Staff Report

To: Planning Commission

Through: Chris Kerr, Community Development Director C.K.

From: Dan Handel, AICP, Associate Planner

Meeting Date: April 23, 2020 (Prepared April 16, 2020)

Item: DR 2020-03 "Nellie Muir Addition" at 1800 W. Hayes Street

Tax Lot(s): 052W12DD06300

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Issue before the Planning Commission

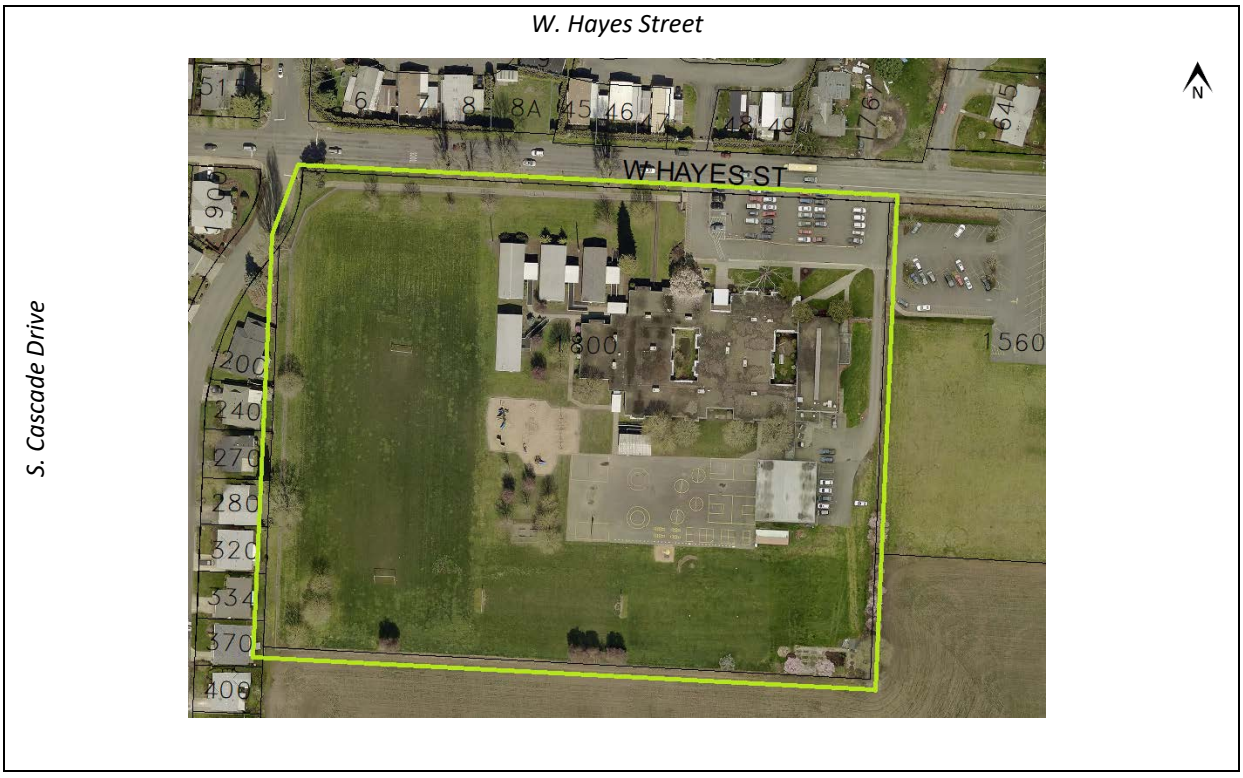
Action on a land use application, Design Review DR 2020-03 for an addition of five classrooms and five auxiliary rooms for Nellie Muir Elementary School.

Executive Summary

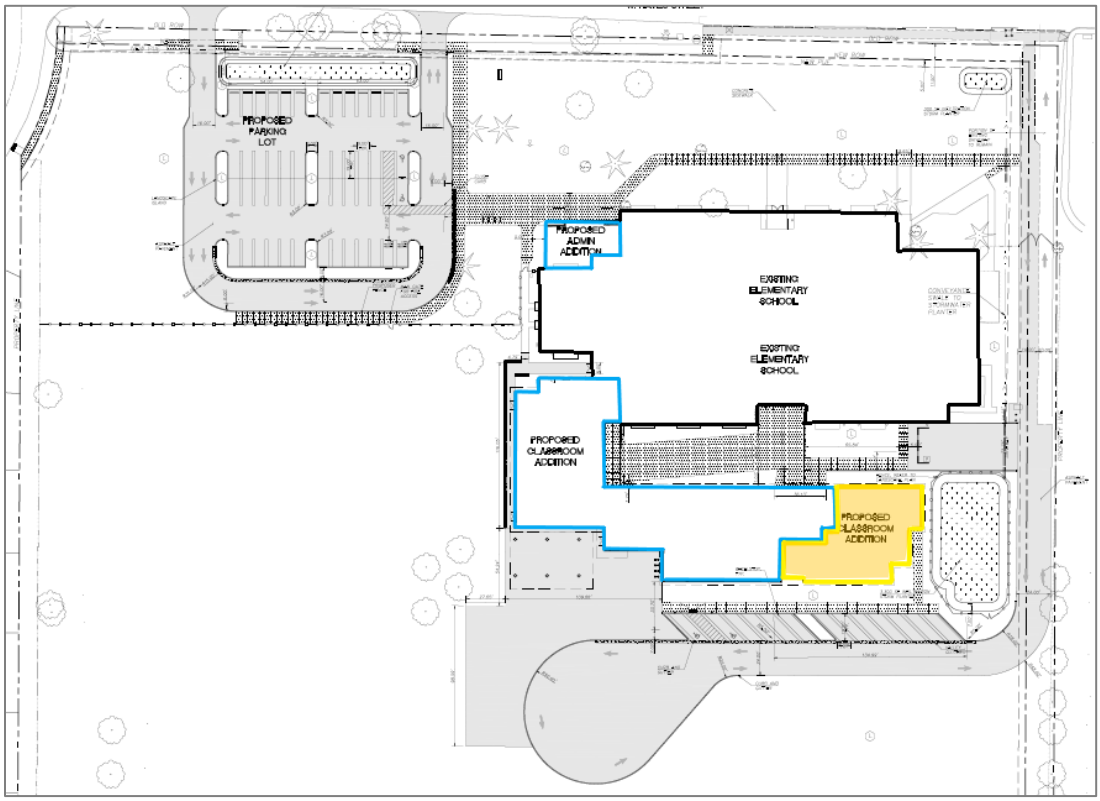
The subject property is located at 1800 W. Hayes Street, at the southeast corner of the intersection of W. Hayes Street and Cascade Drive, located in the Public/Semi-Public (P/SP) zone. Nellie Muir Elementary School occupies the property and currently has 25 classrooms and a student capacity of 500.

On September 26, 2019, the Planning Commission approved a land use package (CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05) for the subject property, which consisted of a two-story addition to the school to replace the existing modular classrooms on-site (no increase to overall student capacity) and upgrades to parking, landscaping, and street frontage.

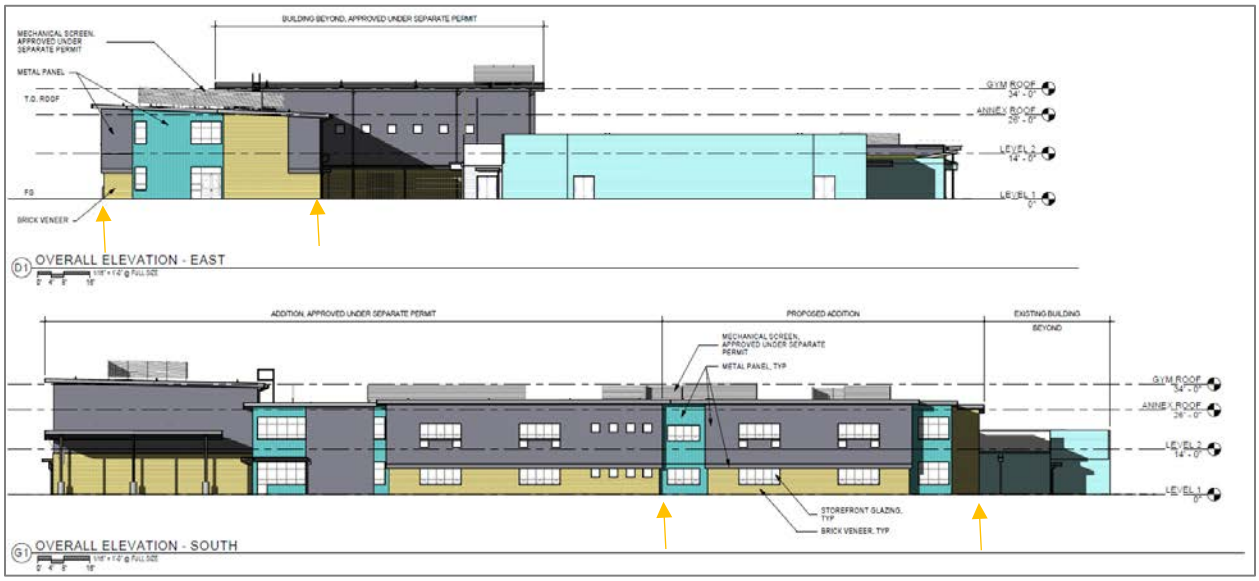
The proposal now before the Planning Commission includes a 9,400 square foot addition for five new classrooms and five auxiliary rooms. According to the applicant's traffic analysis, the proposal will increase total student capacity by 250 – to 750. Minor alterations will be made to landscaping and utilities to serve the addition; no modifications are proposed to the right-of-way improvements and parking and vehicular access layout previously approved.



Vicinity Map



Marked site plan (addition outlined in blue was approved in 2019; yellow area is this proposal)



East and south building elevations (yellow arrows mark the boundaries of this proposal)

Recommendation

Approval with conditions: Staff recommends that the Planning Commission consider the staff report and its attachments and approve the application with the conditions recommended by staff below. The conditions can also be found towards the end of the Analyses & Findings (Attachment 101).

Recommended Conditions of Approval

General

G1. Approval of DR 2020-03 does not abrogate or supersede any of the conditions of approval in the Final Decision for CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05 dated September 26, 2019.

G2. The applicant or successor shall develop the property in substantial conformance with the final plans submitted and approved with these applications, except as modified by these conditions of approval. Were the applicant to revise plans other than to meet conditions of approval or meet building code, even if Planning Division staff does not notice and signs off on building permit issuance, Division staff retains the right to obtain restoration of improvements as shown on an earlier land use review plan set in service of substantial conformance.

G3-PW. Public Works: Follow the attached "Public Works Comments April 13, 2020" (Attachment 101A).

Design Review 2020-03

D1. Fences/fencing: To meet WDO 2.06.02, the applicant shall demonstrate conformance with applicable requirements for the proposed fencing through the fence permit process of 5.01.03.

Actions

The Planning Commission may instead act on the land use application to:
1. Approve per staff recommendations,
2. Approve with modified conditions, or
3. Deny, based on WDO criteria or other City provisions.

If the Planning Commission were to act upon the recommendation, staff would prepare a final decision for approval with the conditions that staff recommends.

Attachment List

101. Analyses & Findings
101A. Public Works Comments April 13, 2020
102. Site plans
103. Applicant's narrative
104. Traffic Impact Analysis

Analyses & Findings

This attachment to the staff report analyzes the application materials and finds through statements how the application materials relate to and meet applicable provisions such as criteria, requirements, and standards. They confirm that a given standard is met or if not met, they call attention to it, suggest a remedy, and have a corresponding recommended condition of approval. Symbols aid locating and understanding categories of findings:

Symbol	*Category*	*Indication*
✔	Requirement (or guideline) met	No action needed
✖	Requirement (or guideline) not met	Correction needed
⊖	Requirement (or guideline) not applicable	No action needed
▲	• Requirement can be met via condition of approval • Requirement (or guideline) met, but might become unmet because of condition applied to meet separate and related requirement that is not met • Plan sheets and/or narrative inconsistent • Other special circumstance benefitting from attention	Revision needed

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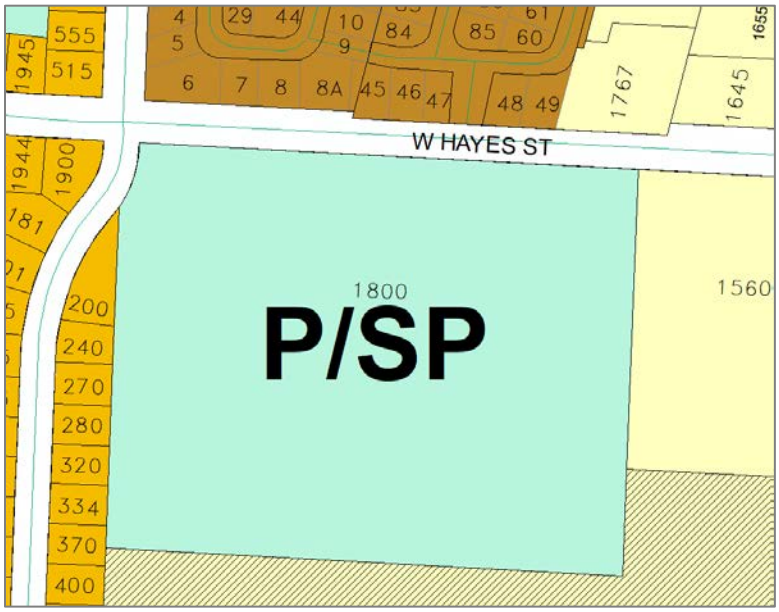
Location

Address	1800 W. Hayes Street
Tax Lot(s)	052W12DD06300
Nearest intersection	W. Hayes Street and S. Cascade Drive

Land Use & Zoning

Comprehensive Plan Land Use Designation	Public Use
Zoning District	Public/Semi-Public (P/SP)
Overlay District(s)	none
Existing Use(s)	Woodburn School District Nellie Muir Elementary School

For context, the subject property and adjacent zoning are illustrated and tabulated below:



Zoning Map Excerpt

Cardinal Direction	*Adjacent Zoning*
North	Easterly: Residential Single Family (RS) Westerly: Medium Density Residential (RM) / Driftwood Mobile Home Park
East	Northerly: RS / St. Mary's Episcopal Church Southerly: Nodal Single Family Residential (RSN) / To-be-developed Smith Creek Development Phase 3B
South	RSN / To-be-developed Smith Creek Phase 3B
West	Retirement Community Single Family Residential (R1S) / Woodburn Senior Estates No. 7 Subdivision

The subject property is not part of any partition or subdivision plat. The Marion County Assessor describes it as "Acres 9.01" and notes that the main school building was built in 1960. The City adopted its first land division requirements later, effective April 16, 1963 as referenced in Woodburn Development Ordinance (WDO) 1.02 "Lot". Staff surmises that the subject property is a legal lot of record.

Section references on the following pages are to the Woodburn Development Ordinance (WDO).

Statutory Dates

The application was submitted on March 13, 2020 with additional materials submitted April 10, 2020. Staff deemed it complete as of April 10, 2020, making the 120-day decision deadline August 8, 2020.

Design Review Provisions

5.03.02 Design Review, Type III
B. Type III Design Review is required for the following:
1. Non-residential structures in residential zones greater than 1,000 square feet in the RS, R1S, RM, and P/SP zones.

The proposal is a 9,400 square feet (sq ft) addition in the P/SP zoning district, making the DR a Type III review.

✔ The requirement is met.

2.04 Industrial and Public Zones

Public/Semi-Public (P/SP) - Site Development Standards Table 2.04D			
Lot Area, Minimum			**No minimum**
Lot Width, Minimum			**No minimum**
Lot Depth, Minimum			**No minimum**
Street Frontage, Minimum			**No minimum**
Front Setback and Setback Abutting a Street, Minimum (feet)			**20** [1]
Side or Rear Setback, Minimum (feet)	**Abutting P/SP zone or a residential zone or use**		**20**
	Abutting a commercial or industrial zone		**0 or 5** [2]
Setback to a Private Access Easement, Minimum (feet)			**5**
Lot Coverage, Maximum			**Not specified** [3]
Building Height, Maximum (feet)	**Primary or accessory structure**	**Outside Gateway subarea**	**35**
		Gateway subarea	**50**
	Features not used for habitation		**No minimum**

1. Measured from the Special Setback (Section 3.03.02), if any.
2. A building may be constructed at the property line, or shall be set back at least five feet.
3. Lot coverage is limited by setbacks, off-street parking, and landscaping requirements.

The P/SP zone has no minimum lot size, width, depth, or street frontage or maximum lot coverage. The site is surrounded on all sides by residential zones. Both front and west side setbacks are unchanged by the proposed addition, while the east side setback is 55 ft and the rear setback exceeds 100 ft. Because the application materials indicate no private access easement, the 5-foot setback is not applicable. The applicant's narrative indicates the addition will have a roof height of 30 ft.

✔ The provisions are met.

2.05 Overlay Districts

⛔ None apply.

2.06 Accessory Structures
2.06.01 Applicability
The following standards are applicable to accessory structures in all zones.
2.06.02 Fences and Walls
C. Height in Non-Residential Zones
1. In commercial, industrial, or public zones, the maximum height of a fence or wall located in a yard abutting a street shall be 6 feet, relative to the ground elevation under the fence or wall. Fence height may increase to 9 feet once flush with the building face, or 20 feet from street right-of-way.
2. Fences and walls may be constructed in the special setback provided the property owner agrees to removal at such time as street improvements are made.
D. Fence Materials
1. Fences and walls shall be constructed of any materials commonly used in the construction of fences and walls, such as wood, stone, rock, or brick, or other durable materials.
2. Chain link fences are acceptable as long as the fence is coated and includes slats made of vinyl, wood or other durable material. Slats may not be required when visibility into features such as open space, natural areas, parks and similar areas is needed to assure visual security, or into on-site areas in industrial zones that require visual surveillance.
3. For manufacturing, assembly, fabricating, processing, packing, storage and wholesale and distribution activities which are the principle use of a building in industrial districts, the preceding standards apply when visible from, and within 20 feet of, a public street.

Sheets L2.01 and L2.02 illustrate and note a 4-ft chainlink fence around the southeastern stormwater facility. Because 5.01.03 requires a fence permit, staff applies *Condition of Approval D1* to confirm conformance through such permit, which is separate from and may come after land use review.

⚠ In order to secure conformance with fence regulations, staff applies *Condition D1.*

2.07 Special Uses

⛔ None apply.

3.01 Streets

The proposal does not include any modifications to the right-of-way (ROW) improvements approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

⛔ The provisions are not applicable.

3.02 Utilities & Easements

The proposal does not include any modifications to the easements approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

⛔ The provisions are not applicable.

3.03 Setbacks and Open Space

As outlined in the analysis for 2.04, the proposal complies with setbacks. Additionally, the proposal does not modify the vision clearance areas of CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

✔ The provisions are met.

3.04 Vehicular Access

The proposal does not include any modifications to vehicular access approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

⛔ The provisions are not applicable.

3.04.05 Traffic Impact Analysis
A. A Traffic Impact Analysis (TIA) may be required by the Director prior to the approval of a City access permit when the Director estimates a development proposal may generate either 100 or more additional, peak hour trips, or 1,000 or more additional daily trips, within ten years of a development application.

The applicant's submitted TIA (Attachment 104) indicated that the proposal would generate over 100 AM peak hour trips. The TIA included three recommendations:

1. Remove the mature trees lining the site's Hayes Street frontage;
2. Maintain vision clearance areas and minimum intersection sight distances for new landscaping and aboveground utilities; and
3. Request that Oregon Department of Transportation (ODOT) review and possibly increase all-red clearance times at the OR 214/Evergreen Road intersection.

The Community Development Director and City Engineer reviewed the TIA and found it satisfactory. City staff forwarded the third recommendation to ODOT staff and received the following comment back from Jamie Schmidt, Region 2 Traffic Operations Engineer:

> "This corridor from Woodland to Oregon Way is up for a [sic] in depth review. We recommend reviewing the green and yellow times at Evergreen and decie [sic] if these should be modified to reduce motorists running the red light, prior to increasing the all red. I will add this corridor to our list to review next and follow up with you once the review is completed."

✔ The provision is met.

3.05 Off-Street Parking and Loading
3.05.02 General Provisions

The proposal does not include any modifications to the parking, loading, and circulation areas approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05, which were shown to meet the general provisions, including provision of wheel stops, double-striping, directional markings, and on-site exterior light fixtures that are full cut-off and limit light encroachment.

✔ The provisions are met.

3.05.03 Off-Street Parking
A. Number of Required Off-Street Parking Spaces
1. Off-street vehicle parking spaces shall be provided in amounts not less than those set forth in this Section (Table 3.05A).
2. Off-street vehicle parking spaces shall not exceed two times the amount required in this Section (Table 3.05A).
B. Accessible parking shall be provided in amounts not less than those set forth in Table 3.05B. The number of accessible spaces shall be included as part of total required vehicle parking spaces.
C. A maximum of 20 percent of the required vehicle parking spaces may be satisfied by compact vehicle parking spaces.
D. Off-street vehicle parking spaces and drive aisles shall not be smaller than specified in this Section (Table 3.05C).
E. All uses that are required to provide 10 or more off-street parking spaces and residential structures with four or more dwelling or living units shall provide a bicycle rack within 50 feet of the main building entrance. The number of required rack spaces shall be one space per ten vehicle parking spaces, with a maximum of 20 rack spaces.

Off-Street Parking Ratio Standards Table 3.05A	
Use [1]	**Parking Ratio - spaces per activity unit or square feet of gross floor area**
COMMERCIAL / PUBLIC	
42. Elementary or middle school	**2/ classroom**
1. The Director may authorize parking for any use not specifically listed in this table. The applicant shall submit an analysis that identifies the parking needs, and a description of how the proposed use is similar to other uses permitted in the zone. The Director may require additional information, as needed, to document the parking needs of the proposed use.	

Accessible Parking Ratio Standards Table 3.05B			
Total Spaces	**Minimum Total Accessible Spaces [1]**	**Minimum Van Accessible Spaces**	**Minimum "Wheelchair User Only" Spaces**
51 to 75	**3**	**1**	
1. "Van Accessible Spaces" and "Wheelchair User Only" are included in "Total Accessible Spaces."			

Currently the school has 25 classrooms. The proposal is for five additional classrooms, bringing the total to 30. The minimum parking requirement is therefore 60 stalls, maximum is 120 stalls, and minimum accessible stalls is three with one marked as "Van Accessible". The site plan indicates a total of 64 standard stalls including four accessible stalls, one of which is noted as a Van Accessible stall. Additionally, the site plan notes 16 bicycle parking spaces.

✔ The provisions are met.

Parking Space and Drive Aisle Dimensions Table 3.05C							
Parking Angle	**Type of Space**	**Stall Width (feet)**	**Curb Length (feet)**	**Stripe Length (feet)**	**Stall to Curb (feet)**	**Drive Aisle Width (feet)**	
						1-way	**2-way**
A		**B**	**C**	**D**	**E**	**F**	**G**
45°	**Standard or Accessible**	**9.0**	**12.7**	**28**	**19.8**	**15.0**	**24.0**
	Compact	**7.5**	**10.6**	**22.5**	**15.9**		
	Car Accessible Aisle	**6.0**	**8.5**	**25.0**	**17.7**		
	Van Accessible Aisle	**8.0**	**11.3**	**27.0**	**19.1**		
90°	**Standard or Accessible**	**9.0**	**9.0**	**19.0**	**19.0**	**24.0**	**24.0**
	Compact	**7.5**	**7.5**	**15.0**	**15.0**	**22.0**	
	Car Accessible Aisle	**6.0**	**6.0**	**19.0**	**19.0**	**24.0**	
	Van Accessible Aisle	**8.0**	**8.0**	**19.0**	**19.0**		

1. **A parking space may occupy up to two feet of a landscaped area or walkway. At least four feet clear width of a walkway must be maintained.**
2. **Space width is measured from the midpoint of the double stripe.**
3. **Curb or wheel stops shall be utilized to prevent vehicles from encroaching on abutting properties or rights-of-way.**
4. **The access aisle must be located on the passenger side of the parking space, except that two adjacent parking spaces may share a common access aisle.**
5. **Where the angle of parking stalls differ across a drive aisle, the greater drive aisle width shall be provided.**

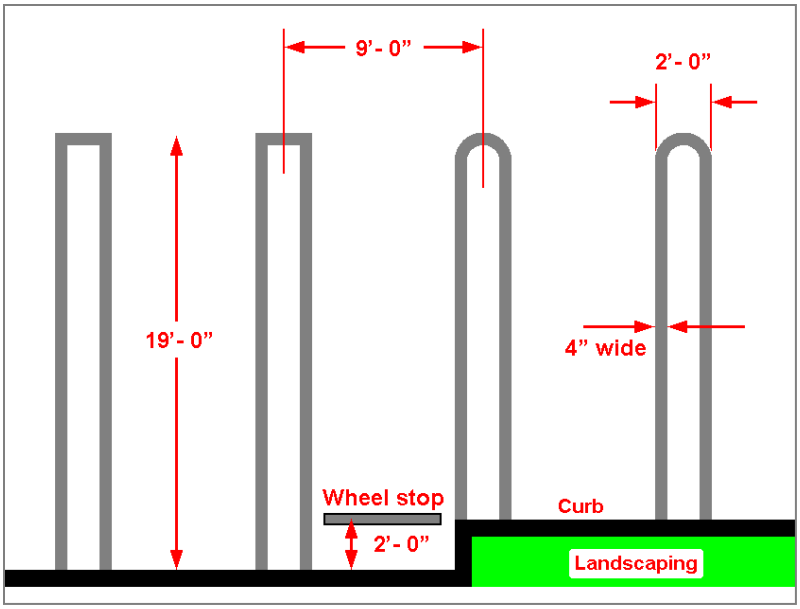


Figure 3.05C - Parking Space Striping

The proposal does not include any modifications to parking layout approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05, which was shown to meet the dimensional requirements of Table 3.05C as well as the double-striping and curbing requirements illustrated in Figure 3.05C.

✔ The provisions are met.

3.05.04 Off-Street Loading

Because the subject property is zoned P/SP, the table is not applicable.

⛔ The provisions are not applicable.

3.06 Landscaping
3.06.02 General Requirements

The landscape plans illustrate and note that the general provisions are met, including irrigation, curbing, and appropriateness of plant materials.

✔ The requirements are met.

