITIES

17.76.020 - Standards.

- A.** The design of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required, shall comply with the requirements of the most current adopted Standard Specifications for Public Works Construction in the City of Carlton.

Response: As illustrated on the Preliminary Plans, the utility infrastructure required for the construction of the project is designed to be in compliance with the requirements of the most current adopted Standard Specifications for Public Works Construction in the City of Carlton. Therefore, this standard is met.

- B.** The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbance of soil and site.

Response: The Preliminary Plans illustrate that planned utilities are generally located within street rights-of-way, which minimizes disturbance of the soil and site. Therefore, this standard is met.

C. Standards for Water Improvements.

- 1.** All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping station which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

Response: As illustrated on the Preliminary Plans, the water system infrastructure to serve the subdivision is planned to connect to and extend existing water mains located in E Cleveland Street and E Wilson Street. Additionally, this project includes an extension of the existing waterline in S 3rd Street to the site and will create a looped waterline system. These lines will be extended through the site to provide service for each of the future homes. This standard is met.

- 2.** Specific location, size and capacity of such facilities will be subject to the approval of the city engineer with reference to the most current adopted City of Carlton water master plan. All water facilities shall conform with existing city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. The city will not expect the developer to pay for the extra pipe material cost for waterlines exceeding eight inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan included in Exhibit A illustrates planned water system infrastructure with sufficient detail to find that this standard can be met. This includes points of connection, waterline locations, a looped system, and extensions to adjacent properties. This standard is met.

3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties that, in the judgment of the city, cannot be feasibly served otherwise.

Response: The Preliminary Plans illustrate that the water facility infrastructure designed to adequately serve the subdivision is extended to site boundaries to serve adjacent properties in the future. Therefore, this standard is met.

4. Design, construction and material standards shall be as specified by the city engineer for the construction of such public water facilities in the city.

Response: A Preliminary Composite Utility Plan is included in Exhibit A that is suitable for planning level purposes. Design details and construction and material specifications are planned to be provided with final construction documents as is customary and appropriate. This standard is met.

D. Standards for Sanitary Sewer Improvements.

1. All developments shall be required to be linked to existing sanitary sewer collection facilities adequately sized to serve their intended area by the construction of sewer lines which connect to existing adequately sized sewer facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

Response: As shown on the Preliminary Composite Utility Plan included in Exhibit A, this subdivision is planned to connect to existing sanitary sewer lines in E Cleveland Street and E Main Street. These existing sanitary sewer lines are planned to be extended through the site to provide service for each of the lots. This standard is met.

2. Specific location, size and capacity of such facilities will be subject to the approval of the city engineer with reference to the most current adopted wastewater facilities plan. All sewer facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. The city will not expect the developer to pay for the extra pipe material cost for sanitary sewer lines exceeding twelve (12) inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan illustrates planned sanitary sewer system infrastructure with sufficient detail to find that this standard can be met. This includes points of connection, sewer line locations, and extensions to adjacent properties. This standard is met.

3. All properties shall be provided with gravity sanitary sewer service to a public sanitary sewer system except for parcels that have unique topographic or other natural features that

make gravity sewer extension impractical as determined by the city engineer. Pumping stations will be allowed only when it has been demonstrated to the satisfaction of the city engineer that the development cannot be served by gravity. Maintenance of residential pumping stations is the responsibility of the property owner.

Response: As illustrated on the Preliminary Plans (Exhibit A), each lot in the subdivision is designed to be provided with gravity sewer service to the public sanitary sewer system. Therefore, this standard is satisfied.

4. Temporary sewer service facilities, including pumping stations, will be permitted only if the city engineer approves the temporary facilities, including all facilities necessary for transition to permanent facilities.

Response: This application does not involve new sanitary sewer pump stations. Therefore, this standard is not applicable.

5. The design of the sewer facilities shall take into account provisions for the future extension beyond the development to serve upstream properties that, in the judgment of the city, cannot be feasibly served otherwise.

Response: The Preliminary Plans (Exhibit A) show that sanitary sewer service is being extended to adjacent properties as appropriate, thus providing for future extension beyond the subject site. Therefore, this standard is met.

6. All land divisions or other developments requiring subsurface sanitary sewer disposal systems shall be prohibited.

Response: Subsurface sanitary sewer disposal systems are not necessary. Therefore, this standard is not applicable.

7. Design, construction and material standards shall be as specified by the city engineer for the construction of such sewer facilities in the city.

Response: The application includes a Preliminary Composite Utility Plan that is suitable for planning-level purposes. Design details and construction and material specifications are planned to be provided with final construction documents as is customary and appropriate. This standard is met.

8. Prior to acceptance of the sanitary sewer system by the city, the sewers shall be flushed and inspected by the city as required by the Standard Specifications for Public Works Construction in the City of Carlton. All costs shall be borne by the developer.

Response: This standard is understood.

- E. **Street Lights.** All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the city engineer. The developer shall install all such facilities and make the necessary arrangements with the serving electric utility for the street lighting system.

Response: Electrical service for streetlights is being accommodated in the project design. Coordination with Portland General Electric for the streetlight system design is planned to occur in the future, prior to construction. Therefore, this standard is satisfied.

F. **Private Utilities.** All development which has a need for private utilities, including but not limited to electricity, gas, and communications services shall install them pursuant to the requirements of the district or company serving the development.

1. Except as otherwise provided herein, all utility lines, cables or wires, including but not limited to those used for electricity, communications services and street lighting which are on or adjacent to land partitioned, subdivided or developed within the City of Carlton after the effective date of the ordinance codified in this title, shall be required to be placed underground. The intent of the city is that no poles, towers, or other structures associated with utility facilities shall be permitted on any street or lot within or adjacent to such partition, subdivision or development.

Response: The Preliminary Plans illustrate locations provided for public utility easements where utility infrastructure, which is designed to be located underground, is planned to be installed, consistent with the standards above.

2. **Exceptions.** Above ground facilities shall be permitted for the following in which case the above provisions shall not apply:

- a. Emergency installations or electric transmission lines or to through feeders operating at distribution voltages which act as a main source of supply to primary lateral and to direct connected distribution transformers and primary loads. Should it be necessary to increase the capacity of major power transmission facilities for service to the area, such new or revised installations shall be made only on rights-of-way or easements on which existing overhead facilities exist at the time of such capacity increase;
- b. Appurtenances and associated equipment such as surface-mounted transformers, pedestal-mounted terminal boxes, meter cabinets, telephone cable closures, connection boxes and the like;
- c. Structures without overhead wires, used exclusively for fire alarm boxes, streetlights, or municipal equipment installed under the supervision and with the approval of the city engineer;
- d. Power substations, pumping plants, and similar facilities necessary for transmission or distribution of utility services shall be permitted subject to compliance with all zoning regulations and other applicable land use regulations. The engineer for all such facilities, prior to any construction being started, shall approve plans showing landscaping and screening;

- e. Certain industries requiring exceptionally large power supplies may request direct overhead power as a condition;
- f. If existing overhead utilities within or adjacent to the development total less than one hundred fifty (150) linear feet, the city may allow the applicant to record an approved improvement deferral agreement, see Section 17.216.030, in lieu of relocating existing private utilities underground at the time of development.

Response: With the exception of those provisions listed above, new utility infrastructure is planned to be installed underground. These standards are met.

- 3. Information on Development Plans. The developer or subdivider shall show on the development plan or in his or her explanatory information, easements for all underground utility facilities. Plans showing the location of all underground facilities as described herein shall be submitted to the city engineer for review and approval. Care shall be taken in all cases to ensure that aboveground equipment does not obstruct vision clearance areas for vehicular traffic.

Response: The Preliminary Plans illustrate the existing and planned easements for underground utility facilities, as applicable. Therefore, this standard is met.

- 4. Future Installations. The owner(s) or contract purchaser(s) of subdivided real property within a subdivision shall, upon conveyance or transfer of any interest including a leasehold interest in or to any lot or parcel of land, provide in the instrument conveying such interest a covenant running with and appurtenant to the land transferred under which grantee(s) or lessee(s), their heirs, successors, or assigns mutually covenant not to erect or allow to be erected upon the property conveyed any overhead utility facilities, including electric, communication, and cable television lines, poles, guys, or related facilities, except such facilities as are exempt from underground installation under this title or are owned or operated by the city. Such covenant shall require grantees to install, maintain, and use underground electric, telephone, cable television, or other utility services used or to be used to serve the premises. A copy of the covenant shall be submitted with the final plats.

Response: Compliance with this standard is to be addressed at the time of building permit review.

- K. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city attorney and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as follows:

(...)

Response: To the extent easements for public and private utilities are deemed necessary, their locations and dimensions are indicated on the Preliminary Plans. This standard is met.

Chapter 17.84- SITE AND LANDSCAPING DESIGN

17.84.020 - Scope.

All construction, expansion, or redevelopment of structures or parking lots for commercial, multi-family, or industrial uses shall be subject to the landscaping requirements of this chapter. The construction of new streets containing landscape strips shall also be subject to the landscaping requirements of this chapter.

Properties within the Downtown Parking District (Exhibit A of Chapter 17.68) are exempt from landscaping requirements, except as specifically required by Chapter 17.30 Downtown (D) District design standards and guidelines.

Response: The provisions of Chapter 17.156 require landscaping plans with site design review applications. This application involves a residential subdivision that includes lots for future single-family attached homes. A site design review application for the single-family attached homes is planned to be submitted in the future and will include required landscaping information. Therefore, these provisions can be met in the future.

17.84.050 Minimum landscaped area requirements.

Except as modified by the development standards of the underlying zoning district, the following area requirements shall be the minimum areas devoted to landscaping:

(...)

- E. Single-Family and Duplex Dwellings: All yard areas not otherwise improved with structures, parking, and circulation (driveways, walkways, etc.) shall be landscaped. At least fifty (50) percent of front yard areas not covered with driveways, patios, or paths shall contain planted areas (includes any trees retained in the development).

For expansions of existing developments and parking lots, the minimum new landscaped area shall be determined by: First calculating the percentage of the increase of total floor area or parking area; multiplying the gross site area by this percentage of increase; multiplying the resulting area by the minimum percentage for the type of development.

Response: As previously discussed, this application includes lots for future single-family attached homes. A site design review for the single-family attached homes is planned to be submitted in the future and will include landscaping as applicable.

17.84.070 Screening and buffering.

Where required by ordinance, or where placed as a condition of approval, screening and buffering shall meet the following minimum requirements:

- A. Screening shall be used to eliminate or reduce the visual and noise impacts of the following uses:
1. Commercial and industrial uses when abutting residential uses;

2. Industrial uses when abutting commercial uses;
3. Service areas and facilities, including garbage and waste disposal containers, recycling bins, and loading areas;
4. Outdoor storage areas;
5. Parking areas for ten (10) or more vehicles for multi-family developments, or twenty (20) or more vehicles for commercial or industrial uses;
6. At and above-grade electrical and mechanical equipment, such as transformers, heat pumps, and air conditioners;
7. Any other area or use as required by this title.

Response: This application involves a residential subdivision for future single-family homes. The planned use is compatible with surrounding uses; therefore, screening and buffering should not be required nor warranted.

Chapter 17.88- DEVELOPMENT STANDARDS FOR LAND DIVISIONS

17.88.020 - Scope.

The provisions of this chapter shall apply to all subdivisions, planned unit developments and partitions within the City of Carlton.

17.88.030 - Standards for lots or parcels.

- A. **Minimum Lot Area.** Minimum lot area shall conform to the requirements of the zoning district in which the parcel is located.

Response: The Preliminary Plans illustrate the subdivision meets the minimum lot area standards for the R-2 zone.

- B. **Maximum Lot Area.** When single-family residential use is proposed for a lot with an area double or greater than the minimum density of the underlying zone the Planning Commission may take into consideration the potential for further division of the lot at a future date.

Response: As illustrated on the Preliminary Plans, the subdivision does not include lots with an area double or greater than the minimum density in the R-2 zone. Therefore, this standard is not applicable.

- C. **Lot Width and Depth.** The depth of a lot or parcel shall not be more than three times the width of the parcel, with the following exceptions:

1. Parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.
2. Lots within residential zones where the permitted minimum lot width is less than 40 feet may be permitted to have a width-depth ratio of no greater than 5:1.

Response: As previously stated, this project includes lots for both future single-family attached and single-family detached homes. As shown on the Preliminary Plans (Exhibit A), the lots for the future single-family attached homes are less than 40 feet wide and the width-depth ratio of each of these lots is less than five times the width of the lots.

The Preliminary Plans further show the lots planned for future single-family homes have a width greater than 40 feet and a depth less than three times the width of the lots. This criterion is met.

D. Access. All lots and parcels created after the effective date of the ordinance codified in this title shall provide a minimum frontage, on an existing or proposed public street, equal to twenty (20) feet. An exception shall apply when residential lots or parcels and planned unit developments, may be accessed via a private street or easement developed in accordance with the provisions of Chapter 17.64 or when the city finds that public street access is:

1. Infeasible due to parcel shape, terrain, or location of existing structures; and
2. Not necessary to provide for the future development of adjoining property.

Response: As shown on the Preliminary Plans (Exhibit A), each of the lots has a minimum of 20 feet of frontage on a public street. This criterion is met.

E. Flag Lots. If a flag-lot is permitted, the following standards shall be met:

Response: As illustrated on the Preliminary Plans, the planned subdivision does not include flag lots. Therefore, this standard is not applicable.

F. Through Lots. Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries, adjacent nonresidential activities, or to overcome specific disadvantages of topography and orientation. A ten (10) foot wide screening or buffering easement, pursuant to the provision of Chapter 17.84, may be required by the city during the review of the land division request.

Response: As illustrated on the Preliminary Plans, the planned subdivision does not include through lots. Therefore, this standard is not applicable.

G. Lot Side Lines. The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face.

Response: As illustrated on the Preliminary Plans (Exhibit A), the side lot lines, as far as is practicable, run at right angles to the right-of-way line of the street upon which the lots face. Therefore, this standard is satisfied.

H. Lot Grading. The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns and other pertinent data, shall be established by the building inspector.

Response: The Preliminary Plans include lot grading that demonstrates that lot elevations are sufficient to build structures and provide for positive drainage. This standard is met.

I. Utility Easements. Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 17.76.020.

Response: The location and width of public utility easements are shown on the Preliminary Plans, consistent with the provision above. This requirement is satisfied.

17.88.040 - Standards for blocks.

- A. General. The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

Response: The Preliminary Plans (Exhibit A) illustrate that the planned block length, width, and shape are designed to provide adequate lot sizes for the future construction of single-family homes. Additionally, the Preliminary Plans illustrate the blocks are designed to provide adequate access, circulation, control, and safety of street traffic.

B. Sizes.

1. Block Length. Except as provided in Section 17.100.030 for the Main Street Special Transportation Area (STA), blocks in residential and commercial districts shall be a minimum of one hundred (100) feet long and shall not exceed six hundred (600) feet in length between street right-of-way lines, unless the previous adjacent development pattern or topographical conditions justify a variation. Blocks that exceed six hundred (600) feet in length shall provide additional pedestrian and bicycle accessways.
2. Block Perimeter. Block perimeters in residential and commercial districts shall not exceed one thousand four hundred (1,400) feet.

Response: As illustrated on the Preliminary Plans, the site connects streets to the east and west of the site and provides necessary connections shown on the City's Transportation System Plan. The block sizes within this project are determined based on the existing development patterns and required street connections. As a result, there are two blocks (the two blocks within the western portion of the site) within the subdivision that slightly exceed the block perimeter standards. As further shown on the Preliminary Plans, each of the blocks in the subdivision are in compliance with the 600-foot maximum block length standard. These standards are met.

- C. Alleys. Alleys may be provided in all districts, however, alleys shall be provided in commercial and industrial areas, unless other permanent provisions for access to off-street parking and loading facilities are provided.

Response: This application does not include alleys; therefore, this standard is not applicable.

17.88.050 - Improvement requirements.

All improvements required by this title or as conditions of approval of any subdivision or partition shall be completed prior to the issuance of any building permits for any structures within the subject development. If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the city, the developer shall provide a security guarantee satisfactory to the city that all improvements will be constructed in

conformance with all city standards and ordinances and all conditions of approval will be satisfied. If the total street frontage of the development is less than or equal to two hundred fifty (250) feet, the applicant may request to sign and the city may grant an improvement deferral agreement or non-remonstrance agreement.

Response: This requirement is understood and can be met, as applicable.

- A. **Frontage Improvements.** Street improvements shall be required for all public streets on which a proposed land division fronts in accordance with Chapter 17.64. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the city shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

Response: The subject site does not have frontage along an existing public street. Therefore, this requirement is not applicable.

- B. **Project Streets.** All public or private streets within the land division shall be constructed as required by the provisions of Chapter 17.64. Private driveways serving flag lots or private streets shall be surfaced as per the requirements of this title.

Response: The Preliminary Plans illustrate the streets planned to be constructed within the subdivision (S 3rd Street, S 5th Street, E Taylor Street, E Wilson Street, and E Cleveland Street) are consistent with the provisions of Chapter 17.64. Please refer to the responses in Chapter 17.64, above.

- C. **Monuments.** Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.

Response: This requirement can be satisfied.

- D. **Bench Marks.** Elevation benchmarks shall be set at intervals established by the city engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

Response: This requirement is understood and can be met.

- E. **Surface Drainage and Storm Sewer System.** Drainage facilities shall be provided within the land division and to connect the land division drainage to drainage-ways or to storm sewers outside the land division and shall be consistent with the most current adopted storm water master plan. Design of drainage within the land division shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the land division and to provide extension of the system to serve such areas. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the city, cannot be served otherwise.

Response: The Preliminary Plans (Exhibit A) and Preliminary Stormwater Report (Exhibit D) demonstrate that the planned stormwater management system accommodates stormwater runoff from areas draining through the subdivision and provides for the

future connections to extend the system to other properties in the area, consistent with the requirements above.

- F. **Sanitary Sewers.** Sanitary sewer shall be installed to serve the land division and to connect the Land division to existing mains both on and off the property being divided. The design shall take into account provisions for the future extension beyond the land division to serve upstream properties that, in the judgment of the city, cannot be served otherwise. The city may require that the construction of sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed.

Response: The Preliminary Plans (Exhibit A) show the planned sanitary sewer improvements, which are designed to provide adequate capacity and provide for the extension of the system to other properties in the area, consistent with the requirements above.

- G. **Water System.** Water lines with valves and fire hydrants serving the land division and connecting the land division to the city mains shall be installed. The design shall take into account provisions for extension beyond the land division to adequately grid the city system and to serve the area within which the development is located when the area is ultimately developed. However, the city will not expect the developer to pay for the extra pipe material cost of mains exceeding eight inches in size. Installation costs shall remain entirely the developer's responsibility.

Response: The Preliminary Composite Utility Plan included in Exhibit A shows the planned water system infrastructure including waterlines, water valves, and fire hydrants that are planned to serve the subdivision. As further illustrated, the water system has been designed to extend to the site's boundaries as appropriate to provide extension to adjoining properties. Therefore, this standard is met.

- H. **Pedestrian Facilities and Bicycle Ways.** Sidewalks shall be installed along both sides of each public street and in any pedestrian or bicycle ways within the land division as well as along all frontages to existing streets. Sidewalks shall be extended as required to connect to other sidewalk systems. The city may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks, sidewalks fronting public property, or sidewalks adjacent to existing structures shall not be deferred.

Response: As shown on the Preliminary Plans (Exhibit A), sidewalks are planned to be installed along both sides of E Wilson Street, E Taylor Street, and S 5th Street. As discussed in Section 17.64.030.F, the planned improvements to S 3rd Street and E Cleveland Street include three-quarter street improvements, and as such there is sidewalk planned on one side of these streets. The Preliminary Plans illustrate a potential off-site asphalt pathway along the north side of E Cleveland Street on Tax Lots 100 and 200. With permission and coordination of the owners of Tax Lots 100 and 200, this off-site asphalt pathway is intended to be constructed with the JR Meadows No. 3 Subdivision improvements. This criterion is met.

- I. **Pedestrian/Bicycle Design Standards.** Pedestrian/bicycle access ways shall meet the following design standards:

Response: This application does not include pedestrian or bicycle accessways. Therefore, these criteria are not applicable.

- J. **Other.**

1. Curb cuts and driveway installations, excluding common drives, are not required of the land divider but, if installed, shall be according to the city standards;
2. Street tree planting is not required of the land divider but, if planted, shall be in accordance with city requirements and of a species compatible with the width of the planting strip;

Response: Curb cuts and street tree plantings will be reviewed at the time of building permit submittal. These criteria can be met.

3. **Streetlights.** The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by city standards following the making of necessary arrangements with the serving electric;
4. **Street Signs.** The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by city standards.

Response: This application includes new public streets that are planned to include streetlights and street signs, as necessary. These improvements will be designed and constructed in accordance with the requirements of the City of Carlton. Therefore, these criteria have been met.

17.88.060 - **Improvement procedures.**

In addition to other requirements, improvements installed by a developer for any land division, either as a requirement of these regulations or at his or her own option, shall conform to the requirements of this title and improvement standards and specifications adopted by the city, and shall be installed in accordance with the following procedure:

- A. Improvement work shall not commence until plans have been checked for adequacy and approved by the city engineer. Plans shall be prepared in accordance with requirements of the city.

Response: This procedural requirement is understood and can be met.

- B. Improvement work shall not commence until the city has been notified in advance; and, if work has been discontinued for any reason, it shall not be resumed until the city has been notified.

Response: This procedural requirement is understood and can be met.

- C. Improvements shall be constructed under the inspection and to the satisfaction of the city engineer. The city may require changes in typical sections and details in the public interest, if unusual conditions arise during construction to warrant the change.

Response: This procedural requirement is understood and, to the extent applicable, can be met.

- D. All underground utilities, sanitary sewers, and storm drains installed in streets by the developer shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length eliminating the necessity for disturbing the street improvements when service connections are made. Unless otherwise approved by the city, this shall be interpreted as extending to the right-of-way or easement line.

Response: This procedural requirement is understood and can be met.

- E. Upon completion of the public improvements and prior to final acceptance of the improvements by the city, the developer shall provide two certified as-built drawings of all public utility improvements to the city. As-built conditions and information shall be reflected on one set of Mylar base as-built drawings. The developer's engineer shall submit the as-built drawings to the city.

Response: This procedural requirement is understood and can be met.

Chapter 17.92- YARD AND LOT STANDARDS

- 17.92.010 - New buildings—Required to be located on a lot.

Every building erected shall be located on a lot as herein defined.

Response: As illustrated on the Preliminary Plans, this application involves a residential subdivision. Each of the newly created lots is designed to be suitable for the future construction of a new single-family home. Therefore, this standard is satisfied.

- 17.92.020 - Yards apply only to one building.

No required yard or other open space or required driveway provided around or for any building or structure for the purpose of complying with the provisions of this title shall be considered as providing a yard or open space for any other building, nor shall any yard or other required space on an adjoining lot be considered as providing a yard or open space on the lot whereon the building is to be erected.

Response: The planned setbacks are illustrated on the Preliminary Plans (Exhibit A), which illustrate setbacks associated with an individual lot are consistent with this standard. Therefore, this standard is satisfied.

- 17.92.030 - No parking in yard areas.

Exclusive of city-approved paved or gravel driveways, no parking shall be allowed within the required front yard area or yards located adjacent to a street. The side yard and rear yard areas may not be used for parking of vehicles, except in city-approved parking areas. The yard areas adjacent to a street shall not be used for the permanent storage of utility trailers, house or vacation trailers, boats, or other similar vehicles.

Response: This application involves a subdivision for the future construction of single-family attached homes. A minimum of two off-street parking spaces will be provided in the garage and/or driveway of each of the future homes. This standard is satisfied.

- 17.92.040 - Front yard projections.

- 17.92.050 - Side yard projections.

- 17.92.060 - Rear yard projections.

Response: This application involves a residential subdivision that includes lots for future single-family attached and single-family detached homes. A site design review application for the single-family attached homes, which will demonstrate compliance with the requirements for front, side, and rear yard projections, will be submitted and reviewed separately in the future. Compliance with the standards for front, side, and rear yard projections for the single-family detached homes will be addressed at the time of building permit review. These criteria will be met.

17.92.070 - Vision clearance.

A. A vision clearance area shall be maintained at each access to a public street and on each corner of property at the intersection of two streets or a street and a railroad. A vision clearance area shall contain no planting, sight-obscuring fence (open chain link excluded), wall, structure, or temporary or permanent obstruction exceeding three (3) feet in height, measured from the ground. The preceding provisions shall not apply to the following:

1. Public utility poles;
2. A tree trimmed (to the trunk) to a line at least eight (8) feet above the level of the intersection;
3. Another plant species of open growth habit that is not planted in the form of a hedge and which is so planted and trimmed as to leave at all seasons a clear and unobstructed cross-view;
4. A supporting member or appurtenance to a permanent building lawfully existing on the date this standard becomes effective;
5. An official warning sign or signal;
6. A place where the natural contour of the ground is such that there can be no cross-visibility at the intersection;
7. The post section of a pole sign when there are no more than two posts and any post is less than eight inches in diameter;
8. Telephone switch boxes provided they are less than ten (10) inches wide at the widest dimension.

Response: The required vision clearance areas are shown on the Preliminary Street Plan included in Exhibit A and are consistent with the provisions above.

B. For single use residential driveways, the vision clearance area shall consist of a triangular area, two sides of which are the curb line and the edge of the driveway. Where no curbs exist, the future location of the curb, based on future full street improvements shall be used.

Response: The required vision clearance areas illustrated on the Preliminary Street Plan included in Exhibit A are consistent with the provisions above.

C. The following measurements shall establish the vision clearance areas:

Type of Intersection	Measurement Along Each Lot Line or Drive Edge*
Controlled intersection (stop sign or signal)	15 feet
Uncontrolled intersection	40 feet
Commercial and industrial driveways	20 feet
Residential driveways	10 feet
Alley	15 feet

Response: The vision clearance areas for intersections shown on the Preliminary Plans (Exhibit A) are compliant with the requirements of Section 17.92.070(C). Vision clearance areas for driveways will be reviewed at the time of building permit review. Therefore, to the extent applicable, this provision is met.

17.92.080 - Fences, walls and hedges.

A. Materials.

1. Fences and walls shall not be constructed of nor contain any material that could cause bodily harm, such as barbed wire, broken glass, spikes, or any other hazardous or dangerous materials. Electric fences are not permitted;
2. Electric or barbed wire fences intended to contain or restrict cattle, sheep, horses or other livestock, and existing prior to annexation to the city, may remain;
3. All required swimming pool and hot tub fencing shall be a minimum of four (4) feet in height and be equipped with a self-locking gate that closes automatically.

B. Standards.

1. Every fence shall be maintained in a condition of reasonable repair and shall not be allowed to become and remain in a condition of disrepair including noticeable leaning, missing sections, broken supports, non-uniform height, and uncontrolled growth of vegetation;
2. Fences shall not exceed four (4) feet in height in any front yard;
3. The maximum fence height in a street side yard shall not exceed six (6) feet;
4. Fences within a front or street side yard shall also conform to the clear vision requirements at intersections, which further restrict the use or height of sight-obscuring fences;
5. In no instance shall a fence extend beyond the property line including into a public right-of-way. It is the responsibility of the property owner to determine the property line.
6. Fences shall not exceed seven (7) feet in height.

Response: As previously discussed, with the adjacent property owner's permission and coordination, an off-site asphalt pathway is planned to be installed on the north side of E Cleveland Street on Tax Lots 100 and 200. As shown on the Preliminary Plans (Exhibit A), a fence is

also planned to be installed on these properties adjacent to the asphalt pathway and is planned to meet these fencing standards, as applicable.

Chapter 17.100- ACCESS CONTROL STANDARDS

17.100.020 - Applicability.

This title shall apply to all public streets within Carlton and to all properties that abut these roadways

17.100.030 - Access spacing standards.

A hierarchy of spacing standards is established that is dependent on the functional classification of the street.

Function Street Classification	Posted Speed Range	Minimum Spacing Between Driveways and/or Streets
Highway 47		
Yamhill to Pine Street (Main Street STA)	20 mph	Streets: Existing city block spacing Driveways: 175 feet or mid-block if block is less than 350 feet
North city limits to Main Street	20—30 mph	450—600 feet
South city limits to Main Street	20—30 mph	450—600 feet
Collector	20—25 mph	50 feet for single family detached units, 25 feet for attached units
Local	20—25 mph	50 feet for single family detached units, 25 feet for attached units

Response:

The Preliminary Plans illustrate the on-site circulation and access spacing of the planned public streets. The planned streets include new local streets (S 5th Street, E Cleveland Street, and E Taylor Street) and collector streets (S 3rd Street and E Wilson Street). Compliance with minimum spacing between driveway locations will be reviewed at the time of building permit review. For the homes that take access from S 3rd Street or E Wilson Street, the driveway will be designed to provide the maximum spacing possible.

17.100.040 - General standards.

- A. Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification.

Response:

As shown on the Preliminary Plans, this application includes corner lots (Lots 94, 101, 114, 119, 132, 134, 145, 148, 164, 167, 174, 175, 178, 185, and 188). Lots 114, 134, 145, 164, 167, and 188 have frontage on two streets with the same functional classification (local); therefore, vehicular access for each of those lots could be from either street. Similarly, Lots 94 and 178 have frontage on two streets that have the same functional classification (collector); therefore, vehicular access for each of those lots could be from either street. Lots 101, 119, 132, 148, 174, 175, and 185 have frontage on a local street and a collector

street. With the exception of two of these lots (Lots 101 and 175), access for each of these lots is planned to be taken from the local street. Lots 101 and 175 are planned to take access from S 3rd Street, similar to the majority of the other homes on that street, providing a cohesive streetscape.

- B. When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a marginal access or local street. Access rights of these lots, to the arterial shall be dedicated to the City of Carlton and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial.

Response: The subject site does not abut an arterial street. This standard does not apply.

- C. Subdivisions with frontage on the state highway system shall be designed to share access points to and from the highway. If access off of a secondary street is possible, then access should not be allowed onto the state highway.

Response: The subject site does not have frontage on a state highway system; therefore, this standard is not applicable.

- D. Wherever a proposed development abuts unplatted developable land within the urban growth boundary, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area.

Response: The subject site is located adjacent to developable land within the urban growth boundary. As illustrated on the Preliminary Plans, stub streets are planned to be located to provide access to the abutting properties, consistent with the standard above.

- E. Local streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.

Response: As shown on the Preliminary Plans, E Cleveland Street, E Wilson Street, and S 3rd Street are planned to be extended into the subdivision and will intersect with each other creating connectivity. As further shown, future street connections are facilitated through the project's street design. The planned connections are designed to minimize/avoid through traffic on local streets. Therefore, this standard is met.

- F. In all cases reasonable access or the minimum number of access connections, direct or indirect, necessary to provide safe access to and from a street shall be granted.

Response: The Preliminary Plans illustrate that each planned lot is provided adequate and safe access to and from on- and off-site streets. Therefore, this standard is satisfied.

- G. New connections shall not be permitted within the functional area of an intersection as defined by the connection spacing standards of this title, unless no other reasonable access to the property is available.

Response: As previously discussed, as required by the City’s TSP, there are two collector level streets within this application (S 3rd Street and E Wilson Street). Due to the required transportation improvements, the layout includes lots that will take access from S 3rd Street and E Wilson Street as the only reasonable access. The future driveway locations will be designed to provide the maximum spacing possible, which is consistent with other phases of JR Meadows. Therefore, this standard is satisfied.

17.100.050 - Joint and cross access.

- A. Adjacent commercial properties classified as major traffic generators (i.e. shopping plazas, office parks), shall provide a cross access drive and pedestrian access to allow circulation between sites.

Response: This application involves a residential subdivision and does not include commercial property. Therefore, the standards included in this section are not applicable.

17.100.060 - Nonconforming access features.

Legal access connections in place as of the effective date of the ordinance codified in this title that do not conform with the standards herein are considered nonconforming features and shall be brought into compliance with applicable standards under the following conditions:

Response: The subject site is currently vacant, unimproved land and does not contain existing, non-conforming access features. Therefore, the standards included in this section do not apply.

17.100.070 - Review procedures.

- A. Access Permit Required. Access to a public street (e.g., a new curb cut or driveway approach) requires an access permit. An access permit may be in the form of a letter to the applicant, or it may be attached to a land use decision notice as a condition of approval. In either case, approval of an access permit shall follow the procedures and requirements of the applicable road authority, as determined through the Type I review procedures found in Section 17.188.010.

Response: As shown on the Preliminary Plans (Exhibit A) access to the site is planned to be taken from S 3rd Street, E Cleveland Street, and E Wilson Street, and permits for access will be obtained as required.

B. Traffic Study Requirements.

1. The City shall require a traffic impact analysis (TIA) prepared by a qualified professional to determine access, circulation, and other transportation requirements when:
 - a. The development generates twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips.
 - b. An access spacing exception is required for the site access driveway(s) and the development generates ten (10) or more peak-hour trips or one hundred (100) or more daily trips.
 - c. The development is expected to impact intersections that are currently operating at the

upper limits of the acceptable range of level of service during the peak operating hour.

- d. The development is expected to significantly impact adjacent roadways and intersections that have previously been identified as high crash locations or areas that contain a high concentration of pedestrians or bicyclists such as a schools.

Response: The project is expected to generate traffic in excess of 25 p.m. peak hour trips and 250 average daily trips. Therefore, a Transportation Impact Analysis (TIA) prepared by a transportation engineer is included in Exhibit C. The TIA details the surrounding street network, its capacity, the effects that the project would have on nearby intersections, and planned transportation improvements by Oregon Department of Transportation (ODOT). As detailed in the TIA, safety mitigation is not recommended based on the analyzed data. The TIA further concludes that with the planned ODOT transportation improvements, the studied intersections will not require additional stop control measures.

2. **Transportation Assessment.** If a TIA is not required, the applicant's traffic engineer shall submit a transportation assessment letter to the City indicating the proposed land use action is exempt. This letter shall outline the trip-generating characteristics of the proposed land use and verify that the site-access driveways or roadways meet City of Carlton sight-distance requirements and roadway design standards.

The Public Works Director may waive the requirement for a transportation assessment letter if a clear finding can be made that the proposed land use action does not generate twenty-five (25) or more peak-hour trips or two hundred fifty (250) or more daily trips and the existing and or proposed driveway(s) meet the City's sight-distance requirements and access spacing standards.

Response: As noted in the response above, a Transportation Impact Analysis is required; therefore, the requirements above do not apply.

- C. **Conditions of Approval.** The City may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system.

Response: As shown on the Preliminary Plans, the planned streets are aligned with the existing E Cleveland Street and E Wilson Street to the east, and S 3rd Street to the north. Reciprocal easements are not necessary for this subdivision, and as discussed in the Transportation Impact Analysis (Exhibit C), traffic mitigation is not needed or warranted. To the extent applicable, this requirement is satisfied.

- D. **Access permit reviews shall address the following criteria:**
 1. **Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access;**

Response: As shown on the Preliminary Plans, access for this subdivision is planned to be taken from E Cleveland Street, E Wilson Street, and S 3rd Street. These planned accesses are aligned with each of the existing streets. No other new accesses are planned. To the extent applicable, this requirement is satisfied.

2. The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and service vehicles;

Response: The planned internal streets shown on the Preliminary Plans provide access for each of the planned new homes for residents. This requirement is satisfied.

3. The access shall be consistent with the access management standards in the most current adopted City of Carlton Transportation System Plan.

Response: As shown on the Preliminary Plans, the planned extensions of E Cleveland Street, E Wilson Street, E Taylor Street, and S 3rd Street and the new street (S 5th Street) are consistent with the City of Carlton's Transportation System. This requirement is satisfied.

- E. Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards.

Response: This application does not involve access to the State Highway System. Therefore, this requirement does not apply.

Chapter 17.106- RESIDENTIAL DESIGN STANDARDS

17.106.020 - Applicability.

This section applies to the following building types:

- A. Single-family non-attached (non-common wall) dwellings are not subject to site development review, but new dwellings are required to comply with subsection 17.106.030(A); no other provisions of Chapter 17.106 apply to non-attached single-family dwellings;
- B. Duplexes, triplexes, and attached single-family dwellings (e.g., townhomes) are subject to all provisions of Chapter 17.106;
- C. Multi-family housing, including residential care facilities, are subject to all provisions of Chapter 17.106;
- D. Mixed-use buildings (residential and other use combined) are subject to all provisions of Chapter 17.106.

Response: This application includes a residential subdivision that includes lots for the future construction of single-family attached homes. A site design review application addressing design standards for the single-family attached homes is required to be submitted and reviewed separately in the future.

Chapter 17.132- GENERAL EXCEPTIONS

17.132.010 - General exception to building height.

Projections such as chimneys, spires, domes, elevator shaft housing, flagpoles, and other similar objects not used for human occupancy are not subject to the building height limitations of the underlying zone.

Response: This application involves a residential subdivision for future single-family attached and single-family detached homes. Compliance with building height limitations for the single-family detached homes is to be addressed at the time of building permit review. Compliance with building height standards for the single-family attached homes is to be addressed at the time of a future site design review application. Exceptions to building height are not applicable at this time.

17.132.020 - Height exceptions for public buildings.

Public or quasi-public buildings, hospitals, places of worship, and educational institutions may be constructed to a height not to exceed forty-five (45) feet provided the required yards are increased one foot for each foot of additional building height above the height regulation for the zone.

Response: This application involves an application for a residential subdivision, and not the construction of public buildings. Therefore, this exception is not applicable.

17.132.030 - Public dedications.

Setback restrictions of this title shall not apply to existing structures whose setback is reduced by a public dedication.

Response: This application does not include setbacks that are reduced by a public dedication. Therefore, this standard is not applicable.

17.132.040 - Miscellaneous setback exceptions.

Setback limitations stipulated elsewhere in this title may be modified as follows:

- A. Bus shelters that are intended for use by the general public and are under public ownership and/or control shall be exempt from setback requirements.
- B. Side and rear yards of underground structures may be reduced to three (3) feet except all openings into the structure, including doors, windows, skylights, plumbing, intake and exhaust vents, shall meet the minimum setbacks of the district.

Response: This application does not include exceptions to the minimum setback standards. Therefore, the standards included in this section do not apply.

Chapter 17.140- USES PERMITTED IN ALL ZONES

17.140.010 - Permitted uses.

The following uses and activities are permitted in all zones:

- A. Placement and maintenance of underground or above ground wires, cables, pipes, guys, support structures, pump stations, drains, and detention basins within rights-of-ways by public agencies and utility companies for telephone, TV cable, or electrical power transmission, or transmission of natural gas, petroleum products, geothermal water, water, wastewaters, sewage and rainwater.

Response: As permitted by this provision, this application involves a residential subdivision that includes underground utilities.

- B. Railroad tracks and related structures and facilities located within rights-of-ways controlled by a railroad operator.

Response: The subject site does not contain railroad tracks or related structures/facilities. Therefore, this is not applicable.

Division VI. - APPLICATION REQUIREMENTS AND REVIEW CRITERIA

Chapter 17.144- SUMMARY OF APPLICATION TYPES

17.144.010 - Generally.

All development permits and land use actions are processed under the administrative procedures provided for in this chapter. There are four types of actions, each with its own procedures.

17.144.030 - Type II action.

A Type II action is a quasi-judicial review in which the Planning Commission applies a mix of objective and subjective standards that allow considerable discretion. Public notice and a public hearing is provided, see Chapter 17.192. Appeal of a Type II decision is to the City Council. The following actions are processed under a Type II procedure:

- A. Major variance;
- B. Conditional use permit, major;
- C. Site design review, major;
- D. Code interpretation;
- E. Nonconforming uses, Type II modification;
- F. Partitions;
- G. Subdivision;

Response: This application involves a residential subdivision. Therefore, this application will be reviewed through a Type II action.

Chapter 17.176- SUBDIVISIONS AND PLANNED UNIT DEVELOPMENTS

17.176.010 - General provisions.

A. All subdivisions and planned unit developments (PUDs) shall conform to all applicable zoning district Standards, development standards and other provisions of this title.

Response: As demonstrated through the responses within this narrative, Preliminary Plans, and supplemental materials, this application complies with the applicable R-2 district standards, development standards, and other provisions of this title.

B. A master plan for development is required for any application that leaves a portion of the subject property capable of redevelopment.

Response: As shown on the Preliminary Plans, the subdivision is a complete parcelization of the property. Therefore, this requirement is not applicable.

17.176.020 - Application and fee.

A. The following submittal requirements shall apply to all preliminary plan applications for subdivisions and PUDs:

- 1. All applications shall be submitted on forms provided by the city to the city recorder along with the appropriate fee. It

shall be the applicant's responsibility to submit a complete application that addresses the review criteria of this chapter;

Response: The required City application forms and appropriate fee are included with the application materials. Therefore, this submittal requirement is satisfied.

2. The applicant shall submit ten (10) clear and legible copies of the preliminary plan on sheets that are twenty-four (24) inches by thirty-six (36) inches in size. Preliminary plans shall be drawn to a scale of one-inch equals one hundred (100) feet or larger;

Response: Preliminary Plans are included in the application materials, consistent with the provision above. Therefore, this submittal requirement is satisfied.

3. **General Information.** The following general information shall be shown on the preliminary plan:
 - a. Vicinity map extending one thousand two hundred (1,200) feet in each direction showing all streets, property lines, streams, and other pertinent data to locate the proposal;
 - b. North arrow, scale of drawing and date of preparation;
 - c. Tax map and tax lot number or tax account of the subject property;
 - d. Dimensions and size in square feet or acres of the subject property;
 - e. The names and addresses of the property owner, partitioner and engineer, surveyor, or other individual responsible for laying out the partition.

Response: The Preliminary Plans included in the application materials show the information required above. Therefore, this submittal requirement is satisfied.

4. **Existing Conditions.** The preliminary plan shall show:
 - a. Location of all existing easements within the property;
 - b. Location of city utilities (water, sanitary sewer, storm drainage) within or adjacent to the property proposed for use to serve the development;
 - c. The location and direction of watercourses or drainage swales. The location and disposition of any wells, wetlands identified on the State Wetland Inventory, septic tanks, and drain fields in the development;
 - d. Existing uses of the property, including location of existing structures on the property. It should be noted whether the existing structures are to be removed or to remain on the property;
 - e. Contour lines related to an established benchmark, having the following minimum intervals:

- i. Areas with less than five percent slope: one-foot contours;
- ii. Areas with slope between five percent and ten (10) percent: two-foot contours;
- iii. Areas with slope greater than ten (10) percent: five-foot contours;

Response: The Preliminary Plans included in the application materials show the information required above, as applicable. Additionally, the Oregon Department of State Lands reviewed the site and has issued a determination (WD # 2022-0303) that the site does not contain jurisdictional wetlands or other waters of the state. Therefore, to the extent applicable, this submittal requirement is satisfied.

5. **Proposed Plan.** The preliminary plan shall clearly show to scale the following:
 - a. Proposed name of the PUD or subdivision;
 - b. Locations, approximate dimensions and area in square feet of all proposed lots. Identification of each lot and block by number;
 - c. Proposed streets and their names, approximate grade, radius of curves, and right-of-way widths;
 - d. Any other legal access to the subdivision or PUD, other than a public street;
 - e. Location, width and purpose of any proposed easements;
 - f. If the development is to be constructed in phases, indicate the area of each phase.
6. **Supplemental Information.** Proposed deed restrictions, if any, in outline form.
7. **A traffic impact analysis if requested by the city manager.**

Response: The Preliminary Plans included in the application materials show the information required above, as applicable. Additionally, a Transportation Impact Analysis is included in Exhibit C. This application includes a tract (Tract A) that is intended to be an open space area. This tract will either be owned and maintained by a future homeowners' association or the City of Carlton (if the City will accept it). Therefore, this submittal requirement is satisfied.

- B. The following supplemental information shall be required for all PUD preliminary plan applications:
 1. Calculations justifying the proposed density of development as required by Section 17.112.050(C);
 2. Proposed uses of the property, including sites, if any, for attached dwelling units, recreational facilities, parks and playgrounds or other public or semi-public uses, with the purpose, condition and limitations of such reservations clearly indicated;
 3. The approximate location and dimensions of all commercial or multi-family structures proposed to be located on the site;

-
4. Statement of improvements to be made or installed including streets, sidewalks, bikeways, trails, lighting, tree planting, landscaping, and time such improvements are to be made or completed;
 5. Written statement-outlining proposals for ownership and maintenance of all open space areas, private streets and any commonly owned facilities.

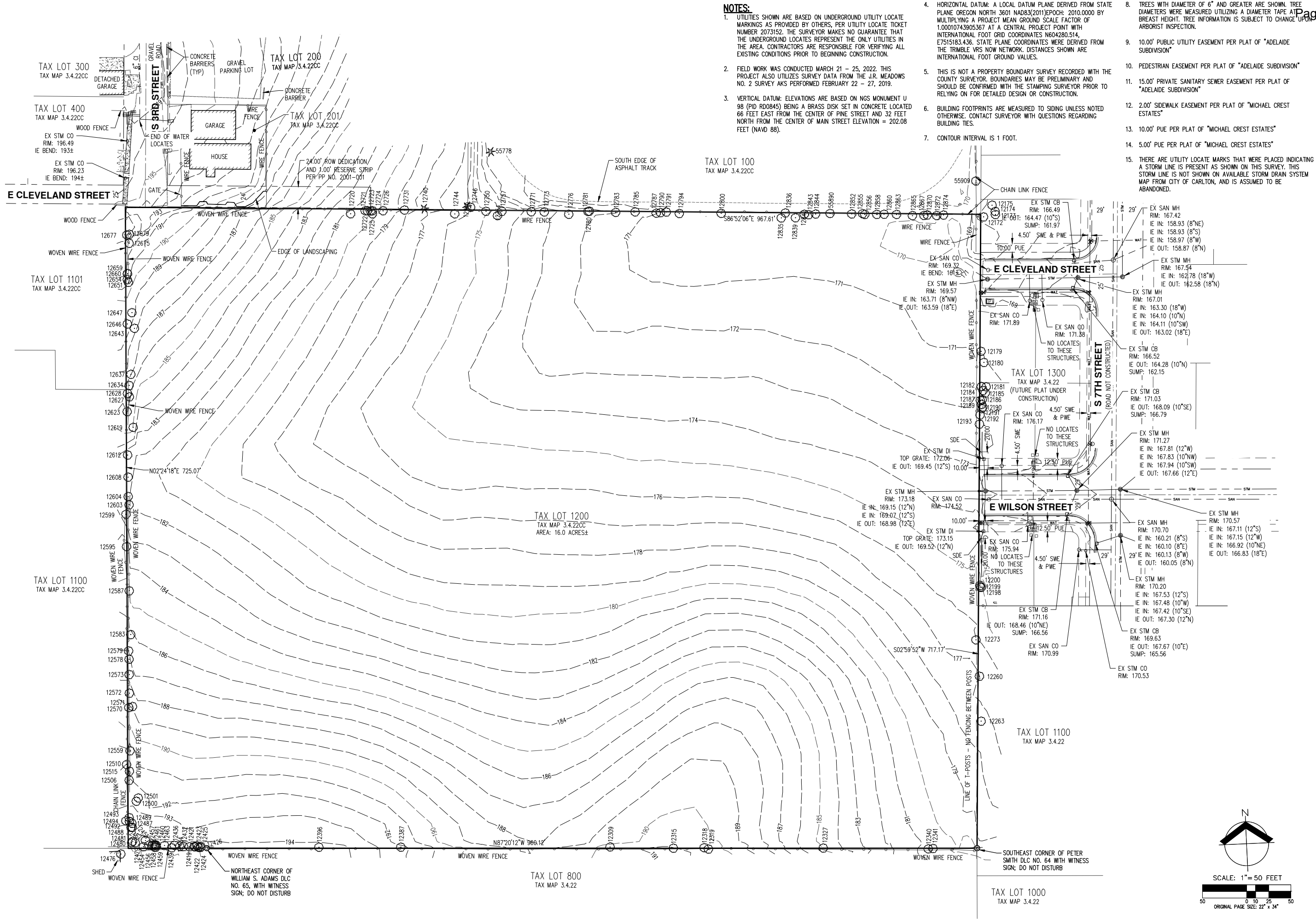
Response: This application involves a subdivision and not a PUD; therefore, this submittal requirement does not apply.

IV. Conclusion

The required findings have been made, and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the City of Carlton Community Development Code. The evidence in the record is substantial, and the City can rely upon this information in its approval of the application.



Exhibit A: Preliminary Plans (Updated February 2023)



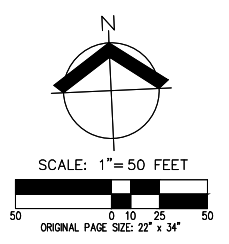
- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBER 2073152. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED MARCH 21 - 25, 2022. THIS PROJECT ALSO UTILIZES SURVEY DATA FROM THE JR. MEADOWS NO. 2 SURVEY AKS PERFORMED FEBRUARY 22 - 27, 2019.
 - VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS MONUMENT U 98 (PID RD0845) BEING A BRASS DISK SET IN CONCRETE LOCATED 66 FEET EAST FROM THE CENTER OF PINE STREET AND 32 FEET NORTH FROM THE CENTER OF MAIN STREET ELEVATION = 202.08 FEET (NAVD 88).
 - HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING A PROJECT MEAN GROUND SCALE FACTOR OF 1.00010743905367 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID COORDINATES N604280.514, E7515183.436. STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
 - THIS IS NOT A PROPERTY BOUNDARY SURVEY RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
 - 10.00' PUBLIC UTILITY EASEMENT PER PLAT OF "ADELAIDE SUBDIVISION"
 - PEDESTRIAN EASEMENT PER PLAT OF "ADELAIDE SUBDIVISION"
 - 15.00' PRIVATE SANITARY SEWER EASEMENT PER PLAT OF "ADELAIDE SUBDIVISION"
 - 2.00' SIDEWALK EASEMENT PER PLAT OF "MICHAEL CREST ESTATES"
 - 10.00' PUE PER PLAT OF "MICHAEL CREST ESTATES"
 - 5.00' PUE PER PLAT OF "MICHAEL CREST ESTATES"
 - THERE ARE UTILITY LOCATE MARKS THAT WERE PLACED INDICATING A STORM LINE IS NOT SHOWN AS AVAILABLE STORM DRAIN SYSTEM MAP FROM CITY OF CARLTON, AND IS ASSUMED TO BE ABANDONED.

EXISTING CONDITIONS PLAN
JR MEADOWS NO. 3
CARLTON, OREGON

REGISTERED PROFESSIONAL LAND SURVEYOR
PRELIMINARY
 NOT FOR CONSTRUCTION
 JANUARY 17, 2018
 KIMBERLY S. KALINA
 89558PLS
 RENEWS: 6/30/23

JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: MSK
 DRAWN BY: MB
 CHECKED BY: MSK

P-02



AKS DRAWING FILE: 8632COND.DWG | LAYOUT: 01

EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

NOTES:

1. THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.
2. TRACT A IS INTENDED TO EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON.

RESIDENTIAL-MEDIUM DENSITY (R-2) DEVELOPMENT STANDARDS:

LOT DIMENSIONS

- MIN. SINGLE FAMILY (NON-COMMON WALL) LOT SIZE - 6,000 SQ FT
- ATTACHED (TOWNHOME) LOT SIZE - 2,400 SQ FT, 4,000 SQ FT CORNER LOT
- MIN. LOT WIDTH AT BUILDING LINE - 24', 40' CORNER LOT

MIN. SETBACKS:

- FRONT - 15 FT, 10 FT UNCOVERED/UNENCLOSED PORCHES
- GARAGE - 20 FT
- SIDE YARD - 3 FT, 0 FT FOR ADJOINING ATTACHED (TOWNHOME) UNITS
- STREET SIDE YARD - 10 FT
- REAR YARD - 15 FT

LOT COVERAGE:

- MAX. LOT COVERAGE BY BUILDINGS: 50% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 60% WHERE BUILDING IS 20' OR LESS IN HEIGHT
- MAX. LOT COVERAGE BY IMPERVIOUS SURFACE (NOT INCLUDING BUILDING): 30%
- COMBINED MAX. LOT COVERAGE: 80% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 85% WHERE ALL BUILDINGS ON SITE ARE 20' OR LESS IN HEIGHT

DENSITY:

- AVERAGE DENSITY OF 10 DWELLING UNITS (DU) PER ACRE OR LESS

DENSITY CALCULATIONS:

GROSS SITE AREA = ±16.0 ACRES

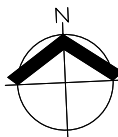
DENSITY = GROSS ACRES * DU/GROSS ACRE
DU/GROSS ACRE = 10

DENSITY = ±16.0 AC * 10 DU/GROSS ACRE
= 160 UNITS

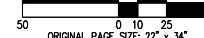
MAXIMUM DENSITY PERMITTED = 160 UNITS

ACHIEVED DENSITY = 101 UNITS / ±16.0 ACRES
= 6.3 DU/GROSS ACRE

SITE AREA FOR FUTURE SINGLE-FAMILY ATTACHED HOMES
= ±110,925 SQ FT = ±2.5 ACRES



SCALE: 1" = 50 FEET



PRELIMINARY SUBDIVISION PLAT WITH FUTURE BUILDING SETBACKS

JR MEADOWS NO. 3

CARLTON, OREGON



RENEWAL DATE: 6/30/23

JOB NUMBER: 8632

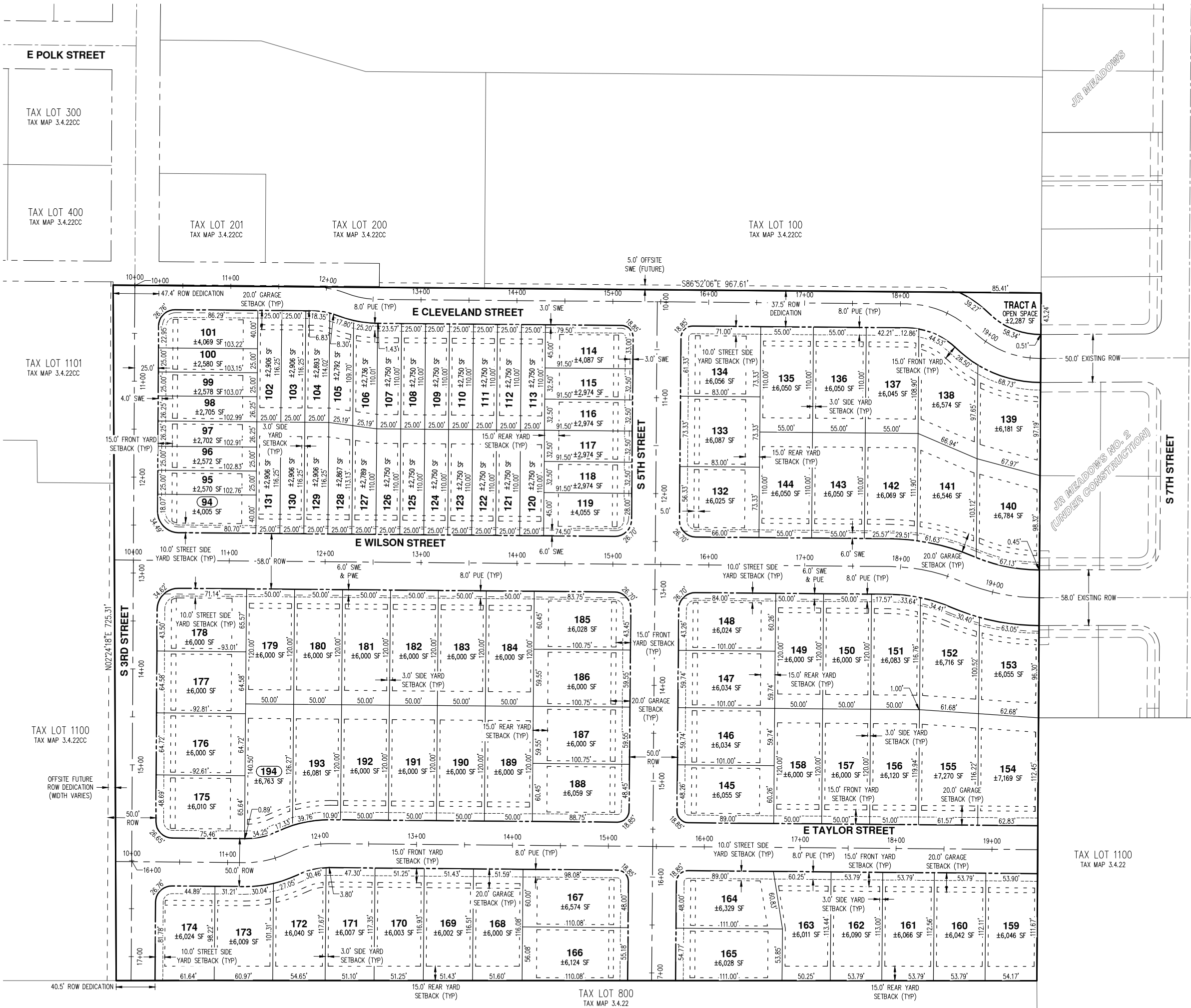
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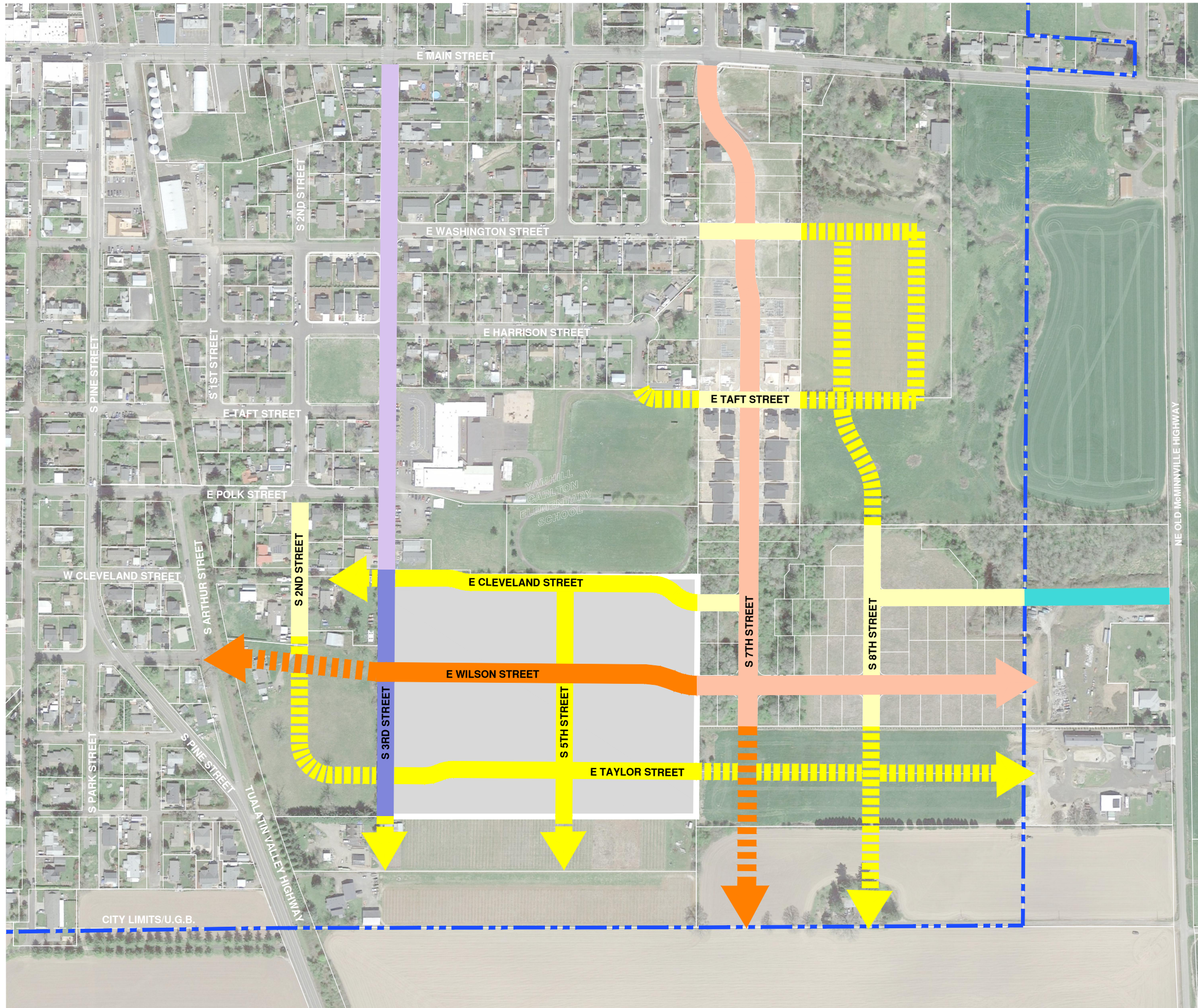
DESIGNED BY: NRA

DRAWN BY: NRA

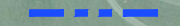
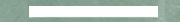


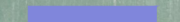


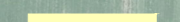

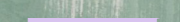
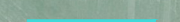
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P-04



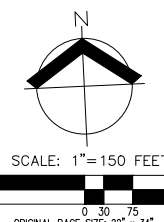


LEGEND:

- CITY LIMITS/U.G.B. 
- PROJECT SITE BOUNDARY 
- PLANNED LOCAL STREET 
- PLANNED COLLECTOR STREET 
- PLANNED SCHOOL-ZONE COLLECTOR STREET 
- CONCEPTUAL FUTURE LOCAL STREET (ON TSP) 
- CONCEPTUAL FUTURE COLLECTOR STREET (ON TSP) 
- EXISTING LOCAL STREET 
- EXISTING COLLECTOR STREET 
- EXISTING SCHOOL-ZONE COLLECTOR STREET 
- EXISTING EMERGENCY VEHICLE ACCESS 

NOTES:

1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS FOR THE CITY OF CARLTON.
2. CONCEPTUAL FUTURE STREET LOCATIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES FOR THE LAND USE APPLICATION ONLY AND ARE NOT PROPOSED WITH THIS SUBDIVISION AND ARE NOT BINDING ON ANY OFF SITE PROPERTIES.
3. THIS DRAWING DOES NOT REPRESENT A FIELD VERIFIED TOPOGRAPHIC/PROPERTY BOUNDARY SURVEY.
4. DATA SOURCES FOR THIS CONCEPTUAL DRAWING INCLUDE INFORMATION EXTRAPOLATED FROM CITY OF CARLTON FUTURE STREET PLAN, GIS, AND NOAA LIDAR TOPOGRAPHY.
5. AREAS, DIMENSIONS, EASEMENT LOCATIONS, AERIAL PHOTO FEATURES, ETC. ARE CONSIDERED APPROXIMATE.

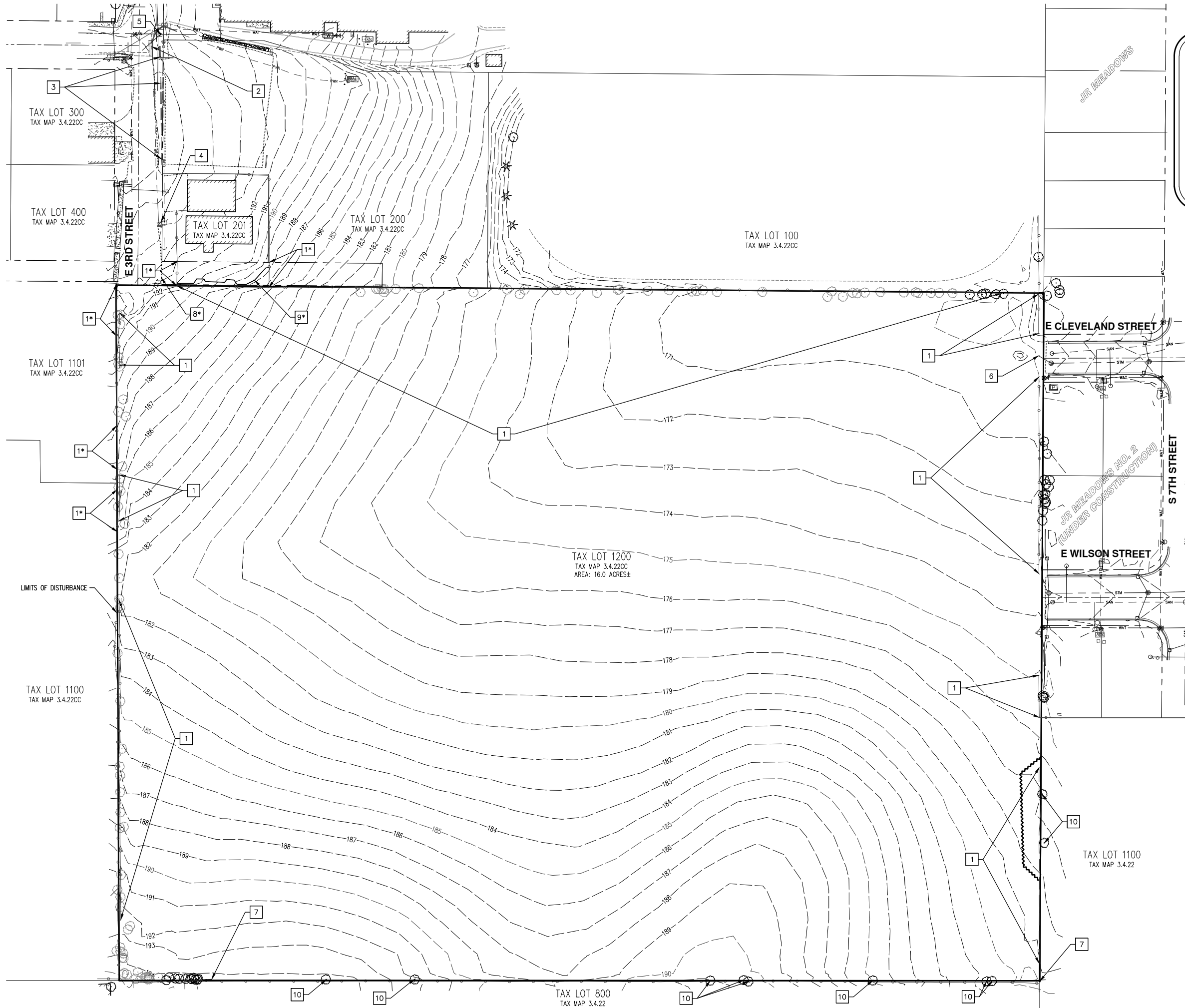


**CONCEPTUAL NEIGHBORHOOD CIRCULATION PLAN
JR MEADOWS NO. 3**

CARLTON, OREGON



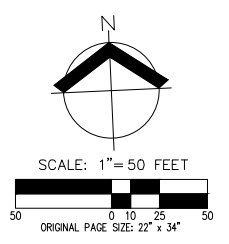
RENEWAL DATE:	6/30/23
JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



LEGEND

EXISTING GROUND CONTOUR (1 FT)	---	179
EXISTING GROUND CONTOUR (5 FT)	---	180
LIMITS OF DISTURBANCE	---	
EXISTING TREE TO REMAIN	⊙	
EXISTING TREE TO BE REMOVED	⊙	
ASPHALT PAVEMENT TO BE REMOVED	▭	
TREE PROTECTION FENCE	~	

- DEMOLITION KEYED NOTES:**
1. REMOVE OR RELOCATE EXISTING FENCE.
 2. SAWCUT AND REMOVE EXISTING PAVEMENT.
 3. EXISTING CONCRETE BARRICADES TO BE RELOCATED OUT OF PUBLIC RIGHT-OF-WAY.
 4. EXISTING POWER STRUCTURE TO BE RELOCATED OUT OF PUBLIC RIGHT-OF-WAY.
 5. REMOVE OR ABANDON EXISTING AREA DRAIN AND STORM PIPES.
 6. REMOVE EXISTING STORM PIPE.
 7. PRESERVE EXISTING SIGN.
 8. REMOVE EXISTING GRAVEL.
 9. REMOVE EXISTING LANDSCAPING.
 10. EXISTING OFFSITE/LINE TREE TO BE PRESERVED. SEE NOTE B.
- NOTES:**
- ANY EXISTING SANITARY SEWER SEPTIC SYSTEMS AND DRAIN FIELD AND/OR WATER WELLS FOUND ON SITE SHALL BE DECOMMISSIONED PER APPLICABLE REQUIREMENTS.
 - ARBORIST OBSERVATION RECOMMENDED DURING ANY DEMOLITION WORK DONE BEHIND THE TREE PROTECTION FENCE.
- *COORDINATE WITH ADJACENT PROPERTY OWNER.



**PRELIMINARY DEMOLITION PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**

**REGISTERED PROFESSIONAL
 LANDSCAPE ARCHITECT
 PRELIMINARY
 CONSTRUCTION**

RENEWAL DATE: 6/30/23

JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
 CHECKED BY: CMS

EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

LEGEND

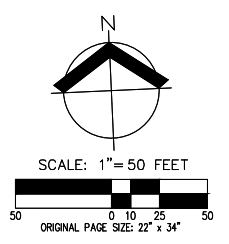
- EXISTING GROUND CONTOUR (1 FT) --- 349 ---
- EXISTING GROUND CONTOUR (5 FT) --- 350 ---
- FINISHED GRADE CONTOUR (1 FT) --- 349 ---
- FINISHED GRADE CONTOUR (5 FT) --- 345 ---
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING) - x - x -
- CATCH BASIN INLET PROTECTION (TYP) □
- CONCRETE WASHOUT AREA ▣
- DRAINAGE FLOW DIRECTION →
- GRAVEL CONSTRUCTION ENTRANCE [Gravel Pattern]
- LIMITS OF DISTURBANCE - - - - -
- TREE PROTECTION/CONSTRUCTION FENCE ~~~~~
- EXISTING TREE TO REMAIN ○ ★



PRELIMINARY GRADING AND EROSION CONTROL PLAN
JR MEADOWS NO. 3
CARLTON, OREGON

REGISTERED PROFESSIONAL ENGINEER
WOODRUFF B. WILSON
 RENEWAL DATE: 6/30/23

JOB NUMBER: 86.32
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
 CHECKED BY: CMS



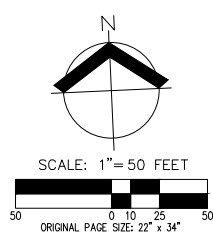
EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

LEGEND

- NEW AC PAVEMENT
- NEW GRAVEL
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEOWNER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- SAWCUT LINE

- KEYED NOTES:**
- END STREET IMPROVEMENTS
 - BEGIN 1/2 STREET IMPROVEMENTS
 - END 1/2 STREET IMPROVEMENTS, BEGIN 3/4 STREET IMPROVEMENTS
 - END 3/4 STREET IMPROVEMENTS



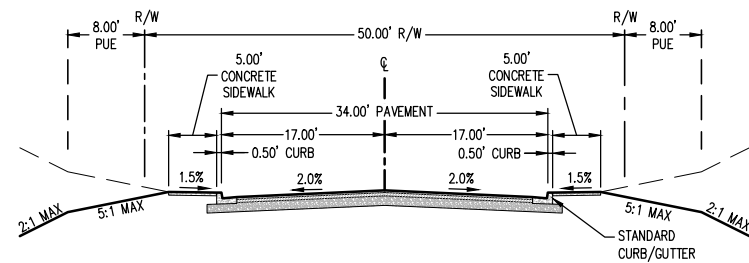
**PRELIMINARY STREET PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**

REGISTERED PROFESSIONAL ENGINEER
 B. W. FISHER
 LICENSE NO. 12345
 RENEWAL DATE: 6/30/23

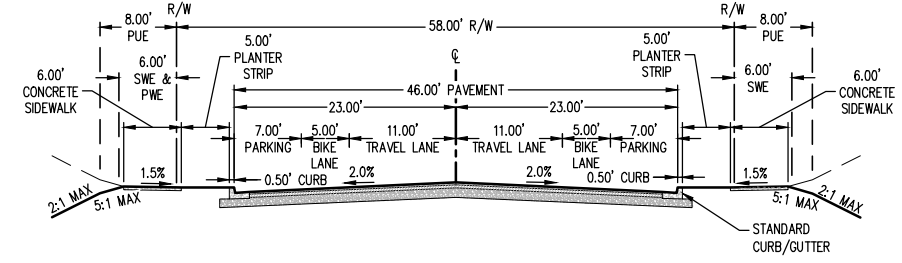
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AKS DRAWING FILE: 8632_STREETS.DWG | LAYOUT: P-07

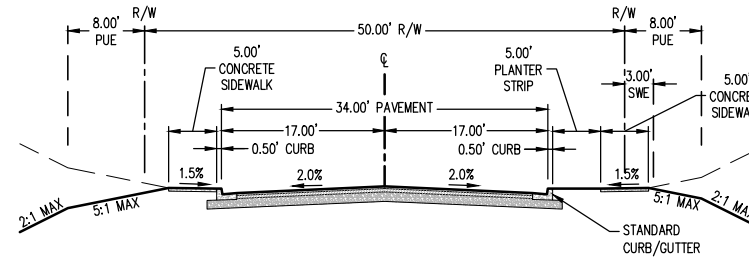
NOTE
 SEE REFERENCES TO SPECIFIC STREET CROSS
 SECTION LOCATIONS ON SHEET P-08.



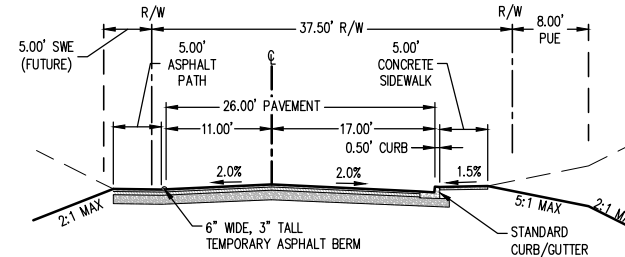
A **TYPICAL LOCAL STREET SECTION**
 E TAYLOR STREET
 PORTION OF S 5TH STREET
 PORTION OF E CLEVELAND STREET
 NOT TO SCALE



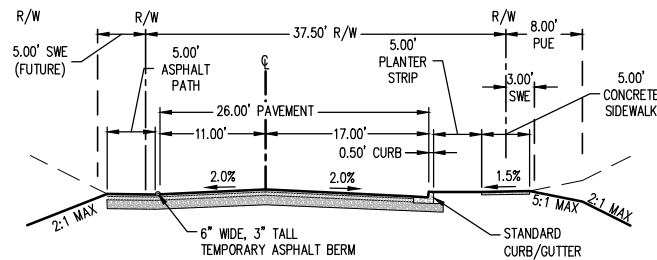
B **TYPICAL MODIFIED COLLECTOR STREET SECTION**
 E WILSON STREET
 NOT TO SCALE



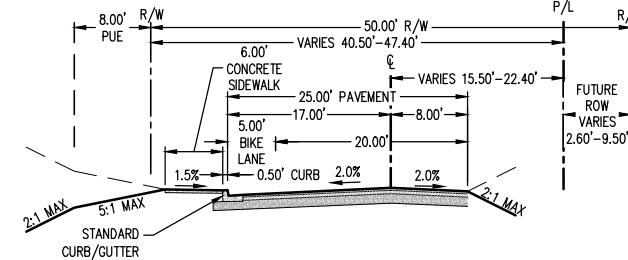
C **TYPICAL LOCAL STREET SECTION WITH PLANTER STRIP - RIGHT**
 PORTION OF S 5TH STREET
 NOT TO SCALE



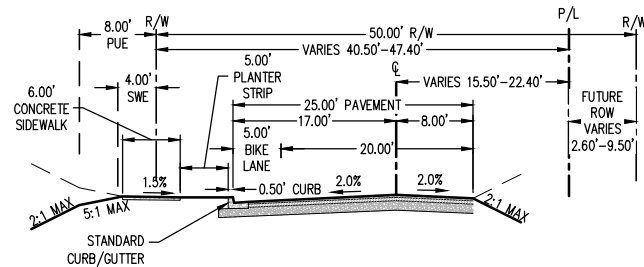
D **TYPICAL LOCAL 3/4 STREET SECTION**
 PORTION OF E CLEVELAND STREET
 NOT TO SCALE



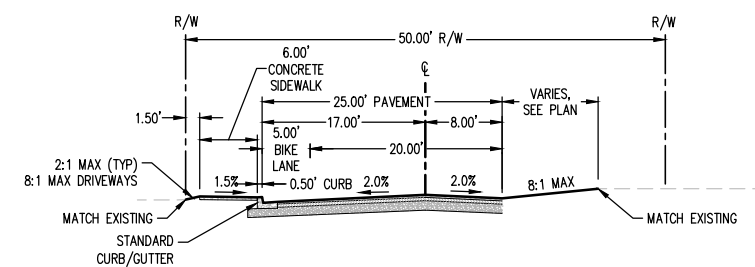
E **TYPICAL LOCAL 3/4 STREET SECTION WITH PLANTER STRIP - RIGHT**
 PORTION OF E CLEVELAND STREET
 NOT TO SCALE



F **SCHOOL ZONE COLLECTOR 3/4 STREET IMPROVEMENTS**
 PORTION OF S 3RD STREET
 NOT TO SCALE



G **SCHOOL ZONE COLLECTOR 3/4 STREET SECTION WITH PLANTER - LEFT**
 PORTION OF S 3RD STREET
 NOT TO SCALE

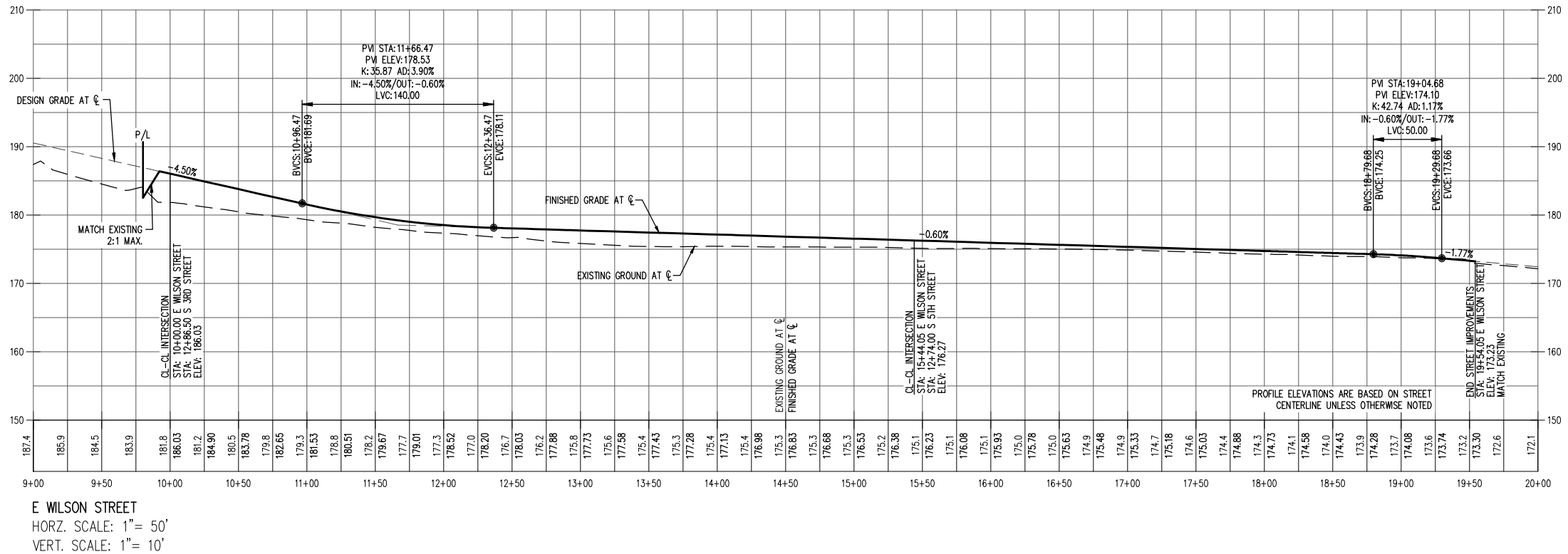
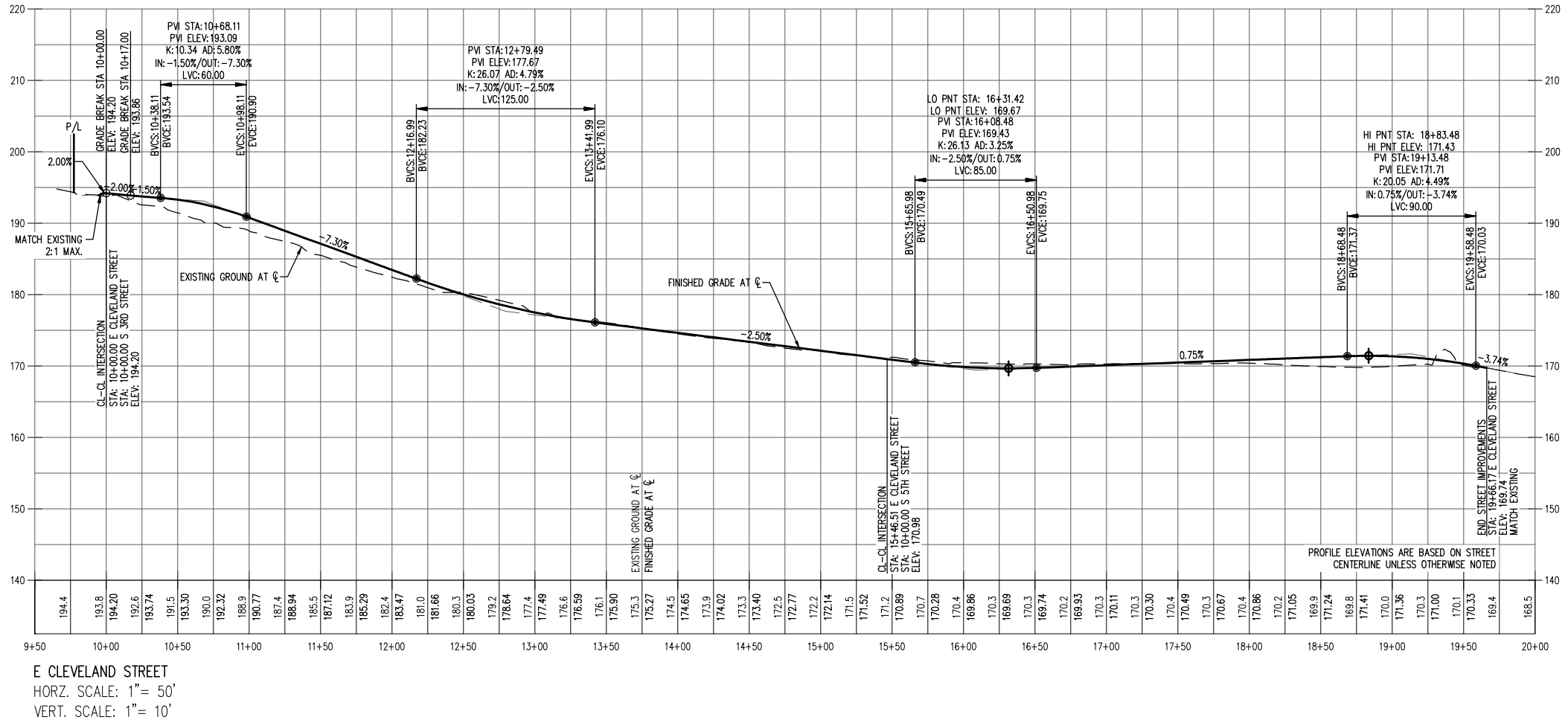


H **OFFSITE SCHOOL ZONE COLLECTOR 1/2 STREET SECTION**
 PORTION OF S 3RD STREET
 NOT TO SCALE

PRELIMINARY STREET CROSS SECTIONS
JR MEADOWS NO. 3
CARLTON, OREGON



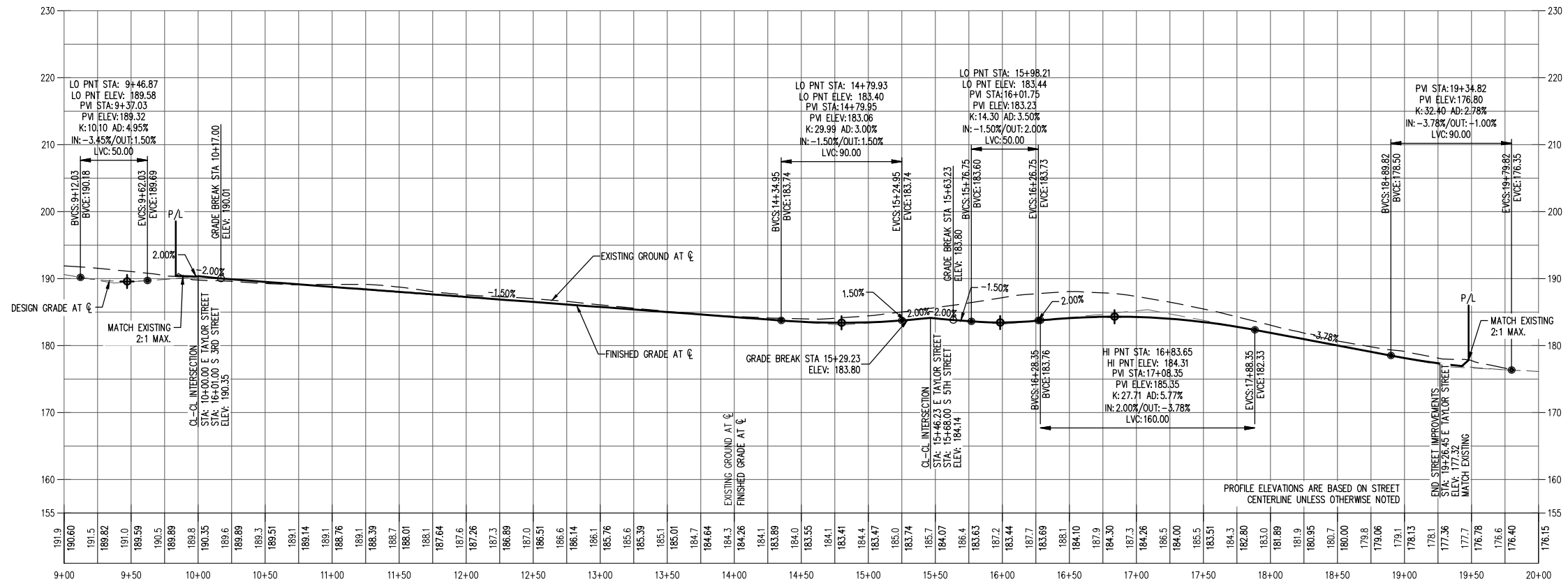
RENEWAL DATE: 6/30/23
 JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
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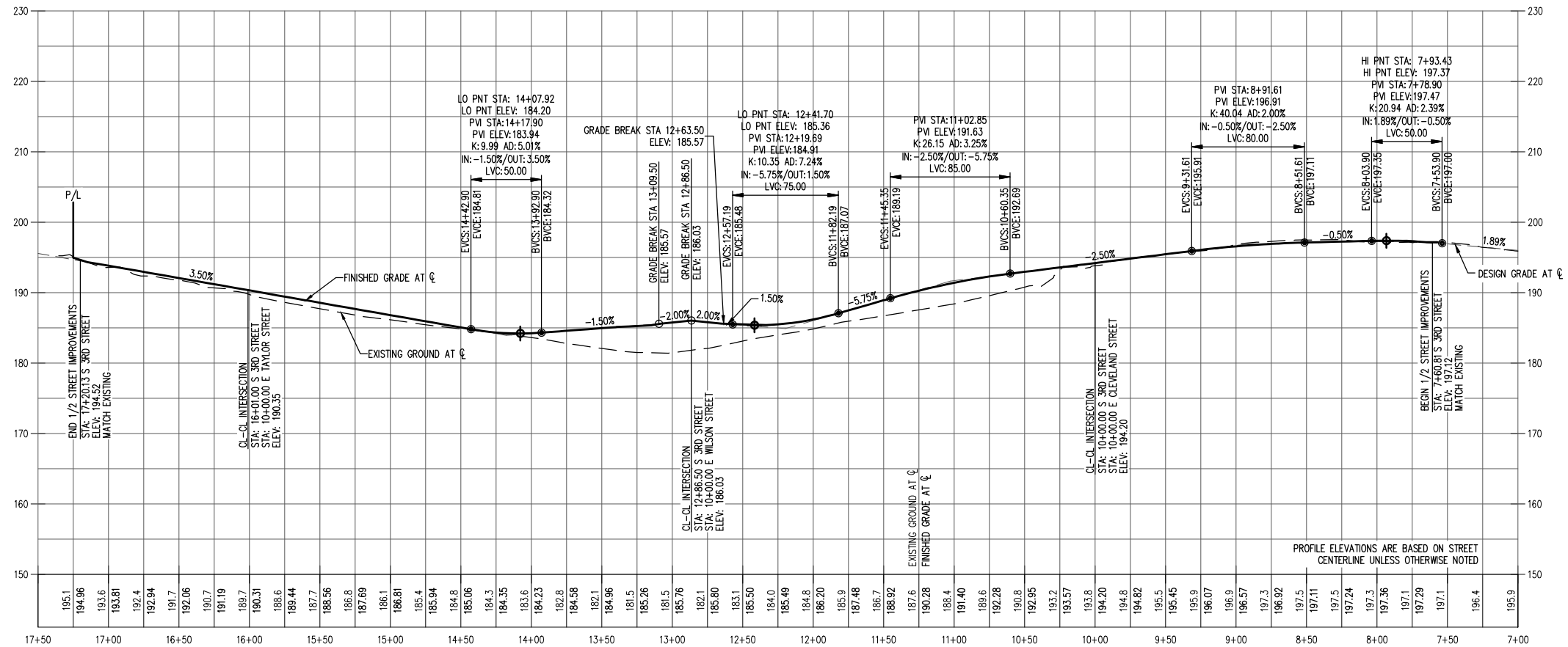
PRELIMINARY STREET PROFILES
JR MEADOWS NO. 3
CARLTON, OREGON



RENEWAL DATE:	6/30/23
JOB NUMBER:	86.32
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



E TAYLOR STREET
 HORZ. SCALE: 1" = 50'
 VERT. SCALE: 1" = 10'



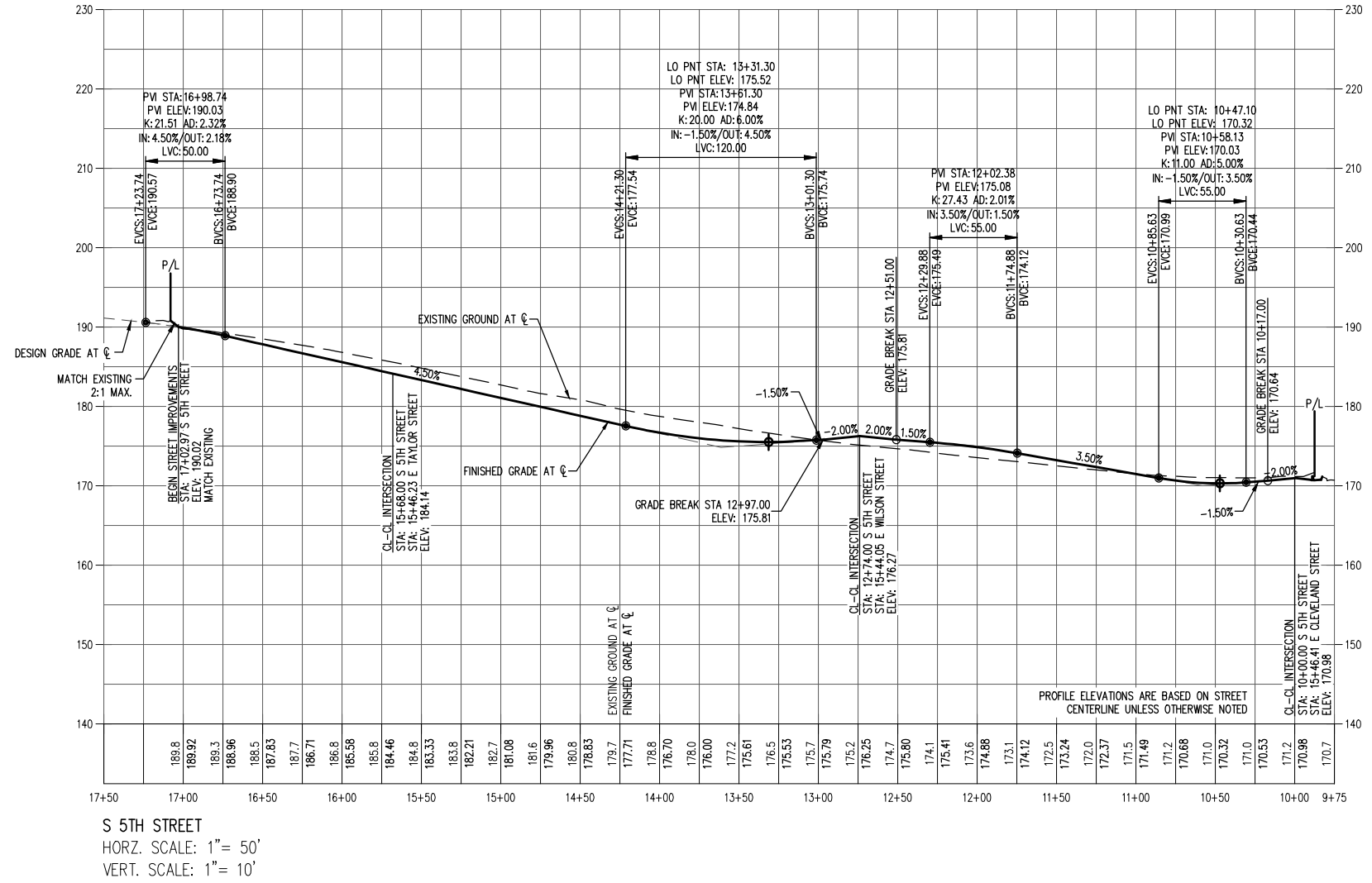
S 3RD STREET
 HORZ. SCALE: 1" = 50'
 VERT. SCALE: 1" = 10'

PRELIMINARY STREET PROFILES
JR MEADOWS NO. 3
CARLTON, OREGON



RENEWAL DATE: 6/30/23

JOB NUMBER:	86.32
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



PRELIMINARY STREET PROFILES
JR MEADOWS NO. 3
CARLTON, OREGON



RENEWAL DATE: 6/30/23
 JOB NUMBER: 8632
 DATE: 02/21/2023
 DESIGNED BY: NRA
 DRAWN BY: NRA
 CHECKED BY: CMS

EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

NOTES:

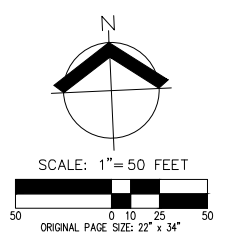
- ⊙ LOTS SHALL UTILIZE CURB WEEP HOLES FOR ROOF DRAIN CONNECTIONS.

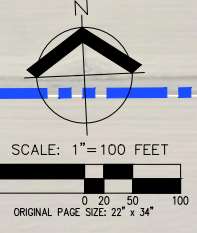
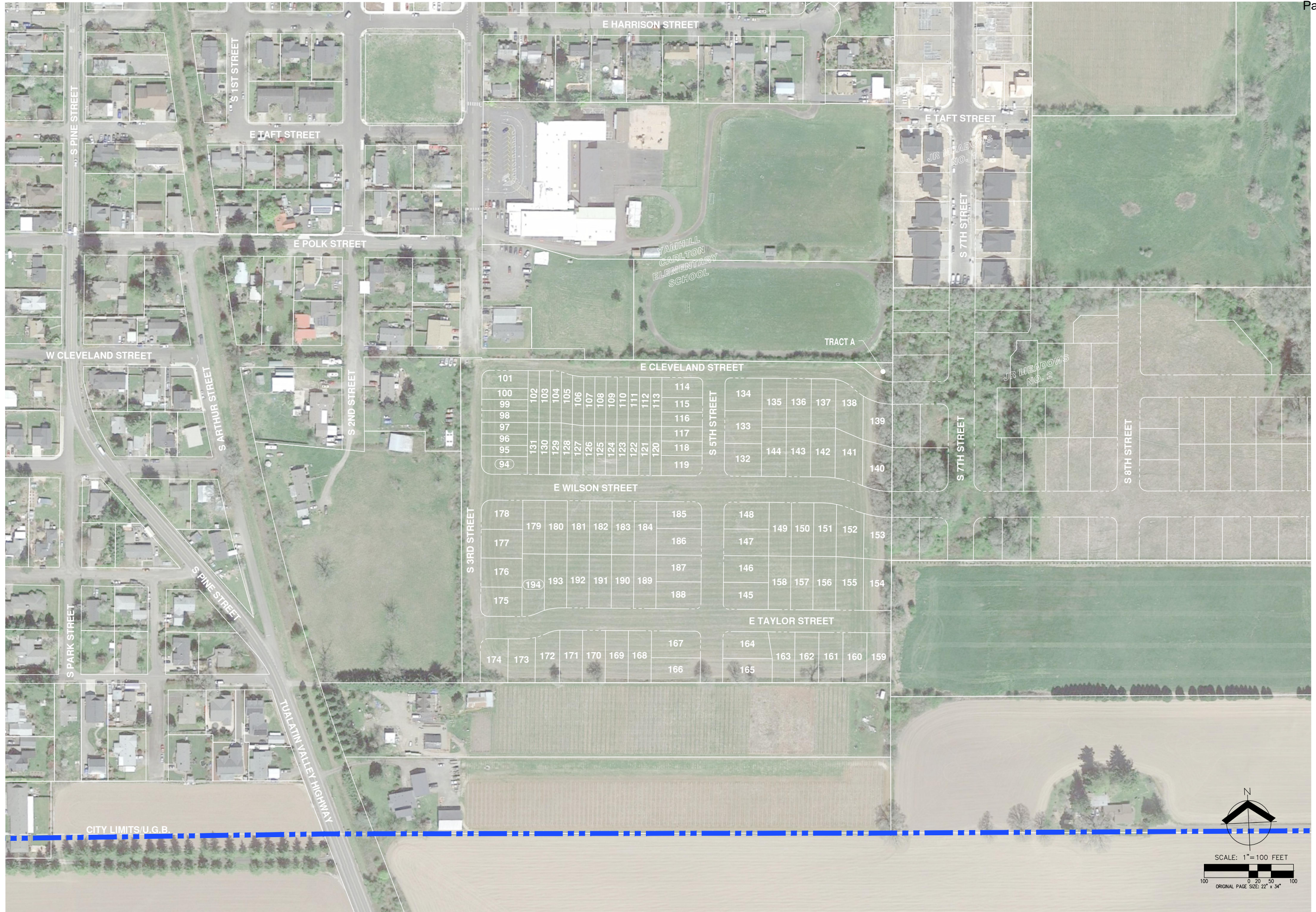


**PRELIMINARY COMPOSITE UTILITY PLAN
 JR MEADOWS NO. 3
 CARLTON, OREGON**



RENEWAL DATE:	6/30/23
JOB NUMBER:	86.32
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS





PRELIMINARY AERIAL PHOTOGRAPH PLAN
JR MEADOWS NO. 3
CARLTON, OREGON



RENEWAL DATE: 6/30/23

JOB NUMBER:	8632
DATE:	02/21/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS



Exhibit B: Application Form and Checklist

Applicant's Consultant:
AKS Engineering & Forestry, LLC
Contact: Chris Goodell
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151 - Email: chrisg@aks-eng.com

Subdivision Application

City of Carlton

Docket No.: _____

Date: _____

Fee: _____

Receipt No.: _____

Applicant: Name Chad E. Davis Construction, LLC

Mailing Address 2808 19th Avenue

Forest Grove, OR 97116

Phone Please contact Applicant's Consultant

Title Holder: Name Chad E. Davis Construction, LLC

Mailing Address 2808 19th Avenue

Forest Grove, OR 97116

Surveyor and/or Engineer (if applicable):

Name AKS Engineering & Forestry, LLC

Phone (503) 563-6151

Location: Street Address No situs address. Site is located southeast of the terminus of S 3rd Street and west of S 7th Street

Tax Lot Number 1200 Map 3 4 22

Description: Comprehensive Plan Designation Residential (R)

Current Zoning Residential-Medium Density (R-2)

Prerequisites: In accordance with Carlton Development Code Section 17.12.020, Subdivision is defined as:

Subdivision: To divide a tract of land into four or more lots within a single calendar year when such land exists as a unit or contiguous units under a single ownership at the beginning of the year.

To request a hearing and approval of a subdivision by the City Planning Commission, there shall be submitted to the City Recorder with this application and filing fee, the following information:

A preliminary subdivision plan on sheets that are no larger than 24 by 36 inches in size. Preliminary plans shall be drawn to a scale of one-inch equals 100 feet or larger.

- ✓1. The following general information shall be shown on the preliminary plan:
- a. Vicinity map extending 1,200 feet in each direction showing all streets, property lines, streams, and other pertinent data to locate the proposal.
 - b. North arrow, scale of drawing, and date of preparation.
 - c. Tax map and tax lot number or tax account of the subject property.
 - d. Dimensions and size in square feet or acres of the subject property.
 - e. The names and addresses of the property owner, subdivider (if different), and engineer, surveyor, or other individual responsible for laying out the partition.
 - f. Location of all existing easements within the property.
 - g. Location of City utilities (water, sanitary sewer, storm drainage) within or adjacent to the property proposed for use to serve the development.
 - h. The location and direction of watercourses or drainage swales. The location and disposition of any wells, wetlands identified on the State Wetland Inventory, septic tanks, and drain fields in the development.
 - i. Existing uses of the property, including location of existing structures on the property. It should be noted whether the existing structures are to be removed or to remain on the property.
 - j. Contour lines related to an established benchmark, having the following minimum intervals:
 - (1) Areas with less than 5% slope: One-foot contours
 - (2) Areas with slope between 5% and 10%: Two-foot contours.
 - (3) Areas with slope greater than 10%: Five-foot contours.
- ✓2. The preliminary plan shall clearly show to scale the following:
- a. Proposed name of the PUD or subdivision.
 - b. Locations, approximate dimensions and area in square feet of all proposed lots. Identification of each lot and block by number.
 - c. Proposed streets and their names, approximate grade, radius of curves, and right-of-way widths.
 - d. Any other legal access to the subdivision or PUD, other than a public street.
 - e. Location, width and purpose of any proposed easements.
 - f. If the development is to be constructed in phases, indicate the area of each phase.
3. Supplemental Information.
- a. Proposed deed restrictions, if any, in outline form.

____ The names and addresses of all property owners within 100 feet of the site boundaries, as shown on the last preceding tax roll of the Yamhill County Assessor. Note: A list of property owner names and addresses within 100 feet of the property may be obtained from a title company or the Yamhill County Assessor Department located at: 535 NE 5th Street, Room 42, McMinnville, OR, phone: (503) 434-7521.

One (1) paper copy and one (1) electronic copy (PDF format preferred) of this application and all of the application attachments. Copies must be clear and legible.

Review Standards: All subdivisions shall conform to all applicable Zoning District standards, development standards, and other provisions of the Carlton Development Code.

Variance Application: When necessary, the Planning Commission may authorize variances to the requirements of the Carlton Development Code in conjunction with a subdivision request. Application for a variance shall be made by petition of the subdivider, stating fully the grounds for the application. The Planning Commission shall review the Variance in accordance with Development Code Section 17.148. An Application for a Variance **Does** **Does Not** accompany this subdivision application.

I HEREBY CERTIFY THAT ALL STATEMENTS CONTAINED HEREIN, ALONG WITH THE EVIDENCE SUBMITTED, ARE IN ALL RESPECTS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DocuSigned by:
Chad Davis
490D79C15FF04E7...

Applicant's Signature

Date

Applicant's Signature

Date
DocuSigned by:
Chad Davis
490D79C15FF04E7...

Title Holder's Signature

Date

Title Holder's Signature

Date

NOTE: ALL OWNERS MUST SIGN THIS APPLICATION OR SUBMIT LETTERS OF CONSENT. INCOMPLETE OR MISSING INFORMATION MAY DELAY THE APPROVAL PROCESS.

City of Carlton
191 E. Main St.
Carlton, OR 97111
Phone: 503-852-7575
Fax: 503-852-7761
www.ci.carlton.or.us



Subdivision

A subdivision means to divide a tract of land into four (4) or more lots within a single calendar year when such land exists as a unit or contiguous units under a single ownership at the beginning of the year. Lots created through the subdivision process shall meet the Development Standards for Land Divisions found in Carlton Development Code (CDC) Chapter 17.88*, and other applicable development standards found in the Carlton Development Code and Public Works Design Standards (PWDS). Each lot shall satisfy the dimensional standards of the applicable zoning district, unless a variance from these standards is approved. In addition, adequate public facilities shall be available to serve the existing and newly created lots (CDC 17.176).

A master plan is required for any application that leaves a portion of the subject property capable of redevelopment (CDC 17.176.010).

Application Process

Subdivisions are reviewed through a two-step process. Preliminary plats for subdivisions are first reviewed in accordance with the Type II land use review procedures found in CDC Section 17.188.020. The Planning Commission conducts a public hearing to review the request and makes a final decision on whether or not to grant preliminary subdivision approval. The Planning Commission's decision may be appealed to the City Council by filing an appeal application within twelve (12) days following the final written notice of the Commission's decision.

Upon receiving preliminary subdivision approval, the applicant has eighteen (18) months to complete the required conditions of approval and record the final survey plat. Final plats are reviewed in accordance with the provisions found in CDC 17.176.040-17.176.050. No final plat shall be approved by the city unless:

1. The plat is in substantial conformance with the Carlton Development Code and the provisions of the preliminary plan as approved, including any conditions imposed in connection therewith;
2. The plat contains free and clear of all liens and encumbrances a donation to the public of all common improvements, including but not limited to streets, roads, sewage disposal and water supply systems, the donation of which is required by the Carlton Development Code or was made a condition of the approval of the preliminary plat;

3. Explanations of all common improvements required as conditions of approval of the preliminary plan have been recorded and referenced on the plat;
4. All reserve blocks shown on the preliminary plan or required as conditions of approval have been deeded in fee simple to the city;
5. The city has received adequate assurances that the applicant has agreed to make all public improvements that are required as conditions of approval of the preliminary plan. The following constitute acceptable adequate assurances:
 - a. Certification by the City Engineer that all required public improvements are completed and approved by the city; or
 - b. The City Engineer certifies that seventy-five (75) percent of the improvements are completed and a performance guarantee as provided by Section 17.216.010.

Application Requirements

To request a subdivision, there shall be submitted to the City Recorder:

___ **One (1) paper copy** and **one (1) electronic copy** (PDF format preferred) of the application form and the application attachments. Copies must be clear and legible.

___ Application filing **fee**

Expiration of Approval

If the final survey plat is not recorded within eighteen (18) months, the preliminary approval shall lapse. The City Manager shall upon written request by the applicant and payment of the required fee; grant an extension not to exceed six (6) months provided that:

1. No changes are made to the approved preliminary plat;
2. There have been no changes in existing conditions, facts, or applicable policies or ordinance provisions on which the original approval was based (CDC 17.172.050).

The Planning Commission may extend the approval period for any subdivision or PUD for not more than one (1) additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period.

*The Carlton Development Code is available online at: www.ci.carlton.or.us/municode



Exhibit C: Transportation Impact Analysis (Updated February 2023)



JR Meadows No. 3 Subdivision

Transportation Impact Analysis Carlton, Oregon



RENEWS: 6/30/2024

Date:
February 10, 2023

Prepared for:
Chad Davis
Chad E. Davis Construction, LLC

Prepared by:
Daniel Stumpf, PE

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Executive Summary

1. The proposed JR Meadows No. 3 Subdivision will include the development of a residential subdivision located on a single property (Yamhill Tax Accessors Map 3 4 22CC, Tax Lot 1200) located south of the southern terminus of S 3rd Street in Carlton, Oregon. The project will include the construction of 63 single-family detached houses and 38 single-family attached houses for a total of 101 dwelling units.
2. The trip generation calculations show that the proposed project is projected to generate 62 morning peak hour trips, 81 evening peak hour trips, and 868 average weekday trips.
3. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. Accordingly, no safety mitigation is recommended per the crash data analysis.
4. Traffic signal warrants are projected to be met at the following study intersections:
 - a. N/S Yamhill Street at W Main Street – Under existing conditions, but not under 2025 conditions with the planned ODOT Main Street Bypass project.
 - b. N/S Pine Street at E/W Main Street – Under existing conditions and year 2025 conditions with the planned ODOT Main Street Bypass project.

For the intersection of N/S Yamhill Street at W Main Street under year 2025 conditions with the bypass project, all-way stop-control warrants are projected to be met at the intersection.

As part of the Main Street Bypass project, revisions to traffic controls at these intersections (inclusive of traffic signals or all-way stop-controls if deemed necessary) are anticipated pending a more in-depth analysis by ODOT. Therefore, the installation of traffic signals, all-way stop-controls, or other traffic control mitigation, as part of the JR Meadows No. 3 Subdivision project are not necessary or recommended. No other traffic signals are projected to be warranted at the other study intersections under any analysis scenario.

5. Based on a review of operation, safety, and crossing pedestrians, the intersection of S 3rd Street at E Polk Street is expected to operate efficiently and safely through the 2025 site buildout year, inclusive of periods during the morning and afternoon bell times of Yamhill Carlton Elementary School and with the nearby S 2nd Street Subdivision also constructed. Regardless, pedestrian improvements will be implemented to the nearby transportation system as part of the JR Meadows No. 3 Subdivision project. A minimum 20-foot paved roadway with a sidewalk and bicycle lane on the east side will be constructed on S 3rd Street to provide vehicle and pedestrian access between the development and the intersection of S 3rd Street at E Polk Street. No other mitigation at the intersection is necessary or recommended.
6. All study intersections are projected to operate acceptably per their respective jurisdictional standards through the 2025 site buildout year, provided ODOT's Main Street Bypass project includes modifications to traffic controls at intersections directly impacted by the planned project.

Project Description

Introduction

The proposed JR Meadows No. 3 Subdivision will include the development of a residential subdivision located on a single property (Yamhill Tax Accessors Map 3 4 22CC, Tax Lot 1200) located south of the southern terminus of S 3rd Street in Carlton, Oregon. The project will include the construction of 63 single-family detached houses and 38 single-family attached houses for a total of 101 dwelling units. Access to the site will be provided via S 3rd Street and S 7th Street via E Cleveland Street and E Wilson Street at the west end of JR Meadows No. 2.

Based on correspondence with City of Carlton and Oregon Development of Transportation (ODOT) staff, the report conducts safety and capacity/level of service analyses at the following intersections during the morning and evening peak hours (mid-day peak hour at Intersection 6):

1. N/S Yamhill Street at W Main Street;
2. N/S Pine Street at E/W Main Street;
3. N/S 3rd Street at E Main Street;
4. N/S 7th Street at E Main Street;
5. S Pine Street at E/W Polk Street; and
6. S 3rd Street at E Polk Street.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses in the area and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Location Description

The project site is located south of E Polk Street and east of S Arthur Street in Carlton, Oregon and includes a single property (tax lot 3422CC-01200) which encompasses an approximate total of ±16.0 acres. The subject site is located within a developing residential area of the City with single-family detached houses to the west, the in-process JR Meadows No. 2 Subdivision to the east, Carlton Elementary School to the north, and undeveloped/agricultural land to the south.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.

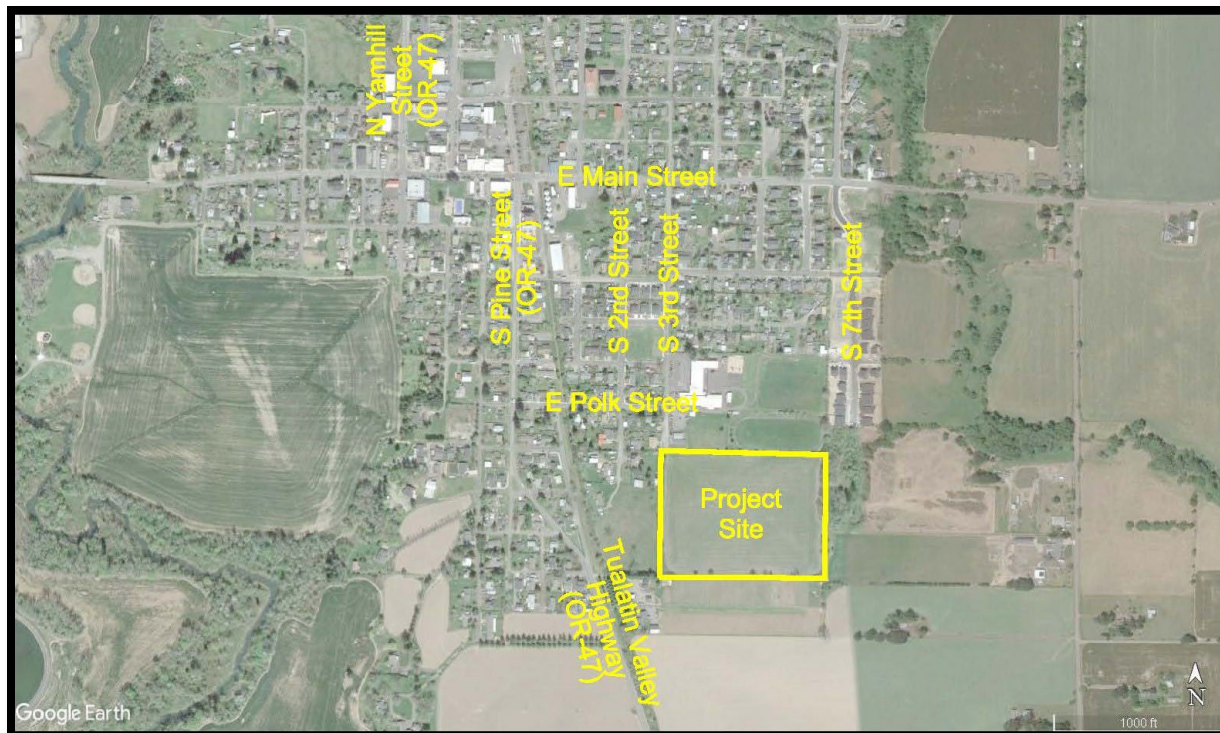


Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Vicinity Streets

The planned project is expected to impact six roadways near the site. Table 1 provides a description of each of the vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
N Yamhill Street (OR-47)	ODOT/City of Carlton	Regional Hwy/ Local Street	20/30	Partially Permitted	Partial Both Sides	None
S Pine Street (OR-47)	ODOT/City of Carlton	Regional Hwy/ Local Street	20/30	Partially Permitted	Partial Both Sides	None
S 3rd Street	City of Carlton	School Zone Collector	20/25	Permitted Both Sides	Partial Both Sides	None
S 7th Street	City of Carlton	Collector	25	Permitted Both Sides	Partial Both Sides	None

Table Notes: Functional classification and Jurisdiction based on Carlton TSP and ODOT State Highway Classification Map.



Table 1: Vicinity Roadway Descriptions (Continued)

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
E Main Street	City of Carlton/ Yamhill County	Regional Hwy (STA)/Arterial	20/25/35	Partially Permitted	Partial Both Sides	None
E Polk Street	City of Carlton	School Zone Collector	20/25	Permitted Both Sides	Partial North Side	None

Table Notes: Functional classification and Jurisdiction based on Carlton TSP and ODOT State Highway Classification Map.

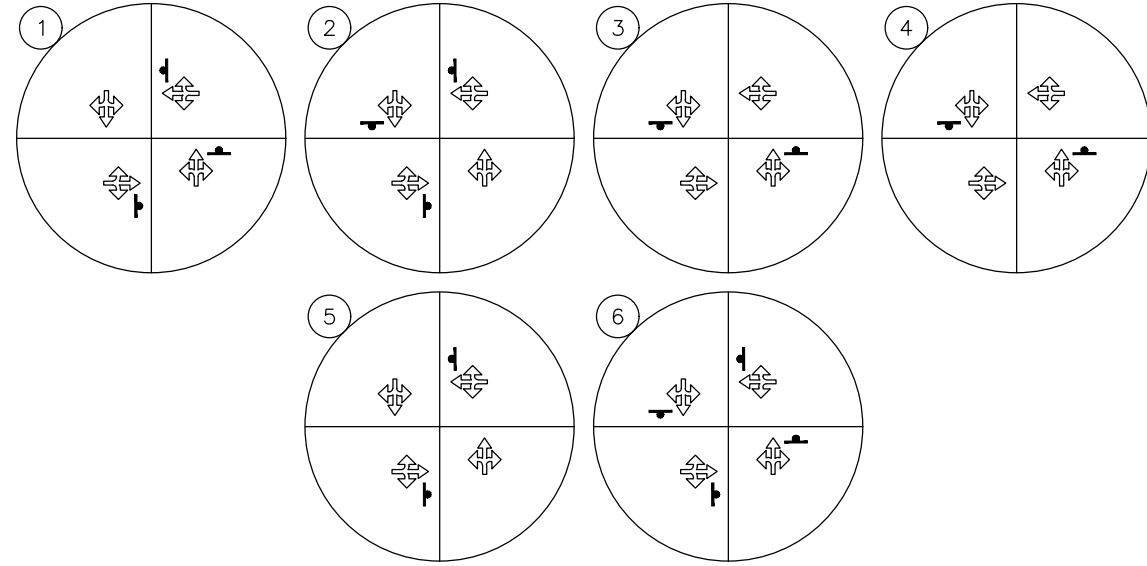
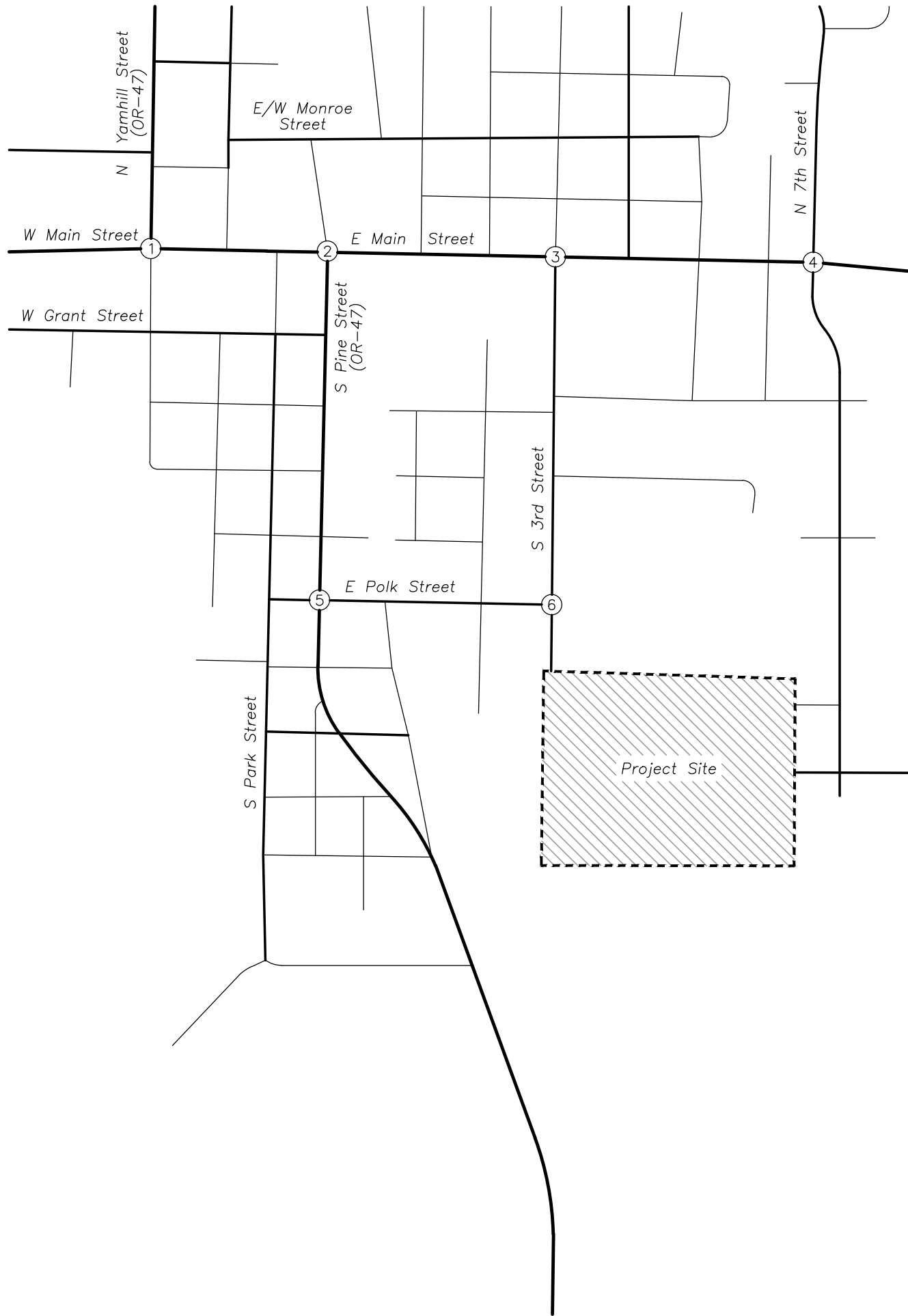
Study Intersections

Based on coordination with agency staff, six intersections were identified for analysis. A summarized description of these study intersections, under their existing lane configurations, is provided in Table 2.

Table 2: Study Intersection Descriptions

Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	N/S Yamhill Street at W Main Street	Four-Legged	Stop-Controlled	NB/EB/WB Stop-Controlled Approaches, WB Right-turns Permitted without Stopping
2	N/S Pine Street at E/W Main Street	Four-Legged	Stop-Controlled	SB/EB/WB Stop-Controlled Approaches, EB Right-turns Permitted without Stopping
3	N/S 3rd Street at E Main Street	Four-Legged	Stop-Controlled	NB/SB Stop-Controlled Approaches
4	N/S 7th Street at E Main Street	Four-Legged	Stop-Controlled	NB/SB Stop-Controlled Approaches
5	S Pine Street at E/W Polk Street	Four-Legged	Stop-Controlled	EB/WB Stop-Controlled Approaches
6	S 3rd Street at E Polk Street	Four-Legged	Stop-Controlled	All-Way Stop-Controlled

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.



- LEGEND**
- STUDY INTERSECTION
 - ⊥ STOP SIGN/APPROACH
 - ▨ PROJECT SITE
 - ARTERIAL ROADWAY
 - COLLECTOR ROADWAY
 - LOCAL ROADWAY



No Scale



Site Trips

Trip Generation

The proposed development will include the construction of 63 single-family detached houses and 38 single-family attached houses for a total of 101 dwelling units. To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual*¹ were used. Data from the following land use codes were used to estimate site trip generation based on the number of dwelling units:

- 210, *Single-Family Detached Housing*.
- 215, *Single-Family Attached Housing*.

The trip generation calculations show that the proposed project is projected to generate 62 morning peak hour trips, 81 evening peak hour trips, and 868 average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix.

Table 3: Trip Generation Summary

	ITE Code	Size/Rate	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Single-Family Detached Housing	210	63 dwelling units	11	33	44	37	22	59	594
Single-Family Attached Housing	215	38 dwelling units	6	12	18	13	9	22	274
Net New Trips		101 dwelling units	17	45	62	50	31	81	868

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

Trip Distribution

The directional distribution of site trips was generally based on the distribution utilized in the *S 3rd Street Zone Change Transportation Impact Analysis* (TIA). The TIA had based its trip distribution on the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 35 percent of site trips will travel to/from the north along N Yamhill Street;
- Approximately 25 percent of site trips will travel to/from the east along E Main Street;
- Approximately 15 percent of site trips will travel to/from the west along W Main Street;
- Approximately 15 percent of site trips will travel to/from the south on S Pine Street;
- Approximately 5 percent of site trips will travel to/from the north on S 3rd Street; and
- Approximately 5 percent of site trips will travel to/from the west along W Grant Street.

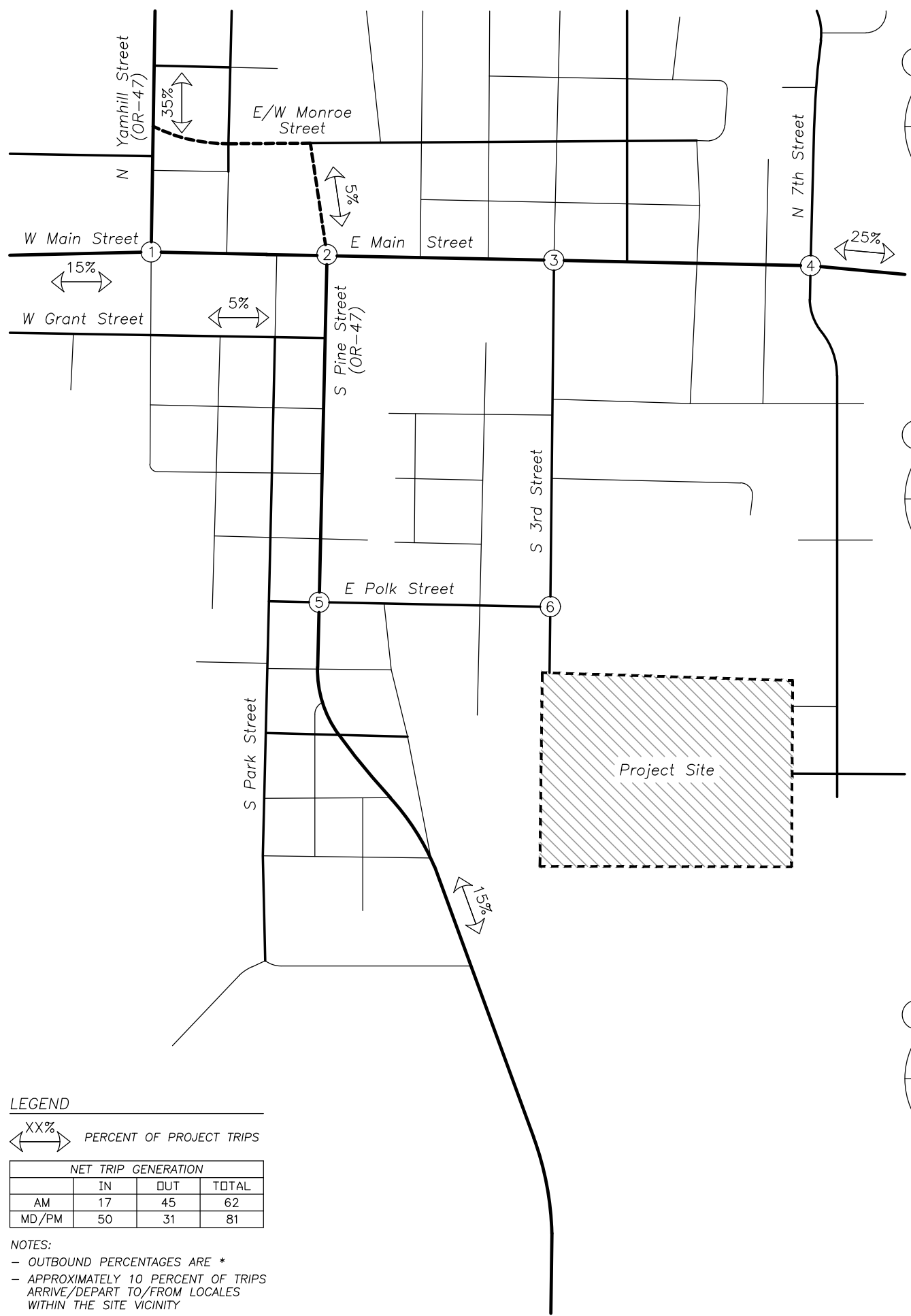
Based on the site plan and the locations of available access to the transportation system, site trips are expected to access the greater transportation system via the following locations:

- Approximately 35 percent of site trips will utilize S 3rd Street to access E Main Street;
- Approximately 35 percent of site trips will utilize S 7th Street to access E Main Street; and
- Approximately 30 percent of site trips will utilize E Polk Street to access S Pine Street.

Based a review of ODOT's Statewide Transportation Improvement Program (STIP) and correspondence with ODOT staff, ODOT is planning to construct the Main Street Bypass project² (STIP Project Key 18746), which is intended to reroute OR-47 traffic from E/W Main Street to the north along N Pine Street, E Monroe Street, and N Yamhill Street. The design phase of the project is expected to continue through year 2024 and construction is estimated to begin in 2025. This project is expected to be completed near or shortly after the anticipated 2025 buildout of the proposed subdivision. Therefore, additional trip distribution and assignment analyses were conducted for Intersections 1 and 2 to reflect this change in the transportation system. Details regarding this bypass project are discussed further in the *2025 Background Conditions* section of this report.

The trip distribution and assignment for the site trips generated during the morning, mid-day, and evening peak hours is shown in Figure 3.

² OR 47: Main Street (Carlton) Design Phase, Region 2: Willamette Valley and Northwest Oregon (Carlton, Yamhill County), <https://www.oregon.gov/odot/projects/pages/project-details.aspx?project=18746>.



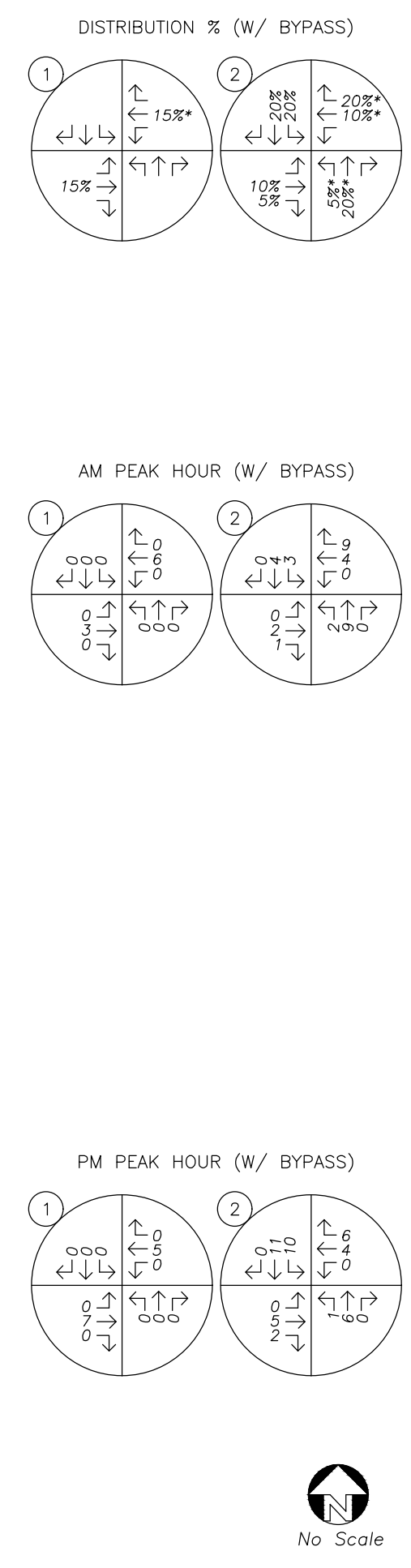
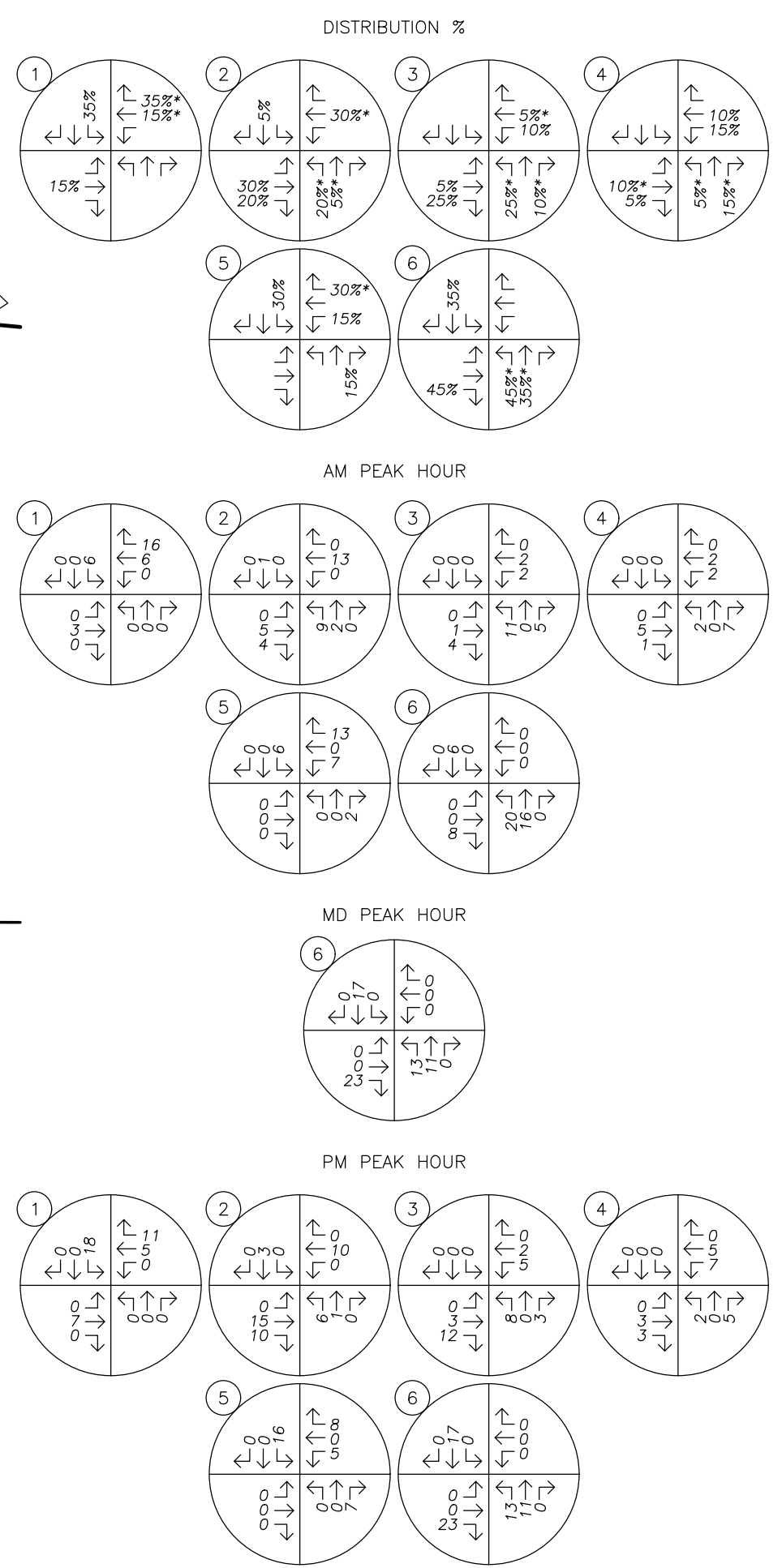
LEGEND

XX% PERCENT OF PROJECT TRIPS

NET TRIP GENERATION			
	IN	OUT	TOTAL
AM	17	45	62
MD/PM	50	31	81

NOTES:

- OUTBOUND PERCENTAGES ARE *
- APPROXIMATELY 10 PERCENT OF TRIPS ARRIVE/DEPART TO/FROM LOCALES WITHIN THE SITE VICINITY



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips
AM, MD, & PM Peak Hours



Traffic Volumes

Existing Conditions

Due to the ongoing COVID-19 viral pandemic, traffic volumes around Oregon have been depressed relative to normal conditions. A review of available traffic count data yielded pre-COVID-19 traffic counts at the following study intersections:

4. N/S 7th Street at E Main Street: Tuesday, May 14, 2019, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM.
5. S Pine Street at E/W Polk Street: Tuesday, May 14, 2019, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM.

Given these available counts, the following methodology for data collection and volume adjustment was utilized:

- The historical traffic counts from 2019 were grown to reflect 2022 existing conditions by applying an average linear growth rate of 0.5893 percent per year over a three-year period to the S Pine Street through movements (utilizing ODOT's *2040 Future Volumes Table*) and a two percent per year compounded growth rate over a three-year period for all other turning movement volumes and at the intersection of N/S 7th Street at E Main Street.
- Current year 2022 evening peak hour counts were collected at the study intersections where 2019 data isn't available (excluding the intersection of S Pine Street at E/W Polk Street) for the morning, mid-day, and evening peak hours. These counts were collected on Tuesday, June 7, 2022, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM; and on Thursday, September 15, 2022, from 2:00 PM to 4:00 PM. Note that all traffic counts were collected while schools were in session.
- Since S Pine Street (i.e. OR-47) is under the jurisdiction of ODOT, the 2019 and 2022 highway traffic volumes collected at the intersection of S Pine Street at E/W Polk Street were seasonally adjusted to reflect the 30th highest hour highway volumes per methodologies in ODOT's *Analysis Procedures Manual*³. Based on the Commuter seasonal trend in ODOT's *2021 Seasonal Trend Table*, seasonal factors of 1.0319 for the 2019 counts and 1.0090 for the 2022 counts were calculated and applied to their respective through volumes on S Pine Street.
- The 2019 historical count data at the intersection of S Pine Street at E/W Polk Street (grown to reflect 2022 conditions) and the recently collected 2022 counts at the intersection were compared. Based on the difference in volumes traveling along the north/south legs and east/west intersection legs of S Pine Street at E/W Polk Street, the following adjustment factors were calculated:
 - ODOT Adjustment Factor:
 - Morning Peak Hour: 1.6257
 - Mid-day/Evening Peak Hour: 1.5743

³ Oregon Department of Transportation, *Analysis Procedures Manual*, Updated June 2022.

- Local Adjustment Factor:
 - Morning Peak Hour: 1.0000
 - Mid-day/Evening Peak Hour: 1.4473

These adjustment factors are intended to estimate normal traffic conditions without impacts from the COVID-19 virus (i.e. normal commuter patterns, businesses open, etc).

- The calculated adjustment factors were applied to the traffic counts at all study intersections where 2022 count data was collected (excluding the intersection of S Pine Street at E/W Polk Street where historical data is available and used for the remainder of this study). Additionally, the 2019 counts at the intersection of N/S 7th Street at E Main Street, grown to reflect year 2022 conditions, were utilized for analysis. Trips associated with the nearby JR Meadows 1 Subdivision project which has been constructed as of 2022 (excluding the multifamily housing units) were added to the N/S 7th Street at E Main Street and S Pine Street at E/W Polk Street intersection volumes.

Data was used from each intersection's respective morning and mid-day/evening peak hours. Table 4 presents the calculated adjustment factors for each of the study intersections. Figure 4 shows the existing traffic volumes at the study intersections during the morning, mid-day, and evening peak hours.

Table 4: COVID-19 Adjustment Factor Calculations

	AM Peak Period (7:00 AM - 9:00 AM)	PM Peak Period (4:00 PM - 6:00 PM)
5. S Pine Street at E/W Polk Street (Local)		
East Leg (Eastbound & Westbound)		
Collected 2022 Volumes	155	53
Historical 2019 Volumes	146	90
Compounded Growth Factor (2% Per Year Over 3 Years)	1.0612	1.0612
Historical 2019 Volumes (Grown to 2022)	155	96
New Volumes > Grown Historical Volumes?	Yes	No
Adjustment Factor (East Leg)	1.0000	1.8113
West Leg (Eastbound & Westbound)		
Collected 2022 Volumes	6	12
Historical 2019 Volumes	5	12
Compounded Growth Factor (2% Per Year Over 3 Years)	1.0612	1.0612
Historical 2019 Volumes (Grown to 2022)	5	13
New Volumes > Grown Historical Volumes?	Yes	No
Adjustment Factor (West Leg)	0.8333	1.0833
Average Local Adjustment Factor	1.0000*	1.4473

* Adjustment factor revised to 1.0 if less than this number.

Table 4: COVID-19 Adjustment Factor Calculations (Continued)

	AM Peak Period (7:00 AM - 9:00 AM)	PM Peak Period (4:00 PM - 6:00 PM)
5. S Pine Street at E/W Polk Street (ODOT)		
North Leg (Northbound & Southbound)		
Collected 2022 Volumes	637	860
Seasonal Adjustment Factor	1.0090	1.0090
Adjusted 2022 Volumes	643	868
Historical 2019 Volumes	966	1,301
ODOT Linear Growth Factor (0.5893% Per Year Over 3 Years)	1.0177	1.0177
Seasonal Adjustment Factor	1.0319	1.0319
Historical 2019 Volumes (Grown to 2022)	1,014	1,366
New Volumes > Grown Historical Volumes?	No	No
Adjustment Factor (North Leg)	1.5770	1.5737
South Leg (Northbound & Southbound)		
Collected 2022 Volumes	560	853
Seasonal Adjustment Factor	1.0090	1.0090
Adjusted 2022 Volumes	565	861
Historical 2019 Volumes	901	1,291
ODOT Linear Growth Factor (0.5893% Per Year Over 3 Years)	1.0177	1.0177
Seasonal Adjustment Factor	1.0319	1.0319
Historical 2019 Volumes (Grown to 2022)	946	1,356
New Volumes > Grown Historical Volumes?	No	No
Adjustment Factor (South Leg)	1.6743	1.5749
Average ODOT Adjustment Factor	1.6257	1.5743

2025 Background Conditions

Volume Growth Rate

To provide analysis of the impact of the proposed subdivision on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate future traffic volumes for non-ODOT facilities, a compounded growth rate of two percent per year was applied to the adjusted existing traffic volumes over a three-year period to approximate traffic volumes under the 2025 background conditions.

To estimate the future traffic volumes for ODOT facilities, linear growth rates were calculated for the traffic volumes along OR-47 (S Pine Street, Main Street, and N Yamhill Street) using ODOT's *2040 Future Volumes Table*. Based on the projected volumes between mileposts 37.85 through 38.01, an average linear growth rate of 0.5893 percent per year was calculated. The ODOT growth rate was applied to the mainline ODOT turning movements of these applicable study intersections while a compounded growth rate of two percent per year was applied to the turning movement traffic volumes traveling to/from local facility intersection legs.

In-Process Development Trips

In addition to the traffic growth described above, in-process development data associated with the recently approved JR Meadows 1 (multifamily housing units only) and JR Meadows 2 Subdivision projects were incorporated in the 2025 background volumes. These projects are not fully contributing trips to the transportation system but may potentially be by the 2025 buildout year of the site. Additional trips corresponding to the in-process developments were added to the 2022 existing year traffic volumes in addition to the three years of traffic growth at each of the applicable study intersections. To maintain a conservative analysis of operation at the study intersections, the in-process developments were assumed to be fully built-out by year 2025.

ODOT STIP Projects

Based a review of ODOT's STIP and correspondence with ODOT staff, ODOT is planning the following improvements:

- Construct the Main Street Bypass project (STIP Project Key 18746), which is intended to reroute OR-47 traffic from E/W Main Street to the north along N Pine Street, E Monroe Street, and N Yamhill Street. In addition to constructing this alternative route of travel through Carlton, traffic controls will be revised at the intersections of N/S Yamhill Street at W Main Street and N/S Pine Street at E/W Main Street as well as other intermittent intersections along the bypass route. As part of the bypass project, jurisdiction of W Main Street will be transferred over from ODOT to the City.
- Reconstruct curb ramps along this segment of E Main Street to meet ADA requirements (STIP Project Key 22392). The project is currently fully funded.

Funding for the Main Street Bypass project is currently in place with the exception that additional funding may be necessary to install revised traffic controls at nearby intersections. Determination of necessary revisions to traffic controls will be evaluated by ODOT as part of the project's on-going design phase. The design phase of the project is expected to continue through year 2024 and construction is estimated to begin in 2025. A conceptual schematic of the Main Street Bypass project is included in the appendix to this report for reference purposes.

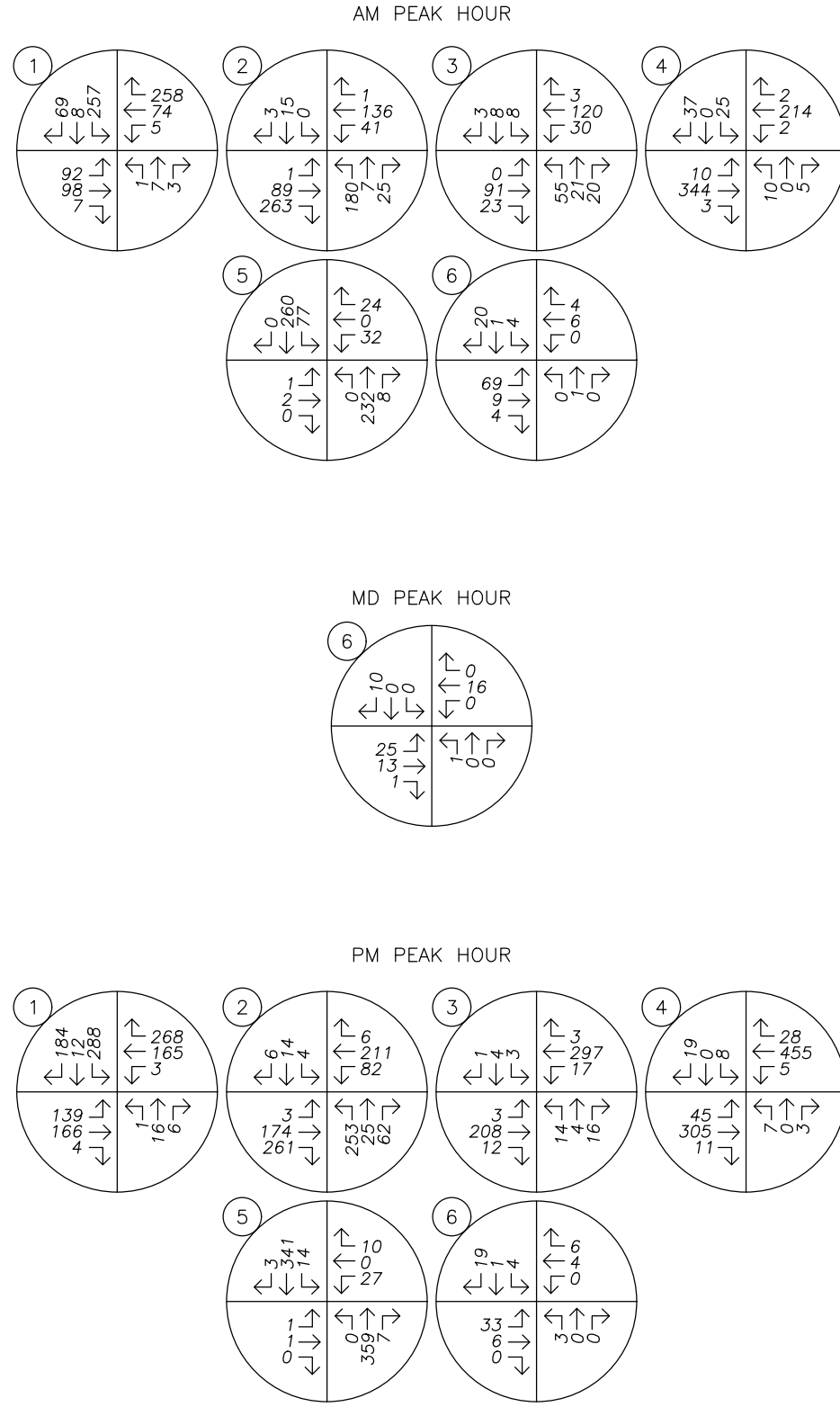
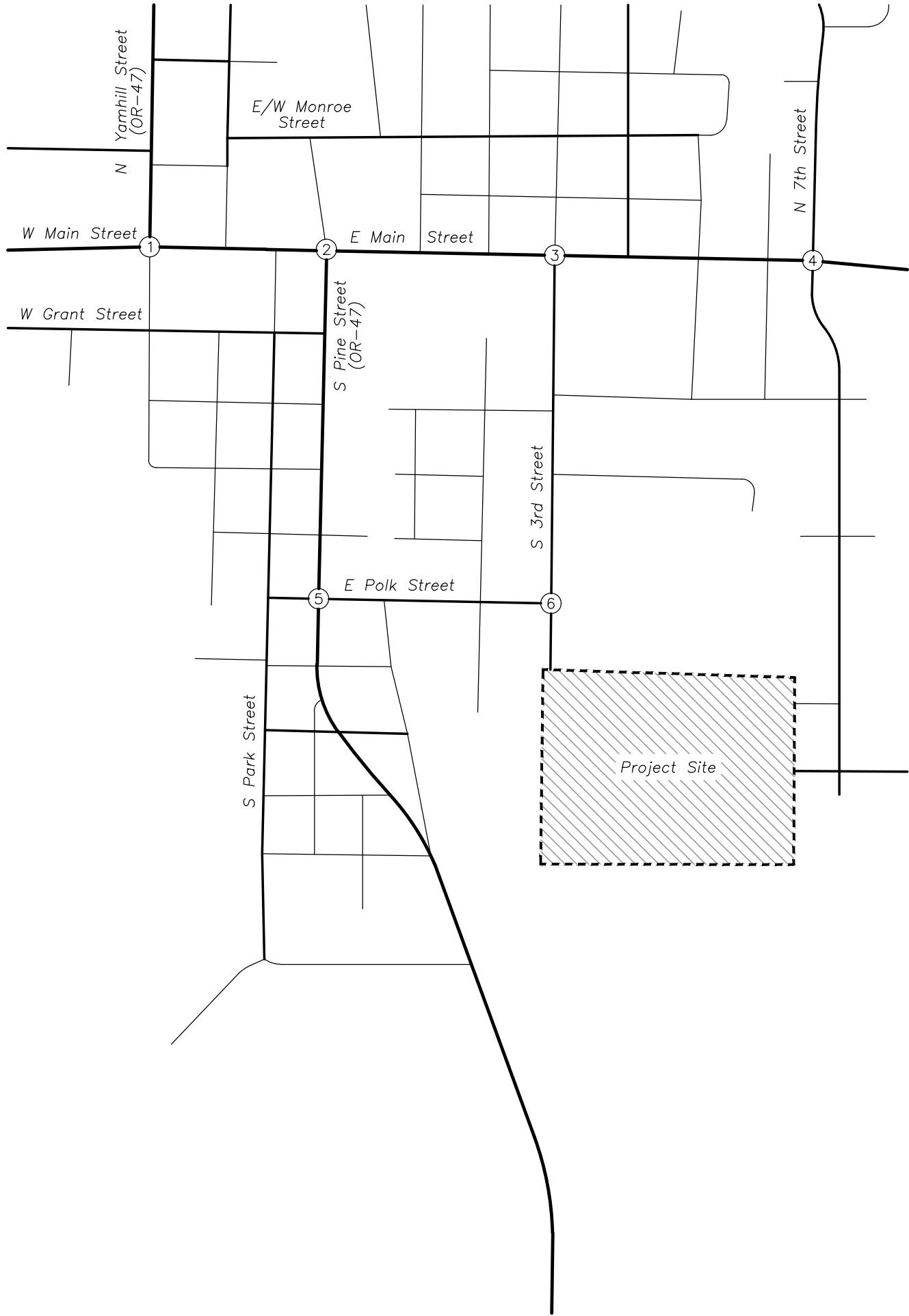
The aforementioned listed projects are expected to be completed near or shortly after the anticipated 2025 buildout of the proposed subdivision. Therefore, future year 2025 analysis scenarios reviewed the transportation system with the Main Street Bypass in place. To estimate how traffic volumes may be impacted by the project, it is assumed that a majority of north/south traffic along OR-47 and north/east traffic along N Yamhill Street/E Main Street, which are expected to travel through Carlton, may reroute from the segment of E Main Street between N/S Yamhill Street and N/S Pine Street to utilize the planned alternative route. For the purposes of this analysis, it is estimated that approximately 80 percent of westbound right-turn and southbound left-turn vehicles at the intersection of N/S Yamhill Street at W Main Street may reroute from the intersection and turn to/from the north of the N/S Pine Street at E/W Main Street intersection.

Figure 5 shows the projected year 2025 background year traffic volumes at the study intersections during the morning, mid-day, and evening peak hours with ODOT's bypass project constructed. Figures depicting the rerouted background year traffic volumes and in-process trips are included in the appendix to this report.

2025 Buildout Conditions

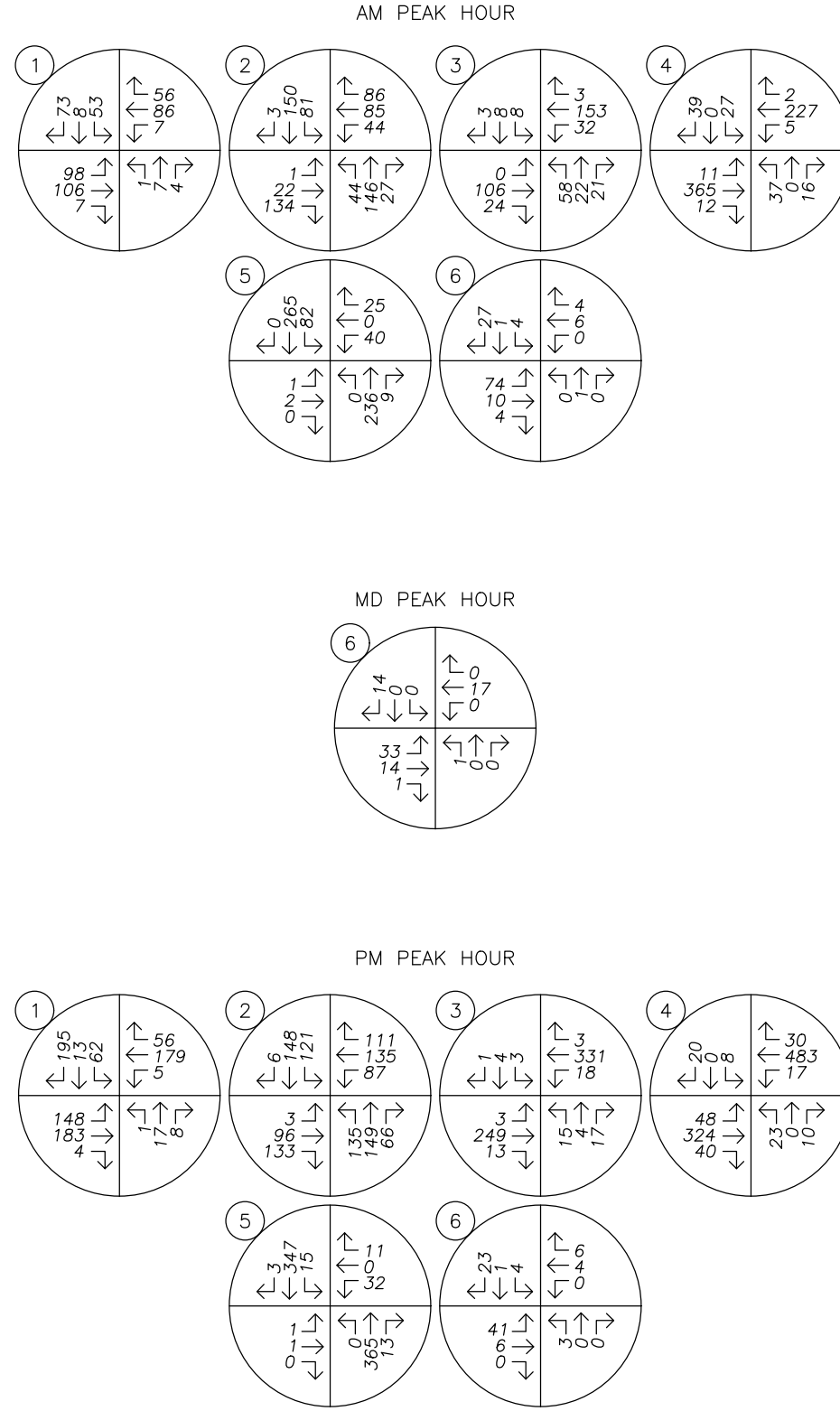
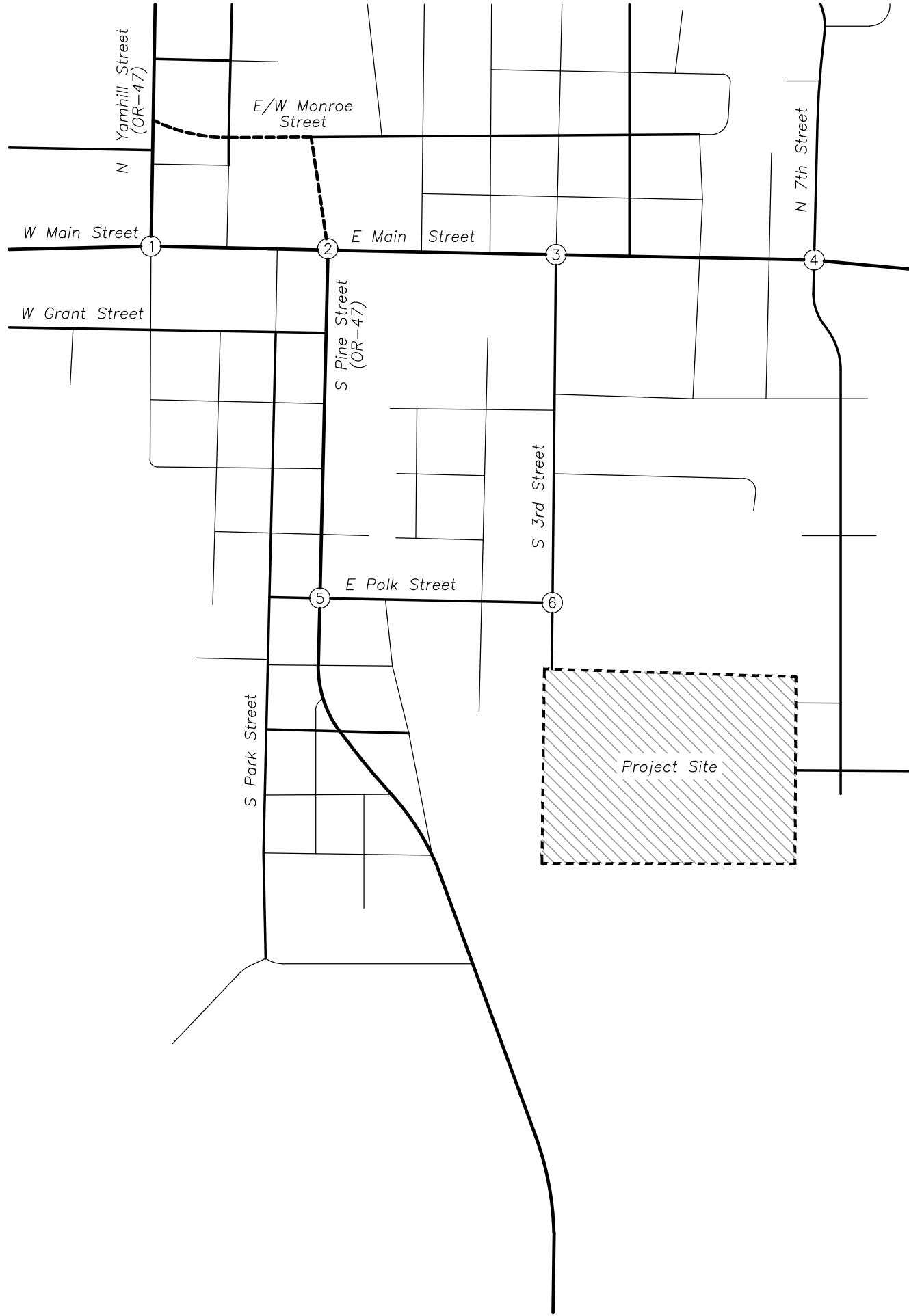
Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2025 background traffic volumes to obtain the expected 2025 site buildout year volumes.

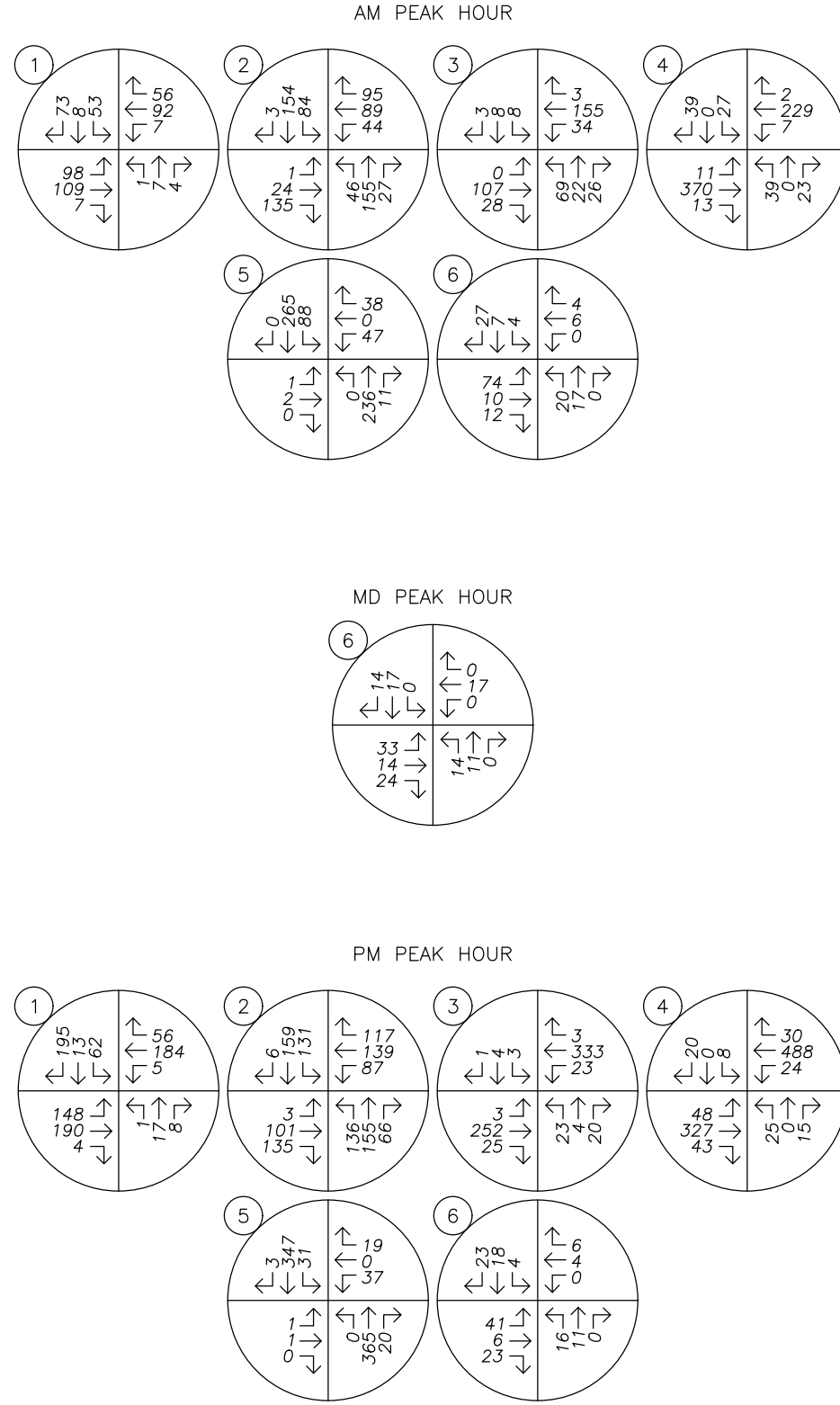
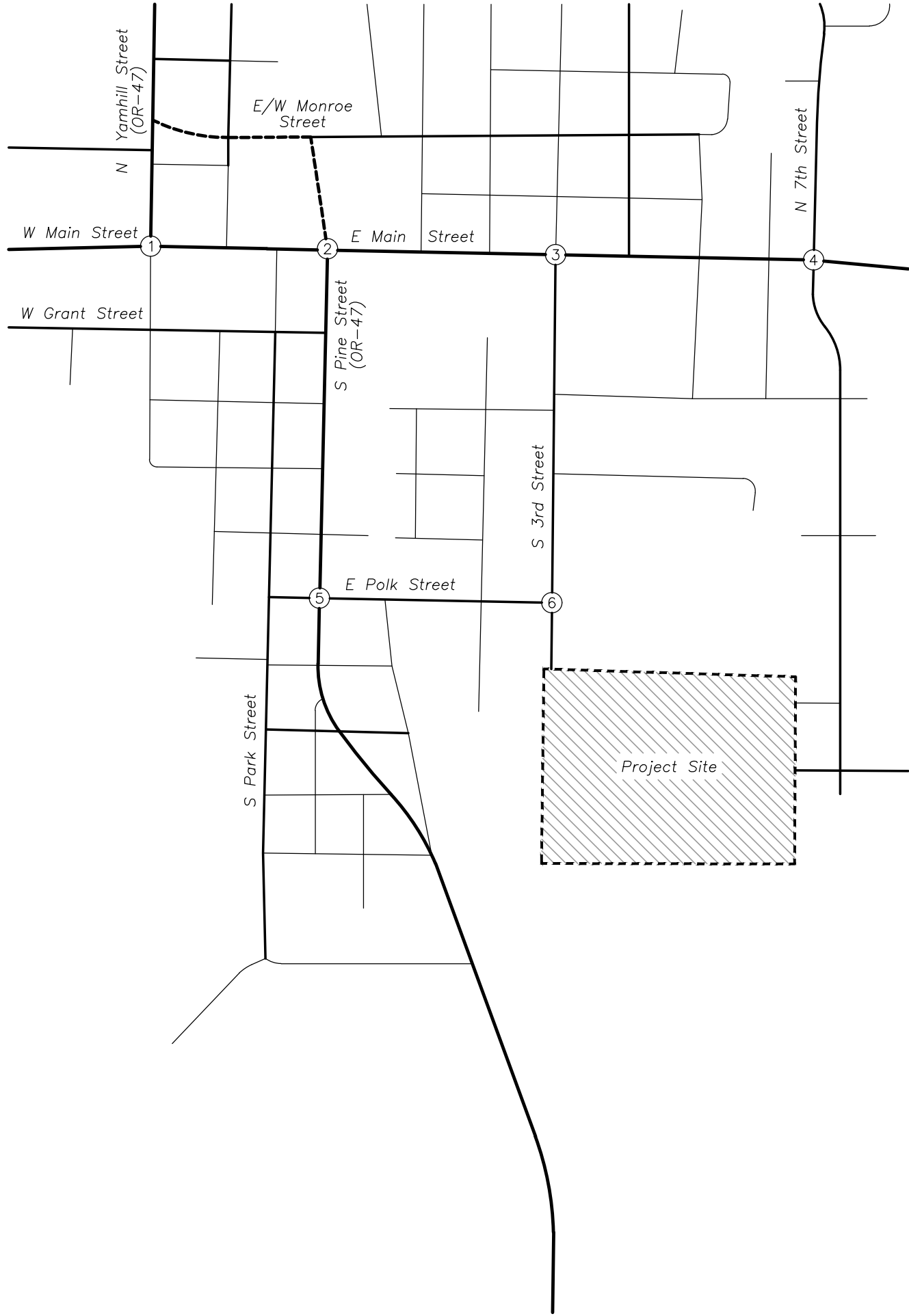
Figure 6 shows year 2025 site buildout year volumes at the study intersections during the morning, mid-day, and evening peak hours.