3.06.03 Landscaping Standards
A. Street Trees
B. Site landscaping shall comply with Table 3.06A.

Planting Requirements Table 3.06A		
Location	**Planting Density, Minimum**	**Area to be Landscaped, Minimum**
Setbacks abutting a street	**1 PU/15 square feet**	**Entire setback excluding driveways**
Buffer yards	**1 PU/20 square feet**	**Entire yard excluding off-street parking and loading areas abutting a wall**
Other yards	**1 PU/50 square feet**	**Entire yard, excluding areas subject to more intensive landscaping requirements and off-street parking and loading areas**
Off-street parking and loading areas	• **1 small tree per 10 parking spaces; or [1]** • **1 medium tree per 15 parking spaces; or [1]** • **1 large tree per 25 parking spaces [1]** **and** • **1 PU/20 square feet excluding required trees [2]**	• **RS, R1S, RSN, RM, RMN, P/SP, CO, CG and MUV zones: 20% of the paved surface area for off-street parking, loading and circulation** • **DDC, NNC, IP, IL, and SWIR zones: 10% of the paved surface area for off-street parking, loading and circulation** • **Landscaping shall be within or immediately adjacent to paved areas**
Common areas, except those approved as natural common areas in a PUD	**3 PU/50 square feet**	**Entire common area**

1. **Trees shall be located within off-street parking facilities, in proportion to the distribution of the parking spaces.**
2. **Required landscaping within a setback abutting a street or an interior lot line that is within 20 feet of parking, loading and circulation facilities may also be counted in calculating landscaping for off-street parking, loading and circulation areas.**

Plant Unit (PU) Value Table 3.06B		
Material	**Plant Unit (PU) Value**	**Minimum Size**
1. Significant tree [1]	**15 PU each**	**24" Diameter**
2. Large tree (60-120 feet high at maturity) [1]	**10 PU each**	**10' Height or 2" Caliper**
3. Medium tree (40-60 feet high at maturity [1]	**8 PU each**	**10' Height or 2" Caliper**
4. Small tree (18-40 feet high at maturity) [1]	**4 PU each**	**10' Height or 2" Caliper**

Plant Unit (PU) Value Table 3.06B		
Material	**Plant Unit (PU) Value**	**Minimum Size**
5. Large shrub (at maturity over 4' wide x 4' high) [1]	**2 PU each**	**3 gallon or balled**
6. Small to medium shrub (at maturity maximum 4' wide x 4' high) [1]	**1 PU each**	**1 gallon**
7. Lawn or other living ground cover [1]	**1 PU / 50 square feet**	
8. Berm [2]	**1 PU / 20 lineal feet**	**Minimum 2 feet high**
9. Ornamental fence [2]	**1 PU / 20 lineal feet**	**2½ - 4 feet high**
10. Boulder [2]	**1 PU each**	**Minimum 2 feet high**
11. Sundial, obelisk, gnomon, or gazing ball [2]	**2 PU each**	**Minimum 3 feet high**
12. Fountain [2]	**3 PU each**	**Minimum 3 feet high**
13. Bench or chair [2]	**0.5 PU / lineal foot**	
14. Raised planting bed constructed of brick, stone or similar material except CMU [2]	**0.5 PU / lineal foot of greatest dimension**	**Minimum 1 foot high, minimum 1 foot wide in least interior dimension**
15. Water feature incorporating stormwater detention [2]	**2 per 50 square feet**	**None**
1. Existing vegetation that is retained has the same plant unit value as planted vegetation. **2. No more than twenty percent (20%) of the required plant units may be satisfied by items in lines 8 through 15.**		

The proposal does not include any modifications to the street trees approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

The proposal modifies the landscaping area between the southerly parking lot and the building, which is an "Other yard" per Table 3.06A, from a minimum of 287 PUs (required landscaping per the CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05 approval) to a new minimum of 184 PUs due to the additional building area reducing the landscape area. The landscape plans note and illustrate the proposal exceeding the minimum with 311 PUs proposed.

✔ The requirements are met.

3.06.05 Screening

⛔ The proposal does not require any screening.

3.07 Architectural Design

3.07.06 Standards for Non-Residential Structures in Residential, Commercial and Public/Semi-Public Zones

B. Architectural Design Guidelines

1. Mass and Bulk Articulation Guidelines

a. Building facades visible from streets and public parking areas should be articulated, in order to avoid the appearance of box-like structures with unbroken wall surfaces.

b. The appearance of exterior walls should be enhanced by incorporating three-dimensional design features, including the following:

(1) Public doorways or passage ways through the building

(2) Wall offsets or projections

(3) Variation in building materials or textures

(4) Arcades, awnings, canopies or porches

2. Materials and Texture Guidelines

a. Building exteriors should exhibit finishes and textures that reduce the visual monotony of bulky structures and large structural spaces. Building exteriors should enhance visual interest of wall surfaces and harmonize with the structural design.

b. The appearance of exterior surfaces should be enhanced by incorporating the following:

(1) At least 30% of the wall surface abutting a street should be glass.

(2) All walls visible from a street or public parking area should be surfaced with wood, brick, stone, designer block, or stucco, or with siding that has the appearance of wood lap siding.

(3) The use of plain concrete, plain concrete block, corrugated metal, plywood, T-111 and sheet composite siding as exterior finish materials for walls visible from a street or parking area should be avoided.

(4) The color of at least 90 percent of the wall, roof and awning surface visible from a street or public parking area should be an "earth tone" color containing 10 parts, or more of brown or a "tinted" color, containing 10 parts or more white.

(5) Fluorescent, "day-glo," or any similar bright color shall not be used on the building exterior.

3. Multi-Planed Roof Guidelines

a. The roof line at the top of a structure should establish a distinctive top to the building.

b. The roof line should not be flat or hold the same roof line over extended distances. Rather, the roof line should incorporate variations, such as:

(1) Offsets or jogs in the plane of the roof;

(2) Changes in the height of the exterior wall for flat roof buildings, including parapet walls with variations in elevation or cornices

4. Roof-Mounted Equipment Guidelines

All roof-mounted equipment, except solar collectors, should be screened from view by:

a. Locating roof-mounted equipment below the highest vertical element of the building, or

b. Screening roof-mounted equipment using materials of the same character as the structure's basic materials

5. Weather Protection Guidelines

All building faces abutting a street or a public parking area should provide weather protection for pedestrians. Features to provide this protection should include:

a. A continuous walkway at least eight feet wide along the face of the building utilizing a roof overhang, arcade, awnings or canopies

b. Awnings and canopies that incorporate the following design features:
(1) Angled or curved surfaces facing a street or parking area
(2) A covering of fabric, or matte finish vinyl
(3) A constant color and pattern scheme for all buildings within the same development
(4) No internal back lighting
6. Solar Access Protection
Obstruction of existing solar collectors on abutting properties by site development should be minimized.
C. Building Location Guidelines
1. Within the prescribed setbacks, building location and orientation should compliment abutting uses and development patterns.
2. The maximum yard abutting a street should be 150 feet.

The elevations show largely what the provisions describe and are consistent with the design approved via CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05.

✔ The requirements are met.

3.08 Partitions and Subdivisions

⛔ The proposal does not include a partition or subdivision.

3.09 Planned Unit Developments

⛔ The proposal does not include a planned unit development.

3.10 Signs

⛔ The proposal does not include any signage.

Recommended Conditions of Approval

General

G1. Approval of DR 2020-03 does not abrogate or supersede any of the conditions of approval in the Final Decision for CU 2019-05, DR 2019-07, EXCP 2019-03, & VAR 2019-05 dated September 26, 2019.

G2. The applicant or successor shall develop the property in substantial conformance with the final plans submitted and approved with these applications, except as modified by these conditions of approval. Were the applicant to revise plans other than to meet conditions of approval or meet building code, even if Planning Division staff does not notice and signs off on building permit issuance, Division staff retains the right to obtain restoration of improvements as shown on an earlier land use review plan set in service of substantial conformance.

G3-PW. Public Works: Follow the attached "Public Works Comments April 13, 2020" (Attachment 101A).

Design Review 2020-03

D1. Fences/fencing: To meet WDO 2.06.02, the applicant shall demonstrate conformance with applicable requirements for the proposed fencing through the fence permit process of 5.01.03.

Notes to the Applicant

The following are not planning / land use / zoning conditions of approval, but are notes for the applicant to be aware of and follow:

1. Records: Staff recommends that the applicant retain a copy of the subject approval.

2. Student capacity: The approval is for an increase in student capacity of 250, from 500 to 750.

3. Fences, fencing, & free-standing walls: The approval excludes any fences, fencing, & free-standing walls, which are subject to WDO 2.06 and the permit process of 5.01.03.

4. Signage: The approval excludes any signage, which is subject to WDO 3.10 and the permit process of 5.01.10.

5. Other Agencies: The applicant, not the City, is responsible for obtaining permits from any county, state and/or federal agencies, which may require approval or permit, and must obtain all applicable City and County permits for work prior to the start of work and that the work meets the satisfaction of the permit-issuing jurisdiction. The Oregon Department of Transportation (ODOT) might require highway access, storm drainage, and other right-of-way (ROW) permits. All work within the public ROW or easements within City jurisdiction must conform to plans approved by the Public Works Department and must comply with a Public Works Right-of-Way permit issued by said department. Marion County plumbing permits must be issued for all waterline, sanitary sewer, and storm sewer work installed beyond the Public Right-of-Way, on private property.

6. Inspection: The applicant shall construct, install, or plant all improvements, including landscaping, prior to City staff verification. Contact Planning Division staff at least three (3) City business days prior to a desired date of planning and zoning inspection of site improvements. This is required and separate from and in addition to the usual building code and fire and life safety inspections. Note that Planning staff are not primarily inspectors, do not have the nearly immediate availability of building inspectors, and are not bound by any building inspector's schedule or general contractor convenience.

7. Stormwater management: The storm sewer system and any required on-site detention for the development must comply with the City Storm Water Management Plan, Public Works storm water practices and the Storm Drainage Master Plan.

8. Public Works Review: Staff performs final review of the civil plans during the building permit stage. Public infrastructure must be constructed in accordance with plans approved by the City, as well as current Public Works construction specifications, Standard Drawings, Standard Details, and General Conditions.

9. Franchises: The applicant provides for the installation of all franchised utilities and any required easements.

10. Water: All water mains and appurtenances must comply with Public Works, Building Division, and Woodburn Fire District requirements. Existing water services lines that are not going to be use with this new development must be abandoned at the main line. The City performs required abandonment of existing water facilities at the water main with payment by the property owner. All taps to existing water mains must be done by a "Hot Tap" method and by approved City of Woodburn Contractors. The applicant shall install the proper type of backflow preventer for all domestic, lawn irrigation and fire sprinkler services. The backflow devices and meters shall be located near the city water main within an easement, unless approved otherwise by Public Works. Contact Byron Brooks, City of Woodburn Water Superintendent, for proper type and installation requirements of the backflow device at (503) 982-5380.

11. Grease Interceptor/Trap: If applicable, a grease trap would need to be installed on the sanitary service, either as a central unit or in the communal kitchen/food preparation area. Contact Marion County Plumbing Department for permit and installation requirements, (503) 588-5147.

12. Fire: Fire protection requirements must comply with the Woodburn Fire District standards and requirements. Place fire hydrants within the public ROW or public utility easement and construct them in accordance with Public Works Department requirements, specifications, standards, and permit requirements. Fire protection access, fire hydrant locations and fire protection issues must comply with current fire codes and Woodburn Fire District standards. See City of Woodburn Standard Detail No. 5070-2 Fire Vault. The fire vault must be placed within the public right-of-way or public utility easement.

13. SDCs: The developer pays System Development Charges prior to building permit issuance. Staff will determine the water, sewer, storm and parks SDCs after the developer provides a complete Public Works Commercial/Industrial Development information sheet.

DR 2020-03 Nellie Muir Elementary School
Building Addition
Public Works Comments

April 13, 2020

REQUIRED PRIOR TO BUILDING PERMIT ISSUANCE

General Conditions:

1. All work within the public rights-of-way or easements within city jurisdiction shall require plan approval and permit issuance from the Public Works Department. All work in the right-of-way or public utility easement shall be performed in accordance with plans stamped "Approved" by the City Public Works Department and in compliance with City's Standard Specifications, Standard Details and Drawings, and Oregon 2018 Standard Specifications for Construction.

2. The applicant, not the city, is responsible for obtaining permits from any county, state and/or federal agencies, which may require approval or permit.

3. System Development fees shall be paid prior to building permit issuance. The Water, Sewer, Storm and Parks SDC fees will be determined after the applicant provides a complete Commercial/Industrial Development information sheet.

4. The Civil Plans shall be stamped by a Professional Engineer.

5. Applicant to provide a final storm analysis report stamped by a Professional Engineer.

6. The applicant shall complete a City of Woodburn Nonresidential Wastewater Survey and comply with the conditions of the Wastewater Permit. Contact Carol Leimbach, City of Woodburn Industrial Waste Coordinator, at 503-982-5283

7. Fire protection requirements shall comply with the Woodburn Fire District standards and requirements. Fire protection access, fire hydrant locations and fire protection issues shall comply with current fire codes and Woodburn Fire District standards.

Engineering & Project Delivery
190 Garfield Street • Woodburn, Oregon 97071
Ph. 5030-982-5240 • Fax 503-982-5242

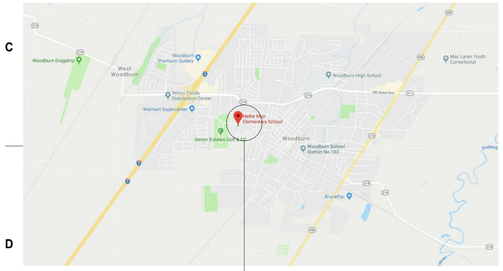
NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

DRAWING KEYNOTING SYSTEM

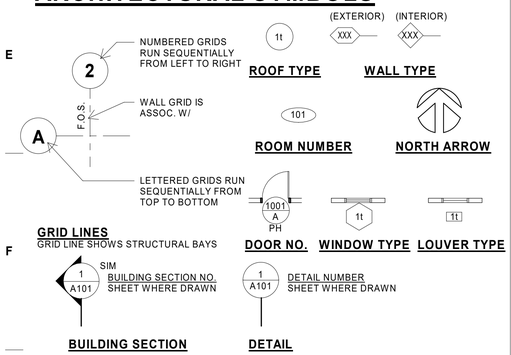
A keynoting system is used on the drawings for materials, references and notes. Refer to the keynote legend on the drawing for the information which relates to each keynote on the respective drawing.
Each keynote consists of a 6-digit number followed by a period and a letter suffix. The 6-digit number relates to the specifications section which generally covers the item that is referenced, and a letter suffix identifies the specific reference notation used on the drawing. The letter suffix does not relate to any corresponding reference letter in the specifications.
The organization of the keynoting system on the drawings, with the keynote reference numbers related to the specification sections numbering system, shall not control the contractor in dividing the work among subcontractors or in establishing the extent of the work to be performed by any trade.
Material Key Legend on each sheet is for ease of reference. The Architect's current Master List, which includes Keynotes not used on this project, is included in the specifications following Section 014200 - References.

VICINITY MAP



Nellie Muir Elementary School
1800 W. Hayes Street
Woodburn, OR 97071

ARCHITECTURAL SYMBOLS



ABBREVIATIONS

AB	ANCHOR BOLT
ABS	ACRYLONITRLIE-BUTADIENE-STYRENE (PLASTIC)
ACM	ASBESTOS CONTAINING MATERIAL
ACP	ACOUSTICAL CEILING PANEL
ACP	ASPHALT CONCRETE PAVEMENT
ACT	ACOUSTICAL TILE
AD	AREA DRAIN
ADJ	ADJACENT
ADJT	ADJUSTABLE
ADP	ACOUSTICAL DIFFUSION PANEL
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
AP	ACCORDION PARTITION
AR	ABUSE RESISTANT
ARCH	ARCHITECT (URAL)
ARGWB	ABUSE RESISTANT GYPSUM WALL BOARD
ATB	ASPHALT TREATED BASE
AWP	ACOUSTICAL WALL PANEL
BIT	BITUMINOUS
BL	BLINDS
BLDG	BUILDING
BLK'G	BLOCKING
BM	BEAM
BMU	BRICK MASONRY UNIT
BOT	BOTTOM
BR	BRICK
BUR	BUILT UP ROOFING
C/S	CLOCK/SPEAKER
CAB	CABINET
CB	CATCH BASIN
CG	CORNER GUARD
CHB	CHALKBOARD
CJ	CONTROL JOINT
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CLG	CEILING
CLR	CLEAR (ANCE)
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS/CONTINUATION
CONTR	CONTRACTOR
CORR	CORRIDOR
COVE SV	COVE SHEET VINYL
CPT	CARPET
CR	CLASSROOM
CT	CERAMIC TILE
CTSK	COUNTER SINK
CUSP	CUSPIDOR
CUST	CUSTODIAN
CW	COLD WATER
D	DEEP
DBL	DOUBLE
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER
E	EAST
EA	EACH
EF	EXHAUST FAN
EIFS	EXT. INSUL. FINISH SYSTEM
EJ	EXPANSION JOINT
ELECT	ELECTRIC (AL)
ELEV	ELEVATION
ELEV	ELEVATOR
EM	ENTRY MAT
EMC	ELECTRO MAGNETIC CLOSER
EMH	ELECTRO MAGNETIC HOLDER
EP	EPOXY PAINT
EPNL	ELECTRICAL PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EPOXY RESIN
ESR	ELASTOMERIC SHEET ROOFING
EXIST	EXISTING
EXPS	EXPOSED STRUCTURE
EXT	EXTERIOR
FA	FIRE ALARM
FCB	FIBER CEMENT BOARD
FCP	FIBER CEMENT PANELS
FCS	FIBER CEMENT SIDING
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FG	FINISH GRADE
FGP	FIRE ALARM GRAPHIC PANEL
FH	FIRE HYDRANT
FIN	FINISH (ED)
FLR	FLOOR
FO	FACE OF _____
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FPP	FOLDING PANEL PARTITION
FR	FALL RESTRAINT
FRCP	FIBER REINFORCED CEMENT PANEL
FRP	FIBER REINFORCE PANEL
FRT	FIRE RESISTANT TREATMENT
FS	FIRE STOP (ING)
FT	FOOT, FEET
FTG	FOOTING
FURR	FURRING
FW	FOLDING WALL
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACT (OR)
GCMU	GLAZED CMU
GL	GLASS, GLAZING
GLB	GLU-LAM BEAM
GSH	GYPSUM SHEATHING
GVL	GRAVEL
GWB	GYPSUM WALL BOARD
HB	HOSE BIB
HC	HANDICAP
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HANDRAIL
HT	HEIGHT
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HW	HOT WATER
HWH	HOT WATER HEATER/TANK
ID	INSIDE DIAMETER
IGL	INSULATED GLASS
IMB	INTERACTIVE MEDIA BOARD
INCL	INCLUDE (ED, ING)
INSUL	INSULATE (D) (ION)
INT	INTERIOR
IPT	INTUMESCENT PAINT
IR	IMPACT RESISTANT
IRGWB	IMPACT RESISTANT GYPSUM WALL BOARD
JST	JOIST
JT	JOINT
KO	KNOCK OUT
KS	KNEE SPACE
LAB	LABORATORY
LAM	LAMINATE (D)
LAV	LAVATORY
LF	LIN FOOT (FEET)
LGL	LAMINATED GLASS
LH	LEFT HAND
LIN	LINOLEUM
LT	LIGHT
MAR	MODIFIED ASPHALT ROOFING
MAT	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MDF	MDF
MDO	MEDIUM DENSITY OVERLAY PLYWOOD
MECH	MECHANICAL
MFR	MANUFACTURE
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MTL	METAL
MW	MICROWAVE
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NSV	NON-SKID SHEET VINYL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFD	OVERFLOW DRAIN
OH	OVER HEAD
OP	OPERABLE PARTITION
OPG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PAR	PARALLEL
PART	PARTITION
PB	PEGBOARD (TEMPERED HARDBOARD)
PBG	PROTECTIVE BUMPER GUARD
PC	PRECAST
PERF	PERFORATE (D)
PERP	PERPENDICULAR
PH	PANIC HARDWARE
PL	PROPERTY LINE
PL	PLATE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR
PRT	PRESSURE TREATED
PS	PROJECTION SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PTR	PAPER TOWEL DISPENSER / RECEPTACLE
PVC	POLY VINYL CLORIDE (PLASTIC)
PWC	PROTECTIVE WALLCOVERING
PWP	PROTECTIVE WALL PANELS
QT	QUARRY TILE
R	RISER
RAU	RUBBERIZED ASPHALT UNDERLAYMENT
RB	RESILIENT BASE
RD	ROOF DRAIN
REF	REFERENCE
REF	REFRIGERATOR
REINF	REINFORCE (D)
REQ	REQUIRED
RES.T	RESILIENT TREADS, RISERS, TILE (LANDINGS)
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RT	RIGHT
S	SINK
S	SOUTH
S/H	SEALER/HARDENER
SAC	SUSPENDED ACOUSTICAL CEILING
SC	SPECIAL COATING
SCHED	SCHEDULE (D)
SCMU	SOUND BLOCK CMU
SD	SOAP DISPENSER
SEC	SECTION
SF	SQUARE FOOT (FEET)
SH	SHEATHING
SHR	SHOWER
SHT	SHEET
SIM	SIMILAR (CONDITIONS VARY)
SL	SLOPE
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SPEC	SPECIFIED / SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
ST	STAIN
ST/L	STAIN & LACQUER
ST/V	STAIN & VARNISH
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPEND (ED)
SV	SHEET VINYL
T	TREAD
T/	TOP OF _____
TB	TOWEL BAR
TBB	TILE BACKER BOARD
TBD	TACKBOARD
TC	TERPOLYMER COATING
TEL	TELEPHONE
TF	TRANSPARENT FINISH
TG	TONGUE & GROOVE
TGL	TEMPERED GLASS
THK	THICK
TO	TOP OF _____
TRSP	TRANSLUCENT SKYLIGHT PANEL (S) (ING)
TRWP	TRANSLUCENT WALL PANEL (S) (ING)
TTD	TOILET TISSUE DISPENSER
TWP	TACKABLE WALL PANEL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VAR	VARIES
VB	VAPOR BARRIER/RETARDER
VCT	VINYL COMPOSITION TILE
VEN	VENEER
VERT	VERTICAL
VIF	VERIFY IN FIELD
VP	VENEER PLASTER
VR	VAPOR RETARDER
VRB	VENTED RUBBER BASE
VS	VARNISH SYSTEM
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
W/O	WITHOUT
WD	WOOD
WD	WOOD FLOORING
WGL	WIRE GLASS
WIN	WINDOW
WM	WIRE MESH
WMP	WIRE MESH PARTITION
WR	WATER RESISTANT
WRGWB	WATER RESISTANT GYPSUM WALL BOARD
WSCT	WAINSCOT
WWF	WELDED WIRE FABRIC
WWM	WOVEN WIRE MESH
YD	YARD

INDEX OF DRAWINGS

PROJECT TEAM

OWNER
WOODBURN SCHOOL DISTRICT
1390 MERIDIAN DRIVE
WOODBURN, OR 97071
PHONE: 503.981.9555
CONTACT: IVAN LEIGH, FACILITIES OPERATIONS MANAGER

CONSTRUCTION MANAGER
JJ HENRI COMPANY
1800 BLANKENSHIP ROAD #200
WEST LINN, OR 97068
PHONE: 503.702.2752
CONTACT: JOHN O. HENRI, PROJECT MANAGER
SEAN OLSON, CONSTRUCTION MANAGER
ERIC CUMMINGS, CONSTRUCTION ENGINEER

ARCHITECT
BLRB ARCHITECTS P.S.
621 SW MORRISON, SUITE 950
PORTLAND, OR 97205
PHONE: 503.595.0270
CONTACT: RICHARD HIGGINS, PRINCIPAL IN CHARGE
JASON KARAM, PROJECT MANAGER
ANGELA CROOKS, JOB CAPTAIN

CIVIL ENGINEER
HUMBER DESIGN GROUP, INC
117 SE TAYLOR STREET, SUITE 001
PORTLAND, OR 97214
PHONE: 503.946.6690
CONTACT: WILLIAM BRANNAN, PROJECT MANAGER

LANDSCAPE ARCHITECT
CARDNO
6720 SW MACADAM AVENUE, SUITE 200
PORTLAND, OR 97219
PHONE: 503.419.2500
CONTACT: BECKY STRICKLER, PLA

ELECTRICAL ENGINEER
LANDIS CONSULTING
6446 FAIRWAY AVENUE, SUITE 220
SALEM, OR 97306
PHONE: 503.584.1576
CONTACT: BEN PERRY, SENIOR PROJECT MANAGER

PROJECT DATA

PROJECT ADDRESS	1800 W. HAYES STREET WOODBURN, OR 97071
TAX PARCEL NO.	052W12DD06300
GOVERNING CODE	2019 OSSC
EXISTING ZONING CLASSIFICATION	P/SP (PUBLIC AND SEMI-PUBLIC)
BUILDING USE	ELEMENTARY SCHOOL
AREA OF BUILDING	
EXISTING SCHOOL BUILDING	34,931 SF
ADDITION (UNDER SEPARATE PERMIT)	25,700 SF
PROPOSED ADDITION	9,400 SF
OCCUPANCY GROUPS	E (EDUCATIONAL) WITH ACCESSORY ASSEMBLY OCCUPANCIES PER IBC 303.1
TYPE OF CONSTRUCTION	TYPE V-B NON-SPRINKLERED (EXISTING BUILDING) TYPE V-B SPRINKLERED (NEW ADDITIONS)
SEWER DISTRICT	CITY OF WOODBURN
WATER DISTRICT	CITY OF WOODBURN

MARION COUNTY HEALTH CODE

MARION COUNTY HEALTH DEPARTMENT
976 N. PACIFIC HWY.
WOODBURN, OR 97071
PHONE: 503-981-5851 OR 503-566-2901 FAX: 503-566-2977

PROJECT SCOPE

ARCHITECTURAL
1. PROVIDE 9,400 SF TO ADDITION PREVIOUSLY APPROVED (UNDER SEPARATE PERMIT). ADDITION WILL INCLUDE THE FOLLOWING SPACES:
   (5) CLASSROOMS
   (1) BOOK ROOM
   (1) TEACHER RESOURCE ROOM
   (1) STAFF WORK ROOM
   (2) SMALL GROUP ROOMS + EXTENDED LEARNING AREAS

ATTACHMENT 102
EXHIBIT A

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

BLRB architects

TACOMA | SPOKANE | PORTLAND | BEND

1250 Pacific Ave Suite 700 WA 98402 253.627.5599
505 W Riverside Suite 500 WA 99201 509.252.5060
621 SW Morrison St. Suite 950 OR 97205 503.595.0270
404 SW Columbia Suite 120 OR 97702 541.330.6566
BLRB.com

Drawing Title:
DATA SHEET

Date : 11/12/2019
Drawn By : JK
Revised : 11/08/19
Project No. 1746P

Stamp

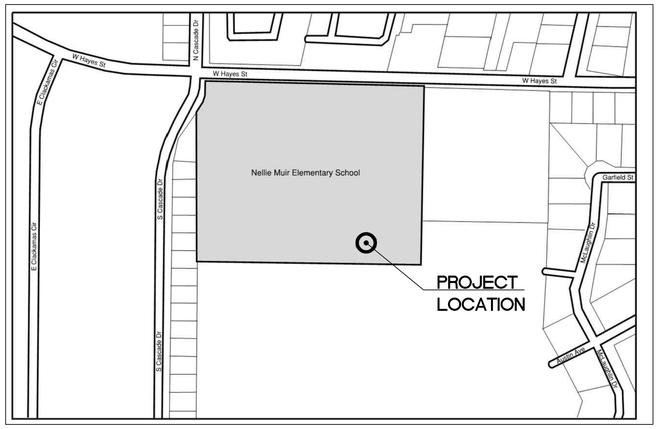
Sheet No.
DR0.01
of

BLRB ARCHITECTS, P.S.

3/12/2020 10:16:07 AM

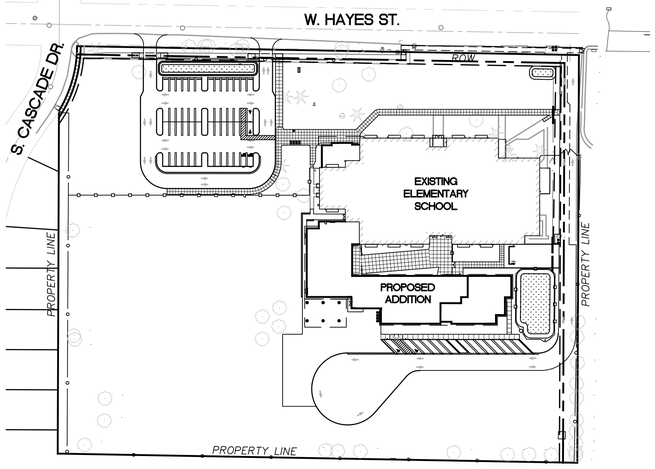
NELLIE MUIR ELEMENTARY SCHOOL

1800 W HAYES ST. WOODBURN, OREGON 97071



VICINITY MAP

NTS



SITE MAP

SCALE: 1"=100'

GENERAL NOTES

1. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF THE CITY OF WOODBURN AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" AS PREPARED BY APWA AND THE OREGON STATE PLUMBING CODE, LATEST EDITION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING ALL WORK WITH THE OWNER.
3. ALL PERMITS AND LICENSES NECESSARY FOR THE EXECUTION AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
4. ALL EXCAVATORS MUST COMPLY WITH THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER, INCLUDING NOTIFICATION OF ALL OWNERS OF UNDERGROUND UTILITIES AT LEAST 48 BUSINESS DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090 AND ORS 757.541 TO 757.57. THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-232-1987 AND THE LOCAL "CALL 48 HOURS BEFORE YOU DIG NUMBER" IS 503-246-6699.
5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS IS FOR INFORMATION ONLY AND IS NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL VERIFY ELEVATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF HUMBER DESIGN GROUP. POTHOLE ALL CROSSINGS AS NECESSARY BEFORE CONSTRUCTION TO PREVENT GRADE AND ALIGNMENT CONFLICTS.
6. THE ENGINEER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
7. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE USED AS NEEDED. THE CONTRACTOR SHALL ADHERE TO THE CITY OF WOODBURN EROSION CONTROL STANDARDS AS NECESSARY FOR EROSION CONTROL MEASURES.
8. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL ROADWAYS CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS.
9. BEFORE BACKFILLING ANY SUBGRADE UTILITY IMPROVEMENTS CONTRACTOR TO SURVEY AND RECORD MEASUREMENTS OF EXACT LOCATION AND DEPTH.
10. CONTRACTOR TO ADJUST ALL EXISTING OR NEW FLEXIBLE UTILITIES (WATER, GAS, TV, TELEPHONE, ELEC., ETC.) TO CLEAR ANY EXISTING OR NEW GRAVITY DRAIN UTILITIES (STORM DRAIN, SANITARY SEWER, ETC.) IF CONFLICT OCCURS.
11. HUMBER DESIGN GROUP ASSUMES NO RESPONSIBILITY FOR ANY DISCREPANCIES ENCOUNTERED BETWEEN THE CURRENT FIELD CONDITIONS AND THE INFORMATION SHOWN ON THE SURVEY MAP. THE CONTRACTOR IS RESPONSIBLE FOR REPORTING ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.