No Scale







Safety Analysis

Crash History Review

Using data obtained from ODOT's Crash Data System, a review of approximately five years of the most recent available crash history (January 2016 through December 2020) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection.

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

With regard to crash severity, ODOT classifies crashes into the following five categories:

- Property Damage Only (*PDO*);
- Possible Injury – Complaint of Pain (*Injury C*);
- Non-Incapacitating Injury (*Injury B*),
- Incapacitating Injury – Bleeding, Broken Bones (*Injury A*); and
- Fatality or Fatal Injury

The study intersections along OR-47 are ODOT facilities, which adhere to the crash analysis methodologies within ODOT's APM. According to *Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control* of the APM, intersections which experience crash rates in excess of their respective 90th percentile crash rates should be "flagged for further analysis". For four-legged, unsignalized intersections in urban settings (i.e. intersections within City limits), the 90th percentile rate is 0.408 CMEV for ODOT intersections.

Table 5 provides a summary of crash types while Table 6 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in the appendix to this report.

Table 5: Crash Type Summary

Number	Intersection	Crash Type						Total
		Rear End	Turn/ Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	N/S Yamhill Street at W Main Street	0	1	0	0	0	1	2
2	N/S Pine Street at E/W Main Street	0	4	0	0	0	0	4
3	N/S 3rd Street at E Main Street	0	0	0	0	0	0	0
4	N/S 7th Street at E Main Street	0	0	0	0	0	0	0
5	S Pine Street at E/W Polk Street	0	0	0	0	0	0	0
6	S 3rd Street at E Polk Street	0	0	0	0	0	0	0

Table 6: Crash Severity and Rate Summary

Number	Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
		PDO	C	B	A	Fatal	Unknown			
1	N/S Yamhill Street at W Main Street	2	0	0	0	0	0	2	12,520	0.09
2	N/S Pine Street at E/W Main Street	1	2	1	0	0	0	4	11,010	0.20
3	N/S 3rd Street at E Main Street	0	0	0	0	0	0	0	5,820	0.00
4	N/S 7th Street at E Main Street	0	0	0	0	0	0	0	8,860	0.00
5	S Pine Street at E/W Polk Street	0	0	0	0	0	0	0	7,880	0.00
6	S 3rd Street at E Polk Street	0	0	0	0	0	0	0	760	0.00

Based on the review of the available crash data, no significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the ODOT study intersections have a crash rate exceeding ODOT's 90th percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.

Warrant Analysis

Preliminary traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of a new traffic signal will be warranted at the intersections by the 2025 site buildout year. Based on the analysis, traffic signal warrants are projected to be met at the following study intersections:

1. N/S Yamhill Street at W Main Street under 2022 existing conditions. However, after the ODOT Main Street Bypass project is implemented, warrants are not projected to be met under year 2025 site buildout conditions.
2. N/S Pine Street at E/W Main Street under 2022 existing conditions. Additionally, warrants are met under year 2025 background conditions, without impacts from the proposed development, following implementation of the ODOT Main Street Bypass project.

For the intersection of N/S Yamhill Street at W Main Street where signal warrants aren't projected to be met with the bypass project implemented, all-way stop-control warrants were evaluated. To determine whether the installation of all-way stop-controls is warranted at the intersection, the *Manual of Uniform Traffic Control Devices for Streets and Highways*⁴ (MUTCD) was referenced. According to *Section 2B.07 Multi-Way Stop Applications* of the MUTCD, installation of a multi-way stop control may be implemented at an intersection given the following criteria are considered:

- A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
- B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
- C. *Minimum volumes:*
 1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
 2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
 3. *If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*

⁴ Federal Highway Administration (FHWA), American Traffic Safety Services Association (ATSSA), Institute of Transportation Engineers (ITE), American Association of State Highway and Transportation Officials (AASHTO), *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD), 2009 Edition, 2010.

- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values, Criterion C.3 is excluded from this condition.*

Reviewing the above, criterion C.1 is met under year 2025 background conditions, without impacts from the proposed development.

Although traffic signal warrants at the intersection of N/S Pine Street at E/W Main Street and all-way stop-control warrants at the intersection of N/S Yamhill Street at W Main Street are projected to be met under year 2025 conditions with ODOT's Main Street Bypass project implemented, revisions to traffic controls at these intersections are anticipated to occur as part of the ODOT project. Pending a more in-depth analysis by ODOT, such revisions may include alternative mitigation to meet City and ODOT operation standards, noting that the bypass project is expected to be completed by or near year 2025. Since the JR Meadows No. 3 Subdivision project is not expected to trigger the need for mitigation at these intersections (i.e. warrants will be met without project impacts), incorporating these changes to intersection traffic controls as part of the proposed subdivision application are not recommended.

No other traffic signals are projected to be warranted at the other study intersections under any analysis scenario.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*⁵. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay.

Performance Standards

The City of Carlton does not have an adopted performance standard for intersection operation. Generally, unsignalized intersections operating at LOS E are considered to be operating acceptably.

The study intersections along N Yamhill Street and S Pine Street operate under the jurisdiction of ODOT and must meet standards established in the *Oregon Highway Plan*. Based on the highway's classification, location, and posted speed, the following operation standards apply:

- For ODOT intersections along W Main Street, these intersections are located along/within a Special Transportation Area (STA). Since this segment of OR-47 is not classified as a Freight Route, these intersections are required to operate with a v/c ratio no greater than 1.00.
- With a posted speed of 30 mph along S Pine Street, the intersection of S Pine Street at E/W Polk Street is required to operate with a v/c ratio of 0.90 or less.
- With the Main Street Bypass project complete, jurisdiction of the N/S Yamhill Street at W Main Street intersection will be transferred over to the City of Carlton whereby the City's operation standards would be applicable.

ODOT Main Street Bypass Project

As part of ODOT's Main Street Bypass project, modifications to traffic controls at intersections directly impacted by the project will be evaluated by ODOT pending a future analysis of the surrounding area with the Main Street Bypass. The Main Street Bypass project is anticipated to be completed near 2025 with revisions to traffic controls in place. Although ODOT may find alternative mitigation preferable at these intersections, for the purposes of this analysis the following revisions to traffic controls were considered:

- N/S Yamhill Street at W Main Street: Convert the intersection to all-way stop-control.
- N/S Pine Street at E/W Main Street: Install a traffic signal at the intersection. Note that traffic signal warrants are projected to be met at the intersection with and without the Main Street Bypass project, and regardless of whether or not the proposed development is constructed.

⁵ Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

Regarding the above traffic control revisions, the existing single-lane approach configurations at the two study intersections were maintained.

Delay & Capacity Analysis

The operational and capacity analysis were conducted utilizing Trafficware's Synchro 10 software. However, the Synchro software does not provide an overall intersection v/c ratio for signalized intersections when utilizing HCM 6th Edition methodologies. Therefore, signalized intersection v/c ratios were calculated utilizing methodologies presented in ODOT's APM *Section 13 Signalized Intersection Analysis*.

The LOS, delay, and v/c ratio results of the capacity analysis are shown in Table 7 for the morning, mid-day, and evening peak hours. Specific to two-way stop-controlled intersections, the highest minor-street delay, LOS, and v/c ratio at the intersection was reported regardless of approach. For all-way stop-controlled intersections the overall LOS and delay was reported while the highest approach v/c ratio was reported. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 7: Intersection Capacity Analysis Summary

	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. N/S Yamhill Street at W Main Street						
2022 Existing Conditions	D	34	0.68	F	>120	>1.00
2025 Background Conditions*	A	10	0.34	B	13	0.56
2025 Buildout Conditions*	A	10	0.35	B	14	0.57
2. N/S Pine Street at E/W Main Street						
2022 Existing Conditions	C	18	0.46	F	79	0.98
2025 Background Conditions*	A	7	0.42	A	8	0.55
2025 Buildout Conditions*	A	7	0.44	A	8	0.57
3. N/S 3rd Street at E Main Street						
2022 Existing Conditions	B	13	0.24	B	14	0.07
2025 Background Conditions	B	15	0.28	B	15	0.08
2025 Buildout Conditions	C	16	0.32	C	15	0.12
4. N/S 7th Street at E Main Street						
2022 Existing Conditions	B	14	0.13	C	19	0.07
2025 Background Conditions	C	16	0.16	C	23	0.15
2025 Buildout Conditions	C	16	0.18	C	23	0.18

Table Notes: **BOLDED** text indicates intersection operation above jurisdictional standards.

* Traffic controls revised as part of the ODOT Main Street Bypass project.

Table 7: Intersection Capacity Analysis Summary (Continued)

	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
5. S Pine Street at E/W Polk Street						
2022 Existing Conditions	C	17	0.15	C	19	0.14
2025 Background Conditions	C	17	0.19	C	20	0.17
2025 Buildout Conditions	C	18	0.24	C	21	0.23
6. S 3rd Street at E Polk Street						
2022 Existing Conditions	A	8	0.18	A	7	0.06
2025 Background Conditions	A	8	0.19	A	7	0.07
2025 Buildout Conditions	A	9	0.22	A	7	0.10
6. S 3rd Street at E Polk Street (MD Peak Hour)						
2022 Existing Conditions	A	8	0.07			
2025 Background Conditions	A	8	0.09			
2025 Buildout Conditions	A	8	0.12			

Table Notes: **BOLDED** text indicates intersection operation above jurisdictional standards.

Provided the ODOT's Main Street Bypass project includes modifications to traffic controls at intersections impacted by the planned Main Street Bypass project, all study intersections are projected to operate acceptably per their respective jurisdictional standards through the 2025 site buildout year. Accordingly, no other capacity related mitigation beyond the implementation of the Main Street Bypass project is necessary or recommended as part of the JR Meadows No. 3 Subdivision application.

Elementary School Impacts

Yamhill Carlton Elementary School Trip Generation

In response to comments received by the City of Carlton, an evaluation of trip generation associated with the nearby Yamhill Carlton Elementary School was conducted. To estimate the number of vehicle and pedestrian trips that are generated by the elementary school, trip rates from the *Trip Generation Manual* were used. Data from land use code 520, *Elementary School*, was used to estimate the school's trip generation based on the number of students. To determine student enrollment at the school, enrollment numbers were retrieved from the *National Center for Education Statistics*⁶ (NCES), the primary federal entity for collecting and analyzing data related to education in the United States. According to NCES, during the 2021-2022 school year the elementary school enrolled a total of 264 students.

⁶ [Search for Public Schools - Yamhill Carlton Elementary School \(410001601266\) \(ed.gov\)](#)

Utilizing the ITE and NCES data, Yamhill Carlton Elementary School is estimated to generate 195 morning peak hour vehicle trips, 118 afternoon peak hour vehicle trips, 42 evening peak hour vehicle trips, and 600 average weekday vehicle trips. With regard to pedestrian trip generation, the school is estimated to generate 29 pedestrians near the morning bell time and 34 pedestrian trips during the afternoon bell time of the school. The trip generation estimates are summarized in Table 8. Detailed trip generation calculations are included in the technical appendix.

Table 8: Elementary School Trip Generation Summary

ITE Code	Size/ Rate	AM Peak Hour			MD Peak Hour			PM Peak Hour			Weekday Total	
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total		
Vehicle Trip Generation												
520	Elementary School	264 students	105	90	195	54	64	118	19	23	42	600
Pedestrian Trip Generation												
520	Elementary School	264 students	-	-	29	-	-	34	-	-	-	-

Table Notes: Morning, Afternoon/Mid-Day, and Evening denoted as AM, MD, and PM, respectively.

S 3rd Street at E Polk Street Analysis

Based on the above trip generation estimates, area roadways and intersections near the school and project site are expected experience high vehicular traffic use; however, this high level of traffic is expected to occur near/during the morning and afternoon school bell times. Often these high levels of traffic will only occur within a 15 to 30-minute period of a school day prior to and after these bell times. Of specific concern, the intersection of S 3rd Street at E Polk Street is expected to experience impacts from both the school and the proposed development.

At the request of the City's transportation consultant additional analysis was conducted at the intersection of S 3rd Street at E Polk Street, inclusive of a mid-day peak hour analysis to capture operation during the nearby elementary school's afternoon bell time. Per the operational analysis and with the JR Meadows No. 3 Subdivision constructed, the intersection is projected to operate at LOS A for all analysis scenarios including those occurring during the morning and afternoon school bell times. As described in the *Crash History Review* section, there were no reported crashes at the intersection over the most recent five years of available crash data.

With regard to pedestrian travel at the intersection, on days when the elementary school was in session, 1 pedestrian was counted crossing the east intersection leg (i.e. the driveway offset to the north), and 12 pedestrians were counted crossing the south intersection leg between the hours of 7:00 AM and 9:00 AM (two-hour period). Between 2:00 PM to 6:00 PM (four-hour period), which includes the afternoon bell time of the nearby elementary school, 4 pedestrians had crossed the south intersection leg and 2 pedestrians crossed the north intersection leg. According to the *Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4C.06 Warrant 5, School Crossing*, the installation of a traffic signal at an intersection may be considered if adequate vehicular gaps to cross the intersection are unavailable and if a minimum of 20 school children cross during the

highest hour of traffic. Assuming all pedestrians crossing were school children, all pedestrians were to cross at a single intersection crosswalk, and all the crossing pedestrians during the morning counts and afternoon/evening counts each occurred during a single morning peak hour and single afternoon/evening peak hour, the minimum pedestrian threshold for requiring a traffic signal to accommodate school children would not be met. Since the intersection operates at LOS A, adequate gaps in traffic for pedestrians crossing the intersection are expected to be available.

Based on a review of operation, safety, and crossing pedestrians, the intersection of S 3rd Street at E Polk Street is expected to operate efficiently and safely through the 2025 site buildout year, inclusive of periods during the morning and afternoon bell times of Yamhill Carlton Elementary School and with the nearby S 2nd Street Subdivision also constructed. Regardless, pedestrian improvements will be implemented to the nearby transportation system as part of the JR Meadows No. 3 Subdivision project. A minimum 20-foot paved roadway with a sidewalk and bicycle lane on the east side will be constructed on S 3rd Street to provide vehicle and pedestrian access between the development and the intersection of S 3rd Street at E Polk Street. No other mitigation at the intersection is necessary or recommended.



Conclusions

- No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. Accordingly, no safety mitigation is recommended per the crash data analysis.
- Traffic signal warrants are projected to be met at the following study intersections:
 - N/S Yamhill Street at W Main Street – Under existing conditions, but not under 2025 conditions with the planned ODOT Main Street Bypass project.
 - N/S Pine Street at E/W Main Street – Under existing conditions and year 2025 conditions with the planned ODOT Main Street Bypass project.

For the intersection of N/S Yamhill Street at W Main Street under year 2025 conditions with the bypass project, all-way stop-control warrants are projected to be met at the intersection.

As part of the Main Street Bypass project, revisions to traffic controls at these intersections (inclusive of traffic signals or all-way stop-controls if deemed necessary) are anticipated pending a more in-depth analysis by ODOT. Therefore, the installation of traffic signals, all-way stop-controls, or other traffic control mitigation, as part of the JR Meadows No. 3 Subdivision project are not necessary or recommended. No other traffic signals are projected to be warranted at the other study intersections under any analysis scenario.

- Based on a review of operation, safety, and crossing pedestrians, the intersection of S 3rd Street at E Polk Street is expected to operate efficiently and safely through the 2025 site buildout year, inclusive of periods during the morning and afternoon bell times of Yamhill Carlton Elementary School and with the nearby S 2nd Street Subdivision also constructed. Regardless, pedestrian improvements will be implemented to the nearby transportation system as part of the JR Meadows No. 3 Subdivision project. A minimum 20-foot paved roadway with a sidewalk and bicycle lane on the east side will be constructed on S 3rd Street to provide vehicle and pedestrian access between the development and the intersection of S 3rd Street at E Polk Street. No other mitigation at the intersection is necessary or recommended.
- All study intersections are projected to operate acceptably per their respective jurisdictional standards through the 2025 site buildout year, provided ODOT's Main Street Bypass project includes modifications to traffic controls at intersections directly impacted by the planned project.

Appendix A

Site Plan



EASEMENT LEGEND

- PUE PUBLIC UTILITY EASEMENT
- SWE SIDEWALK EASEMENT
- PWE PUBLIC WATER EASEMENT

NOTES:

1. THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS IS NOT AN OFFICIAL RECORDED FINAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES. ALL DIMENSIONS ARE SUBJECT TO CHANGE.
2. TRACT A IS INTENDED EITHER BE OWNED AND MAINTAINED BY A HOMEOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON.

RESIDENTIAL-MEDIUM DENSITY (R-2) DEVELOPMENT STANDARDS:

- LOT DIMENSIONS
- MIN. SINGLE FAMILY (NON-COMMON WALL) LOT SIZE - 6,000 SQ FT
 - ATTACHED (TOWNHOME) LOT SIZE - 2,400 SQ FT, 4,000 SQ FT CORNER LOT
 - MIN. LOT WIDTH AT BUILDING LINE - 24', 40' CORNER LOT

- MIN. SETBACKS:
- FRONT - 15 FT, 10 FT UNCOVERED/UNENCLOSED PORCHES
 - GARAGE - 20 FT
 - SIDE YARD - 3 FT, 0 FT FOR ADJOINING ATTACHED (TOWNHOME) UNITS
 - STREET SIDE YARD - 10 FT
 - REAR YARD - 15 FT

- LOT COVERAGE:
- MAX. LOT COVERAGE BY BUILDINGS: 50% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 60% WHERE BUILDING IS 20' OR LESS IN HEIGHT
 - MAX. LOT COVERAGE BY IMPERVIOUS SURFACE (NOT INCLUDING BUILDING): 30%
 - COMBINED MAX. LOT COVERAGE: 80% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 85% WHERE ALL BUILDINGS ON SITE ARE 20' OR LESS IN HEIGHT

- DENSITY:
- AVERAGE DENSITY OF 10 DWELLING UNITS (DU) PER ACRE OR LESS

DENSITY CALCULATIONS:

GROSS SITE AREA = ±16.0 ACRES

DENSITY = GROSS ACRES * DU/GROSS ACRE
DU/GROSS ACRE = 10

DENSITY = ±16.0 AC * 10 DU/GROSS ACRE
= 160 UNITS

MAXIMUM DENSITY PERMITTED = 160 UNITS

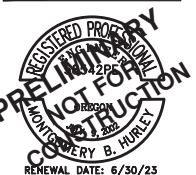
ACHIEVED DENSITY = 101 UNITS / ±16.0 ACRES
= 6.3 DU/GROSS ACRE

SITE AREA FOR FUTURE SINGLE-FAMILY ATTACHED HOMES
= ±110,925 SQ FT = ±2.5 ACRES

PRELIMINARY SUBDIVISION PLAT WITH FUTURE BUILDING SETBACKS

JR MEADOWS NO. 3

CARLTON, OREGON



RENEWAL DATE: 6/30/23

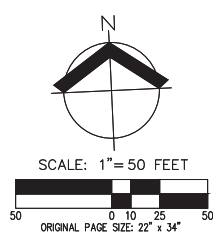
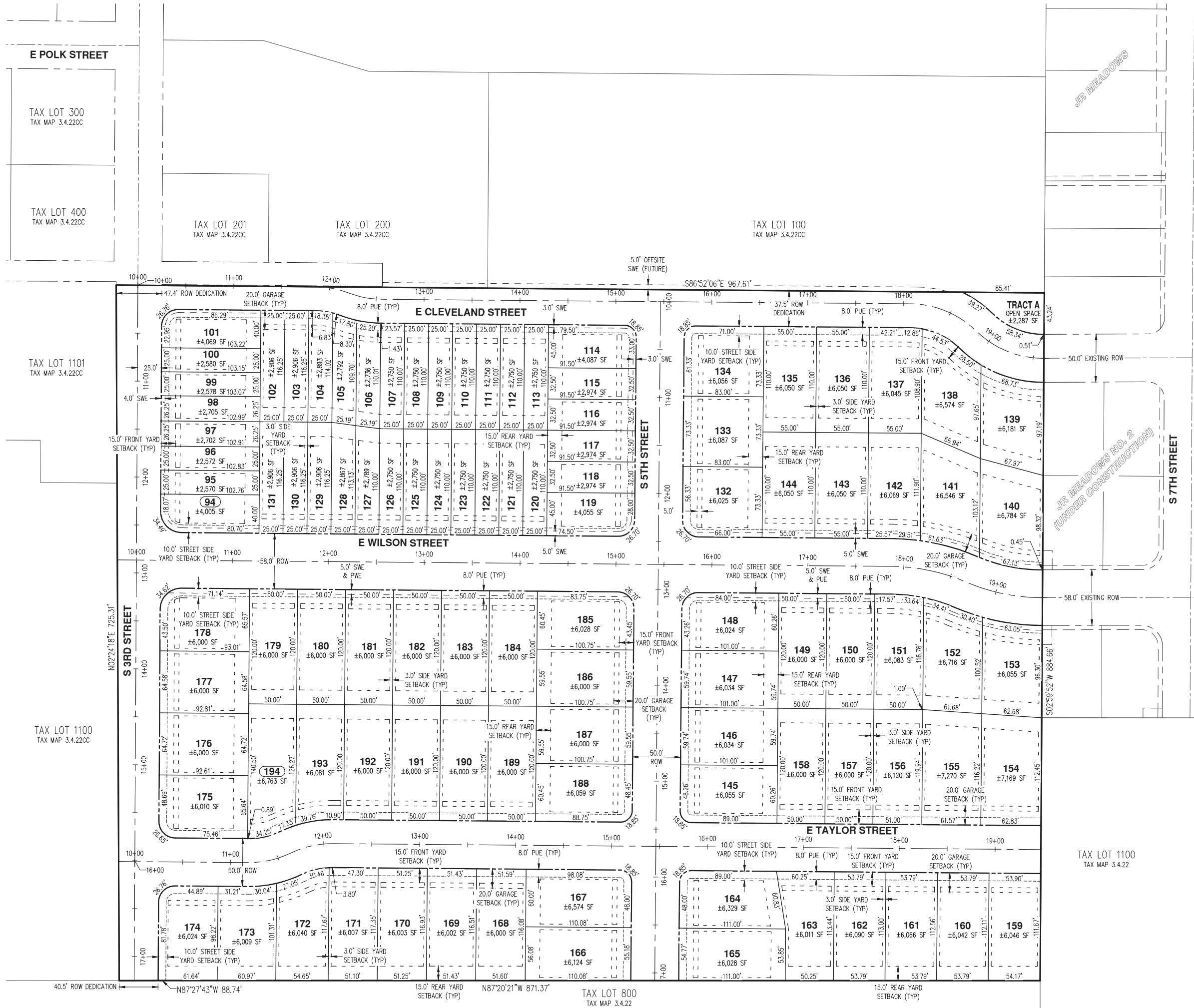
JOB NUMBER: 8632

DATE: 11/28/2022

DESIGNED BY: NRA

DRAWN BY: NRA

CHECKED BY: CMS



Appendix B

Trip Generation Calculations



TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Detached Housing
Land Use Code: 210
Land Use Subcategory: All Sites
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Variable Quantity: **63**

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	26%	74%	
Trip Ends	11	33	44

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	37	22	59

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	297	297	594

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	299	299	598



TRIP GENERATION CALCULATIONS
 Source: Trip Generation Manual, 11th Edition

Land Use: Single-Family Attached Housing
 Land Use Code: 215
 Land Use Subcategory: All Sites
 Setting/Location: General Urban/Suburban
 Variable: Dwelling Units
 Trip Type: Vehicle
 Variable Quantity: **38**

AM PEAK HOUR

Trip Rate: 0.48

	Enter	Exit	Total
Directional Split	31%	69%	
Trip Ends	6	12	18

PM PEAK HOUR

Trip Rate: 0.57

	Enter	Exit	Total
Directional Split	57%	43%	
Trip Ends	13	9	22

WEEKDAY

Trip Rate: 7.2

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	137	137	274

SATURDAY

Trip Rate: 8.76

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	166	166	332



TRIP GENERATION CALCULATIONS
 Source: Trip Generation Manual, 11th Edition

Land Use: Elementary School
 Land Use Code: 520
 Land Use Subcategory: All Sites
 Setting/Location: General Urban/Suburban
 Variable: Students
 Trip Type: Vehicle
 Variable Quantity: **264**

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Split	54%	46%	
Trip Ends	105	90	195

PM PEAK HOUR

Trip Rate: 0.16

	Enter	Exit	Total
Directional Split	46%	54%	
Trip Ends	19	23	42

WEEKDAY

Trip Rate: 2.27

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	300	300	600

AFTERNOON PEAK HOUR

Trip Rate: 0.45

	Enter	Exit	Total
Directional Split	46%	54%	
Trip Ends	54	64	118

Elementary School (520)

Walk Trip Ends vs: Students

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 8

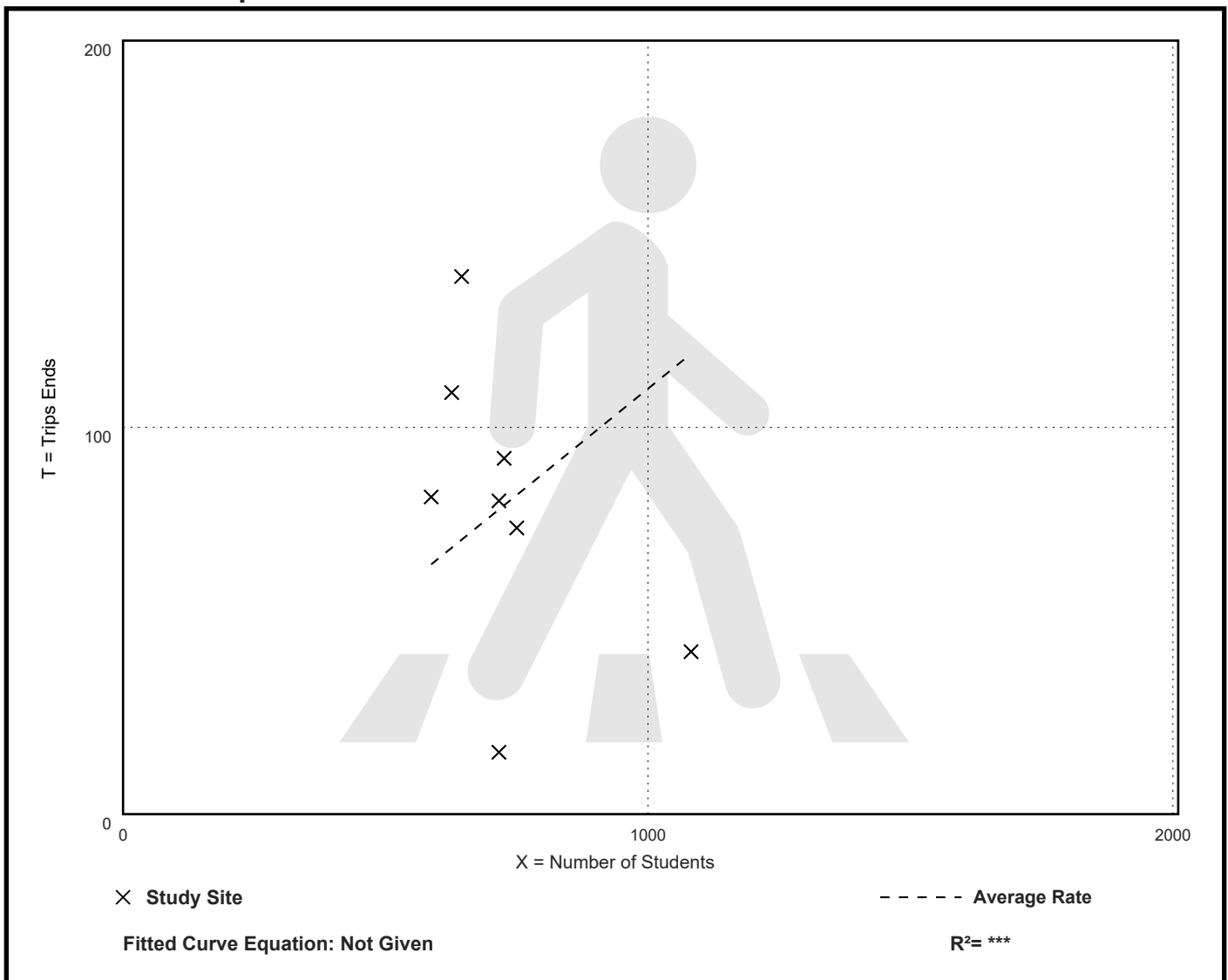
Avg. Num. of Students: 731

Directional Distribution: Not Available

Walk Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.11	0.02 - 0.22	0.06

Data Plot and Equation



Elementary School (520)

Walk Trip Ends vs: Students

On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 6

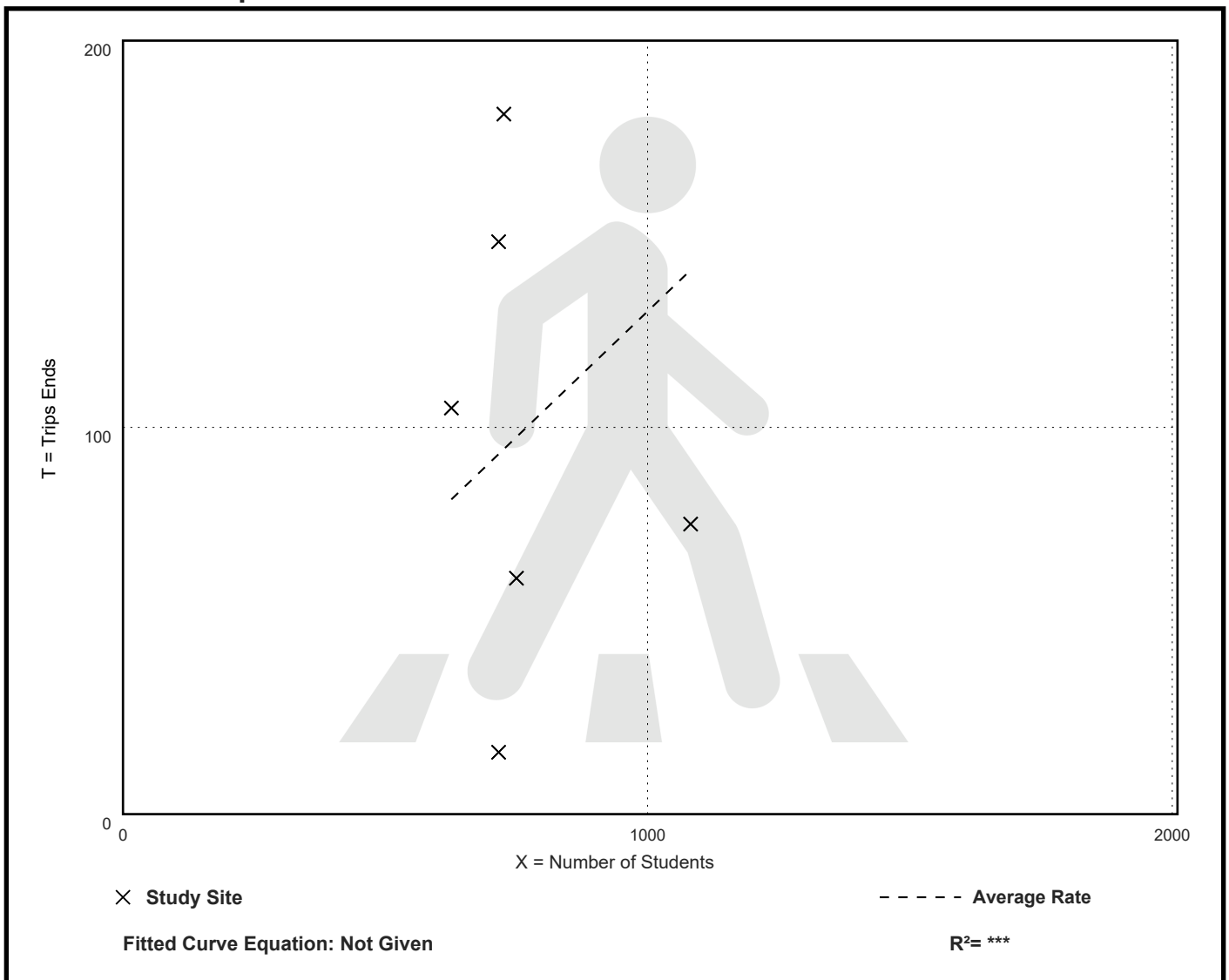
Avg. Num. of Students: 769

Directional Distribution: Not Available

Walk Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.13	0.02 - 0.25	0.09

Data Plot and Equation



Appendix C

Traffic Counts

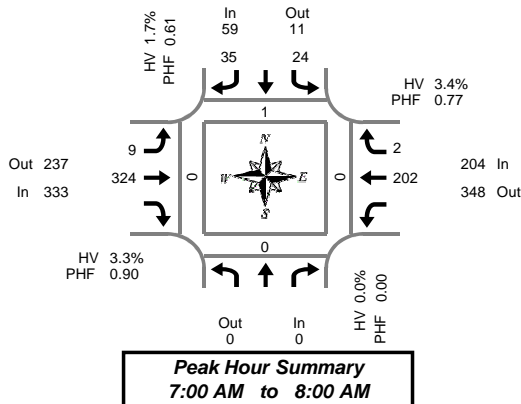
Figure A: In-Process Development Trips

Figure B: Reroute Volumes

Total Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

**5-Minute Interval Summary
7:00 AM to 9:00 AM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes	North		South	East	West	
7:00 AM	0	3	3	0	4	0	0	0	29	0	0	10	0	0	46	1	0	0	0	
7:05 AM	0	3	3	0	5	0	0	0	28	0	0	10	0	0	46	0	0	0	0	
7:10 AM	0	7	7	0	2	0	0	0	23	0	0	10	0	0	42	0	0	0	0	
7:15 AM	0	2	2	0	4	0	1	1	29	0	0	13	0	0	49	0	0	0	0	
7:20 AM	0	1	1	0	1	0	1	2	22	0	0	14	0	0	39	0	0	0	0	
7:25 AM	0	1	1	0	4	0	0	0	23	0	0	17	1	0	46	0	0	0	0	
7:30 AM	0	2	2	0	4	0	0	0	30	0	0	21	1	0	58	0	0	0	0	
7:35 AM	0	0	0	0	1	0	0	0	28	0	0	25	0	1	54	0	0	0	0	
7:40 AM	0	0	0	0	4	0	3	3	31	0	0	16	0	0	54	0	0	0	0	
7:45 AM	0	2	2	0	3	0	0	0	27	0	0	24	0	0	56	0	0	0	0	
7:50 AM	0	1	1	0	2	0	1	2	21	0	0	25	0	0	50	0	0	0	0	
7:55 AM	0	2	2	0	1	0	3	3	33	0	0	17	0	0	56	0	0	0	0	
8:00 AM	0	0	0	0	3	0	1	2	23	0	0	16	0	0	43	0	0	0	0	
8:05 AM	0	0	0	0	2	0	2	2	23	0	0	8	0	0	35	1	0	0	0	
8:10 AM	0	1	1	0	2	0	0	0	20	0	0	9	1	0	33	1	0	0	0	
8:15 AM	0	1	1	0	1	0	2	2	28	0	0	5	0	0	37	0	0	0	0	
8:20 AM	0	2	2	0	2	0	0	0	23	0	0	14	0	0	41	0	0	0	0	
8:25 AM	0	1	1	0	4	0	0	0	23	0	0	16	0	0	44	0	0	0	0	
8:30 AM	0	1	1	0	2	0	0	0	18	0	0	16	1	0	38	0	0	0	0	
8:35 AM	0	1	1	0	1	0	2	3	30	0	0	9	0	0	43	1	0	0	0	
8:40 AM	0	1	1	0	1	0	1	2	24	0	0	9	1	0	37	0	0	0	0	
8:45 AM	0	0	0	0	2	0	2	1	15	0	0	8	0	0	27	0	0	0	0	
8:50 AM	0	2	2	0	1	0	2	1	13	0	0	9	0	0	27	0	0	0	0	
8:55 AM	0	2	2	0	2	0	0	0	18	0	0	13	1	0	36	0	0	0	0	
Total Survey	0	0	0	0	36	58	0	21	582	0	0	334	6	1	1,037	4	0	0	0	

**15-Minute Interval Summary
7:00 AM to 9:00 AM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes	North		South	East	West	
7:00 AM	0	13	13	0	11	0	0	0	80	0	0	30	0	0	134	1	0	0	0	
7:15 AM	0	4	4	0	9	0	2	7	74	0	0	44	1	0	134	0	0	0	0	
7:30 AM	0	2	2	0	9	0	3	8	89	0	0	62	1	1	166	0	0	0	0	
7:45 AM	0	5	5	0	6	0	4	8	81	0	0	66	0	0	162	0	0	0	0	
8:00 AM	0	1	1	0	7	0	3	6	66	0	0	33	1	0	111	2	0	0	0	
8:15 AM	0	4	4	0	7	0	2	7	74	0	0	35	0	0	122	0	0	0	0	
8:30 AM	0	3	3	0	4	0	3	7	72	0	0	34	2	0	118	1	0	0	0	
8:45 AM	0	4	4	0	5	0	4	4	46	0	0	30	1	0	90	0	0	0	0	
Total Survey	0	36	36	0	58	58	0	21	582	0	0	334	6	1	1,037	4	0	0	0	

**Peak Hour Summary
7:00 AM to 8:00 AM**

By Approach	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St				Westbound E Main St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	59	11	70	0	333	237	570	0	204	348	552	1	596	1	0	0	0
%HV	0.0%				1.7%				3.3%				3.4%				3.2%				
PHF	0.00				0.61				0.90				0.77				0.90				

By Movement	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St				Westbound E Main St				Total			
	Total	L	R	Total	L	T	Total	L	T	Total	T	R	Total	Total						
Volume	0	24	35	59	9	324	333	202	2	204	596	2	204	596						
%HV	NA	NA	NA	0.0%	0.0%	NA	2.9%	1.7%	0.0%	3.4%	NA	3.3%	NA	3.0%	50.0%	3.4%	3.2%			
PHF		0.00	0.46	0.80	0.61	0.56	0.91	0.90		0.77	0.25	0.77		0.90						

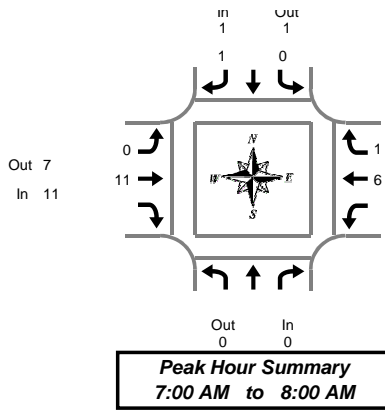
**Rolling Hour Summary
7:00 AM to 9:00 AM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Bikes	T	R	Bikes	North		South	East	West	
7:00 AM	0	24	24	0	35	0	9	324	0	0	0	202	2	1	596	1	0	0	0	
7:15 AM	0	12	12	0	31	0	12	310	0	0	0	205	3	1	573	2	0	0	0	
7:30 AM	0	12	12	0	29	0	12	310	0	0	0	196	2	1	561	2	0	0	0	
7:45 AM	0	13	13	0	24	0	12	293	0	0	0	168	3	0	513	3	0	0	0	
8:00 AM	0	12	12	0	23	0	12	258	0	0	0	132	4	0	441	3	0	0	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	0	0	0	0	0	0	1	0	1	1
7:05 AM			0	0	0	0	0	0	2	2	0	0	0	2
7:10 AM			0	0	0	0	0	0	2	2	1	0	1	3
7:15 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:20 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:25 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM			0	0	0	0	0	0	0	0	0	1	1	1
7:35 AM			0	0	0	0	0	2	2	2	1	0	1	3
7:40 AM			0	0	1	1	0	0	0	0	1	0	1	2
7:45 AM			0	0	0	0	0	1	1	1	2	0	2	3
7:50 AM			0	0	0	0	0	1	1	1	0	0	0	1
7:55 AM			0	0	0	0	0	3	3	3	0	0	0	3
8:00 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:10 AM			0	0	0	0	0	0	0	0	1	0	1	1
8:15 AM			0	0	0	0	0	2	2	2	1	0	1	3
8:20 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:25 AM			0	0	0	0	0	1	1	1	0	0	0	1
8:30 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM			0	0	1	1	0	2	2	2	1	0	1	4
8:40 AM			0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM			0	0	0	0	1	0	1	1	2	0	2	3
8:50 AM			0	0	0	0	0	1	1	1	2	0	2	3
8:55 AM			0	0	0	0	0	3	3	3	1	0	1	4
Total Survey			0	0	2	2	1	22	23	23	14	1	15	40

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	0	0	0	4	4	4	2	0	2	6
7:15 AM			0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM			0	0	1	1	0	2	2	2	2	1	3	6
7:45 AM			0	0	0	0	0	5	5	5	2	0	2	7
8:00 AM			0	0	0	0	0	1	1	1	1	0	1	2
8:15 AM			0	0	0	0	0	4	4	4	1	0	1	5
8:30 AM			0	0	1	1	0	2	2	2	1	0	1	4
8:45 AM			0	0	0	0	1	4	5	5	5	0	5	10
Total Survey			0	0	2	2	1	22	23	23	14	1	15	40

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	1	2	11	7	18	7	11	18	19
PHF	0.00			0.25			0.55			0.44			0.59

By Movement	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
Volume			0	0	1	1	0	11	11		6	1	7	19
PHF			0.00	0.00	0.25	0.25	0.00	0.55	0.55		0.38	0.25	0.44	0.59

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total	
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total		
7:00 AM			0	0	1	1	0	11	11	11	6	1	7	19
7:15 AM			0	0	1	1	0	8	8	8	5	1	6	15
7:30 AM			0	0	1	1	0	12	12	12	6	1	7	20
7:45 AM			0	0	1	1	0	12	12	12	5	0	5	18
8:00 AM			0	0	1	1	1	11	12	12	8	0	8	21

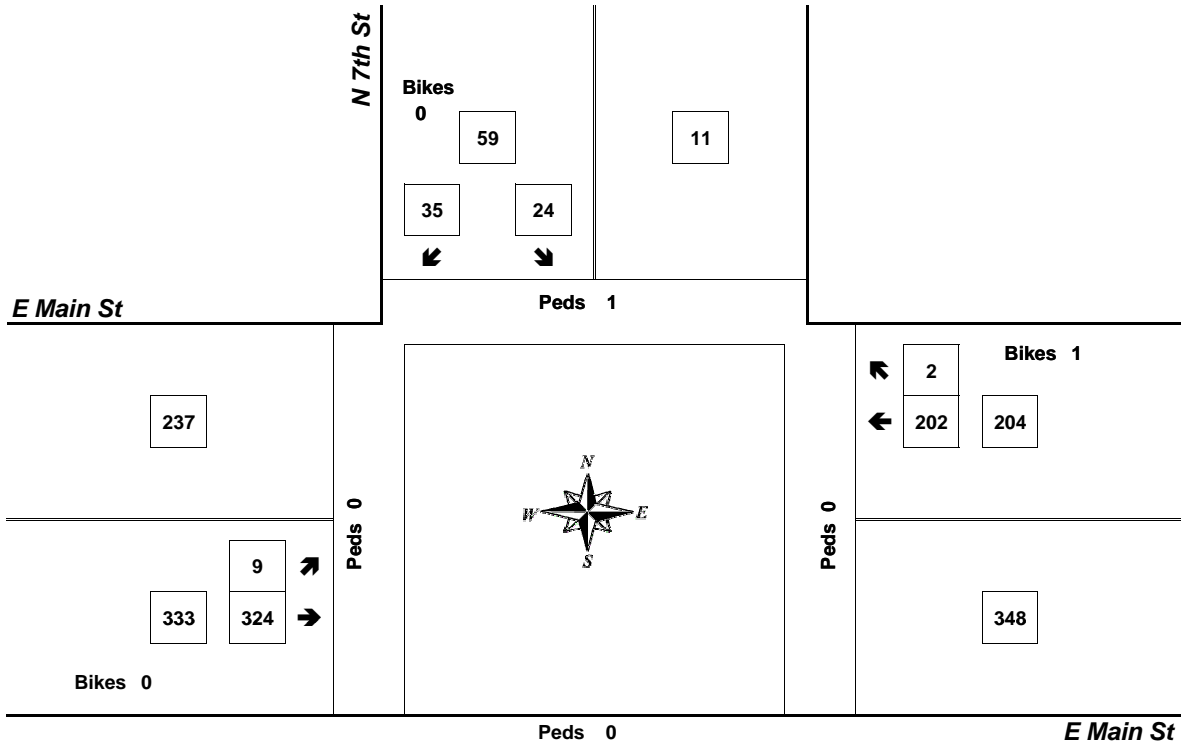
Peak Hour Summary



Clay Carney
(503) 833-2740

N 7th St & E Main St

7:00 AM to 8:00 AM
Tuesday, May 14, 2019



Bikes
0

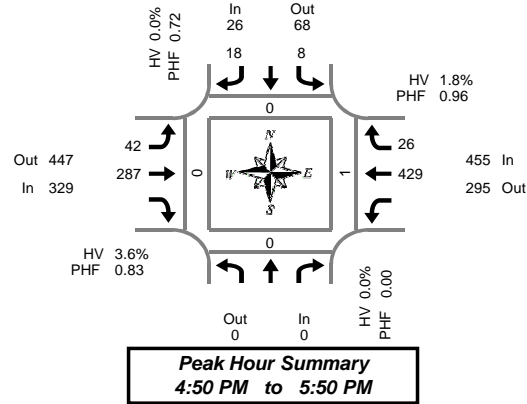
Approach	PHF	HV%	Volume
EB	0.90	3.3%	333
WB	0.77	3.4%	204
NB	0.00	0.0%	0
SB	0.61	1.7%	59
Intersection	0.90	3.2%	596

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

**5-Minute Interval Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Total	Bikes	T	R		Total	North	South	East
4:00 PM				0	0	2	0	2	17	0	21	1	0	43	0	0	0	0	
4:05 PM				0	2	2	0	3	23	0	26	3	0	59	0	0	0	0	
4:10 PM				0	1	2	0	1	18	0	34	3	0	59	0	0	0	0	
4:15 PM				0	1	1	0	1	28	0	31	3	0	65	0	0	0	0	
4:20 PM				0	0	1	0	1	19	0	41	2	0	64	0	0	0	0	
4:25 PM				0	0	0	0	1	25	0	49	1	0	76	0	0	0	0	
4:30 PM				0	0	2	0	3	25	0	20	0	0	50	0	0	0	0	
4:35 PM				0	1	2	0	4	21	0	30	3	0	61	0	0	0	0	
4:40 PM				0	1	1	0	3	25	0	30	2	0	62	0	0	0	0	
4:45 PM				0	0	2	0	0	28	0	27	2	0	59	0	0	0	0	
4:50 PM				0	0	0	0	2	24	0	32	1	0	59	0	0	0	0	
4:55 PM				0	0	0	0	4	29	0	41	3	0	77	0	0	0	0	
5:00 PM				0	1	3	0	4	24	0	36	4	0	72	0	0	0	0	
5:05 PM				0	1	2	0	3	14	0	32	1	0	53	0	0	0	0	
5:10 PM				0	1	1	0	3	25	0	37	0	0	67	0	0	0	0	
5:15 PM				0	1	2	0	4	25	0	36	0	0	68	0	0	0	0	
5:20 PM				0	0	1	0	8	17	0	42	2	0	70	0	0	0	0	
5:25 PM				0	0	4	0	1	27	0	29	2	0	63	0	0	0	0	
5:30 PM				0	0	1	0	5	27	0	37	2	0	72	0	0	0	0	
5:35 PM				0	1	1	0	4	35	0	34	2	0	77	0	0	1	0	
5:40 PM				0	1	0	0	2	21	1	40	4	4	68	0	0	0	0	
5:45 PM				0	2	3	0	2	19	0	33	5	0	64	0	0	0	0	
5:50 PM				0	0	3	0	2	33	0	16	4	0	58	0	0	0	0	
5:55 PM				0	1	2	0	0	20	0	22	2	0	47	0	0	0	0	
Total Survey				0	15	38	0	63	569	1	776	52	0	1,513	0	0	1	0	

**15-Minute Interval Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Total	Bikes	T	R		Total	North	South	East
4:00 PM				0	3	6	0	6	58	0	81	7	0	161	0	0	0	0	
4:15 PM				0	1	2	0	3	72	0	121	6	0	205	0	0	0	0	
4:30 PM				0	2	5	0	10	71	0	80	5	0	173	0	0	0	0	
4:45 PM				0	0	2	0	6	81	0	100	6	0	195	0	0	0	0	
5:00 PM				0	3	6	0	10	63	0	105	5	0	192	0	0	0	0	
5:15 PM				0	1	7	0	13	69	0	107	4	0	201	0	0	0	0	
5:30 PM				0	2	2	0	11	83	1	111	8	0	217	0	0	1	0	
5:45 PM				0	3	8	0	4	72	0	71	11	0	169	0	0	0	0	
Total Survey				0	15	38	0	63	569	1	776	52	0	1,513	0	0	1	0	

**Peak Hour Summary
4:50 PM to 5:50 PM**

By Approach	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Total	Pedestrians Crosswalk					
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out		Total	North	South	East	West	
Volume	0	0	0	0	26	68	94	0	329	447	776	1	455	295	750	0	810	0	0	1	0
%HV	0.0%				0.0%				3.6%			1.8%			2.5%						
PHF	0.00				0.72				0.83			0.96			0.93						

By Movement	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Total		
			Total	Bikes	L	R	Total	Bikes	L	T	Total	Bikes	T	R		Total	
Volume			0	0	8	18	26	0	42	287	329	0	429	26	455		
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	4.2%	NA	3.6%	NA	1.6%	3.8%	1.8%	2.5%
PHF			0.00	0.50	0.64	0.72	0.70	0.81	0.83	0.93	0.59	0.96	0.93	0.59	0.96		

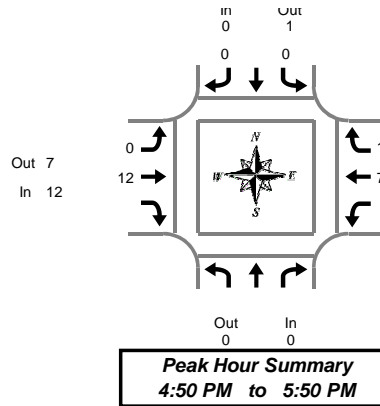
**Rolling Hour Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound N 7th St				Southbound N 7th St				Eastbound E Main St			Westbound E Main St			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Total	Bikes	L	T	Total	Bikes	T	R		Total	North	South	East
4:00 PM				0	6	15	0	25	282	0	382	24	0	734	0	0	0	0	
4:15 PM				0	6	15	0	29	287	0	406	22	0	765	0	0	0	0	
4:30 PM				0	6	20	0	39	284	0	392	20	0	761	0	0	0	0	
4:45 PM				0	6	17	0	40	296	1	423	23	0	805	0	0	1	0	
5:00 PM				0	9	23	0	38	287	1	394	28	0	779	0	0	1	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



N 7th St & E Main St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:10 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:20 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	2	2	2	1	0	1	3
4:35 PM	0	1	1	0	1	1	0	0	0	3	0	3	4
4:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:55 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	2	2	2	2	0	2	4
5:05 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:10 PM	0	0	0	0	0	0	2	2	2	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:25 PM	0	0	0	0	0	0	2	2	2	0	0	0	2
5:30 PM	0	0	0	0	0	0	1	1	1	1	0	1	2
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	2	2	2	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	2
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:55 PM	0	0	0	0	0	0	1	1	1	0	0	0	1
Total Survey	0	1	1	0	1	1	0	16	16	24	1	25	42

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:15 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
4:30 PM	0	1	1	0	1	1	2	2	2	5	0	5	8
4:45 PM	0	0	0	0	0	0	2	2	2	1	0	1	3
5:00 PM	0	0	0	0	0	0	5	5	5	3	0	3	8
5:15 PM	0	0	0	0	0	0	3	3	3	1	0	1	4
5:30 PM	0	0	0	0	0	0	3	3	3	1	0	1	4
5:45 PM	0	0	0	0	0	0	1	1	1	2	1	3	4
Total Survey	0	1	1	0	1	1	0	16	16	24	1	25	42

Heavy Vehicle Peak Hour Summary 4:50 PM to 5:50 PM

By Approach	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	1	1	12	7	19	8	12	20	20
PHF	0.00			0.00			0.60			0.67			0.63

By Movement	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
Volume	0	0	0	0	0	0	0	12	12	7	1	8	20
PHF	0.00	0.00		0.00	0.00		0.00	0.60	0.60	0.58	0.25	0.67	0.63

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound N 7th St			Southbound N 7th St			Eastbound E Main St			Westbound E Main St			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	1	1	0	1	1	0	4	4	17	0	17	22
4:15 PM	0	1	1	0	1	1	0	9	9	16	0	16	26
4:30 PM	0	1	1	0	1	1	0	12	12	10	0	10	23
4:45 PM	0	0	0	0	0	0	0	13	13	6	0	6	19
5:00 PM	0	0	0	0	0	0	0	12	12	7	1	8	20

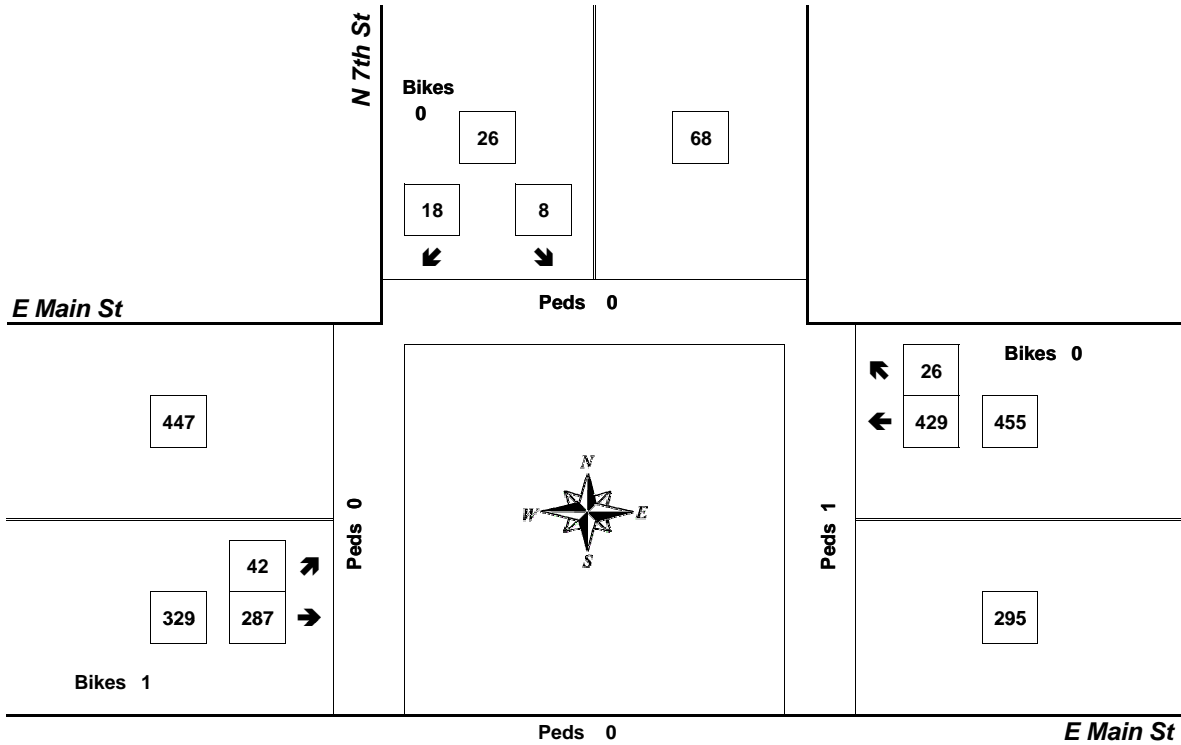
Peak Hour Summary



Clay Carney
(503) 833-2740

N 7th St & E Main St

4:50 PM to 5:50 PM
Tuesday, May 14, 2019



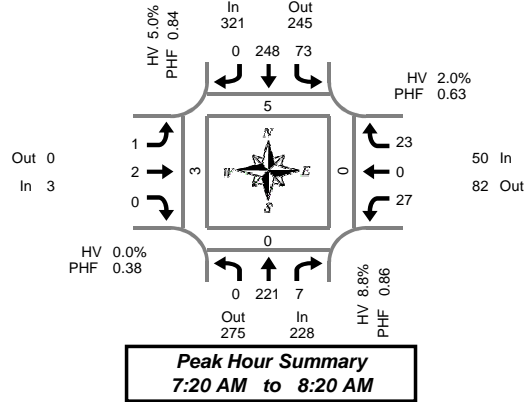
Approach	PHF	HV%	Volume
EB	0.83	3.6%	329
WB	0.96	1.8%	455
NB	0.00	0.0%	0
SB	0.72	0.0%	26
Intersection	0.93	2.5%	810

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk						
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West			
7:00 AM	0	21	1	0	0	11	0	0	0	0	0	0	0	0	0	1	0	0	0	34	1	0	0	1
7:05 AM	0	12	0	0	0	14	0	0	0	2	0	0	0	0	0	1	0	0	0	29	0	0	0	0
7:10 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	
7:15 AM	0	15	0	0	2	18	0	0	0	0	0	0	2	0	1	0	0	0	38	1	0	0	0	
7:20 AM	0	18	0	0	3	22	0	0	0	0	0	0	2	0	1	0	0	0	46	2	0	0	2	
7:25 AM	0	14	1	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	32	2	0	0	1	
7:30 AM	0	28	0	0	5	18	0	0	0	0	0	0	3	0	2	0	0	0	56	0	0	0	0	
7:35 AM	0	14	1	0	5	31	0	0	0	0	0	0	2	0	0	0	0	0	53	0	0	0	0	
7:40 AM	0	23	0	0	7	22	0	0	0	0	0	0	1	0	2	0	0	0	55	0	0	0	0	
7:45 AM	0	25	1	0	7	24	0	0	0	1	0	0	3	0	1	0	0	0	62	1	0	0	0	
7:50 AM	0	9	2	0	6	23	0	0	0	1	0	0	2	0	3	0	0	0	46	0	0	0	0	
7:55 AM	0	24	1	0	4	18	0	0	0	0	0	0	3	0	0	0	0	0	50	0	0	0	0	
8:00 AM	0	11	0	0	13	13	0	0	1	0	0	0	2	0	5	0	0	0	45	0	0	0	0	
8:05 AM	0	17	0	0	10	23	0	0	0	0	0	0	0	0	4	0	0	0	54	0	0	0	0	
8:10 AM	0	12	1	0	8	20	0	0	0	0	0	0	6	0	3	0	0	0	50	0	0	0	0	
8:15 AM	0	26	0	0	4	18	0	0	0	0	0	0	3	0	2	0	0	0	53	0	0	0	0	
8:20 AM	0	16	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	
8:25 AM	0	14	0	0	0	19	0	0	0	0	0	0	0	0	1	0	0	0	34	0	0	0	0	
8:30 AM	0	21	0	0	0	8	0	0	0	0	0	0	1	0	0	0	0	0	30	0	0	0	0	
8:35 AM	0	21	0	0	0	25	0	0	0	0	0	0	2	0	0	0	0	0	48	0	0	0	0	
8:40 AM	0	17	0	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	
8:45 AM	0	13	0	0	1	20	0	0	0	0	0	0	1	0	1	0	0	0	36	0	0	0	0	
8:50 AM	0	13	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	
8:55 AM	0	24	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	
Total Survey	0	424	8	0	77	436	0	0	1	4	0	0	33	0	28	0	0	0	1,011	7	0	0	4	

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk					
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West		
7:00 AM	0	49	1	0	0	34	0	0	0	2	0	0	0	0	2	0	0	0	88	1	0	0	1
7:15 AM	0	47	1	0	6	56	0	0	0	0	0	0	4	0	2	0	0	0	116	5	0	0	3
7:30 AM	0	65	1	0	17	71	0	0	0	0	0	0	6	0	4	0	0	0	164	0	0	0	0
7:45 AM	0	58	4	0	17	65	0	0	0	2	0	0	8	0	4	0	0	0	158	1	0	0	0
8:00 AM	0	40	1	0	31	56	0	0	1	0	0	0	8	0	12	0	0	0	149	0	0	0	0
8:15 AM	0	56	0	0	4	48	0	0	0	0	0	0	3	0	3	0	0	0	114	0	0	0	0
8:30 AM	0	59	0	0	1	49	0	0	0	0	0	0	3	0	0	0	0	0	112	0	0	0	0
8:45 AM	0	50	0	0	1	57	0	0	0	0	0	0	1	0	1	0	0	0	110	0	0	0	0
Total Survey	0	424	8	0	77	436	0	0	1	4	0	0	33	0	28	0	0	0	1,011	7	0	0	4

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	228	275	503	0	321	245	566	0	3	0	3	0	50	82	132	0	602	5	0	0	3
%HV	8.8%				5.0%				0.0%				2.0%				6.1%				
PHF	0.86				0.84				0.38				0.63				0.89				

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	221	7	228	73	248	0	321	1	2	0	3	27	0	23	50	602
%HV	0.0%	8.1%	28.6%	8.8%	11.0%	3.2%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%	2.0%	6.1%
PHF	0.00	0.85	0.44	0.86	0.59	0.81	0.00	0.84	0.25	0.25	0.00	0.38	0.75	0.00	0.48	0.63	0.89

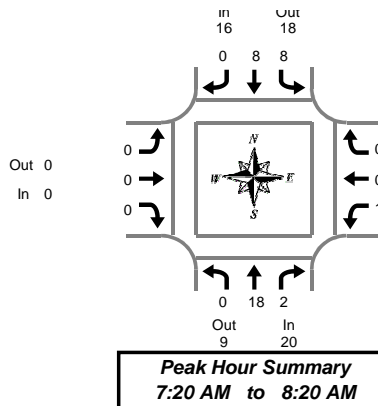
Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
7:00 AM	0	219	7	0	40	226	0	0	0	4	0	0	18	0	12	0	0	526	7	0	0	4
7:15 AM	0	210	7	0	71	248	0	0	1	2	0	0	26	0	22	0	0	587	6	0	0	3
7:30 AM	0	219	6	0	69	240	0	0	1	2	0	0	25	0	23	0	0	585	1	0	0	0
7:45 AM	0	213	5	0	53	218	0	0	1	2	0	0	22	0	19	0	0	533	1	0	0	0
8:00 AM	0	205	1	0	37	210	0	0	1	0	0	0	15	0	16	0	0	485	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	4
7:05 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
7:10 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	0	5
7:20 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:25 AM	0	1	1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
7:35 AM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	3
7:40 AM	0	3	0	3	1	1	0	2	0	0	0	0	0	0	0	0	0	5
7:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	2
7:50 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
7:55 AM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	2	0	2	2	0	0	2	0	0	0	0	0	0	0	0	0	4
8:05 AM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	0	3
8:10 AM	0	1	0	1	0	2	0	2	0	0	0	0	1	0	0	1	4	
8:15 AM	0	5	0	5	0	1	0	1	0	0	0	0	0	0	0	0	0	6
8:20 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:25 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3	
8:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:35 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	0	4
8:40 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	2	0	2	0	6	0	6	0	0	0	0	0	0	0	0	0	8
8:50 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	2
8:55 AM	0	6	0	6	0	1	0	1	0	0	0	0	0	0	0	0	0	7
Total Survey	0	47	2	49	8	22	0	30	0	1	0	1	1	0	1	2	82	

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
7:00 AM	0	8	0	8	0	1	0	1	0	1	0	1	0	0	0	0	0	10
7:15 AM	0	5	1	6	0	3	0	3	0	0	0	0	0	0	0	0	0	9
7:30 AM	0	5	0	5	3	1	0	4	0	0	0	0	0	0	0	0	0	9
7:45 AM	0	2	1	3	2	2	0	4	0	0	0	0	0	0	0	0	0	7
8:00 AM	0	4	0	4	3	3	0	6	0	0	0	0	1	0	0	1	11	
8:15 AM	0	9	0	9	0	1	0	1	0	0	0	0	0	0	1	1	11	
8:30 AM	0	6	0	6	0	2	0	2	0	0	0	0	0	0	0	0	0	8
8:45 AM	0	8	0	8	0	9	0	9	0	0	0	0	0	0	0	0	0	17
Total Survey	0	47	2	49	8	22	0	30	0	1	0	1	1	0	1	2	82	

Heavy Vehicle Peak Hour Summary 7:20 AM to 8:20 AM

By Approach	Northbound S Pine St			Southbound S Pine St			Eastbound W Polk St			Westbound W Polk St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	20	9	29	16	18	34	0	0	0	1	10	11	37
PHF	0.71			0.67			0.00			0.25			0.71

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	18	2	20	8	8	0	16	0	0	0	0	1	0	0	1	37
PHF	0.00	0.64	0.50	0.71	0.50	0.50	0.00	0.67	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.71

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	20	2	22	5	7	0	12	0	1	0	1	0	0	0	0	35
7:15 AM	0	16	2	18	8	9	0	17	0	0	0	0	1	0	0	1	36
7:30 AM	0	20	1	21	8	7	0	15	0	0	0	0	1	0	1	2	38
7:45 AM	0	21	1	22	5	8	0	13	0	0	0	0	1	0	1	2	37
8:00 AM	0	27	0	27	3	15	0	18	0	0	0	0	1	0	1	2	47

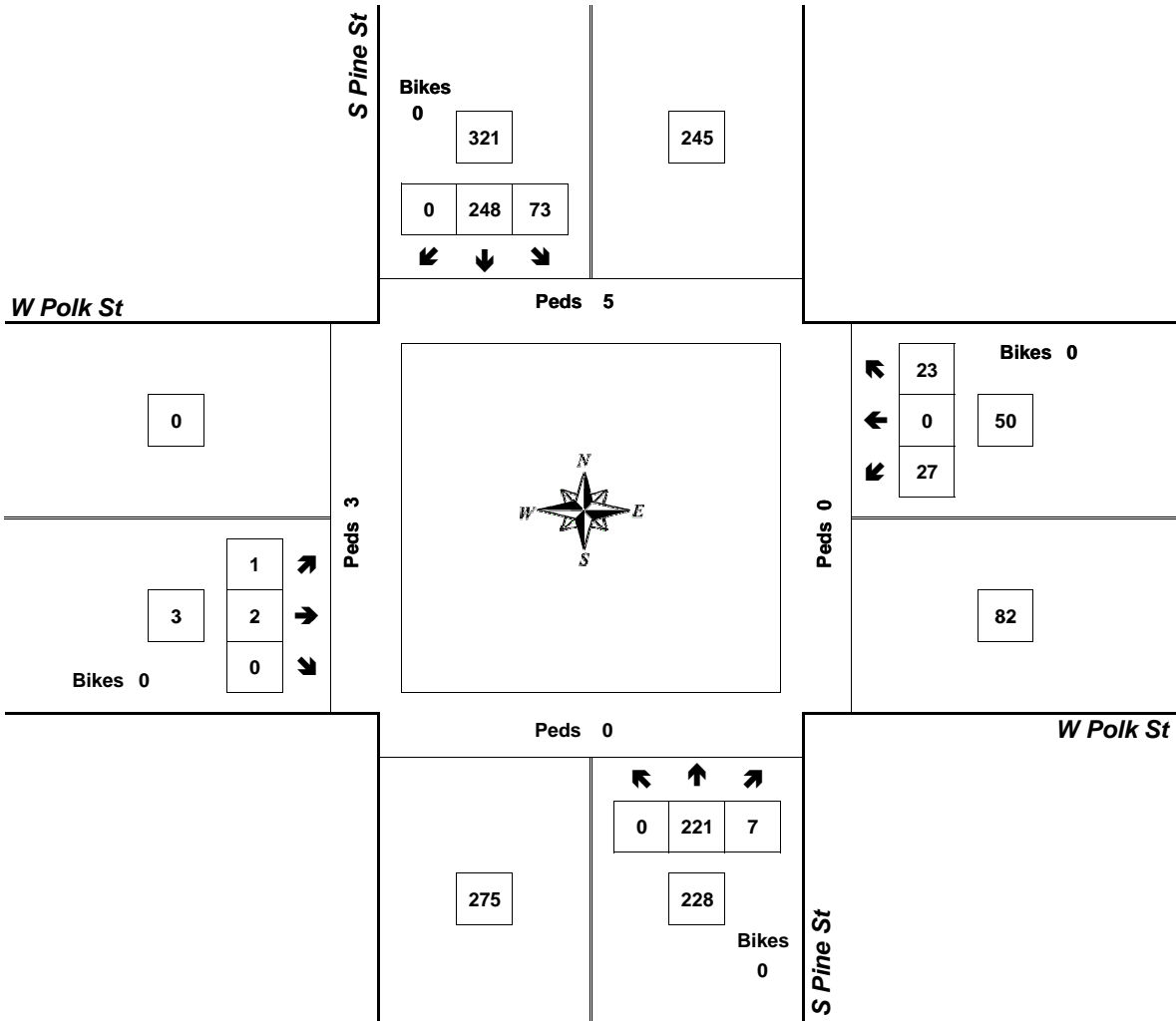
Peak Hour Summary



Clay Carney
(503) 833-2740

S Pine St & W Polk St

7:20 AM to 8:20 AM
Tuesday, May 14, 2019



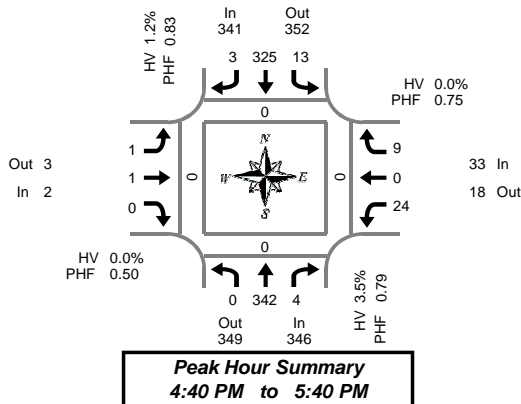
Approach	PHF	HV%	Volume
EB	0.38	0.0%	3
WB	0.63	2.0%	50
NB	0.86	8.8%	228
SB	0.84	5.0%	321
Intersection	0.89	6.1%	602

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



S Pine St & W Polk St

Tuesday, May 14, 2019
4:00 PM to 6:00 PM

**5-Minute Interval Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	23	1	0	0	22	0	0	0	0	0	0	1	0	1	0	48	0	0	0	0
4:05 PM	0	16	0	0	1	16	0	0	0	0	0	0	0	1	2	0	36	0	0	0	0
4:10 PM	0	20	0	0	0	32	0	0	0	1	0	0	1	0	2	0	56	0	0	0	0
4:15 PM	0	24	0	0	1	23	0	0	0	0	0	0	0	0	1	0	49	0	0	0	0
4:20 PM	0	35	0	0	0	22	0	0	0	0	0	0	1	0	1	0	59	0	0	0	0
4:25 PM	0	26	0	0	0	24	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
4:30 PM	0	31	0	0	4	30	0	0	0	0	0	0	3	0	1	0	69	0	0	0	0
4:35 PM	0	25	0	0	1	22	2	0	1	0	0	0	1	0	0	0	52	0	0	0	0
4:40 PM	0	30	0	0	0	32	0	0	0	0	0	0	2	0	1	0	65	0	0	0	0
4:45 PM	0	23	0	0	0	28	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0
4:50 PM	0	20	0	0	2	26	0	0	0	0	0	0	2	0	0	0	50	0	0	0	0
4:55 PM	0	33	0	0	0	29	0	0	0	0	0	0	4	0	1	0	67	0	0	0	0
5:00 PM	0	18	0	0	1	40	2	0	0	1	0	0	1	0	0	0	63	0	0	0	0
5:05 PM	0	26	3	0	0	16	0	0	0	0	0	0	3	0	1	0	49	0	0	0	0
5:10 PM	0	31	1	0	4	20	0	0	0	0	0	0	1	0	1	0	58	0	0	0	0
5:15 PM	0	22	0	0	1	17	0	0	0	0	0	0	3	0	0	0	43	0	0	0	0
5:20 PM	0	30	0	0	1	26	0	0	0	0	0	0	1	0	1	0	59	0	0	0	0
5:25 PM	0	34	0	0	0	36	0	0	0	0	0	0	3	0	1	0	74	0	0	0	0
5:30 PM	0	37	0	0	3	36	1	0	1	0	0	0	2	0	2	0	82	0	0	0	0
5:35 PM	0	38	0	0	1	19	0	0	0	0	0	0	2	0	1	0	61	0	0	0	0
5:40 PM	0	25	0	0	1	34	0	0	0	0	0	0	1	0	0	0	61	0	0	0	0
5:45 PM	0	24	0	0	2	18	0	0	0	0	0	0	1	0	1	0	46	0	0	0	0
5:50 PM	0	26	0	0	2	22	0	0	0	0	0	0	1	1	0	0	52	0	0	0	0
5:55 PM	1	28	0	0	1	14	0	0	0	0	0	0	2	0	1	0	47	0	0	0	0
Total Survey	1	645	5	0	26	604	5	0	2	2	0	0	36	2	19	0	1,347	0	0	0	0

**15-Minute Interval Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	59	1	0	1	70	0	0	0	1	0	0	2	1	5	0	140	0	0	0	0
4:15 PM	0	85	0	0	1	69	0	0	0	0	0	0	1	0	2	0	158	0	0	0	0
4:30 PM	0	86	0	0	5	84	2	0	1	0	0	0	6	0	2	0	186	0	0	0	0
4:45 PM	0	76	0	0	2	83	0	0	0	0	0	0	6	0	1	0	168	0	0	0	0
5:00 PM	0	75	4	0	5	76	2	0	0	1	0	0	5	0	2	0	170	0	0	0	0
5:15 PM	0	86	0	0	2	79	0	0	0	0	0	0	7	0	2	0	176	0	0	0	0
5:30 PM	0	100	0	0	5	89	1	0	1	0	0	0	5	0	3	0	204	0	0	0	0
5:45 PM	1	78	0	0	5	54	0	0	0	0	0	0	4	1	2	0	145	0	0	0	0
Total Survey	1	645	5	0	26	604	5	0	2	2	0	0	36	2	19	0	1,347	0	0	0	0

**Peak Hour Summary
4:40 PM to 5:40 PM**

By Approach	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	346	349	695	0	341	352	693	0	2	3	5	0	33	18	51	0	722	0	0	0	0
%HV	3.5%				1.2%				0.0%				0.0%				2.2%				
PHF	0.79				0.83				0.50				0.75				0.83				

By Movement	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	342	4	346	13	325	3	341	1	1	0	2	24	0	9	33	722
%HV	0.0%	3.2%	25.0%	3.5%	0.0%	1.2%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%
PHF	0.00	0.78	0.25	0.79	0.54	0.83	0.38	0.83	0.25	0.25	0.00	0.50	0.75	0.00	0.56	0.75	0.83

**Rolling Hour Summary
4:00 PM to 6:00 PM**

Interval Start Time	Northbound S Pine St				Southbound S Pine St				Eastbound W Polk St				Westbound W Polk St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	306	1	0	9	306	2	0	1	1	0	0	15	1	10	0	652	0	0	0	0
4:15 PM	0	322	4	0	13	312	4	0	1	1	0	0	18	0	7	0	682	0	0	0	0
4:30 PM	0	323	4	0	14	322	4	0	1	1	0	0	24	0	7	0	700	0	0	0	0
4:45 PM	0	337	4	0	14	327	3	0	1	1	0	0	23	0	8	0	718	0	0	0	0
5:00 PM	1	339	4	0	17	298	3	0	1	1	0	0	21	1	9	0	695	0	0	0	0

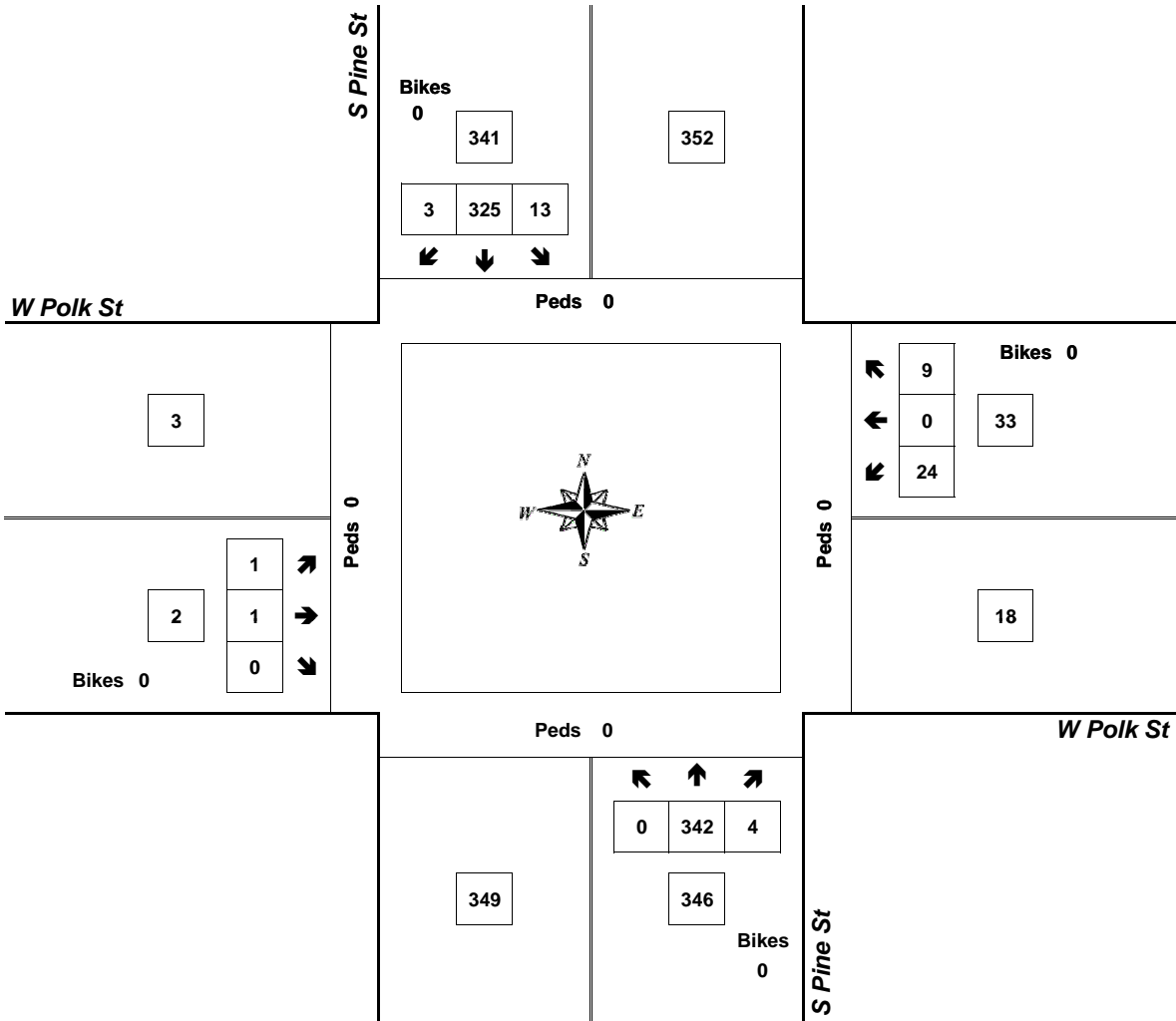
Peak Hour Summary



Clay Carney
(503) 833-2740

S Pine St & W Polk St

4:40 PM to 5:40 PM
Tuesday, May 14, 2019



Approach	PHF	HV%	Volume
EB	0.50	0.0%	2
WB	0.75	0.0%	33
NB	0.79	3.5%	346
SB	0.83	1.2%	341
Intersection	0.83	2.2%	722

Count Period: 4:00 PM to 6:00 PM



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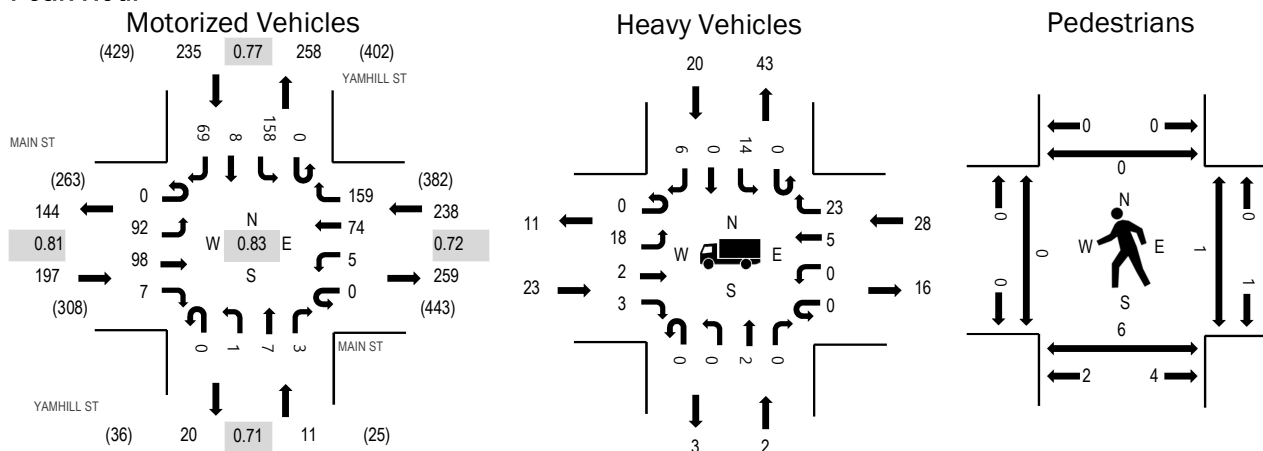
Location: 1 YAMHILL ST & MAIN ST AM

Date: Tuesday, June 7, 2022

Peak Hour: 07:10 AM - 08:10 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	11.7%	0.81
WB	11.8%	0.72
NB	18.2%	0.71
SB	8.5%	0.77
All	10.7%	0.83

Traffic Counts - Motorized Vehicles

Interval Start Time	MAIN ST Eastbound				MAIN ST Westbound				YAMHILL ST Northbound				YAMHILL ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	4	3	0	0	0	3	3	0	0	0	0	0	9	0	3	25	625
7:05 AM	0	6	6	0	0	0	4	14	0	0	1	1	0	10	0	4	46	661
7:10 AM	0	7	5	0	0	1	9	4	0	0	1	1	0	11	0	5	44	681
7:15 AM	0	16	6	0	0	1	5	4	0	0	0	0	0	11	1	3	47	676
7:20 AM	0	8	6	2	0	0	1	11	0	1	0	0	0	9	0	5	43	664
7:25 AM	0	7	4	1	0	0	1	7	0	0	0	0	0	8	1	2	31	656
7:30 AM	0	6	6	0	0	1	6	16	0	0	0	1	0	11	0	7	54	664
7:35 AM	0	11	13	1	0	2	10	10	0	0	0	0	0	13	1	5	66	652
7:40 AM	0	11	9	0	0	0	6	14	0	0	1	0	0	19	0	5	65	620
7:45 AM	0	5	11	0	0	0	4	19	0	0	0	0	0	12	2	8	61	600
7:50 AM	0	2	12	1	0	0	5	17	0	0	0	0	0	25	1	6	69	594
7:55 AM	0	5	10	0	0	0	13	25	0	0	2	0	0	10	1	8	74	559
8:00 AM	0	3	11	1	0	0	8	17	0	0	2	0	0	11	0	8	61	519
8:05 AM	0	11	5	1	0	0	6	15	0	0	1	1	0	18	1	7	66	
8:10 AM	0	2	2	0	0	2	6	5	0	0	2	0	0	14	1	5	39	
8:15 AM	0	5	7	0	0	1	5	7	0	0	0	0	0	6	0	4	35	
8:20 AM	0	3	1	0	0	0	9	7	0	1	0	1	0	8	1	4	35	
8:25 AM	0	8	7	0	0	0	2	4	0	0	1	0	0	10	1	6	39	
8:30 AM	0	4	5	0	0	2	3	6	0	0	0	3	0	12	1	6	42	
8:35 AM	0	5	3	0	0	0	4	8	0	0	1	0	0	11	0	2	34	
8:40 AM	0	4	6	0	0	1	3	10	0	0	0	0	0	13	1	7	45	
8:45 AM	0	3	9	0	0	1	6	8	0	0	2	0	0	12	0	14	55	
8:50 AM	0	3	8	0	0	2	6	1	0	0	0	0	0	10	0	4	34	
8:55 AM	0	7	0	0	0	0	2	9	0	0	1	0	0	7	2	6	34	
Count Total	0	146	155	7	0	14	127	241	0	2	15	8	0	280	15	134	1,144	
Peak Hour	0	92	98	7	0	5	74	159	0	1	7	3	0	158	8	69	681	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

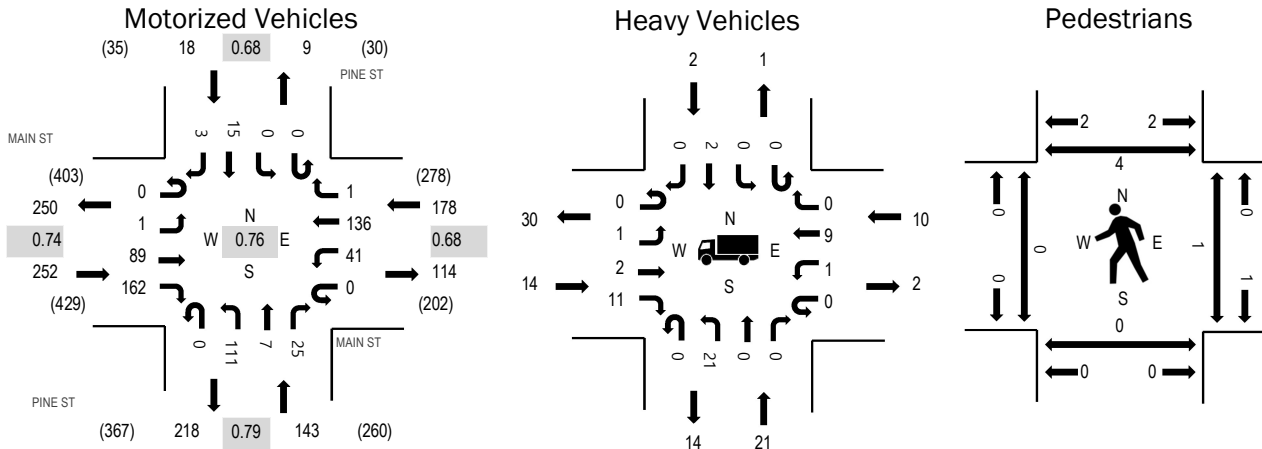
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	3	0	1	0	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	1	0	1
7:05 AM	1	0	2	0	3	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	2	1	2	0	5	7:10 AM	0	0	0	0	0	7:10 AM	0	1	0	0	1
7:15 AM	0	0	0	1	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	1	0	1
7:20 AM	1	0	3	1	5	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	3	0	1	1	5	7:25 AM	0	0	0	0	0	7:25 AM	0	1	0	0	1
7:30 AM	2	0	3	2	7	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	3	0	3	3	9	7:35 AM	0	0	0	0	0	7:35 AM	0	1	0	0	1
7:40 AM	2	1	1	4	8	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	3	3	6	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	0	5	1	7	7:50 AM	0	0	0	0	0	7:50 AM	0	3	0	0	3
7:55 AM	2	0	4	1	7	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	0	2	0	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	5	0	1	3	9	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	1	2	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	2	0	2	1	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	2	1	2	2	7	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	2	0	0	2	4	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	1	1	1	3	8:30 AM	0	0	0	0	0	8:30 AM	0	1	0	0	1
8:35 AM	3	0	0	2	5	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	0	1	5	7	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	3	1	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	1	0	0	3	4	8:50 AM	0	0	0	0	0	8:50 AM	0	1	0	0	1
8:55 AM	0	0	3	0	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	38	5	44	39	126	Count Total	0	0	0	0	0	Count Total	0	8	2	0	10
Peak Hour	23	2	28	20	73	Peak Hour	0	0	0	0	0	Peak Hour	0	6	1	0	7



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Location: 2 PINE ST & MAIN ST AM
Date: Tuesday, June 7, 2022
Peak Hour: 07:10 AM - 08:10 AM
Peak 15-Minutes: 07:50 AM - 08:05 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.6%	0.74
WB	5.6%	0.68
NB	14.7%	0.79
SB	11.1%	0.68
All	8.0%	0.76

Traffic Counts - Motorized Vehicles

Interval Start Time	MAIN ST Eastbound				MAIN ST Westbound				PINE ST Northbound			PINE ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	0	5	10	0	0	2	0	0	4	0	3	0	0	2	0	26	538
7:05 AM	0	0	7	9	0	2	3	0	0	14	0	2	0	1	0	0	38	577
7:10 AM	0	1	7	11	0	5	13	0	0	4	1	3	0	0	1	0	46	591
7:15 AM	0	0	9	10	0	2	6	0	0	4	0	2	0	0	2	0	35	579
7:20 AM	0	0	6	6	0	2	3	0	0	11	0	1	0	0	0	0	29	578
7:25 AM	0	0	4	7	0	2	4	0	0	4	1	1	0	0	1	0	24	587
7:30 AM	0	0	6	8	0	2	12	0	0	13	0	1	0	0	1	0	43	590
7:35 AM	0	0	12	14	0	3	15	0	0	6	1	2	0	0	2	1	56	581
7:40 AM	0	0	7	16	0	5	8	0	0	9	0	2	0	0	2	0	49	562
7:45 AM	0	0	6	20	0	5	7	0	0	19	0	4	0	0	0	1	62	541
7:50 AM	0	0	7	27	0	6	13	0	0	8	0	1	0	0	1	0	63	517
7:55 AM	0	0	6	19	0	3	22	1	0	13	0	2	0	0	1	0	67	496
8:00 AM	0	0	9	16	0	3	18	0	0	12	2	4	0	0	1	0	65	464
8:05 AM	0	0	10	8	0	3	15	0	0	8	2	2	0	0	3	1	52	
8:10 AM	0	0	3	11	0	2	9	0	0	5	1	1	0	0	1	1	34	
8:15 AM	0	0	7	7	0	0	6	0	0	10	0	3	0	0	1	0	34	
8:20 AM	0	0	4	11	0	2	11	0	0	7	0	3	0	0	0	0	38	
8:25 AM	0	0	4	6	0	1	6	1	0	4	1	3	0	0	1	0	27	
8:30 AM	0	0	4	14	0	2	5	1	0	5	0	2	0	0	1	0	34	
8:35 AM	0	1	6	10	0	3	5	0	0	9	1	1	0	0	0	1	37	
8:40 AM	0	0	4	6	0	2	4	1	0	8	0	2	0	0	1	0	28	
8:45 AM	0	0	8	12	0	2	2	0	0	7	1	4	0	1	1	0	38	
8:50 AM	0	0	3	11	0	6	9	2	0	2	3	2	0	1	2	1	42	
8:55 AM	0	0	4	10	0	0	4	7	0	8	1	0	0	0	0	1	35	
Count Total	0	2	148	279	0	63	202	13	0	194	15	51	0	3	25	7	1,002	
Peak Hour	0	1	89	162	0	41	136	1	0	111	7	25	0	0	15	3	591	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	1	0	0	2	7:00 AM	0	0	0	0	0	7:00 AM	1	0	0	0	1
7:05 AM	1	2	0	0	3	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	1	0	3	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	3	0	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	2	1	0	0	3	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	1	1
7:30 AM	1	3	1	1	6	7:30 AM	0	0	0	0	0	7:30 AM	0	0	1	1	2
7:35 AM	1	1	2	0	4	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	2	1	1	1	5	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	3	2	1	0	6	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	3	1	0	4	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	4	2	0	6	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	1	1	0	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	1	1
8:05 AM	3	1	0	0	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	1	1
8:10 AM	1	0	1	0	2	8:10 AM	0	0	0	0	0	8:10 AM	0	1	0	0	1
8:15 AM	3	1	2	0	6	8:15 AM	0	0	0	0	0	8:15 AM	0	0	1	1	2
8:20 AM	1	1	2	0	4	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	0	0	0	1	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	2	2
8:30 AM	1	0	0	0	1	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	1	0	0	2	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	2	2
8:40 AM	1	1	1	0	3	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	1	2	1	0	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	2	0	0	0	2	8:50 AM	0	0	0	0	0	8:50 AM	1	0	0	1	2
8:55 AM	1	2	0	0	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	2	2
Count Total	29	32	17	2	80	Count Total	0	0	0	0	0	Count Total	2	1	2	12	17
Peak Hour	14	21	10	2	47	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	4	5



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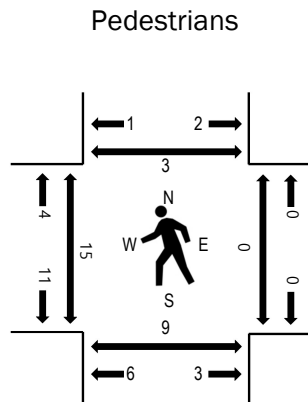
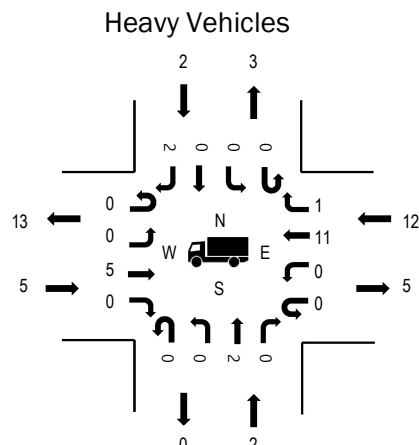
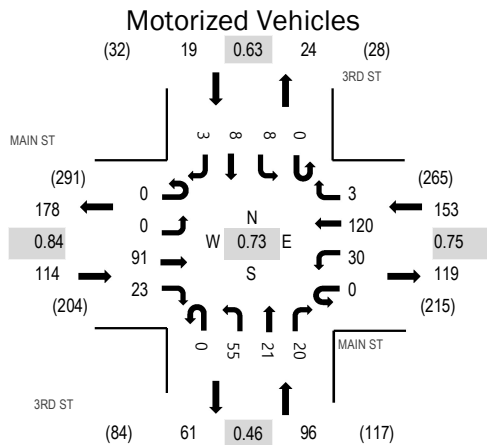
Location: 3 3RD ST & MAIN ST AM

Date: Tuesday, June 7, 2022

Peak Hour: 07:20 AM - 08:20 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.4%	0.84
WB	7.8%	0.75
NB	2.1%	0.46
SB	10.5%	0.63
All	5.5%	0.73

Traffic Counts - Motorized Vehicles

Interval Start Time	MAIN ST Eastbound				MAIN ST Westbound				3RD ST Northbound			3RD ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	4	0	13	344
7:05 AM	0	0	10	0	0	1	9	0	0	2	0	1	0	0	0	0	23	371
7:10 AM	0	0	10	2	0	1	9	0	0	2	0	2	0	1	0	0	27	377
7:15 AM	0	0	8	2	0	1	8	0	0	0	0	0	0	0	0	0	19	373
7:20 AM	0	0	4	2	0	3	3	1	0	0	0	0	0	1	0	0	14	382
7:25 AM	0	0	7	0	0	1	9	0	0	0	0	0	0	1	0	1	19	378
7:30 AM	0	0	12	2	0	4	19	1	0	2	0	1	0	0	1	0	42	380
7:35 AM	0	0	3	1	0	1	16	0	0	1	3	3	0	2	0	0	30	354
7:40 AM	0	0	6	1	0	3	8	0	0	3	3	0	0	0	1	1	26	350
7:45 AM	0	0	13	1	0	5	10	0	0	4	1	3	0	1	3	0	41	338
7:50 AM	0	0	3	6	0	3	14	0	0	9	6	2	0	1	1	0	45	327
7:55 AM	0	0	5	5	0	4	9	1	0	15	3	2	0	0	1	0	45	300
8:00 AM	0	0	7	2	0	2	11	0	0	10	3	4	0	0	1	0	40	274
8:05 AM	0	0	9	2	0	2	6	0	0	7	1	2	0	0	0	0	29	
8:10 AM	0	0	7	0	0	1	10	0	0	2	1	2	0	0	0	0	23	
8:15 AM	0	0	15	1	0	1	5	0	0	2	0	1	0	2	0	1	28	
8:20 AM	0	0	2	0	0	0	7	0	0	1	0	0	0	0	0	0	10	
8:25 AM	0	0	6	0	0	1	10	1	0	2	0	1	0	0	0	0	21	
8:30 AM	0	0	9	0	0	1	3	0	0	0	0	1	0	1	1	0	16	
8:35 AM	0	0	9	0	0	2	12	0	0	1	1	0	0	1	0	0	26	
8:40 AM	0	0	7	0	0	0	3	0	0	1	0	0	0	2	0	1	14	
8:45 AM	0	0	10	1	0	1	16	1	0	0	1	0	0	0	0	0	30	
8:50 AM	0	0	6	0	0	0	9	0	0	1	0	1	0	0	1	0	18	
8:55 AM	0	0	2	1	0	3	9	0	0	3	0	0	0	1	0	0	19	
Count Total	0	0	175	29	0	41	219	5	0	68	23	26	0	14	14	4	618	
Peak Hour	0	0	91	23	0	30	120	3	0	55	21	20	0	8	8	3	382	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	1	0	1	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	1	1
7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0	7:20 AM	2	0	0	0	2
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	1	0	0	0	1
7:30 AM	1	0	1	0	2	7:30 AM	0	0	0	0	0	7:30 AM	1	0	0	0	1
7:35 AM	0	1	2	0	3	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	1	1
7:40 AM	0	0	1	1	2	7:40 AM	0	0	0	0	0	7:40 AM	4	8	0	0	12
7:45 AM	2	0	1	0	3	7:45 AM	0	0	0	0	0	7:45 AM	1	0	0	0	1
7:50 AM	0	0	2	0	2	7:50 AM	0	0	0	0	0	7:50 AM	1	0	0	0	1
7:55 AM	0	0	1	0	1	7:55 AM	0	0	0	0	0	7:55 AM	4	0	0	1	5
8:00 AM	0	0	1	0	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	1	0	1	0	2	8:05 AM	0	0	0	0	0	8:05 AM	1	1	0	0	2
8:10 AM	0	1	2	0	3	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	1	1
8:15 AM	1	0	0	1	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	0	2	0	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	0	1	0	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	0	2	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	0	0	8:45 AM	2	0	0	0	2
8:50 AM	0	0	0	1	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	1	0	0	1	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	8	3	20	3	34	Count Total	0	0	0	0	0	Count Total	17	9	0	4	30
Peak Hour	5	2	12	2	21	Peak Hour	0	0	0	0	0	Peak Hour	15	9	0	3	27



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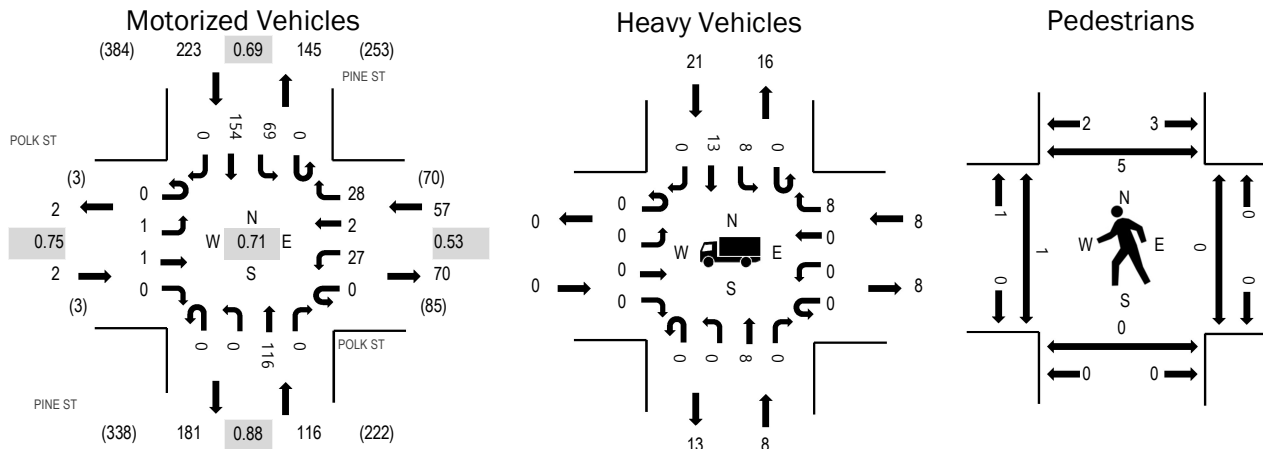
Location: 5 PINE ST & POLK ST AM

Date: Tuesday, June 7, 2022

Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.75
WB	14.0%	0.53
NB	6.9%	0.88
SB	9.4%	0.69
All	9.3%	0.71

Traffic Counts - Motorized Vehicles

Interval Start Time	POLK ST Eastbound				POLK ST Westbound				PINE ST Northbound			PINE ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	0	0	0	0	2	0	0	0	0	8	0	0	0	12	0	22	366
7:05 AM	0	0	0	0	0	0	0	2	0	0	13	0	0	0	10	0	25	386
7:10 AM	0	0	0	0	0	1	0	0	0	0	5	0	0	1	16	0	23	392
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	1	14	0	22	389
7:20 AM	0	0	1	0	0	1	0	0	0	0	10	0	0	3	7	0	22	390
7:25 AM	0	0	0	0	0	0	0	1	0	1	5	0	0	2	7	0	16	393
7:30 AM	0	0	0	0	0	1	0	1	0	0	11	0	0	4	8	0	25	398
7:35 AM	0	0	0	0	0	1	0	1	0	0	9	0	0	4	14	0	29	398
7:40 AM	0	0	0	0	0	2	0	4	0	0	10	0	0	6	23	0	45	392
7:45 AM	0	0	0	0	0	4	0	7	0	0	14	0	0	8	13	0	46	370
7:50 AM	0	0	1	0	0	4	0	4	0	0	8	0	0	16	16	0	49	350
7:55 AM	0	0	0	0	0	3	1	4	0	0	11	0	0	13	10	0	42	329
8:00 AM	0	0	0	0	0	4	0	2	0	0	15	0	0	9	12	0	42	313
8:05 AM	0	0	0	0	0	0	1	0	0	0	12	0	0	4	14	0	31	
8:10 AM	0	0	0	0	0	3	0	1	0	0	3	0	0	2	11	0	20	
8:15 AM	0	1	0	0	0	2	0	2	0	0	8	0	0	2	8	0	23	
8:20 AM	0	0	0	0	0	3	0	1	0	0	6	0	0	1	14	0	25	
8:25 AM	0	0	0	0	0	0	0	1	0	0	9	0	0	0	11	0	21	
8:30 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	1	14	0	25	
8:35 AM	0	0	0	0	0	2	0	0	0	0	6	0	0	2	13	0	23	
8:40 AM	0	0	0	0	0	1	0	0	0	0	12	0	0	0	10	0	23	
8:45 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	2	17	0	26	
8:50 AM	0	0	0	0	0	2	0	0	0	0	8	0	0	2	16	0	28	
8:55 AM	0	0	0	0	0	1	0	0	0	0	14	0	0	0	11	0	26	
Count Total	0	1	2	0	0	37	2	31	0	1	221	0	0	83	301	0	679	
Peak Hour	0	1	1	0	0	27	2	28	0	0	116	0	0	69	154	0	398	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	3	0	0	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	1	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	1	1
7:10 AM	0	1	0	1	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	0	1	2	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	1	2	0	1	4	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	1	1
7:25 AM	0	2	0	1	3	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	1	0	3	4	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	1	1	0	2	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	1	1	4	6	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	1	1
7:45 AM	0	0	3	3	6	7:45 AM	0	0	0	0	0	7:45 AM	1	0	0	1	2
7:50 AM	0	1	3	2	6	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	1	1
7:55 AM	0	2	0	0	2	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	2	2	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	2	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	0	0	3	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	1	2	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	2	2
8:30 AM	0	1	0	1	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	1	0	1	2	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	2	0	2	4	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	1	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	2	3	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	2	0	1	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	1	24	8	34	67	Count Total	0	0	0	0	0	Count Total	1	0	0	7	8
Peak Hour	0	8	8	21	37	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	5	6



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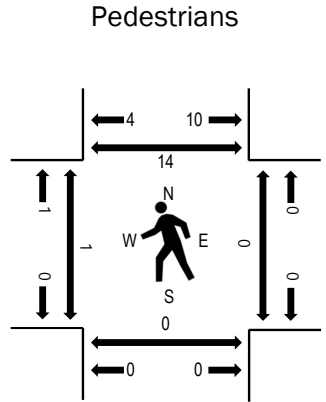
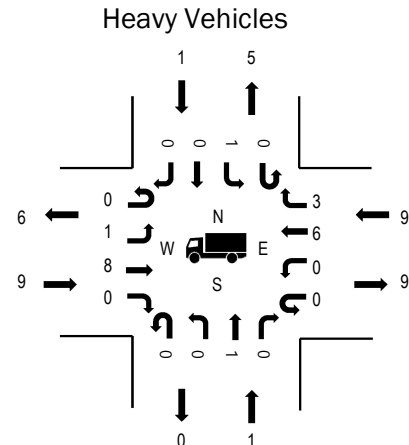
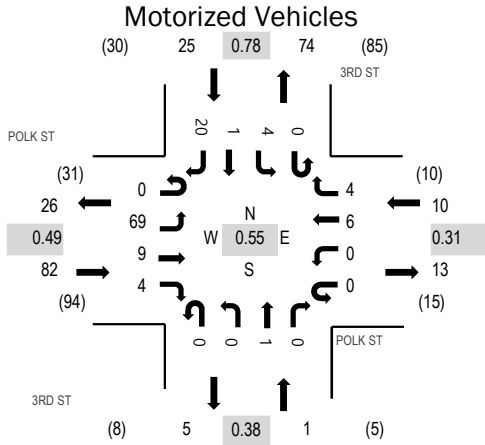
Location: 6 3RD ST & POLK ST AM

Date: Tuesday, June 7, 2022

Peak Hour: 07:20 AM - 08:20 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	11.0%	0.49
WB	90.0%	0.31
NB	100.0%	0.38
SB	4.0%	0.78
All	16.9%	0.55

Traffic Counts - Motorized Vehicles

Interval Start Time	POLK ST Eastbound				POLK ST Westbound				3RD ST Northbound			3RD ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	100
7:05 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	107
7:10 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	113
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	115
7:20 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	118
7:25 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	117
7:30 AM	0	1	2	2	0	0	0	0	0	0	1	0	0	2	0	2	10	113
7:35 AM	0	4	1	0	0	0	1	1	0	0	0	0	0	1	0	1	9	103
7:40 AM	0	6	2	0	0	0	2	0	0	0	0	0	0	0	0	2	12	98
7:45 AM	0	7	3	0	0	0	1	1	0	0	0	0	0	0	0	4	16	88
7:50 AM	0	13	1	2	0	0	2	2	0	0	0	0	0	0	0	2	22	74
7:55 AM	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	53
8:00 AM	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	39
8:05 AM	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	
8:10 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	
8:20 AM	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:35 AM	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	4	
8:40 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
8:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:50 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:55 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
Count Total	0	78	9	7	0	0	6	4	0	2	3	0	0	6	1	23	139	
Peak Hour	0	69	9	4	0	0	6	4	0	0	1	0	0	4	1	20	118	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	1	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	1	0	2	1	4	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	1	1
7:40 AM	2	0	2	0	4	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	3	0	2	0	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	3	3
7:50 AM	2	0	3	0	5	7:50 AM	0	0	0	0	0	7:50 AM	1	0	0	0	1
7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	8	8
8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	2	2
8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	0	0	0	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	10	1	9	1	21	Count Total	0	0	0	0	0	Count Total	1	0	0	14	15
Peak Hour	9	1	9	1	20	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	14	15

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	3	4	4:00 PM	0	0	0	0	0	4:00 PM	0	2	0	0	2
4:05 PM	0	0	0	3	3	4:05 PM	0	0	0	0	0	4:05 PM	0	1	0	0	1
4:10 PM	0	0	1	7	8	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	0	0	1	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:20 PM	1	0	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	1	0	2	2	5	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	2	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	3	0	1	0	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	4	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	1	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	4	0	0	4
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	1	0	0	1
5:10 PM	0	0	1	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	4	0	0	4
5:15 PM	1	0	0	2	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	1	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	2	0	0	2
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	1	1	0	2
5:40 PM	1	0	2	1	4	5:40 PM	0	0	0	0	0	5:40 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	1	1	2	5:50 PM	0	0	0	0	0	5:50 PM	0	1	0	0	1
5:55 PM	0	0	1	0	1	5:55 PM	0	0	0	0	0	5:55 PM	1	0	0	0	1
Count Total	8	0	14	29	51	Count Total	0	0	0	0	0	Count Total	1	19	1	0	21
Peak Hour	1	0	4	9	14	Peak Hour	0	0	0	0	0	Peak Hour	0	12	1	0	13



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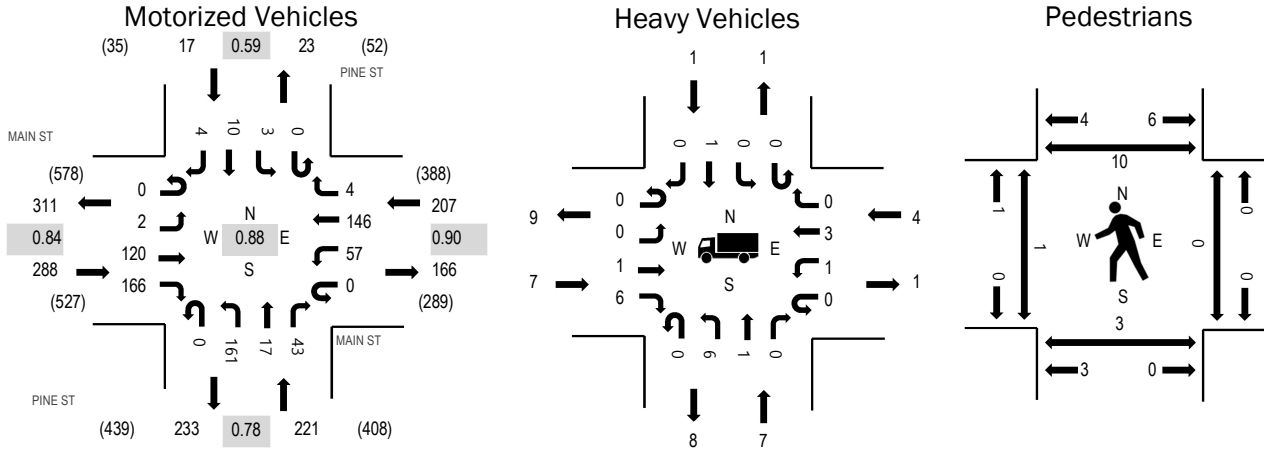
Location: 2 PINE ST & MAIN ST PM

Date: Tuesday, June 7, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.4%	0.84
WB	1.9%	0.90
NB	3.2%	0.78
SB	5.9%	0.59
All	2.6%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	MAIN ST Eastbound				MAIN ST Westbound				PINE ST Northbound			PINE ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
4:00 PM	0	0	5	15	0	4	13	0	0	8	0	0	0	2	1	0	48	681
4:05 PM	0	0	11	6	0	7	13	1	0	9	0	1	0	0	1	0	49	687
4:10 PM	0	0	13	22	0	4	9	1	0	10	4	2	0	0	1	1	67	698
4:15 PM	0	1	10	20	0	3	10	1	0	9	0	3	0	0	2	0	59	716
4:20 PM	0	0	5	13	0	6	13	0	0	11	2	3	0	1	0	0	54	715
4:25 PM	0	1	5	10	0	3	13	0	0	11	4	5	0	1	1	0	54	726
4:30 PM	0	0	7	14	0	7	11	1	0	9	3	1	0	0	2	2	57	733
4:35 PM	0	1	8	13	0	6	12	1	0	15	4	4	0	0	0	0	64	720
4:40 PM	0	0	12	13	0	5	7	0	0	10	0	3	0	0	1	1	52	715
4:45 PM	0	0	10	13	0	2	11	0	0	11	2	5	0	0	1	0	55	709
4:50 PM	0	0	7	10	0	3	14	0	0	19	0	3	0	0	0	0	56	702
4:55 PM	0	1	12	11	0	5	16	0	0	15	1	5	0	0	0	0	66	704
5:00 PM	0	0	11	13	0	4	14	0	0	6	0	5	0	0	0	1	54	677
5:05 PM	0	0	8	20	0	6	12	1	0	9	0	0	0	2	2	0	60	
5:10 PM	0	0	13	21	0	8	13	0	0	21	2	5	0	1	1	0	85	
5:15 PM	0	0	12	10	0	2	7	1	0	17	2	5	0	0	2	0	58	
5:20 PM	0	0	10	14	0	3	18	0	0	17	2	1	0	0	0	0	65	
5:25 PM	0	0	10	14	0	6	11	0	0	12	1	6	0	0	1	0	61	
5:30 PM	0	0	8	9	0	3	11	0	0	11	1	1	0	0	0	0	44	
5:35 PM	0	0	7	14	0	3	9	1	0	14	2	6	0	1	1	1	59	
5:40 PM	0	0	6	9	0	1	11	1	0	13	3	0	0	1	1	0	46	
5:45 PM	0	0	3	9	0	5	10	0	0	13	2	5	0	0	0	1	48	
5:50 PM	0	0	12	10	0	6	8	0	0	15	2	4	0	0	1	0	58	
5:55 PM	0	1	0	14	0	1	10	0	0	10	1	2	0	0	0	0	39	
Count Total	0	5	205	317	0	103	276	9	0	295	38	75	0	9	19	7	1,358	
Peak Hour	0	2	120	166	0	57	146	4	0	161	17	43	0	3	10	4	733	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	1	0	2	4:00 PM	0	0	0	0	0	4:00 PM	0	1	0	0	1
4:05 PM	2	0	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	5	1	0	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	5	0	0	0	5	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	2	2
4:20 PM	3	0	1	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	2	1	0	5	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	0	1
4:35 PM	0	0	2	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	1	0	0	1
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	2	0	0	2
4:45 PM	2	0	1	0	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	1	0	1
4:55 PM	0	2	0	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	2	0	2	4
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	4	4
5:05 PM	1	0	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	2	0	1	3	5:10 PM	0	0	0	0	0	5:10 PM	0	1	0	3	4
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	1	1
5:20 PM	2	1	0	0	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	2	0	2
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	1	0	0	0	1
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	1	2	0	0	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	2	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	1	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	2	1	0	0	3
5:55 PM	0	1	1	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	25	13	7	1	46	Count Total	0	0	0	0	0	Count Total	4	8	3	14	29
Peak Hour	7	7	4	1	19	Peak Hour	0	0	0	0	0	Peak Hour	1	6	3	10	20



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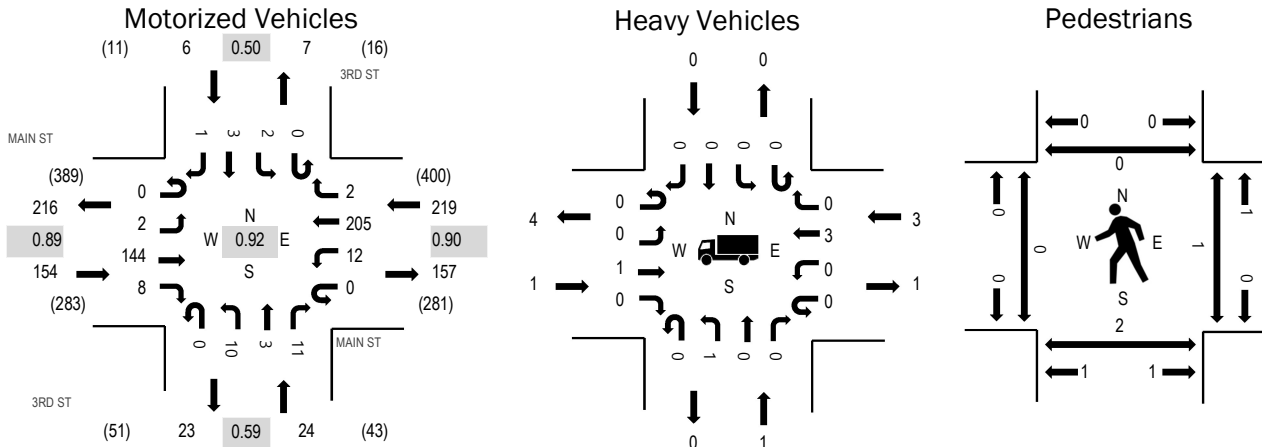
Location: 3 3RD ST & MAIN ST PM

Date: Tuesday, June 7, 2022

Peak Hour: 04:25 PM - 05:25 PM

Peak 15-Minutes: 05:10 PM - 05:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.6%	0.89
WB	1.4%	0.90
NB	4.2%	0.59
SB	0.0%	0.50
All	1.2%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	MAIN ST Eastbound				MAIN ST Westbound				3RD ST Northbound			3RD ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
4:00 PM	0	0	11	0	0	3	20	0	0	1	2	0	0	0	0	0	37	376
4:05 PM	0	1	10	1	0	0	14	0	0	0	0	0	0	0	0	0	26	375
4:10 PM	0	0	11	2	0	1	13	0	0	0	1	2	0	0	0	1	31	381
4:15 PM	1	0	11	0	0	1	15	0	0	2	0	0	0	0	0	0	30	390
4:20 PM	0	0	10	0	0	1	14	0	0	1	1	0	0	0	0	0	27	391
4:25 PM	0	0	10	0	0	1	17	0	0	0	0	0	0	1	0	0	29	403
4:30 PM	0	1	11	1	0	1	19	0	0	4	0	0	0	0	0	0	37	398
4:35 PM	0	0	12	0	0	2	14	1	0	1	1	1	0	0	1	0	33	392
4:40 PM	0	0	11	1	0	0	6	0	0	1	0	3	0	0	0	1	23	386
4:45 PM	0	0	15	0	0	1	16	0	0	0	1	1	0	0	0	0	34	392
4:50 PM	0	0	9	2	0	0	22	0	0	0	0	0	0	0	1	0	34	385
4:55 PM	0	1	17	0	0	1	14	0	0	0	0	2	0	0	0	0	35	379
5:00 PM	0	0	11	0	0	3	18	1	0	1	1	1	0	0	0	0	36	361
5:05 PM	0	0	9	0	0	0	21	0	0	1	0	0	0	1	0	0	32	
5:10 PM	0	0	21	1	0	0	17	0	0	0	0	0	0	0	1	0	40	
5:15 PM	0	0	9	0	0	1	21	0	0	0	0	0	0	0	0	0	31	
5:20 PM	0	0	9	3	0	2	20	0	0	2	0	3	0	0	0	0	39	
5:25 PM	0	0	9	1	0	0	13	0	0	1	0	0	0	0	0	0	24	
5:30 PM	0	1	13	1	0	1	13	0	0	1	0	1	0	0	0	0	31	
5:35 PM	0	0	12	1	0	2	10	0	0	0	0	2	0	0	0	0	27	
5:40 PM	0	0	6	0	0	3	17	0	0	1	1	0	0	1	0	0	29	
5:45 PM	0	1	7	0	0	2	17	0	0	0	0	0	0	0	0	0	27	
5:50 PM	0	0	13	1	0	2	10	1	0	0	0	0	0	0	1	0	28	
5:55 PM	0	0	4	1	0	1	7	0	0	1	0	1	0	0	2	0	17	
Count Total	1	5	261	16	0	29	368	3	0	18	8	17	0	3	6	2	737	
Peak Hour	0	2	144	8	0	12	205	2	0	10	3	11	0	2	3	1	403	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	1	0	0	1
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	0	1
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	1	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	1	0	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	3	0	0	3
4:40 PM	0	0	1	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	0	1
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	1	0	1
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	2	2	0	0	4
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	0	1
5:50 PM	0	0	1	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	2	2	0	0	4
Count Total	1	1	6	0	8	Count Total	0	0	0	0	0	Count Total	5	11	1	0	17
Peak Hour	1	1	3	0	5	Peak Hour	0	0	0	0	0	Peak Hour	0	4	1	0	5



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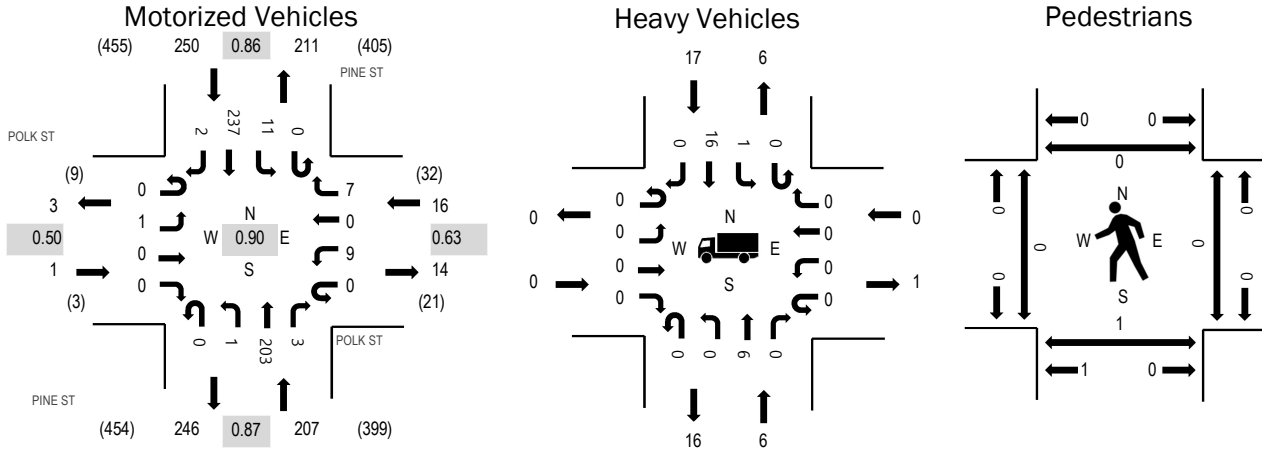
Location: 5 PINE ST & POLK ST PM

Date: Tuesday, June 7, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.50
WB	0.0%	0.63
NB	2.9%	0.87
SB	6.8%	0.86
All	4.9%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	POLK ST Eastbound				POLK ST Westbound				PINE ST Northbound			PINE ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
4:00 PM	0	0	0	0	0	0	1	1	0	1	8	0	0	1	18	0	30	453
4:05 PM	0	0	0	1	0	1	0	0	0	0	12	0	0	0	17	0	31	453
4:10 PM	0	0	0	0	0	2	0	1	0	0	13	0	0	0	28	0	44	467
4:15 PM	0	0	0	0	0	1	0	0	0	0	15	0	0	0	22	0	38	474
4:20 PM	0	0	0	0	0	1	0	0	0	0	14	0	0	0	22	1	38	471
4:25 PM	0	0	0	0	0	0	0	1	0	0	19	0	0	0	16	0	36	471
4:30 PM	0	0	0	0	0	1	0	0	0	1	21	0	0	1	20	0	44	472
4:35 PM	0	1	0	0	0	1	0	0	0	0	17	1	0	2	19	0	41	457
4:40 PM	0	0	0	0	0	2	0	0	0	0	15	1	0	0	20	0	38	454
4:45 PM	0	0	0	0	0	2	0	3	0	0	17	0	0	1	23	0	46	445
4:50 PM	0	0	0	0	0	1	0	0	0	0	21	0	0	0	9	0	31	437
4:55 PM	0	0	0	0	0	0	0	1	0	0	16	0	0	3	16	0	36	445
5:00 PM	0	0	0	0	0	0	0	2	0	0	6	0	0	1	21	0	30	436
5:05 PM	0	0	0	0	0	0	0	0	0	0	18	0	0	2	25	0	45	474
5:10 PM	0	0	0	0	0	0	0	0	0	0	24	1	0	1	24	1	51	474
5:15 PM	0	0	0	0	0	0	0	0	0	0	19	0	0	0	16	0	35	474
5:20 PM	0	0	0	0	0	2	0	1	0	0	18	0	0	1	16	0	38	474
5:25 PM	0	0	0	0	0	1	0	0	0	0	17	1	0	1	17	0	37	474
5:30 PM	0	0	1	0	0	0	0	0	0	0	11	0	0	0	17	0	29	474
5:35 PM	0	0	0	0	0	0	0	1	0	0	20	0	0	0	17	0	38	474
5:40 PM	0	0	0	0	0	0	0	1	0	1	16	0	0	0	11	0	29	474
5:45 PM	0	0	0	0	0	1	0	0	0	0	21	0	0	1	15	0	38	474
5:50 PM	0	0	0	0	0	0	2	0	0	1	21	0	0	0	15	0	39	474
5:55 PM	0	0	0	0	0	0	0	1	0	0	12	0	0	1	13	0	27	474
Count Total	0	1	1	1	0	16	3	13	0	4	391	4	0	16	437	2	889	
Peak Hour	0	1	0	0	0	9	0	7	0	1	203	3	0	11	237	2	474	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	2	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	4	5	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	6	6	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	2	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	0	3	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	1	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	1	0	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	2	0	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	1	0	0	1
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	1	0	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	1	0	1	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	1	0	0	3	4
5:50 PM	0	0	0	1	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	2	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	12	0	29	41	Count Total	0	0	0	0	0	Count Total	1	1	0	3	5
Peak Hour	0	6	0	17	23	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1



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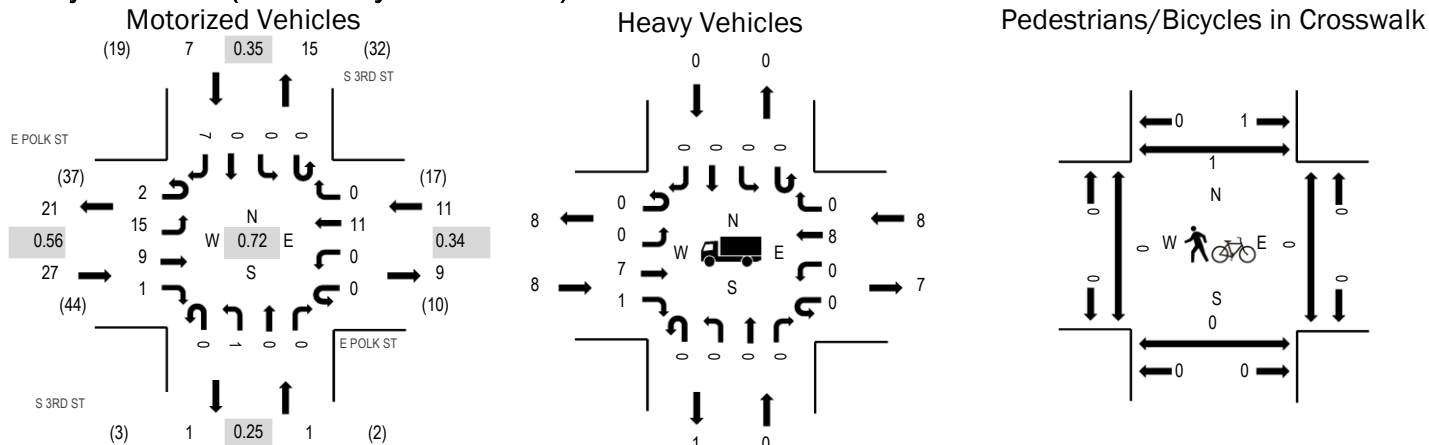
Location: 1 S 3RD ST & E POLK ST PM

Date: Thursday, September 15, 2022

Study Peak Hour: 02:00 PM - 03:00 PM

Peak 15-Minutes in Study Peak Hour: 02:40 PM - 02:55 PM

Study Peak Hour (for all study intersections)



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	29.6%	0.56
WB	72.7%	0.34
NB	0.0%	0.25
SB	0.0%	0.35
All	34.8%	0.72

Traffic Counts - Motorized Vehicles

Interval Start Time	E POLK ST Eastbound				E POLK ST Westbound				S 3RD ST Northbound				S 3RD ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
2:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	46
2:05 PM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	2	8	44
2:10 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	37
2:15 PM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	39
2:20 PM	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	43
2:25 PM	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	40
2:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	37
2:35 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	38
2:40 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	4	37
2:45 PM	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	1	8	35
2:50 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	1	4	34
2:55 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33
3:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
3:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
3:10 PM	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	
3:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	
3:20 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	
3:25 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
3:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	3	
3:35 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
3:40 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
3:45 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	4	7	
3:50 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
3:55 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	
Count Total	2	29	10	3	0	0	14	3	0	2	0	0	0	0	0	19	82	
Peak Hour	2	15	9	1	0	0	11	0	0	1	0	0	0	0	0	7	46	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0	2:00 PM	0	0	0	0	0
2:05 PM	1	0	0	0	1	2:05 PM	0	0	0	0	0	2:05 PM	0	0	0	0	0
2:10 PM	0	0	1	0	1	2:10 PM	0	0	0	0	0	2:10 PM	0	0	0	1	1
2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0	2:15 PM	0	0	0	0	0
2:20 PM	2	0	0	0	2	2:20 PM	0	0	0	0	0	2:20 PM	0	0	0	0	0
2:25 PM	3	0	0	0	3	2:25 PM	0	0	0	0	0	2:25 PM	0	0	0	0	0
2:30 PM	1	0	0	0	1	2:30 PM	0	0	0	0	0	2:30 PM	0	0	0	0	0
2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0	2:35 PM	0	0	0	0	0
2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0	2:40 PM	0	0	0	0	0
2:45 PM	1	0	5	0	6	2:45 PM	0	0	0	0	0	2:45 PM	0	0	0	0	0
2:50 PM	0	0	2	0	2	2:50 PM	0	0	0	0	0	2:50 PM	0	0	0	0	0
2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0	2:55 PM	0	0	0	0	0
3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	0	0
3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	0	0
3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	1	0	1	0	2	3:30 PM	0	0	0	0	0	3:30 PM	0	0	0	0	0
3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	1	0	0	0	1	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
Count Total	10	0	9	0	19	Count Total	0	0	0	0	0	Count Total	0	0	0	1	1
Peak Hour	8	0	8	0	16	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	1	1



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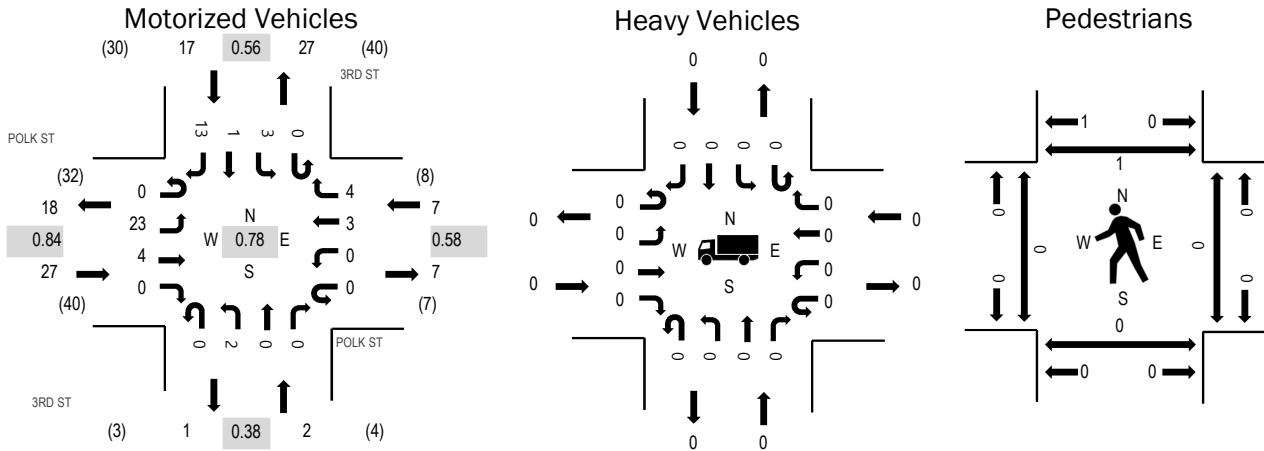
Location: 6 3RD ST & POLK ST PM

Date: Tuesday, June 7, 2022

Peak Hour: 04:40 PM - 05:40 PM

Peak 15-Minutes: 05:25 PM - 05:40 PM

Peak Hour



Note: Total study counts contained in parentheses.

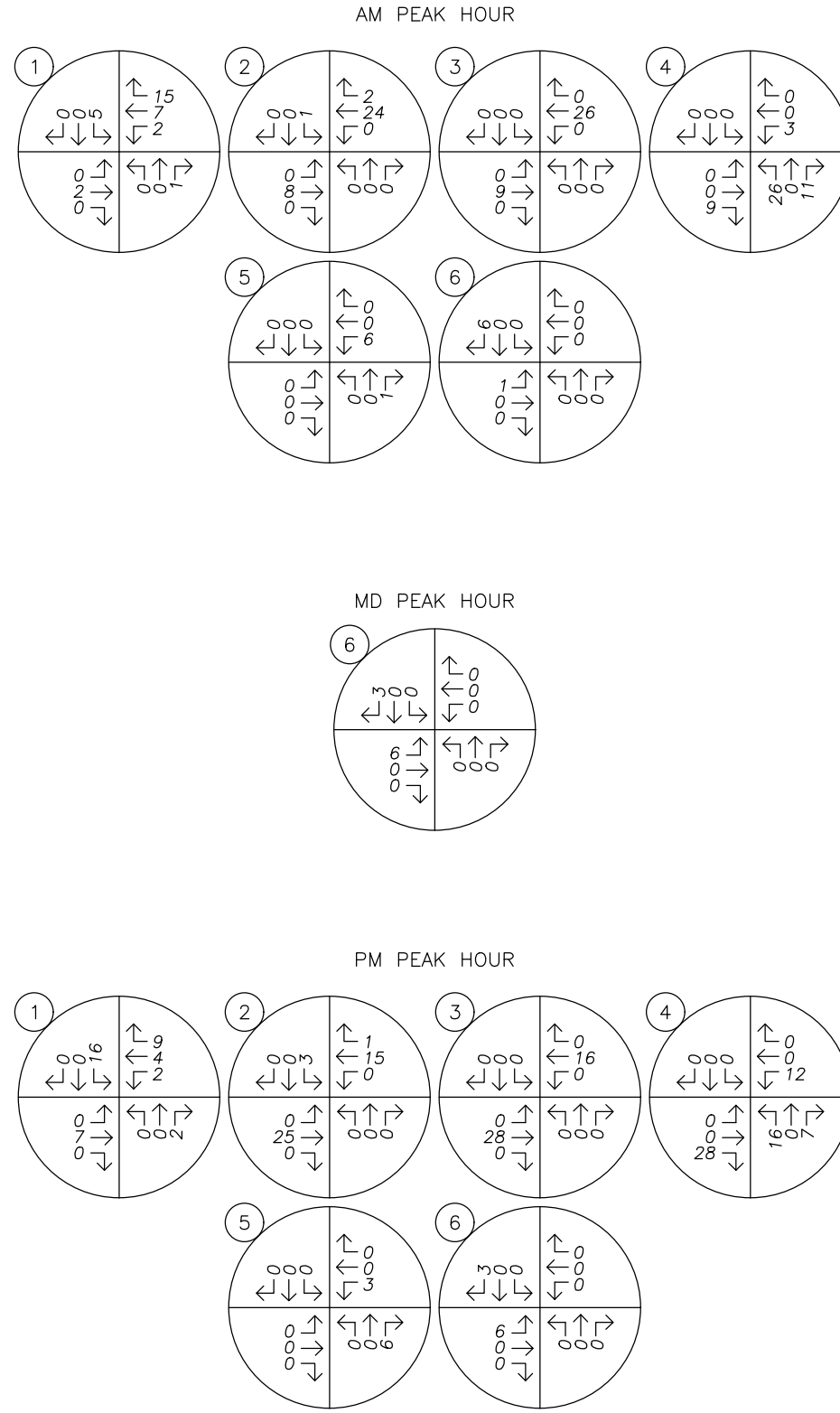
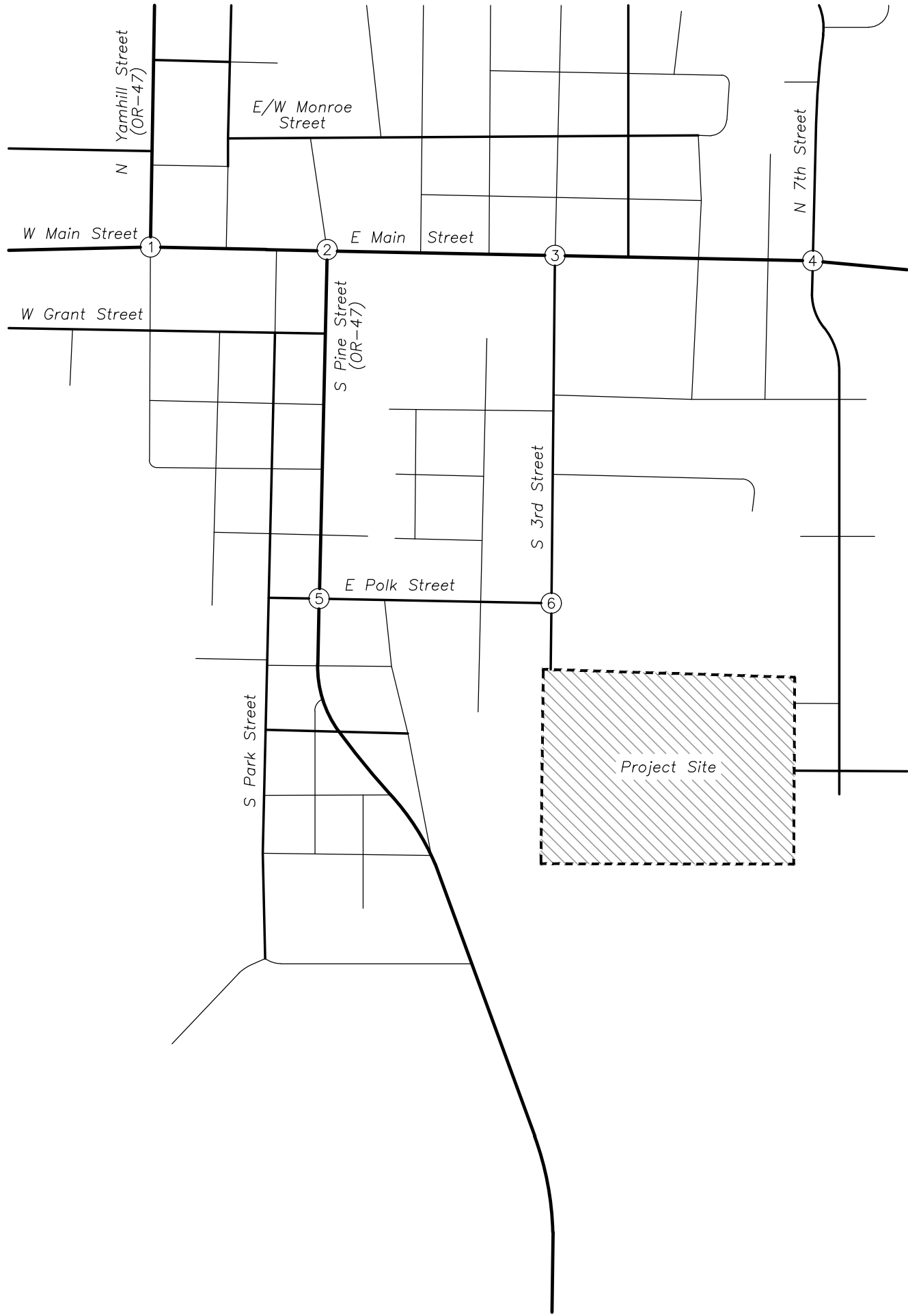
	HV%	PHF
EB	0.0%	0.84
WB	0.0%	0.58
NB	0.0%	0.38
SB	0.0%	0.56
All	0.0%	0.78

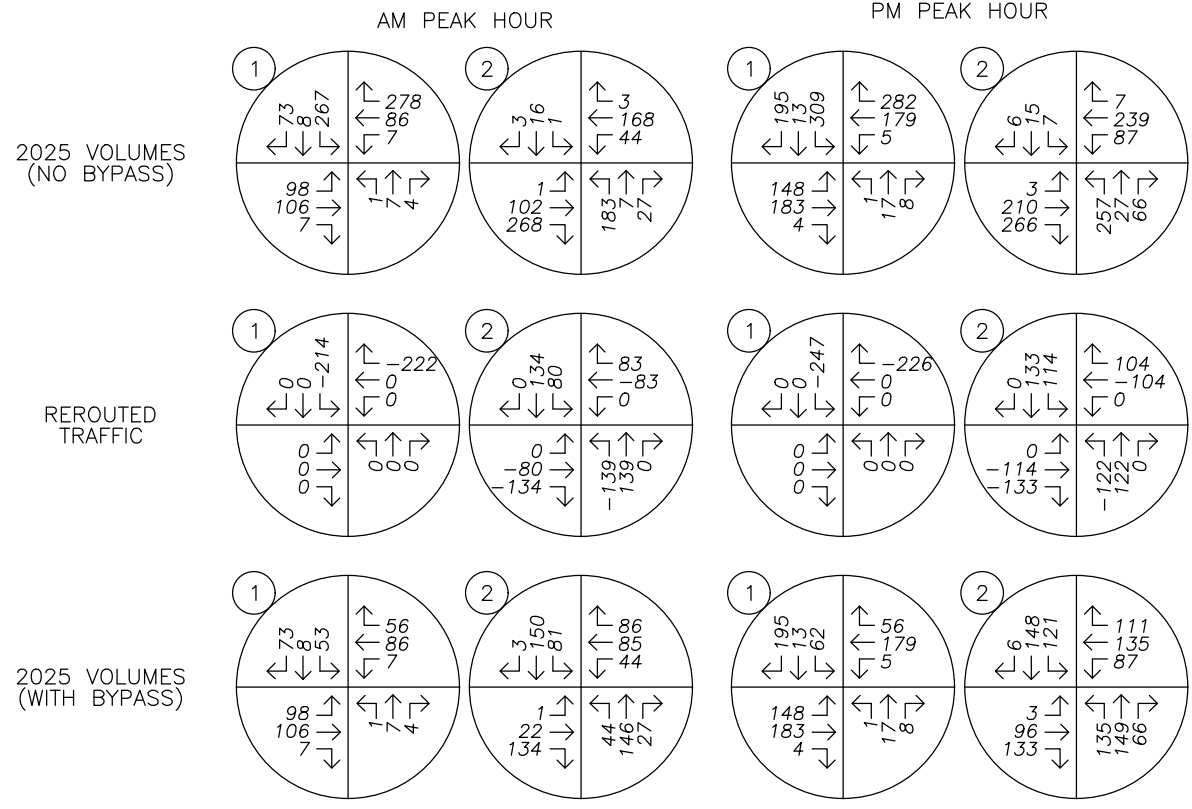
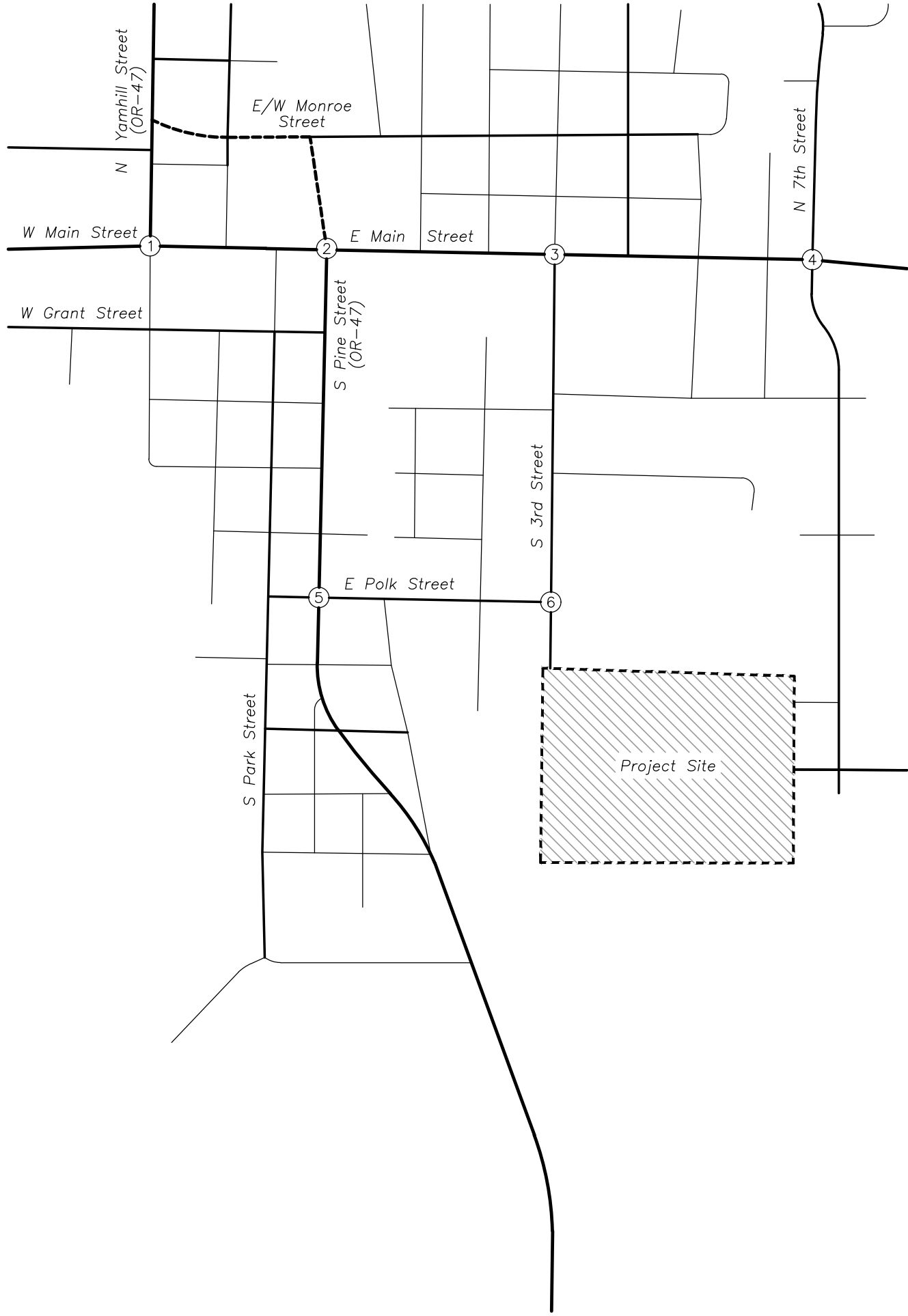
Traffic Counts - Motorized Vehicles

Interval Start Time	POLK ST Eastbound				POLK ST Westbound				3RD ST Northbound			3RD ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
4:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	4	36
4:05 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	36
4:10 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	36
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
4:20 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	40
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	42
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	48
4:35 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	50
4:40 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	1	0	2	7	53
4:45 PM	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	1	5	48
4:50 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	48
4:55 PM	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	1	6	48
5:00 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	4	46
5:05 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	
5:10 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:15 PM	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	
5:20 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	
5:25 PM	0	2	1	0	0	0	1	0	0	0	0	0	0	0	1	2	7	
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	
5:35 PM	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	3	7	
5:40 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	
5:50 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:55 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4	
Count Total	0	34	4	2	0	0	3	5	0	3	1	0	0	3	1	26	82	
Peak Hour	0	23	4	0	0	0	3	4	0	2	0	0	0	3	1	13	53	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	1	1
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	2	2
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	2	0	0	2
Count Total	0	0	0	0	0	Count Total	0	0	0	0	0	Count Total	0	2	0	3	5
Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	1	1





TRAFFIC VOLUMES
 Year 2025 Background Volumes - Reroute
 AM & PM Peak Hours

Appendix D

ODOT Main Street Bypass Project



Name: **OR47: Realignment (Carlton)**

Page 204
Key: 18746

Description **Reroute OR47 on N Pine Street and W Monroe Street and construct new OR47 alignment at Yamhill Street. Jurisdictionally transfer OR47 from Main Street/Yamhill Street to City of Carlton to aid traffic flow.**

Region: 2

MPO: **Non-MPO**

Work Type: **BIKPED, OPERAT**

Applicant: **CITY OF CARLTON**

Status: **PROJECT SCHEDULED FOR CONSTRUCTION**

Location(s)-					
Mileposts	Length	Route	Highway	ACT	County(s)
				MID-WILLAMETTE VALLEY ACT	YAMHILL
				MID-WILLAMETTE VALLEY ACT	YAMHILL
37.69 to 38.04	0.35	OR-47	TUALATIN VALLEY HIGHWAY	MID-WILLAMETTE VALLEY ACT	YAMHILL

Current Project Estimate							
	Planning	Prelim. Engineering	Right of Way	Utility Relocation	Construction	Other	Project Total
Year		2018	2023	2024	2024	2024	
Total		\$988,251.38	\$2,450,000.00	\$115,000.00	\$5,637,025.00	\$450,000.00	\$9,640,276.38
Fund 1		Z300 \$482,972.96	Y240 \$2,198,385.00	Y240 \$103,189.50	Y240 \$5,058,102.53	S010 \$450,000.00	
Match		\$55,278.42	\$251,615.00	\$11,810.50	\$578,922.47		
Fund 2		Z3E3 \$403,785.00					
Match		\$46,215.00					

Footnote:

Most Recent Approved Amendment

Amendment No: **21-24-1213** Approval Date: **10/22/2021**

Requested Action: **Update project name and location milepoints from 37.72-38.06 to 37.69-38.04 and add locations at Pine/Monroe and Yamhill streets. Slip the Right of Way, Utility Relocation, and Construction phases. Increase the total project estimate by \$1,920,000.**

Name: **OR219: Edgewood Dr - Aldercrest Dr**

Key: 18749

Description **Construct bike lanes, sidewalks, curbs, curb ramps, drainage, water quality facilities, and landscape buffers on OR 219 between Edgewood Dr and Aldercrest Dr to improve pedestrian safety.**

Region: 2

MPO: **Non-MPO**

Work Type: **BIKPED**

Applicant: **CITY OF NEWBERG**

Status: **PROJECT SCHEDULED FOR CONSTRUCTION**

Location(s)-					
Mileposts	Length	Route	Highway	ACT	County(s)
18.71 to 19.38	0.67	OR-219	HILLSBORO/SILVERTON	MID-WILLAMETTE VALLEY ACT	YAMHILL




Current Project Estimate							
	Planning	Prelim. Engineering	Right of Way	Utility Relocation	Construction	Other	Project Total
Year		2017	2021		2022		
Total		\$773,635.00	\$380,000.00		\$1,797,543.15		\$2,951,178.15
Fund 1		Z302 \$465,698.70	Z300 \$219,938.23		Y300 \$1,054,248.44		
Match		\$53,301.30	\$25,172.92		\$120,663.46		
Fund 2		Z3E2 \$228,483.99	Z302 \$120,183.79		Y307 \$558,687.02		
Match		\$26,151.01	\$13,755.57		\$63,944.23		
Fund 3			M30E \$805.69				
Match			\$92.21				
Fund 4			M300 \$46.29				
Match			\$5.30				

Footnote:

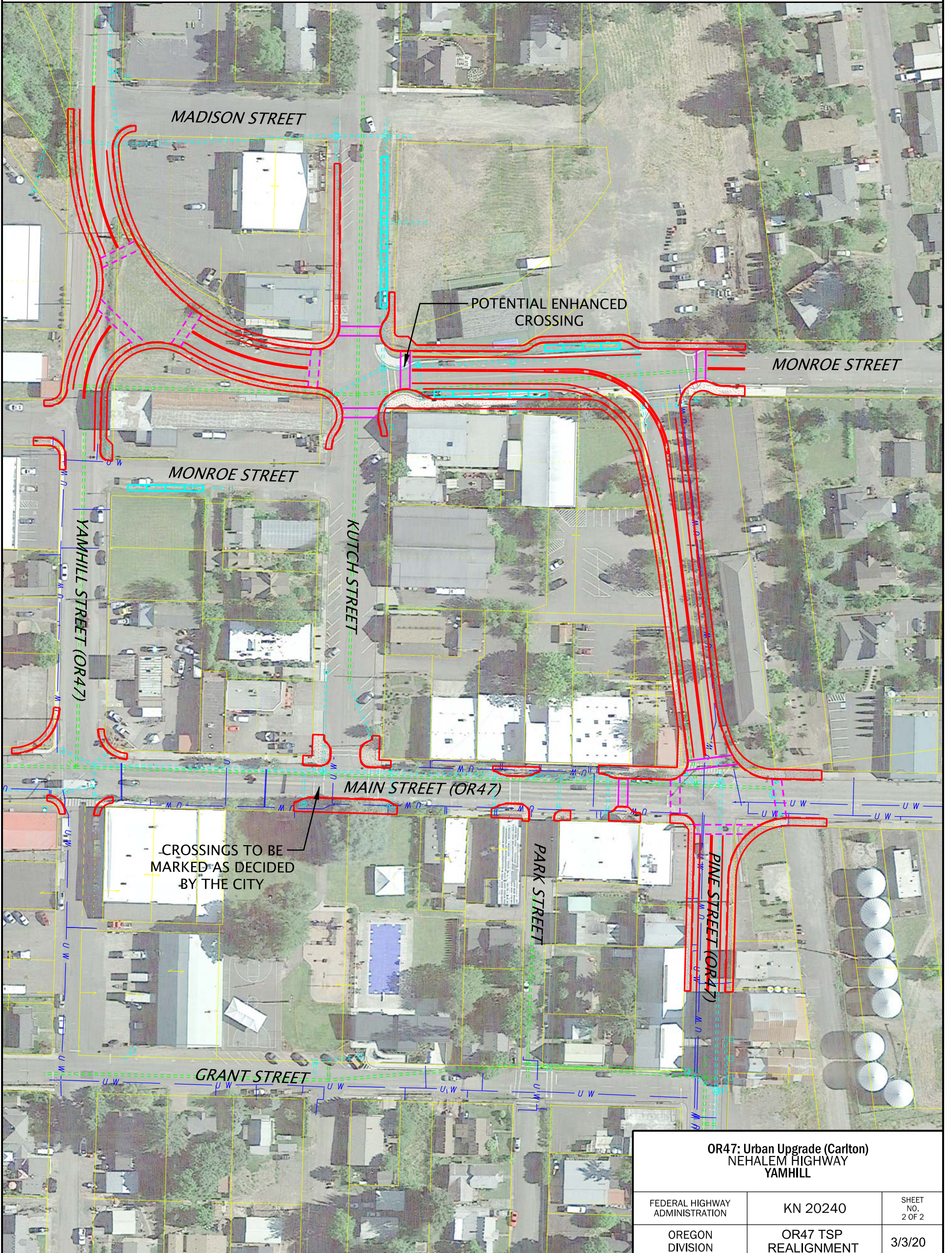
Most Recent Approved Amendment

Amendment No: **21-24-2325** Approval Date: **7/17/2022**

Requested Action: **Update project description to accurately describe work to be done.**

-  POTENTIAL PARKING AREAS
-  POTENTIAL CROSSING (UNMARKED)
-  POTENTIAL CROSSING (MARKED)

**APPROXIMATE AERIAL
CONCEPT DRAWING
INFORMATION ONLY**



OR47: Urban Upgrade (Carlton) NEHALEM HIGHWAY YAMHILL		
FEDERAL HIGHWAY ADMINISTRATION	KN 20240	SHEET NO. 2 OF 2
OREGON DIVISION	OR47 TSP REALIGNMENT	3/3/20

Appendix E

Crash History Data



CITY OF CARLTON, YAMHILL COUNTY

MAIN ST at 3RD ST, City of Carlton, Yamhill County, 01/01/2016 to 12/31/2020

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A	S	RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
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Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF CARLTON, YAMHILL COUNTY

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
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Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF CARLTON, YAMHILL COUNTY

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS
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Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Appendix F

Preliminary Signal Warrant Analysis

Preliminary All-Way Stop-Control Warrant Analysis



Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2022 Existing Conditions

Major Street:	Main Street	Minor Street:	Yamhill Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	745	PM Peak Hour Volumes:	300

Warrant Used:

<input type="checkbox"/>	100 percent of standard warrants used
<input checked="" type="checkbox"/>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	7,450	6,200	
Minor Street*	3,000	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	7,450	9,300	
Minor Street*	3,000	950	No
<i>Combination Warrant</i>			
Major Street	7,450	7,440	
Minor Street*	3,000	1,480	Yes

Note: Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity per APM.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2022 Existing Conditions

Major Street:	Main Street	Minor Street:	Pine Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	737	PM Peak Hour Volumes:	278

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess
 of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	7,370	6,200	
Minor Street*	2,780	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	7,370	9,300	
Minor Street*	2,780	950	No
<i>Combination Warrant</i>			
Major Street	7,370	7,440	
Minor Street*	2,780	1,480	No

Note: Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity per APM.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Buildout Conditions (with Bypass)

Major Street:	Main Street	Minor Street:	Yamhill Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	587	PM Peak Hour Volumes:	221

Warrant Used:

<input type="checkbox"/>	100 percent of standard warrants used
<input checked="" type="checkbox"/>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	5,870	6,200	
Minor Street*	2,210	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,870	9,300	
Minor Street*	2,210	950	No
<i>Combination Warrant</i>			
Major Street	5,870	7,440	
Minor Street*	2,210	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Background Conditions (with Bypass)

Major Street:	Pine Street	Minor Street:	Main Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	625	PM Peak Hour Volumes:	222

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	6,250	6,200	
Minor Street*	2,220	1,850	Yes
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	6,250	9,300	
Minor Street*	2,220	950	No
<i>Combination Warrant</i>			
Major Street	6,250	7,440	
Minor Street*	2,220	1,480	No

Note: Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity per APM.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Buildout Conditions

Major Street:	Main Street	Minor Street:	3rd Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	638	PM Peak Hour Volumes:	42

Warrant Used:

<input type="checkbox"/>	100 percent of standard warrants used
<input checked="" type="checkbox"/>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	6,380	6,200	
Minor Street*	420	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	6,380	9,300	
Minor Street*	420	950	No
<i>Combination Warrant</i>			
Major Street	6,380	7,440	
Minor Street*	420	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.



Traffic Signal Warrant Analysis

Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Buildout Conditions

Major Street:	Main Street	Minor Street:	7th Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	960	PM Peak Hour Volumes:	36

Warrant Used:

_____ 100 percent of standard warrants used
 X 70 percent of standard warrants used due to 85th percentile speed in excess
 of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	9,600	6,200	
Minor Street*	360	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	9,600	9,300	
Minor Street*	360	950	No
<i>Combination Warrant</i>			
Major Street	9,600	7,440	
Minor Street*	360	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Buildout Conditions

Major Street:	Pine Street	Minor Street:	Polk Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	766	PM Peak Hour Volumes:	37

Warrant Used:

<input type="checkbox"/>	100 percent of standard warrants used
<input checked="" type="checkbox"/>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	7,660	6,200	
Minor Street*	370	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	7,660	9,300	
Minor Street*	370	950	No
<i>Combination Warrant</i>			
Major Street	7,660	7,440	
Minor Street*	370	1,480	No

Note: Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity per APM.

Traffic Signal Warrant Analysis



Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Buildout Conditions

Major Street:	3rd Street	Minor Street:	Polk Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	72	PM Peak Hour Volumes:	64

Warrant Used:

<input type="checkbox"/>	100 percent of standard warrants used
<input checked="" type="checkbox"/>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
WARRANT 1, CONDITION A					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	720	6,200	
Minor Street*	640	1,850	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	720	9,300	
Minor Street*	640	950	No
<i>Combination Warrant</i>			
Major Street	720	7,440	
Minor Street*	640	1,480	No

Note: Minor street right-turning traffic volumes reduced by 25%.



Multi-Way Stop Warrant Analysis

Project: JR Meadows No. 3 Subdivision
 Date: 10/18/2022
 Scenario: 2025 Background Conditions

Major Street:	Main Street	Minor Street:	Yamhill Street
PM Peak Hour Volumes:	575	PM Peak Hour Volumes:	309

Warrant Used:

	100 percent of standard warrants used
<u>X</u>	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph.

ADT on Major St. (total of both approaches)		ADT on Minor St. (total of both approaches)	
100%	70%	100%	70%
<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
5,310	3,717	3,540	2,478

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Multi-Way Stop Warrant Met?
Section 2B.07.C			
Major Street	5,750	3,717	
Minor Street	3,090	2,478	Yes

Note: Minor Street includes the total of vehicular, pedestrian, and bicycle traffic.