GRADING NOTES

1. ALL SURFACES SHALL HAVE MINIMUM 2.0% SLOPE AND SHALL MEET EXISTING GRADES SMOOTHLY AND EVENLY. MAINTAIN CONSTANT SLOPES UNLESS OTHERWISE NOTED ON PLANS.
2. CONTRACTOR RESPONSIBLE FOR MAINTAINING EXISTING SITE AND DRAINAGE PATTERNS AND PROTECTION OF EXISTING ENGINEERED DRAINAGE FACILITIES.
3. CONTRACTOR SHALL EXERCISE CARE IN ALL OPERATIONS TO PROTECT EXISTING UNDERGROUND UTILITIES. ANY DAMAGE RESULTING FROM THIS WORK MUST BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
4. CONTRACTOR SHALL REPLACE AND RESTORE AREAS NOT SCHEDULED FOR CONSTRUCTION TO THEIR ORIGINAL CONDITION AND TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
5. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS ADJACENT TO EXISTING TREES IN ORDER TO MINIMIZE DISTURBANCES TO TREE ROOTS. CONTRACTOR SHALL INSTALL TREE PROTECTION FENCING AS INDICATED ON PLANS OR AT DRIP-LINE OF EXISTING TREES. SEE TREE PROTECTION SPECIFICATIONS AND NOTES. NO PARKING VEHICLES UNDER TREES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND DISPOSAL OF EXISTING AC, CURBS, SIDEWALKS AND OTHER SITE ELEMENTS WITHIN THE PROJECT AREA. DISPOSE OF DEMOLISHED ITEMS OFF-SITE IN A LEGAL MANNER.
7. ACTUAL LINES AND GRADES OF EXCAVATION SHALL BE STAKED BY QUALIFIED SURVEYOR, BASED ON DIMENSIONS AND BEARINGS AS SHOWN ON THE PLANS CONTRACTOR SHALL RETAIN A SURVEYOR LICENSED IN OREGON.
8. ADJUST ALL INCIDENTAL STRUCTURES, MANHOLE LIDS, VALVE BOXES, ETC. TO FINISH GRADE.
9. GRADING PLAN SHALL BE DESIGNED TO NOT ADVERSELY IMPACT HISTORIC SURFACE DRAINAGE FLOWS TO OF FROM ADJACENT PROPERTIES.

PAVING NOTES

1. STREET SIGNS AND STRIPING TO BE INSTALLED BY THE CONTRACTOR PER MUTCD.
2. ALL PAVEMENT SHALL BE CUT STRAIGHT PRIOR TO PAVING. EXISTING PAVEMENT SHALL BE REMOVED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FOR BOTH RIDE AND DRAINAGE.
3. PAVING WILL NOT BE ALLOWED DURING WET OR COLD WEATHER, PER CITY OF WOODBURN TECHNICAL SPECIFICATIONS.
4. CONTRACTOR TO INSTALL ADA WHEELCHAIR RAMPS AND SIDEWALKS AS SHOWN ON PLANS AND ON THE DETAIL SHEETS.
5. ALL CONSTRUCTION WITHIN THE CITY OF WOODBURN RIGHT-OF-WAY SHALL HAVE AN APPROVED TRAFFIC CONTROL PLAN AND RIGHT-OF-WAY PERMIT PRIOR TO ANY ON-SITE CONSTRUCTION ACTIVITY.

MATERIAL NOTES

1. MATERIALS SHALL BE NEW. THE USE OF MANUFACTURER'S NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, AND USEFULNESS. PROPOSED SUBSTITUTIONS WILL REQUIRE WRITTEN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO INSTALLATION.
2. ALL ON-SITE WATER, STORM AND SANITARY SEWER PIPE MATERIALS AND FITTINGS SHALL CONFORM TO THE OREGON STATE PLUMBING SPECIALTY CODE, LATEST EDITION.
3. ON-SITE WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 52, CONFORMING TO AWWA C151. WATER MAIN BETWEEN THE METER VAULT AND BACKFLOW VAULT SHALL BE COPPER TUBING CONFORMING TO ASTM B88, SILVER SOLDER.
4. ON-SITE STORM SEWER PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D3034 SDR 35, OR HDPE PIPE (ADS 'N-12' OR APPROVED EQUAL) CONFORMING TO AASHTO M252 W/WATERTIGHT JOINTS.

MATERIAL NOTES (CONTINUED)

5. ON-SITE STORM SEWER PIPE WITH LESS THAN 2' OF COVER SHALL BE HDPE PIPE.
6. ON-SITE AREA DRAINS SHALL BE MANUFACTURED BY LYNCH CO., INC. OR APPROVED EQUAL UNLESS OTHERWISE NOTED ON THE PLANS.
7. ON-SITE SANITARY SEWER PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D3034, SDR 35.

UTILITY NOTES

1. ALL WATER AND SANITARY SEWER FACILITIES AND THE INSTALLATION THEREOF SHALL FOLLOW THE CURRENT OREGON STATE PLUMBING SPECIALTY CODE AND THE LATEST EDITION OF APWA WITH CITY OF WOODBURN INSPECTION DURING CONSTRUCTION.
2. ALL TRENCH BACKFILL SHALL BE AS SHOWN ON THE PIPE BEDDING AND BACKFILL DETAIL. FLOODING OR JETTING THE BACKFILLED TRENCHES WITH WATER IS NOT PERMITTED.
3. CONNECTIONS TO EXISTING UTILITIES SHALL CONFORM WITH THE CITY OF WOODBURN ENGINEERING DESIGN MANUAL AND STANDARD DRAWINGS.
4. ALL WATER AND FIRE PROTECTION PIPE SHALL HAVE MINIMUM 36-INCH COVER TO FINISHED GRADE.
5. ALL WATER LINES SHALL BE THOROUGHLY FLUSHED, CHLORINATED AND TESTED IN ACCORDANCE WITH THE CITY OF WOODBURN TECHNICAL SPECIFICATIONS AND THE OREGON STATE HEALTH DEPARTMENT PRIOR TO ANY METER HOOK-UP SERVICE.
6. BEGIN LAYING STORM AND SANITARY SEWER PIPE AT THE LOW POINT OF THE SYSTEM TRUE TO GRADE AND ALIGNMENT INDICATED WITH UNBROKEN CONTINUITY OF INVERT. ESTABLISH LINE AND GRADE FOR THE STORM AND SANITARY SEWER PIPE BY THE USE OF A LASER.
7. CONTRACTOR SHALL PREVENT SEDIMENTS FROM ENTERING THE STORM DRAINAGE SYSTEM.
8. CONTRACTOR TO MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN ALL EXISTING AND PROPOSED WATER AND SEWER LINES.
9. FOR CROSSINGS OF SANITARY SEWER LINES, THE OREGON STATE HEALTH DEPARTMENT CRITERIA SHALL APPLY.
10. CONTRACTOR SHALL COMPLY WITH O.A.R. 333, DIVISION 61 PUBLIC WATER SYSTEMS FOR THE INSTALLATION OF ALL WATERLINES ON THE PROJECT.
11. CONTRACTOR SHALL VERIFY PUBLIC SEWER ELEVATION PRIOR TO START OF WATER/SEWER WORK. PROVIDE ACTUAL ELEVATION INFORMATION TO ENGINEER.

ABBREVIATIONS

AD	AREA DRAIN
BS	BOTTOM OF STAIR
BW	BOTTOM OF WALL
CB	CATCH BASIN
CO	CLEAN OUT TO GRADE
COP	CITY OF PORTLAND
DWG.	DRAWING
EX.	EXISTING
FG	FINISHED GRADE
H	HEIGHT
GB	GRADE BREAK
IE	INVERT ELEVATION
LF	LINEAL FEET
MAX.	MAXIMUM
MIN.	MINIMUM
NO.	NUMBER
NTS	NOT TO SCALE
OD	OVERFLOW DRAIN
PERF.	PERFORATED
ROW	RIGHT-OF-WAY
S=	SLOPE EQUALS
SD	STORM DRAIN
SF	SQUARE FEET
SS	SANITARY SEWER
STD.	STANDARD
TC	TOP OF CURB
TD	TRENCH DRAIN
TP	TOP OF PAVEMENT
TS	TOP OF STAIR
TW	TOP OF WALL
TYP.	TYPICAL
W	WATER

ARCHITECT/ENGINEER

ARCHITECT:
BLRB ARCHITECTS
621 SW MORRISON ST #950
PORTLAND, OR 97205
503.595.0270
CONTACT: SHEENA HEWETT

ENGINEER:
HUMBER DESIGN GROUP, INC.
117 SE TAYLOR STREET, SUITE 001
PORTLAND, OR 97214
503.946.5370
CONTACT: WILLIAM BRANNAN, PE

SURVEY

SURVEY PROVIDED BY LEI ENGINEERING & SURVEYING OF OREGON.

SHEET INDEX

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		MANHOLE
		DRYWELL
		CATCH BASIN
		CLEANOUT
		FIRE HYDRANT
		WATER METER
		WATER VALVE
		GAS METER
		LIGHT POLE
		TREE
		PROPERTY LINE
		CENTERLINE
60	288	CONTOUR
		SAWCUT LINE
		EDGE OF PAVEMENT
		CURB
X" SD	X" SD	STORM DRAIN
	X" SS	SANITARY SEWER
X" CS		COMBINED SEWER
X" W	X" W	WATER
P		POWER
G		GAS

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ATTACHMENT 102
EXHIBIT B

LAND USE REVIEW SET

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

BLRB architects

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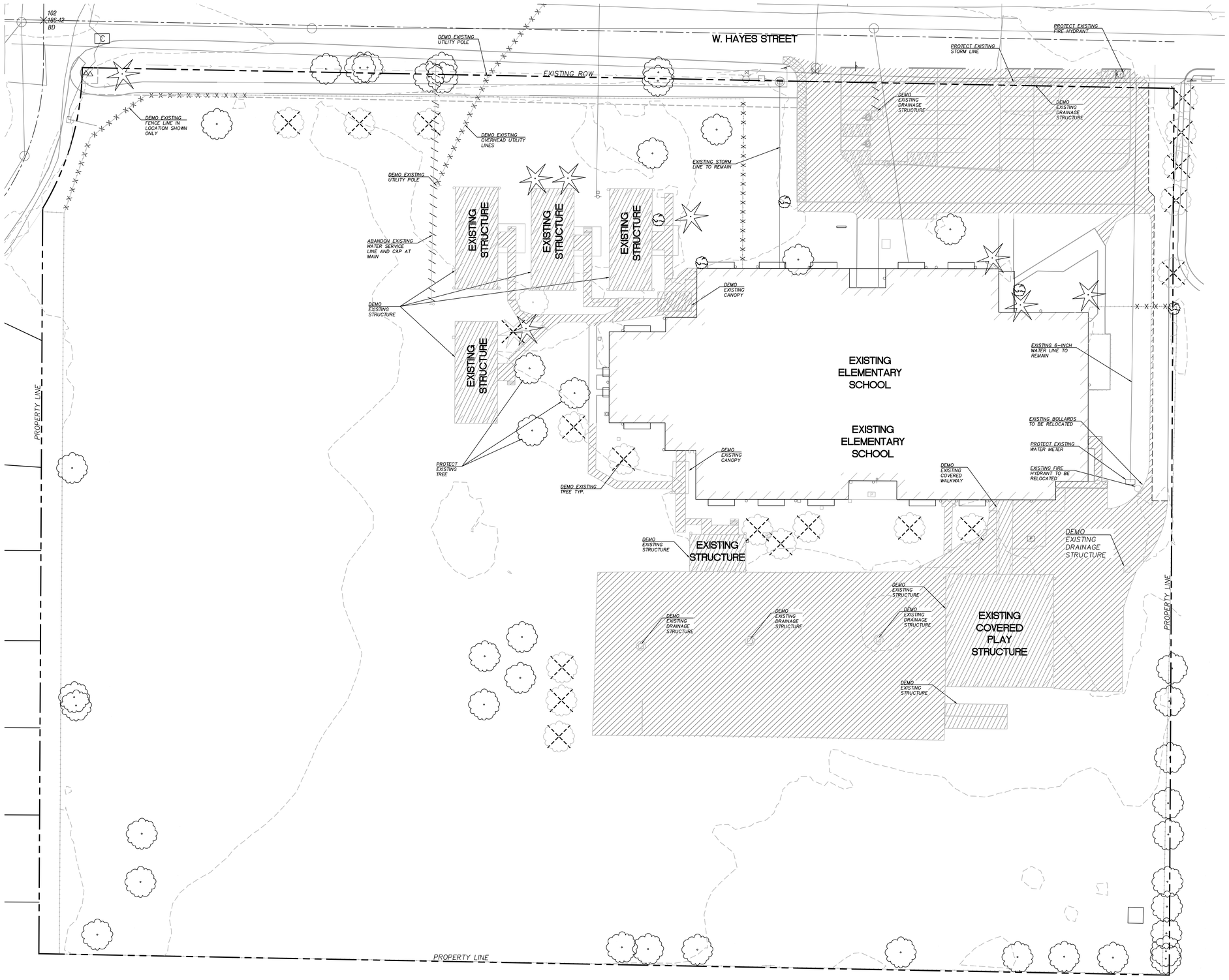

1 EXISTING CONDITIONS AND DEMOLITION PLAN
1"=30'

GRAPHIC SCALE
0 30 60
1 inch = 30 ft.

SHEET LEGEND

ITEM	DESCRIPTION
	REMOVE EXISTING TREE
— — 101 — —	EXIST MINOR CONTOUR
— — 100 — —	EXIST MAJOR CONTOUR
X X X X X X X X	REMOVE EXISTING UTILITY
/ / / / / / / /	ABANDON EXISTING UTILITY
— — — — — — — —	SAWCUT LINE
	DEMOLISH EXISTING HARD SURFACE
	DEMOLISH EXISTING STRUCTURE

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EXISTING CONDITIONS AND DEMOLITION PLAN

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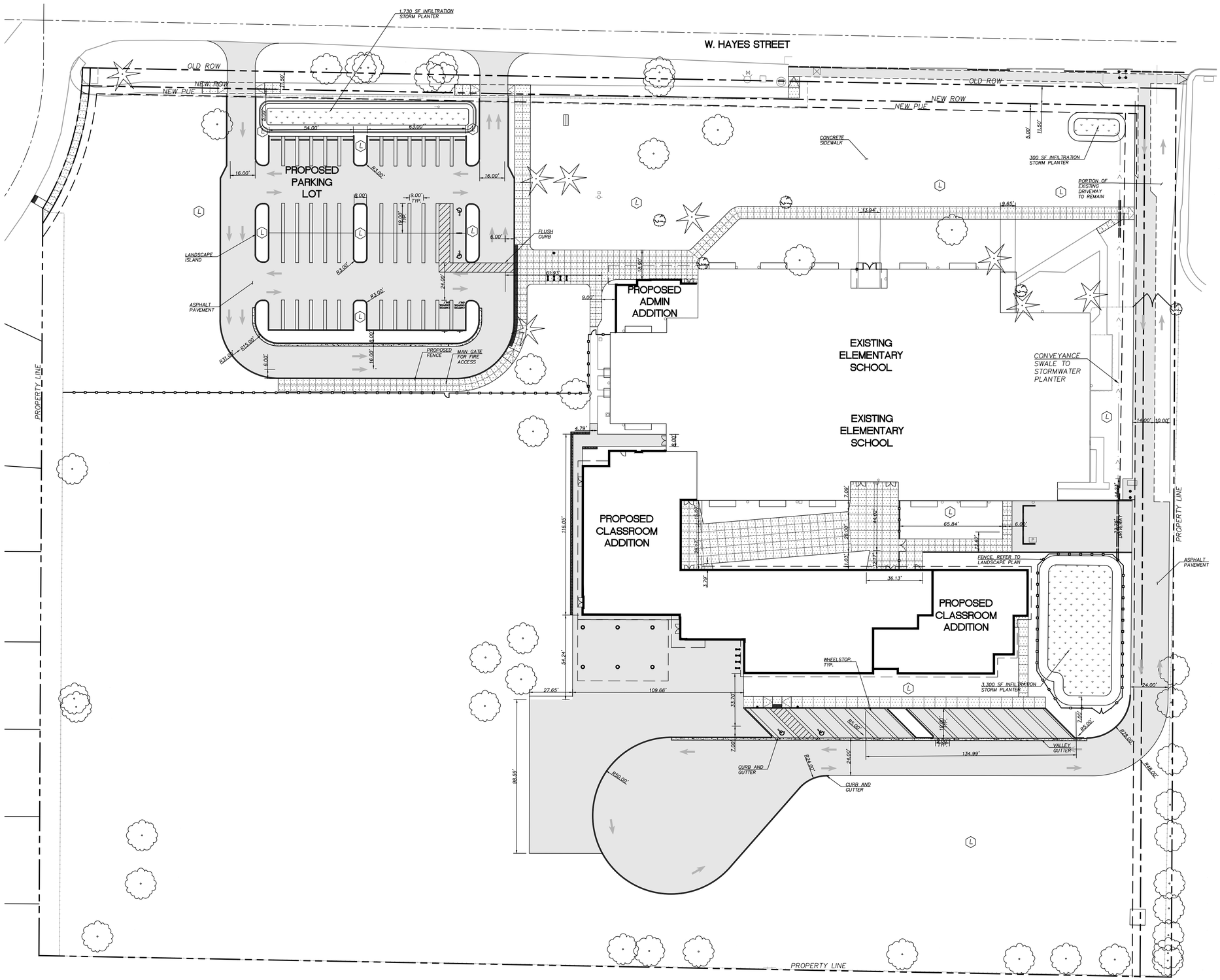

1 LAYOUT AND PAVING PLAN - NORTH
1"=30'

SHEET LEGEND		
	CONCRETE SIDEWALK	8 C5.00
	ASPHALT PAVEMENT	7 C5.00
	STORMWATER PLANTER	4 C5.01
	STANDARD CONCRETE CURB	9 C5.00
L	LANDSCAPING	SEE LANDSCAPE PLANS
	SAWCUT	

GRAPHIC SCALE
0 30 60
1 inch = 30 ft.

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LAYOUT AND PAVING PLAN

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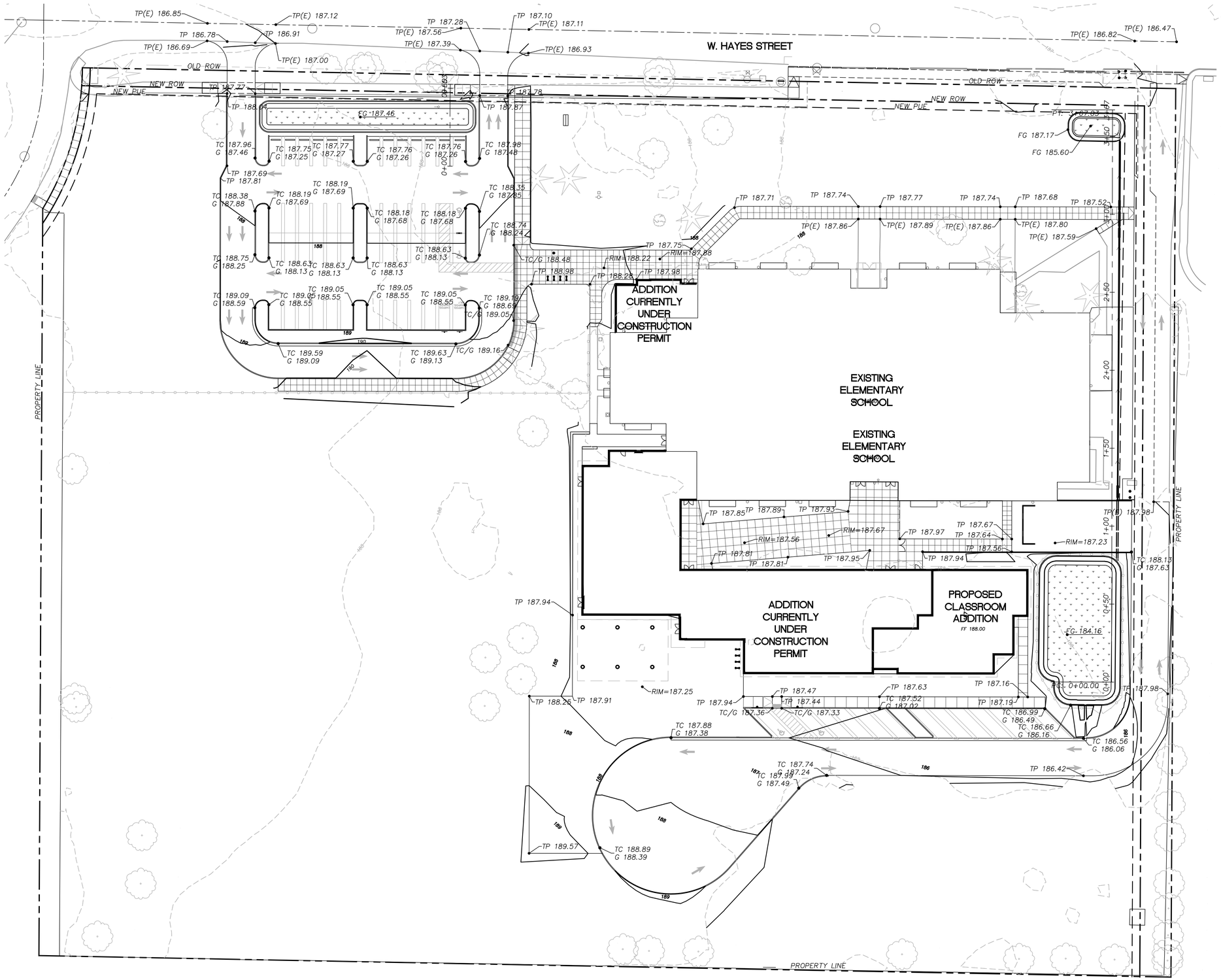

SHEET LEGEND

	EXISTING CONTOUR
XXX	PROPOSED CONTOUR – MAJOR
XXX	PROPOSED CONTOUR – MINOR
	SAWCUT
	GRADEBREAK LINE
TP XXX.XX	GRADE AT TOP OF PAVEMENT
TC XXX.XX	GRADE AT TOP OF CURB
FF XXX.XX	FINISHED FLOOR ELEVATION
FG XXX.XX	FINISHED GRADE
TW XXX.XX	TOP OF WALL ELEVATION
BW XXX.XX	BOTTOM OF WALL ELEVATION
TOV XXX.XX	TOP OF VAULT ELEVATION
(E)	EXISTING
X.X%	SLOPE ARROW

SHEET NOTES

1. SLOPE ARROWS ARE FOR INFORMATION ONLY. SPOT GRADES CONTROL CONSTRUCTION. NOTIFY ENGINEER IF SIGNIFICANT DISCREPANCIES ARE ENCOUNTERED.

1 GRADING PLAN
1"=30'

GRAPHIC SCALE
0 30 60
1 inch = 30 ft.

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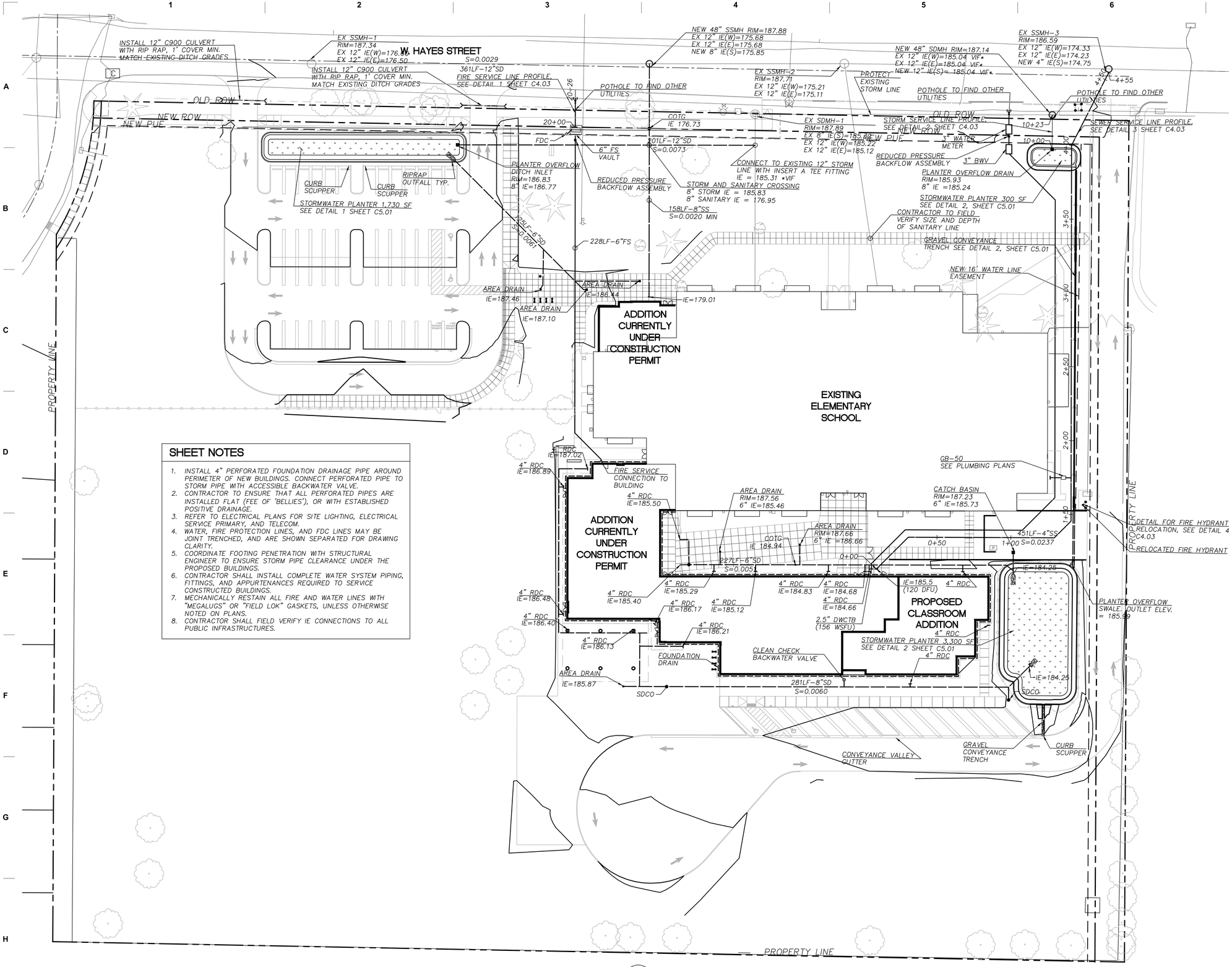

SHEET NOTES

1. INSTALL 4" PERFORATED FOUNDATION DRAINAGE PIPE AROUND PERIMETER OF NEW BUILDINGS. CONNECT PERFORATED PIPE TO STORM PIPE WITH ACCESSIBLE BACKWATER VALVE.
2. CONTRACTOR TO ENSURE THAT ALL PERFORATED PIPES ARE INSTALLED FLAT (FEE OF 'BELLIES'), OR WITH ESTABLISHED POSITIVE DRAINAGE.
3. REFER TO ELECTRICAL PLANS FOR SITE LIGHTING, ELECTRICAL SERVICE PRIMARY, AND TELECOM.
4. WATER, FIRE PROTECTION LINES, AND FDC LINES MAY BE JOINT TRENCHED, AND ARE SHOWN SEPARATED FOR DRAWING CLARITY.
5. COORDINATE FOOTING PENETRATION WITH STRUCTURAL ENGINEER TO ENSURE STORM PIPE CLEARANCE UNDER THE PROPOSED BUILDINGS.
6. CONTRACTOR SHALL INSTALL COMPLETE WATER SYSTEM PIPING, FITTINGS, AND APPURTENANCES REQUIRED TO SERVICE CONSTRUCTED BUILDINGS.
7. MECHANICALLY RESTRAIN ALL FIRE AND WATER LINES WITH "MEGALUGS" OR "FIELD LOK" GASKETS, UNLESS OTHERWISE NOTED ON PLANS.
8. CONTRACTOR SHALL FIELD VERIFY IE CONNECTIONS TO ALL PUBLIC INFRASTRUCTURES.