Appendix G

Level of Service Descriptions

Capacity Reports





Level of Service Definitions

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

- *Level of service A:* Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.
- *Level of service B:* Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.
- *Level of service C:* Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.
- *Level of service D:* Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.
- *Level of service E:* Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.
- *Level of service F:* Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



Level of Service Criteria
For Signalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

Level of Service Criteria
For Unsignalized Intersections

Level of Service (LOS)	Control Delay per Vehicle (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th TWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	92	7	98	3	1	7	74	258	5	8	257	69
Future Vol, veh/h	92	7	98	3	1	7	74	258	5	8	257	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	12	12	12	18	18	18	12	12	12	9	9	9
Mvmt Flow	111	8	118	4	1	8	89	311	6	10	310	83

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	869	867	352	927	905	314	393	0	0	317	0	0
Stage 1	372	372	-	492	492	-	-	-	-	-	-	-
Stage 2	497	495	-	435	413	-	-	-	-	-	-	-
Critical Hdwy	7.22	6.62	6.32	7.28	6.68	6.38	4.22	-	-	4.19	-	-
Critical Hdwy Stg 1	6.22	5.62	-	6.28	5.68	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.22	5.62	-	6.28	5.68	-	-	-	-	-	-	-
Follow-up Hdwy	3.608	4.108	3.408	3.662	4.162	3.462	2.308	-	-	2.281	-	-
Pot Cap-1 Maneuver	262	280	670	233	260	691	1113	-	-	1205	-	-
Stage 1	629	602	-	530	522	-	-	-	-	-	-	-
Stage 2	537	530	-	570	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	237	250	670	172	232	691	1113	-	-	1205	-	-
Mov Cap-2 Maneuver	237	250	-	172	232	-	-	-	-	-	-	-
Stage 1	568	595	-	479	471	-	-	-	-	-	-	-
Stage 2	478	479	-	458	561	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	34.4		15.9		1.9		0.2	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1113	-	-	350	345	1205	-	-
HCM Lane V/C Ratio	0.08	-	-	0.678	0.038	0.008	-	-
HCM Control Delay (s)	8.5	0	-	34.4	15.9	8	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	4.7	0.1	0	-	-

HCM 6th TWSC

2: S Pine Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	15	41	1	136	7	180	25	89	263	1
Future Vol, veh/h	3	0	15	41	1	136	7	180	25	89	263	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	11	11	11	6	6	6	15	15	15	6	6	6
Mvmt Flow	4	0	20	54	1	179	9	237	33	117	346	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	943	869	347	863	853	254	347	0	0	270	0	0
Stage 1	581	581	-	272	272	-	-	-	-	-	-	-
Stage 2	362	288	-	591	581	-	-	-	-	-	-	-
Critical Hdwy	7.21	6.61	6.31	7.16	6.56	6.26	4.25	-	-	4.16	-	-
Critical Hdwy Stg 1	6.21	5.61	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.21	5.61	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.599	4.099	3.399	3.554	4.054	3.354	2.335	-	-	2.254	-	-
Pot Cap-1 Maneuver	234	281	676	270	292	775	1143	-	-	1271	-	-
Stage 1	484	485	-	725	677	-	-	-	-	-	-	-
Stage 2	638	658	-	486	493	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	163	247	676	238	256	775	1143	-	-	1271	-	-
Mov Cap-2 Maneuver	163	247	-	238	256	-	-	-	-	-	-	-
Stage 1	480	430	-	718	671	-	-	-	-	-	-	-
Stage 2	485	652	-	418	437	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.6		18.1		0.3		2	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1143	-	-	443	506	1271	-	-
HCM Lane V/C Ratio	0.008	-	-	0.053	0.463	0.092	-	-
HCM Control Delay (s)	8.2	0	-	13.6	18.1	8.1	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	2.4	0.3	-	-

HCM 6th TWSC 3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	91	23	30	120	3	55	21	20	8	8	3
Future Vol, veh/h	0	91	23	30	120	3	55	21	20	8	8	3
Conflicting Peds, #/hr	3	0	9	9	0	3	15	0	0	0	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	4	4	4	8	8	8	2	2	2	11	11	11
Mvmt Flow	0	125	32	41	164	4	75	29	27	11	11	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	171	0	0	166	0	0	421	403	150	420	417	184
Stage 1	-	-	-	-	-	-	150	150	-	251	251	-
Stage 2	-	-	-	-	-	-	271	253	-	169	166	-
Critical Hdwy	4.14	-	-	4.18	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.272	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1394	-	-	1376	-	-	543	536	896	528	513	836
Stage 1	-	-	-	-	-	-	853	773	-	734	683	-
Stage 2	-	-	-	-	-	-	735	698	-	812	744	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1390	-	-	1364	-	-	506	512	888	476	490	822
Mov Cap-2 Maneuver	-	-	-	-	-	-	506	512	-	476	490	-
Stage 1	-	-	-	-	-	-	845	766	-	732	658	-
Stage 2	-	-	-	-	-	-	685	673	-	757	737	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			13.4			12.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	557	1390	-	-	1364	-	-	517
HCM Lane V/C Ratio	0.236	-	-	-	0.03	-	-	0.05
HCM Control Delay (s)	13.4	0	-	-	7.7	0	-	12.3
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	0.2

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	344	3	2	214	2	10	0	5	25	0	37
Future Vol, veh/h	10	344	3	2	214	2	10	0	5	25	0	37
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	0	0	0	2	2	2
Mvmt Flow	11	382	3	2	238	2	11	0	6	28	0	41

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	241	0	0	385	0	0	670	651	384	653	651	240
Stage 1	-	-	-	-	-	-	406	406	-	244	244	-
Stage 2	-	-	-	-	-	-	264	245	-	409	407	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1320	-	-	1168	-	-	373	390	668	380	388	799
Stage 1	-	-	-	-	-	-	626	601	-	760	704	-
Stage 2	-	-	-	-	-	-	746	707	-	619	597	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1319	-	-	1168	-	-	350	385	668	373	383	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	385	-	373	383	-
Stage 1	-	-	-	-	-	-	619	594	-	751	702	-
Stage 2	-	-	-	-	-	-	706	705	-	607	590	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.2		0.1		14		12.5	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	416	1319	-	-	1168	-	-	547
HCM Lane V/C Ratio	0.04	0.008	-	-	0.002	-	-	0.126
HCM Control Delay (s)	14	7.8	0	-	8.1	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	32	0	24	0	232	8	77	260	0
Future Vol, veh/h	1	2	0	32	0	24	0	232	8	77	260	0
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	36	0	27	0	261	9	87	292	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	753	739	295	733	735	271	295	0	0	270	0	0
Stage 1	469	469	-	266	266	-	-	-	-	-	-	-
Stage 2	284	270	-	467	469	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	329	347	749	336	347	768	1227	-	-	1276	-	-
Stage 1	579	564	-	739	689	-	-	-	-	-	-	-
Stage 2	727	690	-	576	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	295	318	747	313	318	764	1223	-	-	1276	-	-
Mov Cap-2 Maneuver	295	318	-	313	318	-	-	-	-	-	-	-
Stage 1	577	517	-	739	689	-	-	-	-	-	-	-
Stage 2	698	690	-	527	514	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.7		15.1		0		1.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1223	-	-	310	419	1276	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.15	0.068	-	-
HCM Control Delay (s)	0	-	-	16.7	15.1	8	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	69	9	4	0	6	4	0	1	0	4	1	20
Future Vol, veh/h	69	9	4	0	6	4	0	1	0	4	1	20
Peak Hour Factor	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Heavy Vehicles, %	11	11	11	90	90	90	100	100	100	4	4	4
Mvmt Flow	125	16	7	0	11	7	0	2	0	7	2	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	8.6	9.1	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	84%	0%	16%
Vol Thru, %	100%	11%	60%	4%
Vol Right, %	0%	5%	40%	80%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	82	10	25
LT Vol	0	69	0	4
Through Vol	1	9	6	1
RT Vol	0	4	4	20
Lane Flow Rate	2	149	18	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.179	0.027	0.05
Departure Headway (Hd)	6.052	4.322	5.388	3.922
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	595	829	661	919
Service Time	4.054	2.353	3.45	1.922
HCM Lane V/C Ratio	0.003	0.18	0.027	0.049
HCM Control Delay	9.1	8.3	8.6	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.6	0.1	0.2

HCM 6th TWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	62.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	139	4	166	6	1	16	165	268	3	12	288	184
Future Vol, veh/h	139	4	166	6	1	16	165	268	3	12	288	184
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	3	3	3
Mvmt Flow	156	4	187	7	1	18	185	301	3	13	324	207

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1136	1128	428	1222	1230	303	531	0	0	304	0	0
Stage 1	454	454	-	673	673	-	-	-	-	-	-	-
Stage 2	682	674	-	549	557	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	180	205	629	158	179	741	1042	-	-	1251	-	-
Stage 1	588	571	-	448	457	-	-	-	-	-	-	-
Stage 2	441	455	-	524	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 144	159	629	90	139	741	1042	-	-	1251	-	-
Mov Cap-2 Maneuver	~ 144	159	-	90	139	-	-	-	-	-	-	-
Stage 1	462	562	-	352	359	-	-	-	-	-	-	-
Stage 2	337	358	-	360	507	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	245.8		21.7		3.5		0.2	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1042	-	-	246	241	1251	-	-
HCM Lane V/C Ratio	0.178	-	-	1.411	0.107	0.011	-	-
HCM Control Delay (s)	9.2	0	-	245.8	21.7	7.9	0	-
HCM Lane LOS	A	A	-	F	C	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	19.4	0.4	0	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC

2: S Pine Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	23.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	14	82	6	211	25	253	62	174	261	3
Future Vol, veh/h	6	4	14	82	6	211	25	253	62	174	261	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	6	6	6	2	2	2	3	3	3	2	2	2
Mvmt Flow	7	5	16	93	7	240	28	288	70	198	297	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1198	1109	299	1084	1075	323	300	0	0	358	0	0
Stage 1	695	695	-	379	379	-	-	-	-	-	-	-
Stage 2	503	414	-	705	696	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.56	6.26	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.16	5.56	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.56	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.054	3.354	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	206	731	194	220	718	1255	-	-	1201	-	-
Stage 1	426	438	-	643	615	-	-	-	-	-	-	-
Stage 2	543	586	-	427	443	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	85	161	731	154	172	718	1255	-	-	1201	-	-
Mov Cap-2 Maneuver	85	161	-	154	172	-	-	-	-	-	-	-
Stage 1	414	351	-	625	598	-	-	-	-	-	-	-
Stage 2	348	570	-	331	355	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.8		78.5		0.6		3.4	
HCM LOS	C		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1255	-	-	209	347	1201	-	-
HCM Lane V/C Ratio	0.023	-	-	0.13	0.979	0.165	-	-
HCM Control Delay (s)	7.9	0	-	24.8	78.5	8.6	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	10.8	0.6	-	-

HCM 6th TWSC

3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	208	12	17	297	3	14	4	16	3	4	1
Future Vol, veh/h	3	208	12	17	297	3	14	4	16	3	4	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4	0	0	0
Mvmt Flow	3	226	13	18	323	3	15	4	17	3	4	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	326	0	0	241	0	0	604	603	236	611	608	325
Stage 1	-	-	-	-	-	-	241	241	-	361	361	-
Stage 2	-	-	-	-	-	-	363	362	-	250	247	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1239	-	-	1331	-	-	407	410	798	409	413	721
Stage 1	-	-	-	-	-	-	758	702	-	662	629	-
Stage 2	-	-	-	-	-	-	652	622	-	759	706	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1239	-	-	1328	-	-	396	401	796	390	404	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	396	401	-	390	404	-
Stage 1	-	-	-	-	-	-	754	698	-	660	618	-
Stage 2	-	-	-	-	-	-	635	611	-	735	702	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			12.5			13.7		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	520	1239	-	-	1328	-	-	421
HCM Lane V/C Ratio	0.071	0.003	-	-	0.014	-	-	0.021
HCM Control Delay (s)	12.5	7.9	0	-	7.7	0	-	13.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	305	11	5	455	28	7	0	3	8	0	19
Future Vol, veh/h	45	305	11	5	455	28	7	0	3	8	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	2	2	2	0	0	0	0	0	0
Mvmt Flow	48	328	12	5	489	30	8	0	3	9	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	519	0	0	340	0	0	954	959	335	947	950	504
Stage 1	-	-	-	-	-	-	430	430	-	514	514	-
Stage 2	-	-	-	-	-	-	524	529	-	433	436	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1037	-	-	1219	-	-	240	259	712	243	262	572
Stage 1	-	-	-	-	-	-	607	587	-	547	539	-
Stage 2	-	-	-	-	-	-	540	530	-	605	583	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1037	-	-	1219	-	-	220	243	711	230	245	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	243	-	230	245	-
Stage 1	-	-	-	-	-	-	572	554	-	516	536	-
Stage 2	-	-	-	-	-	-	518	527	-	567	550	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			18.5			14.8		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	1037	-	-	1219	-	-	397
HCM Lane V/C Ratio	0.039	0.047	-	-	0.004	-	-	0.073
HCM Control Delay (s)	18.5	8.6	0	-	8	0	-	14.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	27	0	10	0	359	7	14	341	3
Future Vol, veh/h	1	1	0	27	0	10	0	359	7	14	341	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	33	0	12	0	433	8	17	411	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	890	888	413	885	886	437	415	0	0	441	0	0
Stage 1	447	447	-	437	437	-	-	-	-	-	-	-
Stage 2	443	441	-	448	449	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	266	285	643	268	286	624	1133	-	-	1124	-	-
Stage 1	595	577	-	602	583	-	-	-	-	-	-	-
Stage 2	598	580	-	594	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	257	279	643	263	280	624	1133	-	-	1124	-	-
Mov Cap-2 Maneuver	257	279	-	263	280	-	-	-	-	-	-	-
Stage 1	595	565	-	602	583	-	-	-	-	-	-	-
Stage 2	586	580	-	581	564	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	18.6		18.5		0			0.3		
HCM LOS	C		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1133	-	-	268	312	1124	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.143	0.015	-	-
HCM Control Delay (s)	0	-	-	18.6	18.5	8.3	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	6	0	0	4	6	3	0	0	4	1	19
Future Vol, veh/h	33	6	0	0	4	6	3	0	0	4	1	19
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	42	8	0	0	5	8	4	0	0	5	1	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	6.7	7.3	6.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	85%	0%	17%
Vol Thru, %	0%	15%	40%	4%
Vol Right, %	0%	0%	60%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	39	10	24
LT Vol	3	33	0	4
Through Vol	0	6	4	1
RT Vol	0	0	6	19
Lane Flow Rate	4	50	13	31
Geometry Grp	1	1	1	1
Degree of Util (X)	0.005	0.057	0.013	0.03
Departure Headway (Hd)	4.231	4.137	3.636	3.568
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	869	985	1001
Service Time	2.263	2.149	1.656	1.599
HCM Lane V/C Ratio	0.005	0.058	0.013	0.031
HCM Control Delay	7.3	7.4	6.7	6.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0	0.1

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	13	1	0	16	0	1	0	0	0	0	10
Future Vol, veh/h	25	13	1	0	16	0	1	0	0	0	0	10
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	30	30	30	73	73	73	0	0	0	0	0	0
Mvmt Flow	35	18	1	0	22	0	1	0	0	0	0	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8.4	7.3	6.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	64%	0%	0%
Vol Thru, %	0%	33%	100%	0%
Vol Right, %	0%	3%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	39	16	10
LT Vol	1	25	0	0
Through Vol	0	13	16	0
RT Vol	0	1	0	10
Lane Flow Rate	1	54	22	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0.002	0.069	0.032	0.013
Departure Headway (Hd)	4.243	4.565	5.207	3.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	836	787	689	1030
Service Time	2.308	2.579	3.229	1.497
HCM Lane V/C Ratio	0.001	0.069	0.032	0.014
HCM Control Delay	7.3	7.9	8.4	6.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0.1	0

HCM 6th AWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	98	106	7	7	86	56	1	7	4	53	8	73
Future Vol, veh/h	98	106	7	7	86	56	1	7	4	53	8	73
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	12	12	12	12	12	12	18	18	18	9	9	9
Mvmt Flow	118	128	8	8	104	67	1	8	5	64	10	88
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	9.1	8.5	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	46%	5%	40%
Vol Thru, %	58%	50%	58%	6%
Vol Right, %	33%	3%	38%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	211	149	134
LT Vol	1	98	7	53
Through Vol	7	106	86	8
RT Vol	4	7	56	73
Lane Flow Rate	14	254	180	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.021	0.34	0.231	0.217
Departure Headway (Hd)	5.277	4.819	4.63	4.848
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	745	774	738
Service Time	3.34	2.859	2.671	2.894
HCM Lane V/C Ratio	0.021	0.341	0.233	0.218
HCM Control Delay	8.5	10.3	9.1	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	1.5	0.9	0.8

HCM 6th Signalized Intersection Summary

2: S Pine Street & E Main Street

10/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	1	22	134	44	85	86	44	146	27	81	150	3
Future Volume (veh/h)	1	22	134	44	85	86	44	146	27	81	150	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1668	1668	1668	1668	1668	1545	1545	1545	1600	1600	1600
Adj Flow Rate, veh/h	1	29	56	58	112	67	58	192	25	107	197	4
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	6	6	6	6	6	6	15	15	15	11	11	11
Cap, veh/h	156	157	296	264	257	131	251	403	47	337	382	7
Arrive On Green	0.28	0.31	0.28	0.28	0.31	0.28	0.33	0.36	0.33	0.33	0.36	0.33
Sat Flow, veh/h	6	512	966	242	841	427	187	1134	132	370	1074	19
Grp Volume(v), veh/h	86	0	0	237	0	0	275	0	0	308	0	0
Grp Sat Flow(s),veh/h/ln1484	0	0	0	1510	0	0	1453	0	0	1463	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	3.0	0.0	0.0	3.4	0.0	0.0	3.8	0.0	0.0
Prop In Lane	0.01		0.65	0.24		0.28	0.21		0.09	0.35		0.01
Lane Grp Cap(c), veh/h	577	0	0	620	0	0	670	0	0	694	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.38	0.00	0.00	0.41	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	1689	0	0	1729	0	0	1763	0	0	1771	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	6.8	0.0	0.0	6.1	0.0	0.0	6.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.3	0.0	0.0	7.2	0.0	0.0	6.5	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		86		237			275			308		
Approach Delay, s/veh		6.3		7.2			6.5			6.6		
Approach LOS		A		A			A			A		
Timer - Assigned Phs		2		4			6			8		
Phs Duration (G+Y+Rc), s		11.2		12.4			11.2			12.4		
Change Period (Y+Rc), s		4.5		4.5			4.5			4.5		
Max Green Setting (Gmax), s		24.5		26.5			24.5			26.5		
Max Q Clear Time (g_c+I1), s		3.0		5.4			5.0			5.8		
Green Ext Time (p_c), s		0.4		1.7			1.4			2.0		
Intersection Summary												
HCM 6th Ctrl Delay				6.7								
HCM 6th LOS				A								

HCM 6th TWSC

3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	106	24	32	153	3	58	22	21	8	8	3
Future Vol, veh/h	0	106	24	32	153	3	58	22	21	8	8	3
Conflicting Peds, #/hr	3	0	9	9	0	3	15	0	0	0	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	4	4	4	8	8	8	2	2	2	11	11	11
Mvmt Flow	0	145	33	44	210	4	79	30	29	11	11	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	187	0	0	494	476	171	494	490	230
Stage 1	-	-	-	-	-	-	171	171	-	303	303	-
Stage 2	-	-	-	-	-	-	323	305	-	191	187	-
Critical Hdwy	4.14	-	-	4.18	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.272	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1341	-	-	1352	-	-	486	488	873	471	466	787
Stage 1	-	-	-	-	-	-	831	757	-	687	648	-
Stage 2	-	-	-	-	-	-	689	662	-	790	729	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1337	-	-	1340	-	-	451	464	866	420	443	774
Mov Cap-2 Maneuver	-	-	-	-	-	-	451	464	-	420	443	-
Stage 1	-	-	-	-	-	-	824	750	-	685	622	-
Stage 2	-	-	-	-	-	-	639	636	-	733	722	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.3			14.8			13.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	504	1337	-	-	1340	-	-	464
HCM Lane V/C Ratio	0.275	-	-	-	0.033	-	-	0.056
HCM Control Delay (s)	14.8	0	-	-	7.8	0	-	13.2
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0	-	-	0.1	-	-	0.2

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	365	12	5	227	2	37	0	16	27	0	39
Future Vol, veh/h	11	365	12	5	227	2	37	0	16	27	0	39
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	0	0	0	2	2	2
Mvmt Flow	12	406	13	6	252	2	41	0	18	30	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	255	0	0	419	0	0	724	704	413	712	709	254
Stage 1	-	-	-	-	-	-	437	437	-	266	266	-
Stage 2	-	-	-	-	-	-	287	267	-	446	443	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1304	-	-	1135	-	-	344	364	643	347	359	785
Stage 1	-	-	-	-	-	-	602	583	-	739	689	-
Stage 2	-	-	-	-	-	-	725	692	-	591	576	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1303	-	-	1135	-	-	321	357	643	332	352	784
Mov Cap-2 Maneuver	-	-	-	-	-	-	321	357	-	332	352	-
Stage 1	-	-	-	-	-	-	595	576	-	729	684	-
Stage 2	-	-	-	-	-	-	681	687	-	568	569	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			16.3			13.4		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	378	1303	-	-	1135	-	-	504
HCM Lane V/C Ratio	0.156	0.009	-	-	0.005	-	-	0.146
HCM Control Delay (s)	16.3	7.8	0	-	8.2	0	-	13.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.5

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	40	0	25	0	236	9	82	265	0
Future Vol, veh/h	1	2	0	40	0	25	0	236	9	82	265	0
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	45	0	28	0	265	10	92	298	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	774	760	301	753	755	275	301	0	0	275	0	0
Stage 1	485	485	-	270	270	-	-	-	-	-	-	-
Stage 2	289	275	-	483	485	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	318	338	743	326	338	764	1221	-	-	1271	-	-
Stage 1	567	555	-	736	686	-	-	-	-	-	-	-
Stage 2	723	686	-	565	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	284	308	741	303	308	760	1218	-	-	1271	-	-
Mov Cap-2 Maneuver	284	308	-	303	308	-	-	-	-	-	-	-
Stage 1	565	505	-	736	686	-	-	-	-	-	-	-
Stage 2	693	686	-	514	502	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.1		16.2		0		1.9	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1218	-	-	300	394	1271	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.185	0.072	-	-
HCM Control Delay (s)	0	-	-	17.1	16.2	8.1	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0.2	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	74	10	4	0	6	4	0	1	0	4	1	27
Future Vol, veh/h	74	10	4	0	6	4	0	1	0	4	1	27
Peak Hour Factor	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Heavy Vehicles, %	11	11	11	90	90	90	100	100	100	4	4	4
Mvmt Flow	135	18	7	0	11	7	0	2	0	7	2	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.6	9.1	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	84%	0%	12%
Vol Thru, %	100%	11%	60%	3%
Vol Right, %	0%	5%	40%	84%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	88	10	32
LT Vol	0	74	0	4
Through Vol	1	10	6	1
RT Vol	0	4	4	27
Lane Flow Rate	2	160	18	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.003	0.193	0.027	0.063
Departure Headway (Hd)	6.092	4.348	5.42	3.916
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	591	824	656	920
Service Time	4.094	2.381	3.489	1.916
HCM Lane V/C Ratio	0.003	0.194	0.027	0.063
HCM Control Delay	9.1	8.4	8.6	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.7	0.1	0.2

HCM 6th AWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection												
Intersection Delay, s/veh	13.2											
Intersection LOS	B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	148	183	4	5	179	56	1	17	8	62	13	195
Future Vol, veh/h	148	183	4	5	179	56	1	17	8	62	13	195
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	3	3	3
Mvmt Flow	166	206	4	6	201	63	1	19	9	70	15	219
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	15			11.8			9.4			12.6		
HCM LOS	B			B			A			B		
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	4%	44%	2%	23%								
Vol Thru, %	65%	55%	75%	5%								
Vol Right, %	31%	1%	23%	72%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	26	335	240	270								
LT Vol	1	148	5	62								
Through Vol	17	183	179	13								
RT Vol	8	4	56	195								
Lane Flow Rate	29	376	270	303								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.049	0.558	0.396	0.447								
Departure Headway (Hd)	6.021	5.339	5.288	5.302								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	592	674	680	677								
Service Time	4.089	3.38	3.334	3.347								
HCM Lane V/C Ratio	0.049	0.558	0.397	0.448								
HCM Control Delay	9.4	15	11.8	12.6								
HCM Lane LOS	A	B	B	B								
HCM 95th-tile Q	0.2	3.5	1.9	2.3								

HCM 6th Signalized Intersection Summary

2: S Pine Street & E Main Street

10/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	96	133	87	135	111	135	149	66	121	148	6
Future Volume (veh/h)	3	96	133	87	135	111	135	149	66	121	148	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1709	1709	1709	1668	1668	1668
Adj Flow Rate, veh/h	3	109	69	99	153	95	153	169	60	138	168	6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	6	6	6
Cap, veh/h	124	359	223	264	290	151	350	293	88	366	355	11
Arrive On Green	0.35	0.37	0.35	0.35	0.37	0.35	0.35	0.37	0.35	0.35	0.37	0.35
Sat Flow, veh/h	7	982	609	302	793	413	495	795	240	524	966	29
Grp Volume(v), veh/h	181	0	0	347	0	0	382	0	0	312	0	0
Grp Sat Flow(s),veh/h/ln1599	0	0	0	1508	0	0	1531	0	0	1519	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.7	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	5.6	0.0	0.0	6.0	0.0	0.0	4.5	0.0	0.0
Prop In Lane	0.02		0.38	0.29		0.27	0.40		0.16	0.44		0.02
Lane Grp Cap(c), veh/h	680	0	0	680	0	0	706	0	0	706	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.51	0.00	0.00	0.54	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	1474	0	0	1409	0	0	1415	0	0	1384	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.9	0.0	0.0	7.9	0.0	0.0	8.0	0.0	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.6	0.0	0.0	0.0	1.3	0.0	0.0	1.5	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	0.0	0.0	8.5	0.0	0.0	8.6	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		181			347			382			312	
Approach Delay, s/veh		7.1			8.5			8.6			8.0	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.0		15.1		15.0		15.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		4.5		8.0		7.6		6.5				
Green Ext Time (p_c), s		1.0		2.5		2.2		2.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.2								
HCM 6th LOS				A								

HCM 6th TWSC

3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	249	13	18	331	3	15	4	17	3	4	1
Future Vol, veh/h	3	249	13	18	331	3	15	4	17	3	4	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4	0	0	0
Mvmt Flow	3	271	14	20	360	3	16	4	18	3	4	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	363	0	0	287	0	0	690	689	281	698	695	362
Stage 1	-	-	-	-	-	-	286	286	-	402	402	-
Stage 2	-	-	-	-	-	-	404	403	-	296	293	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1201	-	-	1281	-	-	357	366	753	358	368	687
Stage 1	-	-	-	-	-	-	717	671	-	629	604	-
Stage 2	-	-	-	-	-	-	619	596	-	717	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1201	-	-	1279	-	-	346	357	751	340	359	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	346	357	-	340	359	-
Stage 1	-	-	-	-	-	-	713	668	-	627	592	-
Stage 2	-	-	-	-	-	-	601	584	-	692	671	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			13.4			14.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	466	1201	-	-	1279	-	-	373
HCM Lane V/C Ratio	0.084	0.003	-	-	0.015	-	-	0.023
HCM Control Delay (s)	13.4	8	0	-	7.9	0	-	14.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	324	40	17	483	30	23	0	10	8	0	20
Future Vol, veh/h	48	324	40	17	483	30	23	0	10	8	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	2	2	2	0	0	0	0	0	0
Mvmt Flow	52	348	43	18	519	32	25	0	11	9	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	551	0	0	391	0	0	1056	1061	371	1051	1066	535
Stage 1	-	-	-	-	-	-	474	474	-	571	571	-
Stage 2	-	-	-	-	-	-	582	587	-	480	495	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1009	-	-	1168	-	-	205	226	679	207	224	549
Stage 1	-	-	-	-	-	-	575	561	-	509	508	-
Stage 2	-	-	-	-	-	-	502	500	-	571	549	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1009	-	-	1168	-	-	184	206	678	190	205	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	206	-	190	205	-
Stage 1	-	-	-	-	-	-	537	524	-	475	497	-
Stage 2	-	-	-	-	-	-	472	489	-	524	513	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.3			22.9			16		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	1009	-	-	1168	-	-	357
HCM Lane V/C Ratio	0.15	0.051	-	-	0.016	-	-	0.084
HCM Control Delay (s)	22.9	8.8	0	-	8.1	0	-	16
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0	-	-	0.3

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	32	0	11	0	365	13	15	347	3
Future Vol, veh/h	1	1	0	32	0	11	0	365	13	15	347	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	39	0	13	0	440	16	18	418	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	911	912	420	905	906	448	422	0	0	456	0	0
Stage 1	456	456	-	448	448	-	-	-	-	-	-	-
Stage 2	455	456	-	457	458	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	257	276	638	260	278	615	1127	-	-	1110	-	-
Stage 1	588	572	-	594	576	-	-	-	-	-	-	-
Stage 2	589	572	-	587	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	247	270	638	255	272	615	1127	-	-	1110	-	-
Mov Cap-2 Maneuver	247	270	-	255	272	-	-	-	-	-	-	-
Stage 1	588	560	-	594	576	-	-	-	-	-	-	-
Stage 2	576	572	-	573	558	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.1		19.5		0		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1127	-	-	258	300	1110	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.173	0.016	-	-
HCM Control Delay (s)	0	-	-	19.1	19.5	8.3	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.1	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	6	0	0	4	6	3	0	0	4	1	23
Future Vol, veh/h	41	6	0	0	4	6	3	0	0	4	1	23
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	53	8	0	0	5	8	4	0	0	5	1	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	6.7	7.3	6.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	87%	0%	14%
Vol Thru, %	0%	13%	40%	4%
Vol Right, %	0%	0%	60%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	47	10	28
LT Vol	3	41	0	4
Through Vol	0	6	4	1
RT Vol	0	0	6	23
Lane Flow Rate	4	60	13	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.005	0.069	0.013	0.036
Departure Headway (Hd)	4.255	4.152	3.654	3.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	865	979	1001
Service Time	2.292	2.166	1.678	1.599
HCM Lane V/C Ratio	0.005	0.069	0.013	0.036
HCM Control Delay	7.3	7.5	6.7	6.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.2	0	0.1

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection												
Intersection Delay, s/veh	7.8											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	14	1	0	17	0	1	0	0	0	0	14
Future Vol, veh/h	33	14	1	0	17	0	1	0	0	0	0	14
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	30	30	30	73	73	73	0	0	0	0	0	0
Mvmt Flow	46	19	1	0	24	0	1	0	0	0	0	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8			8.4			7.4			6.6		
HCM LOS	A			A			A			A		
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	100%	69%	0%	0%								
Vol Thru, %	0%	29%	100%	0%								
Vol Right, %	0%	2%	0%	100%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	1	48	17	14								
LT Vol	1	33	0	0								
Through Vol	0	14	17	0								
RT Vol	0	1	0	14								
Lane Flow Rate	1	67	24	19								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.002	0.085	0.034	0.019								
Departure Headway (Hd)	4.271	4.588	5.227	3.456								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	828	783	685	1019								
Service Time	2.349	2.605	3.255	1.532								
HCM Lane V/C Ratio	0.001	0.086	0.035	0.019								
HCM Control Delay	7.4	8	8.4	6.6								
HCM Lane LOS	A	A	A	A								
HCM 95th-tile Q	0	0.3	0.1	0.1								

HCM 6th AWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	98	109	7	7	92	56	1	7	4	53	8	73
Future Vol, veh/h	98	109	7	7	92	56	1	7	4	53	8	73
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	12	12	12	12	12	12	18	18	18	9	9	9
Mvmt Flow	118	131	8	8	111	67	1	8	5	64	10	88
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	9.2	8.5	9.3
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	46%	5%	40%
Vol Thru, %	58%	51%	59%	6%
Vol Right, %	33%	3%	36%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	214	155	134
LT Vol	1	98	7	53
Through Vol	7	109	92	8
RT Vol	4	7	56	73
Lane Flow Rate	14	258	187	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.021	0.346	0.241	0.219
Departure Headway (Hd)	5.307	4.83	4.645	4.874
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	743	771	735
Service Time	3.373	2.872	2.689	2.922
HCM Lane V/C Ratio	0.021	0.347	0.243	0.219
HCM Control Delay	8.5	10.4	9.2	9.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	1.5	0.9	0.8

HCM 6th Signalized Intersection Summary

2: S Pine Street & E Main Street

10/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	1	24	135	44	89	95	46	155	27	84	154	3
Future Volume (veh/h)	1	24	135	44	89	95	46	155	27	84	154	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1668	1668	1668	1668	1668	1545	1545	1545	1600	1600	1600
Adj Flow Rate, veh/h	1	32	57	58	117	75	61	204	27	111	203	4
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Percent Heavy Veh, %	6	6	6	6	6	6	15	15	15	11	11	11
Cap, veh/h	152	169	294	253	259	141	246	406	48	334	384	7
Arrive On Green	0.29	0.31	0.29	0.29	0.31	0.29	0.34	0.36	0.34	0.34	0.36	0.34
Sat Flow, veh/h	5	540	943	226	830	453	187	1132	134	374	1070	18
Grp Volume(v), veh/h	90	0	0	250	0	0	292	0	0	318	0	0
Grp Sat Flow(s),veh/h/ln1488	0	0	0	1509	0	0	1453	0	0	1463	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	3.3	0.0	0.0	3.8	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.01		0.63	0.23		0.30	0.21		0.09	0.35		0.01
Lane Grp Cap(c), veh/h	584	0	0	623	0	0	670	0	0	694	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.40	0.00	0.00	0.44	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	1648	0	0	1680	0	0	1714	0	0	1718	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	7.0	0.0	0.0	6.3	0.0	0.0	6.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.2	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.0	0.0	7.4	0.0	0.0	6.7	0.0	0.0	6.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		90			250			292			318	
Approach Delay, s/veh		6.4			7.4			6.7			6.8	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.6		12.7		11.6		12.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5				
Max Q Clear Time (g_c+11), s		3.1		5.8		5.3		6.0				
Green Ext Time (p_c), s		0.4		1.9		1.5		2.1				
Intersection Summary												
HCM 6th Ctrl Delay					6.9							
HCM 6th LOS					A							

HCM 6th TWSC

3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	107	28	34	155	3	69	22	26	8	8	3
Future Vol, veh/h	0	107	28	34	155	3	69	22	26	8	8	3
Conflicting Peds, #/hr	3	0	9	9	0	3	15	0	0	0	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	4	4	4	8	8	8	2	2	2	11	11	11
Mvmt Flow	0	147	38	47	212	4	95	30	36	11	11	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	219	0	0	194	0	0	506	488	175	510	505	232
Stage 1	-	-	-	-	-	-	175	175	-	311	311	-
Stage 2	-	-	-	-	-	-	331	313	-	199	194	-
Critical Hdwy	4.14	-	-	4.18	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.272	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1339	-	-	1344	-	-	477	480	868	460	457	785
Stage 1	-	-	-	-	-	-	827	754	-	681	642	-
Stage 2	-	-	-	-	-	-	682	657	-	783	723	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1335	-	-	1332	-	-	441	456	861	405	434	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	441	456	-	405	434	-
Stage 1	-	-	-	-	-	-	820	747	-	679	614	-
Stage 2	-	-	-	-	-	-	630	629	-	720	716	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.4			15.6			13.5		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	1335	-	-	1332	-	-	452
HCM Lane V/C Ratio	0.322	-	-	-	0.035	-	-	0.058
HCM Control Delay (s)	15.6	0	-	-	7.8	0	-	13.5
HCM Lane LOS	C	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	1.4	0	-	-	0.1	-	-	0.2

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	370	13	7	229	2	39	0	23	27	0	39
Future Vol, veh/h	11	370	13	7	229	2	39	0	23	27	0	39
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	0	0	0	2	2	2
Mvmt Flow	12	411	14	8	254	2	43	0	26	30	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	425	0	0	735	715	418	727	721	256
Stage 1	-	-	-	-	-	-	442	442	-	272	272	-
Stage 2	-	-	-	-	-	-	293	273	-	455	449	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1302	-	-	1129	-	-	338	359	639	339	353	783
Stage 1	-	-	-	-	-	-	598	580	-	734	685	-
Stage 2	-	-	-	-	-	-	719	688	-	585	572	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1301	-	-	1129	-	-	314	351	639	320	346	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	351	-	320	346	-
Stage 1	-	-	-	-	-	-	591	573	-	724	679	-
Stage 2	-	-	-	-	-	-	674	682	-	555	565	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			16.3			13.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	387	1301	-	-	1129	-	-	492
HCM Lane V/C Ratio	0.178	0.009	-	-	0.007	-	-	0.149
HCM Control Delay (s)	16.3	7.8	0	-	8.2	0	-	13.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.5

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	0	47	0	38	0	236	11	88	265	0
Future Vol, veh/h	1	2	0	47	0	38	0	236	11	88	265	0
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	2	2	2	9	9	9	5	5	5
Mvmt Flow	1	2	0	53	0	43	0	265	12	99	298	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	797	776	301	768	770	276	301	0	0	277	0	0
Stage 1	499	499	-	271	271	-	-	-	-	-	-	-
Stage 2	298	277	-	497	499	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.19	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.281	-	-	2.245	-	-
Pot Cap-1 Maneuver	307	331	743	319	331	763	1221	-	-	1269	-	-
Stage 1	557	547	-	735	685	-	-	-	-	-	-	-
Stage 2	715	685	-	555	544	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	267	299	741	295	299	759	1218	-	-	1269	-	-
Mov Cap-2 Maneuver	267	299	-	295	299	-	-	-	-	-	-	-
Stage 1	555	494	-	735	685	-	-	-	-	-	-	-
Stage 2	672	685	-	501	492	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.6		16.6		0		2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1218	-	-	288	406	1269	-	-
HCM Lane V/C Ratio	-	-	-	0.012	0.235	0.078	-	-
HCM Control Delay (s)	0	-	-	17.6	16.6	8.1	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0.3	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	74	10	12	0	6	4	20	17	0	4	7	27
Future Vol, veh/h	74	10	12	0	6	4	20	17	0	4	7	27
Peak Hour Factor	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Heavy Vehicles, %	11	11	11	90	90	90	100	100	100	4	4	4
Mvmt Flow	135	18	22	0	11	7	36	31	0	7	13	49
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	8.9			9			10.1			7.5		
HCM LOS	A			A			B			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	54%	77%	0%	11%
Vol Thru, %	46%	10%	60%	18%
Vol Right, %	0%	12%	40%	71%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	96	10	38
LT Vol	20	74	0	4
Through Vol	17	10	6	7
RT Vol	0	12	4	27
Lane Flow Rate	67	175	18	69
Geometry Grp	1	1	1	1
Degree of Util (X)	0.117	0.221	0.029	0.079
Departure Headway (Hd)	6.259	4.559	5.761	4.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	575	791	623	867
Service Time	4.278	2.572	3.78	2.157
HCM Lane V/C Ratio	0.117	0.221	0.029	0.08
HCM Control Delay	10.1	8.9	9	7.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	0.4	0.8	0.1	0.3

HCM 6th AWSC

1: N Yamhill Street & E Main Street

10/18/2022

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	148	190	4	5	184	56	1	17	8	62	13	195
Future Vol, veh/h	148	190	4	5	184	56	1	17	8	62	13	195
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	3	3	3
Mvmt Flow	166	213	4	6	207	63	1	19	9	70	15	219
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.4	12	9.5	12.7
HCM LOS	C	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	43%	2%	23%
Vol Thru, %	65%	56%	75%	5%
Vol Right, %	31%	1%	23%	72%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	342	245	270
LT Vol	1	148	5	62
Through Vol	17	190	184	13
RT Vol	8	4	56	195
Lane Flow Rate	29	384	275	303
Geometry Grp	1	1	1	1
Degree of Util (X)	0.049	0.572	0.406	0.45
Departure Headway (Hd)	6.072	5.355	5.311	5.341
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	587	672	677	673
Service Time	4.143	3.396	3.358	3.387
HCM Lane V/C Ratio	0.049	0.571	0.406	0.45
HCM Control Delay	9.5	15.4	12	12.7
HCM Lane LOS	A	C	B	B
HCM 95th-tile Q	0.2	3.6	2	2.3

HCM 6th Signalized Intersection Summary
2: S Pine Street & E Main Street

10/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	101	135	87	139	117	136	155	66	131	159	6
Future Volume (veh/h)	3	101	135	87	139	117	136	155	66	131	159	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1709	1709	1709	1668	1668	1668
Adj Flow Rate, veh/h	3	115	75	99	158	102	155	176	61	149	181	6
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	6	6	6
Cap, veh/h	121	358	229	256	291	158	346	299	89	365	350	10
Arrive On Green	0.35	0.37	0.35	0.35	0.37	0.35	0.35	0.37	0.35	0.35	0.37	0.35
Sat Flow, veh/h	7	970	621	291	787	428	494	806	240	529	943	27
Grp Volume(v), veh/h	193	0	0	359	0	0	392	0	0	336	0	0
Grp Sat Flow(s),veh/h/ln1597	0	0	0	1506	0	0	1540	0	0	1498	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	6.0	0.0	0.0	6.3	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.02		0.39	0.28		0.28	0.40		0.16	0.44		0.02
Lane Grp Cap(c), veh/h	683	0	0	681	0	0	709	0	0	700	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.53	0.00	0.00	0.55	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	1384	0	0	1325	0	0	1427	0	0	1386	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	0.0	0.0	8.1	0.0	0.0	8.1	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.7	0.0	0.0	0.0	1.5	0.0	0.0	1.6	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	0.0	0.0	8.7	0.0	0.0	8.8	0.0	0.0	8.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		193		359			392			336		
Approach Delay, s/veh		7.3		8.7			8.8			8.3		
Approach LOS		A		A			A			A		
Timer - Assigned Phs		2		4			6			8		
Phs Duration (G+Y+Rc), s		15.4		15.4			15.4			15.4		
Change Period (Y+Rc), s		4.5		4.5			4.5			4.5		
Max Green Setting (Gmax), s		24.5		26.5			24.5			26.5		
Max Q Clear Time (g_c+I1), s		4.7		8.3			8.0			7.2		
Green Ext Time (p_c), s		1.1		2.6			2.2			2.2		
Intersection Summary												
HCM 6th Ctrl Delay				8.4								
HCM 6th LOS				A								

HCM 6th TWSC

3: S 3rd Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	252	25	23	333	3	23	4	20	3	4	1
Future Vol, veh/h	3	252	25	23	333	3	23	4	20	3	4	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	4	4	4	0	0	0
Mvmt Flow	3	274	27	25	362	3	25	4	22	3	4	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	365	0	0	303	0	0	712	711	291	722	723	364
Stage 1	-	-	-	-	-	-	296	296	-	414	414	-
Stage 2	-	-	-	-	-	-	416	415	-	308	309	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1199	-	-	1264	-	-	345	356	743	345	355	685
Stage 1	-	-	-	-	-	-	708	665	-	620	597	-
Stage 2	-	-	-	-	-	-	610	589	-	706	663	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1199	-	-	1262	-	-	333	345	741	324	344	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	345	-	324	344	-
Stage 1	-	-	-	-	-	-	704	662	-	618	582	-
Stage 2	-	-	-	-	-	-	589	574	-	678	660	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.5			14.3			15.3		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	437	1199	-	-	1262	-	-	358
HCM Lane V/C Ratio	0.117	0.003	-	-	0.02	-	-	0.024
HCM Control Delay (s)	14.3	8	0	-	7.9	0	-	15.3
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

HCM 6th TWSC

4: S 7th Street & E Main Street

10/18/2022

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	327	43	24	488	30	25	0	15	8	0	20
Future Vol, veh/h	48	327	43	24	488	30	25	0	15	8	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	2	2	2	0	0	0	0	0	0
Mvmt Flow	52	352	46	26	525	32	27	0	16	9	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	398	0	0	1083	1088	376	1081	1095	541
Stage 1	-	-	-	-	-	-	479	479	-	593	593	-
Stage 2	-	-	-	-	-	-	604	609	-	488	502	-
Critical Hdwy	4.14	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1004	-	-	1161	-	-	197	218	675	197	215	545
Stage 1	-	-	-	-	-	-	571	558	-	496	497	-
Stage 2	-	-	-	-	-	-	489	488	-	565	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1004	-	-	1161	-	-	175	197	674	178	194	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	197	-	178	194	-
Stage 1	-	-	-	-	-	-	533	521	-	463	481	-
Stage 2	-	-	-	-	-	-	454	472	-	514	508	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.4			23.1			16.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	242	1004	-	-	1161	-	-	343
HCM Lane V/C Ratio	0.178	0.051	-	-	0.022	-	-	0.088
HCM Control Delay (s)	23.1	8.8	0	-	8.2	0	-	16.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-	-	0.3

HCM 6th TWSC

5: S Pine Street & E Polk Street

10/18/2022

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	0	37	0	19	0	365	20	31	347	3
Future Vol, veh/h	1	1	0	37	0	19	0	365	20	31	347	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	1	1	1
Mvmt Flow	1	1	0	45	0	23	0	440	24	37	418	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	958	958	420	947	948	452	422	0	0	464	0	0
Stage 1	494	494	-	452	452	-	-	-	-	-	-	-
Stage 2	464	464	-	495	496	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	239	259	638	243	263	612	1127	-	-	1103	-	-
Stage 1	561	550	-	591	574	-	-	-	-	-	-	-
Stage 2	582	567	-	560	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	222	248	638	234	251	612	1127	-	-	1103	-	-
Mov Cap-2 Maneuver	222	248	-	234	251	-	-	-	-	-	-	-
Stage 1	561	526	-	591	574	-	-	-	-	-	-	-
Stage 2	560	567	-	534	525	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.5		20.7		0		0.7	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1127	-	-	234	296	1103	-	-
HCM Lane V/C Ratio	-	-	-	0.01	0.228	0.034	-	-
HCM Control Delay (s)	0	-	-	20.5	20.7	8.4	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0.1	-	-

HCM 6th AWSC
6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	6	23	0	4	6	16	11	0	4	18	23
Future Vol, veh/h	41	6	23	0	4	6	16	11	0	4	18	23
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	53	8	29	0	5	8	21	14	0	5	23	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	6.9	7.5	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	59%	59%	0%	9%
Vol Thru, %	41%	9%	40%	40%
Vol Right, %	0%	33%	60%	51%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	70	10	45
LT Vol	16	41	0	4
Through Vol	11	6	4	18
RT Vol	0	23	6	23
Lane Flow Rate	35	90	13	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.099	0.013	0.061
Departure Headway (Hd)	4.241	3.989	3.768	3.815
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	895	942	932
Service Time	2.291	2.029	1.824	1.865
HCM Lane V/C Ratio	0.042	0.101	0.014	0.062
HCM Control Delay	7.5	7.5	6.9	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0	0.2

HCM 6th AWSC

6: S 3rd Street & E Polk Street

10/18/2022

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	14	24	0	17	0	14	11	0	0	17	14
Future Vol, veh/h	33	14	24	0	17	0	14	11	0	0	17	14
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	30	30	30	73	73	73	0	0	0	0	0	0
Mvmt Flow	46	19	33	0	24	0	19	15	0	0	24	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.6	7.6	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	56%	46%	0%	0%
Vol Thru, %	44%	20%	100%	55%
Vol Right, %	0%	34%	0%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	71	17	31
LT Vol	14	33	0	0
Through Vol	11	14	17	17
RT Vol	0	24	0	14
Lane Flow Rate	35	99	24	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.122	0.035	0.047
Departure Headway (Hd)	4.359	4.453	5.354	3.97
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	826	801	664	907
Service Time	2.36	2.505	3.424	1.971
HCM Lane V/C Ratio	0.042	0.124	0.036	0.047
HCM Control Delay	7.6	8.1	8.6	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.1	0.1

Pine Street at E Main Street

Right Turns on Red
 APM Section 13.4.2: RTOR
 Equation: $vRTOR = sRTOR * (r/C)$

AM Peak Hour													
	sRTOR				C	vRTOR							
	EBR	WBR	NBR	SBR		EBR	WBR	NBR	SBR				
2025 Background Conditions	176	68	16	1	31	31	29	29	60	91	35	8	0
2025 Buildout Conditions	178	73	15	1	31	31	29	29	60	92	38	7	0

Intersection v/c
 APM Section 13.4.4: Critical Intersection v/c ratio

Method:
 Determine Critical Movements in HCM 2000 reports
 HCM 6th reports, determine adjusted and sat flow rates
 Adjust Flow/Sat Flow
 Sum up Crit Movement Flow Rates
 $X_c \text{ of intersection} = \text{sum}(\text{crit.move. Flow rates} * (C/(C-L)))$

AM Peak Hour																				
	Critical Movement				Adjust Flow				Saturated Flow				Adj/Sat Flows				C	L	Xc	
	WB	SB	-	-	WB	SB	-	-	WB	SB	-	-	WB	SB	-	-				Sum
2025 Background Conditions	WB	SB	-	-	237	308	-	-	1510	1463	-	-	0.156954	0.210526	-	-	0.36748	60	8	0.424
2025 Buildout Conditions	WB	SB	-	-	250	318	-	-	1509	1462	-	-	0.165673	0.21751	-	-	0.383183	60	8	0.442

Pine Street at E Main Street

Right Turns on Red
 APM Section 13.4.2: RTOR
 Equation: $vRTOR = sRTOR * (r/C)$

PM Peak Hour														
	sRTOR				EBR	r				C	vRTOR			
	EBR	WBR	NBR	SBR		WBR	NBR	SBR	EBR		WBR	NBR	SBR	
2025 Background Conditions	143	53	25	2	30	30	30	30	60	72	27	13	1	
2025 Buildout Conditions	133	53	25	2	31	31	29	29	60	69	27	12	1	

Intersection v/c
 APM Section 13.4.4: Critical Intersection v/c ratio

Method:
 Determine Critical Movements in HCM 2000 reports
 HCM 6th reports, determine adjusted and sat flow rates
 Adjust Flow/Sat Flow
 Sum up Crit Movement Flow Rates
 $X_c \text{ of intersection} = \text{sum}(\text{crit.move. Flow rates} * (C/(C-L)))$

PM Peak Hour																				
	Critical Movement				Adjust Flow				Saturated Flow				Adj/Sat Flows				C	L	Xc	
	WB	NB	-	-	WB	NB	-	-	WB	NB	-	-	WB	NB	-	-				Sum
2025 Background Conditions	WB	NB	-	-	347	382	-	-	1508	1530	-	-	0.230106	0.249673	-	-	0.479779	60	8	0.554
2025 Buildout Conditions	WB	NB	-	-	359	392	-	-	1506	1540	-	-	0.23838	0.254545	-	-	0.492925	60	8	0.569



**Exhibit D: Preliminary Stormwater Report
(Updated February 2023)**

JR Meadows No. 3 Carlton, Oregon

Preliminary Stormwater Report

Date: February 2023

Client: Chad E. Davis Construction, LLC
2808 19th Avenue
Forest Grove, OR 97116

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Prepared By: Nathaniel Ahrend, PE

Engineering Firm: AKS Engineering & Forestry, LLC
12965 SW Herman Road, Suite 100
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AKS Job Number: 8632



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Appendices

Appendix A: Vicinity Map

Appendix B: Pre-Developed Catchment Maps

Appendix C: Post-Developed Downstream Conveyance Catchment Map

Appendix D: City of Carlton Stormwater Management Standards

Appendix E: StreamStats Report

Appendix F: Pre-Developed Storm Event Analysis (10-year) Using the Rational Method

Appendix G: Post-Developed Storm Event Analysis (10-year) Using the Rational Method

Appendix H: JR Meadows No. 2 Overall Storm Drainage Plan

Appendix I: Surcharge Calculations and HGL Exhibit

Appendix J: Stormwater Routing Diagram

Preliminary Stormwater Report

JR MEADOWS NO. 3

CARLTON, OREGON

1.0 Purpose of Report

The purpose of this report is to analyze the effects the proposed development will have on the existing overland drainage, document the criteria the proposed stormwater system was designed to meet, identify the sources of information on which the analysis was based, detail the design methodology, and document the results of the analysis.

2.0 Project Location/Description

The development is located on Tax Lot 1200 of Yamhill County Assessor's Map 3 4 22CC. The subject site is located southeast of the intersection of E Polk Street and S 3rd Street in Carlton Oregon. The site area is approximately ±16.0 acres. The site area generally slopes to the northeast.

3.0 Design Methodology

Per the February 2010 City of Carlton (City) *Public Works Design Standards* (Standards), Section 3.10, the Rational Method was utilized to calculate the peak design discharges of stormwater, following the methodology of the April 2014 Oregon Department of Transportation (ODOT) *Hydraulics Manual*, Appendix F (See Appendix D of this report for details).

4.0 Design Parameters

4.1. Pre-Developed Site Topography and Land Use

4.1.1. Site Topography

The existing site area generally slopes toward the northeast corner of the site. Vegetative cover on the site consists primarily of grass with some trees along portions of the site perimeter.

4.1.2. Land Use

Currently, the site is a grass field with no existing structures.

4.2. Post-Developed Site Topography and Land Use

4.2.1. Site Topography

The post-developed site topography will be altered from the pre-developed conditions with cuts and fills for the construction of the development, including public streets, single-family homes, and other associated infrastructure and features.

4.2.2. Land Use

The post-developed land use will consist of 63 lots for detached single-family homes, 38 lots for attached single-family homes, public streets, and underground utilities.

4.3. Post-Developed Input Parameters

The time of concentration was calculated using the travel time for overland sheet flow. The rainfall intensity was determined using the ODOT Zone 8 Intensity-Duration-Frequency (IDF) Curve Tabular Data (Carlton) included in the City Standards. The flow rate was determined using the 10-year storm event. Calculations are shown in Appendix G. Catchment areas are provided in Appendix C.

4.4. Description of Off-Site Contributing Basin

The properties to the south and west drain stormwater through the subject site. These areas have been analyzed based on future development as a part of the overall post-developed catchment flow rate calculations. All upstream areas within the City currently zoned as Agricultural Holding (AH) are assumed to be zoned residential in the future for the purpose of determining the runoff coefficients. The existing Mixed Density Residential (MX) zone west of the site has been analyzed according to a preliminary unapproved development layout with a mixture of attached and detached single-family lots to determine the runoff coefficient. Area outside the Urban Growth Boundary (UGB) is assumed to remain as cultivated land for the purpose of determining runoff coefficients.

5.0 Calculation Methodology

5.1. Proposed Stormwater Conduit Sizing and Inlet Spacing

Stormwater inlets for the site will be placed at locations that will adequately capture stormwater runoff from streets. The on-site stormwater conduit pipes will be sized using Manning's equation, based on the peak flows for the 10-year storm event.

5.2. Downstream Analysis

Stormwater from the subject site and upstream sites flows towards the JR Meadows No. 2 (JR2) development to the east. Stormwater is then conveyed through the JR2 underground stormwater system and eventually directed towards Hawn Creek via two different routes. The downstream analysis described below is illustrated in Appendix H. A diagram of the stormwater routing is included in Appendix J.

Stormwater from the subject site and upstream sites that is collected at E Cleveland Street within JR2 (Pipe A) discharges to an existing drainage channel that flows to Tax Lot 1800 (Tax Map 3 4 22) to the north. The capacity of the existing Pipe A is less than the flow that would surpass the pre-developed flow rate of Discharge Point A when combined with runoff from JR2 that is routed to this location. Thus, Pipe A may be surcharged under fully developed 10-year design storm conditions; however, the stormwater system in this area has sufficient depth to allow for a surcharge without causing any surface overflow. Flow from the subject site directed to Pipe A and ultimately to Discharge Point A will be controlled using a new flow splitter manhole within the subject site to keep the post-developed flow rate below the pre-developed flow rate at Discharge Point A.

For stormwater from the subject site and upstream sites that is collected at E Wilson Street within JR2 (Pipe B1), a portion of the runoff discharges to a wetland and then to an existing drainage channel that flows to Tax Lot 1800 to the north (Discharge Point A), and the remaining runoff continues to an outfall at the east end of E Cleveland Street within JR2 (Discharge Point B). The portion of the runoff that is routed to Discharge Point A is currently controlled by an existing flow splitter manhole installed with JR2 that limits flow to this location based on the outlet pipe capacity, so there will be no increase in the flow to Discharge Point A from this location due to the added flow from the development of the subject site.

The remaining runoff from the subject site and upstream sites that is not directed to Discharge Point A will be routed through the JR2 stormwater system and discharged to Discharge Point B. A small portion of the most downstream pipes in JR2 (Pipe B2) may be surcharged under fully developed 10-year design

storm conditions; however, the stormwater system in this area has sufficient depth to allow for a surcharge without causing any surface overflow.

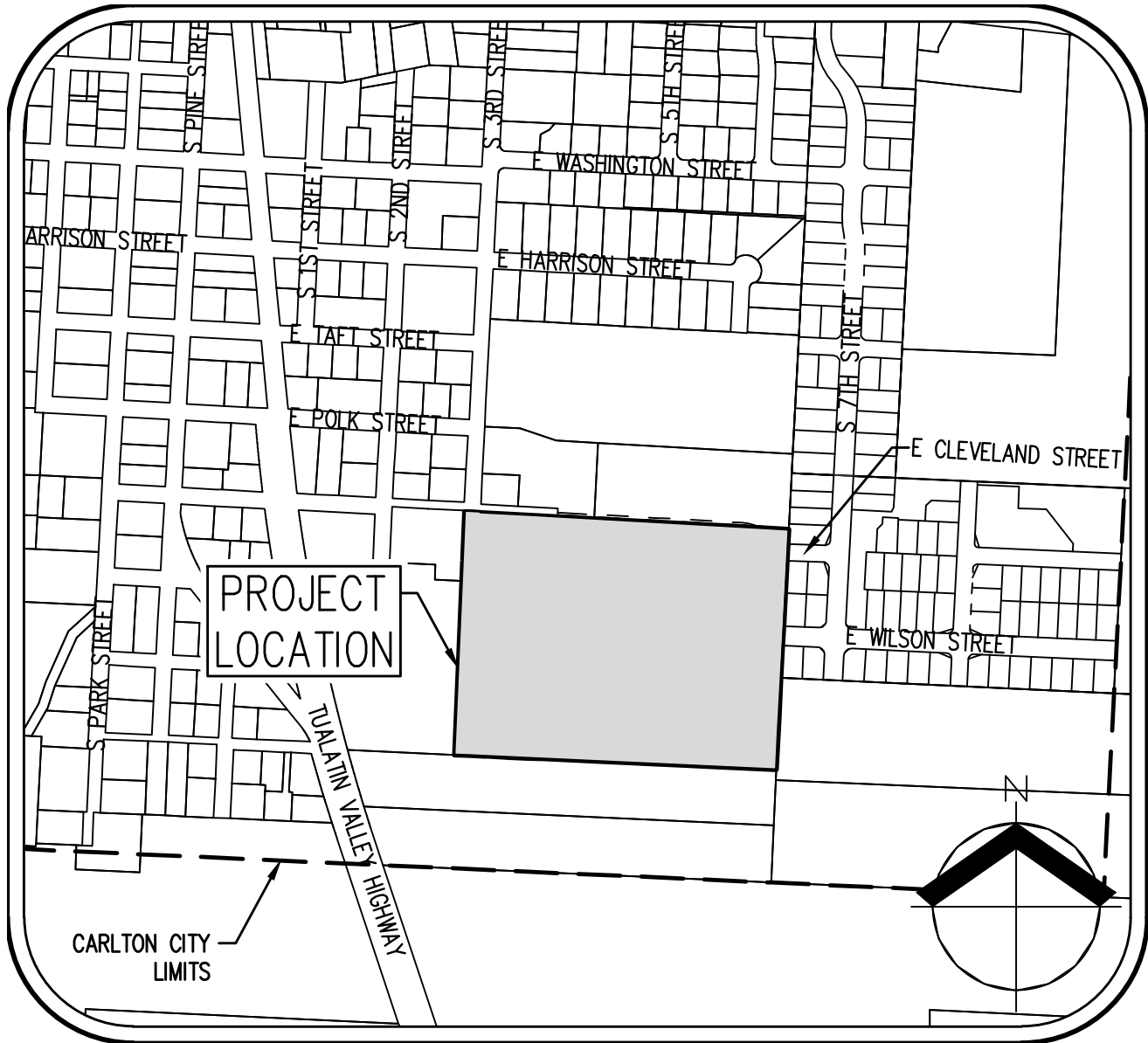
5.3. Surcharge Summary

The level of surcharge within the JR2 storm system varies, and the worst-case scenario occurs at existing manhole STM 2-3, which is approximately 4’ deep. The surcharge elevation at this manhole is approximately ±1.8 feet below the rim elevation, which exceeds the typical minimum acceptable freeboard of 1 foot between the hydraulic grade line (HGL) and the top of the structure. Surcharge calculations and approximate HGL elevations are included in Appendix I. The surcharge calculations present a conservative analysis, applying the flow present at the most downstream manhole to the subsequent upstream manholes.

5.4. Pre-Developed and Post-Developed Summary

	Discharge Point A TC (Min)	Discharge Point B TC (Min)	Discharge Point A Flow (CFS)	Discharge Point B Flow (CFS)
Pre-Developed	41.17	40.91	14.54	4.00
Post-Developed	25.00	33.59	13.72	13.04

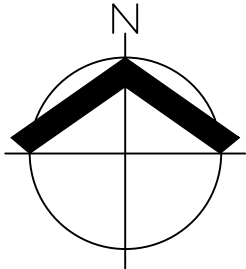
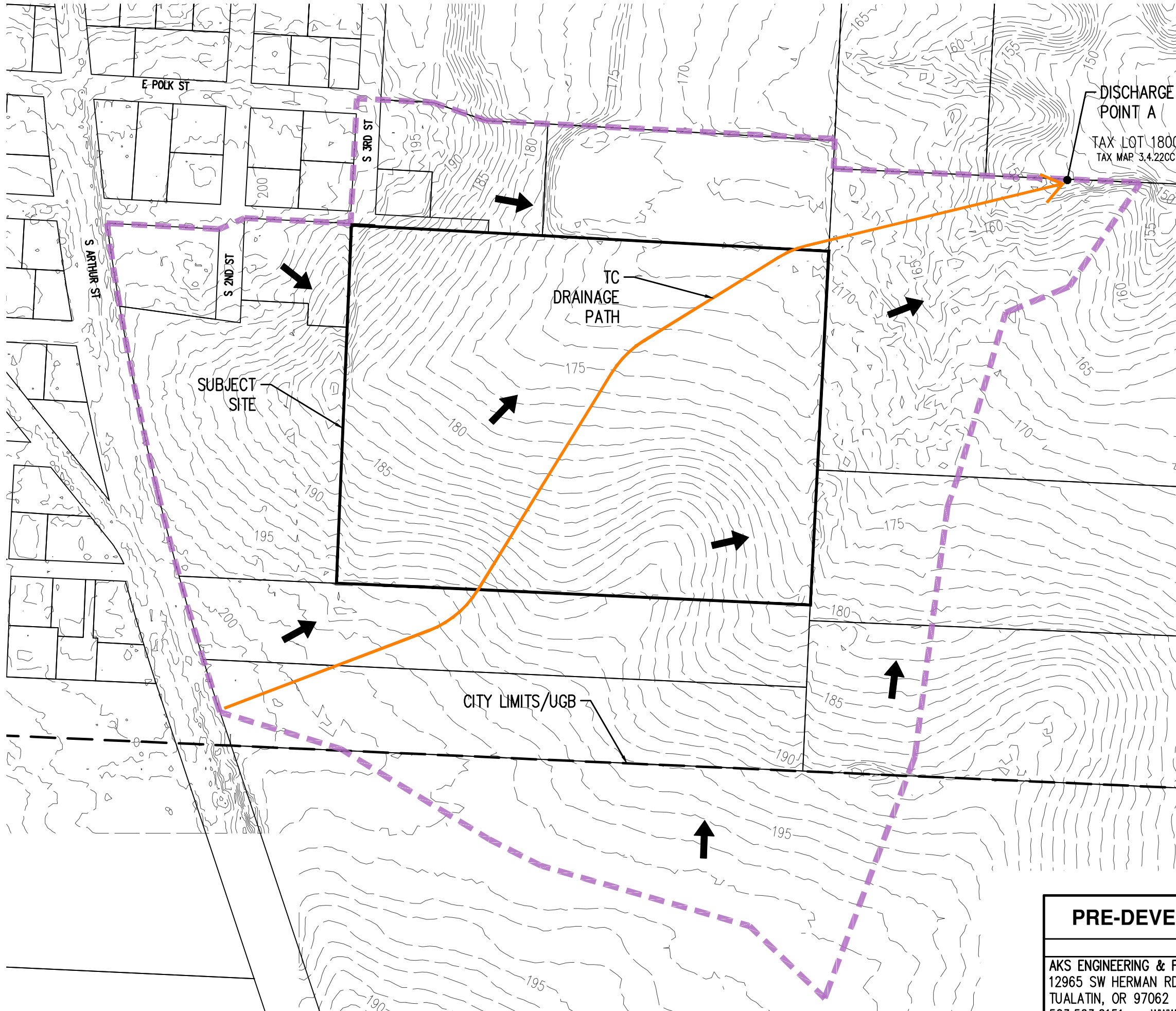
Appendix A: Vicinity Map



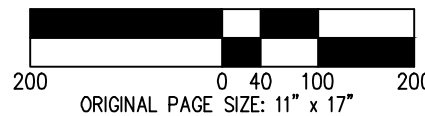
VICINITY MAP

NTS

Appendix B: Pre-Developed Catchment Maps



SCALE: 1" = 200 FEET



DATE: 01/10/2023

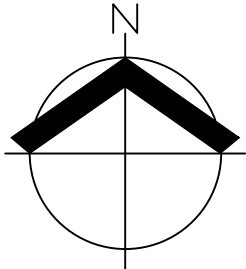
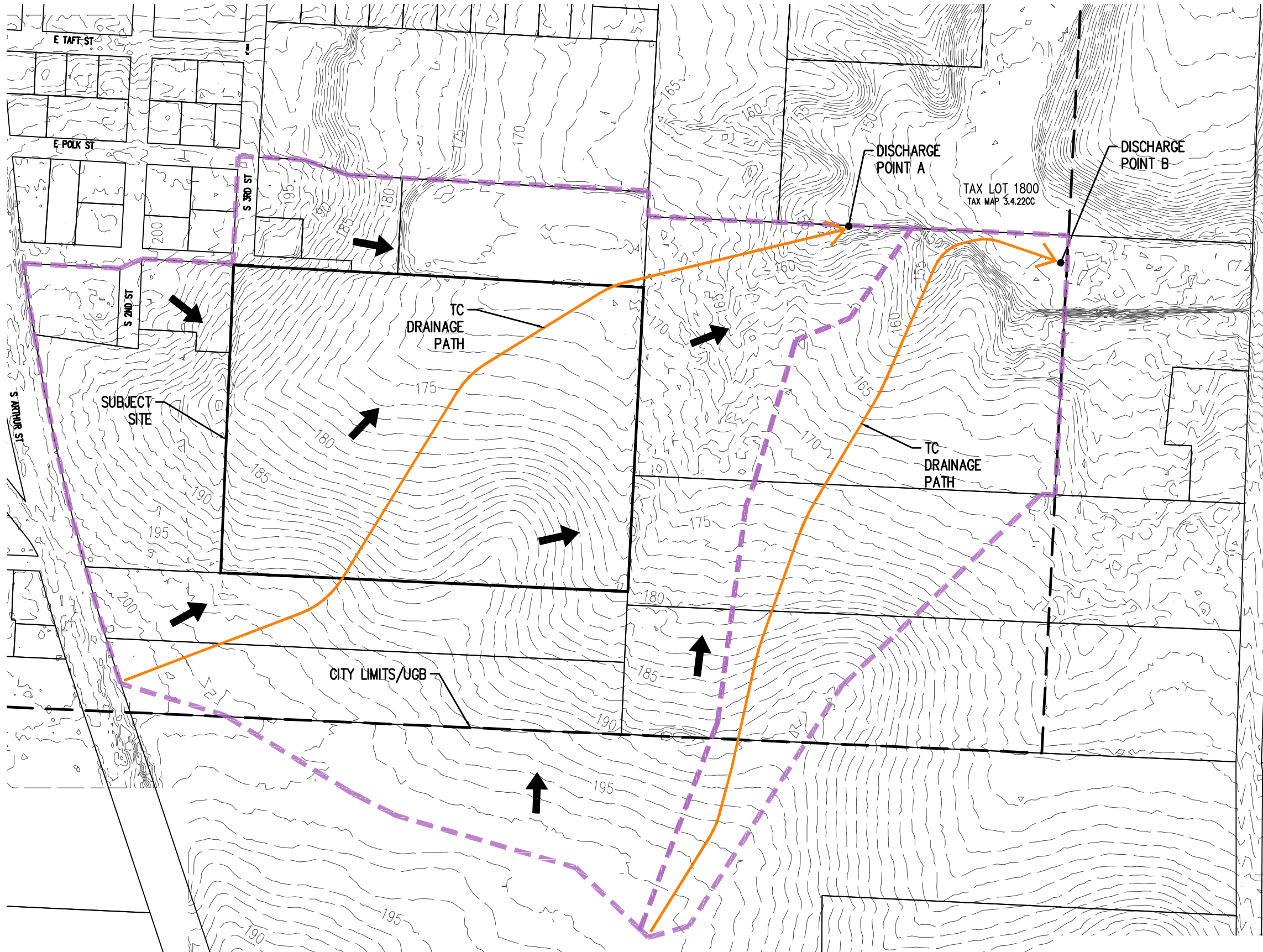
PRE-DEVELOPED CATCHMENT MAP

EXHIBIT
B

AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 TUALATIN, OR 97062
 503.563.6151 WWW.AKS-ENG.COM



DRWN: NRA
 CHKD: CMS
 AKS JOB:
 8632



SCALE: 1" = 250 FEET



ORIGINAL PAGE SIZE: 11" x 17"

DATE: 01/10/2023

PRE-DEVELOPED DOWNSTREAM DISCHARGE MAP

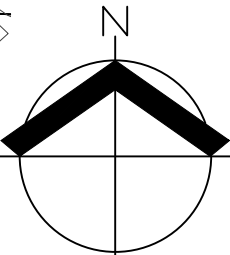
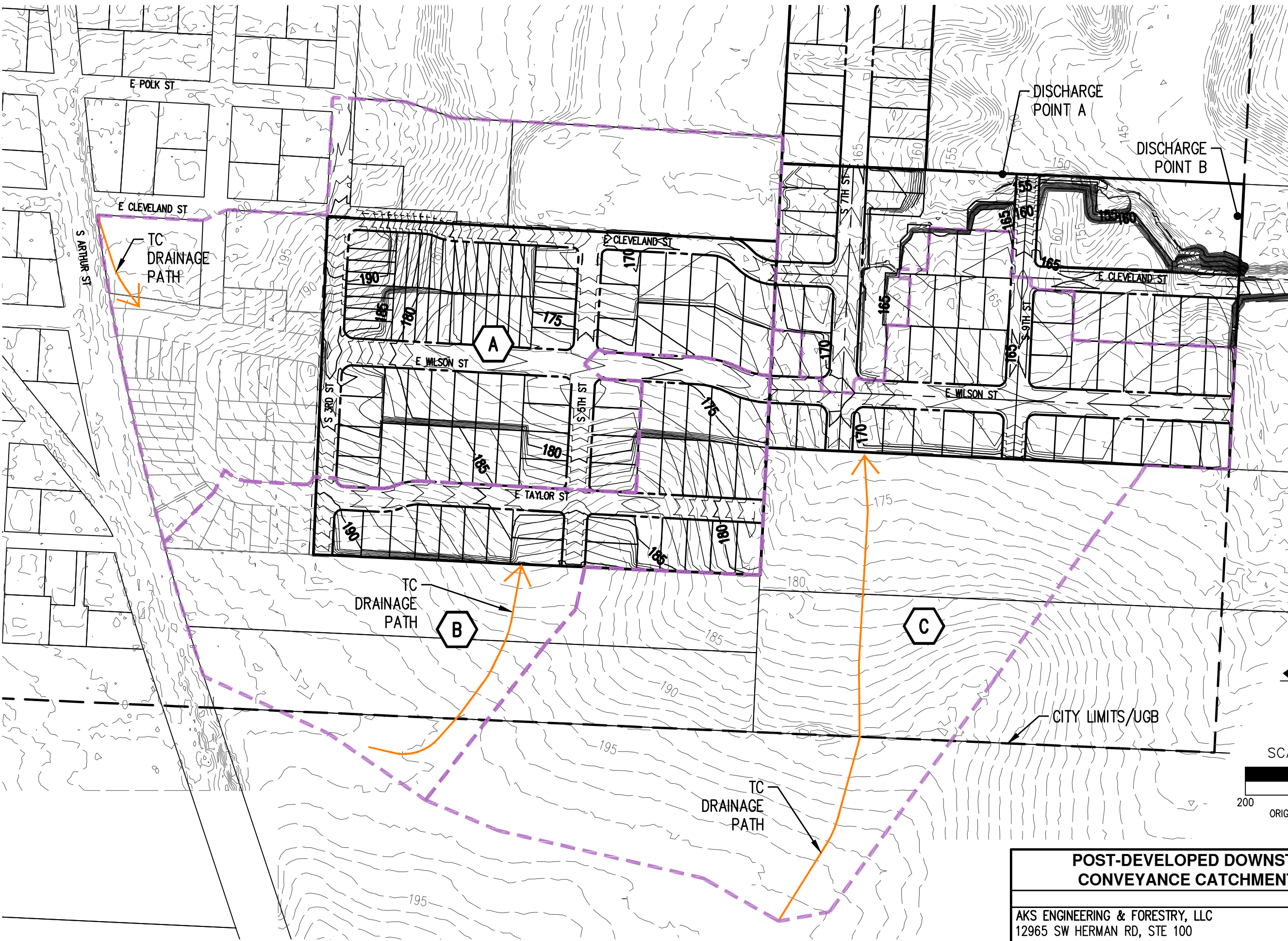
EXHIBIT
B.1

AKS ENGINEERING & FORESTRY, LLC
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TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM

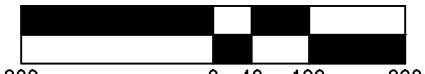


DRWN: NRA
CHKD: CMS
AKS JOB:
8632

Appendix C: Post-Developed Downstream Conveyance Catchment Map



SCALE: 1" = 200 FEET



ORIGINAL PAGE SIZE: 11" x 17"

DATE: 02/22/2023

**POST-DEVELOPED DOWNSTREAM
CONVEYANCE CATCHMENT MAP**

EXHIBIT

C

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



DRWN: NRA
CHKD: CMS
AKS JOB:
8632

Appendix D: City of Carlton Stormwater Management Standards

- j) Maintenance, including accessibility for cleaning and inspection personnel and equipment.

3.10 DESIGN CALCULATIONS AND CAPACITY

a. Design Calculations

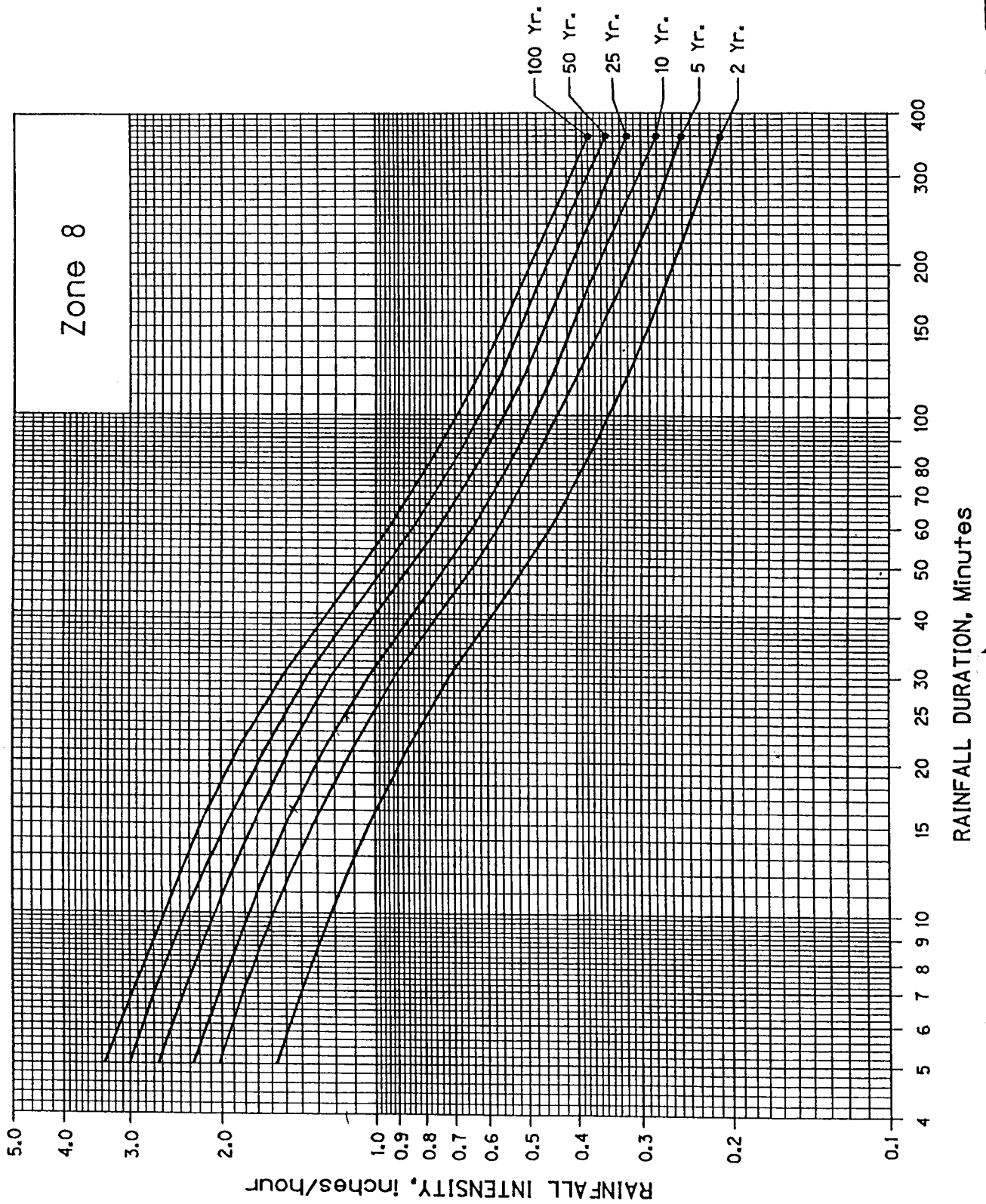
- 1) Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a professional engineer licensed in the State of Oregon.
- 2) Peak design discharges shall be computed using the rational formula, $Q=CiA$.
- 3) If use of a Santa Barbara Urban Hydrograph (SBUH) based computer program is proposed for use in sizing storm drain pipes for peak discharge, a 50 year SBUH storm event must be used in lieu of the 10 year or 25 year rational storm frequency to provide equivalent capacity. All CN parameters shall be as or more conservative than the equivalent runoff coefficients listed in these standards. The City Engineer reserves the right to verify all calculations using the rational method, and require larger pipe sizes if the rational calculations result in higher flows than the SBUH methodology.

b. Design Storm

- 1) Rainfall Intensity-Duration Curve - The rainfall intensity-duration-frequency (IDF) curve for use in the City of Carlton is the ODOT Zone 8 IDF curve (enclosed herein).
- 2) Design Frequency - The intensity-duration design frequency is based on the time of concentration for the area and the size of the drainage facility. The adopted criteria are listed in the following table.

DESIGN STORM FREQUENCY	
AREA	FREQUENCY
Residential areas	10-year storm
Commercial and high value districts	10-year storm
Trunk lines (18" pipe and larger)	25-year storm
Minor creeks and drainage ways (not shown as a flood plain on the Flood Insurance Rate Map (FIRM))	50-year storm
Major creeks (shown as a flood plain on the FIRM)	100-year storm

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES



ODOT Zone 8 IDF Curve Tabular Data (Carlton)

Rainfall Duration (Min)	Rainfall Intensity, inches/hour				
	5 year Storm	10 year Storm	25 year Storm	50 year Storm	100 year Storm
5	2.01	2.25	2.63	3.00	3.35
6	1.90	2.12	2.50	2.81	3.12
7	1.81	2.01	2.35	2.68	2.95
8	1.71	1.91	2.24	2.55	2.80
9	1.65	1.83	2.14	2.43	2.69
10	1.60	1.78	2.07	2.33	2.58
11	1.51	1.70	1.98	2.25	2.48
12	1.48	1.65	1.90	2.18	2.40
13	1.41	1.60	1.85	2.10	2.31
14	1.38	1.55	1.79	2.01	2.24
15	1.32	1.50	1.72	1.95	2.19
20	1.13	1.30	1.50	1.69	1.90
25	1.00	1.14	1.35	1.50	1.69
30	0.91	1.02	1.21	1.36	1.51
35	0.82	0.92	1.10	1.21	1.38
40	0.75	0.84	0.98	1.11	1.24
45	0.69	0.78	0.92	1.02	1.15
50	0.64	0.73	0.85	0.95	1.08
55	0.60	0.68	0.80	0.89	1.00
60	0.57	0.64	0.75	0.84	0.94
70	0.53	0.59	0.68	0.76	0.85
80	0.49	0.54	0.63	0.70	0.78
90	0.46	0.52	0.59	0.66	0.74
100	0.44	0.49	0.56	0.62	0.69
110	0.42	0.47	0.53	0.60	0.66
120	0.40	0.45	0.51	0.57	0.63
130	0.385	0.44	0.49	0.55	0.60
140	0.37	0.420	0.48	0.53	0.58
150	0.36	0.410	0.46	0.520	0.56
160	0.35	0.400	0.45	0.50	0.540
170	0.340	0.390	0.44	0.49	0.53
180	0.33	0.38	0.43	0.48	0.52

- 3) If use of a Santa Barbara Urban Hydrograph (SBUH) based computer program is proposed for use in sizing storm drain pipes for peak discharge, a 50 year SBUH storm event must be used in lieu of the 10 year or 25 year rational storm frequency to provide equivalent capacity. All CN parameters shall be as or more conservative than the equivalent runoff coefficients listed in these standards. The City Engineer reserves the right to verify all calculations using the rational method, and require larger pipe sizes if the rational calculations result in higher flows than the SBUH methodology.

c. **Runoff Coefficients**

- 1) The coefficients of runoff "C" are listed below. Use of coefficients other than those listed must be based on field investigations which demonstrate conclusively that the proposed coefficients are justified.

RUNOFF COEFFICIENTS			
SOIL COVER	FLAT TERRAIN S<2%	ROLLING TERRAIN 2%<S≤10%	STEEP TERRAIN S>10%
Cultivated Land	0.30	0.35	0.40
Parks & Cemeteries	0.15	0.20	0.30
Woodlands & Forests	0.10	0.15	0.20
Meadows & Pasture Land	0.25	0.30	0.35
1) Single-family residential in urban areas, except corner lots with duplex potential	0.40	0.45	0.50
2) Gravel parking lots	0.50	0.55	0.60
3) Mobile home parks	0.60	0.65	0.70
4) Multi-family residential, zero-lot-line single-family residential and potential duplex lots in single-family residential	0.70	0.75	0.80
Highly impermeable (roofs and paved areas)	0.90	0.90	0.90

d. **Time of Concentration**

- 1) For land in a pre-development condition, the minimum time of concentration

from the most remote point in the basin to the first defined channel (e.g. gutter, ditch or pipe) shall be 10 minutes. Pre-development shall be defined as a site with natural vegetation on native soil.

- 2) For developed residential and commercial/industrial property, the maximum time of concentration from the most remote point in the development to the closest inlet shall be 10 minutes, unless calculations by an acceptable method show the time to be longer.

3.11 OPEN CHANNELS

- a. Within the UGB, creation of new open channels will not generally be allowed. Where allowed by the City, ditches shall be located along or adjacent to lot lines.
- b. For reasons of maintenance and safety, bank slopes generally shall be 3H:1V or flatter unless otherwise required by the Public Works Superintendent or the Public Works Superintendent.
- c. The maximum allowable design velocity shall be 7 fps.
- d. The minimum allowable design velocity shall be 2 fps. The installation of a concrete lined low-flow channel may be required to achieve minimum velocity.
- e. Unless otherwise approved by the City Engineer, all piped discharges to open channels (existing or new) shall be mitered to match the channel side slope and include a reinforced concrete collar (6" minimum thickness) to prevent settlement or erosion of the pipe trench at the discharge location, and to protect the end of the pipe. Unless otherwise approved by Public Works and the City Engineer, the concrete collar shall extend from the channel bottom to the top of bank. Grates shall be provided on all inlets or outlets 18" or larger unless otherwise specifically approved by Public Works and the City Engineer, as well as at any locations required by Public Works to accommodate maintenance or mowing requirements.

3.12 ALIGNMENT AND LOCATION

a. General

- 1) Generally, storm drains shall be laid on a straight alignment between catch basins and between manholes. Lines 15-inch in diameter and smaller may be laid on horizontal curves conforming to the street curvature provided the radius of the horizontal curve is not less than 200 feet.
- 2) Variance for horizontal curves on larger size pipes shall be reviewed by the City Engineer on a case by case basis.
- 3) Where storm drains are being designed for installation parallel to other utility

Appendix E: StreamStats Report

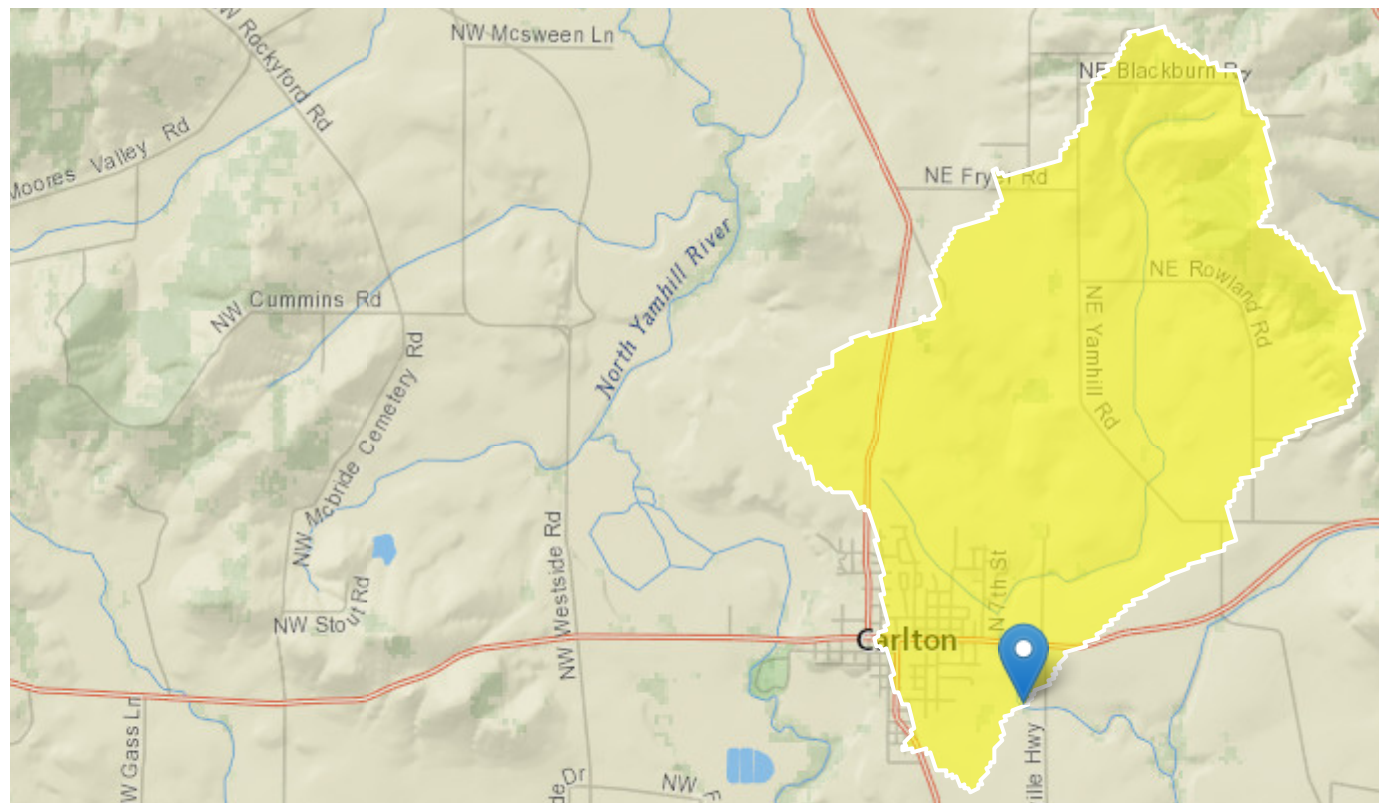
StreamStats Report

Region ID: OR

Workspace ID: OR20220823171209221000

Clicked Point (Latitude, Longitude): 45.29024, -123.16642

Time: 2022-08-23 10:12:32 -0700



+ Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.21	degrees
DRNAREA	Area that drains to a point on a stream	3.84	square miles
ELEV	Mean Basin Elevation	243	feet
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	1.97	inches

Parameter Code	Parameter Description	Value	Unit
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	45.9	degrees F
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	33.1	degrees F
ORREG2	Oregon Region Number	10001	dimensionless
SOILPERM	Average Soil Permeability	0.75	inches per hour
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.18	inches

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Reg 2B Western Interior LT 3000 ft Cooper]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.84	square miles	0.37	7270
BSLOPD	Mean Basin Slope degrees	3.21	degrees	5.62	28.3
I24H2Y	24 Hour 2 Year Precipitation	1.97	inches	1.53	4.48
ELEV	Mean Basin Elevation	243	feet		
ORREG2	Oregon Region Number	10001	dimensionless		

Peak-Flow Statistics Disclaimers [Reg 2B Western Interior LT 3000 ft Cooper]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Reg 2B Western Interior LT 3000 ft Cooper]

Statistic	Value	Unit
2 year peak flood	94.3	ft ³ /s
5 year peak flood	140	ft ³ /s
10 year peak flood	173	ft ³ /s

Statistic	Value	Unit
25 year peak flood	216	ft ³ /s
50 year peak flood	248	ft ³ /s
100 year peak flood	280	ft ³ /s
500 year peak flood	358	ft ³ /s

Peak-Flow Statistics Citations

Cooper, R.M., 2005, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5116, 76 p. (<http://pubs.usgs.gov/sir/2005/5116/pdf/sir2005-5116.pdf>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.10.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

Appendix F: Pre-Developed Storm Event Analysis (10-year) Using the Rational Method

Project Name: JR Meadows No. 3

Job #: 8632

Date: February 2023

SUBJECT: Pre-Developed Flow Using Rational Method**10-year****Pre-Developed Flow at Point A**

$L_1 =$	300 feet
$L_2 =$	1,800 feet
$V =$	4.5
$n =$	0.15
$i =$	0.84 inches/hr
$S =$	0.015 ft/ft
$T_c =$	$0.93 * (300^{0.6} * 0.15^{0.6}) / (0.84^{0.4} * 0.015^{0.3}) + 1800 / (60 * 4.5)$
Time of Concentration =	41.17 minutes
$A = 1S$	52.44 acres
$C =$	0.33 (Per JR No. 2 Storm Report)
$i =$	0.84 inches/hr
$Q = CiA =$	14.54 ft³/sec

Pre-Developed Flow at Point B

$L_1 =$	300 feet
$L_2 =$	1,730 feet
$V =$	4.5
$n =$	0.15
$i =$	0.84 inches/hr
$S =$	0.015 ft/ft
$T_c =$	$0.93 * (300^{0.6} * 0.15^{0.6}) / (0.84^{0.4} * 0.015^{0.3}) + 1730 / (60 * 4.5)$
Time of Concentration =	40.91 minutes
$A = 1S$	15.86 acres
$C =$	0.30 (Per JR No. 2 Storm Report)
$i =$	0.84 inches/hr
$Q = CiA =$	4.00 ft³/sec

Appendix G: Post-Developed Storm Event Analysis (10-year) Using the Rational Method

Project Name: JR Meadows No. 3
 Job #: 8632
 Date: February 2023

SUBJECT: Post-Developed Downstream Conveyance Flow Using Rational Method

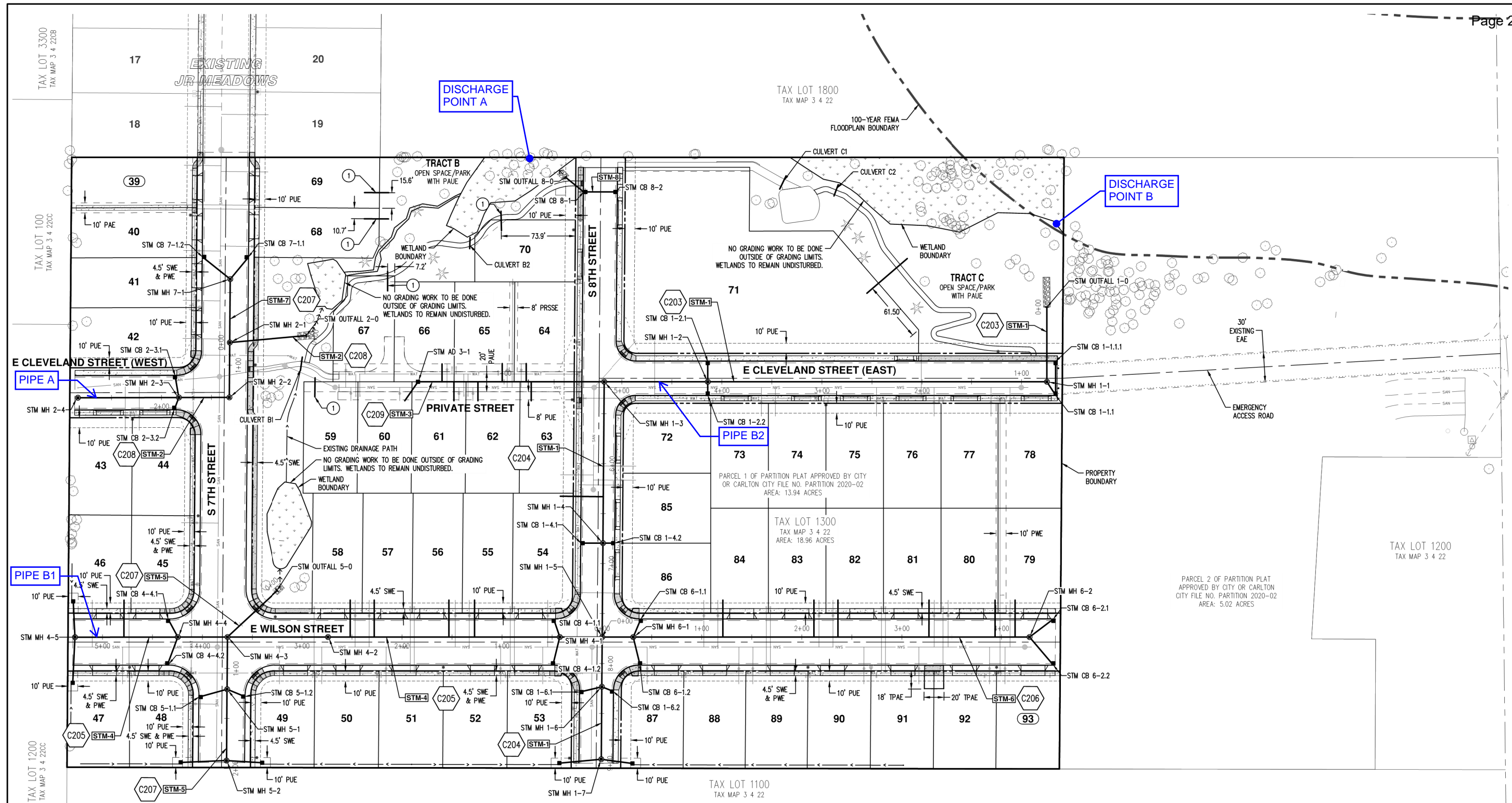
10-year

Basin A Flow at Pipe A			
$L_1 =$		215 feet	
$n =$		0.15	
$i =$		1.14 inches/hr	
$S =$		0.015 ft/ft	
$T_c =$		$0.93 * (215^{0.6} * 0.15^{0.6}) / (1.14^{0.4} * 0.015^{0.3})$	
Time of Concentration =		25.00 minutes	
A = Basin A		21.50 acres	
	Single Family Detached	13.65 acres	C= 0.45
	Single Family Attached	3.50 acres	C= 0.75
	Park (School Field)	4.35 acres	C= 0.20
Composite C =		0.45	
$i =$		1.14 inches/hr	
Q = CiA =		10.99 ft³/sec	
Non-Surcharged Capacity of Pipe A		8.72 ft³/sec	

Basin B Flow at Pipe B1			
$L_1 =$		300 feet	
$n =$		0.24	
$i =$		0.84 inches/hr	
$S =$		0.02 ft/ft	
$T_c =$		$0.93 * (220^{0.6} * 0.24^{0.6}) / (0.92^{0.4} * 0.02^{0.3})$	
Time of Concentration =		33.59 minutes	
A = Basin B		13.20 acres	
	Single Family Detached	12.35 acres	C= 0.45
	Cultivated Land (Outside UGB)	0.85 acres	C= 0.35
Composite C =		0.44	
$i =$		0.92 inches/hr	
Q = CiA =		5.39 ft³/sec	
Capacity of Pipe B1		5.40 ft³/sec	

Basin C Flow at Pipe B2			
$L_1 =$		300 feet	
$n =$		0.24	
$i =$		0.84 inches/hr	
$S =$		0.02 ft/ft	
$T_c =$		$0.93 * (300^{0.6} * 0.24^{0.6}) / (0.84^{0.4} * 0.02^{0.3})$	
Time of Concentration =		41.00 minutes	
A = Basin C		25.82 acres	
	Single Family Detached	19.09 acres	C= 0.45
	Cultivated Land (Outside UGB)	6.73 acres	C= 0.35
Composite C =		0.42	
$i =$		0.84 inches/hr	
Q = CiA =		9.19 ft³/sec	
Basin B Flow at Pipe B2			
Total Flow from Basin B at Pipe B1		5.39 ft ³ /sec	
Flow routed to Discharge Point A		2.05 ft ³ /sec	
Remaining Basin B Flow at Pipe B1		3.34 ft³/sec	
Total Flow at Pipe B2		12.53 ft³/sec	
Non-Surcharged Capacity of Pipe B2		10.73 ft³/sec	

Appendix H: JR Meadows No. 2 Overall Storm Drainage Plan



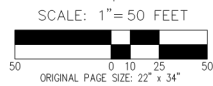
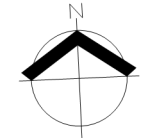
KEY NOTES:

- CONSTRUCT TYPICAL 6-INCH DI STORMWATER LATERAL AT 2% MINIMUM SLOPE.

= SHEET

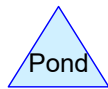
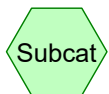
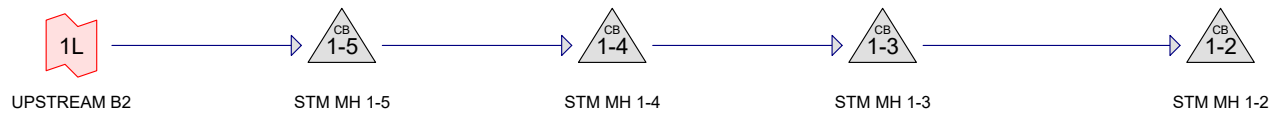
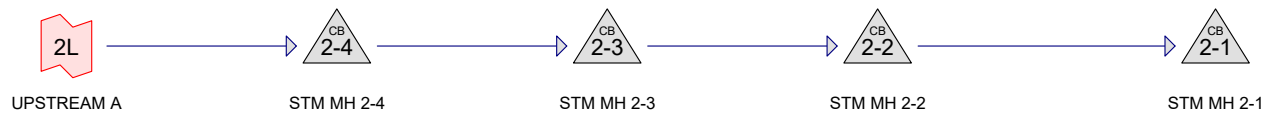
EASEMENT LEGEND

- PUE = PUBLIC UTILITY EASEMENT
- SDE = PUBLIC STORM DRAINAGE EASEMENT
- SSE = PUBLIC SANITARY SEWER EASEMENT
- PWE = PUBLIC WATER EASEMENT
- EAE = EMERGENCY ACCESS EASEMENT
- PAE = PUBLIC ACCESS EASEMENT
- PAUE = PUBLIC ACCESS & UTILITY EASEMENT
- SWE = SIDEWALK EASEMENT
- TPAE = TEMPORARY PUBLIC ACCESS EASEMENT
- PRSSSE = PRIVATE SANITARY SEWER EASEMENT



AKS DRAWING FILE: 7395-01_C200_STM.DWG | LAYOUT: C201

Appendix I: Surcharge Calculations and HGL Exhibit



Routing Diagram for 8632 Surcharged Calculation
Prepared by AKS Engineering & Forestry, LLC, Printed 2/22/2023
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Printed 2/22/2023

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1-2	155.82	153.55	339.3	0.0067	0.009	18.0	0.0	0.0
2	1-3	156.43	155.91	104.0	0.0050	0.009	18.0	0.0	0.0
3	1-4	157.30	156.49	161.5	0.0050	0.009	18.0	0.0	0.0
4	1-5	157.91	157.44	94.0	0.0050	0.009	18.0	0.0	0.0
5	2-1	162.21	161.90	62.4	0.0050	0.009	18.0	0.0	0.0
6	2-2	162.58	162.36	54.8	0.0040	0.009	18.0	0.0	0.0
7	2-3	163.02	162.78	50.5	0.0048	0.009	18.0	0.0	0.0
8	2-4	163.63	163.30	101.1	0.0033	0.009	18.0	0.0	0.0

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
 HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
 Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond 1-2: STM MH 1-2	Peak Elev=158.23'	Inflow=12.53 cfs	135,775 cf
18.0" Round Culvert n=0.009 L=339.3' S=0.0067 '/	Outflow=12.53 cfs	135,775 cf	
Pond 1-3: STM MH 1-3	Peak Elev=158.98'	Inflow=12.53 cfs	135,775 cf
18.0" Round Culvert n=0.009 L=104.0' S=0.0050 '/	Outflow=12.53 cfs	135,775 cf	
Pond 1-4: STM MH 1-4	Peak Elev=159.95'	Inflow=12.53 cfs	135,775 cf
18.0" Round Culvert n=0.009 L=161.5' S=0.0050 '/	Outflow=12.53 cfs	135,775 cf	
Pond 1-5: STM MH 1-5	Peak Elev=160.44'	Inflow=12.53 cfs	135,775 cf
18.0" Round Culvert n=0.009 L=94.0' S=0.0050 '/	Outflow=12.53 cfs	135,775 cf	
Pond 2-1: STM MH 2-1	Peak Elev=164.39'	Inflow=11.00 cfs	119,196 cf
18.0" Round Culvert n=0.009 L=62.4' S=0.0050 '/	Outflow=11.00 cfs	119,196 cf	
Pond 2-2: STM MH 2-2	Peak Elev=164.81'	Inflow=11.00 cfs	119,196 cf
18.0" Round Culvert n=0.009 L=54.8' S=0.0040 '/	Outflow=11.00 cfs	119,196 cf	
Pond 2-3: STM MH 2-3	Peak Elev=165.21'	Inflow=11.00 cfs	119,196 cf
18.0" Round Culvert n=0.009 L=50.5' S=0.0048 '/	Outflow=11.00 cfs	119,196 cf	
Pond 2-4: STM MH 2-4	Peak Elev=166.00'	Inflow=11.00 cfs	119,196 cf
18.0" Round Culvert n=0.009 L=101.1' S=0.0033 '/	Outflow=11.00 cfs	119,196 cf	
Link 1L: UPSTREAMB2	Manual Hydrograph	Inflow=12.53 cfs	135,775 cf
		Primary=12.53 cfs	135,775 cf
Link 2L: UPSTREAMA	Manual Hydrograph	Inflow=11.00 cfs	119,196 cf
		Primary=11.00 cfs	119,196 cf

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 1-2: STM MH 1-2

RIM: 165.07

Inflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf
 Outflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf, Atten= 0%, Lag= 0.0 min
 Primary = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 158.23' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	155.82'	18.0" Round Culvert L= 339.3' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 155.82' / 153.55' S= 0.0067 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=12.53 cfs @ 0.00 hrs HW=158.23' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 12.53 cfs @ 7.09 fps)

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 1-3: STM MH 1-3

RIM: 166.19

Inflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf
 Outflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf, Atten= 0%, Lag= 0.0 min
 Primary = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 158.98' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	156.43'	18.0" Round Culvert L= 104.0' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 156.43' / 155.91' S= 0.0050 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=12.53 cfs @ 0.00 hrs HW=158.98' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 12.53 cfs @ 7.09 fps)

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 1-4: STM MH 1-4

RIM: 164.88

Inflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf
 Outflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf, Atten= 0%, Lag= 0.0 min
 Primary = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 159.95' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	157.30'	18.0" Round Culvert L= 161.5' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 157.30' / 156.49' S= 0.0050 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=12.53 cfs @ 0.00 hrs HW=159.95' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 12.53 cfs @ 7.09 fps)

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 1-5: STM MH 1-5

RIM: 166.10

Inflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf
 Outflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf, Atten= 0%, Lag= 0.0 min
 Primary = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 160.44' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	157.91'	18.0" Round Culvert L= 94.0' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 157.91' / 157.44' S= 0.0050 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=12.53 cfs @ 0.00 hrs HW=160.44' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 12.53 cfs @ 7.09 fps)

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 2-1: STM MH 2-1

RIM: 167.12

Inflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf
 Outflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf, Atten= 0%, Lag= 0.0 min
 Primary = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 164.39' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	162.21'	18.0" Round Culvert L= 62.4' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 162.21' / 161.90' S= 0.0050 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=11.00 cfs @ 0.00 hrs HW=164.39' (Free Discharge)
 ↑**1=Culvert** (Barrel Controls 11.00 cfs @ 6.22 fps)

8632 Surcharged Calculation

Prepared by AKS Engineering & Forestry, LLC
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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 2-2: STM MH 2-2

RIM: 167.54

Inflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf
 Outflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf, Atten= 0%, Lag= 0.0 min
 Primary = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 164.81' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	162.58'	18.0" Round Culvert L= 54.8' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 162.58' / 162.36' S= 0.0040 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=11.00 cfs @ 0.00 hrs HW=164.81' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 11.00 cfs @ 6.22 fps)

8632 Surcharged Calculation

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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 2-3: STM MH 2-3

RIM: 167.01

Inflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf
 Outflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf, Atten= 0%, Lag= 0.0 min
 Primary = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 165.21' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	163.02'	18.0" Round Culvert L= 50.5' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 163.02' / 162.78' S= 0.0048 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=11.00 cfs @ 0.00 hrs HW=165.21' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 11.00 cfs @ 6.22 fps)

8632 Surcharged Calculation

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Rainfall Duration=41 min, Inten=0.84 in/hr
 Printed 2/22/2023

Summary for Pond 2-4: STM MH 2-4

RIM: 169.61

Inflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf
 Outflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf, Atten= 0%, Lag= 0.0 min
 Primary = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 166.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	163.63'	18.0" Round Culvert L= 101.1' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 163.63' / 163.30' S= 0.0033 '/ Cc= 0.900 n= 0.009, Flow Area= 1.77 sf

Primary OutFlow Max=11.00 cfs @ 0.00 hrs HW=166.00' (Free Discharge)
 ↑ **1=Culvert** (Barrel Controls 11.00 cfs @ 6.22 fps)

8632 Surcharged Calculation

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Rainfall Duration=41 min, Inten=0.84 in/hr
Printed 2/22/2023

Summary for Link 1L: UPSTREAM B2

Inflow = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf
Primary = 12.53 cfs @ 0.00 hrs, Volume= 135,775 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Constant Inflow= 12.53 cfs

8632 Surcharged Calculation

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Rainfall Duration=41 min, Inten=0.84 in/hr
Printed 2/22/2023

Summary for Link 2L: UPSTREAM A

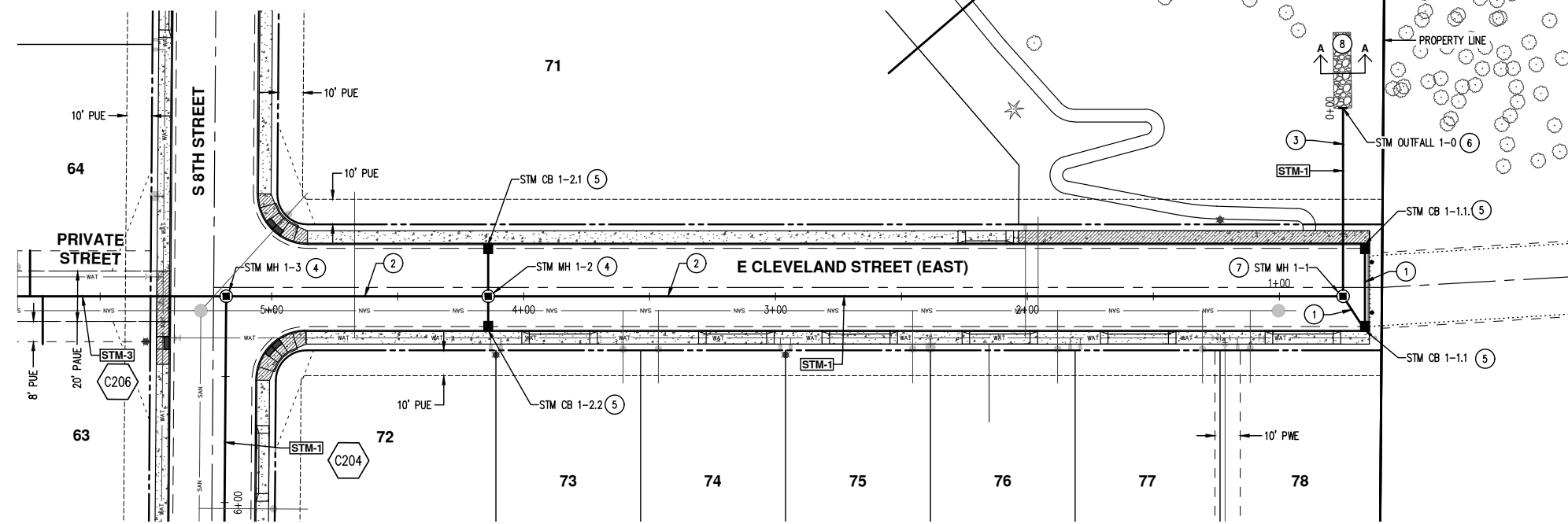
Inflow = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf
Primary = 11.00 cfs @ 0.00 hrs, Volume= 119,196 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Constant Inflow= 11.00 cfs

STORMWATER CATCH BASIN TABLE

CB	TYPE	TOP OF CURB ELEV	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM CB 1-1.1	CB DET 310	165.99 165.95	161.96 161.91	1.0' 1.1'	10" PVC	0.1844 0.2002	16.08 LF	STM MH 1-1	14+57.07 17.00 R	E CLEVELAND STREET (EAST)
STM CB 1-1.1.1	CB DET 310	165.99 165.93	162.50 162.27	1.0' 1.5'	10" PVC	0.0190 0.0085	34.00 LF	STM CB 1-1.1	14+57.07 17.00 L	E CLEVELAND STREET (EAST)
STM CB 1-2.1	CB DET 310	165.10 165.11	161.00 161.64	1.0' 1.5'	10" PVC	0.1220 0.1209	20.51 LF	STM MH 1-2	11+09.00 17.00 L	E CLEVELAND STREET (EAST)
STM CB 1-2.2	CB DET 310	165.10 165.16	161.46 161.33	1.0' 1.4'	10" PVC	0.1600 0.1594	13.49 LF	STM MH 1-2	11+09.00 17.00 R	E CLEVELAND STREET (EAST)

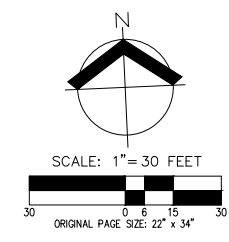


- NOTES:**
- MANHOLE COVERS SHALL BE INSTALLED PER STD. DWG. 405, SHEET C210.
 - PIPE BEDDING AND TRENCH BACKFILL SHALL BE PER STD. DWG 301, SHEET C210.
 - CATCH BASINS SHALL BE INSTALLED PER STD. DWG. 310 AND 312, SHEET C210.
 - ALL LOTS SHALL HAVE 3" CURB AND GUTTER WEEP HOLES INSTALLED 5 FEET FROM EACH PROPERTY LINE PER STD. DWG. 210, SHEET C210.
 - STANDARD MANHOLES SHALL BE INSTALLED PER STD. DWG. 401, SHEET C210.
 - FLAT TOP MANHOLES SHALL BE INSTALLED PER STD. DWG. 402, SHEET C210.

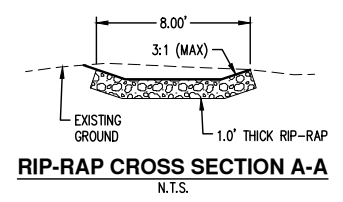
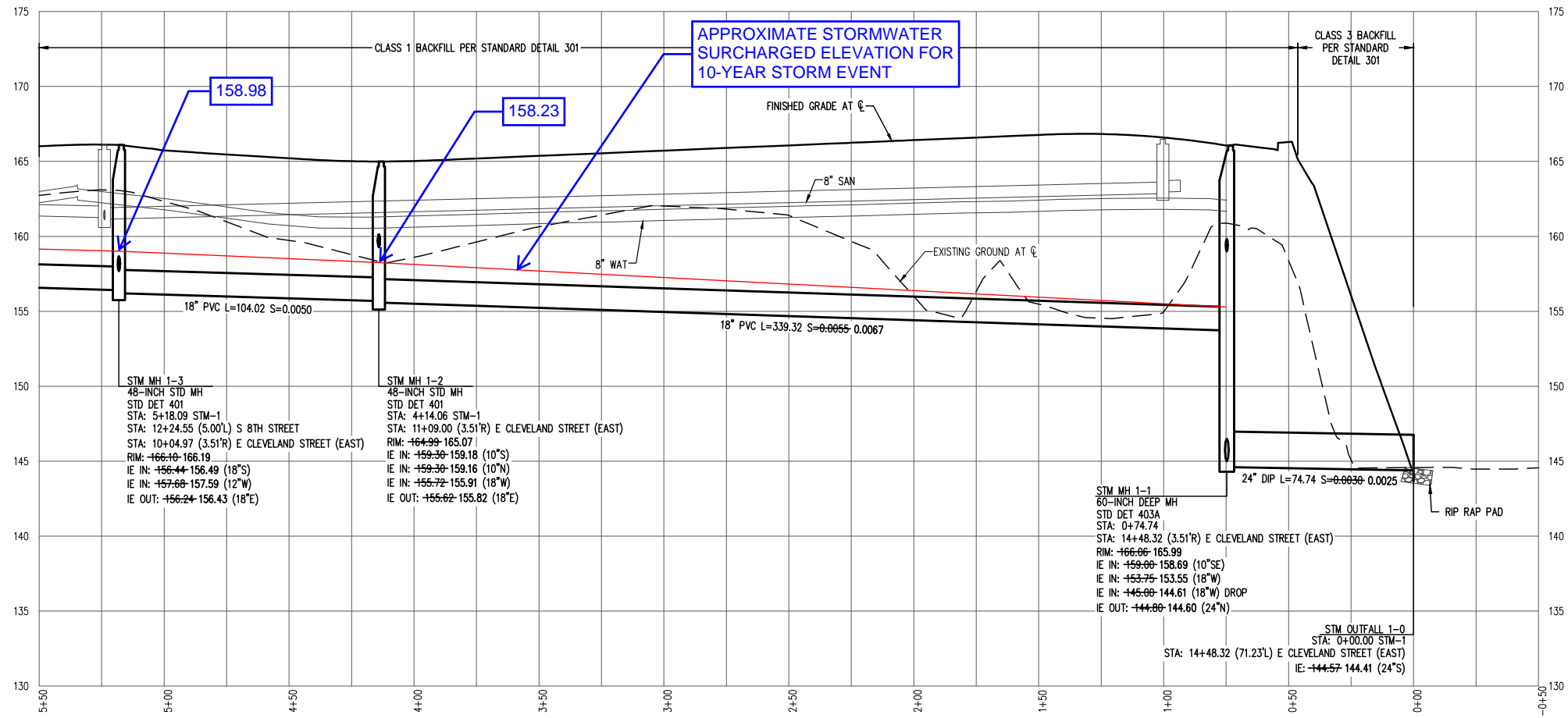
- KEY NOTES:**
- CONSTRUCT 10-INCH STORM DRAINAGE PIPE.
 - CONSTRUCT 18-INCH STORM DRAINAGE PIPE.
 - CONSTRUCT 24-INCH STORM DRAINAGE PIPE.
 - INSTALL STANDARD MANHOLE PER STD. DWG. 401, SHEET C210.
 - INSTALL CATCH BASIN PER STD. DWG. 310, SHEET C210.
 - INSTALL CL-200 RIP-RAP PAD OVER GEOTEXTILE FABRIC AT STORM DRAINAGE OUTLET, L=30.0', W=8.0', D=1.0', H=3.4'.
 - CONSTRUCT DEEP MANHOLE WITH DROP PER STD. DWG. 403A AND DWG 060, SHEET C211.
 - CONTRACTOR SHALL GRADE OUTFALL TO DRAIN DIRECTLY NORTH TO HAWN CREEK.

EASEMENT LEGEND

- PUE = PUBLIC UTILITY EASEMENT
- SDE = PUBLIC STORM DRAINAGE EASEMENT
- SSE = PUBLIC SANITARY SEWER EASEMENT
- PWE = PUBLIC WATER EASEMENT
- EAE = EMERGENCY ACCESS EASEMENT
- PAE = PUBLIC ACCESS EASEMENT
- PAUE = PUBLIC ACCESS & UTILITY EASEMENT
- SWE = SIDEWALK EASEMENT
- TPAE = TEMPORARY PUBLIC ACCESS EASEMENT
- PRSE = PRIVATE SANITARY SEWER EASEMENT



CONTRACTOR SHALL CONTACT PROJECT ENGINEER TO FIELD VERIFY EXACT LOCATION OF STORM OUTFALL PRIOR TO INSTALLATION.



STM-1 - PROFILE
 STM-1 STA: -0+50 TO 5+50
 HOR: 1" = 30'
 VERT: 1" = 5'

PROFILE STATIONING AND ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED.

AKS DRAWING FILE: 7395-01_C200_STM.DWG | LAYOUT: C203

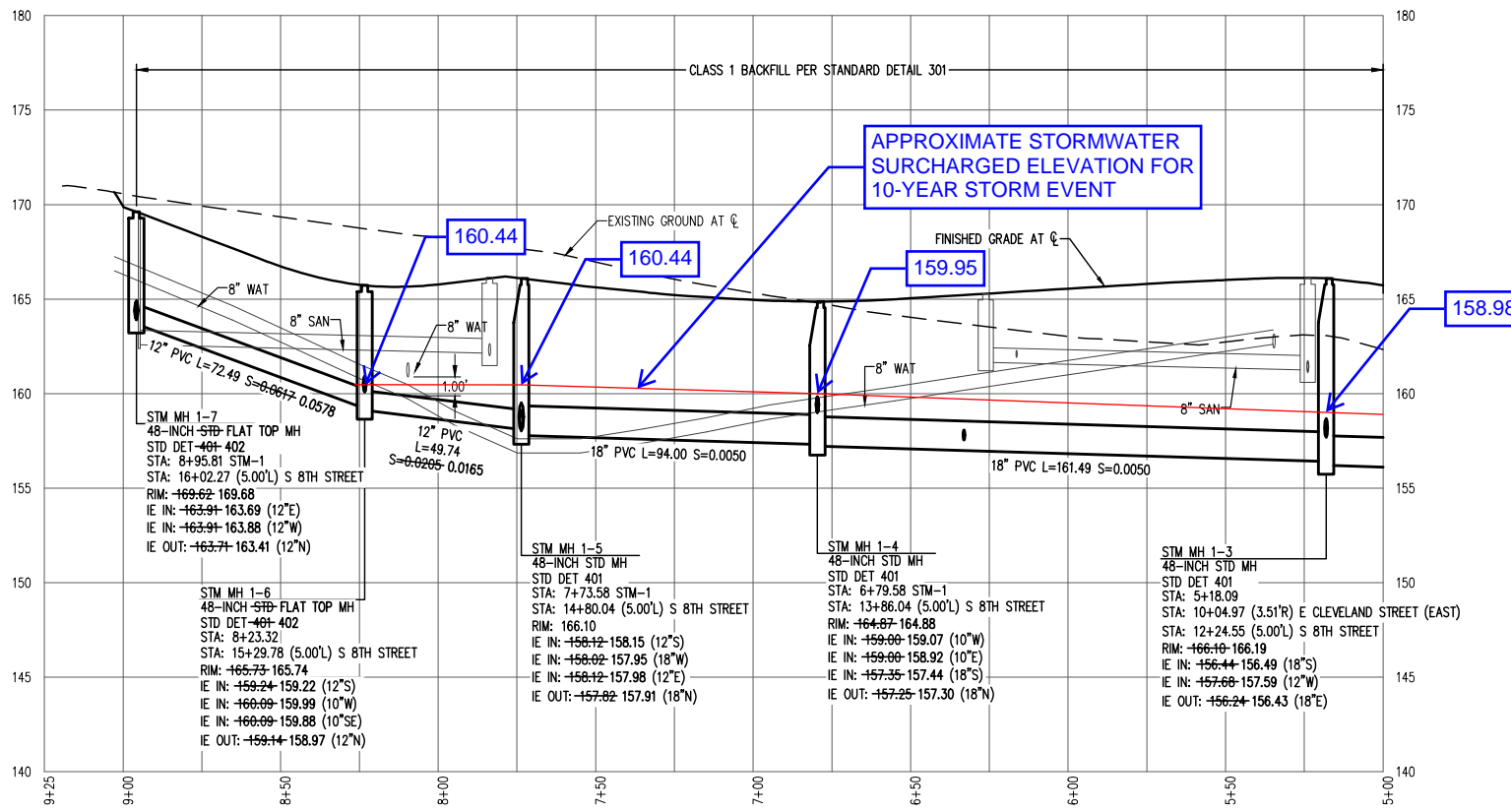
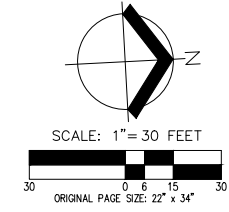
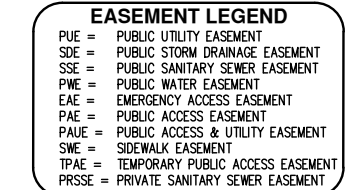
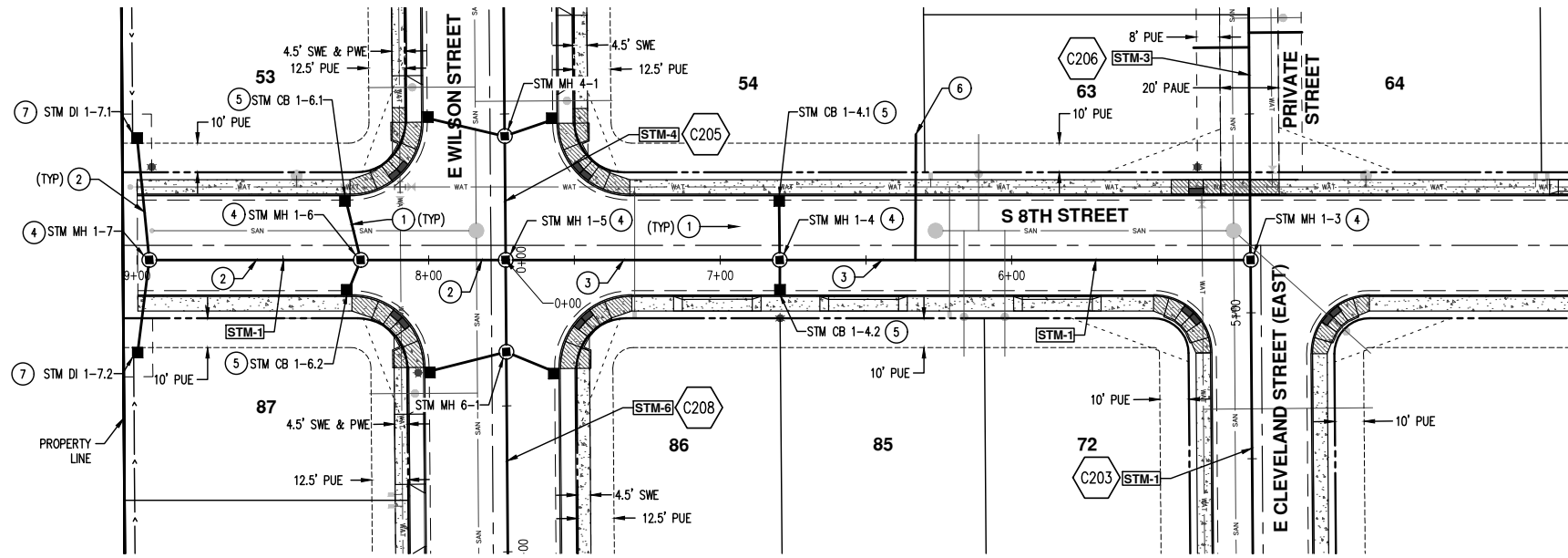
AS-BUILT DISCLAIMER:
 AS-BUILT INFORMATION IS BASED ON SPOT INSPECTION INFORMATION AND CONTRACTOR PROVIDED INFORMATION. THE ENGINEER ONLY CERTIFIES INFORMATION WHICH COULD BE FIELD VERIFIED AFTER CONSTRUCTION WAS COMPLETED. AS-BUILTS ARE ONLY FOR PUBLIC IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAYS OR EASEMENTS.

NOTES:

- A. MANHOLE COVERS SHALL BE INSTALLED PER STD. DWG. 405, SHEET C210.
- B. PIPE BEDDING AND TRENCH BACKFILL SHALL BE PER STD. DWG. 301, SHEET C210.
- C. CATCH BASINS SHALL BE INSTALLED PER STD. DWG. 310 AND 312, SHEET C210.
- D. ALL LOTS SHALL HAVE 3" CURB AND GUTTER WEEP HOLES INSTALLED 5 FEET FROM EACH PROPERTY LINE PER STD. DWG. 210, SHEET C210.
- E. STANDARD MANHOLES SHALL BE INSTALLED PER STD. DWG. 401, SHEET C210.
- F. FLAT TOP MANHOLES SHALL BE INSTALLED PER STD. DWG. 402, SHEET C210.

KEY NOTES:

- 1. CONSTRUCT 10-INCH STORM DRAINAGE PIPE.
- 2. CONSTRUCT 12-INCH STORM DRAINAGE PIPE.
- 3. CONSTRUCT 18-INCH STORM DRAINAGE PIPE.
- 4. INSTALL STANDARD MANHOLE PER STD. DWG. 401, SHEET C210.
- 5. INSTALL CATCH BASIN PER STD. DWG. 310, SHEET C210.
- 6. INSTALL STORM DRAINAGE LATERAL PER STD. DWG. 415, SHEET C211.
- 7. INSTALL TYPE 3 DITCH INLET PER STD DWG. 313, SHEET C210.



STM-1 - PROFILE
 STM-1 STA: 5+00 TO 9+25
 HOR: 1" = 30'
 VERT: 1" = 5'

STORMWATER DITCH INLET TABLE

INLET	TYPE	TOP OF GRATE ELEV	IE OUT	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM DI 1-7.1	DI DET 313	+178.08 +169.90	+164.33 +164.48	12" PVC	-0.0100 0.0143	41.96 LF	STM MH 1-7	16+06.45 36.75 R	S 8TH STREET
STM DI 1-7.2	DI DET 313	+168.00 +167.97	+164.23 +164.38	12" PVC	-0.0099 0.0219	32.00 LF	STM MH 1-7	16+06.27 36.75 L	S 8TH STREET

STORMWATER CATCH BASIN TABLE

CB	TYPE	TOP OF CURB ELEV	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM CB 1-4.1	CB DET 310	+168.09 +165.05	+161.99 +161.76	+1.6'	10" PVC	-0.1314 0.1223	22.00 LF	STM MH 1-4	13+86.21 17.00 R	S 8TH STREET
STM CB 1-4.2	CB DET 310	+168.09 +165.04	+161.99 +161.45	+1.6'	10" PVC	-0.2408 0.2108	12.00 LF	STM MH 1-4	13+85.95 17.00 L	S 8TH STREET
STM CB 1-6.1	CB DET 310	+166.06 +165.88	+160.54 +160.23	1.0'	10" PVC	-0.0289 0.0106	22.65 LF	STM MH 1-6	15+35.16 17.00 R	S 8TH STREET
STM CB 1-6.2	CB DET 310	+166.06 +165.92	+162.56 +162.24	+1.0'	10" PVC	-0.1918 0.1829	12.90 LF	STM MH 1-6	15+34.51 17.00 L	S 8TH STREET

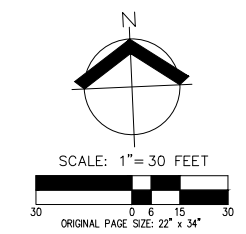
STORMWATER LATERAL TABLE*

LOT	STATION	ALIGNMENT	PIPE DIA./TYPE	LENGTH	SLOPE	COVER AT LOT	IE AT LOT	IE AT MAINLINE
54	6+33.06	STM-1	6" PVC	43.02	0.0510	6.3	159.75	157.56

*NOT AS-BUILT

AS-BUILT DISCLAIMER:
 AS-BUILT INFORMATION IS BASED ON SPOT INSPECTION INFORMATION AND CONTRACTOR PROVIDED INFORMATION. THE ENGINEER ONLY CERTIFIES INFORMATION WHICH COULD BE FIELD VERIFIED AFTER CONSTRUCTION WAS COMPLETED. AS-BUILTS ARE ONLY FOR PUBLIC IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAYS OR EASEMENTS.

STORMWATER CATCH BASIN TABLE										
CB	TYPE	TOP OF CURB ELEV	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM CB 2-3.1	CB DET 310	167.10 167.06	164.24 164.47	1.0' 2.5'	10" DIP	0.0050 0.0166	22.32 LF	STM MH 2-3	10+49.32 17.00 R	E CLEVELAND STREET (WEST)
STM CB 2-3.2	CB DET 310	167.10 167.06	164.19 164.25	1.0' 2.1'	10" DIP	0.0050 0.0109	12.87 LF	STM MH 2-3	10+50.19 17.00 L	E CLEVELAND STREET (WEST)



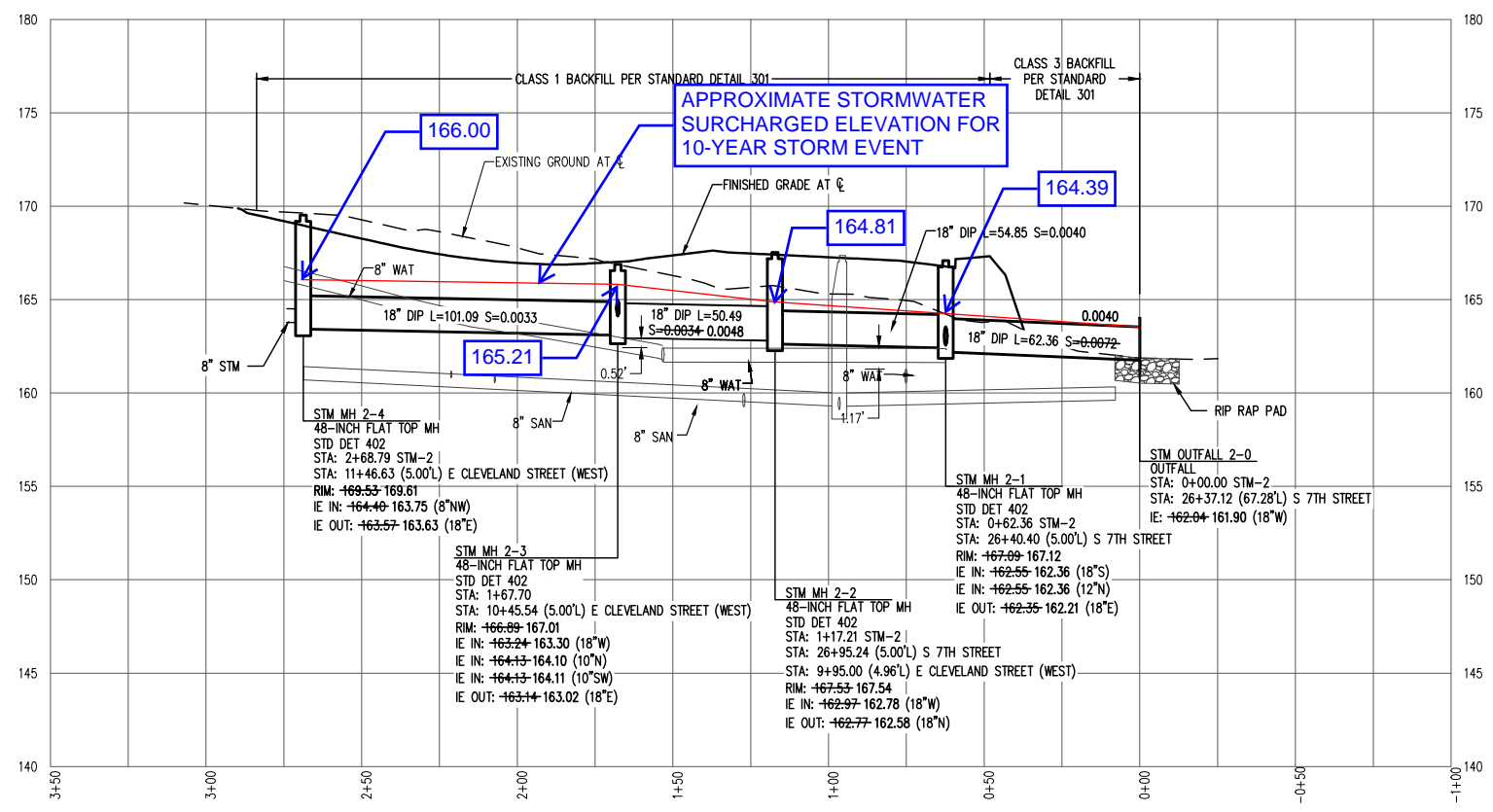
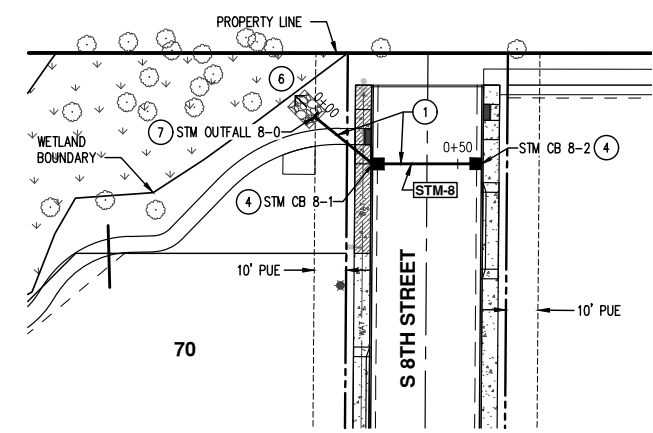
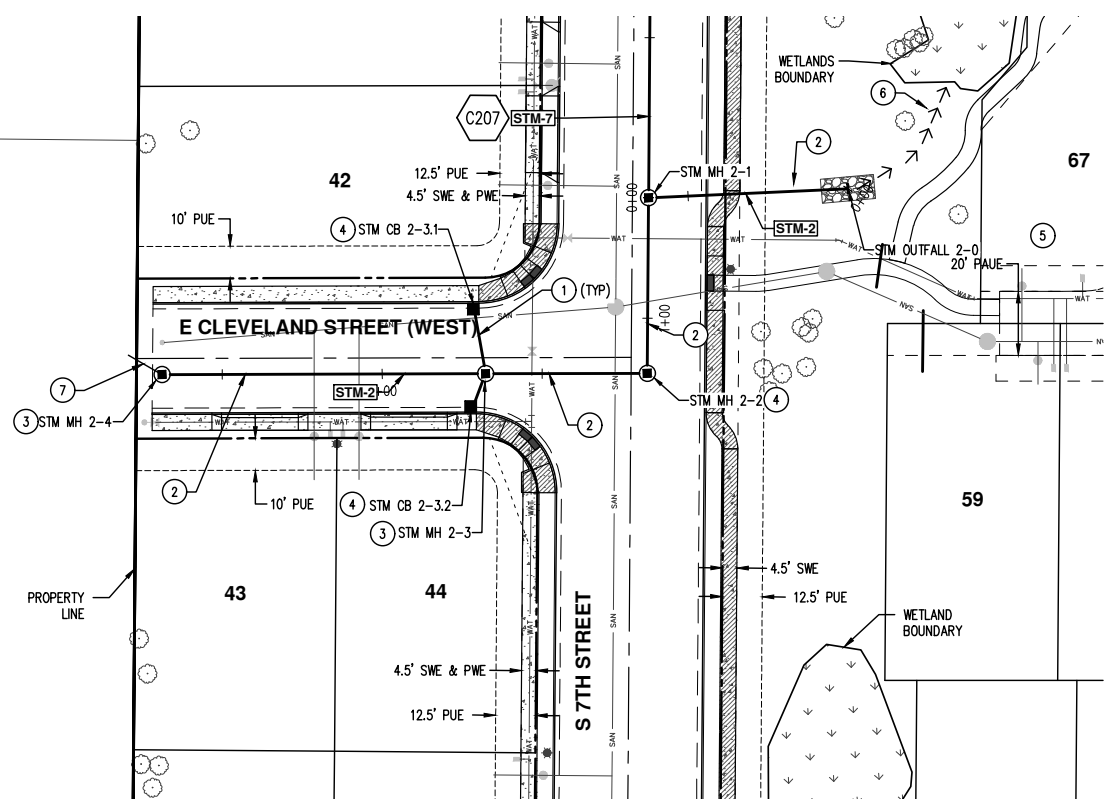
- NOTES:**
- MANHOLE COVERS SHALL BE INSTALLED PER STD. DWG. 405, SHEET C210.
 - PIPE BEDDING AND TRENCH BACKFILL SHALL BE PER STD. DWG. 301, SHEET C210.
 - CATCH BASINS SHALL BE INSTALLED PER STD. DWG. 310 AND 312, SHEET C210.
 - ALL LOTS SHALL HAVE 3" CURB AND GUTTER WEEP HOLES INSTALLED 5 FEET FROM EACH PROPERTY LINE PER STD. DWG. 210, SHEET C210.
 - STANDARD MANHOLES SHALL BE INSTALLED PER STD. DWG. 401, SHEET C210.
 - FLAT TOP MANHOLES SHALL BE INSTALLED PER STD. DWG. 402, SHEET C210.

- KEY NOTES:**
- CONSTRUCT 10-INCH STORM DRAINAGE PIPE.
 - CONSTRUCT 18-INCH STORM DRAINAGE PIPE.
 - INSTALL FLAT TOP MANHOLE PER STD. DWG. 402, SHEET C210.
 - INSTALL CATCH BASIN PER STD. DWG. 310, SHEET C210.
 - INSTALL CL-200 RIP-RAP PAD OVER GEOTEXTILE FABRIC AT STORM DRAINAGE OUTLET, L=10.0', W=7.5', D=1.0', H=2.8'.
 - CONTRACTOR SHALL GRADE TO DRAIN TO WETLAND. CONTRACTOR SHALL NOT DISTURB WETLAND.
 - INSTALL 8" STORM DRAINAGE PIPE.

EASEMENT LEGEND

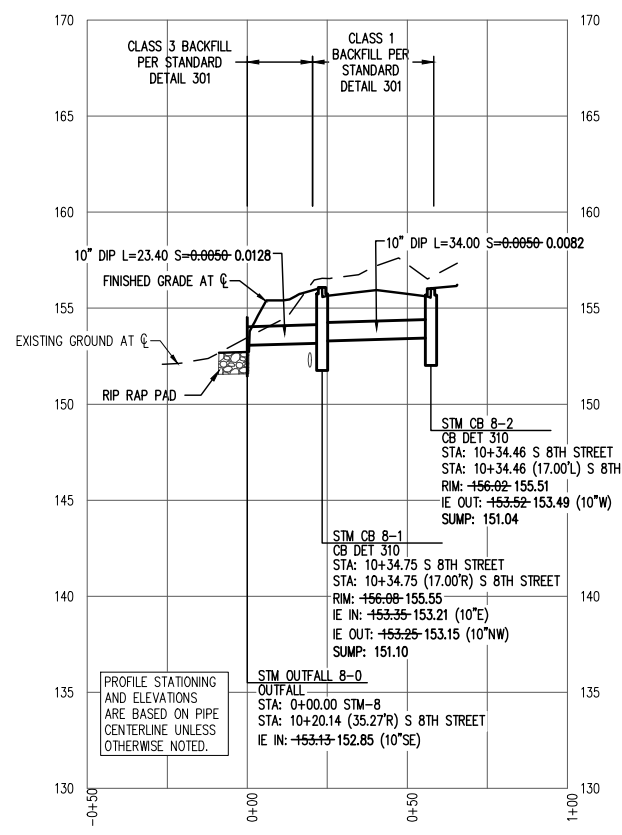
- PUE = PUBLIC UTILITY EASEMENT
- SDE = PUBLIC STORM DRAINAGE EASEMENT
- SSE = PUBLIC SANITARY SEWER EASEMENT
- PWE = PUBLIC WATER EASEMENT
- EAE = EMERGENCY ACCESS EASEMENT
- PAE = PUBLIC ACCESS EASEMENT
- PAUE = PUBLIC ACCESS & UTILITY EASEMENT
- SWE = SIDEWALK EASEMENT
- TPAE = TEMPORARY PUBLIC ACCESS EASEMENT
- PRSE = PRIVATE SANITARY SEWER EASEMENT

CONTRACTOR SHALL CONTACT PROJECT ENGINEER TO FIELD VERIFY EXACT LOCATION OF STORM OUTFALL PRIOR TO INSTALLATION.



STM-2 - PROFILE
 STM-2 STA: -1+00 TO 3+50
 HOR: 1" = 30'
 VERT: 1" = 5'

PROFILE STATIONING AND ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED.



STM-8 - PROFILE
 STM-8 STA: -0+50 TO 1+00
 HOR: 1" = 30'
 VERT: 1" = 5'

PROFILE STATIONING AND ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED.

AS-BUILT DISCLAIMER: AS-BUILT INFORMATION IS BASED ON SPOT INSPECTION INFORMATION AND CONTRACTOR PROVIDED INFORMATION. THE ENGINEER ONLY CERTIFIES INFORMATION WHICH COULD BE FIELD VERIFIED AFTER CONSTRUCTION WAS COMPLETED. AS-BUILTS ARE ONLY FOR PUBLIC IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAYS OR EASEMENTS.

**E CLEVELAND ST (W)
 STORM DRAINAGE
 PLAN & PROFILE**

**JR MEADOWS NO. 2
 AS-BUILTS**

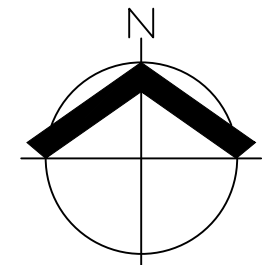
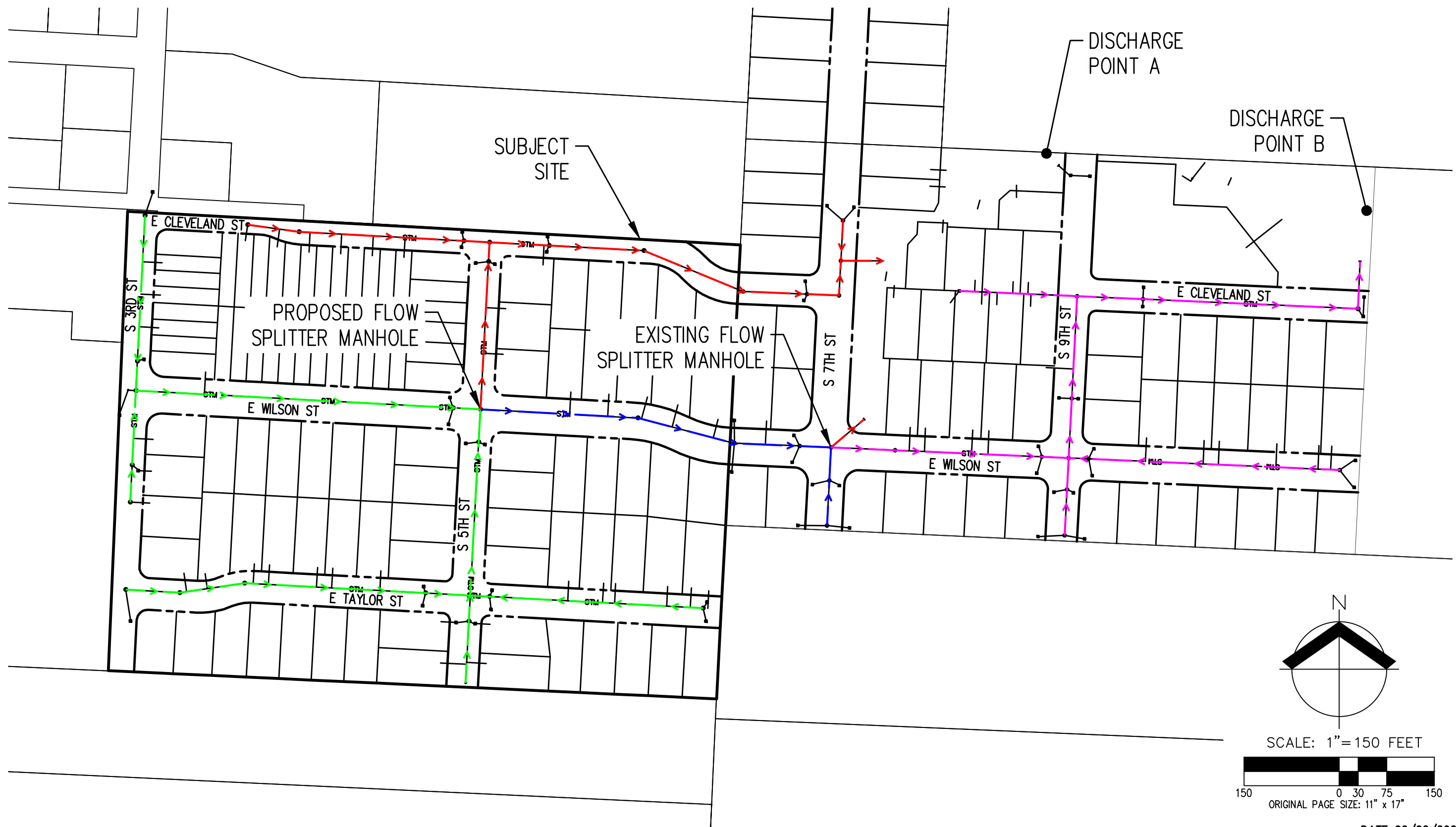
CARLTON OREGON
 YAMHILL COUNTY TAX MAP 3 4 22
 TAX LOT 1300

DESIGNED BY: AID
 DRAWN BY: NLB
 MANAGED BY: MBH
 CHECKED BY: RSW
 DATE: 4/21/2022

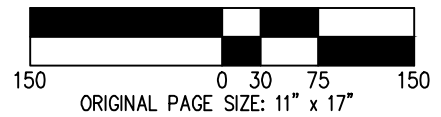
 RENEWAL DATE: 6/30/25

JOB NUMBER
7395-01
 SHEET
C208

Appendix J: Stormwater Routing Diagram



SCALE: 1" = 150 FEET



DATE: 02/22/2023

PRELIMINARY STORMWATER ROUTING DIAGRAM

EXHIBIT
J

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



DRWN: NRA
CHKD: CMS
AKS JOB:
8632



Exhibit E: FEMA Flood Insurance Rate Map (FIRM)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NINGS12
National Geodetic Survey
SSM-C-3, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), CRWA Bureau of Land Management (2006), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://fims.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nfp/>.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary
0.2% Annual Chance Floodplain Boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

— Cross section line
— Transsect line

45° 02' 06", 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT 5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
*93° 00' N 100-meter Universal Transverse Mercator grid values, zone 10N
DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)
* M1.5 River Mile
MAP REPOSITORIES Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: March 2, 2010
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6626.

MAP SCALE 1" = 500'
0 500 1000
150 0 150 300
FEET METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0191D

FIRM
FLOOD INSURANCE RATE MAP
YAMHILL COUNTY,
OREGON
AND INCORPORATED AREAS

PANEL 191 OF 675
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CARLTON CITY OF	410251	0191	D
YAMHILL COUNTY	410249	0191	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41071C0191D
EFFECTIVE DATE
MARCH 2, 2010
Federal Emergency Management Agency



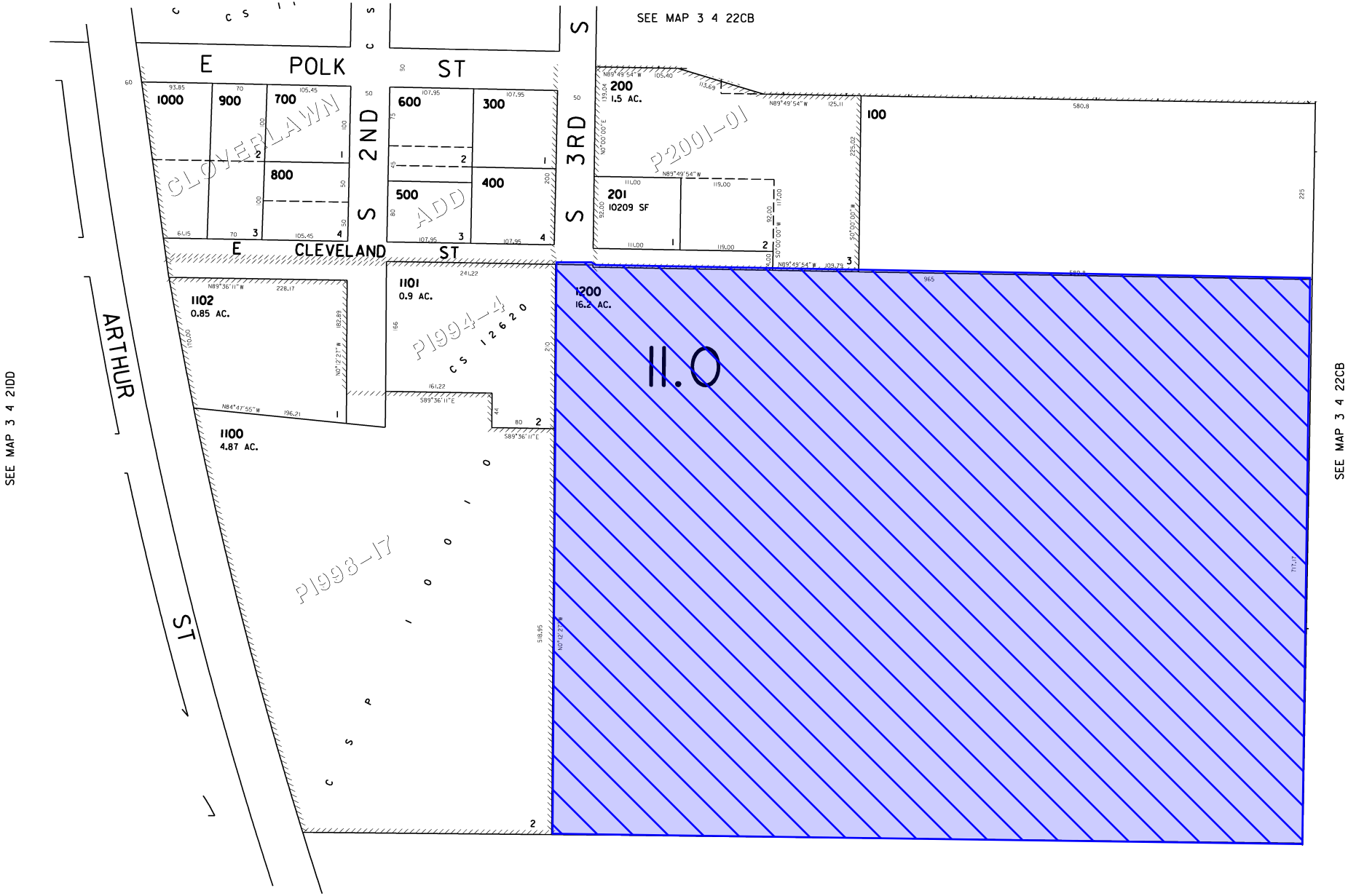
Exhibit F: Yamhill County Assessor's Map

THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSE ONLY

SW 1/4 SW 1/4 SEC22 T3S R4W W.M.
YAMHILL COUNTY
1" = 100'

3 4 22CC
CARLTON

CANCELLED
202
1101



SEE MAP 3 4 21DD

SEE MAP 3 4 22CB

SEE MAP 3 4 22



Exhibit G: Ownership Information

FIRST AMERICAN TITLE

Property Research Report

SUBJECT PROPERTY

98637
R3422CC01200
Yamhill

OWNER

Chad E Davis Construction LLC

DATE PREPARED

09/14/2022

PREPARED BY

gparilla@firstam.com



First American Title

Customer Service 503.219.8746

cs.oregon@firstam.com

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All rights reserved. | NYSE: FAF | 39203000418

IMPORTANT – READ CAREFULLY: THIS REPORT IS NOT AN INSURED PRODUCT OR SERVICE OR A REPRESENTATION OF THE CONDITION OF TITLE TO REAL PROPERTY. IT IS NOT AN ABSTRACT, LEGAL OPINION, OPINION OF TITLE, TITLE INSURANCE COMMITMENT OR PRELIMINARY REPORT, OR ANY FORM OF TITLE INSURANCE OR GUARANTY. THIS REPORT IS ISSUED EXCLUSIVELY FOR THE BENEFIT OF THE APPLICANT THEREFOR, AND MAY NOT BE USED OR RELIED UPON BY ANY OTHER PERSON. THIS REPORT MAY NOT BE REPRODUCED IN ANY MANNER WITHOUT FIRST AMERICAN'S PRIOR WRITTEN CONSENT. FIRST AMERICAN DOES NOT REPRESENT OR WARRANT THAT THE INFORMATION HEREIN IS COMPLETE OR FREE FROM ERROR, AND THE INFORMATION HEREIN IS PROVIDED WITHOUT ANY WARRANTIES OF ANY KIND, AS-IS, AND WITH ALL FAULTS. AS A MATERIAL PART OF THE CONSIDERATION GIVEN IN EXCHANGE FOR THE ISSUANCE OF THIS REPORT, RECIPIENT AGREES THAT FIRST AMERICAN'S SOLE LIABILITY FOR ANY LOSS OR DAMAGE CAUSED BY AN ERROR OR OMISSION DUE TO INACCURATE INFORMATION OR NEGLIGENCE IN PREPARING THIS REPORT SHALL BE LIMITED TO THE FEE CHARGED FOR THE REPORT, IF ANY. RECIPIENT ACCEPTS THIS REPORT WITH THIS LIMITATION AND AGREES THAT FIRST AMERICAN WOULD NOT HAVE ISSUED THIS REPORT BUT FOR THE LIMITATION OF LIABILITY DESCRIBED ABOVE. FIRST AMERICAN MAKES NO REPRESENTATION OR WARRANTY AS TO THE LEGALITY OR PROPRIETY OF RECIPIENT'S USE OF THE INFORMATION HEREIN.



OWNERSHIP INFORMATION

Owner: Chad E Davis Construction LLC
CoOwner:
Site: Carlton OR 97111
Mail: 2808 19th Ave Forest Grove OR 97116

Parcel #: 98637
Ref Parcel #: R3422CC01200
TRS: 03S / 04W / 22 / SW
County: Yamhill

PROPERTY DESCRIPTION

Map Grid: 741-B1
Census Tract: 030400 Block: 5053
Neighborhood: CAR2 - Carlton
School Dist: 1 Yamhill-Carlton School District
Impr Type: 0
Subdiv/Plat:
Land Use: 540 - Farm - Unzoned farm land - Vacant
Std Land Use: AMSC - Agricultural Misc
Zoning: AH - Agriculture Holding
Lat/Lon: 45.288788 / -123.171905
Watershed: Yamhill River
Legal: See Metes & Bounds

ASSESSMENT AND TAXATION

Market Land: \$5,208,687.00
Market Impr: \$0.00
Market Total: \$5,208,687.00 (2021)
% Improved: 0.00%
Assessed Total: \$15,196.00 (2021)
Levy Code: 11.0
Tax: \$250.66 (2021)
Millage Rate: 16.4949
Exemption:
Exemption Type:

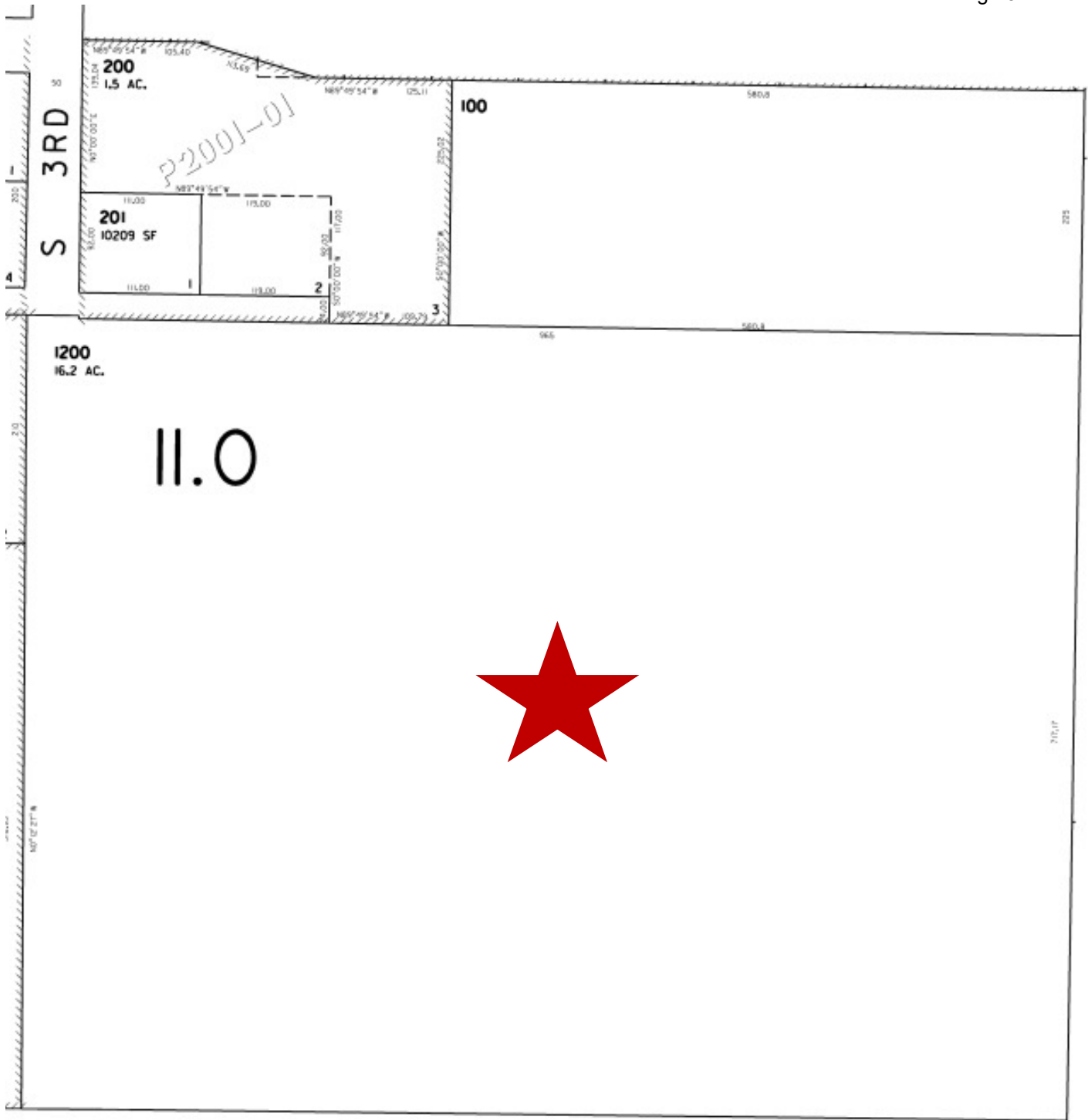
PROPERTY CHARACTERISTICS

Bedrooms:	Total SqFt:	Year Built:
Baths, Total:	First Floor:	Eff Year Built:
Baths, Full:	Second Floor:	Lot Size Ac: 16.20 Acres
Baths, Half:	Basement Fin:	Lot Size SF: 705,672 SqFt
Total Units:	Basement Unfin:	Lot Width:
# Stories:	Basement Total:	Lot Depth:
# Fireplaces:	Attic Fin:	Roof Material:
Cooling:	Attic Unfin:	Roof Shape:
Heating:	Attic Total:	Ext Walls:
Building Style:	Garage:	Const Type:

SALES AND LOAN INFORMATION

Owner	Date	Doc #	Sale Price	Deed Type	Loan Amt	Loan Type
CHAD E DAVIS CONSTRUCTION LLC	01/14/2022	770	\$2,825,000.00	Deed		Conv/Unk
DEGRAUW EDWARD A TRUST	12/18/2017	20077		Deed		Conv/Unk
EDWARD A DEGRAUW	05/12/2008	8231		Deed		Conv/Unk
ALFRED PETERSON	01/01/1983	7470		Deed		Conv/Unk

Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.



11.0

SEE MAP 3 4 22



First American Title™

This map/plat is being furnished as an aid in locating the herein described land in relation to the adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

geoAdvantage

Aerial Map



First American Title

Parcel ID: 98637

Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.



After recording return to:
Chad E. Davis Construction, LLC
2808 19th Avenue
Forest Grove, OR 97116

Until a change is requested all tax
statements shall be sent to the
following address:

Chad E. Davis Construction, LLC
2808 19th Avenue
Forest Grove, OR 97116

File No.: 7032-3686246 (SH)
Date: January 10, 2022

THIS SPACE RESERVED FOR RECORDER'S USE

Yamhill County Official Records **202200770**
DMR-DDMR
Stn=6 MILLSA **01/14/2022 01:27:05 PM**
3Pgs \$15.00 \$11.00 \$5.00 \$60.00 **\$91.00**

I, Brian Van Bergen, County Clerk for Yamhill County, Oregon, certify
that the instrument identified herein was recorded in the Clerk
records.

Brian Van Bergen - County Clerk

STATUTORY WARRANTY DEED

Edward A. DeGrauw, Trustee of the Edward A. DeGrauw Trust dated November 21, 2017, as to an undivided 1/2 interest, and Jeffery L. DeGrauw, as to an undivided 1/2 interest, as tenants in common, Grantor, conveys and warrants to Chad E. Davis Construction, LLC, an Oregon limited liability company, Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.

The true consideration for this conveyance is **\$2,825,000.00**. (Here comply with requirements of ORS 93.030)

3686246-11B

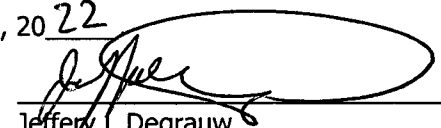
FIRST AMERICAN

APN: 98637

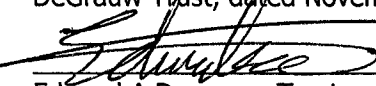
Statutory Warranty Deed
- continued

File No.: 7032-3686246 (SH)

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 14 day of January, 2022

Jeffery L Degrauw

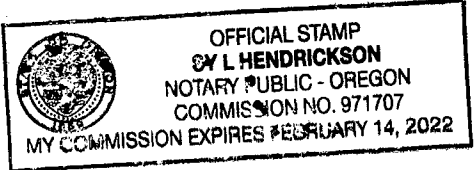
Edward A. Degrauw, Trustee of the Edward A DeGrauw Trust, dated November 21, 2017


Edward A Degrauw, Trustee

STATE OF Oregon)
County of Washington)ss.
SH

This instrument was acknowledged before me on this 14 day of January, 2022 by Jeffery L Degrauw and Edward A. Degrauw as Trustee of Edward A. Degrauw Trustee of the Edward A DeGrauw Trust, dated November 21, 2017, on behalf of the Trust.





Notary Public for Oregon
My commission expires: 02/14/22

APN: 98637

Statutory Warranty Deed
- continued

File No.: 7032-3686246 (SH)

EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Yamhill, State of Oregon, described as follows:

Part of the Peter Smith Donation Land Claim #64 in Township 3 South, Range 4 West of the Willamette Meridian in Yamhill County, Oregon described as follows:

Beginning at the South East corner of said Peter Smith Claim; thence North along the East line of said claim 717.17 feet to a stake; thence North 89° 50' West 965 feet to a point which is also the North East corner of tract of land conveyed to Horace Cronkhite and wife by Deed recorded September 23, 1937 in Book 113, Page 228, Deed Records, thence South along the East line of said Horace Cronkhite tract of land 728.2 feet to the South line of said Peter Smith Claim; thence North 89° 36' East along the South line of said Smith Donation Land Claim 960 feet to the place of beginning.

NOTE: This legal description was created prior to January 1, 2008.



Exhibit H: List of Surrounding Property Owners

R3422CB 03400
Timothy & Laurel Mueller
Po Box 157
Carlton, OR 97111

R3422CC 00201
Lonnie & Annie Jackson
Po Box 138
Carlton, OR 97111

R3422CC 00400
Amity Heights Llc
7000 NE Krono Rd
Yamhill, OR 97148

R3422CC 01101
Kaitlyn & Jeramie Clements
Po Box 264
Carlton, OR 97111

R3422CC 00300
Dale & Lori Bacon
Po Box 84
Carlton, OR 97111

R3422 01000
Robert & Barbara Mathews
9801 NE Old McMinnville Hwy
Carlton, OR 97111

R3422CA 01700
Katie Mckillip
329 S 7th St
Carlton, OR 97111

R3422CA 01600
Maria & Emily Wolff
317 S 7th St
Carlton, OR 97111

R3422CC 01100
Entrust Group Inc The
555 12th St STE 1250
Oakland, CA 94607

R3422CB 03300
School District No 11
535 NE 5th St
Mcminville, OR 97128

R3422CC 00200
Yamhill Carlton Together Cares
310 E Main St
Yamhill, OR 97148

R3422CC 00100
School District No 11
535 NE 5th St
Mcminville, OR 97128

R3422CC 01200
Gabriela Vargas & Teofilo Pobre Iii
709 N Sitka Ave
Newberg, OR 97132

R3422CA 01800
Colin & Tamara Taylor
337 S 7th St
Carlton, OR 97111

R3422CD 00900
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00800
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00500
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00300
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00200
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422 01100
Catherine Liedtke-Colwell & Bruce Colwell
3895 SW 185th Ave STE 170
Beaverton, OR 97078

R3422CD 00100
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422 00800
Terry McIntyre & Carol Fredrick
Po Box 691
Carlton, OR 97111

R3422CD 01000
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00700
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00600
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116

R3422CD 00400
Chad E Davis Construction Llc
2808 19th Ave
Forest Grove, OR 97116



**Exhibit I: Preliminary Water System Design Report
(Added February 2023)**

JR Meadows No. 3 Carlton, Oregon Preliminary Water System Design Report

Date: February 22, 2023

Client: Chad E. Davis Construction, LLC

Engineering Contact: Monty Hurley, PE
(503) 563-6151 | monty@aks-eng.com

AKS Job Number: 8632



12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

Table of Contents

1.0	Purpose of Report	1
2.0	Project Location/Description	1
3.0	Fire Protection Criteria	1
4.0	Water Availability	1
5.0	Fire Protection	1
5.1	FIRE PROTECTION WATER DEMAND.....	1
5.2	ON-SITE FIRE PROTECTION WATER MAIN SYSTEM SIZING	1
5.3	FIRE PROTECTION RESULTS.....	2

Tables

Table 5-1:	On-Site Hydrant Flows at 20 psi.....	2
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Figures

Appendix A: Hydrant Flow Test Results

Appendix B: On-Site Hydrant Model Inputs and Results

Preliminary Water System Design Report

JR MEADOWS NO. 3

CARLTON, OREGON

1.0 Purpose of Report

The purpose of this report is to document the criteria that the fire protection water systems are designed to meet, to identify the sources of information on which the analysis is based, and to present the design methodology as well as the results of the analysis.