1 UTILITY PLAN
1"=30'

GRAPHIC SCALE
0 30 60
1 inch = 30 ft.

SHEET LEGEND

SYMBOL	DESCRIPTION
XLF-X"SD S=X.XXXX	STORM DRAIN
XLF-X"PERF. S=X.XXXX	PERF. DRAIN
XLF-X"SS S=X.XXXX	SANITARY DRAIN
XLF-X"W	DOMESTIC WATER
XLF-X"FS	FIRE WATER
	POWER
	NATURAL GAS LINE
	TELEPHONE

SHEET ABBREVIATIONS

AD	AREA DRAIN
BWV	BACK WATER VALVE (CLEAN CHECK VALVE)
COTG	CLEAN OUT TO GRADE
DWCTB	DOMESTIC WATER CONNECTION TO BUILDING
DWPOC	DOMESTIC WATER POINT OF CONNECTION
EX	EXISTING
FD	FOUNDATION DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FS	FIRE SERVICE (SPRINKLER WATER)
FSCTB	FIRE SERVICE CONNECTION TO BUILDING
FSPOC	FIRE SERVICE POINT OF CONNECTION
FSV	FIRE SERVICE VAULT
OD	OVERFLOW DRAIN
POC	POINT OF CONNECTION
RD	ROOF DRAIN CONNECTION
SD	STORM SEWER
SDPOC	STORM SEWER POINT OF CONNECTION
SS	SANITARY SEWER
SSCTB	SANITARY SEWER CONNECTION TO BUILDING
SSPOC	SANITARY SEWER POINT OF CONNECTION
TR	THRUST RESTRAINT
WM	WATER METER

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EXHIBIT F
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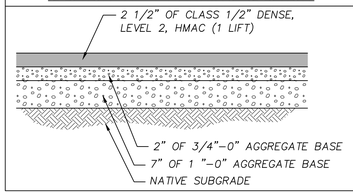
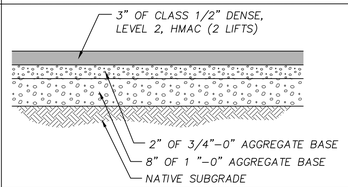
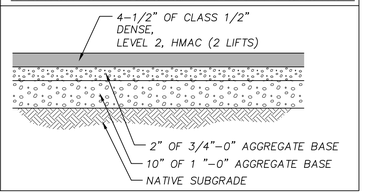
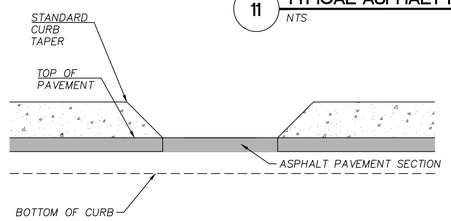
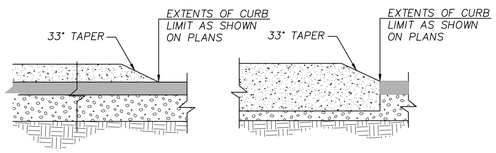
SECTION A – PARKING SECTION	SECTION B – DRIVE AISLE SECTION	SECTION C – BUS & FIRE LANE SECTION
		
2 1/2" OF CLASS 1/2" DENSE, LEVEL 2, HMAC (1 LIFT) 2" OF 3/4"–0" AGGREGATE BASE 7" OF 1 "–0" AGGREGATE BASE NATIVE SUBGRADE	3" OF CLASS 1/2" DENSE, LEVEL 2, HMAC (2 LIFTS) 2" OF 3/4"–0" AGGREGATE BASE 8" OF 1 "–0" AGGREGATE BASE NATIVE SUBGRADE	4–1/2" OF CLASS 1/2" DENSE, LEVEL 2, HMAC (2 LIFTS) 2" OF 3/4"–0" AGGREGATE BASE 10" OF 1 "–0" AGGREGATE BASE NATIVE SUBGRADE

NOTES:
1. AGGREGATE BASE SHALL BE COMPACTED TO 92% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D1557.
3. SEE LANDSCAPE PLANS FOR PAVEMENT LAYOUT INFORMATION.
4. FOR WET WEATHER CONSTRUCTION, REFER TO THE GEOTECHNICAL REPORT FOR PAVEMENT SECTIONS WITH CEMENT AMENDMENTS, AS REQUIRED.

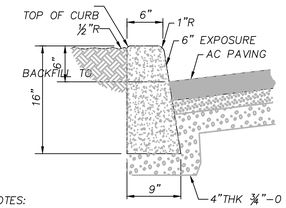
11 TYPICAL ASPHALT PAVEMENT SECTIONS
NTS



10 CURB SCUPPER AND TAPER
NTS

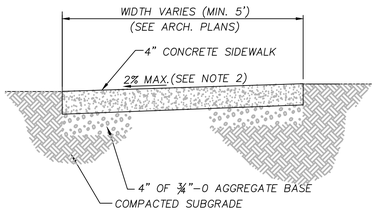


9 CURB TAPER
NTS



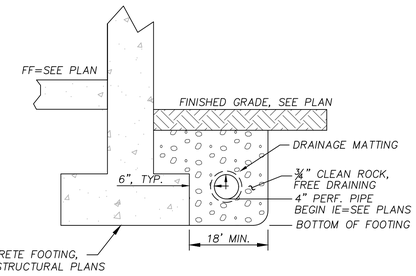
NOTES:
1. CONCRETE SHALL BE 4000 PSI @ 28 DAYS.

8 CONCRETE CURB
NTS

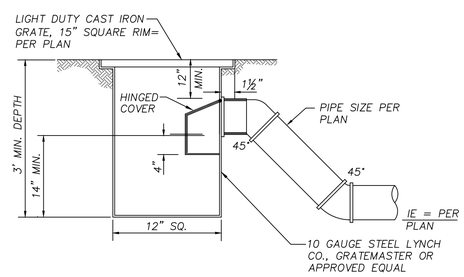


NOTE:
1. CONCRETE SHALL BE 4000 PSI, SLUMP RANGE 3" TO 5".
2. 2% MAX CONSTRUCTED. 1.5% DESIGN UNLESS OTHERWISE NOTED

7 CONCRETE SIDEWALK
NTS

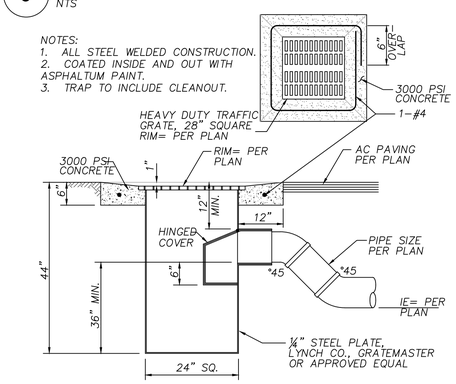


6 FOUNDATION DRAIN
NTS

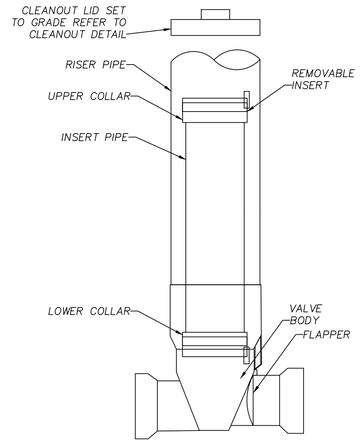


NOTES:
1. ALL STEEL WELDED CONSTRUCTION. COATED
2. INSIDE AND OUT WITH ASPHALTUM PAINT.
3. TRAP TO INCLUDE CLEANOUT.

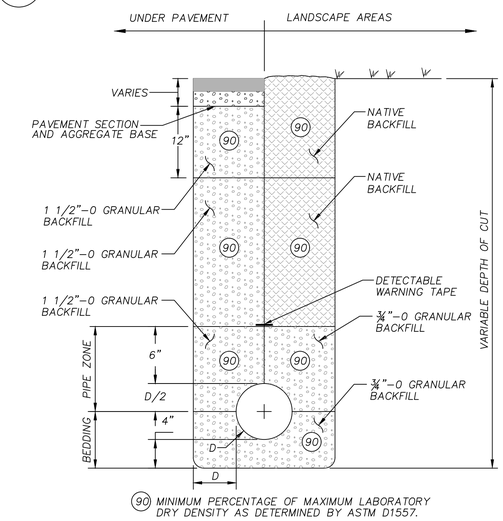
5 TRAPPED AREA DRAIN
NTS



4 CATCH BASIN
NTS

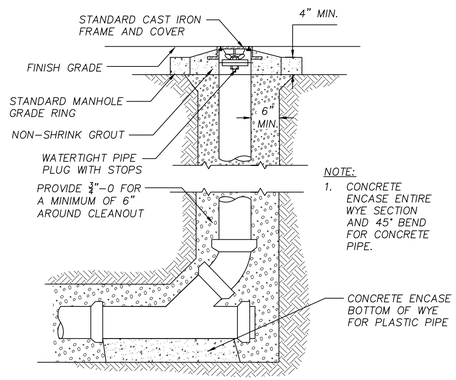


3 BACK WATER CLEAN CHECK VALVE
NTS



NOTES:
1. ALL CUT EDGES SHALL BE SAND SEALED WITH CRS–1 OR CRS–2 EMULSIFIED ASPHALT OR EQUAL.
2. THIS TRENCH BACKFILL REQUIREMENT APPLIES TO ALL UTILITIES.
3. LIGHTLY COMPACT WITHIN TWO DIAMETERS OR 18 INCHES, WHICHEVER IS GREATER, ABOVE BREAKABLE CONDUITS.

2 TRENCH BACKFILL
NTS



1 CLEAN OUT
NTS

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ATTACHMENT 102
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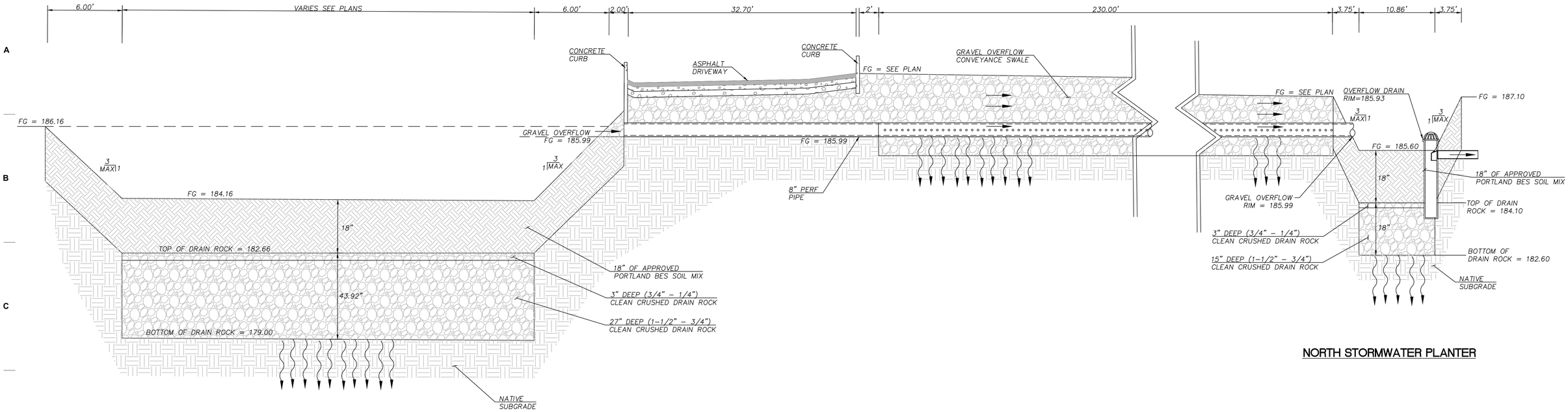
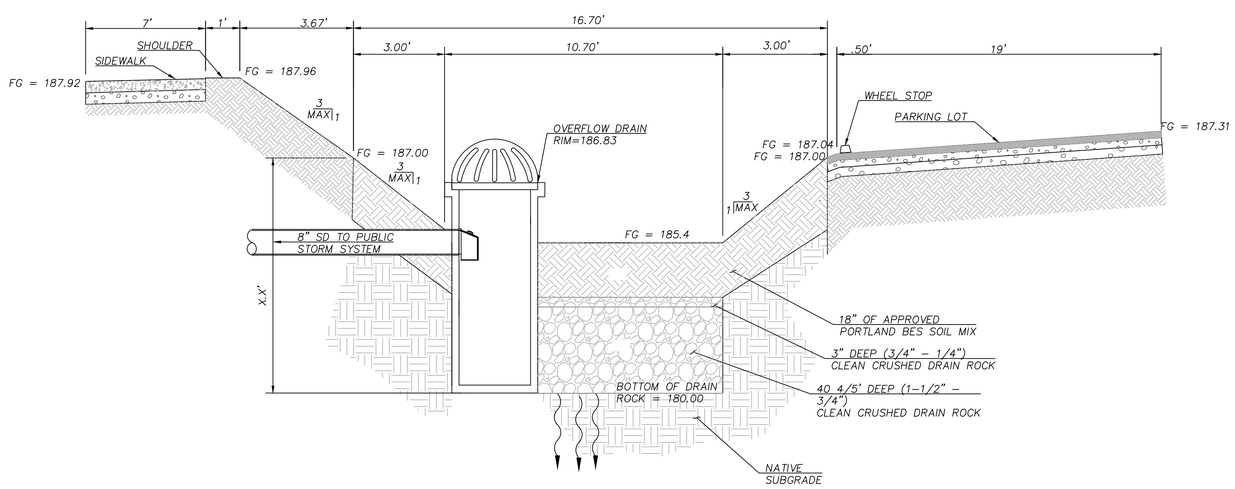


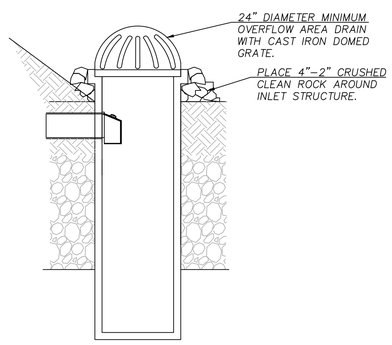
SOUTH STORMWATER PLANTER

NORTH STORMWATER PLANTER

2 STORMWATER PLANTER CROSS SECTION (NORTH AND SOUTH)
NTS



1 STORMWATER PLANTER (PARKING LOT)
NTS



INLET STRUCTURE

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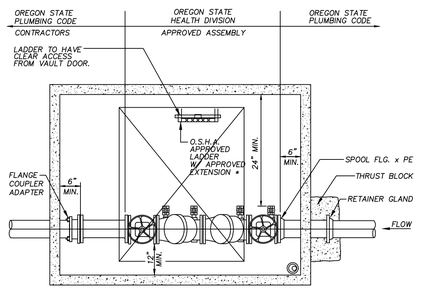
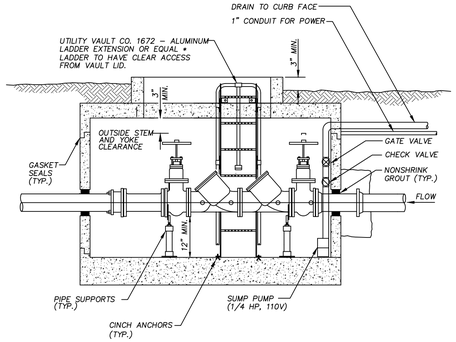


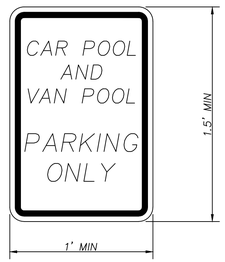
PLAN



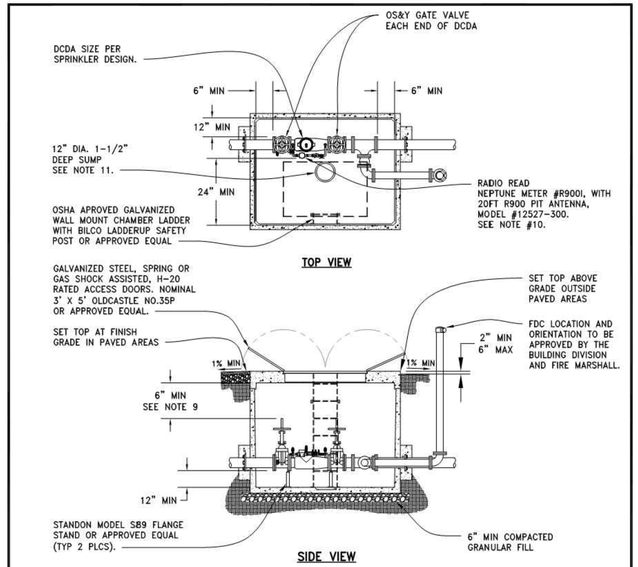
ELEVATION

DOUBLE CHECK SIZE	UTILITY VAULT	COVER
3" & 4"	577-LA	332P

4 WATER SERVICE VAULT
NTS



1 CARPOOL AND VANPOOL SIGN
NTS



NOTES:
1. DCDA – DOUBLE CHECK DETECTOR ASSEMBLY
2. FDC – FIRE DEPARTMENT CONNECTION
3. DCDA SHALL BE USC APPROVED.
4. DCDA SHALL BE INSTALLED IN CONFORMANCE WITH OREGON HEALTH DEPARTMENT & HUMAN RESOURCES DIVISION.
5. FDC SHALL NOT EXIT THROUGH THE TOP. MAY EXIT AS SHOWN OR THROUGH ADJACENT WALL (ELIMINATE 90° BEND).
6. ALL PIPE PENETRATIONS SHALL BE SEALED WITH NON-SHRINK WATERTIGHT GROUT.
7. BENDS, CROSSES, AND TEES SHALL NOT BE INSTALLED WITHIN 5' OF THE OUTSIDE VAULT WALL.
8. ALL VAULTS SHALL MEET OR EXCEED ASTM C-857.
   ALL CONCRETE TO BE 4599 PSI @28 DAYS.
   REBAR TO BE ASTM A-615 GRADE 60.
9. SIX INCH (6") MINIMUM CLEARANCE WHEN O.S.&Y. VALVE IS OPEN.
10. VERIFY METER MODEL WITH ENGINEERING DIVISION.
11. PROVIDE SUMP PUMP AND POWER CONNECTION.
12. PROVIDE TAMPER SWITCHES CONNECTED TO FIRE ALARM SYSTEM.
13. PROVIDE SEPARATE CONDUITS FOR POWER AND ALARM CONDUCTORS.

WOODBURN
INCORPORATED 1871
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

FIRE SERVICE VAULT

REV: SEPT. 2019
SCALE: NTS
DET No.
5070-2

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DRAWING REVISIONS

ATTACHMENT 102
EXHIBIT I

LAND USE REVIEW SET

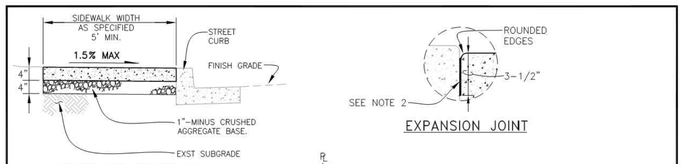
NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

BLRB architects
TACOMA: 1250 Pacific Avenue Suite 700 Washington 98402 253.627.5599
SPOKANE: 505 W Riverside Suite 500 Washington 99201 509.252.5080
PORTLAND: 1001 SW 5th Avenue Suite 1100 Oregon 97204 503.535.0707
BEND: 404 SW Columbia Suite 200 Oregon 97702 541.330.8556
BLRB.com

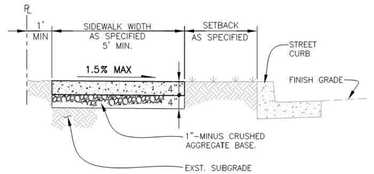
Drawing Title:
CIVIL DETAILS

Date : 03/13/2020
Drawn By : BAG
Revised :
Project No.
Stamp
PRELIMINARY - NOT FOR CONSTRUCTION
Sheet No.
C5.02



CURBLINE SIDEWALK

EXPANSION JOINT



PROPERTY LINE SIDEWALK

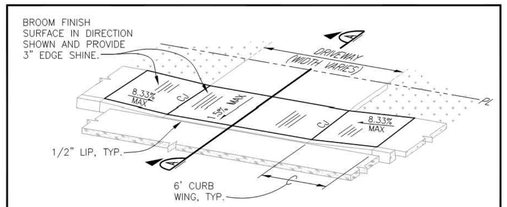
NOTES:

1. MATERIAL – 3500 PSI CONCRETE AT 28 DAYS. BROOM FINISH SURFACE & PROVIDE 3" EDGE SHINE. REFERENCE TECHNICAL SPEC. SECTION 4150.
2. EXPANSION JOINTS (EJ) SHALL BE 1/2" AC IMPREGNATED JOINT FILLER AT ALL DISSIMILAR VERTICAL SURFACES.
3. TRANSVERSE CONSTRUCTION JOINTS (CJ) 1-1/2" DEEP OR 1/3 OF THE THICKNESS (T) @ 5' INTERVALS.
4. FOR SIDEWALK AT DRIVEWAYS SEE DETAILS 4150-3 AND 4150-4.

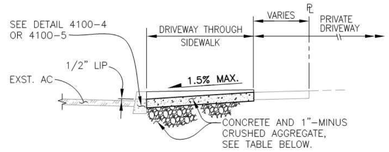
WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SIDEWALKS

REV: JULY 2018
SCALE: NTS
DET No. 4150-8



CURB SIDE SIDEWALK



SECTION A

NOTES:

1. REFERENCE TECHNICAL SPEC. SECTION 4150.
2. PLACE CONSTRUCTION JOINTS AT 5' INTERVALS 1/3 THICKNESS.
3. MATERIAL – 3500 PSI CONCRETE AT 28 DAYS.

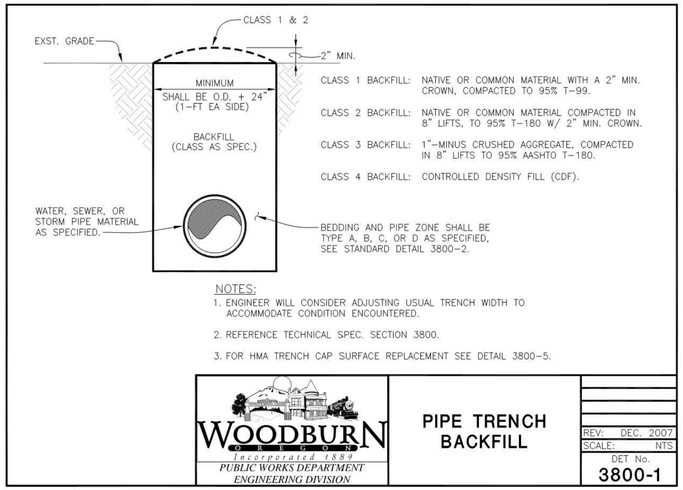
CONCRETE/AGGREGATE BASE THICKNESS AND REINFORCEMENT.

USE	CONC.	1"-MINUS CRUSHED AGGREGATE	REBAR
SINGLE FAMILY RESIDENTIAL	6"	4"	NONE
ALL OTHER	8"	6"	No.4 @ 12"O.C. EACH WAY

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CURBSIDE SIDEWALK AT DRIVEWAY

REV: MAY 2019
SCALE: NTS
DET No. 4150-3



CLASS 1 BACKFILL: NATIVE OR COMMON MATERIAL WITH A 2" MIN. CROWN, COMPACTED TO 95% T-99.

CLASS 2 BACKFILL: NATIVE OR COMMON MATERIAL COMPACTED IN 8" LIFTS, TO 95% T-180 W/ 2" MIN. CROWN.

CLASS 3 BACKFILL: 1"-MINUS CRUSHED AGGREGATE, COMPACTED IN 8" LIFTS TO 95% AASHTO T-180.

CLASS 4 BACKFILL: CONTROLLED DENSITY FILL (CDF).

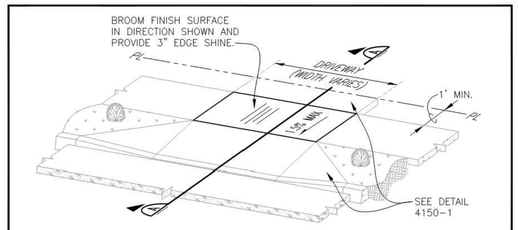
NOTES:

1. ENGINEER WILL CONSIDER ADJUSTING USUAL TRENCH WIDTH TO ACCOMMODATE CONDITION ENCOUNTERED.
2. REFERENCE TECHNICAL SPEC. SECTION 3800.
3. FOR HMA TRENCH CAP SURFACE REPLACEMENT SEE DETAIL 3800-5.

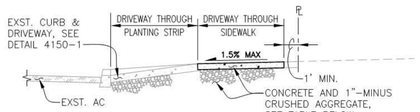
WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

PIPE TRENCH BACKFILL

REV: DEC. 2007
SCALE: NTS
DET No. 3800-1



PROPERTY LINE SIDEWALK



SECTION A

NOTES:

1. REFERENCE TECHNICAL SPEC. SECTION 4150.
2. PLACE CONSTRUCTION JOINTS AT 5' INTERVALS 1/3 THICKNESS.
3. MATERIAL – 3500 PSI CONCRETE AT 28 DAYS.

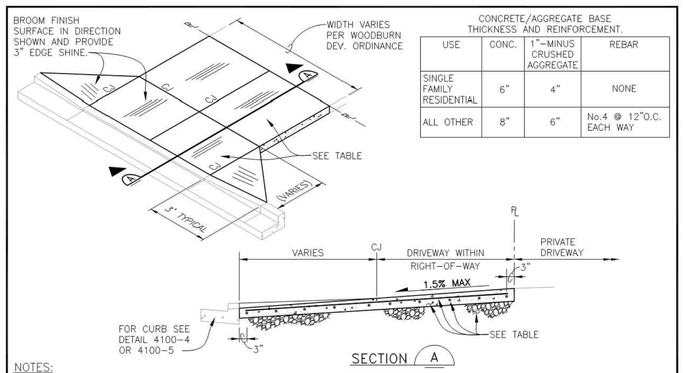
CONCRETE/AGGREGATE BASE THICKNESS AND REINFORCEMENT.

USE	CONC.	1"-MINUS CRUSHED AGGREGATE	REBAR
SINGLE FAMILY RESIDENTIAL	6"	4"	NONE
ALL OTHER	8"	6"	No.4 @ 12"O.C. EACH WAY

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

PROPERTY LINE SIDEWALK AT DRIVEWAY

REV: JUNE. 2018
SCALE: NTS
DET No. 4150-4



SECTION A

NOTES:

1. REFERENCE TECHNICAL SPEC. SECTION 4150.
2. EXPANSION JOINTS (EJ) SHALL BE 1/2" AC IMPREGNATED JOINT FILLER AT ALL DISSIMILAR VERTICAL SURFACES.
3. MATERIAL – 3500 PSI CONCRETE AT 28 DAYS.

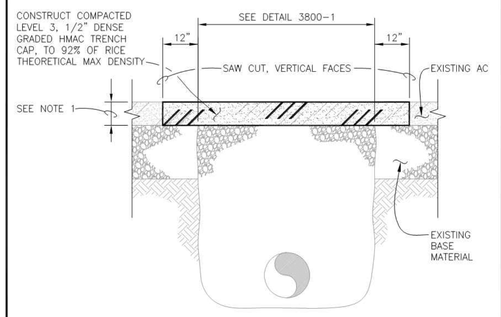
CONCRETE/AGGREGATE BASE THICKNESS AND REINFORCEMENT.

USE	CONC.	1"-MINUS CRUSHED AGGREGATE	REBAR
SINGLE FAMILY RESIDENTIAL	6"	4"	NONE
ALL OTHER	8"	6"	No.4 @ 12"O.C. EACH WAY

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

DRIVEWAY APPROACH

REV: MAY 2019
SCALE: NTS
DET No. 4150-1



NOTES:

1. REPLACEMENT OF HMA SHALL MATCH EXST. DEPTH UNLESS OTHERWISE SPECIFIED. IN NO CASE SHALL THICKNESS BE LESS THAN THAT SHOWN ON STANDARD DETAIL 4200-1.
2. REFERENCE TECHNICAL SPEC. SECTION 2400, 4200 AND 4220.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TRENCH CAP

REV: DEC. 2016
SCALE: NTS
DET No. 3800-5

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ATTACHMENT 102
EXHIBIT J

LAND USE REVIEW SET

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WOODBURN SCHOOL DISTRICT

BLRB architects
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505 W Riverside Suite 500 Washington 99201 509 252 5080
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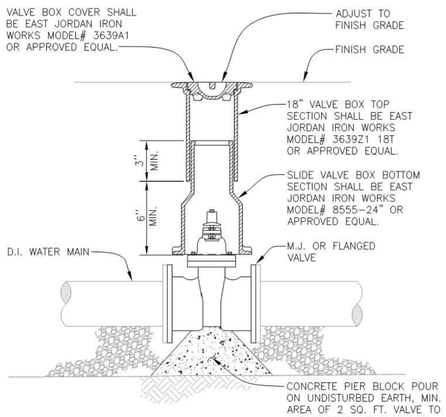
PERMIT REVISION 1

Drawing Title:

CIVIL DETAILS

Date : 03/13/2020	Drawn By : BAG
Revised :	Project No.
Stamp: PRELIMINARY - NOT FOR CONSTRUCTION	Sheet No.: C5.03

BLRB ARCHITECTS, P.S.

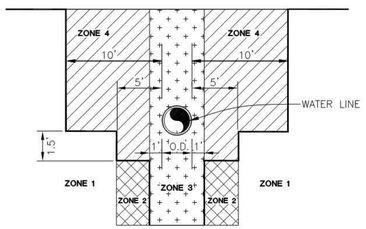


NOTES:
1. REFERENCE TECHNICAL SPEC. SECTION 5050.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

VALVE ASSEMBLY

REV: DEC. 2007
SCALE: NTS
DET No. 5050-2



ZONE 1
SEWER LINE BE LAID IN THIS AREA WITH NO SPECIAL REQUIREMENTS OF EITHER CONSTRUCTION OR MATERIALS OTHER THAN THOSE SPECIFIED.

ZONE 2
INSTALLING A SEWER LINE IN THIS ZONE IS NOT ADVISABLE AND MUST BE APPROVED IN EACH CASE. WATER LINE SHALL BE LOCATED ON A BENCH OF UNDISTURBED EARTH WHEN CONSTRUCTED CONCURRENTLY IN A COMMON TRENCH WITH A SEWER LINE.

ZONE 3
INSTALLING A SEWER MAIN DIRECTLY OVER A WATER MAIN OR DIRECTLY UNDER A WATER MAIN IN THIS ZONE IS PROHIBITED SINCE TAPPING AND MAINTENANCE OF EACH LINE WOULD BE IMPAIRED.

ZONE 4
SEWER LINE CONSTRUCTION IN THIS ZONE WOULD GENERALLY NOT BE PERMITTED. EACH INSTALLATION MUST BE APPROVED. IF CONSTRUCTION WAS APPROVED PRESSURE PIPE MATERIALS (D.I.) FOR THE SEWER LINE WOULD BE REQUIRED.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

UTILITY ZONES AROUND WATER LINES

REV: DEC. 2007
SCALE: NTS
DET No. 5000-6

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES. INSTALL IN ACCORDANCE TO TECHNICAL SPEC. SECTION 5000.

BEARING AREA OF THRUST BLOCKS IN SQ. FT.

FITTING SIZE	TEE, WYE PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN A-1	TEE PLUGGED ON RUN A-2*	45° BEND	22.5° BEND	11.25° BEND
4	1.0	1.4	1.9	1.4	1.0	--	--
6	2.1	3.0	4.3	3.0	1.6	1.0	--
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

3. BEARING AREAS SHOWN ARE BASED ON TEST PRESSURE OF 150 PSI. AND AN ALLOWABLE SOIL BEARING STRESS OF 2,000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (2,000/SOIL BEARING STRESS) X (TABLE VALUE).
4. REFERENCE STANDARD DETAIL 5000-1.

*STRADDLE BLOCK SHALL MEET THIS TABLE.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

HORIZONTAL THRUST BLOCK TABLES

REV: DEC. 2007
SCALE: NTS
DET No. 5000-2

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NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

BLRB architects
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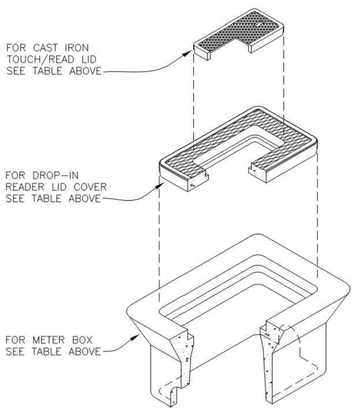
Drawing Title:
CIVIL DETAILS

Date : 03/13/2020	Drawn By : BAG
Revised :	Project No.
Stamp: PRELIMINARY - NOT FOR CONSTRUCTION	Sheet No. C5.04

BLRB ARCHITECTS, P.S.

UTILITY VAULT CO.			
	CAST IRON READER LID	DROP-IN READER LID COVER	METER BOX
DIA.	MODEL NO.		
1"	511L-CI*	37-1220C-DRL511*	37-1220*
1.5" & 2"	713L-CI*	65-1528C-DRL713*	65-1528 MB*
* OR APPROVED EQUAL			

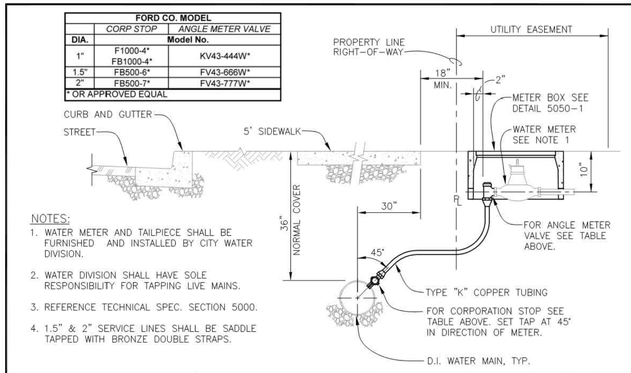


WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

METER BOX

REV: MAY 2011
SCALE: NTS
DET No. 5050-1

FORD CO. MODEL		
	CORP STOP	ANGLE METER VALVE
DIA.	Model No.	
1"	F1000-4* FB1000-4*	KV43-444W*
1.5"	FB500-6*	FV43-666W*
2"	FB500-7*	FV43-777W*
* OR APPROVED EQUAL		

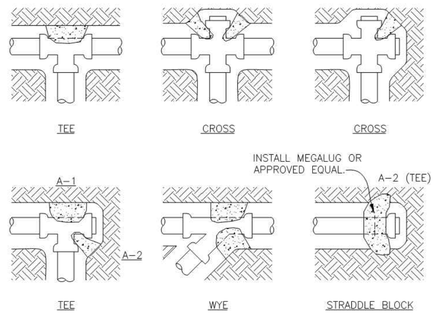


NOTES:
1. WATER METER AND TAILPIECE SHALL BE FURNISHED AND INSTALLED BY CITY WATER DIVISION.
2. WATER DIVISION SHALL HAVE SOLE RESPONSIBILITY FOR TAPPING LIVE MAINS.
3. REFERENCE TECHNICAL SPEC. SECTION 5000.
4. 1.5" & 2" SERVICE LINES SHALL BE SADDLE TAPPED WITH BRONZE DOUBLE STRAPS.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

WATER SERVICE CONNECTION

REV: MAY 2011
SCALE: NTS
DET No. 5000-4

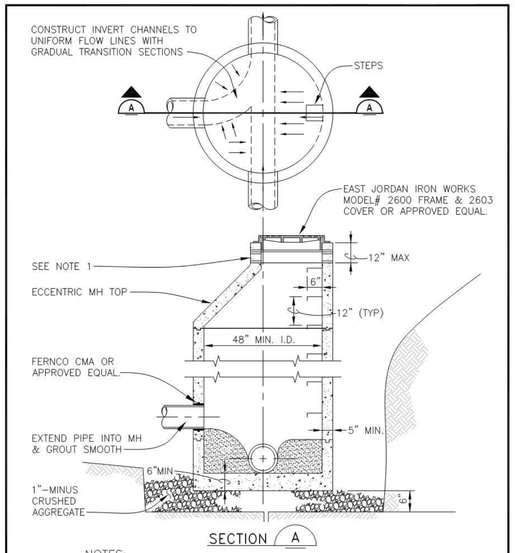


NOTES:
1. MATERIAL – 3500 PSI CONCRETE AT 28 DAYS.
2. SEE DETAIL 5000-2 FOR THRUST BLOCK BEARING AREAS.
3. FOR TYE BACK SEE DETAIL 5000-5.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

THRUST BLOCKING

REV: DEC. 2007
SCALE: NTS
DET No. 5000-1



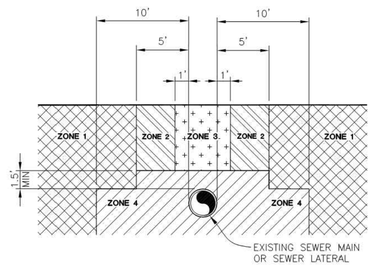
NOTES:

1. MANHOLE JOINTS: CONCRETE EXTENSION RING SHALL BE SEALED WATERTIGHT. REFERENCE TECHNICAL SPEC. SECTION 7500.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STORM SEWER MANHOLE

REV: DEC. 2007
SCALE: NTS
DET No. 7500-1



ZONE 1
WATER LINE CAN BE LAID IN THIS AREA WITH NO SPECIAL REQUIREMENTS OF EITHER CONSTRUCTION OR MATERIALS OTHER THAN THOSE SPECIFIED. CROSSING RESTRICTIONS SHALL APPLY.

ZONE 2
INSTALLING A WATER MAIN IN THIS ZONE IS NOT ADVISABLE AND MUST BE APPROVED IN EACH CASE. IF ALLOWED, WATER MAIN SHALL BE LOCATED MINIMUM 1.5' ABOVE ZENITH OF SEWER PIPE.

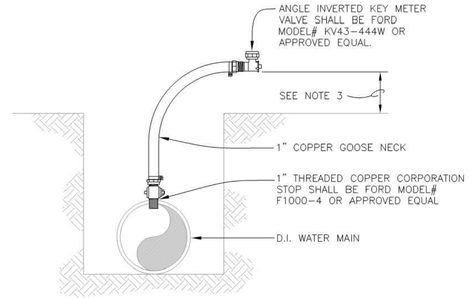
ZONE 3
WATER MAIN CONSTRUCTION IS NOT PERMITTED.

ZONE 4
WATER MAIN CONSTRUCTION IS NOT PERMITTED.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

UTILITY ZONES AT SEWER LINE

REV: DEC. 2007
SCALE: NTS
DET No. 6200-4



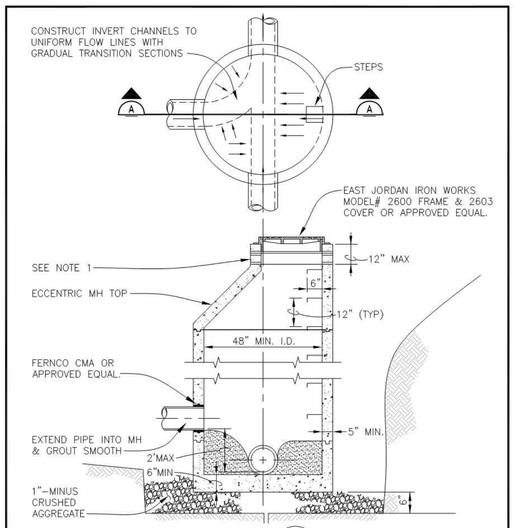
NOTES:

1. SAMPLING TAPS SHALL USE STANDARD SERVICE TAPS IF AVAILABLE, OTHERWISE INSTALL THIS AT ENDS OF LINE OR AS DIRECTED BY THE ENGINEER.
2. SAMPLING TAP TO REMAIN AND BE REMOVED BY CITY.
3. BEYOND TRAVEL LANES EXTEND 18" MIN. ABOVE GRADE.
4. IF SADDLE IS REQUIRED BY ENGINEER, USE BRASS TYPE.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SAMPLING TAP ASSEMBLY

REV: DEC. 2007
SCALE: NTS
DET No. 5100-1



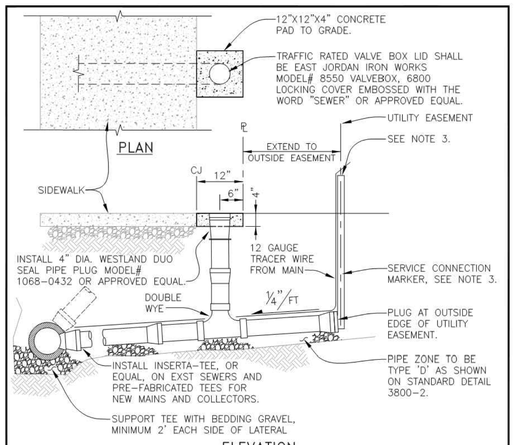
NOTES:

1. MANHOLE JOINTS: CONCRETE EXTENSION RING SHALL BE SEALED WATERTIGHT. REFERENCE TECHNICAL SPEC. SECTION 6510.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SANITARY SEWER MANHOLE

REV: DEC. 2007
SCALE: NTS
DET No. 6510-3



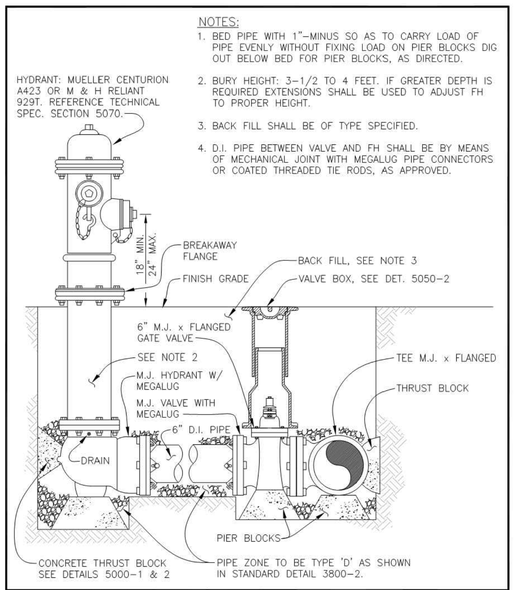
NOTES:

1. PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
2. MINIMUM DEPTH AT RIGHT-OF-WAY OR EASEMENT LINE SHALL BE 4 FEET.
3. 2 x 4 FIR. POST TO EXTEND 36" MINIMUM ABOVE FINISH GRADE AND EXPOSED AREA SHALL BE PAINTED GREEN.
4. LAY SANITARY SEWER SERVICE TEE AT MAXIMUM 45°, MINIMUM 20° FROM HORIZONTAL.
5. REFERENCE TECHNICAL SPEC. SECTION 6200.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SEWER SERVICE CONNECTION

REV: DEC. 2007
SCALE: NTS
DET No. 6200-3



NOTES:

1. BED PIPE WITH 1"-MINUS SO AS TO CARRY LOAD OF PIPE EVENLY WITHOUT FIXING LOAD ON PIER BLOCKS DIG OUT BELOW BED FOR PIER BLOCKS, AS DIRECTED.
2. BURY HEIGHT: 3-1/2 TO 4 FEET. IF GREATER DEPTH IS REQUIRED EXTENSIONS SHALL BE USED TO ADJUST FH TO PROPER HEIGHT.
3. BACK FILL SHALL BE OF TYPE SPECIFIED.
4. D.I. PIPE BETWEEN VALVE AND FH SHALL BE BY MEANS OF MECHANICAL JOINT WITH MEGALUG PIPE CONNECTORS OR COATED THREADED TIE RODS, AS APPROVED.

WOODBURN OREGON Incorporated 1889
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

FIRE HYDRANT ASSEMBLY

REV: DEC. 2007
SCALE: NTS
DET No. 5070-1

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DRAWING REVISIONS

ATTACHMENT 102
EXHIBIT L

LAND USE REVIEW SET

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

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1001 SW 5th Avenue Suite 1100 Oregon 97204 503.535.0707
404 SW Columbia Suite 200 Oregon 97202 541.330.6506
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Drawing Title:

CIVIL DETAILS

Date : 03/13/2020	Drawn By : BAG
Revised :	Project No.
Stamp: PRELIMINARY - NOT FOR CONSTRUCTION	Sheet No. C5.05

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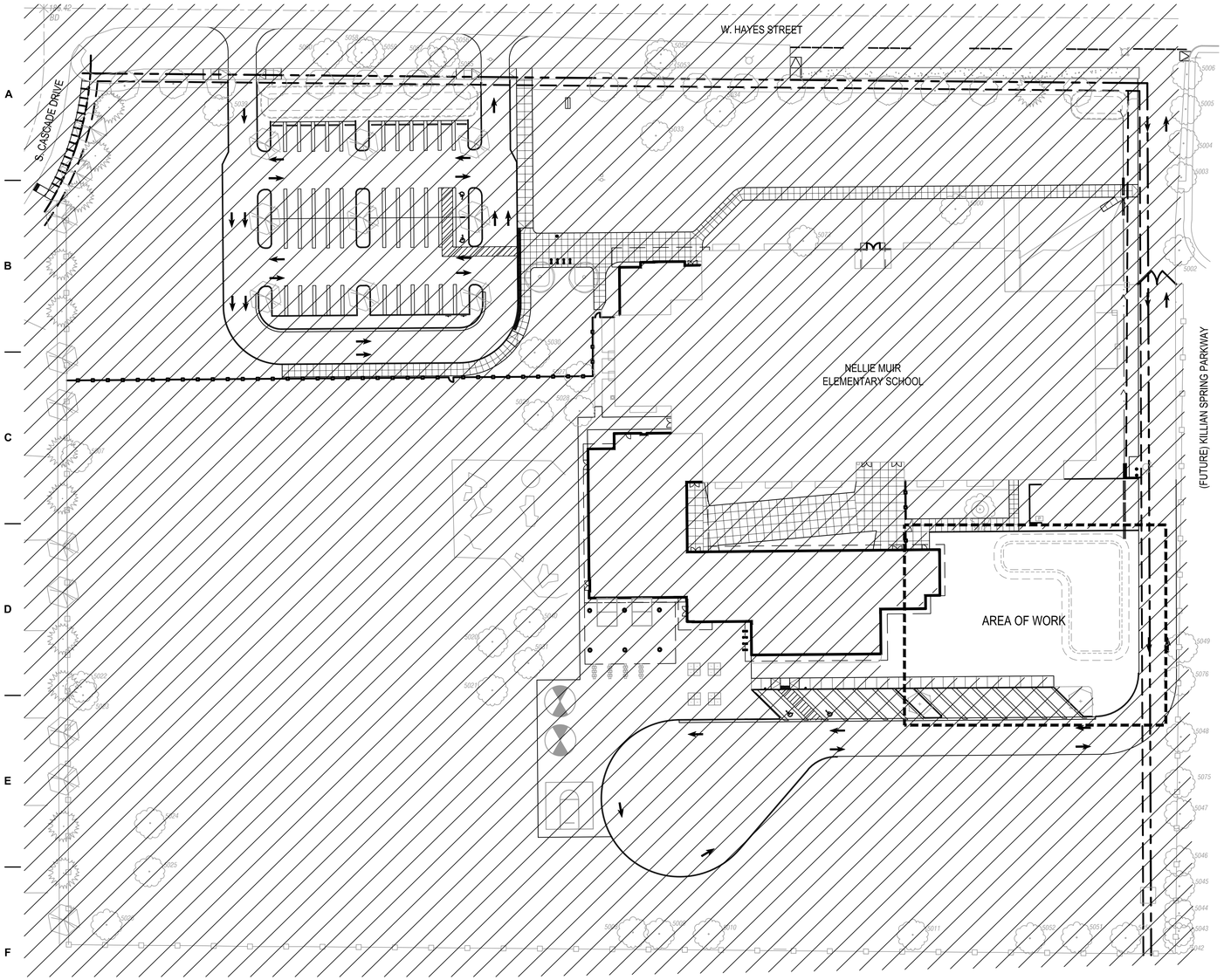


AREA OF PREVIOUS CONTRACT - NO CHANGE

NELLIE MUIR ELEMENTARY SCHOOL - AREA OF WORK

SCALE: 1"=40'

40 20 0 40

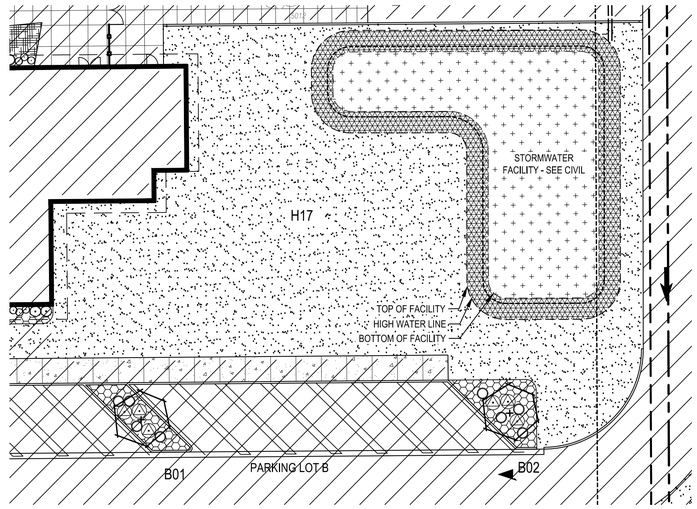
STORMWATER FACILITY PLANT MATERIAL SCHEDULE - PREVIOUS CONTRACT AREA H17

SYMBOL	HERBACEOUS ITEM	SIZE	QTY.	COMMENTS
	CAREX OBNUPTA SLOUGH SEDGE	1/2 GAL. 1' O.C.	2,852 SF 3,297 PLANTS	REFER TO DETAIL 1 & 2 / SHEET L4.05 MATURE: 2' - 5' HT. / SPREADING -1 PU / 50 SF
	JUNCUS PATENS SPREADING RUSH	1/2 GAL. 1' O.C.	1,738 SF 2,009 PLANTS	REFER TO DETAIL 1 & 2 / SHEET L4.05 MATURE: 1' -2' HT. / CLUMPING -1 PU / 50 SF

SITE LANDSCAPE PLANT MATERIAL SCHEDULE - PREVIOUS CONTRACT AREA H17

SYMBOL	GROUNDCOVERS ITEM	SIZE	QTY.	COMMENTS
	PT 303 SUN MIX BY PRO TIME LAWN SEED	SEED 7-10 LBS. / 1,000 SF	10,573 SF 100	REFER TO NOTES PERENNIAL RYEGRASSES, CHEWINGS FESCUE 1 PU / 50 SF

AREA OF PREVIOUS CONTRACT - NO CHANGE



PREVIOUS CONTRACT PLANTING PLAN FOR H17

SCALE: 1"=20'

20 10 0 20

PREVIOUS CONTRACT PLANT DATA - AREA H17, "OTHER YARDS" (1 PU/50 SF)

Area No.	Area in Square Feet	Significant Tree 15 PU	Large Tree Existing 10 PU	Large Tree Proposed 10 PU	Med. Tree Existing 8 PU	Med. Tree Proposed 8 PU	Small Tree Existing 4 PU	Small Tree Proposed 4 PU	Large Shrub Existing 2 PU	Large Shrub Proposed 2 PU	Small/Med Shrub Existing 1 PU	Small/Med Shrub Proposed 1 PU	Ground-cover Lawn Existing 1 PU/50 SF	Ground-cover Other Existing 1 PU/50 SF	Ground-cover Lawn Proposed 1 PU/50 SF	Ground-cover Other (SF) Proposed 1 PU/50 SF	Stormwater Detention Proposed 2PU/50 SF	Total Plant Units (PU)	Total Plant Units (PU) Required	Total Plant Units (PU) Deficient
H 17	14,352														10,573		4,590	395	287	0

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ATTACHMENT 102
EXHIBIT M

LAND USE REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

BLRB architects
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1250 Pacific Ave WA 253.627.5599
505 W Broadway WA 360.952.5080
621 SW Morrison St, Suite 550 OR 971.295.0270
404 SW Columbia OR 971.280.6506
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Drawing Title:
LANDSCAPE AREA EXISTING CONDITION FROM PREVIOUS CONTRACT

Date : 03-13-2020	Drawn By : BFS
Revised :	Project No. 21814220

Stamp: REGISTERED LANDSCAPE ARCHITECT, BECKY A. BUTTELER, OREGON, 11/18/11, RENEWS 11/30/20

Sheet No. L1.00 of

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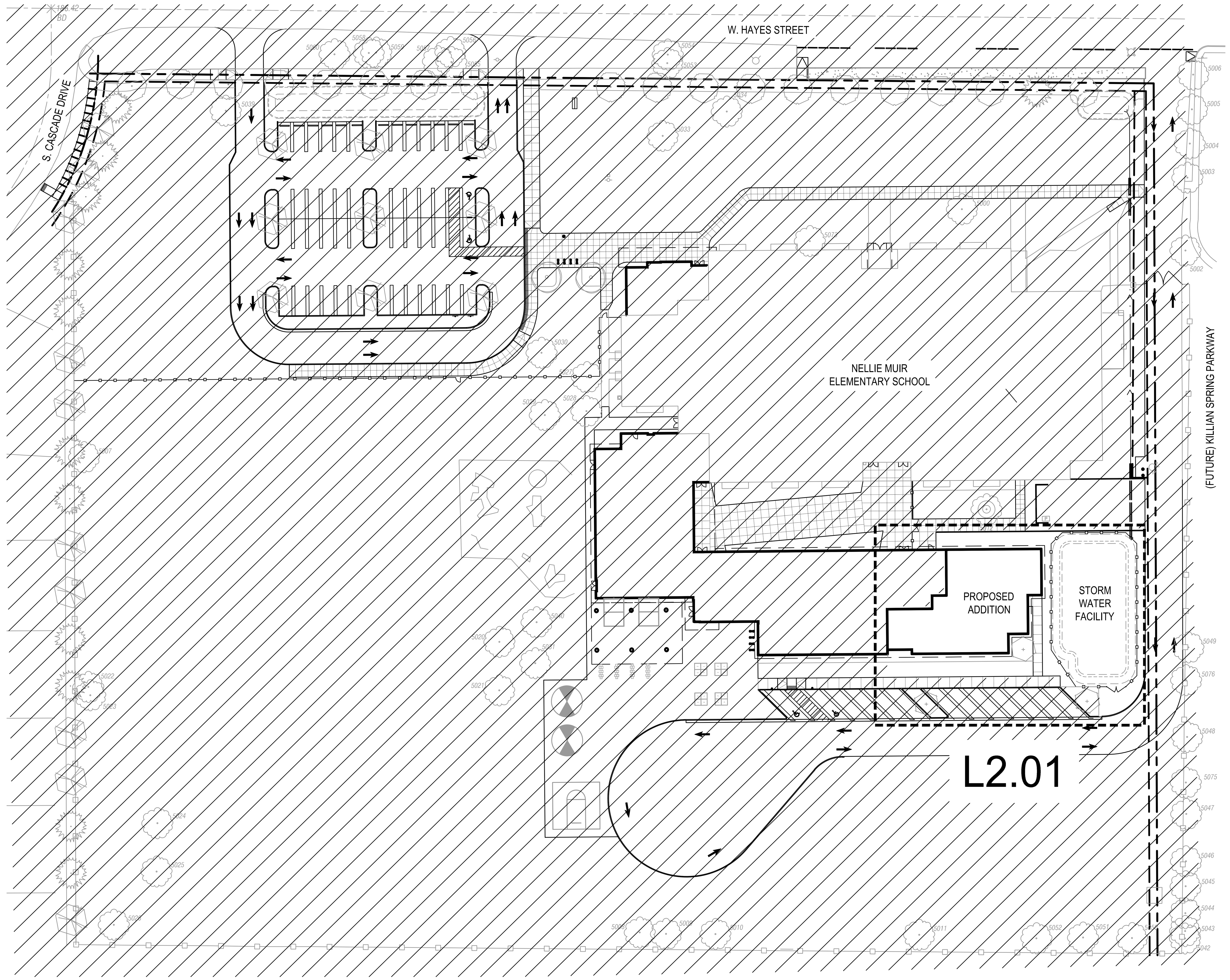

AREA OF PREVIOUS CONTRACT - NO CHANGE

NELLIE MUIR ELEMENTARY SCHOOL SITE - AREA OF WORK

SCALE: 1"=40'
40 20 0 40

GENERAL LANDSCAPE NOTES:

1. LANDSCAPE PLANTING SHALL CONFORM TO THE STANDARDS ESTABLISHED BY THE CITY OF WOODBURN PLANNING DEPARTMENT. STORMWATER FACILITY PLANTING SHALL CONFORM TO THE STANDARDS ESTABLISHED UNDER CLEANWATER SERVICES' *LOW IMPACT DEVELOPMENT APPROACHES HANDBOOK* FOR INFILTRATION / RAIN GARDEN FACILITIES.
2. ALL PLANT BEDS SHALL HAVE A 3" DEPTH OF BARK MULCH.
3. ALL NEW LANDSCAPE AREAS SHALL BE CONNECTED TO THE EXISTING UNDERGROUND AUTOMATIC IRRIGATION SYSTEM SERVED BY AN EXISTING WELL. ALL IRRIGATION EQUIPMENT WILL BE IDENTIFIED AS NON-POTABLE WATER BY USING PURPLE INDICATORS. EXISTING IRRIGATION IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED AND/OR RELOCATED TO PROVIDE FULL HEAD TO HEAD COVERAGE. EXISTING IRRIGATION SHOWN ON PLANS IS DIAGRAMMATIC, FIELD LOCATE.
4. ALL PLANT MATERIAL DELIVERED TO THIS SITE SHALL MEET THE AMERICAN STANDARD FOR NURSERY STOCK.
5. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
6. ALL LANDSCAPE AND LAWN AREAS NOT IN AREAS OF CONSTRUCTION, BUT DISTURBED BY CONSTRUCTION, SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION.