2.0 Project Location/Description

The subject property is a ±16-acre parcel located southeast of the intersection of S 3rd St. and E Polk St. in Carlton, Oregon. This project includes an estimated 101 residential lots constructed in one phase.

3.0 Fire Protection Criteria

Fire protection water is required throughout the site. System sizing is based on the following:

- 2014 Oregon Fire Code as adopted by City of Carlton Code of Ordinances Section 15.04.020.7

4.0 Water Availability

The subject property has access to 3 public water mains. A 8 inch water main is located on E Cleveland St and E Wilson St, and a 6 inch water main is located at S 3rd St and E Polk St. AKS Engineering & Forestry completed a hydrant flow test under the supervision of the City of Carlton on October 30, 2019 at the intersection of 7th St and Main St. Based on the flow test, static pressure is approximately 80 pounds per square inch and the projected hydrant flow is 7,279 gallons per minute at 20 pounds per square inch residual pressure. The full results of the flow test are provided in Appendix B.

5.0 Fire Protection

5.1 FIRE PROTECTION WATER DEMAND

Fire protection water mains and services have been sized to support on-site fire hydrants. Based on the Oregon Fire Code, the fire flow required for single family dwellings and duplexes served by a municipal water supply shall be 1,000 gallons per minute at 20 pounds per square inch residual pressure. If the structures are 3,600 square feet or larger, the required fire flow is determined according to Oregon Fire Code Appendix B105.1. All structures within the S 3rd St subdivision are anticipated to be under 3,600 square feet.

5.2 ON-SITE FIRE PROTECTION WATER MAIN SYSTEM SIZING

Fire protection water to the subdivision is provided by a looped system connecting to E Cleveland St, E Wilson St, and S 3rd St. Bentley WaterCAD was used to model fire flow through the on-site fire protection water system. Available flow to each anticipated on-site hydrant was determined. The available flow to each hydrant is summarized in Table 5-1, below. Detailed model reports are included in Appendix D.

Hydrant	Flow (gallons per minute)
H1	1,970
H2	1,962
H3	1,910
H4	1,929
H5	1,887
H6	1,973

5.3 FIRE PROTECTION RESULTS

Based on the Bentley WaterCAD model all hydrants within the proposed development satisfy the fire flow requirements specified in the 2014 Oregon Fire Code.

Appendix A: Hydrant Flow Test Results

HYDRANT FLOW TEST REPORT



Project Name/#/Address: 7395-01
 Client: Carlton
 Date: 10/30/2019 Document Owner: John Christiansen

SAFETY PLAN

<input checked="" type="checkbox"/>	Notify fire department
<input checked="" type="checkbox"/>	Identify discharge point
<input checked="" type="checkbox"/>	Verify downstream
<input checked="" type="checkbox"/>	Traffic Control
<input type="checkbox"/>	Signage/Cones
<input checked="" type="checkbox"/>	PPE

Date/time of test: 10/30/2019
 Tested by: Waylon Knight / Brent Whittaker
 Witness: Brian Burnham
 Test duration: 5 Min

FLOWED HYDRANT 1-F

Make: Mueller
 Static: 85 PSI
 Pitot: 74 PSI
 Inside diameter of outlet: 2.5 Inch
 Discharge coeff: 0.9
 Observed flow: 1444 GPM
 Flow method: Pitot Diffuser
 Ground elevation: _____ FT
 Location description: 7th Street

GAUGE HYDRANT 1-G

Make: Mueller
 Static: 80 PSI
 Residual: 77 PSI
 Ground Elevation: _____ FT
 Location Description: Main Street

PROJECTED FIRE FLOW

Projected Flow at 20-PSI: 7279 GPM

NOTES/OBSERVATIONS

$Q_{\text{Flowed}} = 29.84 * (P_{\text{pitot}}^{.5}) * (D_{\text{outlet}}^2) * C$
 $Q_{\text{Projected}} = Q_{\text{F}} * ((GS - P_{\text{design}})^{0.54}) / ((GS - GR)^{0.54})$

Appendix B: On-Site Hydrant Model Inputs and Results

WATERCAD LAYOUT



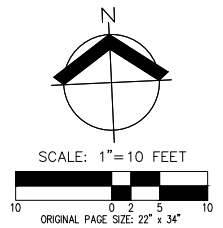
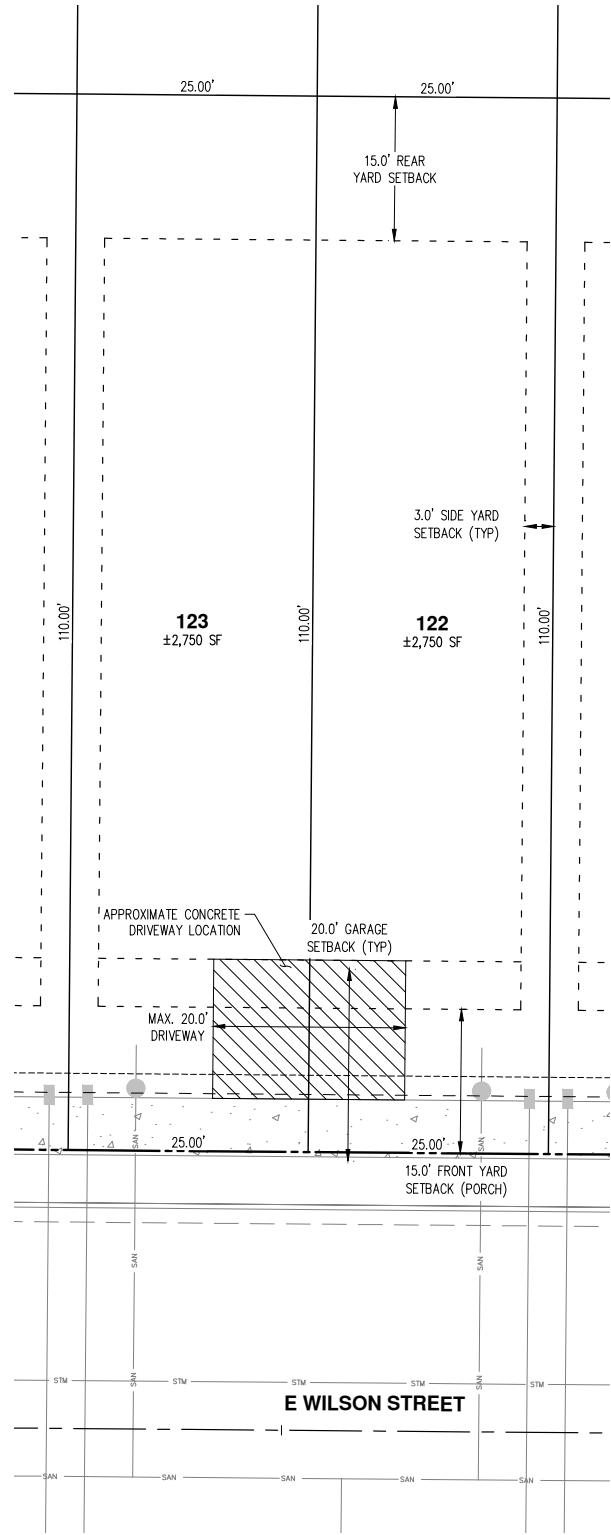
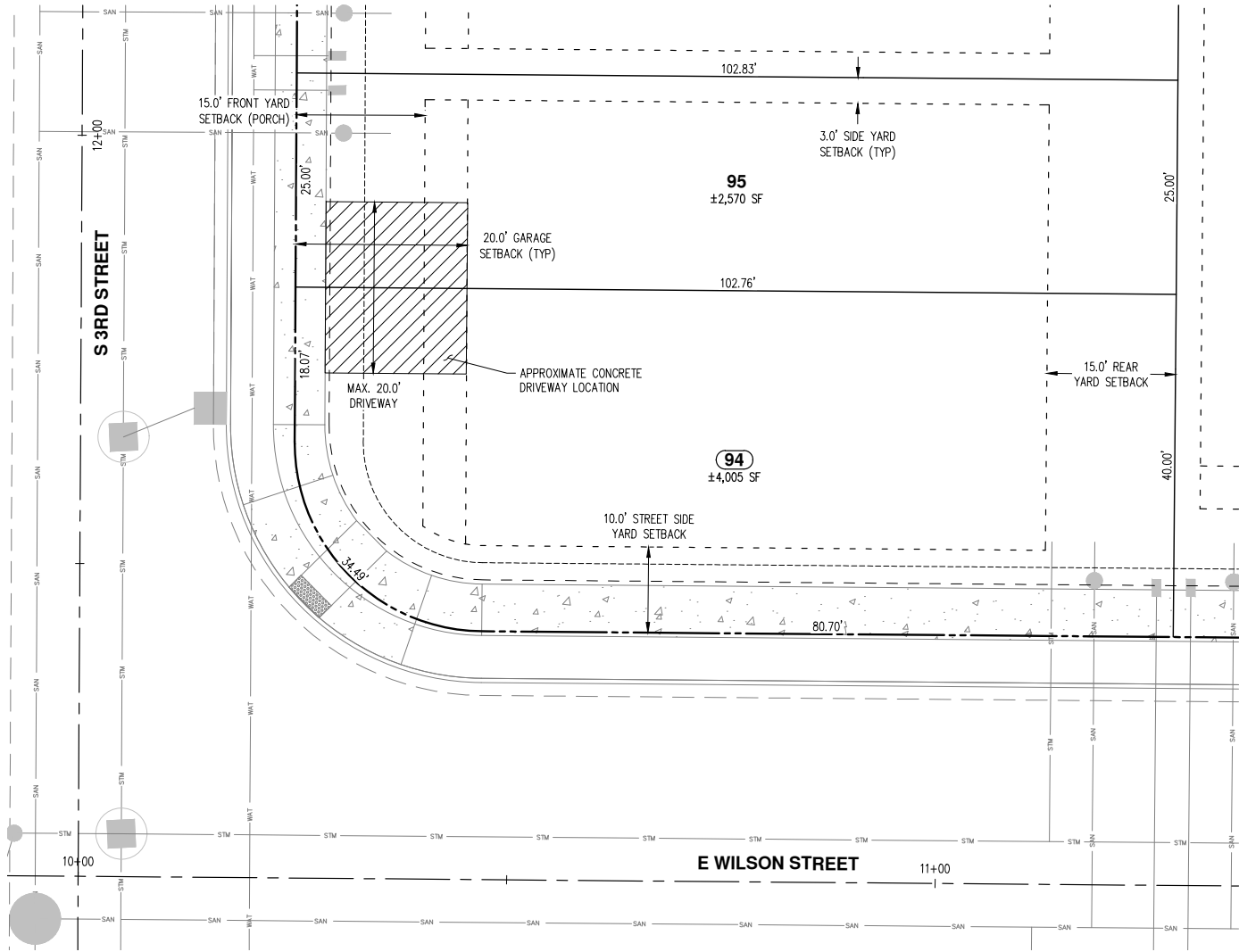
Pipe Table							
ID	Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C
44	P-5	513	J-7	J-8	8	Ductile Iron	130
46	P-6	355	J-8	J-9	8	Ductile Iron	130
49	P-7	127	J-11	J-8	8	Ductile Iron	130
51	P-8	177	J-8	J-12	8	Ductile Iron	130
54	P-9	194	J-14	J-7	8	Ductile Iron	130
56	P-10	120	J-7	J-15	8	Ductile Iron	130
63	P-12(1)	264	J-9	J-19	8	Ductile Iron	130
65	P-13	130	J-18	J-19	8	Ductile Iron	130
70	P-12(2)(1)	248	J-19	J-22	8	Ductile Iron	130
71	P-12(2)(2)	103	J-22	J-17	8	Ductile Iron	130
72	P-15	126	J-21	J-22	8	Ductile Iron	130
77	P-14(2)	365	J-24	J-20	8	Ductile Iron	130
79	P-16(1)	534	J-22	J-25	8	Ductile Iron	130
80	P-16(2)	377	J-25	J-23	8	Ductile Iron	130
81	P-17	245	J-24	J-25	8	Ductile Iron	130
83	P-18	104	J-25	J-26	8	Ductile Iron	130
85	P-14(1)(1)	283	J-19	J-27	8	Ductile Iron	130
86	P-14(1)(2)	251	J-27	J-24	8	Ductile Iron	130
88	P-19	253	J-27	J-28	8	Ductile Iron	130
99	P-23	386	J-34	J-35	10	Ductile Iron	130
100	P-24	562	J-7	J-34	8	Ductile Iron	130
104	P-26	1	PMP-2	J-36	24	Ductile Iron	130
121	P-34	1	R-1	PMP-2	24	Ductile Iron	130
123	P-35	147	J-15	J-43	8	Ductile Iron	130
125	P-36	530	J-43	J-44	8	Ductile Iron	130
127	P-37	268	J-44	J-45	6	Ductile Iron	130
129	P-38	528	J-45	J-46	8	Ductile Iron	130
130	P-39	280	J-46	J-43	8	Ductile Iron	130
137	P-42	13	J-44	J-50	6	Ductile Iron	130
139	P-25(1)	165	J-34	J-51	10	Ductile Iron	130
140	P-25(2)	36	J-51	J-36	10	Ductile Iron	130
141	P-43	23	J-50	J-51	6	Ductile Iron	130
149	P-2	250	J-1	J-2	8	Ductile Iron	130
152	P-4	298	J-2	J-3	8	Ductile Iron	130
154	P-5	380	J-3	J-4	8	Ductile Iron	130
156	P-6	147	J-3	J-5	8	Ductile Iron	130
158	P-7	546	J-3	J-6	8	Ductile Iron	130
160	P-8	327	J-6	J-7	8	Ductile Iron	130
161	P-9	548	J-7	J-2	8	Ductile Iron	130
163	P-10	548	J-1	J-8	8	Ductile Iron	130
164	P-11	266	J-8	J-7	8	Ductile Iron	130
166	P-12	114	J-6	J-9	8	Ductile Iron	130
174	P-16	254	J-12	J-13	6	Ductile Iron	130
176	P-17	178	J-12	J-14	8	Ductile Iron	130
178	P-18	272	J-13	J-15	6	Ductile Iron	130
179	P-19	260	J-15	J-11	6	Ductile Iron	130
181	P-20	36	J-13	J-16	6	Ductile Iron	130
182	P-21	268	J-8	J-12	8	Ductile Iron	130
188	P-22(1)	24	J-12	J-17	6	Ductile Iron	130
189	P-22(2)	245	J-17	J-11	6	Ductile Iron	130
205	P-27	17	H-2	J-3	6	Ductile Iron	130
206	P-28	13	H-3	J-6	6	Ductile Iron	130
207	P-29	16	H-4	J-7	6	Ductile Iron	130
208	P-30	19	H-5	J-8	6	Ductile Iron	130
209	P-31	22	H-6	J-1	6	Ductile Iron	130
210	P-32	21	H-1	J-2	6	Ductile Iron	130
211	P-33	385	J-2	J-21	8	Ductile Iron	130
212	P-34	386	J-1	J-18	8	Ductile Iron	130

Junction Table				
ID	Label	Elevation (ft)	Hydraulic Grade (ft)	Pressure (psi)
41	J-7	167	352.60	80
43	J-8	163	352.60	82
45	J-9	165	352.60	81
48	J-11	166	352.60	81
50	J-12	160	352.60	83
53	J-14	167	352.60	80
55	J-15	167	352.60	80
59	J-17	172	352.60	78
61	J-18	170	352.60	79
62	J-19	164	352.60	82
66	J-20	158	352.60	84
68	J-21	174	352.60	77
69	J-22	169	352.60	79
73	J-23	166	352.60	81
75	J-24	161	352.60	83
78	J-25	165	352.60	81
82	J-26	169	352.60	79
84	J-27	164	352.60	82
87	J-28	153	352.60	86
97	J-34	166	352.60	81
98	J-35	167	352.60	80
101	J-36	168	352.60	80
122	J-43	167	352.60	80
124	J-44	168	352.60	80
126	J-45	173	352.60	78
128	J-46	179	352.60	75
136	J-50	168	352.60	80
138	J-51	168	352.60	80
146	J-1	172	352.60	78
148	J-2	175	352.60	77
151	J-3	184	352.60	73
153	J-4	178	352.6	76
155	J-5	190	352.6	70
157	J-6	190	352.6	70
159	J-7	180	352.6	75
162	J-8	190	352.6	70
165	J-9	194	352.6	69
169	J-11	199	352.6	66
171	J-12	197	352.6	67
173	J-13	190	352.6	70
175	J-14	177	352.6	76
177	J-15	190	352.6	70
180	J-16	188	352.6	71
187	J-17	198	352.6	67

Hydrant Table				
Label	Fire Flow (Available) (gpm)	Pressure (Residual Lower Limit) (psi)	Pressure (Calculated Residual) (psi)	Junction w/ Minimum Pressure (Zone)
H1	1,970	20	103	J-11
H2	1,962	20	100	J-11
H3	1,910	20	103	J-9
H4	1,929	20	103	J-11
H5	1,887	20	104	J-11
H6	1,973	20	103	J-11



**Exhibit J: Preliminary Driveway Schematic Exhibit
(Added February 2023)**



SINGLE FAMILY ATTACHED HOME DRIVEWAY SCHEMATIC
JR MEADOWS NO. 3
CARLTON, OREGON



RENEWAL DATE:	6/30/23
JOB NUMBER:	8632
DATE:	02/20/2023
DESIGNED BY:	NRA
DRAWN BY:	NRA
CHECKED BY:	CMS

EXH-1



Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN# *

WN2023-0067

Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Aimee Amerson	City	Carlton
Local case file #	County	
SUB 23-01	Yamhill	

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
03S	04W	22	CC	1200

Street Address

JR Meadows 3

Address Line 2

SE of intersection of E Cleveland St and S 3rd St

City

Carlton

Postal / Zip Code

State / Province / Region

OR

Country

Yamhill

Latitude

45.288521

Longitude

-123.171681

Wetland/Waterway/Other Water Features

- It is unlikely that there are jurisdictional wetlands or waterways on the property based upon a review of wetland maps, the county soil survey and other available information.

Closing Information

Additional Comments

This site has an active delineation (WD2022-0303). No wetlands or waters were found within the project area. Therefore, a permit will not be required by DSL.

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: <http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx>
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: <https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf>

Response Date

2/10/2023

Response by:

Chris Stevenson

Response Phone:

503-986-5246



**CITY OF CARLTON
PLANNING COMMISSION AGENDA
MONDAY, MAY 17, 2023, 6:00 P.M.
VIA ZOOM AND 945 WEST GRANT STREET**

The Mission of the City of Carlton is to sustain and enhance the viability of the community by providing essential services with professionalism and integrity.

	<u>Pages</u>
1. Call to Order – Roll Call	
A) Changes to the Agenda	
2. Minutes Approval- April 17, 2023	2
3. Citizen Comments (<i>Topics not on Agenda</i>)	
4. Discussion topics/Action Items	
A. Planning Commissioner liaison to the City Council	
B. Student representative on the Planning Commission	3
C. Continuance: SUB 2023-01; JR Meadows Phase 3 (near 3 rd and West of South 7 th streets) Applicant: Chad E Davis Construction, LLC	6
5. Commissioner comments	
6. Adjournment	

Due to spacing issues at City Hall, the public is invited to attend this meeting virtually. To attend or participate or attend the meeting, you can log in with a computer using the link below, or the phone option below:

<https://us02web.zoom.us/j/83970005816?pwd=R21xai9ZQTg3NnJqMThjSC8rWHpxZz09>

This meeting ID: 839 7000 5816

Passcode: 169761

Or you can call **1-253-215-8782**, input the meeting ID and password and enter the meeting using your phone.



Planning Commission Regular Session Minutes
April 17, 2023, 6:00 PM
Via Zoom and at 945 West Grant Street

1. CALL MEETING TO ORDER & ROLL CALL**6:01 PM**

Planning Commissioner Chair Anthony Stuart called the meeting to order at 6:01 PM.

Members Present: Anthony Stuart Susan Turrell
 Jennifer Nordstrom Noelle Amaya
 Robin Geck Annette Fernandez-Madrid
 Jim Bandy

Members Absent: None

Staff Present: Scott Whyte, City Planner Shannon Beaucaire, City Manager
 Aimee Amerson, City Recorder Julie Brandão, Office Specialist
 Gordon Munro, City Engineer Tyler Yeoman-Millette, City Attorney

Others: Carolyn Thompson-Rizer Lonnie Geck
 Phil Turrell

2. MINUTES APPROVAL- March 20, 2023**6:02 PM**

MOTION: Fernandez-Madrid/Bandy: to approve the Planning Commission minutes from March 20, 2023, as submitted. Motion carried (7 Yes/0 No/0 Absent /0 Abstain).

3. CITIZEN COMMENTS**6:02 PM**

None given.

4. ACTION / DISCUSSION ITEMS**A) Change of meeting date for Attorney attendance****6:03 PM**

City Recorder Aimee Amerson presented the need for a change of meeting date to accommodate the City Attorney's and City Planner's attendance, changing from the third to the second Monday of each month. Commission Chair Anthony Stuart asked for a consensus and Commissioners stated they had no objections.

B) Stormwater presentation from City Engineer**6:08 PM**

City Engineer Gordon Munro gave a presentation regarding Storm Water system developments and future considerations discussing current case law, current City Development Code, existing systems and planned changes for the future. Commissioners asked questions about data, system design, definitions, current enforcement and practices.

5. COMMISSIONER COMMENTS**7:42 PM**

None

6. ADJOURNMENT**7:42 PM**

The meeting adjourned at 7:42 PM.

ATTEST:

Julie Brandão, Office Specialist

Anthony Stuart, Planning Commissioner Chair

2.12.030 Membership.

- A. Number of members. The city planning commission shall consist of seven members.
- B. Qualifications. The city council shall strive to appoint members who represent a cross-section of the citizens of Carlton, and who will provide the planning commission with expertise in the area of planning, who possess broad areas of interest, and general concern with the planning process which is required for the functioning of this body.
- C. Terms. At the first meeting of the planning commission, the seven appointed members shall choose their term of office by lots as follows: one or one year; two for two years; two for three years; and two for four years, and shall immediately thereafter notify the mayor and city council in writing of such allotment. Their successors shall hold office for four years. Terms commence with January 1 of each year.
- D. Term limits. Members shall not serve more than three full terms consecutively.
- E. Vacancies. The city shall give public notice of any vacancy of the planning commission and accept such application for such vacancies. The application for membership on the planning commission shall state the principal occupation of the applicant, the principal residency of the applicant, and any other information and qualifications that the city may deem necessary. A vacancy of the planning commission shall be filled by a majority vote of the city council upon one accepted application.
- F. Membership Residency. Members shall have their principal place of residency inside the city limits and shall have resided continually in the city one year prior to their appointment to the commission, except two members may be nonresidents provided these members reside in locations with city of Carlton postal addresses.
- G. Membership limitation by profession. No more than two members of the commission may engage principally in the buying, selling or developing of real estate for profit as individuals, or be members of any partnership, or officers or employees of any corporation, that engages principally in the buying, selling or developing of real estate for profit. No more than two members shall be engaged in the same kind of occupation, business, trade or profession.
- H. Compensation. Commission members shall receive no compensation, but may be reimbursed for expenses duly authorized by the city council.
- I. Removal. A commission member may be removed after a hearing by the city council for misconduct, nonperformance of duty, or two consecutive absences from regular meetings that have not been excused by the commission. The commission may, by motion, request that a member be removed by the appointing body. If the appropriate governing body finds misconduct, nonperformance of duties, or two consecutive unexcused absences from regular meetings, the member shall be removed.
- J. Ex officio members. At least one ex officio youth (twenty-one (21) years of age and under) may be appointed by the mayor, to serve a fourteen-month term a maximum of three times. The ex officio youth shall not be a voting member. The term of the ex officio youth shall begin October 1st of each calendar year and end November 31st of the succeeding calendar year. It shall be the duty of any outgoing ex officio member to train and assist the incoming ex officio member during the months of October and November.
- K. Training. The city shall offer training to planning commissioners to educate them in their duties. It shall be the duty of any newly appointed planning commissioner to attend a basic training session from staff within thirty (30) days of the planning commissioner's appointment unless the new commissioner provides an approved reason for attending the training at a later date. It shall be the duty of any reappointed planning commissioner to attend at least a one-hour training session from staff or offered by the city within six months from the beginning of that member's appointed term.

- L. Oath. At the beginning of the first meeting of the planning commission following a member's appointment, new members shall take an oath to uphold the Constitution of the United States and the State, the laws of the State, the City Charter and the ordinances of the city, and to faithfully and impartially perform the duties of office to the best of their ability.

(Ord. No. 2021-734 , § 2, 1-4-2021)



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**CITY OF CARLTON
PLANNING COMMISSION
STAFF REPORT**

PROJECT NAME: JR Meadows 3 Preliminary Subdivision, City Case File SUB 23-01

DATE: May 10, 2023, for continued public hearing on May 17, 2023

APPLICANT / OWNER: Chad E. Davis Construction, LLC
REPRESENTATIVES: AKS Engineering & Forestry / Sherman, Sherman, Johnnie & Hoyt, LLC

REQUEST: Preliminary subdivision approval for 101 residential lots.

SITE LOCATION: South of Carlton Elementary School, bounded by 3rd Street to the west and S. 7th Street to the east. Tax Lot 1200 on Yamhill County Assessor's Map 3 4 22 CC.

MAP DESIGNATIONS: Comprehensive Plan Map: Residential (R)
Zoning: Residential Medium Density R-2, Section 17.28, Carlton Development Code

CRITERIA: Carlton Development Code, Section 17.176 for Subdivisions. Other applicable Development Code standards and procedures for Subdivision review are listed in the staff report dated March 13, 2023, for the hearing of March 20, 2023.

EXHIBITS: **Exhibit A** by City Staff:
Exhibit A-1 – Excerpts from Carlton Parks Development Plan of December 2019
Exhibit A-2 - Proposed Conditions of Approval
Exhibit B by Applicant:
Exhibit B-1 – Written statement from applicant's representative, Sherman, Sherman, Johnnie & Hoyt, dated May 5, 2023 - summary of new exhibits.
Exhibit B-2 – Carlton Development Code, Sections 17.22.010 – 17.22.050 pertaining to R-2 zone (& Exhibit A of applicant's written statement)
Exhibit B-3 – Bicycle Striping Plan (& Exhibit B of written statement)
Exhibit B-4 - Bicycle Lane Cross-Section Plan (& Exhibit C of written statement)
Exhibit B-5 – Portions of Carlton Parks Development Plan, 2019 (& Exhibit D)
Exhibit B-6 – Off-site Tree Preservation Plan (& Exhibit E of written statement)
Exhibit B-7 – Letter from applicant's tree expert (AKS) in review of Halstead's review of trees on Colwell property (& Exhibit F of written statement)
Exhibit B-8 - Carlton TSP Future Streets Plan (Exhibit G of written statement)
Exhibit B-9 - Partition Plat No. 2001-01 – off-site to the north (& Exhibit H)
Exhibit B-10 – Carlton TSP Traffic Analysis Zones (& Exhibit I)
Exhibit B-11 – City Pre-App comments in review of YCTC proposal (& Exhibit J)
Exhibit B-12 – Applicant's Revised Prelim. Sub. Plat with Future Bldg. Setbacks (& Exhibit K of applicant's written statement)
Exhibit B-13 - E. Cleveland St. Plan and Street Cross-Sectional (& Exhibit L)
Exhibit B-14 - Applicant's requested modifications to proposed condition of approval and (& Exhibit M of applicant's written statement)
Exhibit C by Others:
Exhibit C-1 - Email via Colwell, regarding trees at 9961 NE Old McMinnville Hwy.
Exhibit C-2 - Letter from Colwell's arborist (Halstead's) on condition of trees.
Exhibit C-3 - Letter from Schmidt & Yee, attorney for Colwell - addressing trees.

SUB 23-01 JR Meadows 3 Subdivision

Background

On March 20, 2023, the Carlton Planning Commission opened the public hearing for JR Meadows 3, a preliminary subdivision proposal intended to create 101 residential lots. 63 of these proposed lots are intended for detached single-family homes, and 38 of these lots are intended for attached single family homes (townhomes). The subdivision proposal includes street improvements within the existing right-of-way of 3rd Street, north and west of the project site, and a continuation of E. Wilson Street and E. Cleveland Street through the project site where currently stubbed from the east. The subdivision proposal also includes construction of E. Taylor Street as a new east-west street within the project site, in addition to a new portion of S. 5th Street, running north-south within the project site.

Additional background information about the proposed subdivision is provided in the staff report addressed to the Planning Commission, dated March 13, 2023, prepared for the first hearing held on March 20, 2023. At that hearing, oral testimony was received from Marie Frugia who expressed interest for more greenspace and housing for seniors.

After closing the hearing on March 20, the Planning Commission considered the applicant's proposal and asked questions of the applicant and staff. In part, this report summarizes the key issues raised by the Commission in review of the applicant's proposal during the March 20 hearing. Section 17.200.010 of the Carlton Development Code explains how the Planning Commission may continue a hearing to a date, time and place announced at the hearing without additional notification. On March 20, the Commission announced the continued hearing date, time and place accordingly.

120-Day State-Mandated Period for Issuing a Final Written Decision

The continued hearing date of May 17, 2023 is day 77 of the state mandated processing period (120-days) applicable to quasi-judicial / limited land use applications. State law requires a final written decision to be issued within the 120-day period, inclusive of a final written decision by the City Council if the Planning Commission decision is appealed.

Staff finds processing the applicant's proposal within the remaining period to be feasible but confined. Accounting for the possibility of appeal, below is one scenario:

- Day 84 – One week from May 17 date (if record left open for additional week / 7 days)
- Day 86 – Two days thereafter for issuing a signed written decision (if Commission acts on Day 77)
- Day 98 - Possible deadline to appeal (12-day appeal period after Commission Order issued / mailed)
- Day 108 – Code requires minimum 10-day notice period for appeal, prior to appeal hearing date
- Day 120 – Is June 29 (when final written decision is to be issued).

Pursuant to Section 17.188.120.L.1, of the Carlton Development Code, the city staff shall notify the City Council of the timing conflicts by the ninety-fifty (95th) day. The City Council shall, in accordance with its own procedures, set a time for an emergency meeting within the 120-day period. If the Planning Commission decision is subsequently appealed, staff foresees a need for scheduling an emergency meeting of the City Council (likely between June 20-23) in review of time remaining to the 120-day period.

New to the Record

All exhibits new to the record are identified on page SR-1 of this report. Most of these exhibits are intended to address key issues raised at the March 20 hearing. Scope of work, proposed number lots, street locations, and general lot location and configuration all remain the same. Staff recommends re-opening the hearing to accept public testimony in response to new evidence of the record. Additional recommendations are identified at the end of this report.

STAFF SUPPLEMENTAL ANALYSIS AND FINDINGS
SUB 2023-01 JR Meadows 3 – Continued Public Hearing

Staff incorporate the facts and findings contained in the staff report dated March 13, 2023. Below are seven key issues (summarized) raised by the Planning Commission in review of the applicant's proposal on March 20, 2023.

Key Issue No.1 Question - Will improvements to the existing city wastewater treatment system (for added biological capacity) be completed in time to serve the number of dwelling units as proposed? What assurances are necessary for these improvements to be in place prior to constructing units? Also, is the Commission able to approve an extension of time, at time of preliminary approval, as requested by the applicant's legal representative?

Key Issue No. 2 Question - How effective is the applicant's proposed water system for addressing fire flow? Any service or safety concerns?

Key Issue No. 3 Observation – Lack of sidewalk to the north side of E. Cleveland Street to abutting properties. Is the school district required to maintain the asphalt sidewalk? When would a permanent five-foot raised concrete sidewalk (consistent with city street standards) be constructed in the future? What is the agreement between the applicant and the School District (if any)?

Key Issue No. 4 Observation - Lack of apartment units, low income and senior / single-story units. Applicant's subdivision plan does not include apartments. Is this an oversight? Does zoning of the property allow for apartment / multi-family residential?

Key Issue No. 5 Observation - Lack of greenspace. Proposed subdivision plan does not identify a park. Is a park / greenspace required? Is the subsequent design review application (for townhomes) to include?

Key Issue No. 6 Observation – Lack of off-site traffic control devise(s), particularly at intersection of Polk/Pine Street where children cross frequently on-route to school. Additional vehicle trips from project site are expected, but the applicant's traffic study – does not address / identify warrants for improvements.

Key Issue No.7 Uncertainty if bike Lanes are proposed to Wilson Street. Plans do not appear to show streets marked to indicate where located. What assurances are in place?

Staff responses to these key issues, below. Staff also acknowledge the applicant's written statement dated May 5, 2023 (Exhibit B-1) to address many of the same issues described above. Staff comments and findings in response to the applicant's written statement are also explained below.

Key Issue No. 1 Question - Will improvements to the existing wastewater treatment system (for added biological capacity) be completed in time?

Staff Response/Findings: In part, the staff report dated March 13, 2023, explains how biological improvements identified to the city Wastewater Treatment Plant (WWTP) will need to be completed and operational before the homes within this subdivision are served. After the hearing of March 20, the City Engineer and applicant's project engineer discussed anticipated timing for WWTP project upgrades and the circumstances for when the city would be able to issue building permits, allowing construction of homes and providing sanitary service connections thereto. From this

discussion, staff proposes a condition of approval (see Exhibit A-2 for full text) that would withhold issuance of building permits (for dwellings) within the subdivision until one of the following is fulfilled:

1. The WWTP facility is connected to three phase power, and the biological capacity improvements are substantially complete and operational., OR
2. The study analyzing the capacity of the WWTP facility demonstrating that the facility has biological capacity to accommodate the homes in this subdivision is completed at applicant's expense. The scope would be approved by the City, and the study would be reviewed and approved by the City.

The staff-proposed condition also allows the final plat for this subdivision to be recorded (ahead of building permit issuance for homes) upon completion of the subdivision public improvements specific to the site (or execution of an appropriate deferred construction agreement and posting of a performance bond for remaining improvements) and upon recording covenants (a document) that prohibit the sale or offering of lots or homes for sale, negotiations for sale of homes or any form of marketing of lots or homes in the subdivision.

Staff observe the covenant restriction to be self-imposed by the applicant, and temporarily binding until the circumstances (described 1 or 2 above) are satisfied.

Can the Planning Commission approve extension of preliminary subdivision approval at this time? At the March 20 hearing, the applicant's legal representative explained how the above-mentioned biological capacity upgrades may not be completed before preliminary subdivision approval expires. The applicant also explained how city improvements identified to the WWTP are outside the applicant's control. While the proposed condition (explained above) provides one option where the applicant is provided the ability to analyze capacity of the system, it does not assure capacity to be sufficient via conclusions of analysis. In that event, completion of WWTP upgrades remain outside the applicant's control and for this reason the applicant requests Planning Commission approval for an extension of time, specific to preliminary approval (also concurrent with the request for preliminary approval). In response to this request, staff confirms that the Commission can approve at this time. Below is the relevant Development Code provision (17.176.030.C).

The Planning Commission may extend the approval period for any subdivision or PUD for not more than one additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period.

In review of the above, staff finds the applicant to have requested an extension and prior an expiration date (TBD) if the Commission approves. Staff also observe how the provision in 17.176.030.C does not require a certain percentage of work to be performed / completed on-site. Therefore, if the Planning Commission approves SUB 2023-01, a proposed condition of approval (explained above) would provide automatic extension of time (limited to one year) as requested by the applicant. Staff observe preliminary subdivision approval to be 18 months without extension. Accordingly, by approving the extension (concurrent with Preliminary Subdivision approval) expiration is extended to November of 2025 (with specific date shown to the final written decision issued by the city).

Conclusion: By satisfying the conditions of approval, staff finds Key Issue No. 1, with respect to questions about the adequacy of the existing WWTP and assurances in place, are sufficiently addressed.

Key Issue No. 2 – Question - How effective is the applicant's proposed water system for addressing fire flow?

Staff Response/Findings: In part, the staff report dated March 13, 2023, refers to written comments received from the City Engineer, specific to the existing water system (Exhibit B of the March 13 report). Staff also observe this issue to be addressed in part by the City Engineer at the March 20 hearing. At the hearing, the City Engineer explained how the

applicant's preliminary utility plan includes a looped system that will be helpful for fire flow. Conditions of approval require all water improvements to be designed in accordance with the Carlton PWDS as approved by the City Engineer.

The applicant has provided information showing that the water system will provide 1,500 gpm of fire flow. According to the City Engineer, this is more than adequate to provide fire flow for a residential development which typically require 1,000 gpm.

Conclusion: By satisfying the conditions of approval, staff finds Key Issue No. 2, with respect to questions about water availability for fire flow, to be sufficiently addressed.

Key Issue No 3. – Observation – Lack of sidewalk to the north side of E. Cleveland Street

Staff Response/Findings: After the March 20 hearing, staff met with the applicant team to discuss improvement alternatives to E. Cleveland Street and subsequently encouraged the applicant to explore a plan that incorporates raised concrete sidewalks inside the project site located on the north side of Cleveland Street, in-lieu of proposed temporary asphalt off-site sidewalks that would require agreements with adjoining property owners. The applicant's proposed improvement alternative to E. Cleveland Street responds accordingly (see Exhibit B-12 of this report, also identified as Exhibit L of applicant's supplemental plans / materials package).

Below is Section 17.64.030.F of the Carlton Development Code that speaks to the conditions / circumstances for when full street improvements (for new streets) are required.

F. New Streets. Where new streets are created, full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements on boundary streets when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed. The city may allow three-quarter street improvements if all of the following criteria are met:

1. *The adjoining land abutting the opposite side of the street is undeveloped; and*
2. *Storm water drainage is provided for on the non-curbed side of three-quarter street improvements in areas judged by the city engineer to have drainage concerns.*

With respect to Criterion No. 1 of Section 17.64.030.F (above) staff finds as follows:

1. The school property (Tax Lot 100) abutting the JR Meadows 3 property for a length of approximately 580 feet is currently used for track and athletic field purposes. Tax Lot 100 is associated with and ancillary to Tax Lot 3300 (abutting north). These properties are owned by Yamhill Carlton School District where existing school buildings and recreational facilities for Carlton Elementary are located.
2. Tax Lots 100 and 3300 are zoned Public Facility (PF) where schools are permitted outright. Staff observe a short list of permitted uses in this zone, inclusive of outdoor recreation facilities and open space. However, residential development is not permitted. Comparatively, the applicant's property is zoned R-2 where residential development is permitted. Tax Lots 100 and 3300 are also planned Public Facility according to the Carlton Comprehensive Plan map.
3. Tax Lot 100 is graded and used for track / athletic field purposes. The same property is recognized as part of the city's inventoried park system via the adopted City Carlton Parks Development Plan (see Exhibit A-1 to this report).

For the reasons stated above, staff concludes the adjoining property to the north (Tax Lot 100) to be mostly developed and not "undeveloped" as criteria in Section 17.64.030.F describe. Similarly, staff finds the property opposite the northwest corner of the project site (TL 201 zoned R-1, at 10,209 sq. ft. size) to contain a large building and is shown

to abut an unimproved portion of public right-of-way for E. Cleveland Street. Future completion of street improvements to E. Cleveland at this location are uncertain as TL 201 is also mostly developed. In review of Section 17.64.030.F, staff finds in support of constructing E. Cleveland Street to full street improvements in proximity to abutting properties, specifically Tax Lots 100 and 201.

Staff also acknowledge another abutting property to the north, shown to be owned by Yamhill Carlton Together Cares Inc. (referred to herein as the YCTC property). This property is located between Tax Lots 100 and 201 and is undeveloped (i.e., no buildings on-site and not serving a purpose consistent with the city's zoning or inventoried park system). In part, Section 17.64.030.F explains how three-quarter streets may be approved... *when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed.* Staff observe the code provision in Section 17.64.030.F to invite speculation as to when and how much an abutting undeveloped property may develop in the future. Staff also observe how development projects differ in size, scope and complexity and how the YCTC property is not subject to development consideration at this time. However, in review of Section 17.64.030.F, if the YCTC property were to fully develop in the future, a remaining $\frac{1}{4}$ improvement to this portion of E. Cleveland Street could be required assuming a $\frac{3}{4}$ improvement (as code describes) is constructed as part of the JR Meadows 3 subdivision. On this this topic, staff also observe how a $\frac{3}{4}$ street improvement, limited to the YCTC property, would leave a significant gap between the raised sidewalks constructed in proximity to Tax Lots 100 and 201 (via a full street improvement as mentioned above) creating unsafe conditions for pedestrians.

As stated above, the applicant's redesign proposal for E. Cleveland includes a full street improvement. Exhibit B-13 of this report (and Exhibit L of the applicant's supplemental materials package) illustrates the extent of proposed improvements to E. Cleveland which includes construction of a continuous raised concrete sidewalk on the north side, abutting Tax Lots 100, 201 and the YCTC property. The applicant's redesign proposal for E. Cleveland connects existing raised sidewalks in the stubbed portion of E. Cleveland to the east, continuing west as mentioned, for connection to S. 3rd Street then turns north for eventual stop at the campus of Carlton Elementary. Accordingly, a sidewalk gap is not proposed. As the applicant's narrative (Exhibit B-1) explains, the redesigned plan for E. Cleveland Street includes a full street improvement consisting of 34 feet of pavement, two six-inch curbs and a five-foot sidewalk on each side, inside a 45-foot-wide right-of-way located entirely on the applicant's property.

As explained in the staff report dated March 13, the applicant's subdivision plan proposes to modify the right-of-way width (shown in Section 17.64.040) specific to E. Wilson Street and S. 3rd Street. In lieu of placing sidewalks of these respective streets within dedicated public right-of-way, the applicant's proposal is to place within public easements, recorded with the subdivision. Similarly, the applicant's revised design for E. Cleveland Street shows a portion of sidewalk (on the south side between S. 3rd Street to S. 5th Street) to be placed within a public easement created for this purpose. Pursuant to Section 17.65.040, the city may allow modifications to the public street standards of Section 17.64., when criteria are satisfied. These criteria were addressed in the staff report dated March 13, 2023 (mostly in response to the right-of-way width as proposed for E. Wilson Street and S. 3rd Street. In review of the applicant's redesign proposal for E. Cleveland, staff finds in further support of the applicant's modification proposal, now to include a portion of sidewalk (shown in cross-sectional illustration detail No. 1 of Exhibit B-13) located in public easement as opposed to dedicated public right-of-way.

The City Engineering also reviewed the applicant's redesign proposal for E. Cleveland and supports. The City Engineer observes the entire right-of-way for E. Cleveland (mostly shown with improvements) to leave little room for error in construction. For this reason, the City Engineering recommends that the applicant stake out the right-of-way lines in the field prior to construction, particularly on the north side abutting the properties reference above, verifying that the construction is within the right-of-way and not private property.

Staff also observe a proposed condition identified in the staff report for March 20 (requiring agreements with abutting property owners) to be no longer relevant. Finally, staff observe a note shown to the applicant's redesign proposal for E. Cleveland (Exhibit B-13 and the Legend thereof) indicating how sidewalks on the north side of E. Cleveland Street

are to be constructed by the homebuilder and not the contractor hired to construct the street improvements for JR Meadows 3. In response to this note, staff observe common practice to construct sidewalks at the building permit stage, along the street frontages of respective lots under permit. However, when sidewalks are not shown to abut the street frontages of respective lots, questions arise about who will construct the sidewalk and when. Because the note shown to Exhibit B-12 does not explain who and when, staff recommends a condition of approval, requiring the sidewalk shown to the north side of Cleveland Street to be constructed as part of subdivision site improvements, completed prior to final plat approval and prior to issuing building permits for home construction.

Conclusion: By satisfying the conditions of approval, staff finds Key Issue No. 3, to be sufficiently addressed.

Key Issue No. 4 – Observation - Lack of apartment units, low income and senior / single-story units.

Staff Response/Findings: At the March 20 hearing, staff responded to this observation, explaining how zoning of the subject property (Residential – Medium Density, or R-2) does not allow for construction of multi-family (apartment) buildings. Staff confirms. The applicant proposes two types of dwellings (1. Single-family dwelling, and 2. Attached single-family dwelling) both recognized by the R-2 zone as permitted outright. Staff also confirms that the applicant is not required by code to limit a certain number of dwellings for single-story construction. The code describes a maximum building height (35 feet) and a two-story building proposal is consistent with development standards of the R-2 zone (describing a maximum building height 35 feet). Similarly, staff confirms that the applicant is not required by code to limit a certain number of dwellings for low income or senior housing. The applicant proposes market rate dwellings, a type of needed housing as defined by the state in ORS 197.303. Staff also observe the applicant’s written statement (Exhibit B-1) to explain how the townhomes will provide additional diversity in housing choices within Carlton.

Staff also observe how the design and placement of dwellings (within the subdivision) are not subject to consideration at this time. Attached single-family dwellings (townhome unit) are subject to separate land use application review (via Site Design Review) for compliance with separate codified design standards (generally related to materials, building articulation and other exterior building elements). The application for Site Design Review has not been submitted to the city (to date). When sought and deemed complete, the Site Design Review application will be subject to Planning Commission consideration through separate public hearing.

Conclusion: The applicant proposes dwelling types that the zone applied to the property (R-2) allows outright. Multi-family residential (apartments) are not allowed in the R-2 zone but are allowed in a separate and different zone that is planned for allowing higher density (i.e., the Residential-Medium High Density, R-3 zone). Staff finds insufficient evidence to support the observation (i.e., possible oversight or error) in review of applicable Development Code standards.

Key Issue No. 5 – Observation - Lack of greenspace.

Staff Response/Findings: Development standards of the Residential-Medium Density R-2 zone describe minimum lot area, minimum dimensional standards (length / width) for proposed lots and building setbacks (distances from lot property lines). Standards of the R-2 zone do not describe standards / requirements for greenspace or open space. Also, staff observe how the applicant’s subdivision proposal is not a Planned Unit Development, which is described under separate code provisions (Section 17.112) and where specific development standards describe (in part) open space of at least 20% of the gross site area.

Standards and criteria specific to subdivisions (17.176) do not require a percentage of the site to be developed or conveyed for open space. System Development Charges (SDCs) specific to parks are collected at the time of Building Permit issuance and are expected from homes constructed within this subdivision at a future date. Staff observe the applicant’s written statement (Exhibit B-1) to provide an estimated sum of \$200,000 in SDCs for parkland purchase /

enhancement purposes. These funds can be allocated to eligible park projects identified by the city Parks Development Plan / SDC Parks Ordinance.

Staff also acknowledge the applicant's written statement (Exhibit B-1) to explain (in part) how residents of the subdivision project will have access to the open space around Carlton Elementary which is designated as parkland by the City of Carlton Parks Plan. As explained earlier in this report, Carlton Elementary (Tax Lots 100 & 3300) is shown to be part of the city park system as planned. These properties are owned by School District and primarily used by Carlton Elementary. Accordingly, school facility availability to the residents of the subdivision will likely be limited. However, staff does not disagree with the applicant's statement and concurs with the applicant's comments with respect to pedestrian connectivity provided to Carlton Elementary School (citing related improvements as proposed to E. Cleveland Street).

Conclusion: The applicant's proposal, limited to a subdivision and not a PUD, is therefore not required by code to provide a percentage of the site devoted to greenspace or open space. Staff finds insufficient evidence to support the observation (i.e., possible oversight or error) in review of applicable Development Code standards.

Key Issue No. 6 – Observation – Lack of off-site traffic control devise(s)

Staff Response/Findings: In part, the staff report dated March 13, 2023, for the March 20 hearing identifies street improvements specific to the project site and how these streets (internal to the project site) are constructed in response to city street standards (Section 17.64). The staff report for March 20 also mentions the applicant having prepared a traffic study (by Lancaster – Mobley) which the Commission received with subdivision plans and materials one week ahead of the March 20 hearing. In part, the staff report for March 20, acknowledges how the applicant's traffic study identifies certain intersections that would require traffic control (these being Yamhill Street and Main Street, and Pine Street and both on Highway 47, under the jurisdiction of ODOT). The staff report for March 20 also conveys what the applicant's traffic study concludes - how ODOT is currently evaluating these intersections as part of planned improvements. Finally, the staff report of March 20 conveys the conclusion of the applicant's study, that all other intersections evaluated show acceptable operation.

Upon further review of the applicant's traffic study, staff finds insufficient evidence to support general observations or assertions that the intersection of Polk/Pine Street, where children cross on-route to school, warrants a crossing improvement/control devise. As the applicant's legal representative explained on March 20, only empirical evidence has been stated by the Commission in response to observations of this intersection. Staff acknowledge how additional vehicle trips are expected from project site and how these trips are expected to access the intersection of Polk/Pine Streets. The number of vehicle trips to this intersection is estimated through the study and the applicant's traffic engineer has examined the resulting data to find and conclude that street improvements (including crossing / traffic control devices) are not warranted.

Conclusion: Staff anticipates the applicant's traffic engineer to attend the continued hearing on May 17 and the Commission is welcome to ask questions pertaining to this topic. However, in review of the record, staff finds insufficient evidence to support the observation (i.e., possible oversight or error) in review of applicable Development Code standards and the applicant's Traffic Study.

Key Issue No. 7 – Uncertainty if bike Lanes are proposed to Wilson Street.

Staff Response/Findings: Staff refer to Exhibit B-3 of this report (also Exhibit B of applicant's written statement) clarifying the location of bike lanes within the subdivision. The applicant welcomes a condition requiring striping of bike lanes. Staff proposes accordingly.

Conclusion: Clarity is provided in response to this key issue. Staff proposes condition requiring bike lanes to be painted to Wilson Street and 3rd Street, consistent with city street design standards and the applicant's supplemental plan.

Arborist letter from property owners to the east (oak tree preservation) received after hearing of March 20.

After the hearing of March 20, the city received an email from Bruce and Cathy Colwell, owners of abutting property to the east (see **Exhibit C-1** of this report) addressed at 9961 NE Old McMinnville Highway. The Colwell email refers to a letter from their hired arborist (Halstead's dated, January 10, 2022, **Exhibit C-2**). In summary, the arborist evaluates the general health and structural condition of two existing off-site oak trees on the Colwell's property. The arborist report also recommends certain tree protection measures to be in place prior/during site construction. Subsequently, the city also received a letter from Colwell's attorney (Schmidt & Yee, **Exhibit C-3**) also requesting tree protection measures to be in place.

Staff observe notes shown to the applicant's site plan from March 20 (Sheet P-08) specific to the extension of Taylor Street, in proximity to one of two trees mentioned in the arborist report, specific to the Colwell property. The plan note reads "Improvements end short of property line to preserve existing off-site trees." Staff also acknowledge the applicant's written statement (Exhibit B-1) to explain how Taylor Street improvements will be stopped short of these trees. The applicant also explains how lot lines (specific to lots 154 through 156) have been shifted to the west in the revised site plan (see Exhibit B-12 / Exhibit K of written statement) to provide more lot width/area on lot 154 (the lot shown to abutting the Colwell tree). Accordingly, the constructed house on this lot can be located outside a 25-foot tree protection zone. New to the record is the applicant's Off-site Tree Protection Exhibit (Exhibit B-6 of this report / Exhibit E of the applicant's written statement) showing an approximate 25-foot root protection zone and where a protection fence is to be placed (at or beyond this zone).

In review of the applicant's supplemental materials package, inclusive of a letter from the applicant's tree expert (Exhibit B7) staff finds in support of protection measures identified by the applicant for minimizing impact to the root zones of respective off-site trees. It should be noted that improvements shown to Taylor Street are expected to continue further east if/when the Colwell's property develops in the future. One of two oak trees identified would need to be removed in that event. To accommodate future street connection / construction, staff advises locating Taylor Street improvements as close as possible to the 25-foot root protective area/fence and to ensure the right-of-way for Taylor is shown to abut the site boundary. Accordingly, staff proposes a minor addition to a proposed condition identified at the March 20 hearing (specific to the Taylor Street stub) that calls for construction fencing (shown to Exhibit B-6) to remain in place through site construction.

RECOMMENDATION

Staff recommends re-opening the hearing to accept public testimony in response to what is considered new evidence to the record (Exhibits A 1-2, Exhibits B 1-13 and Exhibit C 1-3) identified to the first page of this report.

Thereafter, staff recommends closing the hearing and for the Commission to deliberate. **Staff does not recommend continuing this hearing again to another date.** In part, this report identifies a limited period for decision making (120-days). Staff also observe Section 17.196.010.B of the Carlton Development Code to read as follows:

The Planning Commission may continue a public hearing for additional, information, testimony or for decision, to its next regular meeting, or to a special meeting. In no instance, however, shall the decision be continued more than sixty days beyond the initial hearing date.

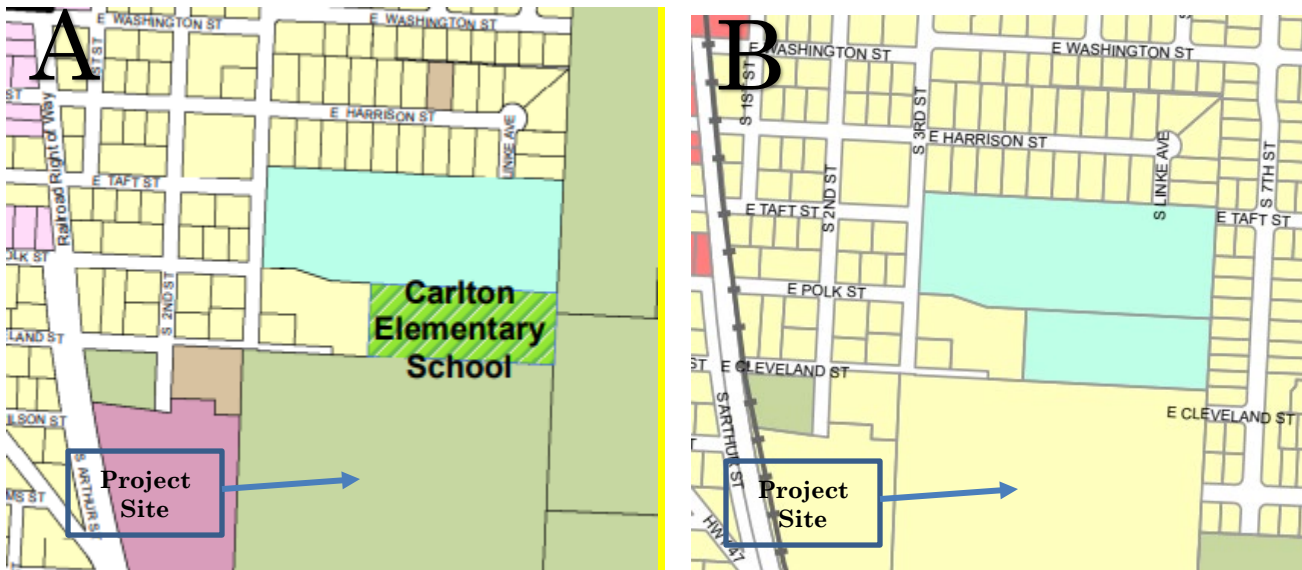
In review of the evidence received to date and the findings above, staff recommends that the Planning Commission approve SUB 23-01 with conditions identified in this report (Exhibit A-2). Also, if the Commission supports a time extension, as requested by the applicant, staff recommends the motion acknowledge "time extension" (see below).

MOTION OPTIONS

- A. Approval subject to conditions as stated in the report, with time extension: I move to approve SUB 23-01, based on the findings in the staff reports dated March 13, 2023, and May 10, 2023, subject to the conditions of approval in the staff report dated May 10, 2023 (Exhibit A-2). I further move to approve extension of preliminary subdivision approval time, limited to one year. OR

- B. Approval subject to conditions as stated in the report, as modified, with time extension: I move to approve SUB 23-01, based on the findings in the staff reports dated March 13, 2023, and May 10, 2023, subject to the conditions of approval in the staff report dated May 10, 2023 (Exhibit A-2) - modified as follows ...
[identify condition number and describe desired modification].
I further move to approve extension of preliminary subdivision approval time, limited to one year. OR

- C. Denial: I move to deny SUB 23-01, based on the following findings ...
[identify reasons that support the action option of denial].



Above (A) portion of Figure 4-1 (Carlton Parks & Recreation Facilities map) from the adopted Carlton Parks Development Plan of December 2019, and (B) portion of City of Carlton Comprehensive Plan Land Use Map. Area in light blue is Carlton Elementary School campus with plan designation (and zone) of Public Facility.

Below is Table 4-1 to the Parks Development Plan (portion related to Carlton Elementary School).

Type of Facility	Definition	Benefits & Function	Size Criteria	Service Area	Design Criteria	Existing Parks of This Type	
						Name	Acreage
School Parks	School Parks may be established through a relationship with the school district which allows neighboring residents to use school grounds during non-school hours. These can serve many of the same functions as Neighborhood Parks.	School Parks offer an opportunity to expand recreational, social, and educational opportunities in an efficient and cost-effective manner.	Varies	Determined by location of school district property	School Parks offer varying amenities such as children's play areas, open turf, sport courts and fields, running tracks, benches, picnic tables, landscaping, and multi-purpose trails.	Carlton Elementary School	2.0 acres (approx.)

Below from Page 5-1 of the Carlton Parks Development Plan

School District Facilities

School facilities offer the potential for partnerships between local school districts and municipalities to share recreation amenities. This is an efficient and cost-effective way to expand recreational opportunities for residents, as they may serve many of the same functions as neighborhood parks.

The Carlton Elementary School, located at the intersection of E. Polk Street and S. 3rd Street, is approximately 3.0 acres in size. Recreation amenities include several acres of recreation fields.

RECOMMENDED CONDITIONS OF APPROVAL

If the Commission chooses to approve, below are proposed conditions of approval. Staff observe how the staff report dated March 13, 2023, contained proposed conditions and how there were subsequent edits / changes shown via a PowerPoint presentation at the hearing of March 20. In part, the applicant's supplemental plans / materials package (Exhibit B-14) identifies changes to proposed conditions identified at the March 20 hearing. Proposed conditions of this report (below) incorporate all edits / changes identified on March 20 and introduce new/additional changes since the March 20 hearing. Changes introduced since the hearing March 20, are shown either ~~struck through & highlighted in blue~~ (indicating proposed for removal) or **bold & highlighted in yellow** (indicating proposed for addition).

1. **Prior to final plat approval**, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, grading and erosion control, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Engineer for approval prior to constructions of any improvements.
 - a. All utility easements shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76.
 - b. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.
 - c. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.
 - d. Curb cuts and driveway installations by the developer shall be according to the City standards.
 - e. An 11-foot PUE shall be shown on the final plat on the side of Wilson Street containing the water line.
 - f. There shall be no-parking signs provided on both sides of 3rd Street, and the 3rd Street shoulder shall be one-foot in width comprised of crushed rock. The shoulder shall also provide accommodations for storm drainage on the west side of the street as determined by the City Engineer.
 - g. The sanitary sewer on Third St. shall be extended to the South end of the development, and North to the intersection with Cleveland St.
 - h. The storm system will need to be modified to avoid surcharges unless the applicant can provide justification approved by the City Engineer on the deeper pipelines. This may require detention.
 - i. The drainage tiles through the subdivision will need to be removed or filled to prevent settlement. The applicant shall provide a drainage path/facilities for any tile that is upstream of the development for approval by the City Engineer.
 - j. The Applicant shall provide an easement, in a form acceptable to Applicant and the City, requiring a minimum separation of 20 feet between the front of garage and outside edge of the sidewalk on all lots shown to border Wilson Street, 3rd Street, and Cleveland Street where a sidewalk easement is proposed in-lieu of public right-of-way. The easement shall be structured so that the required separation of the

garages from the sidewalks is reflected on the plat. **The city shall be the beneficiary of this easement, and if the Yamhill County Surveyor does not accept a building separation easement, said easement shall be shown as part of the same public right-of-way easement as intended for public sidewalks.**

- k. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.
- l. Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.
- m. Compliance with the access spacing requirements of Section 17.100.030 intersections shall be shown on the final construction plans.
- n. The applicant shall obtain a City of Carlton access permit for all new curb cuts within the subdivision.
- o. Compliance with vision clearance standards shall be demonstrated in the final construction plans.
- p. Street stubs shall be provided for Taylor, Wilson, and 5th Streets where these streets dead-end at the perimeter of the subject property. **For protecting off-site trees, construction of underground utilities and street improvements to the eastern stub of Taylor Street may stop short of the site perimeter as shown in the applicant's supplemental plan (Exhibit B-6 of the staff report dated May 10, 2023). Temporary protective fencing, to location shown in Exhibit B-6, is to be in place prior to commencing grading and construction activity. The final plat is to show Taylor Street right-of-way abutting the project site boundary.**
- q. The applicant shall dedicate Tract A to the City of Carlton ~~unless determined to be~~ **as** needed for stormwater detention **or landscape purposes**. A minimum of three street trees shall be planted within the Tract.
- r. Street trees planted in landscape strips shall be listed on the City Carlton Street Tree list.

~~The applicant shall provide a signed agreement with school district...~~

- s. **E. Cleveland Street is to be constructed consistent with the applicant's supplemental plan (Exhibit B-13 of the staff report dated May 10, 2023). The sidewalk on the north side of E. Cleveland Street and to that portion of S. 3rd Street (off-site) is to be constructed as part of site improvements and completed prior to final plat approval and prior to issuing building permits for home construction.**
- t. **Bike lanes to Wilson Street and 3rd Street shall be painted consistent with city street design standards and the applicant's supplemental plan (Exhibit B-3 of the staff report dated May 10, 2023).**

2. Prior to issuance of building permits:

- a. A Site Design Review application shall be submitted and approved by the City for the block containing lots intended for single-family attached homes.
- b. The applicant shall demonstrate that no driveways exceed 20 feet in width at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- c. The applicant shall demonstrate compliance with the landscaping standards of Section 17.84 at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- d. All dwellings shall comply with the dimensional and development standards listed in CDC Sections 17.22.040 and 17.22.050.
- e. All dwellings shall comply with the design standards of Section 17.106.030 A Residential Design Standards as illustrated on the approved elevations, at the time of building permit submittal.
- f. All lots **fronting** on **multiple** streets ~~with varying functional classifications~~ shall take access from the street with the lower classification unless ~~modified via an approved variance~~ **unless the lot configuration does not allow for it.**

3. Additional

- a. ~~The biological improvements to the Cit of Carlton WWTP shall be completed and operational prior to the recordation of the Final Plat. The City's WWTP system must have the biological capacity needed to accommodate the homes in this subdivision before building permits can be issued for the construction of homes or connection to the City's sanitary sewer system. The final plat may be recorded upon completion of the subdivision public improvements (or execution of an appropriate deferred construction agreement and posting of a performance bond) and recordation of covenants prohibiting the sale or offering of lots or homes for sale, negotiations for sale of homes or any form of marketing of lots or homes in the subdivision. Upon satisfaction of one of the two following conditions, as determined by the City Engineer, building permits may be issued and the covenant preventing marketing or sale of homes or lots will be terminated:~~
 - 1. The WWTP facility is connected to three phase power, and the biological capacity improvements are substantially complete and operational.**
 - 2. The study analyzing the capacity of the WWTP facility demonstrating that the facility has biological capacity to accommodate the homes in this subdivision is completed at Applicant's expense. The scope would be approved by the City, and the study would be reviewed and approved by the City.**
- 4. **Security Guarantee:** If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.

5. **Final Plat Submittal / Extension:** Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless an extension request is filed with the City before the expiration date. The Planning Commission may also extend the approval period for any Subdivision for not more than one additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period. An extension request shall be made in accordance with Section 17.176.030 or 17.176.050, whichever is applicable. **The Planning Commission grants a 12-month extension to the 18-month approval period for this subdivision. The expiration date of this subdivision is thereby 2.5 years from the effective date of approval. Prior to expiration, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.**

May 5, 2023

Via Email swhyte@mwvcog.org

Scott Whyte

Re: JR Meadows 3 Subdivision Application

Dear Mr. Whyte:

During the March 20, 2023, Planning commission meeting on this matter, the record was left open so that several of the issues and concerns raised by Commissioners could be addressed. Some of the issues related to questions about the nature and scope of the proposal, others related to conditions of approval and others related to the design of the project. This letter and the attached documentation address those issues.

In addition, during the open record period an adjoining property owner submitted information expressing concern that mature oak trees along the eastern edge of the project be preserved. Although this issue was discussed during the hearing in relation to the conditions of approval related to Taylor Street, additional information will be provided below to detail the full scope of protections provided for the trees at issue.

Some of the concerns can be easily addressed through citation to controlling code provisions, or confirmation of information contained in the original application. Other concerns, primarily those related to Cleveland Street and its alignment and design, require a more thorough review of the City's existing plans, previous actions and controlling code provisions. However, as the applicant has redesigned Cleveland Street in response to concerns raised by Planning Commissioners, many of those issues should be resolved. To bring some clarity to some of the concerns expressed and the basis for the original design, some background on the City of Carlton's code related to Cleveland Street and its original design will be reviewed. However, the revised design should resolve the expressed concerns.

Each of the concerns raised at the hearing will be addressed in turn.

1. Nature Of Housing Proposed

During the hearing several Commissioners expressed the understandable desire that multifamily housing or apartments be constructed on the site. As was noted by Staff during the hearing, the property is zoned R-2, and the R-2 Zone does not allow for multifamily housing or apartments. A copy of the Carlton Development Code ("CDC") chapter 17.22 setting forth the allowed uses in an R-2 Zone is attached as Exhibit A. Thus, because of the zoning of the property, the applicant cannot construct multifamily housing or apartments on the site.

It is worth noting that this application was delayed by the applicant to allow the City to modify its code to allow for the construction of townhomes. Based on conversations with staff it was understood that there was a desire for the subdivision to include a variety of housing. The prior

R2 zone permitted attached single-family dwellings; however, dimensional standards, setbacks, lot width to depth ratios, and lot coverages that were not logical for townhome development. The applicant could have sought to subdivide the property without including lots intended for single-family attached homes.

However, the applicant saw, and sees, the value of townhomes and working in conjunction with the City understood a code amendment to update dimensional standards for the development of attached homes in the R2 zone in Carlton was underway. Accordingly, the applicant held this application until the code amendment was adopted. Once the City of Carlton enacted the revised R-2 zone amendments, the applicant proceeded with this application.

Thus, although multifamily housing and apartments cannot be built on the site as a result of the City's code, the applicant worked with the City to delay the application until the CDC was updated to include dimensional standards that made sense for the construction of townhomes. The townhomes will provide additional diversity in housing choices within Carlton.

2. Striping of Bike Lanes

During the hearing, Commissioner Turrell made it clear that wherever bike lanes are to be provided, they must be striped. As part of the application packet, Applicant recognized this issue and provided a plan for the striping of bike lanes. The Bicycle Striping Exhibit was attached to the Application materials as Exh – 3. A copy of the Bicycle Striping Exhibit is attached as Exhibit B.

As staff noted during the hearing, striping of bike lanes is required as a condition of approval as provided by the City Engineers' comments. If the Commission believes it is appropriate, applicant welcomes a condition requiring striping of bike lanes as provided on Exhibit B.

3. Availability of Park Land to the Project

During the course of the hearing, several commissioners expressed concerns regarding the nature and extent of park land or open space within the City of Carlton. Parks are a real and valid concern in all communities.

As noted by Staff during the hearing, the CDC and corresponding City of Carlton Parks Plan, do not require a certain percentage of land to be developed to be dedicated as open space or parks. That does not mean park land will not be accessible to the site, or that the development of the site will not enhance the park system in the City of Carlton.

First, every lot developed within the project will be required to pay a Parks SDC fee. In total, more than \$200,000 in park SDCs will be paid by the project. Those fees will accumulate allowing the City to either acquire additional park land, or enhance existing parks and park facilities. Thus, the approval and development of the project will directly result in substantial revenues in support of enhancing and improving the park system within the City of Carlton.

Further, residents of the project will have access to the open space around Carlton Elementary which is designated as park land by the City of Carlton Parks Plan. The plan identifies several different categories of parks. One such category is School Parks.

School parks are described as: School Parks may be established through a relationship with the school district which allows neighboring residents to use school grounds during non-school hours. These can serve many of the same functions as Neighborhood Parks. The Parks Plan provides: School Parks offer an opportunity to expand recreational, social, and educational opportunities in an efficient and cost-effective manner.

Carlton Elementary School is identified as just such a school park consisting of approximately 2.0 acres. A copy of Table 4.1 from the Parks Plan describing the various classifications of park land, setting forth Carlton Elementary School as a School Park is attached as Exhibit C. Figure 4-1 from the Parks Plan a Map of Carlton Parks and Recreation Facilities showing Carlton Elementary School as an existing park is attached as Exhibit D.

As will be discussed in more detail regarding Cleveland Street below, the street and related improvements to Cleveland Street will provide pedestrian connectivity to Carlton Elementary School not only for this project but also for those previously approved projects to which it connects. Thus, the project will provide funds to enhance and expand parks in the City of Carlton through payment of parks SDCs, and provide access and pedestrian and bike connectivity to already existing park land adjoining the project.

4. Protection of Mature Trees

During the staff report at the hearing, it was noted that Taylor Street was not being extended to the eastern boundary of the Project to avoid impacts on mature trees located at the eastern edge of the property. The City had requested the applicant provide justification for not extending the Taylor Street improvement to the eastern edge of the property. In response, the applicant noted the right-of-way would be dedicated, but the improvement terminated short of the eastern property line to protect the mature trees located in the area from impacts of construction.

The City of Carlton found the preservation of mature trees to be sufficient justification for stopping the street improvements short of the eastern property line. As a result, as part of the presentation of the staff report, the condition requesting justification for stopping construction of the street improvements short of the trees was proposed to be deleted.

During the open record period, the adjoining property owner reiterated concerns that the trees be protected. The adjoining owners' concerns are consistent with the design adjustments made to the project to help protect and mitigate any impact on the trees.

In addition to stopping the Taylor Street improvements short of the trees, the lot lines for lots 154-156 were shifted to the west, to provide more lot width on lot 154 so the house foot print can be constructed outside a 25-foot tree protection zone. A copy of the Offsite Tree Protection Exhibit showing the revised lot lines is attached as Exhibit E.

Further, an approximately 25-foot root protection zone, where no excavation work is to be performed, is designated on Exhibit E. To provide further protection, tree protection fencing designating an area well beyond the 25-foot root protection zone will be provided during construction. See Exhibit E.

A letter from a certified arborist indicating that the 25-foot tree protection zone, and corresponding Offsite Tree Protection Exhibit, is sufficient to protect the trees is attached as Exhibit F.

Thus, through modification of the street improvements, modification of the lot lines, and providing a 25-foot root zone protection and corresponding tree protection fencing, the project recognizes and addresses the importance of protecting the trees referenced by the adjoining owner.

5. Cleveland Street Location and Alignment

Based on concerns expressed by the Planning Commission and interactions with City Staff after the hearing, the applicant redesigned Cleveland Street so that a full street improvement of 45 feet in width containing 34 feet of pavement, two six-inch curbs and two five-foot sidewalks will be located on Applicants property. A revised site plan is attached as Exhibit K and a revised cross section of the Cleveland Street improvements is attached as Exhibit L.

As there was significant confusion as to how and why Cleveland Street was proposed as it was originally designed, the background and factors that lead to the original design will be reviewed slightly to provide clarity as to the basis of the original design, and then the new design which relocates Cleveland Street entirely onto the applicants property will be discussed.

A) Background

When the project was being designed, the applicant structured the design based on existing City of Carlton planning documents and information provided to the applicant and others by the City of Carlton as to design expectations. One of the elements of that design was the location and structure of Cleveland Street.

The current City of Carlton Transportation System Plan (“TSP”) includes an extension of Cleveland street with a centerline on property line shared by the subject property and Carlton Elementary School. Thus, the TSP provided Cleveland street was to straddle the property line, and was enacted after the school was developed. A copy of Future Street Plan for Carlton showing the location of Cleveland street is attached as Exhibit G.

Previous land use actions and development conferences also reflected the location of Cleveland Street straddling the shared property line. In 2001, the property abutting the subject property to the north and on the east side of 3rd Street was partitioned. When that property was partitioned a 24-foot right-of-way dedication was required. This provided the needed right-of-way to allow the extension of Cleveland Street to straddle the property line. A copy of the partition plat showing the street dedication is attached as Exhibit H.

Similarly, the Traffic Analysis Zones map for the City of Carlton shows the extension of Cleveland Street straddling the property line as part of the partition, and extending east onto the school property. A copy of the map is attached as Exhibit I. Consistent with these plan designations, notes from a preapplication meeting for the YCTC property located north of the subject property also reflected the presence and need for dedication of right-of-way to extend the Cleveland Street right-of-way straddling the property line. A copy of the preapplication meeting notes is attached as Exhibit J.

Thus, as the project was being designed, all indications were that Cleveland Street should be designed to ultimately straddle the property line shared with the school district.

In an effort to minimize the impact on the school district property, and provide the maximum street improvement in light of planned straddling of the property line, the applicant shifted the location of Cleveland Street to the south, so that a full $\frac{3}{4}$ street improvement could be built on the applicant's property.

The applicant then proposed, that if the school district approved, it would construct a sidewalk on the school district's property, at no expense to the school district. The school district approved. However, the city asked that the proposed sidewalk be converted to an asphalt path, so that in the event it ever had to be removed or replaced, it would be easier to do so. The applicant agreed.

That was the basis of the original design.

However, based on concerns raised by the Planning Commission and interactions with City Staff since the original hearing, the applicant has redesigned and relocated Cleveland Street so that is now entirely located on the Applicant's property. Accordingly, no improvements are currently proposed for the school district property.

B) The New Cleveland Street Location and Plan

In response to the concerns expressed during the initial hearing and interactions with City Staff after the hearing, applicant redesigned Cleveland Street to include the full street improvement consisting of 34 feet of pavement, two six-inch curbs and a five foot sidewalk on each side inside a 45 foot wide right-of-way located entirely on the applicant's property. A revised subdivision layout reflecting the change is attached as Exhibit K. A cross section of the revised design of Cleveland Street is attached as Exhibit L.

By relocating the Cleveland Street right-of-way and associated improvements entirely onto the applicant's property, impacts to the school district's property are eliminated.

To be sure the school district property is protected as expressed by the Planning Commission, the applicant requests the revised layout and 45-foot right-of-way improved with 34 feet of pavement, two six-inch curbs, and two five foot sidewalks be approved and included as a condition of approval.

6. Revised Conditions

As reflected by the staff presentation of modified conditions prior to the hearing, there was substantial discussion surrounding conditions associated with the recommended approval. Those discussions continued after the hearing. After the hearing and further discussions with City Staff, the applicant presented proposed refined conditions for City Staff review. It is the applicant's understanding that the proposed changes are acceptable to staff, subject to some minor technical edits that have not yet been provided to the applicant.

The proposed modified conditions sent to Staff for review are attached as Exhibit M. Within Exhibit M, original conditions are in black ink, conditions are revised and presented by Staff at the March 20, 2023, hearing are in blue ink, and refinements requested by the applicant which the applicant understands as approved subject to minor non-substantive modifications, are in green ink.

In an effort to bring some clarity to what appeared to be some confusion as to modification of the conditions, the reasoning behind each modification will be addressed.

A) Condition 1(f) – Modification Of Taylor Street Improvements To Protect Mature Trees

Condition 1(f) requested the applicant provide justification for not extending the improvements in Taylor Street to its intersection with the property line. As discussed above, the improvements were terminated short of the property line to protect the mature trees located in or near the right-of-way. The City accepted that justification, and based on it, it was agreed the condition could be deleted.

B) Condition 1(i) – Storm Water Surcharge and Possible Detention

Condition 1(i) addresses possible surcharging of storm water lines, and the possible need for storm water detention. The applicant recognizes the issue and acknowledges that detention may be required if a solution is not otherwise identified. The applicant discussed the issue with the City Engineer, and requested the opportunity to provide analysis and options regarding the issue to the City Engineer during the design phase, as well as a condition providing that if the applicant cannot resolve the issue to the City Engineer's satisfaction, that detention will be required. The City Engineer approved the revised proposed condition, and it was presented to the Planning Commission at the March 20, 2023, hearing.

C) Condition 1(k) – Easement to Prevent Encroachment Into Sidewalks By Cars in Driveways

Condition 1(k) addresses the need to be sure that garages are set back at least 20 feet from the back edge of the sidewalk so that vehicles parked in driveways do not intrude into the sidewalk. The condition was originally proposed to require a right-of-way easement of 26 feet in width to the City.

The applicant understands the issue and has no objection to a notation on the plat indicating that garages must be set back at least 20 feet from the outside edge of the sidewalk. However, the

applicant noted that a right-of-way easement would prohibit all use of the 20 feet, and allow the city to construct right-of-way improvements in what will be the front yards of lots.

Further, a right-of-way easement as initially proposed could effectively prevent the construction of townhomes, as garages for townhomes must be set back from the front of the structure and a right-of-way easement would prevent portions of the structure unrelated to the garage from being constructed closer than 20 feet to the outside edge of the sidewalk. Thus, the requirement of a set back of the garage would become impossible to achieve unless the entire structure was moved back 5 additional feet, which would substantially reduce the building envelope and result in a regulatory taking requiring compensation be paid to the applicant.

As the applicant has no objection to, and agrees, garages should be set back a sufficient distance to prevent cars parked in them from intruding into the sidewalk, the purpose of the condition and was discussed with City Staff, and it was agreed that an easement would be prepared and reflected on the plat, prohibiting the front of garages from being any closer than 20 feet to the outside edge of the sidewalk. The agreed upon condition specifically requires the easement to be reflected on the plat. Thus, it would provide the same level of notice as the initially proposed right-of-way easement.

This approach provides the desired protection from vehicles parked in front of garages from protruding into the sidewalk, but prevents the unintended consequences that would result from imposition of a right-of-way easement.

The agreed upon language was presented to the Planning Commission as part of the staff report during the hearing.

D) Condition 1(o) – Driveways and Street Classifications

Condition 1(o) required driveways take access from streets with a lower classification. It was noted that in some cases this could significantly impact how certain lots are developed. In response, it was agreed that the condition be modified to provide that driveways must take access from lower classification streets unless a variance is approved.

E) Condition 1(u) – School District Approval of Improvements On Its Property

Condition 1(u) was added to require the school district approve the path originally slated to be constructed by the applicant at the applicant's expense on the district's property. As the improvement is now designed to be located exclusively on the applicant's property, the condition is no longer needed and should be deleted.

F) Condition 3 – No Issuance of Building Permits Until Waste Water Improvements Complete

Condition 3 addresses the challenge created by the current capacity of the City of Carlton's waste water treatment system. Under current conditions, it is likely there is not capacity in the City's Waste Water Treatment Plant to support the homes to be constructed in this project. While improvements that will provide the required capacity are in process, they are not yet

complete. However, should the City deny an application on the basis the City does not have adequate waste water treatment capacity, the City would effectively be imposing a moratorium on building.

Given the construction timeline for the project, it is quite possible that the required waste water treatment improvements will be completed before the project is ready for home construction. In the event, however, completion of waste water treatment improvements is delayed, a condition is needed to allow completion of improvements, and recording of the plat, prior to completion of the waste water treatment improvements.

To address this issue, Condition 3 is designed to allow the project to be approved, and the plat recorded under current requirements, but delay construction of homes until adequate waste water treatment capacity is achieved. Through discussions with City Staff, a revised condition was proposed and approved subject to minor modifications not yet provided to applicant, that allows for the recording of the plat but requires covenant prohibit the marketing or sale of lots or homes in the project until the required waste water treatment improvements are in place. The current revised condition provides three specific measures, that upon approval by the City Engineer, would confirm the required waste water treatment capacity is in place, and the prohibition on sale of lots would be lifted.

Providing the plat can be recorded, but no lots sold, until the City Engineer confirms sufficient waste water treatment capacity exists, allows the applicant to proceed as required by law, while protecting the City by preventing construction of homes until the City Engineer indicates the required capacity is on line.

G) Condition 5 – Deadline for Recording Plat

Condition 5 addresses the conflict between the current absence of sufficient waste water treatment capacity, and the applicants right to proceed with the application. To record the plat, the applicant must either complete the public improvements, or enter into an agreement with the City for the completion of the improvements guaranteed by a bond. As it is currently unknown when sufficient waste water treatment capacity will be available, it is unknown when the project will be ready to proceed.

Under the City's code, subdivision plats must be recorded within 18 months of approval unless an extension is granted. Given the uncertainty as to when sufficient waste water treatment capacity will be available, additional time may be required.

The City's code authorizes the planning commission to grant extensions of approvals for up to one year at a time. The applicant is requesting an extension be granted at the same time as the approval, to allow flexibility in proceeding with the requirements to record the plat in light of the uncertainty as to when sufficient waste water treatment capacity will be in place. Any further extensions would require a request to be made to the City or Planning Commission as provided for in the code.

The revised condition 5 provides for the requested initial extension and notes that if the plat is not recorded within the time allowed with the extension in place, the approval will lapse unless an additional extension is applied for and granted as provided for in the Code.

Conclusion

If there are any questions or concerns regarding any of the issues addressed in this letter, please let us know, we will do our best to respond.

Thank you for your courtesies in this matter.

Yours truly,

SHERMAN, SHERMAN, JOHNNIE & HOYT, LLP



Mark C. Hoyt
mark@shermlaw.com

MCH/sb

Encl: as stated above

cc: client

Chapter 17.22 RESIDENTIAL-MEDIUM DENSITY (R-2) DISTRICT

17.22.010 Purpose.

The Residential-Medium Density (R-2) district provides for single-family and duplex housing at an average density of ten (10) dwelling units per acre or less. The R-2 district is consistent with the new Residential Medium-Density comprehensive plan designation.

(Ord. No. 693, § 1(Exh. A), 12-12-2011)

17.22.020 Permitted uses.

The following uses are permitted in the Residential-Medium Density District:

- A. Single-family dwelling, including single-family manufactured home subject to Chapter 17.116.
- B. Duplex dwelling.
- C. Attached single-family dwelling (maximum of two (2) consecutively attached townhome units), subject to Chapter 17.156.
- D. Public park and recreation area.
- E. Planned unit development subject to the provisions of Chapter 17.112.
- F. Child care facilities, as defined by Oregon Revised Statutes Chapter 657A.
- G. Residential care homes, as defined by this ordinance. All residential care homes shall be duly licensed by the State of Oregon.
- H. Home Occupation, subject to the provisions of Chapter 17.124.
- I. A single-family vacation rental dwelling unit, when such dwelling obtains a vacation rental dwelling permit in accordance with the vacation rental dwelling conditional use standards and procedures set forth in Chapter 17.125.