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WOODBURN SCHOOL DISTRICT

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404 SW Columbia Suite 120 OR 97702 541.330.6506

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Drawing Title:

LANDSCAPE PLANTING PLAN
SHEET LAYOUT

Date : 03-13-2020	Drawn By : BFS
Revised :	Project No. 21814220
Stamp	Sheet No. L2.00 of

REGISTERED LANDSCAPE ARCHITECT
BECKY L. STRICKLER
OREGON
11/18/11
RENEWS 11/30/20
FOR REVIEW ONLY

FOR PROPOSED PLANT MATERIAL SCHEDULE, SEE SHEET L2.01
FOR PROPOSED PLANT UNIT DATA, SEE SHEET L2.01
FOR PLANTING DETAILS & NOTES, SEE SHEET L2.02

SCALE: 1"=40'
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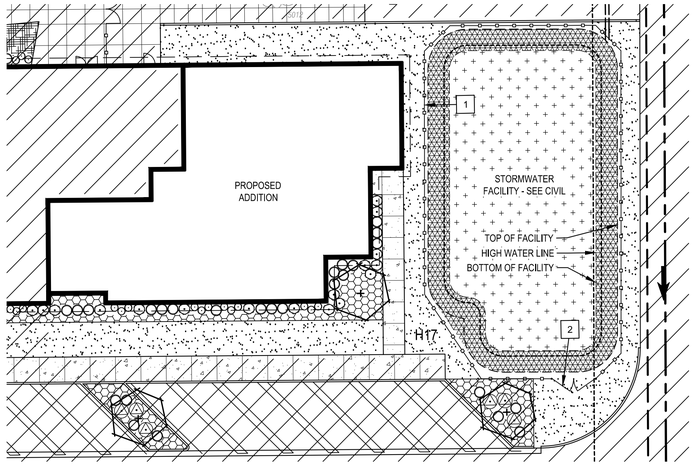
AREA OF PREVIOUS CONTRACT, NO CHANGE



PROPOSED LANDSCAPE PLANTING PLAN - AREA H17

SCALE: 1"=20'

20 10 0 20

CHAIN LINK FENCE NOTES

1. 4' CHAIN LINK FENCE, VINYL COATED, BLACK SEE DETAIL 4, SHEET L2.02
2. CHAIN LINK DOUBLE GATES (2), 6' WIDE (12' TOTAL) 4' HT., VINYL COATED, BLACK SEE DETAIL 4, SHEET L2.02

PROPOSED STORMWATER FACILITY PLANT MATERIAL SCHEDULE - H17

SYMBOL	HERBACEOUS ITEM	SIZE	QTY.	COMMENTS
+ +	*CAREX OBNUPTA* SLOUGH SEDGE	1/2 GAL. 1' O.C.	3,260 SF 3,770 PLANTS	REFER TO DETAIL 1 & 2 / SHEET L2.02 MATURE: 2' - 5' HT. / SPREADING -1 PU / 50 SF
	JUNCUS PATENS SPREADING RUSH	1/2 GAL. 1' O.C.	1,535 SF 1,775 PLANTS	REFER TO DETAIL 1 & 2 / SHEET L2.02 MATURE: 1' -2' HT. / CLUMPING -1 PU / 50 SF

PROPOSED LANDSCAPE PLANT MATERIAL SCHEDULE - H17

SYMBOL	TREES ITEM	SIZE	QTY.	COMMENTS
+	*ZELKOVA SERRATA 'MUSACHINO'* MUSACHINO COLUMNAR ZELKOVA	2" CAL. B&B	1	REFER TO DETAIL 3 / SHEET L202 MATURE: 45' HT. / 15' WD. - MED/8 PU FALL: YELLOW
	SHRUBS & ACCENTS			
	ITEM	SIZE	QTY.	COMMENTS
○	*BERBERIS THUNBERGII 'CRIMSON PYGMY'* DWARF JAPANESE BARBERRY	3 GAL. 3' O.C.	18	REFER TO DETAIL 2 / SHEET L202 MATURE: 2' HT. / 3' WD. - SM-MED/1 PU FULL TO PART SUN
○	*EUONYMUS JAPONICA 'GREEN SPIRE'* JAPANESE EUONYMUS	3 GAL. 2' O.C.	12	REFER TO DETAIL 2 / SHEET L202 MATURE: 6' HT. / 2' WD. - LARGE/2 PU FULL SUN, PART SHADE / EVERGREEN
⊙	*NANDINA DOMESTICA 'COMPACTA'* DWARF HEAVENLY BAMBOO	3 GAL. 3' O.C.	15	REFER TO DETAIL 2 / SHEET L202 MATURE: 4' HT. / 3' WD. - SM-MED/1 PU SUN TO PART SHADE / EVERGREEN
	GROUNDCOVERS			
	ITEM	SIZE	QTY.	COMMENTS
	ARCTOSTAPHYLOS 'EMERALD CARPET' EMERALD CARPET KINNIKINNICK	4" POT 3' O.C.	345 SF 45 PLANTS	REFER TO DETAIL 1 / SHEET L202 MATURE: 1' HT. / 3-5' WD. -1 PU / 50 SF FULL SUN / EVERGREEN
	PT 303 SUN MIX BY PRO TIME LAWN SEED	SEED 7-10 LBS. / 1,000 SF	2,357 SF 23 LBS	REFER TO NOTES PERENNIAL RYEGRASSES, CHEWINGS FESCUE 1 PU / 50 SF

PROPOSED PLANT DATA - AREA H17, "OTHER YARDS" (1 PU/50 SF)

Area No.	Area in Square Feet	Significant Tree 15 PU	Large Tree Existing 10 PU	Large Tree Proposed 10 PU	Med. Tree Existing 8 PU	Med. Tree Proposed 8 PU	Small Tree Existing 4 PU	Small Tree Proposed 4 PU	Large Shrub Existing 2 PU	Large Shrub Proposed 2 PU	Small/Med Shrub Existing 1 PU	Small/Med Shrub Proposed 1 PU	Ground-cover Lawn Existing 1 PU/50 SF	Ground-cover Other Existing 1 PU/50 SF	Ground-cover Lawn Proposed 1 PU/50 SF	Ground-cover Other (SF) Proposed 1 PU/50 SF	Stormwater Detention Proposed 2PU/50 SF	Total Plant Units (PU)	Total Plant Units (PU) Required	Total Plant Units (PU) Deficient
H 17	9,245					1				12		33			2,357	345	4,795	311	184	0

GENERAL LANDSCAPE NOTES:

1. LANDSCAPE PLANTING SHALL CONFORM TO THE STANDARDS ESTABLISHED BY THE CITY OF WOODBURN PLANNING DEPARTMENT. STORMWATER FACILITY PLANTING SHALL CONFORM TO THE STANDARDS ESTABLISHED UNDER CLEANWATER SERVICES' *LOW IMPACT DEVELOPMENT APPROACHES HANDBOOK* FOR INFILTRATION / RAIN GARDEN FACILITIES.
2. ALL PLANT BEDS SHALL HAVE A 3" DEPTH OF BARK MULCH.
3. ALL NEW LANDSCAPE AREAS SHALL BE CONNECTED TO THE EXISTING UNDERGROUND AUTOMATIC IRRIGATION SYSTEM SERVED BY AN EXISTING WELL. ALL IRRIGATION EQUIPMENT WILL BE IDENTIFIED AS NON-POTABLE WATER BY USING PURPLE INDICATORS. EXISTING IRRIGATION IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED AND/OR RELOCATED TO PROVIDE FULL HEAD TO HEAD COVERAGE. EXISTING IRRIGATION SHOWN ON PLANS IS DIAGRAMMATIC, FIELD LOCATE.
4. ALL PLANT MATERIAL DELIVERED TO THIS SITE SHALL MEET THE AMERICAN STANDARD FOR NURSERY STOCK.
5. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
6. ALL LANDSCAPE AND LAWN AREAS NOT IN AREAS OF CONSTRUCTION, BUT DISTURBED BY CONSTRUCTION, SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION.

FOR PLANTING DETAILS & NOTES, SEE SHEET L2.02

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Drawing Title:
LANDSCAPE PLANTING PLAN & PLANT DATA

Date : 03-13-2020	Drawn By : BFS
Revised :	Project No. 21814220
Stamp: REGISTERED LANDSCAPE ARCHITECT BECKY J. WINKLER OREGON 11/18/11 RENEWS 11/30/20	Sheet No. L2.01 of

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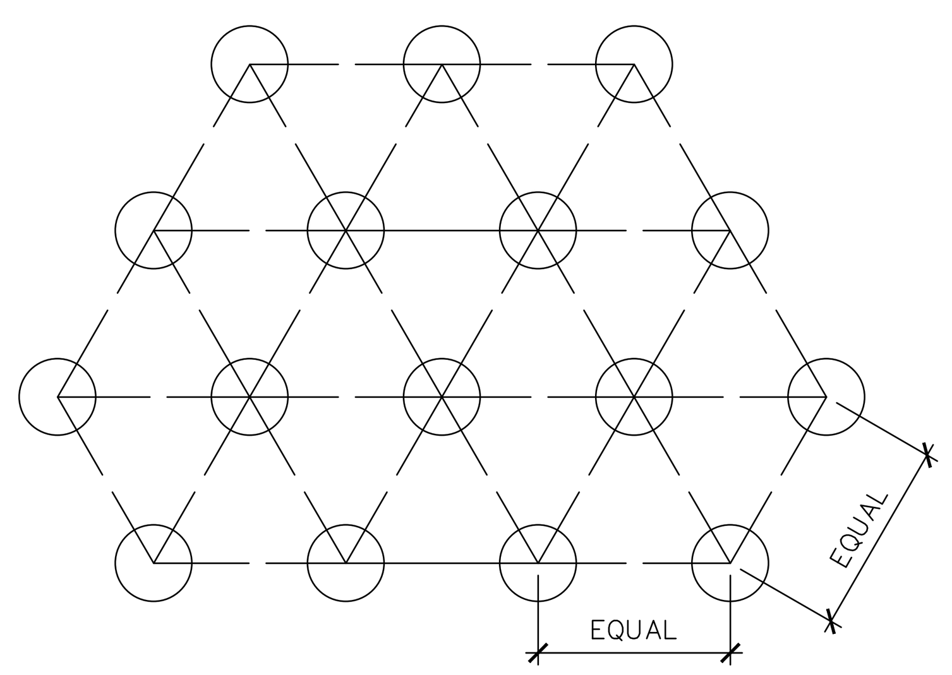
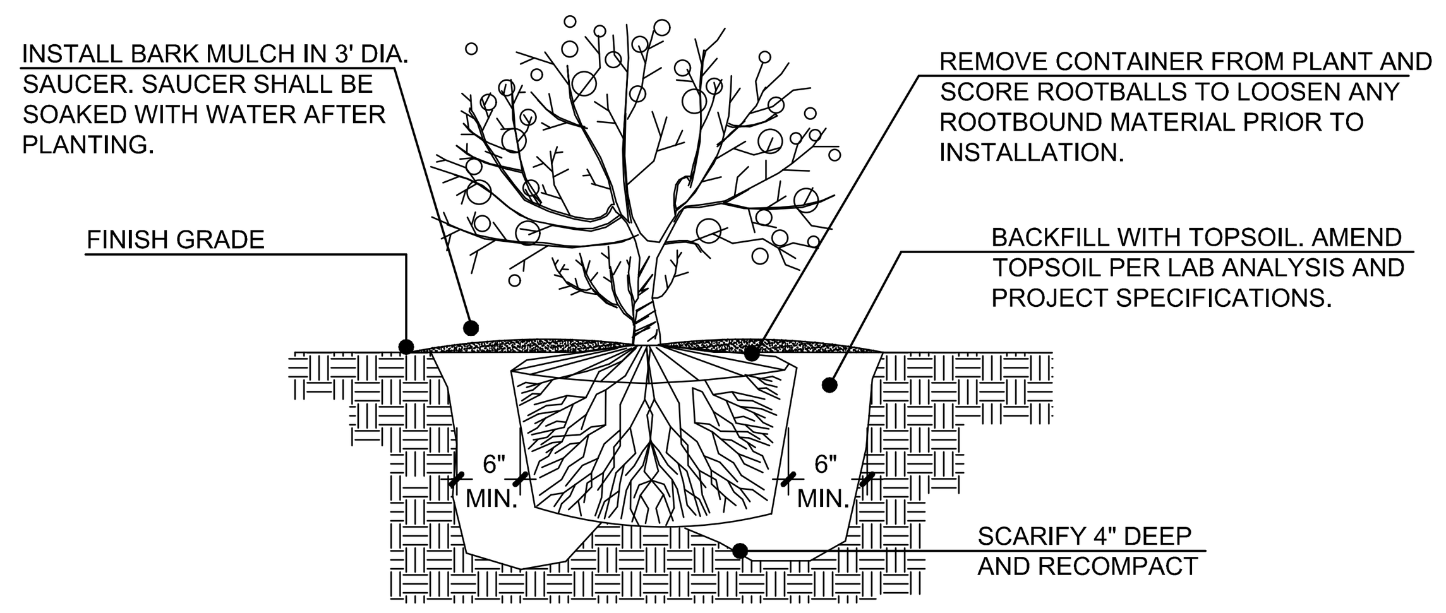


ALL GROUND COVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING PER ON CENTER SPACING AS SPECIFIED ON PLANTING PLAN.

LOCATE GROUND COVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE NOTED.

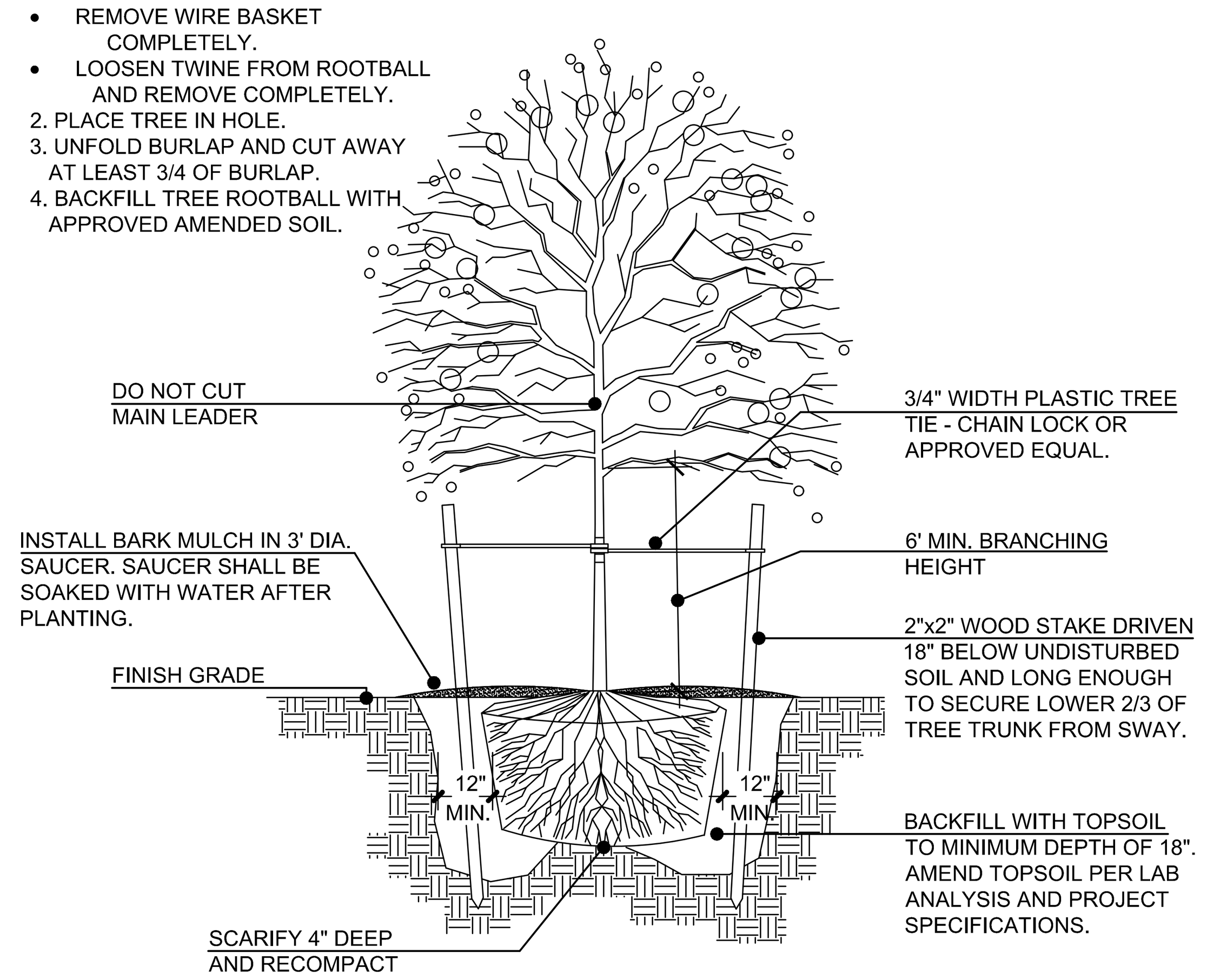
BACKFILL WITH APPROVED TOPSOIL. AMEND TOPSOIL PER THE LAB ANALYSIS.

1 GROUNDCOVER SPACING DIAGRAM
SCALE: NOT TO SCALE



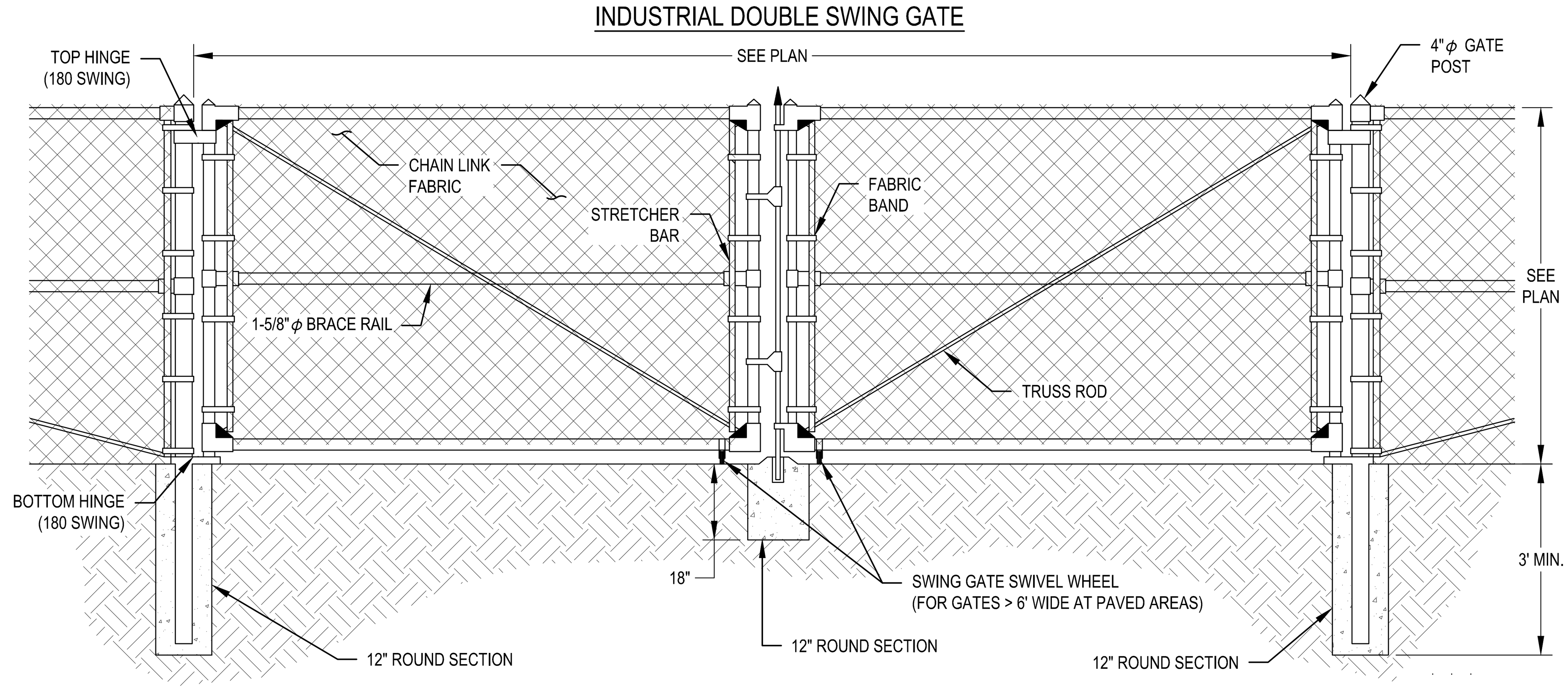
2 SHRUB PLANTING
SCALE: NOT TO SCALE

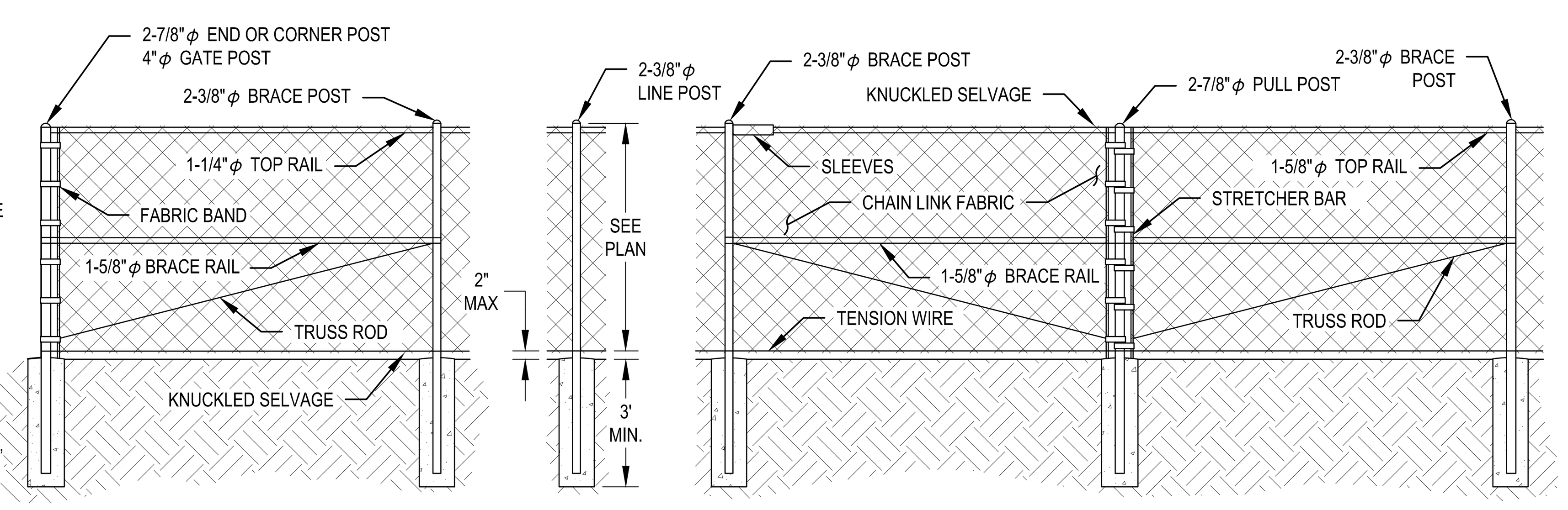
TREE INSTALLATION STEPS:
1. WHILE TREE IS OUT OF THE HOLE:
- REMOVE WIRE BASKET COMPLETELY.
- LOOSEN TWINE FROM ROOTBALL AND REMOVE COMPLETELY.
2. PLACE TREE IN HOLE.
3. UNFOLD BURLAP AND CUT AWAY AT LEAST 3/4 OF BURLAP.
4. BACKFILL TREE ROOTBALL WITH APPROVED AMENDED SOIL.



3 DECIDUOUS TREE PLANTING
SCALE: NOT TO SCALE

INDUSTRIAL DOUBLE SWING GATE





INDUSTRIAL CHAIN LINK FENCE

GENERAL FENCE AND GATE NOTES:

1. ALL CONCRETE POST BASES SHALL BE 10" MINIMUM DIAMETER, UNLESS OTHERWISE NOTED. USE 3,000 PSI MINIMUM.
2. ALL POSTS SHALL BE SPACED AT 10' MAXIMUM INTERVALS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. TOP OR BOTTOM TENSION WIRES SHALL BE PLACED WITHIN THE LIMITS OF THE FIRST FULL FABRIC WEAVE.
4. ALL MEMBER SIZES ARE I.D.
5. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG TOP AND BOTTOM EDGE.
6. DETAILS ARE ILLUSTRATIVE AND SHALL NOT LIMIT HARDWARE DESIGN.
7. FENCE FABRIC TO BE VINYL COATED, BLACK.
8. POSTS & HARDWARE SHALL HAVE THE SAME COLOR FINISH AS THE FENCE FABRIC, UNLESS OTHERWISE NOTED.
9. BRACE RAIL AND TRUSS ROD ONLY REQUIRED AT CORNER, END, GATE, BRACE, OR PULL POSTS. INSTALL ONE BRACE RAIL AND TRUSS ROD AT EACH SIDE OF SAID POST.
10. INSTALL INDUSTRIAL GRADE, FROST FREE, LOCKABLE LATCH ASSEMBLY, ACCESSIBLE FROM BOTH SIDES OF GATE.

4 CHAIN LINK FENCE AND GATE
SCALE: NTS

TOPSOIL NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AN ALTERNATE NUMBER IN THE BASE BID TO FURNISH AND INSTALL AMENDED TOPSOIL IN ALL LANDSCAPE BEDS AND SEEDED AREAS AS SPECIFIED BELOW UNLESS OTHERWISE NOTED. AMENDED TOPSOIL SHALL INCLUDE ALL NECESSARY FERTILIZERS, ORGANIC AND INORGANIC AMENDMENTS, BASED ON INDUSTRY STANDARDS FOR EXCEPTIONAL PLANT DEVELOPMENT.
   - SCARIFY ALL PLANTING AREA SUB-GRADE TO A DEPTH OF 6". INSTALL & TILL IN 2" LAYER OF AMENDED TOPSOIL INTO SCARIFIED SUB-GRADE AND RE-COMPACT TO 95%.
   - PROVIDE MIN. 12" DEPTH AMENDED TOPSOIL TO ALL PLANTING AREAS.
   - PROVIDE MIN. 18" DEPTH AMENDED TOPSOIL TO ALL PLANTER ISLANDS PLUS MOUNDING REQUIREMENT.
2. IMMEDIATELY UPON BEING AWARDED THE CONTRACT, THE GENERAL CONTRACTOR SHALL COORDINATE WITH A STATE LICENSED SOIL LABORATORY AND THE LANDSCAPE ARCHITECT, TO DETERMINE THE SUITABILITY AND AVAILABILITY OF THE EXISTING SITE TOPSOIL. THE CONTRACTOR SHALL SEND THE RECOMMENDED TOPSOIL SAMPLES TO A SOIL LABORATORY FOR ANALYSIS, STATING THAT THE TOPSOIL IS TO BE ANALYZED FOR A LANDSCAPE CROP. AFTER RECEIVING RECOMMENDATIONS FROM THE SOILS EXPERT, THE CONTRACTOR SHALL FORWARD A COPY TO THE OWNERS REPRESENTATIVE AT WHICH TIME A DECISION WILL BE MADE BY THE OWNER AS TO WHETHER OR NOT THE EXISTING ON-SITE STOCKPILE WILL BE USED FOR TOPSOIL FOR THE PROJECT.
3. IF THE EXISTING TOPSOIL IS TO BE USED THE CONTRACTOR SHALL ADD THE RECOMMENDED AMENDMENTS AND FERTILIZERS AS STATED IN THE SOILS ANALYSIS ALONG WITH ADDITIONAL AMENDMENTS AND FERTILIZERS LISTED IN NOTE #6 AND #7 BELOW.
4. IN THE EVENT THE EXISTING ON-SITE TOPSOIL IS OF POOR QUALITY (AS DETERMINED BY THE SOIL ANALYSIS) OR IS UNAVAILABLE FOR USE, THE OWNER'S REPRESENTATIVE WILL MAKE A DECISION AS TO WHETHER OR NOT THE ADDITIONAL COST ASSOCIATED WITH IMPORTING 9" OF AMENDED TOPSOIL WILL BE ADDED TO THE SIGNED CONTRACT AGREEMENT.
5. IF AMENDED IMPORTED TOPSOIL IS TO BE USED, THE GENERAL CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER'S REPRESENTATIVE AND THE CONTRACT MODIFIED ACCORDINGLY. TOPSOIL SHALL BE OBTAINED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP. DO NOT OBTAIN FROM BOGS OR MARSHES. IMPORTED TOPSOIL SHALL COMPLY WITH ASTM D 5268, WITH A PH RANGE OF 5.5 TO 7.0, FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION, AND ANY OTHER EXTRANEOUS MATERIALS (ROCKS, STICKS, RUBBISH, SOD) HARMFUL TO PLANT GROWTH. AN ADDITIONAL SOILS ANALYSIS WILL BE REQUIRED FOR THE IMPORTED TOPSOIL.
6. AMENDED IMPORTED TOPSOIL SHALL INCLUDE ALL NECESSARY FERTILIZER AND AMENDMENTS PER THE SOIL ANALYSIS RECOMMENDATIONS. TOPSOIL ANALYSIS SHALL STATE ORGANIC MATTER, INORGANIC MATTER (SILT, CLAY AND SAND), DELETERIOUS MATERIAL, PH, MINERAL AND PLANT-NUTRIENT CONTENT. IN ADDITION THE REPORT SHALL ALSO STATE THE RECOMMENDED QUANTITIES (BY PERCENTAGE OF WEIGHT, I.E. 2 LBS OF 15-15-15 PER 1,000 SF) OF NITROGEN, PHOSPHORUS AND POTASH, NUTRIENTS AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY AMENDED TOPSOIL. CONTRACTOR SHALL FURNISH REPORT AND RECOMMENDATIONS TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO MOBILIZATION.
7. IN ADDITION TO THE SOILS ANALYSIS RECOMMENDATIONS, THE LANDSCAPE CONTRACTOR SHALL ADD 1 PART (2 " LAYER) OF APPROVED HUMUS MATERIAL TO 2 PARTS AMENDED TOPSOIL. SUBMIT CUT SHEET OF HUMUS MATERIAL (CERTIFIED FINE COMPOSTED YARD DEBRIS) TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL PRIOR TO MIXING.
8. PRIOR TO PLACEMENT OF TOPSOIL, SCARIFY AND LOOSEN SUB-GRADE OF PLANTING BED AREA TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATERIALS. REMOVE WEEDS FROM EXISTING SUB-GRADE AND TREAT WITH NECESSARY HERBICIDE TO PREVENT WEED GROWTH. SPREAD HALF OF THE AMENDED TOPSOIL MIXTURE AND WORK INTO UPPER LAYER OF LOOSENED SUB-GRADE TO CREATE A TRANSITION LAYER. AFTER LIGHT ROLLING AND NATURAL SETTLEMENT, PLACE REMAINING HALF OF THE PLANTING SOIL MIXTURE TO THE DEPTH REQUIRED TO MEET THICKNESS, GRADES, AND ELEVATIONS SHOWN.
9. WITHIN TREE WELLS & PLANTER ISLANDS, REMOVE EXISTING SOIL AND OTHER DEBRIS, TO A MINIMUM DEPTH OF 18" AND REPLACE WITH AMENDED TOPSOIL. ADD ADDITIONAL SOIL, AS REQUIRED PER DETAILS AND NOTES.
10. THE CONTRACTOR SHALL SUBMIT SHIPPING TICKETS FOR IMPORTED TOP SOIL AND HUMUS MATERIAL TO THE LANDSCAPE ARCHITECT 60 DAYS PRIOR TO INSTALLATION FOR REVIEW AND WRITTEN APPROVAL.

5 TOPSOIL NOTES
SCALE: N/A

GENERAL PLANTING PLAN NOTES:

1. ALL LANDSCAPE AREAS THAT HAVE BEEN PREVIOUSLY TREATED WITH CEMENT, SHALL BE EXCAVATED A MINIMUM OF 6" BELOW BOTTOM OF TREATMENT AREA AND REMOVED FROM THE SITE. BACKFILL WITH TOPSOIL TO ORIGINAL GRADE PRIOR TO ADDING THE SPECIFIED AMENDED SOIL PER THE PLANS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY NOTIFICATION CENTER 72 HOURS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
4. THE CONTRACTOR IS TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO THE LANDSCAPE ARCHITECT.
5. ROOT BARRIER REQUIREMENT: INSTALL 18" X 15' ROOT BARRIER* WHERE ANY TREE LOCATION IS WITHIN 4" OF ANY CURB, SIDEWALK, OR DRIVEWAY. *APPROVED ROOT BARRIERS: DEEPROOT UB 18-2, NDS EP-1850, OR EQUIVALENT.
6. ALL PLANT MASSES TO BE CONTAINED WITHIN A 3" LAYER OF BARK MULCH BED, UNLESS NOTED OTHERWISE. ALL TREES LOCATED IN LAWN AREAS SHALL HAVE A 3' DIAMETER CIRCLE, ON CENTER OF TREE, WITH 3" BARK MULCH LAYER. DO NOT PLACE BARK MULCH AGAINST TRUNK OF TREE.
7. BED EDGE TO BE NO LESS THAN 12" AND NO MORE THAN 18" FROM OUTER EDGE OF PLANT MATERIAL BRANCHING. WHERE GROUND-COVER OCCURS, PLANT TO LIMITS OF AREA AS SHOWN.
8. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS.
9. CONTRACTOR TO FINE GRADE AND REMOVE ALL ROCK GREATER THAN 1 INCH DIAMETER IN ALL PLANTING AREAS PRIOR TO PLANTING, AND PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES (BUMPS OR DEPRESSIONS) & EXTRANEOUS MATERIAL OR DEBRIS.
10. PLANT QUANTITIES LISTED IN THE LEGEND ARE INTENDED TO ASSIST THE CONTRACTOR IN EVALUATING THEIR OWN TAKE OFFS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BID QUANTITIES AS INDICATED ON THE PLANS. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER IN THE PLANT LEGEND AND THE QUANTITY OF GRAPHIC SYMBOLS SHOWN, THE GRAPHIC SYMBOL QUANTITY SHALL GOVERN.
11. COORDINATE PLANTING INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLER AND DRAINAGE SYSTEMS.
12. CONTRACTOR SHALL NOT REMOVE ANY TREES DURING CONSTRUCTION WITHOUT THE EXPRESS WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AS DIRECTED BY THE LANDSCAPE ARCHITECT.
13. WHERE PROPOSED TREE LOCATIONS OCCUR UNDER EXISTING OVERHEAD UTILITIES OR CROWD EXISTING TREES, NOTIFY LANDSCAPE ARCHITECT TO ADJUST TREE LOCATIONS OR TREE SPECIES.
14. LANDSCAPE MAINTENANCE PERIOD BEGINS IMMEDIATELY AFTER THE COMPLETION OF ALL PLANTING OPERATIONS AND ACKNOWLEDGEMENT THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED BY THE CONTRACTOR. MAINTAIN TREES, SHRUBS, LAWNS AND OTHER PLANTS UNTIL FINAL ACCEPTANCE OR 90 DAYS AFTER NOTIFICATION AND ACCEPTANCE, WHICHEVER IS LONGER. WARRANTY ALL PLANTINGS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.
15. REMOVE EXISTING WEEDS FROM PROJECT SITE PRIOR TO THE ADDITION OF ORGANIC AMENDMENTS AND FERTILIZER.
16. BACKFILL MATERIAL FOR TREE AND SHRUB PLANTING SHALL CONTAIN: ONE PART FINE GRADE COMPOST TO FOUR PARTS TOPSOIL BY VOLUME. INCORPORATE ANY SLOW RELEASE FERTILIZERS AND AMENDMENTS PER SOIL LAB ANALYSIS RECOMMENDATIONS.
17. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT 90 DAYS PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS, IF REJECTED, WILL BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL PLANT MATERIAL IN THE SIZE SPECIFIED ON PLAN PRIOR TO INSTALLATION. IN THE EVENT THE PLANT MATERIAL IS NOT AVAILABLE IN THE SIZE SPECIFIED, THE CONTRACTOR SHALL SUBMIT TO THE OWNERS' REPRESENTATIVE, AND THE LANDSCAPE ARCHITECT, A WRITTEN ESTIMATE TO INCREASE PLANT MATERIAL (AND INSTALL) THE NEXT AVAILABLE CONTAINER SIZE PLANT (I.E. 4" POT TO ONE GALLON CONTAINER, 2" CALIPER TREE TO 2.5" CALIPER).
19. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING BEST MANAGEMENT PRACTICES TO STABILIZE ALL SLOPES 3:1 OR GREATER AND PREVENT EROSION OR MOVEMENT OF SOIL FROM SLOPES. THIS COULD INCLUDE, BUT NOT NECESSARILY LIMITED TO, EROSION CONTROL FABRIC, STAKING, NETTING, AND STRAW WATTLES. SUBMIT METHOD OF SLOPE STABILIZATION TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO IMPLEMENTATION.
20. PRIOR TO MOBILIZATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT, IN WRITING, IF THEY BELIEVE ANY OF THE PLANT MATERIAL IDENTIFIED ON THE PLAN MAY NOT BE SUITABLE FOR THE SITE OR MAY DIE. SUBSTITUTION REQUESTS MAY BE GRANTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF NOTIFICATION IS NOT GIVEN TO THE LANDSCAPE ARCHITECT ALL PLANTING WHICH FAILS TO GROW (EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE AS DETERMINED BY THE OWNER, NEGLECT OR VANDALISM) SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
21. NOTIFY THE LANDSCAPE ARCHITECT IN WRITING, WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR PLANTING SOIL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, PRIOR TO PLANTING.
22. PLANTING RESTRICTIONS - PLANTING IS NOT PERMITTED DURING THE FOLLOWING CONDITIONS, UNLESS OTHERWISE APPROVED IN WRITING:
    A. COLD WEATHER: LESS THAN 32 DEGREES FAHRENHEIT
    B. HOT WEATHER: GREATER THAN 90 DEGREES FAHRENHEIT
    C. WET WEATHER: SATURATED SOIL
    D. WINDY WEATHER: WIND VELOCITIES GREATER THAN 20 M.P.H.
22. ALL PLANTING AREAS SHALL BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
23. DO NOT LOCATE TREES IN EASEMENTS.
24. SEE CIVIL PLANS FOR EXISTING TREES TO REMAIN ON SITE.
25. ALL PLANTS MUST COMPLY WITH THE AMERICAN STANDARD FOR NURSERY STOCK. THOSE THAT DO NOT, WILL BE REJECTED. 2" CALIPER TREES MUST BRANCH AT 6' MIN. HT.

6 PLANTING GENERAL NOTES
SCALE: N/A

Cardno
PORTLAND
6720 SW MACADAM AVE, STE 200, PORTLAND, OR 97219
TEL: (503) 419 - 2500 FAX: (503) 419 - 2600 www.cardno.com

DRAWING REVISIONS

ATTACHMENT 102
EXHIBIT P

LAND USE REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SCHOOL DISTRICT

BLRB architects
TACOMA | SPOKANE | PORTLAND | BEND
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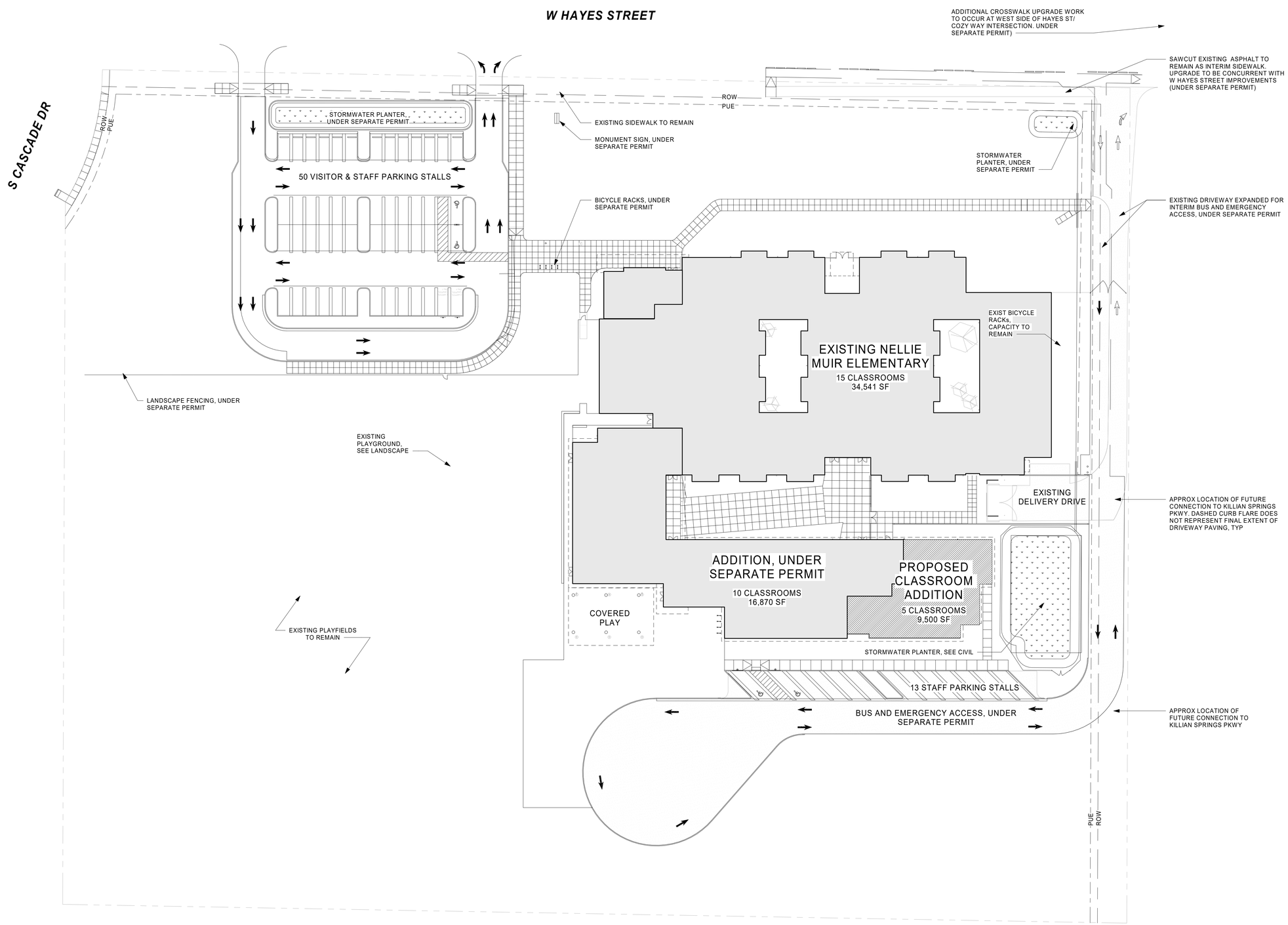
Drawing Title:
LANDSCAPE PLANTING DETAILS AND NOTES

Date : 03-13-2020	Drawn By : BFS
Revised :	Project No. 21814220
Stamp: REGISTERED LANDSCAPE ARCHITECT, BECKY L. STRICKLER, OREGON, 11/18/11, RENEWS 11/30/20 — FOR REVIEW ONLY	Sheet No. L2.02 of

4/15/2019 11:46:51 AM



1 ARCHITECTURAL SITE PLAN

1/32" = 1'-0" @ FULL SIZE

0' 8' 16' 32'

3/12/2020 10:16:10 AM

ATTACHMENT 102
EXHIBIT Q

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

BLRB architects

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1250 Pacific Ave Suite 700 WA 98402 253.627.5599

505 W Riverside Suite 560 WA 99201 509.252.5000

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404 SW Columbia Suite 120 OR 97702 541.330.6566

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Drawing Title:
ARCHITECTURAL SITE PLAN

Date : 11/12/2019	Drawn By : JK
Revised : 11/08/19	Project No. 1746P

Stamp

REGISTERED ARCHITECT
Richard H. Higgins
PORTLAND, OR 4025
STATE OF OREGON

Sheet No.
DR1.0
of

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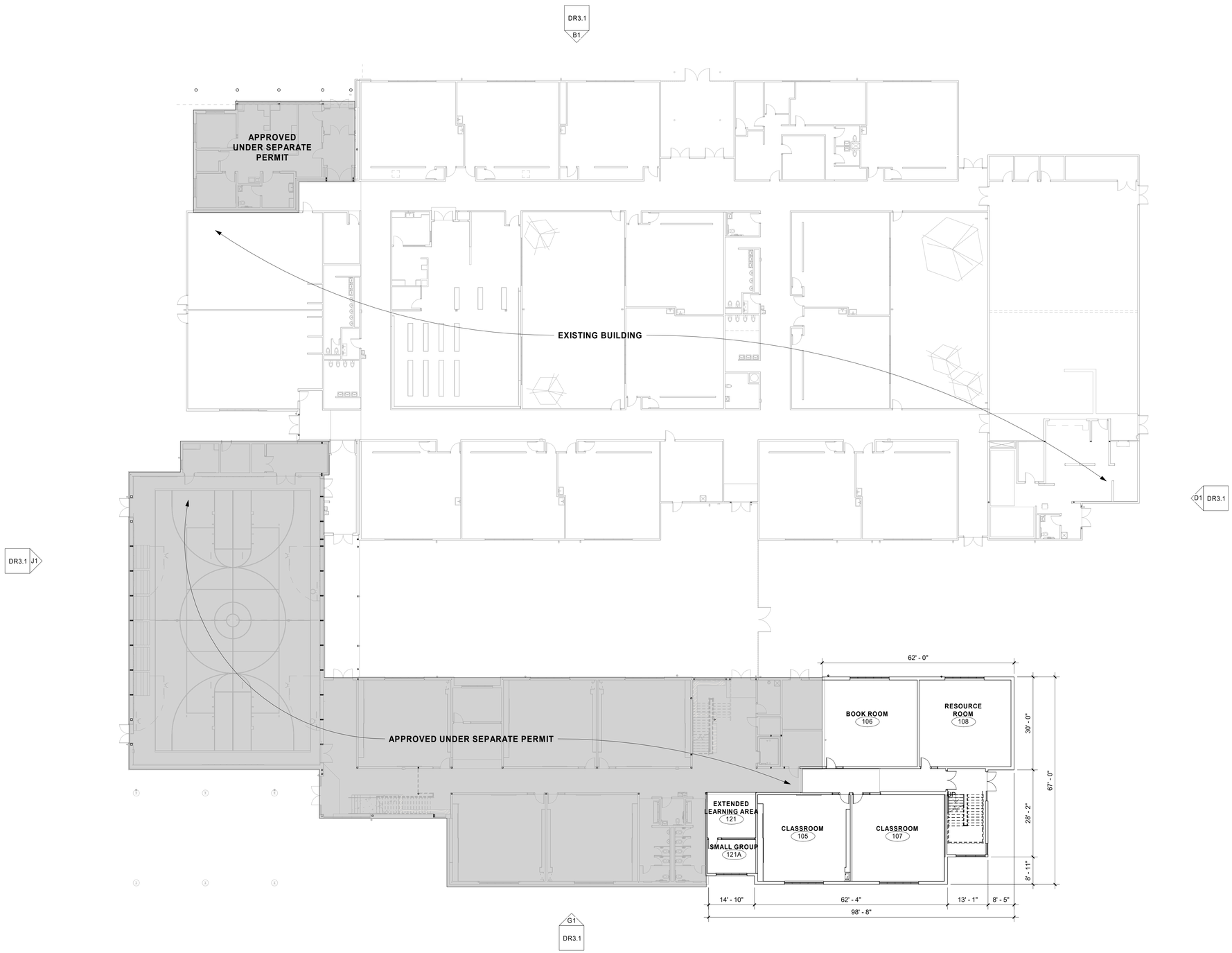

H1 PROPOSED FIRST FLOOR

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

3/12/2020 10:16:16 AM

ATTACHMENT 102
EXHIBIT R

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

BLRB architects

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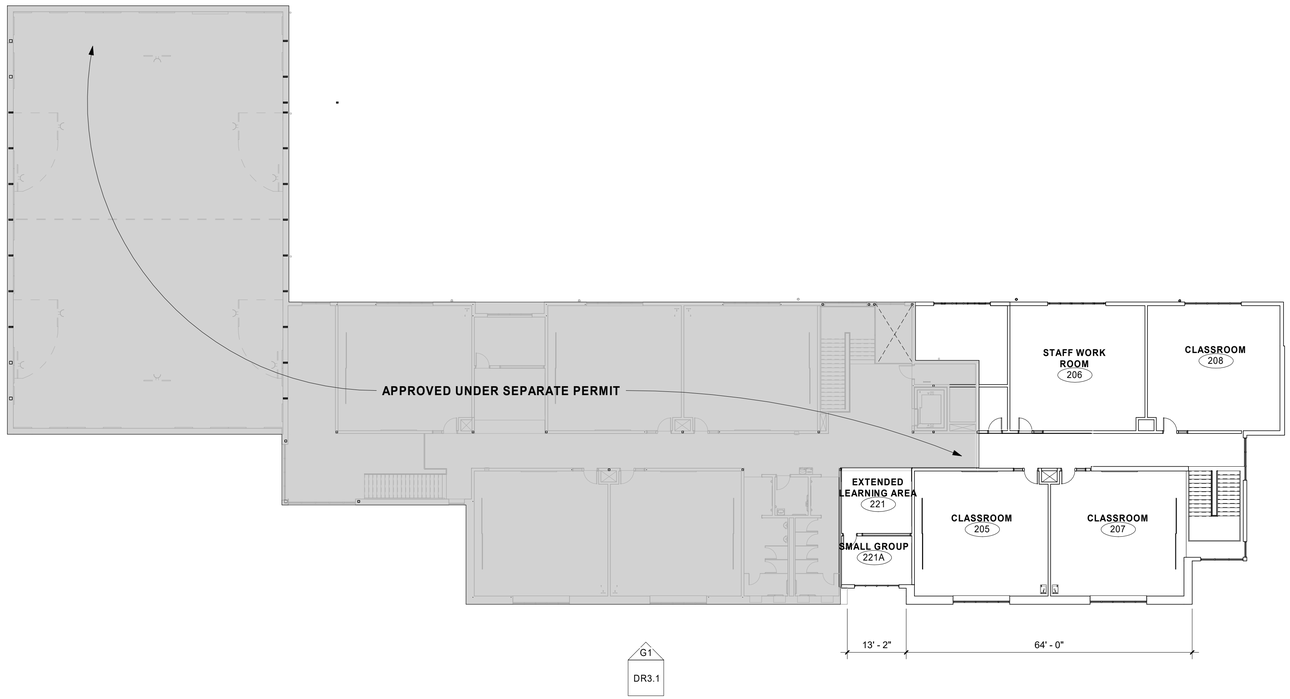
Drawing Title:
REFERENCE FLOOR PLAN - LEVEL 1

Date : 11/12/2019	Drawn By : JK
Revised : 11/08/19	Project No. 1746P
Stamp	Sheet No. DR2.1

of



H1 PROPOSED SECOND FLOOR

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

3/12/2020 10:16:18 AM

ATTACHMENT 102
EXHIBIT S

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

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Drawing Title:
REFERENCE FLOOR PLAN - LEVEL 2

Date : 11/12/2019	Drawn By : JK
Revised : 11/08/19	Project No. 1746P

Stamp

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PORTLAND, OR 4025
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Sheet No.