(Ord. No. 693, § 1(Exh. A), 12-12-2011)

17.22.030 Conditional uses.

The following uses are permitted as conditional uses, provided that such uses are approved in accordance with Chapter 17.152.

- A. Place of worship.
- B. Public or private school.
- C. Community building.
- D. Utility facility including utility rights-of-way.
- E. Bed and breakfast.

- F. A two-family vacation rental dwelling when such dwelling obtains a vacation rental permit for both units, unless one of the units is owner-occupied, in accordance with the vacation rental dwelling standards set forth in Section 17.125.010.

(Ord. No. 693, § 1(Exh. A), 12-12-2011; Ord. No. 695, § 1(Exh. A), 12-12-2011)

17.22.040 Dimensional standards.

The following dimensional standards shall be the minimum requirements for all development in the R-2 district except for modifications permitted under Chapter 17.132.

Minimum Lot Area	
Single-family dwelling	
(1) Non-common wall dwelling	6,000 square feet
(2) Attached (townhome) dwelling—Maximum of two (2) consecutively attached units	2,400 square feet for an interior lot and 4,000 square feet for a corner lot
Duplex	7,000 square feet, provided duplexes on corner lots shall have each unit access a different street, unless the lot is located on an arterial street.
Public utility structures	Lot area shall be adequate to contain all proposed structures within the required yard setbacks
Minimum Yard Setback Requirements, except as provided for Accessory Structures under Chapter 17.96:	
Front yard	Front yard 15 feet, except 20 feet for a garage or carport opening when facing street, and 10 feet for uncovered porches and covered but unenclosed porches not more than one story high (except where easements preclude closer setback)
Rear yard	15 feet
Side yard (interior)	3 feet, except 0 feet for adjoining townhome units
Side yard (adjacent to street)	10 feet
Nonconforming structures	Regardless of the above the minimum distance between a proposed structure and an existing structure on another parcel shall be 6 feet
Maximum structure height	35 feet, except where a new building (any use) is proposed on a lot platted prior to [effective date of Code], the height of the new building shall not exceed the average height of all dwellings (residential uses) located within 50 feet of the subject lot, plus 5 feet.
Minimum lot width at building line	24 feet, except 40 feet for corner lot

(Ord. No. 693, § 1(Exh. A), 12-12-2011; Ord. No. 2022-740 , § 1, 10-4-2022)

17.22.050 Development standards.

All development in the R-2 district shall comply with the applicable provisions of Chapters 17.128 through 17.140. In addition, the following specific standards shall apply:

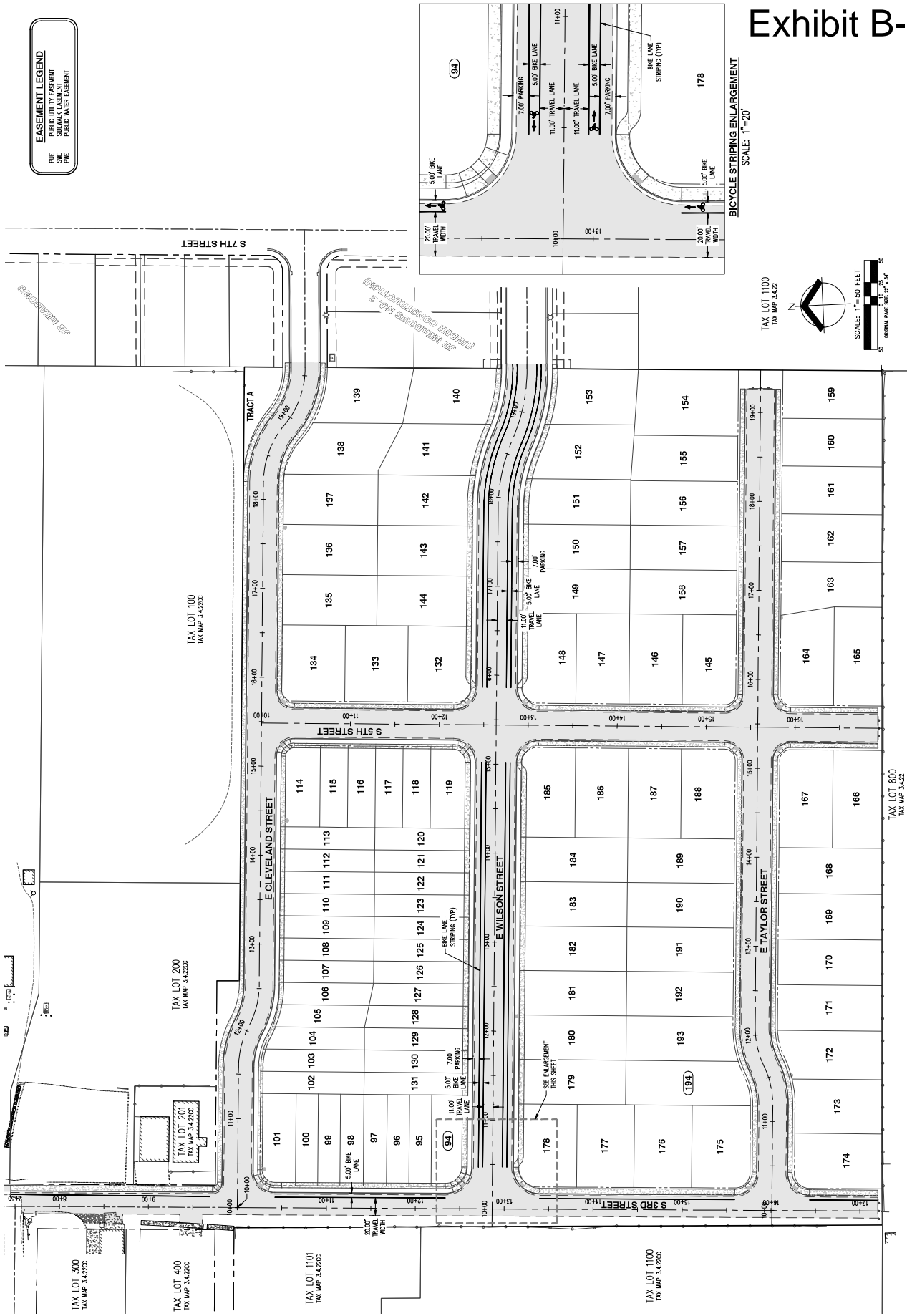
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- A. Accessory Structures. Accessory structures as provided for in Chapter 17.96.
 - B. Off-Street Parking. Parking shall be as specified in Chapter 17.68.
 - C. Subdivisions and Partitions. Land divisions shall be reviewed in accordance with the provisions of Chapters 17.172 through 17.176 as applicable.
 - D. Lot Coverage. The following standards are applied to parcel area or lot area, as applicable:
 - 1. Maximum lot coverage by buildings: fifty (50) percent where a building exceeds twenty (20) feet in height, and sixty (60) percent where all buildings on the site are twenty (20) feet or less in height;
 - 2. Maximum lot coverage by impervious surfaces, including pavement and roofed areas not considered buildings: thirty (30) percent;
 - 3. Combined maximum lot coverage: eighty (80) percent where a building exceeds twenty (20) feet in height, and eighty-five (85) percent where all buildings on the site are twenty (20) feet or less in height.
 - E. Yards and Lots. Yards and lots shall conform to the standards of Chapter 17.92.
 - F. Signs. Signs shall conform to the requirements of Chapter 17.80.
 - G. Driveways. Driveways shall conform to the standards 17.68.060.
 - H. Landscaping and Screening. All front and street side yards shall be landscaped pursuant to Section 17.84.050. Other landscaping, fencing or other screening may be required pursuant to land division approval or other land use approval. All landscaping shall be installed in accordance with Chapter 17.84 and approved plans prior to issuance of building occupancy permits.
 - I. Building and Site Design. All residential structures shall conform to the design standards of Chapter 17.106.

(Ord. No. 693, § 1(Exh. A), 12-12-2011; Ord. No. 2022-740 , § 2, 10-4-2022)

PRELIMINARY
 NOT FOR
 CONSTRUCTION

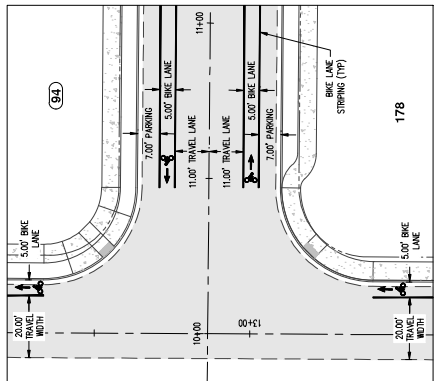
JOB NUMBER: 8632
 DATE: 07/24/2023
 DESIGNED BY: GCS
 DRAWN BY: GCS
 CHECKED BY: GCS

Exhibit B-3



EASEMENT LEGEND

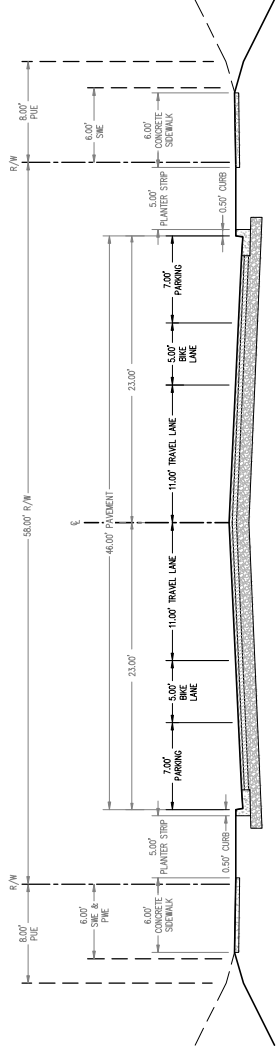
- PVE PUBLIC UTILITY EASEMENT
- SME SIDEWALK EASEMENT
- WFE WALKWAY EASEMENT



TAX LOT 1100
 TAX MAP 3.4.22C

SCALE: 1"=50 FEET
 ORIGINAL PANE SIZE: 24" x 36"

Exhibit B-4



1 TYPICAL MODIFIED COLLECTOR STREET SECTION

NOT TO SCALE

E WILSON STREET

Table 4-1. Summary of the Oregon Parkland Classification System and Suggested LOS Standards

Type of Facility	Definition	Benefits & Function	Size Criteria	Service Area	Design Criteria	Existing Parks of This Type	
						Name	Acreage
Mini-Parks	Mini-parks offer open space within neighborhoods, providing passive or limited active recreational opportunities. Mini-parks may simply be open lots within neighborhoods or may be more developed with a limited number of amenities. These should be accessible by sidewalks, trails, or low-traffic residential streets.	Mini-parks provide a balance between open space and residential development. They offer opportunities for passive recreation and/or limited active recreation for neighboring residents. Mini-parks add activity and character to neighborhoods and may be an appropriate space for neighborhood gatherings.	0 - .75 acres	¼ mile or less	Mini-parks may offer low-intensity facilities such as benches, picnic tables, multi-purpose paved trails, landscaping, and public art. If the mini-park also offers active recreation, it may include children's play areas, community gardens, and a limited number of sports courts.	None	0.00
Neighborhood Parks	Developed neighborhood parks offer accessible recreation and social opportunities to nearby residents. These should be accessible by sidewalks, trails, or low-traffic residential streets. Neighborhood parks accommodate the needs of a wide variety of age and user groups.	Neighborhood parks provide access to basic recreation activities for nearby residents of all ages; contributes to neighborhood identity and a sense of place.	.75 – 5 acres	¼ - ½ mile	Neighborhood parks should also include passive recreation opportunities, such as children's play areas, sports courts and fields, picnic facilities, public art, open turf areas, swimming pools, sitting areas, landscaping, community gardens, restrooms, and pathways. Security lighting and off-street parking may be provided if necessary.	Ladd Park and Hawn Creek Park	1.46 + 2.88 Total: 4.34
Community Parks	Community Parks provide a variety of active and passive recreational opportunities for all age groups. These parks are larger in size and serve a wider base of residents than neighborhood parks. Community parks often include facilities for organized group activities as well as facilities for individual and family activities. Community	Community parks provide a variety of accessible recreation opportunities for all age groups. They also provide educational opportunities, serve recreational needs of families, preserve open spaces and landscapes, and provide opportunities for community social activities and events. These can serve as a community focal point.	5 - 50 acres	½ - 5 miles	In addition to amenities offered at neighborhood parks, community parks may also offer sports facilities for large groups, amphitheaters, group picnic areas, botanical gardens, event space, interpretive facilities, and community centers. Higher quality children's play areas may be provided to create a family play destination.	Wennerberg Park	18.86

School Parks	<p>parks also preserve open spaces and unique landscapes.</p> <p>School Parks may be established through a relationship with the school district which allows neighboring residents to use school grounds during non-school hours. These can serve many of the same functions as Neighborhood Parks.</p>	School Parks offer an opportunity to expand recreational, social, and educational opportunities in an efficient and cost-effective manner.	Varies	Determined by location of school district property	School Parks offer varying amenities such as children's play areas, open turf, sport courts and fields, running tracks, benches, picnic tables, landscaping, and multi-purpose trails.	Carlton Elementary School	2.0 acres (approx.)
Beach or River Parks	<p>Beach and/or River Parks offer residents of the whole community access to these natural resource areas. These parks may or may not be located in close proximity to residential areas. These parks should be accessible by sidewalks, trails, and streets.</p>	Beach and/or River Parks offer unique opportunities to connect residents to the natural features of the area. These contribute to community character and create a sense of place.	Varies	Determined by location of natural areas	Beach and/or River Parks should offer passive recreation opportunities such as sitting areas, picnic tables, wildlife viewing, trails, and landscaping if appropriate. These parks should also offer access to the beach and/or river's edge to provide opportunities for activities such as fishing, swimming, and boating.	None (although Wennerberg Park offers some of these amenities)	N/A
Trails and Connectors	<p>A public access route for commuting and trail-oriented recreational activities, includes sidewalks, bikeways, multi-use trails and paths. These emphasize safe travel for pedestrians to and from parks and around the community.</p>	Provides opportunities for connections between park facilities and neighborhoods, trail-oriented activities, and reduces auto-dependency	Width of trail and right-of-way depends on intended use and location	Determined by location of trails and park facilities	A variety of pathway types are needed to accommodate activities such as walking, running, biking, dog walking, rollerblading, skateboarding, and horseback riding. Trails may be located within parks or be designed as part of the citywide transportation system. Each type of trail should be designed to safely accommodate users, and meet recognized design standards.	None	N/A

space areas, and recreational venues, each designed to provide a specific type of recreational activity or opportunity. A park system that is classified and used properly is easier to maintain, encounters less conflicts between user groups, and minimizes negative impacts on adjoining neighbors. A good park classification system also helps assess what facilities are available for current use and what types of parks will be needed to serve the community in the future.

Park Inventory – The City of Carlton owns and maintains approximately 23.16 acres of parkland. These parklands are classified as neighborhood parks and community parks. City parks offer a range of opportunities and provide amenities for a variety of user groups. Important to the character of the city, these parks contribute to the overall sense of place for residents.

Figure 4-1 shows the location of existing city parks in Carlton.

Figure 4-1 Map of Carlton Parks and Recreational Facilities





Exhibit B-7

May 1, 2023

Scott Whyte
Planner, City of Carlton
100 High Street SE, Suite 200
Salem, OR 97301
Phone: (503) 540-1623
Email: swhyte@mwvcog.org

RE: JR Meadows 3 (AKS Job #8632) – Off-Site Oak Tree Root Protection Zone

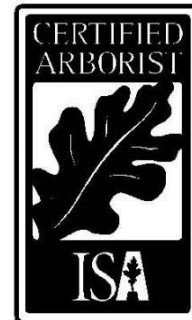
Dear Mr. Whyte,

I have reviewed the attached arborist report, prepared by Halstead’s Arboriculture Consultants, regarding the preservation of two off-site Oregon White Oak trees located along the eastern property line of the proposed JR Meadows 3 development and concur that a root protection zone of 25 feet is adequate to protect and preserve the trees. I have also reviewed the attached Offsite Tree Protection Exhibit, prepared by AKS Engineering & Forestry, and find that it is in conformance with this recommendation.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC

Bruce R. Baldwin
Certified Arborist, Qualified Tree Risk Assessor
12965 SW Herman Road, Suite 100
(503) 563-6151 | bruce@aks-eng.com



BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/23

Michael A. Schmidt
Pamela E. Yee*
*licensed in Oregon and Washington
Scott T. Rennie

PHONE: (503) 642-7641
FAX: (503) 649-1823
e-mail: scott@schmidtandyee.com
Website: www.schmidtandyee.com

April 25, 2023

Via Email: ~~aamerson@ci.carlton.or.us~~

City of Carlton
c/o Aimee Amerson
Planning/Administrative Manager
191 E. Main Street
Carlton, OR 97111

Re: SUB 2023-01; JR Meadows Phase 3

Dear Planning Commission:

I write on behalf of the owners of the real property commonly known as 9961 NE Old McMinnville Highway (the "Property"), Bruce Colwell and Catherine Liedtke-Colwell (the "Colwells"), regarding their objection to the preliminary subdivision approval of 101 residential lots, file number Sub 23-01 (the "Proposed Development"). The Colwells' objection relates only to a certain portion of the Proposed Development along the Property's western border, as explained below. Please direct further communication to me.

The Property is immediately east of the Proposed Development and would share a border with lots 153, 154, 159 and the eastern end of Taylor Street as shown on the Proposed Development's plat map. Lot 154 and Taylor Street are the two most concerning aspects of the Proposed Development. Two thriving white oak trees are situated on the western edge of the Property (the "Trees") which the Proposed Development, as designed, threatens. In support of their claim that the Proposed Development poses an existential threat to the Trees, the Colwells previously submitted an arborists report (reproduced herewith) prepared by Halstead's Arboriculture Consultants (the "Report") which called for a twenty-five (25) foot root protection zone ("RPZ") in all directions from the trunk of the Trees. The Report also recommended that while root pruning could take place, pruning should be limited only to roots less than two (2) inches in diameter, and only under the supervision of a certified Arborist.

As currently designed, the setback for lot 154 is approximately three (3) feet from the western boundary of the Property. Development at such a limited distance is well within the recommended RPZ and would cause substantial damage to the Trees. Further, Chapter 17.56.060 of the city development code compels the commission to balance the retention of natural features with individual property rights. In the present case, the development of lot 154 and construction of a residential structure would decimate the root system causing incalculable – likely terminal – harm to the Trees. The balance of preserving the Trees as a natural feature and the Colwells’ individual property rights greatly outweigh those of the Proposed Development’s owner. The Colwells own the entire adjacent eleven (11) acre parcel, and currently have no plans to make any portion of the property available for development. Further, the Trees were a key feature when the Colwells purchased the Property. Causing terminal damage to the Trees would greatly lessen their private enjoyment of the property and lower its potential resale value. In contrast, increasing the setbacks, or eliminating a single lot out of 101 lots would not materially affect the Proposed Development’s owner or the overall feel and character of the Proposed Development. In fact, eliminating the lot for development provides a potential opportunity for a small greenspace where families and neighbors could enjoy being outdoors within walking distance of their home.

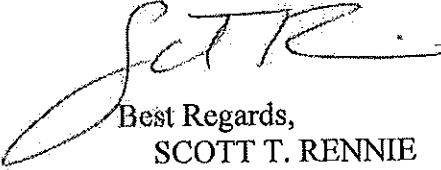
While recognizing that developing a surface street to service the residence built on lot 159 is imperative, it is also true that development of underground road infrastructure and utilities would have a similar adverse effect on the trees. However, it seems that a reasonable accommodation for the utilities to lot 159 could be reached such that they are largely excluded from the RPZ, and the surface road alone would have limited impact. Currently, the Proposed Development and the Commission require that Taylor Street be developed up to the adjacent property line on the premise that it will be necessary for future development of the adjacent lot. Yet, as noted, the Colwells have no intention of making the Property available for development in the foreseeable future. Thus, the assessment that Taylor Street must be fully developed to the edge of the Property for future development is fundamentally flawed as future development is not imminent. Therefore, full development of Taylor Street and any underlying utilities to the edge of the Property is wholly unnecessary. Accordingly, the balance of preserving the Trees and the Colwells’ individual property rights versus a minor adjustment in the plans for the Proposed Development favors the Trees’ preservation.

It is not the Colwells’ intention to hinder further development of the city, or to maliciously interfere with the Proposed Development. Rather, their concerns about the Trees being damaged are rooted in both the legitimate concerns of preserving the Property’s look, feel, and character and prior experience with the Proposed Development’s owner, which also developed JR Meadows Phase 2 immediately to the north of the Property (“Phase 2 Development”). During Phase 2 Development, severe drainage issues developed leading to the loss of several small decorative trees. The Colwells and the Proposed Development’s owner were able to reach a fair resolution which included drainage remediation and planting replacement trees. However, the Trees are not as fungible as young decorative trees, and to the extent they could be replaced – if at all – it would be at a significantly greater cost and require greater coordination.

Notwithstanding the foregoing, regardless of whether the Commission alters the Proposed Development due to the Colwells' concerns or allows the Proposed Development to proceed as planned, the Colwells' reserve all their rights under ORS 105.810. Further, the Colwells remind the commission and the Proposed Development's owners that trespassing onto the Property is not a prerequisite to a cause of action, and the right to a possible award of treble damages should the Trees be damaged. See, *Simington Gardens, LLC vs. Rock Ridge Farms, LLC*, 308 OR.APP. 661, 2021.

The Colwells trust that the Commission will take their position under consideration when completing its final review of the Proposed Development and are prepared to coordinate with the Commission and the Proposed Development's owner to find a solution moving forward.

Very truly yours,
SCHMIDT & YEE, PC



Best Regards,
SCOTT T. RENNIE

STR:slf
cc: Client; Chad E. Davis Construction, LLC
Encl

**HALSTEAD'S
ARBORICULTURE
CONSULTANTS**

www.halsteadsarbor.com

P.O. Box 1182 • Tualatin, OR 97062

(503) 245-1383

Bruce & Cathy Colwell
9961 NE Old McMinnville Hwy
Carlton, OR 97111
(971) 227-1390
Home8165@aol.com

January 10, 2022

Mr. & Mrs. Colwell,

With your approval, I have inspected the site and trees located at 9961 NE Old McMinnville Hwy, Carlton, OR 97111

The purpose of the inspection was to perform a visual assessment of two Oregon white oak trees located on the western property line as well as document and identify how construction within the root protection zone could likely impact the trees.

On Monday January 10th, 2022, I individually inspected, tagged and numbered the two mention trees on-site. Tree species, circumference, height, canopy spread, canopy structure/development, storm damage, insect/disease issues, overall structural integrity, root crown/root development and hazard potential within a future target zone were all included in my assessment during the time of inspection.

Tree Assessment:

There are two Oregon white oak trees (*Quercus garryana*) on-site that will likely be impacted by a new housing development located west of the property line. I have marked both trees using metal tags numbered one (1) and two (2).

Tree number one is located to the north side of the west property line. The height is approximately 55' with a canopy spread of 62'. The diameter measured at 4.5 feet above ground level is 39". The trees overall health is good as indicated by normal annual terminal bud growth and exceptional bud development is present throughout the canopy. Normal interior dead limbs are present. No decay, disease or pest issues were found during the inspection.

Tree number two is located to the south side of the west property line. The height is approximately 50' with a canopy spread of 66'. The diameter measured at 4.5 feet above ground level is 41". The trees overall health is good as indicated by normal annual terminal bud growth and exceptional bud development is present throughout the canopy. Normal interior dead limbs are present. No disease or pest issues were found during the inspection. There is a pocket of decay found along the main trunk starting at ground level heading upwards approximately 2'. The tree is starting to compartmentalize as evident with good forming reaction wood to close the wound.

Page 2

Reference: Tree Assessment

Location: 9961 NE Old McMinnville Hwy, Carlton, OR 97111

Recommendations:

It is important to understand the short term and long term effects construction activity can have on trees especially when dealing with mature specimens. Construction around trees can cause soil compaction, exposure to elements, decreased nutrients or water contents within the soil, root damage or physical injury to the trunk or crown. Our goal is to minimize adverse effects to the tree's overall health and structural integrity and by doing so in such a way not to inhibit the construction process.

Before any construction or excavation work begins on-site, it is vital that a "Tree Protection Zone" be created to protect and safeguard the root systems of the preserved trees. The Root Protect Zone (RPZ) for tree number one and two is 25' in in any direction from the main trunks. Root pruning can take place if need be, however it is recommend any root over 2" in diameter that needs to be removed should only be done under the supervision of a certified arborist.

The installation of tree protection fencing and tree protection signage can help to ensure that the tree's root system is not accidentally compacted or the trunk/crown does not become damaged from personnel, equipment and construction machinery.

Sometimes soil compaction and root pruning are necessary in order to complete the construction process. Therapeutic care is described as those treatments that might be required to increase the preserved trees chances for survival. Individual treatment is based on the tree needs, their root zones, and structural conditions and health. Factors will be taken into consideration, such as species, soil composition and compaction, season in which construction is completed and percentage of root zone impacted. The trees will need to be monitored and inspected for a period of 3 years after project completion.

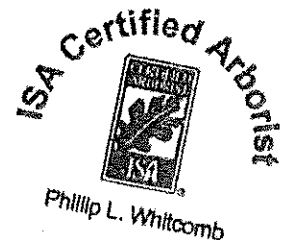
All recommendations are based on good forestry practice according to the American National Standards Institute and International Society of Arboriculture Standards.

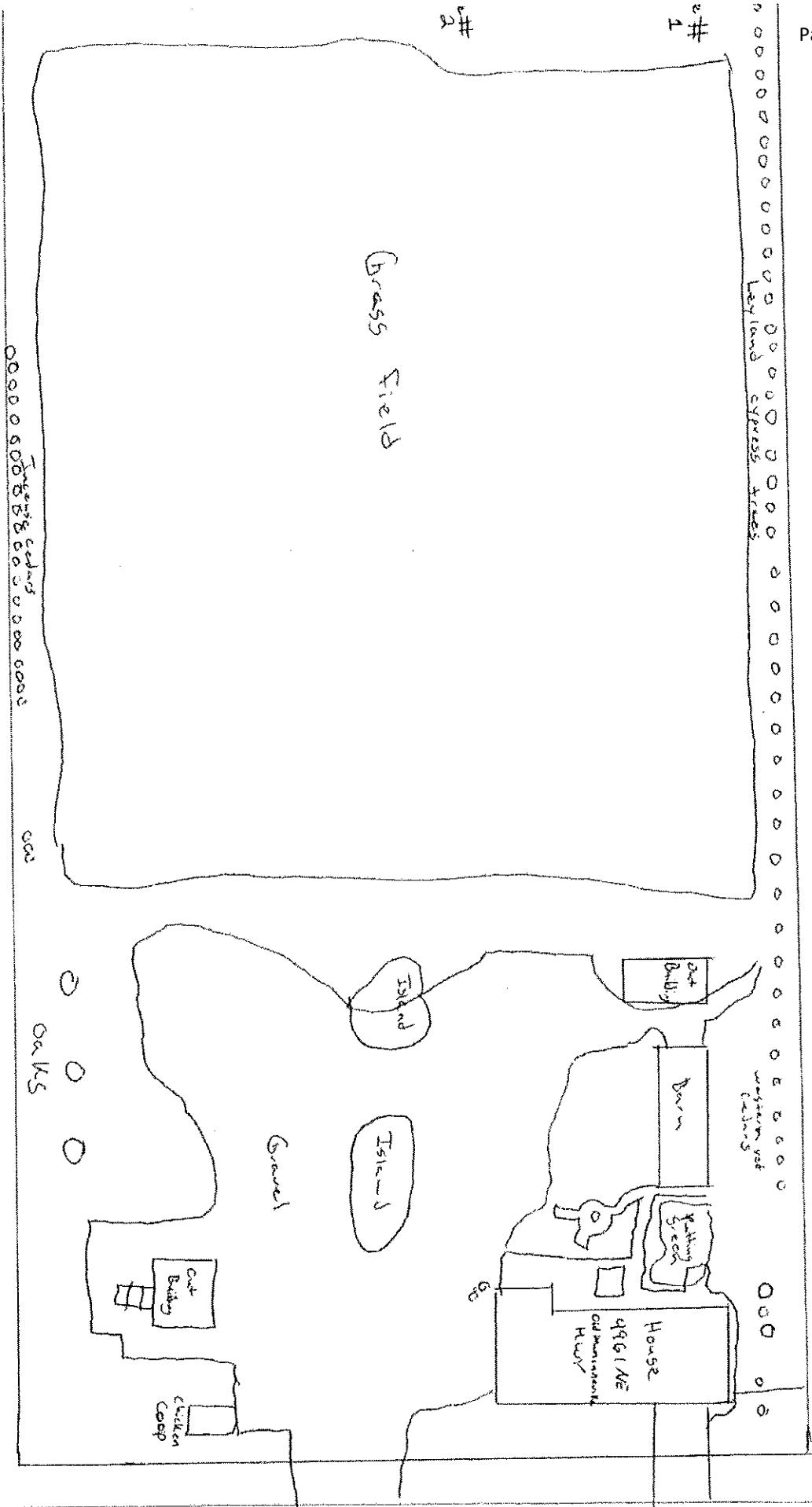
Signed: 

Date:

January 10th, 2022

Phillip L. Whitcomb
 ISA Tree Risk Assessor Qualified
 ISA Certified Arborist #0114A
 ISA Member / ISA-PNW Member
 Halstead's Arboriculture Consultants, Inc.

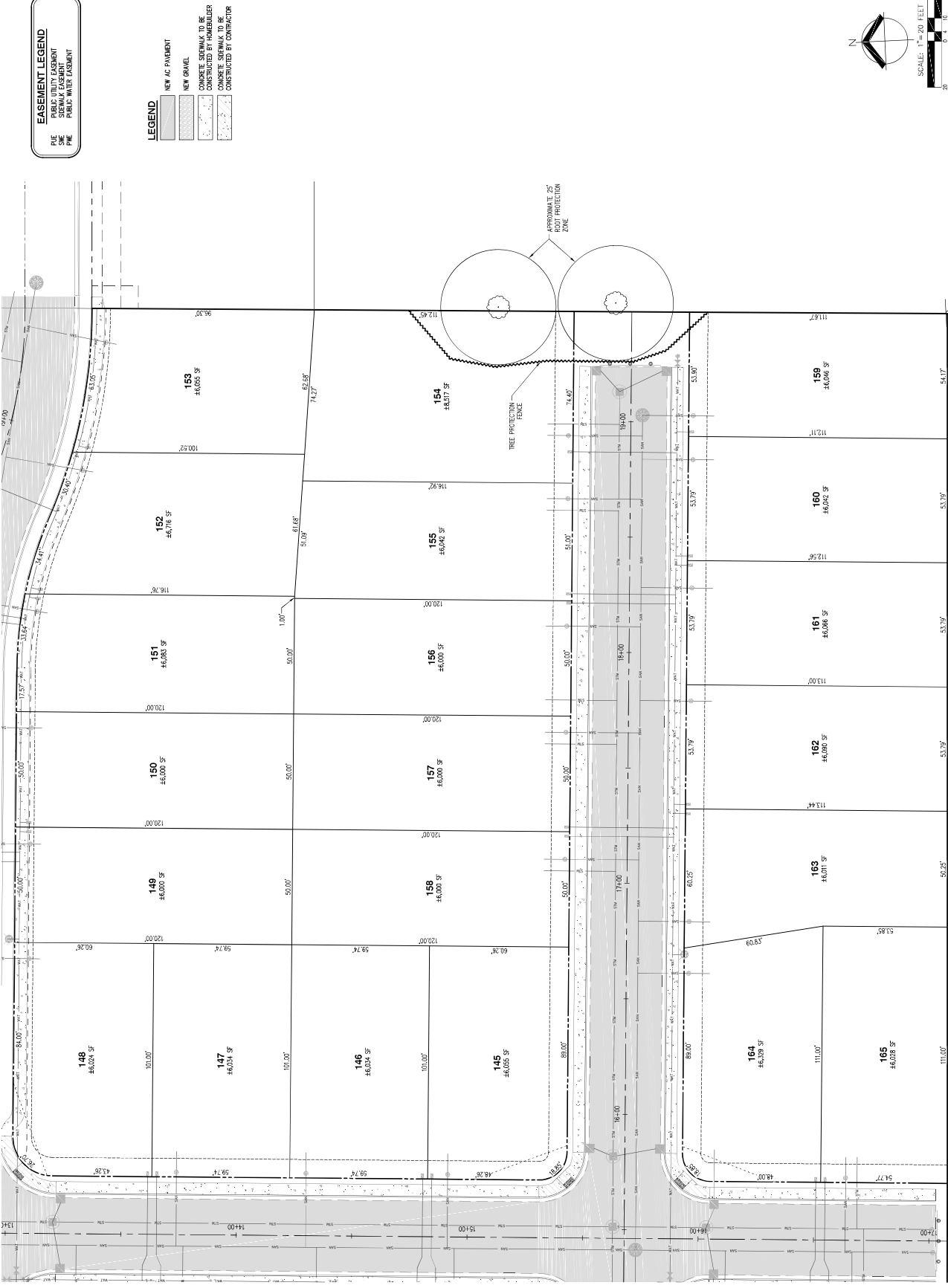




N E O - D M C M - K R E P - 1 - 2 H X Y



PROFESSIONAL SEAL
 REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
 STATE OF OREGON
 NO. 12345
 DATE: 07/27/2023
 PROJECT: JR MEADOWS NO. 3
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SCALE: 1" = 20 FEET
 SHEET NO. 4 OF 8



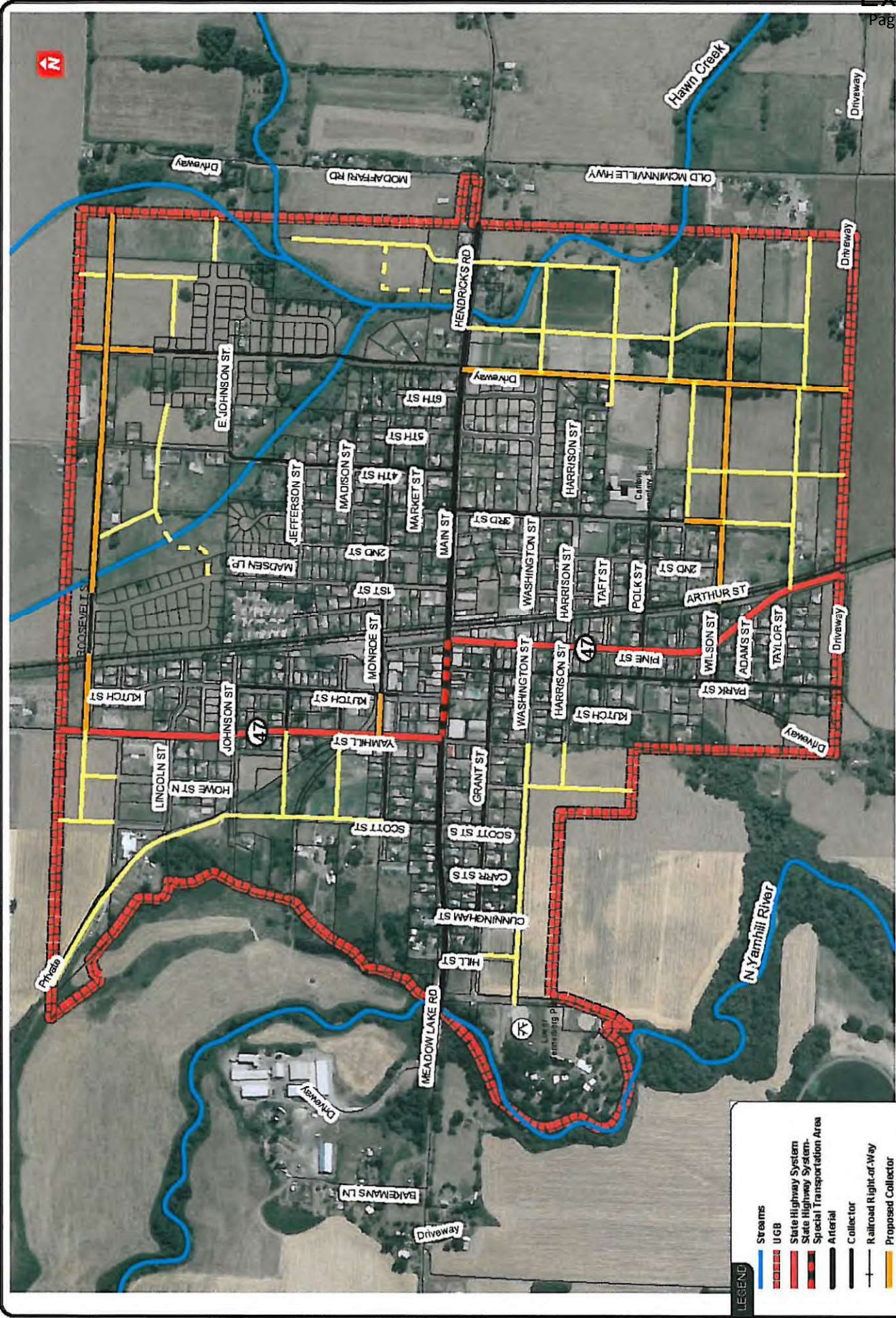
EASEMENT LEGEND
 PUE PUBLIC UTILITY EASEMENT
 SEW SEWER EASEMENT
 PWE PRIVATE WATER EASEMENT

LEGEND
 NEW AC PAVEMENT
 NEW GRAVEL
 CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEOWNER
 CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR



April 2009

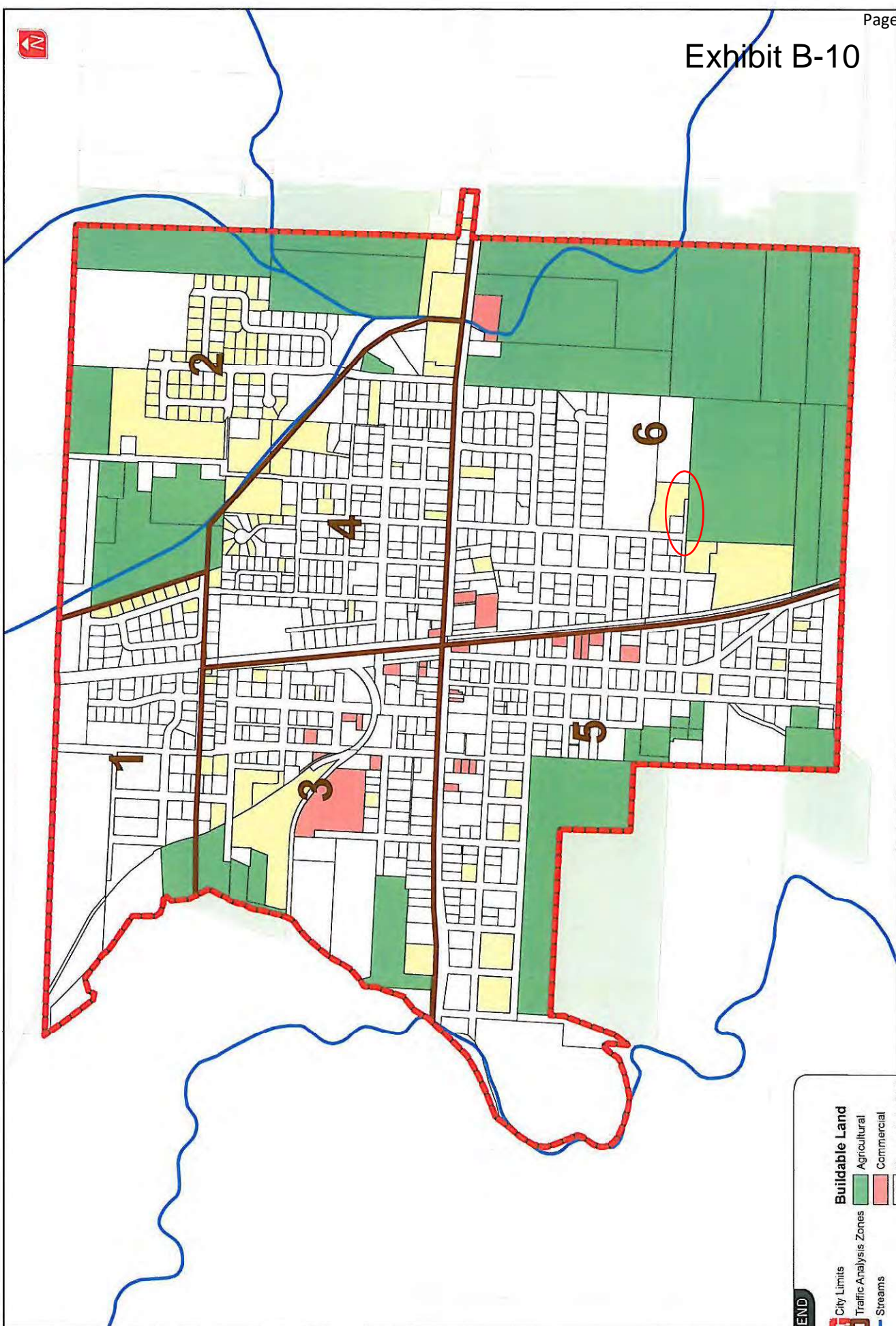
Carlton Transportation System Plan



LEGEND

- Streams
- UGB
- State Highway System
- State Highway System - Special Transportation Area
- Arterial
- Collector
- Railroad Right-of-Way
- Proposed Collector
- Proposed Local Street
- Proposed Local (Approximate)

Exhibit B-10



LEGEND

	City Limits	Buildable Land	
	Streams		Agricultural
	Traffic Analysis Zones		Commercial
			General Industrial
			Residential
			Unavailable

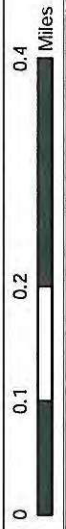


Exhibit B-11

CITY OF CARLTON – DEVELOPMENT

PRE-APPLICATION COMMENTS

YCTC

1. **Traffic:** The development code section 17.100.070B requires a traffic study if the trips per day are over 250, more than 25 peak hour trips, an access spacing exception is required, impacts intersections that are above acceptable range, or where there are high numbers of crashes. There is a potential that the peak hour trips will be more than 25 as there are 60 parking spots, and folks will be coming and leaving at the same time. Provide information on the expected traffic generated. If it hits any of these triggers, then a traffic study would be required as part of the application.
2. **Third Street:** It is an existing collector street in a school zone and the requirements are: 49' ROW, 34' pavement (this includes 5' bike lanes), curb & gutter, and a 6' sidewalk.
3. **Third Street:** The existing street is approximately 20' wide gravel. Along the frontage there is no curb & gutter, or sidewalk. The requirement would be for a 3/4 street improvement, which would include: 25' of pavement, curb & gutter, and 6' sidewalk along the entire frontage.
4. **Third Street ROW:** The existing ROW is 50' wide. A ROW dedication would not be required.
5. **Cleveland Street:** It is a local street and the requirement are: 50' ROW, 34' pavement, curb & gutter, and 5' sidewalk. The TSP shows Cleveland St to be extended to the east.
6. **Cleveland Street ROW:** From Third St. east the existing ROW is 24' but only extends to the east end of lot #2. Lot #2 is part of the development, and a 1' ROW dedication would be required. A ROW dedication of 25' would be required for the lot #3 portion of the development.
7. **Cleveland Street:** There are no improvements on the street currently all the way to Arthur St. The requirements would be 5' sidewalk, curb & gutter and 17' of pavement. This would tie into the gravel street on Third St. The City may consider alternatives.
8. **Other Street issues:** It appears that you are proposing to have a parking lot connection to the School parking lot. This essentially provides for two access points. It is not clear that two are required. You will need to provide justification. If this is acceptable to the City, then you would need an easement with the School for access.
9. **Other Street Issues:** It appears that part of the property is currently being used by others for parking. It is unclear if this is a formal agreement.
10. **Other Street Issues:** It appears that the School has access to the property using it for some of their access. From the City's standpoint, any connection between the two properties is a private issue to be dealt with by the property owners.
11. **Water:** There is a 6" water line on Third Street starting at Polk Street, a 4" pipe on Polk Street, and a 4" pipe that essentially circles the school (east property line of the proposed development). Second Street and Taft Street. There is a fire hydrant at the intersection of Third Street and Polk Street. An 8" public water line improvement would be required on Third Street along the project frontage. An 8" water line would also be required on Cleveland Street; however, it would not connect to the distribution system without off-site improvements. Further, it would not have any services at this time. The City will consider alternatives.
12. **Water Service:** The design engineer will need to determine the water demand to determine the service and water meter size required. The location of the meter is acceptable. Which water line to connect to can be determined in design.

13. **Water Service:** If water will be used for an irrigation system, then a backflow preventer will be required.
14. **Fire Demand:** The Fire Chief will provide the firefighting requirements; however, it is likely going to include a separate fire line, FDC, and perhaps sprinklers. It is not clear that there is sufficient fire flow at the corner of Polk Street and Third Street.
15. **Sanitary Sewer:** There is an 8" sanitary sewer on Third Street. It does not appear that any new public sanitary sewer is required on third Street. An 8" sewer line would also be required on Cleveland Street; however, it would not connect to the collection system without off-site improvements. Further, it would not have any services at this time. The City will consider alternatives.
16. **Sanitary Sewer Service:** The design engineer will need to determine the sanitary sewer flow to determine the service required. The proposed location of the service runs directly across the School's ball fields. This would all be considered private so would need to meet plumbing code. It is not clear that there is sufficient elevation to make this work as most of the fields are flat. Also, it is not clear that the School would want a service line crossing the property. The City would not like to see this as it would cause problems for redevelopment in the future. A pumped service may be required.
17. **Storm Water:** While treatment and detention are not mandatory in Carlton, there will be a substantial amount of storm run-off from the site as it is mostly impervious. The amount of storm water will need to be determine, and it will need to be discharged appropriately. The downstream capacity of the storm system will need to be evaluated to make sure there is sufficient capacity. If there is not sufficient capacity, then improvements would be required which could be detention or pipe improvements.
18. **Storm Drainage:** There is a catchbasin on Third Street that appears to collect flow from the south (gravel road) and discharge it on School property. As it is a gravel road with no curb & gutter and no apparent ditch it is not clear that much storm water makes it to the catch basin.
19. **Storm Drainage:** Street improvements would require storm improvements. There is no formal storm system in the area, so the applicant would need to determine where to discharge the storm flow without impacting the neighbors.
20. **Storm Drainage:** It is proposed that the on-site storm water be discharged to the east in a pipe that crosses the School property. This would disturb the School track. An easement would be required. It is not clear that this is discharging to a drainage way. The downstream land would need to be reviewed to determine that the flow would not be impacting the neighbor.

November 26, 2018
 Pre-application meeting notes for 414 E Polk Street
 New YCTC two-story Community Center
 Carole Connell, Carlton City Planner

Land Use Zoning, Site Development & Procedures

1. Site is zoned R-1 whereby a Community building is listed as a Conditional Use. The site does not have an existing conditional use therefore the proposal for a new structure requires a Major Conditional Use Permit and a Major Site Design Review approval because it is a MCU. The two applications may be submitted concurrently. The Planning Commission is the review body for both, and the review type is a Type II quasi-judicial hearing procedure. In order to determine application completeness and meet hearing notice requirements, the applications should be filed 60 days before the third Monday of the month, which is the regular Planning Commission meeting date. Check with Aimee Amerson for all fees.

2. R-1 Zone 17.20.010:
 - a. Building Setbacks
 - Front yard: 20 feet from 3rd Street
 - Rear yard: 15 feet
 - Interior Side yard: 5 feet
 - Street Side yard: 20 feet (Cleveland – local street)
 - b. Height: 35 feet
 - c. Lot coverage combined footprint & impervious: 70% if height under 20'; 65% if over 20'
 - d. Off-street parking section 17.68: a place of public assembly requires one parking stall per four seats or 8 feet of bench length. A government building requires one space per 300 SF plus one per 2 employees. Space dimension is 9'x 18'; bike rack minimum of two stalls or one per 10 parking stalls (for a school or park); Driveways shall be 24' wide. No loading berth required if no receiving or distribution of materials and merchandise by trucks. Landscape parking lot every 10 spaces.
 - e. Site & Landscaping section 17.84: Provide a Landscape Plan for 10% of the gross land area (for a commercial development or a public zone), with 50% plant canopy coverage at maturity, streetscape landscaping, native plants per 17.84.060. Screening per section 17.84.070 of garbage and waste containers and loading areas as well as mechanical equipment. Screening and buffering lighting control per section 17.84.070 A, B & C required on the west side and south side where adjoining existing residential and planned dissimilar or residential uses.

- f. Signs section 17.80: a 32 square foot maximum size, with indirect lighting; clear vision is 15' at corners and intersections.
- g. Building and Site Design section 17.106 is only applicable to residential buildings.
- h. Floodplain Management FP Overlay District: section 17.56 NA
- i. Streets: section 17.64.030
 - 3rd is an existing collector street (construct street, sidewalk and parking on frontage); School zone requirements on 3rd only apply from Main to Polk.
 - Cleveland is a planned local street and ROW is to be extended to east boundary per subsection D. ROW 47 – 57', narrower local option NA due to AH residential development potential to the south and east.
 - Polk is a local street with no planned extension east of 3rd.

EASEMENT LEGEND
 PVE PUBLIC UTILITY EASEMENT
 SVE SEWER EASEMENT
 PVE PRIVATE VEHICULAR EASEMENT

NOTES:

- THE PURPOSE OF THIS PRELIMINARY SUBDIVISION PLAT IS TO SHOW LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES. THIS PLAT IS NOT TO BE USED FOR CONVEYANCE. ALL DIMENSIONS ARE SUBJECT TO CHANGE. THE DIMENSIONS AND AREAS SHOWN ON THIS PLAT MAY VARY FROM THE ACTUAL DIMENSIONS AND AREAS MAINTAINED BY A LANDOWNERS ASSOCIATION AS OPEN SPACE OR DEDICATED TO THE CITY OF CARLTON.

RESIDENTIAL-MEDIUM DENSITY (R-2) DEVELOPMENT STANDARDS:

- LOT DIMENSIONS: SINGLE-FAMILY (NON-COMMON WALL) LOT SIZE - 6,000 SQ. FT.
- ATTACHED (TOWNHOME) LOT SIZE - 2,400 SQ. FT. 4,000 SQ. FT.
- MIN. LOT WIDTH AT BUILDING LINE - 24'-00" CORNER LOT - 24'-00"
- MIN. SETBACKS:
 - FRONT - 15 FT. 10 FT. UNCOVERED/UNENCLOSED PORCHES
 - REAR - 20 FT.
 - GARAGE - 20 FT.
 - STREET SIDE YARD - 10 FT.
 - REAR YARD - 15 FT.
- LOT COVERAGE:
 - COVERED BY BUILDINGS: 60% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 60% WHERE BUILDING IS 20' OR LESS IN HEIGHT
 - INCLUDING BUILDINGS: 50%
 - COMBINED MAX. LOT COVERAGE: 60% WHERE BUILDING EXCEEDS 20' IN HEIGHT, 60% WHERE ALL BUILDINGS ON SITE ARE 20' OR LESS IN HEIGHT
- DENSITY:
 - AVERAGE DENSITY OF 10 DWELLING UNITS (DU) PER ACRE OR LESS

DENSITY CALCULATIONS:

- GROSS SITE AREA = 360 ACRES
- DENSITY = GROSS ACRES / DU/GROSS ACRE = 10 UNITS
- DENSITY = 360 AC. / 10 DU/GROSS ACRE = 36 UNITS
- MAXIMUM DENSITY PERMITTED = 160 UNITS
- ACHIEVED DENSITY = 160 UNITS / 360 ACRES = 0.44 UNITS/GROSS ACRE

SITE AREA FOR FUTURE SINGLE-FAMILY ATTACHED HOMES = 210,000 SQ. FT. = 4.8 ACRES



SCALE: 1" = 50 FEET
 50' GRAPHIC SCALE: 0' 10' 20' 30' 40' 50'

Exhibit B-12



8632 – JR Meadows No. 3 - Conditions of Approval

Initial Conditions (March 13, 2023) are in black.

Revised conditions shown by Kiel at the PC hearing on March 20, 2023, are shown in blue.

Modifications requested by the Applicant on April 9, 2023.

VII. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings in this report, staff recommends approval of SUB 23-01 with the following conditions:

1. Prior to final plat approval, detailed design drawings and specifications for all water, sanitary sewer, storm drainage, street improvements, grading and erosion control, property and street centerline monuments and subdivision benchmarks shall be prepared by a registered professional engineer and submitted to the City Engineer for approval prior to constructions of any improvements.

a. All utility easements shall be shown on the final plat and at a minimum shall conform to the requirements of Development Code Section 17.76.

b. The installation of street name signs and traffic control signs is required at locations determined by the City and shall be of a type required by City standards.

c. The installation of underground electric service, light standards, wiring, and lamps for streetlights of a type required by City standards following the making of necessary arrangements with the serving electric.

d. Curb cuts and driveway installations by the developer shall be according to the City standards.

e. An 11-foot PUE shall be shown on the final plat on the side of Wilson Street containing the water line.

f. Taylor Street and the public utilities within Taylor Street shall extend to the eastern boundary of the development unless the applicant provides justification showing why Taylor Street cannot be extended.

~~f. Taylor Street and the public utilities within Taylor Street shall extend to the eastern boundary of the development unless the applicant provides justification showing why Taylor Street cannot be extended.~~

g. There shall be no-parking signs provided on both sides of 3rd Street, and the 3rd Street shoulder shall be one-foot in width comprised of crushed rock. The shoulder shall also provide accommodations for storm drainage on the west side of the street as determined by the City Engineer.

h. The sanitary sewer on Third St. shall be extended to the South end of the development, and North to the intersection with Cleveland St.

~~i. The storm system will need to be modified to avoid surcharges. This may require detention. The final storm system design shall be reviewed at the time of construction plan submittal and meet applicable City of Carlton development code standards.~~

i. The storm system will need to be modified to avoid surcharges unless the applicant can provide justification approved by the City Engineer on the deeper pipelines. This may require detention.

j. The drainage tiles through the subdivision will need to be removed or filled to prevent settlement. The applicant shall provide a drainage path/facilities for any tile that is upstream of the development for approval by the City Engineer.

~~k. The applicant shall provide a public right-of-way easement, to a width of 26 feet, encumbering all lots shown to border Wilson Street, 3rd Street, and Cleveland Street where a sidewalk easement is proposed in lieu of public right-of-way. The location of this easement is to be shown to final plat.~~

k. The applicant shall provide an easement, in a form acceptable to the Applicant and the City, requiring a minimum separation of 20 feet between the front of garage and outside edge of the sidewalk on all lots shown to border Wilson Street, 3rd Street, and Cleveland Street where a sidewalk easement is proposed in lieu of public right-of-way. The easement shall be structured so that the required separation of the garages from the sidewalks is reflected on the plat.

l. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection at all points of curvature, points of tangency of street center lines, and other points required by state law.

m. Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

n. Compliance with the access spacing requirements of Section 17.100.030 intersections shall be shown on the final construction plans.

~~o. All lots on streets with varying functional classifications shall take access from the street with the lower classification. Location of driveways and spacing shall be shown on the final construction plans.~~

o. All lots on streets with varying functional classifications shall take access from the street with the lower classification unless modified via an approved variance. (Should be moved to be under "2. Prior to building permit issuance.")

p. The applicant shall obtain a City of Carlton access permit for all new curb cuts within the subdivision.

q. Compliance with vision clearance standards shall be demonstrated in the final construction plans.

r. Street stubs shall be provided for Taylor, Wilson, and 5th Streets where these streets dead-end at the perimeter of the subject property.

- s. The applicant shall dedicate Tract A to the City of Carlton. A minimum of three street trees shall be planted within the Tract.
- t. Street trees planted in landscape strips shall be listed on the City Carlton Street Tree list.
- u. The applicant shall provide a signed agreement with the school district for the development of the proposed pedestrian path along the southern boundary of the school district properties to the north of the proposed subdivision. The signed agreement shall be submitted with the final construction plans.**
2. Prior to issuance of building permits:
- a. A Site Design Review application shall be submitted and approved by the City for the block containing lots intended for single-family attached homes.
- b. The applicant shall demonstrate that no driveways exceed 20 feet in width at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- c. The applicant shall demonstrate compliance with the landscaping standards of Section 17.84 at the time of Site Design Review for all attached dwellings and at building permit submittal for all detached dwellings.
- d. All dwellings shall comply with the dimensional and development standards listed in CDC Sections 17.22.040 and 17.22.050.
- e. All dwellings shall comply with the design standards of Section 17.106.030 A Residential Design Standards as illustrated on the approved elevations, at the time of building permit submittal.
3. Additional
- ~~a. The biological improvements to the City of Carlton WWTP shall be completed and operational before the homes from this development can be accepted. The plat can be approved, but no homes may be sold or connected to the system.~~
- ~~a. The biological improvements to the City of Carlton WWTP shall be completed and operational prior to the recordation of the Final Plat.~~**
- a. The City's WWTP system must have the capacity needed to accommodate the homes in this subdivision before building permits can be issued for the construction of homes or connection to the City's sanitary sewer system. The final plat may be recorded upon completion of the public improvements (or execution of an appropriate deferred construction agreement and posting of a performance bond) and recordation of covenants prohibiting the sale or offering of lots or homes for sale, negotiation for sale of homes or any form of marketing of lots or homes in the subdivision. Upon satisfaction of one of the three following conditions, as determined by the City Engineer, building permits may be issued and the covenant preventing marketing or sale of homes or lots will be terminated:**

1. The WWTP facility is connected to three phase power and it is demonstrated that the system has capacity to accommodate this subdivision.
2. A study analyzing the capacity of the WWTP facility demonstrating that the facility has capacity to accommodate the homes in this subdivision is completed at Applicants expense.
3. The biological improvements to the City of Carlton WWTP are substantially complete and operational.

4. Security Guarantee: If the developer requests approval to record the final plat before all required improvements have been constructed and all conditions of approval have been met by the developer and accepted by the City, the developer shall provide a security guarantee in accordance with Section 17.216 Performance Agreement and satisfactory to the City that all improvements will be constructed in conformance with all City standards and ordinances and all conditions of approval will be satisfied.

~~5. Final Plat Submittal: Within eighteen months (18) months of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.~~

5. Final Plat Submittal: The Planning Commission grants a 12-month extension to the 18-month approval period for this subdivision. The expiration date of this subdivision is 2-1/2 years (30 months) from the approval date of this decision. Within 2-1/2 years (30-months) of the date of Planning Commission approval, the applicant shall submit three (3) identical reproducible copies of the final plat for signature. The final plat shall be submitted to the City in a form and with information consistent with Development Code Section 17.176.050 including monuments, benchmarks and other County survey and map standards, and State laws including ORS Chapter 92 for plats of record.

~~Extension: If the final plat is not submitted within eighteen (18) months of the date of Planning Commission approval, the approval shall lapse, unless an extension request is filed with the City before the expiration date. An extension request shall be made in accordance with Section 17.176.050.~~

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one additional year at a time. Requests for extension of approval time shall be submitted in writing thirty (30) days prior to the expiration date of the approval period. An extension request shall be made in accordance with Section 17.176.030 or 17.176.050, whichever is applicable.

Exhibit C-1

From: Catherine Liedtke-Colwell <home8165@aol.com>
Sent: Wednesday, March 22, 2023 2:32 PM
To: Aimee Amerson <aamerson@ci.carlton.or.us>
Subject: Save our trees

Dear Members of the Planning Commission,

We are the owners of the adjacent property east of the proposed JR Meadows III. As noted in the planning commission meeting on March 20, 2023, there are two very mature white oak trees on our property. We are concerned with the potential damage that may occur when excavating and building the infrastructure for development.

We have hired an arborist to outline the process in which one should take to preserve the health of these trees when digging occurs around them.

I would like to have our report part of the record and to make sure the developer, Chad E. Davis Construction LLC, plans their project around protecting these trees. I am attaching the arborist's report. If you have any questions, please feel free to reach out to us.

Thank you ,

Bruce and Cathy Colwell
9961 NE Old McMinnville Hwy.
Carlton, Oregon 97111

(971)227-1390

HALSTEAD'S ARBORICULTURE CONSULTANTS

www.halsteadsarbor.com

P.O. Box 1182 • Tualatin, OR 97062

(503) 245-1383

Bruce & Cathy Colwell
9961 NE Old McMinnville Hwy
Carlton, OR 97111
(971) 227-1390
Home8165@aol.com

January 10, 2022

Mr. & Mrs. Colwell,

With your approval, I have inspected the site and trees located at 9961 NE Old McMinnville Hwy, Carlton, OR 97111

The purpose of the inspection was to perform a visual assessment of two Oregon white oak trees located on the western property line as well as document and identify how construction within the root protection zone could likely impact the trees.

On Monday January 10th, 2022, I individually inspected, tagged and numbered the two mention trees on-site. Tree species, circumference, height, canopy spread, canopy structure/development, storm damage, insect/disease issues, overall structural integrity, root crown/root development and hazard potential within a future target zone were all included in my assessment during the time of inspection.

Tree Assessment:

There are two Oregon white oak trees (*Quercus garryana*) on-site that will likely be impacted by a new housing development located west of the property line. I have marked both trees using metal tags numbered one (1) and two (2).

Tree number one is located to the north side of the west property line. The height is approximately 55' with a canopy spread of 62'. The diameter measured at 4.5 feet above ground level is 39". The trees overall health is good as indicated by normal annual terminal bud growth and exceptional bud development is present throughout the canopy. Normal interior dead limbs are present. No decay, disease or pest issues were found during the inspection.

Tree number two is located to the south side of the west property line. The height is approximately 50' with a canopy spread of 66'. The diameter measured at 4.5 feet above ground level is 41". The trees overall health is good as indicated by normal annual terminal bud growth and exceptional bud development is present throughout the canopy. Normal interior dead limbs are present. No disease or pest issues were found during the inspection. There is a pocket of decay found along the main trunk starting at ground level heading upwards approximately 2'. The tree is starting to compartmentalize as evident with good forming reaction wood to close the wound.

Page 2

Reference: Tree Assessment

Location: 9961 NE Old McMinnville Hwy, Carlton, OR 97111

Recommendations:

It is important to understand the short term and long term effects construction activity can have on trees especially when dealing with mature specimens. Construction around trees can cause soil compaction, exposure to elements, decreased nutrients or water contents within the soil, root damage or physical injury to the trunk or crown. Our goal is to minimize adverse effects to the tree's overall health and structural integrity and by doing so in such a way not to inhibit the construction process.

Before any construction or excavation work begins on-site, it is vital that a "Tree Protection Zone" be created to protect and safeguard the root systems of the preserved trees. The Root Protect Zone (RPZ) for tree number one and two is 25' in in any direction from the main trunks. Root pruning can take place if need be, however it is recommend any root over 2" in diameter that needs to be removed should only be done under the supervision of a certified arborist.

The installation of tree protection fencing and tree protection signage can help to ensure that the tree's root system is not accidentally compacted or the trunk/crown does not become damaged from personnel, equipment and construction machinery.

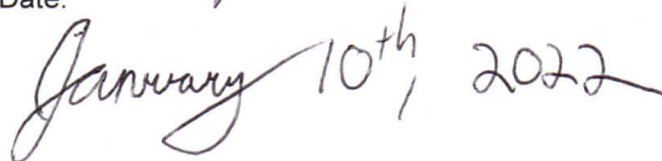
Sometimes soil compaction and root pruning are necessary in order to complete the construction process. Therapeutic care is described as those treatments that might be required to increase the preserved trees chances for survival. Individual treatment is based on the tree needs, their root zones, and structural conditions and health. Factors will be taken into consideration, such as species, soil composition and compaction, season in which construction is completed and percentage of root zone impacted. The trees will need to be monitored and inspected for a period of 3 years after project completion.

All recommendations are based on good forestry practice according to the American National Standards Institute and International Society of Arboriculture Standards.

Signed:

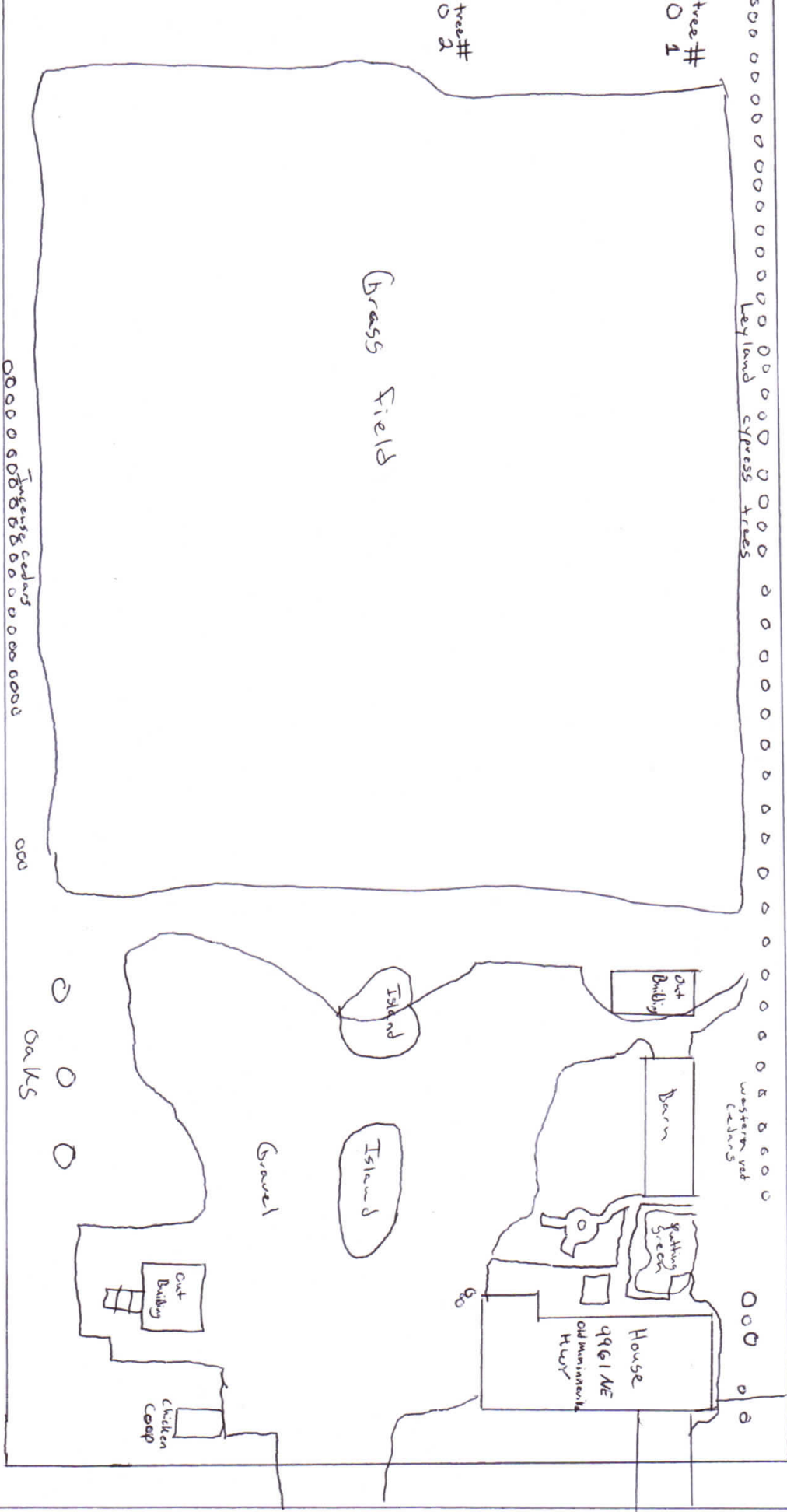


Date:



Phillip L. Whitcomb
 ISA Tree Risk Assessor Qualified
 ISA Certified Arborist #0114A
 ISA Member / ISA-PNW Member
 Halstead's Arboriculture Consultants, Inc.





NE OLD MCM-SKEWEE HAY

Michael A. Schmidt
Pamela E. Yee*
*licensed in Oregon and Washington
Scott T. Rennie

PHONE: (503) 642-7641
FAX: (503) 649-1823
e-mail: scott@schmidtandye.com
Website: www.schmidtandye.com

April 25, 2023

Via Email: aamerson@ci.carlton.or.us

City of Carlton
c/o Aimee Amerson
Planning/Administrative Manager
191 E. Main Street
Carlton, OR 97111

Re: SUB 2023-01; JR Meadows Phase 3

Dear Planning Commission:

I write on behalf of the owners of the real property commonly known as 9961 NE Old McMinnville Highway (the "Property"), Bruce Colwell and Catherine Liedtke-Colwell (the "Colwells"), regarding their objection to the preliminary subdivision approval of 101 residential lots, file number Sub 23-01 (the "Proposed Development"). The Colwells' objection relates only to a certain portion of the Proposed Development along the Property's western border, as explained below. Please direct further communication to me.

The Property is immediately east of the Proposed Development and would share a border with lots 153, 154, 159 and the eastern end of Taylor Street as shown on the Proposed Development's plat map. Lot 154 and Taylor Street are the two most concerning aspects of the Proposed Development. Two thriving white oak trees are situated on the western edge of the Property (the "Trees") which the Proposed Development, as designed, threatens. In support of their claim that the Proposed Development poses an existential threat to the Trees, the Colwells previously submitted an arborists report (reproduced herewith) prepared by Halstead's Arboriculture Consultants (the "Report") which called for a twenty-five (25) foot root protection zone ("RPZ") in all directions from the trunk of the Trees. The Report also recommended that while root pruning could take place, pruning should be limited only to roots less than two (2) inches in diameter, and only under the supervision of a certified Arborist.

As currently designed, the setback for lot 154 is approximately three (3) feet from the western boundary of the Property. Development at such a limited distance is well within the recommended RPZ and would cause substantial damage to the Trees. Further, Chapter 17.56.060 of the city development code compels the commission to balance the retention of natural features with individual property rights. In the present case, the development of lot 154 and construction of a residential structure would decimate the root system causing incalculable – likely terminal – harm to the Trees. The balance of preserving the Trees as a natural feature and the Colwells' individual property rights greatly outweigh those of the Proposed Development's owner. The Colwells own the entire adjacent eleven (11) acre parcel, and currently have no plans to make any portion of the property available for development. Further, the Trees were a key feature when the Colwells purchased the Property. Causing terminal damage to the Trees would greatly lessen their private enjoyment of the property and lower its potential resale value. In contrast, increasing the setbacks, or eliminating a single lot out of 101 lots would not materially affect the Proposed Development's owner or the overall feel and character of the Proposed Development. In fact, eliminating the lot for development provides a potential opportunity for a small greenspace where families and neighbors could enjoy being outdoors within walking distance of their home.

While recognizing that developing a surface street to service the residence built on lot 159 is imperative, it is also true that development of underground road infrastructure and utilities would have a similar adverse effect on the trees. However, it seems that a reasonable accommodation for the utilities to lot 159 could be reached such that they are largely excluded from the RPZ, and the surface road alone would have limited impact. Currently, the Proposed Development and the Commission require that Taylor Street be developed up to the adjacent property line on the premise that it will be necessary for future development of the adjacent lot. Yet, as noted, the Colwells have no intention of making the Property available for development in the foreseeable future. Thus, the assessment that Taylor Street must be fully developed to the edge of the Property for future development is fundamentally flawed as future development is not imminent. Therefore, full development of Taylor Street and any underlying utilities to the edge of the Property is wholly unnecessary. Accordingly, the balance of preserving the Trees and the Colwells' individual property rights versus a minor adjustment in the plans for the Proposed Development favors the Trees' preservation.

It is not the Colwells' intention to hinder further development of the city, or to maliciously interfere with the Proposed Development. Rather, their concerns about the Trees being damaged are rooted in both the legitimate concerns of preserving the Property's look, feel, and character and prior experience with the Proposed Development's owner, which also developed JR Meadows Phase 2 immediately to the north of the Property ("Phase 2 Development"). During Phase 2 Development, severe drainage issues developed leading to the loss of several small decorative trees. The Colwells and the Proposed Development's owner were able to reach a fair resolution which included drainage remediation and planting replacement trees. However, the Trees are not as fungible as young decorative trees, and to the extent they could be replaced – if at all – it would be at a significantly greater cost and require greater coordination.

Notwithstanding the foregoing, regardless of whether the Commission alters the Proposed Development due to the Colwells' concerns or allows the Proposed Development to proceed as planned, the Colwells' reserve all their rights under ORS 105.810. Further, the Colwells remind the commission and the Proposed Development's owners that trespassing onto the Property is not a prerequisite to a cause of action, and the right to a possible award of treble damages should the Trees be damaged. See, *Simington Gardens, LLC vs. Rock Ridge Farms, LLC*, 308 OR.APP. 661, 2021.

The Colwells trust that the Commission will take their position under consideration when completing its final review of the Proposed Development and are prepared to coordinate with the Commission and the Proposed Development's owner to find a solution moving forward.

Very truly yours,
SCHMIDT & YEE, PC



Best Regards,
SCOTT T. RENNIE

STR:slf
cc: Client; Chad E. Davis Construction, LLC
Encl

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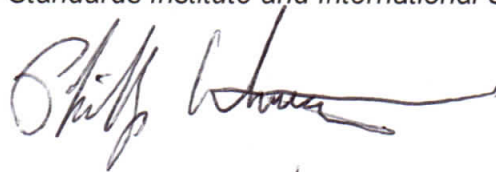
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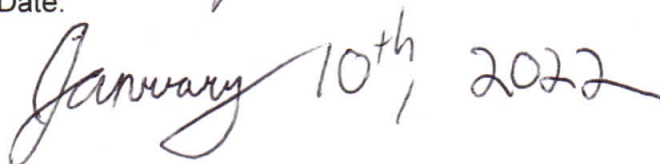
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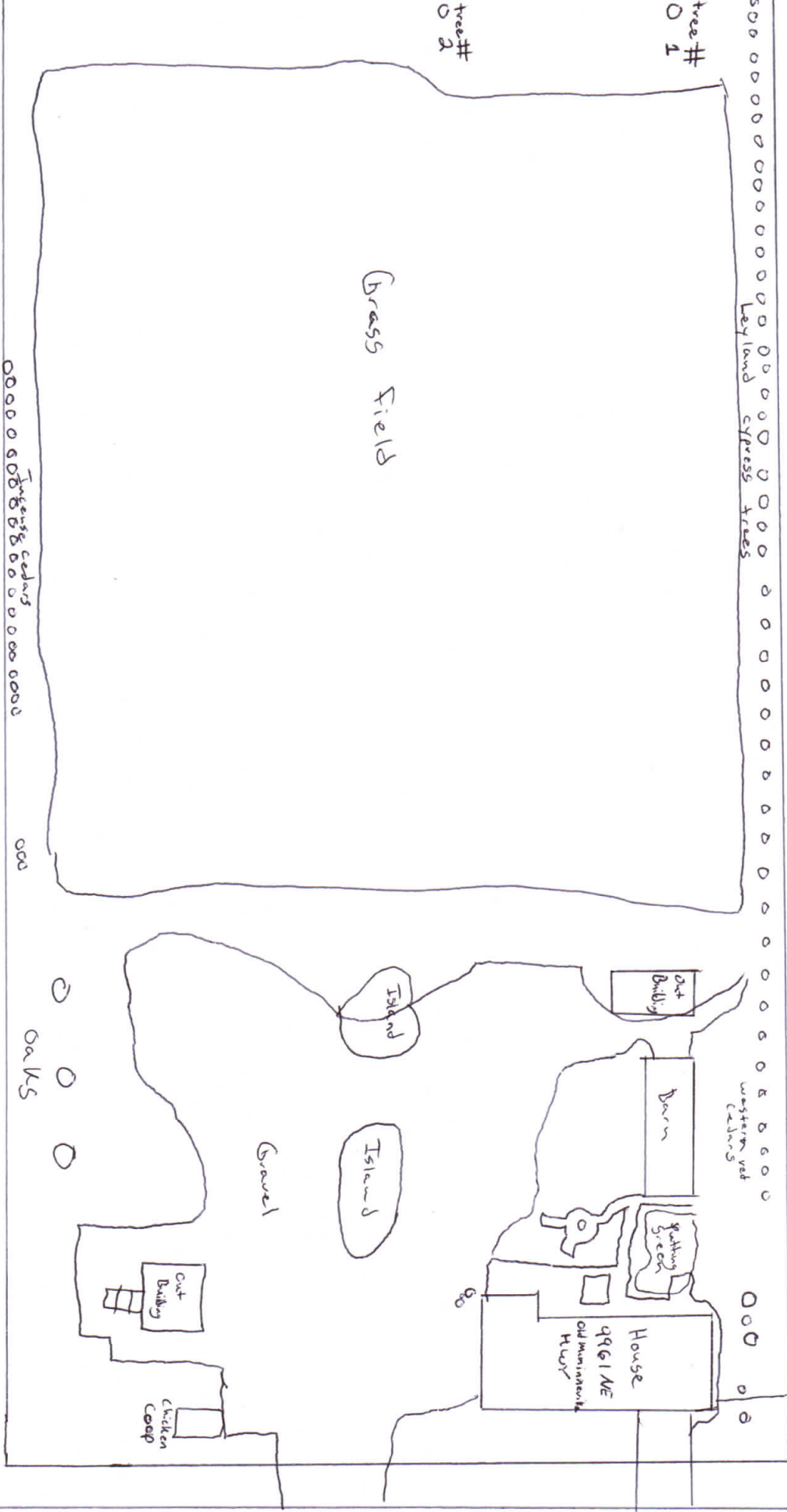


Date:



Phillip L. Whitcomb
 ISA Tree Risk Assessor Qualified
 ISA Certified Arborist #0114A
 ISA Member / ISA-PNW Member
 Halstead's Arboriculture Consultants, Inc.





N E O I D M C M - S R E D - - - e H A Y



Planning Commission Regular Session Minutes
May 17, 2023, 6:00 PM
Via Zoom and at 945 West Grant Street

1. CALL MEETING TO ORDER & ROLL CALL

Planning Commissioner Chair Anthony Stuart called the meeting to order at 6:00 PM.

Members Present: Anthony Stuart Susan Turrell
Jennifer Nordstrom Noelle Amaya
Robin Geck
Annette Fernandez-Madrid

Members Absent: Jim Bandy

Staff Present: Scott Whyte, City Planner Shannon Beaucaire, City Manager
Aimee Amerson, City Recorder Gordon Munro, City Engineer
Tyler Yeoman-Millette, City Attorney Morgan Shelton, Finance Specialist

Others: Jacki Herb of AKS Engineering, Attorney Mark Hoyt, Marie Frugia, Hans Nordstrom,
Emily Silvestri, Jami Eglund, Kerry, Lonnie Geck, Cowells

2. MINUTES APPROVAL- April 17, 2023 6:02 PM

MOTION: Nordstrom/Turrell: to approve the Planning Commission minutes from April 17, 2023, as submitted.
Motion carried (6 Yes/0 No/1 Absent [Bandy]/0 Abstain).

3. CITIZEN COMMENTS 6:02 PM

None given.

4. ACTION / DISCUSSION ITEMS

A) Planning Commissioner Liaison to City Council 6:03 PM

Chair Anthony Stuart announced the discussion had between staff and various commissioners about the benefits of having a Planning Commission member present at City Council meetings as a non-voting observatory liaison.

Commissioners discussed their agreement to the idea, the specifics on how to determine who will attend what meetings, the roles of the liaisons attending, and the desire to have councilors also attend planning commission meetings.

B) Student representative on the Planning Commission 6:11 PM

Chair Stuart introduced the idea of having a student Planning Commission representative and asked for a discussion to help determine guidelines for eligibility requirements and candidate outreach.

Commissioners discussed the flexibility of terms to allow for high school seniors to serve until graduation, the possibility of adding a college student member, eligibility and residency requirements, planning outreach to different educational establishments, the addition of an application or letter of interest, and a timeline for accepting applicants. Commissioners decided they will discuss at their June meeting.

C) SUB 2023-01; JR Meadows Phase 3 6:29 PM

Near 3rd and West of South 7th Streets

Applicant: Chad

Planning Commission Chair Anthony Stuart opened the Public Hearing at 6:29 PM and asked commissioners if they had any bias, abstentions, or exparte contact. Commissioner Jennifer Nordstrom declared that she is

married to the YCTC president but, she does not believe it will affect her ability to make non-biased decisions. Susan Turrell declared that she lives next door to the proposed subdivision and that she has been a vocal advocate for the connectivity of walking routes to school and neither will affect her ability to make non-biased decisions. Stuart then called for audience objections to jurisdiction. None given.

Chair Stuart introduced City Planner Scott Whyte to go over the JR Meadows 3 Subdivision application. Whyte, with input from City Engineer Gordon Munro, presented the staff report.

Commissioners discussed and asked questions surrounding the applicant extension request, adding a requirement to stake out property lines during construction as a condition of approval, specifics surrounding the construction easement with the school district, stormwater detention drainage, and bike lane striping and size.

Stuart introduced AKS Engineering and Attorney Mark Hoyt to discuss the applicant report.

Commissioners asked questions of staff and the applicant.

Chair Stuart opened the public testimony for comments at 8:08 PM

Proponent Statements: None Given

Opponent Statements: None Given

Neutral Statements: None Given

Public Testimony closed at 8:10 PM

Chair Stuart opened the floor for final comments from staff. Whyte made clarifications to the proposed changes.

Commissioners deliberated and worked with staff and applicant to finalize the conditions of approval.

MOTION: Turrell/Nordstrom: Move to approve SUB 23-01, based on the findings in the staff reports dated March 13, 2023, and May 10, 2023, subject to the conditions of approval in the staff report dated May 10, 2023, with the caveat that subsection 1j is modified as shown on the applicant's PowerPoint slide number 11, 1t – bike lanes will be six feet and ten-foot travel lanes per city code requirements and, 3a the city review of will be paid for by the applicant. Further move to approve the extension of preliminary subdivision approval time, limited to one year. Motion carried (6 Yes/0 No/1 Absent [Bandy] /0 Abstain).

5. COMMISSIONER COMMENTS

8:34 PM

Chair Stuart invited any additional commissioner comments.


Whyte recommended having a work session for commissioners to work with staff to look at legislative bills currently in the Senate and House of Representatives.

Commissioners discussed how to edit a noted error in the street tree list.

6. ADJOURNMENT

The meeting adjourned at 8:41 PM.

ATTEST:


Morgan Shelton, Finance Specialist


Anthony Stuart, Planning Commissioner Chair