DR2.2

of

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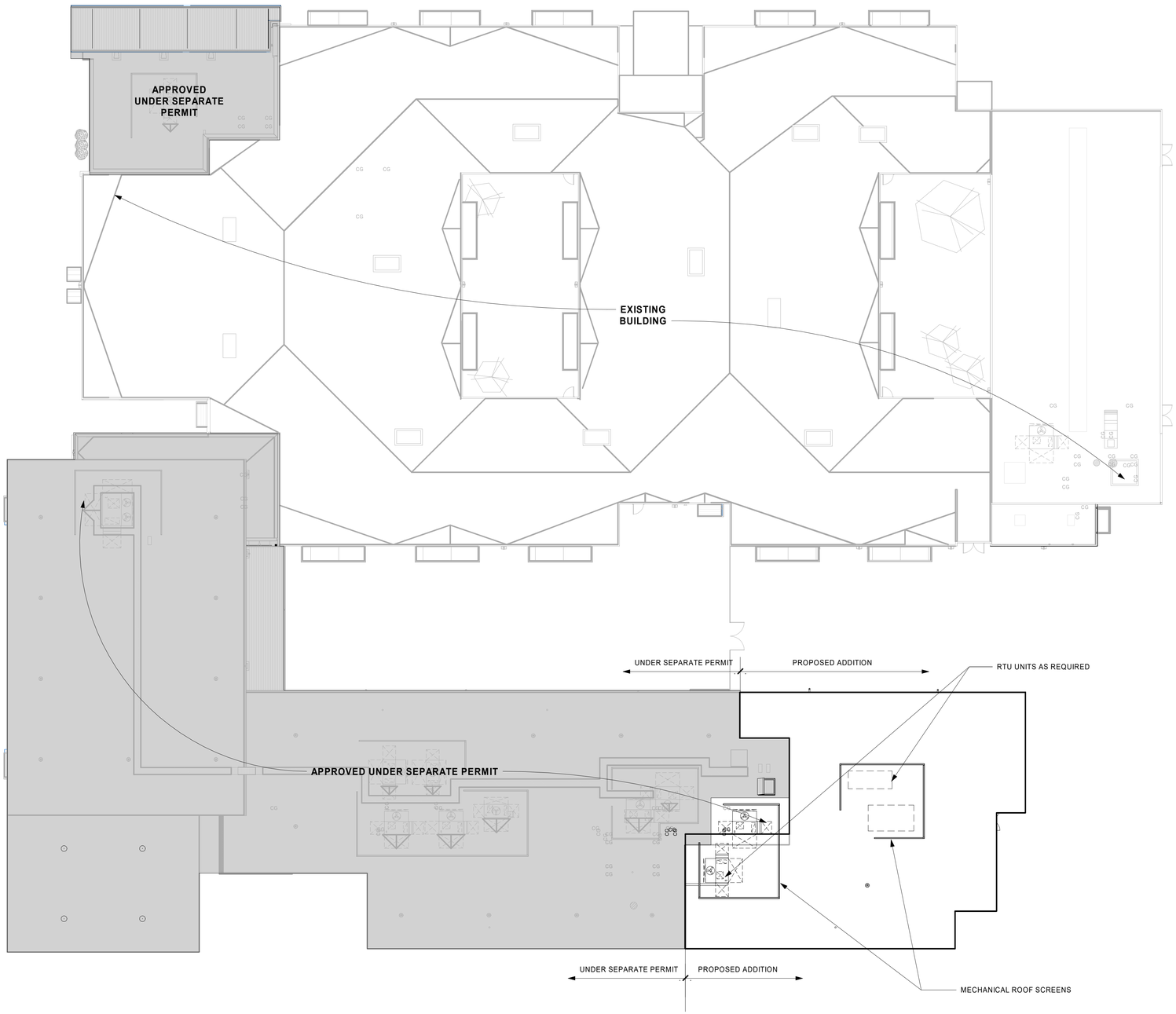

1 ROOF PLAN - REFERENCE

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

3/12/2020 10:16:26 AM

ATTACHMENT 102
EXHIBIT T

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

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Drawing Title:
REFERENCE ROOF PLAN

Date : 11/12/2019	Drawn By : JK
Revised : 11/08/19	Project No. 1746P
Stamp: REGISTERED ARCHITECT · Richard H. Higgins · PORTLAND, OR 4025 · STATE OF OREGON	Sheet No. DR2.3 of

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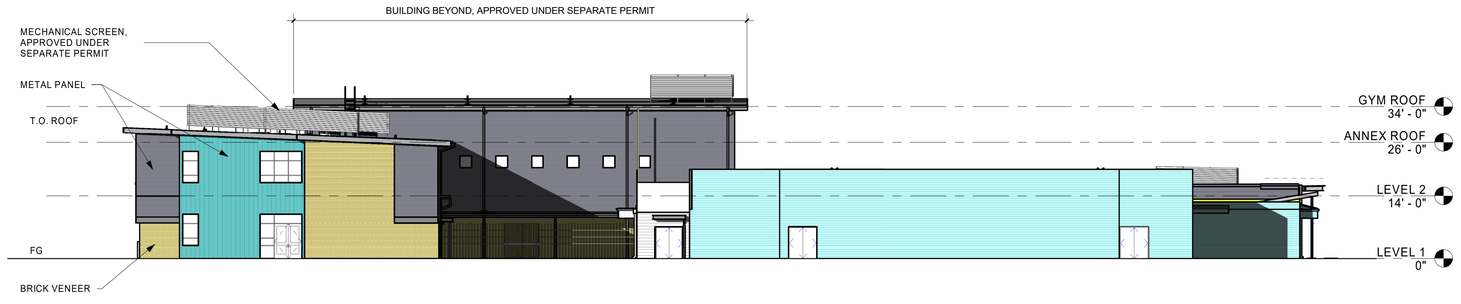
B1 OVERALL ELEVATION - NORTH

1/16" = 1'-0" @ FULL SIZE

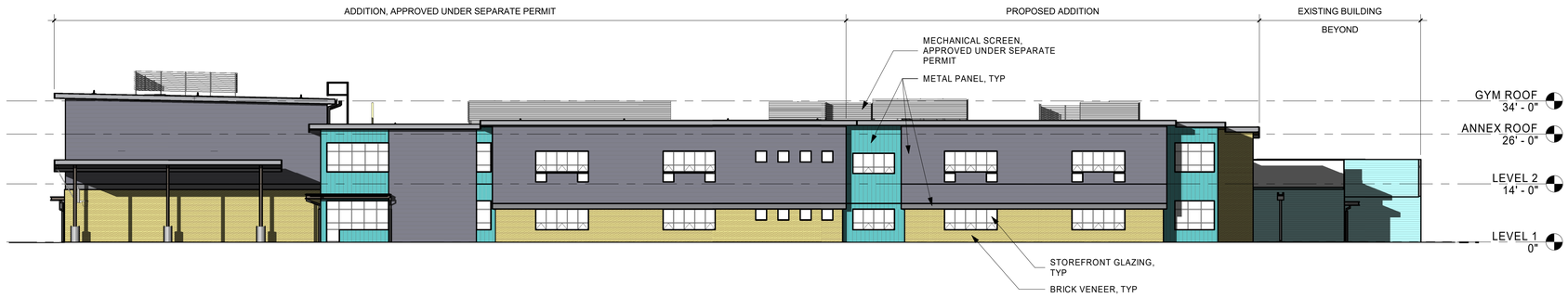
0' 4' 8' 16'



D1 OVERALL ELEVATION - EAST

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'



G1 OVERALL ELEVATION - SOUTH

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

J1 OVERALL ELEVATION - WEST

1/16" = 1'-0" @ FULL SIZE

0' 4' 8' 16'

EXTERIOR ELEVATION LEGEND

042000.BV
BRICK VENEER
MUTUAL MATERIALS GOLDENROD

074213.MP
METAL WALL PANEL
(AEP SPAN COOL SLATE GRAY)
HORIZONTAL

074213.MP
METAL WALL PANEL
(AEP SPAN OLD TOWN GRAY)
HORIZONTAL

074213.MP
METAL WALL PANEL
(NELLIE MUIR TEAL)
VERTICAL

074213.MP
METAL WALL PANEL
(AEP SPAN OLD TOWN GRAY)
VERTICAL

074600.CSH
FIBER CEMENT LAP SIDING
(TO MATCH EXISTING)
HORIZONTAL

ATTACHMENT 102
EXHIBIT U

DESIGN REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

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Drawing Title:
EXTERIOR ELEVATIONS

Date : 11/12/2019	Drawn By : JK
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DR3.1

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3/12/2020 10:17:06 AM

Landis Consulting
ENGINEERING SERVICES
6446 Fairway Ave. SE, Suite 220
Salem, OR 97306
503-584-1576
www.landisconsulting.com

EXTERIOR LUMINAIRE SCHEDULE

FIXTURE NO.	DESCRIPTION	LAMP TYPE	LUMENS	CRI	COLOR TEMP.	DRIVER	EMERGENCY DRIVER	INTEGRAL MOTION/PHOTO SENSOR	VOLTS	LOAD	MFR.	MODEL NUMBER
S2	22-1/2"L x 15-3/4"W x 5"H SITE LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING, SINGLE HEAD, TYPE II DISTRIBUTION, SURGE PROTECTION MODULE, 0-10V DIMMING DRIVER, 600mA DRIVE CURRENT, AND BRONZE FINISH. PROVIDE ACCESSORY MOTION SENSOR AND PHOTOCELL WITH WIRELESS CONFIGURATION TOOL FOR OCCUPENCY SENSOR. MOTION SENSOR SHALL BE SUITABLE FOR 15' POLE APPLICATIONS. PROVIDE 4" POLE MOUNT ARM. LUMINAIRE SHALL BE MOUNTED ON 15' HIGH x 4" SQUARE 0.12" THICK STEEL POLE WITH HAND HOLE AND BRONZE FINISH. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POLE STYLE TOP AND POLE DRILL PATTERN BASED ON THE NUMBER OF LUMINAIRE HEADS BEING PROVIDED ON THE POLES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANCHOR BOLTS PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.	LED	4,000 LM	70	3000K	STANDARD 0-10V	NO	YES	UNV	34 WATTS	MCGRAW-EDISON LITHONIA HUBBELL	GPC GALLEON SERIES D-SERIES RATIO SERIES

ATTACHMENT 102
EXHIBIT V

LAND USE REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

BLRB architects

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404 SW Columbia Suite 120 OR 97702 541.330.8506
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Drawing Title:
EXTERIOR LUMINAIRE SCHEDULE - LUR

Date : 02/28/2020	Drawn By : SR
Revised :	Project No. 1746P
Stamp	Sheet No. E0.33 of

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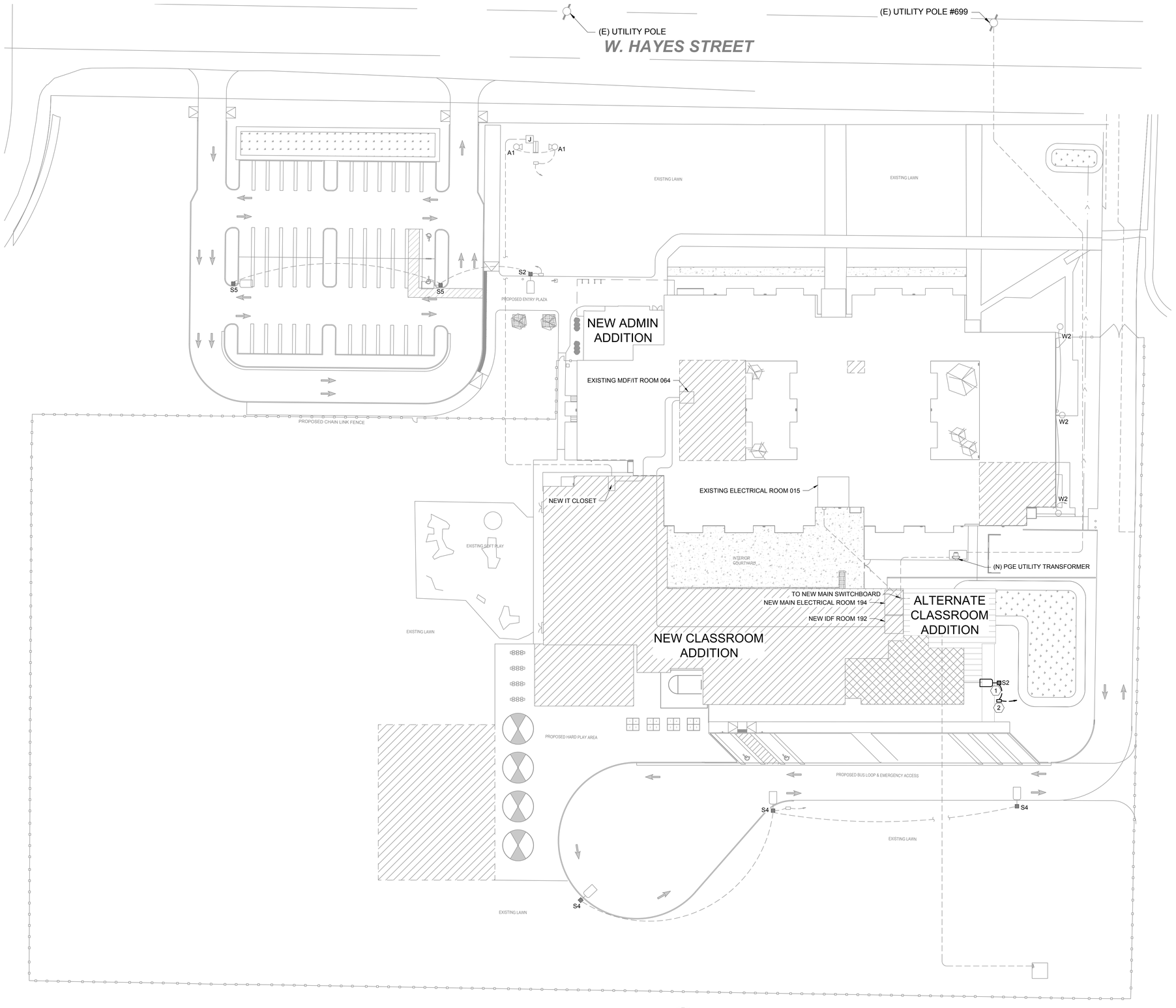

1 ELECTRICAL SITE PLAN - LUR
SCALE: 1" = 30' 0' 15' 30'

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ENGINEERING SERVICES
6446 Fairway Ave. SE, Suite 220
Salem, OR 97306
503-584-1576
www.landisconsulting.com

SHEET KEY NOTES

1. PROVIDE 18" LIGHTING POLE BASE. SEE DETAIL 101 ON SHEET E0.02.
2. HDPE MEDIUM IN-GROUND PULL BOX (260533.M50).

ATTACHMENT 102
EXHIBIT W

LAND USE REVIEW

NELLIE MUIR ELEMENTARY SCHOOL

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Drawing Title:
ELECTRICAL SITE PLAN - LUR

Date : 02/28/2020	Drawn By : SR
Revised :	Project No. 1746P
Stamp	Sheet No. E2.01 of

KITTELSON & ASSOCIATES

851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

April 10, 2019

Project #: 23384

Dago Garcia, PE
City of Woodburn
Public Works Department
190 Garfield Street
Woodburn, OR 97071

RE: Traffic Impact Analysis for Nellie Muir Elementary School Expansion Project – Woodburn, OR

Dear Mr. Garcia,

This report and presents the traffic impact analysis results for the Woodburn School District's proposed expansion to the Nellie Muir Elementary School located along Hayes Street, just east of Cascade Avenue in Woodburn, Oregon. Figure 1 displays a site vicinity map showing the site location and study intersections and Figure 2 displays the proposed school expansion plan.

As documented in this study, with recommended mitigation measures in place, the proposed development can be constructed while maintaining acceptable levels of traffic operations and safety at the study intersections and site accesses. Additional details of the methodology, findings, and recommendations are provided herein.

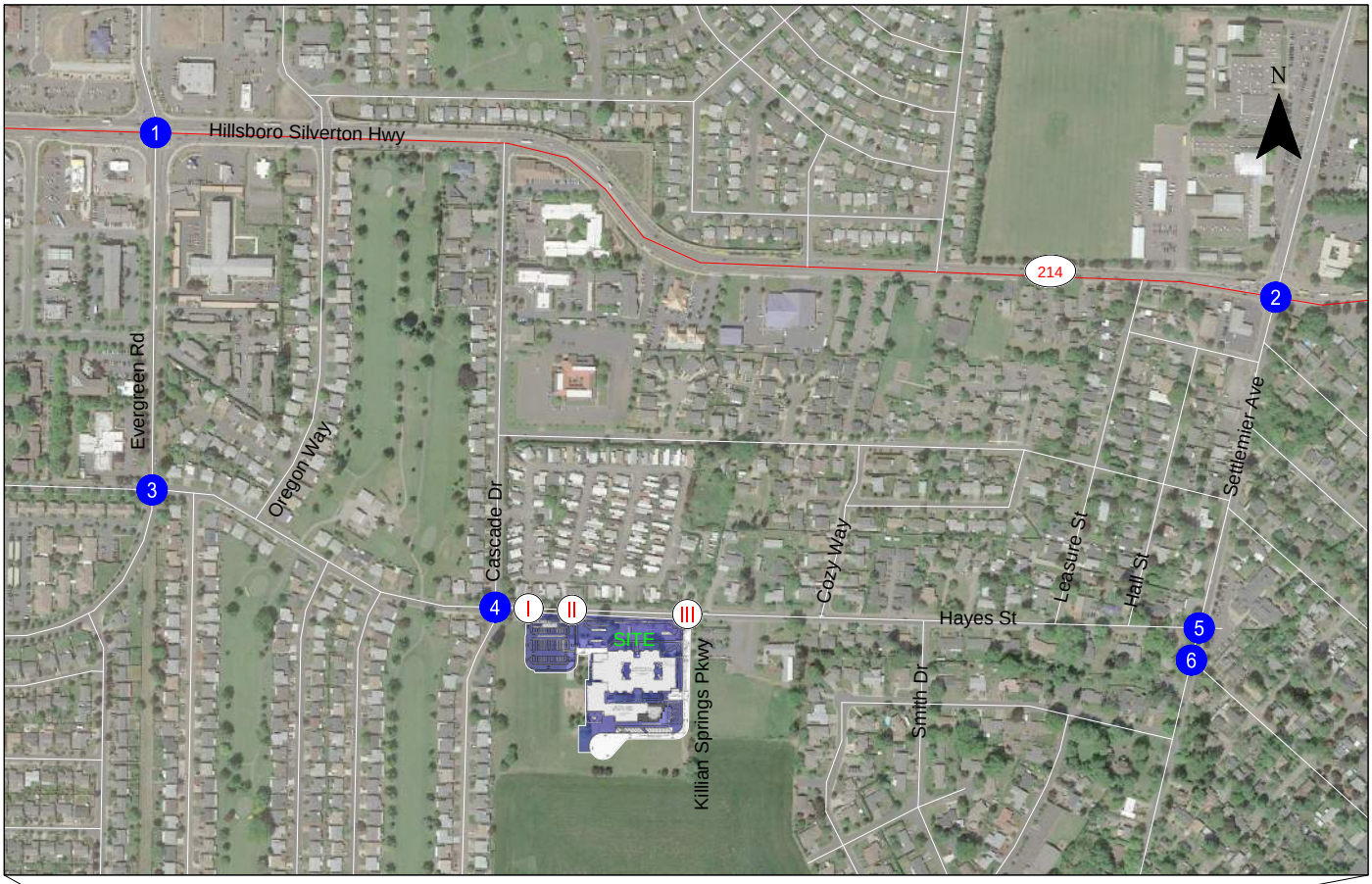
INTRODUCTION

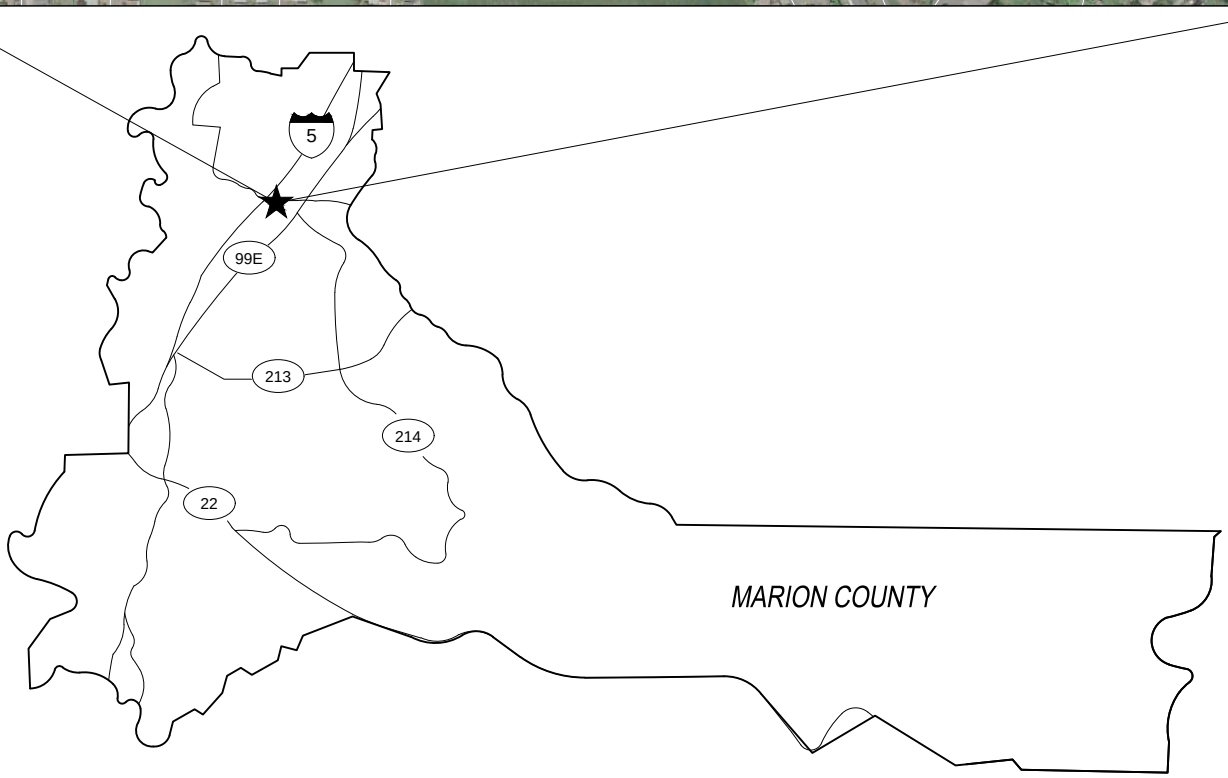
Woodburn School District (WSD) is proposing to construct additional permanent classroom space at Nellie Muir Elementary School. As shown in the proposed site plan, approximately 9,400 square feet of building space will be added on to the southeast corner of the school, resulting in five new dedicated classrooms. With the proposed improvements in place, the current capacity of the school, at 500 students, will increase by 250 students. Expected completion and occupancy of the school expansion is expected to occur in the fall of 2021.

Prior to the preparation of this transportation study, the City of Woodburn approved a conditional use permit for WSD to update and expand certain elements of the Nellie Muir Elementary School (CU 2019-05). While the permit does allow for a variety of facility improvements, none of the permitted changes will alter the current school capacity and, by extension, the overall trip generation of the school. The permitted facility improvements will, however, alter the existing site circulation patterns due to the reconfiguration of the site accesses along Hayes Street. These changes are fully accounted for within the background and total traffic conditions section of this report.

STUDY SCOPE & ANALYSIS METHODOLOGY

This section provides an overview of the TIA study scope, study methodology, applicable operating standards, and the report structure.





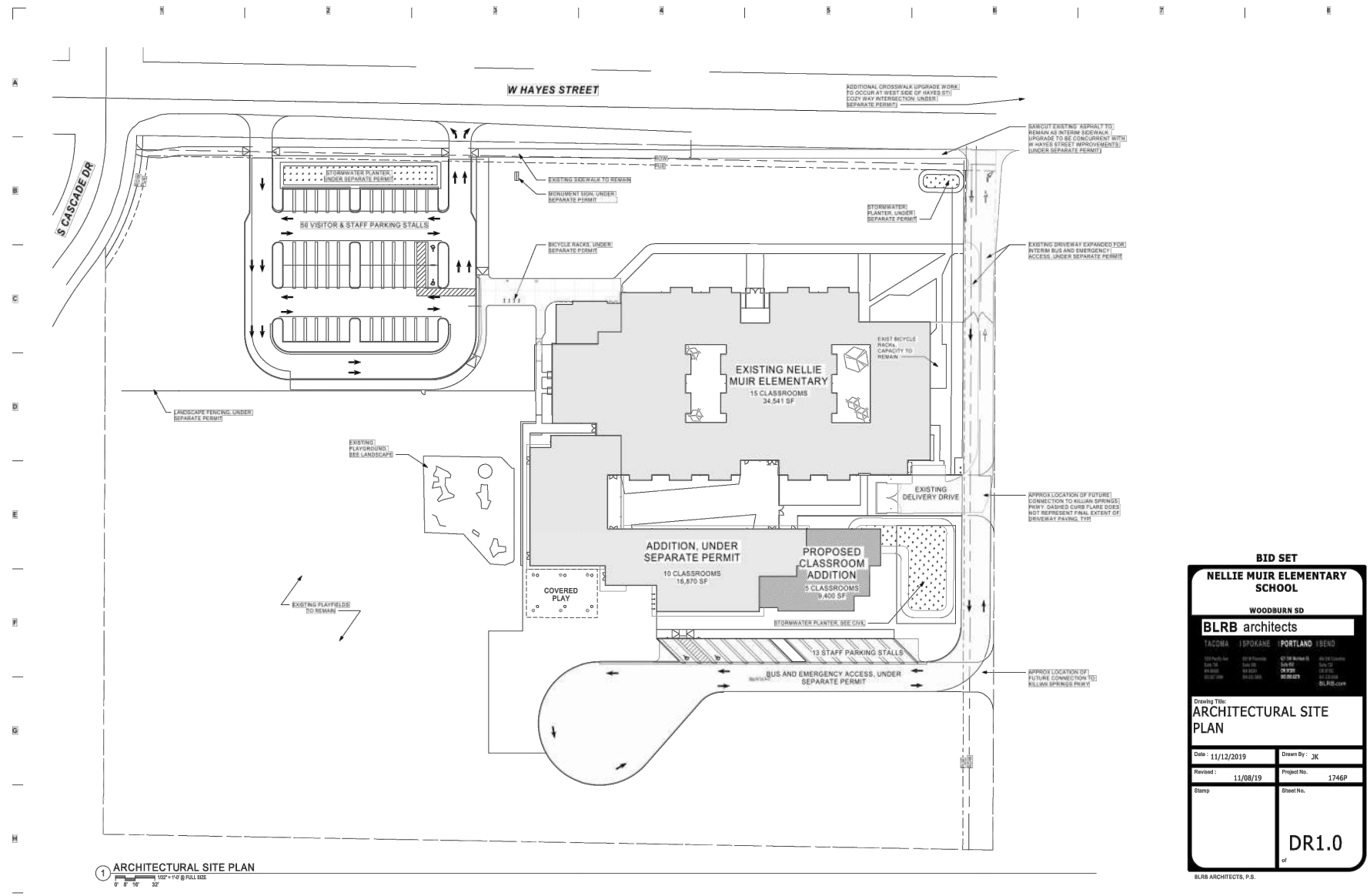
(##) - Study Intersections

Site Vicinity Map
Woodburn, Oregon

Figure
1

H:\23\23384 - Woodburn School Improvements\Nellie Muir TIA\report\figures\Fig-23384.dwg Apr 10, 2020 - 2:56pm - arazmpa Layout Tab: Site Vicinity Map

KITTELSON & ASSOCIATES



BID SET

NELLIE MUIR ELEMENTARY SCHOOL

WOODBURN SD

BLRB architects

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Drawing Title: ARCHITECTURAL SITE PLAN

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Revised : 11/08/19	Project No. 1746P
Stamp	Sheet No. DR1.0 of

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H:\23\23384 - Woodburn School Improvements\Nellie Muir TIA\report\figures\Fig-23384.dwg Apr 10, 2020 - 2:56pm - arazmpa Layout Tab: Proposed Site Plan

RECEIVED FROM BLRB architects : (11/12/2019)

Proposed Site Plan
Woodburn, Oregon

Figure
2

KITTELSON & ASSOCIATES

Study Scope

This study identifies the transportation impacts associated with the proposed expansion of Nellie Muir Elementary School as required by Section 3.04.05 of the Woodburn Development Ordinance. The study intersections and scope were selected based on consultation with City staff on April 6, 2020.

This report documents evaluation of the following transportation items:

- Existing transportation conditions analysis, including intersection Level-of-Service (LOS), volume-to-capacity (v/c) ratios, and control delays during the weekday AM and PM peak hours.
- Safety analysis, including a review crash data at study intersections, and identification of potential trends or deficiencies.
- Approved in-process development trips and anticipated background traffic growth patterns, plus development-related and city-funded capital improvements planned for construction.
- Year 2021 background traffic conditions (without proposed school expansion) during the weekday AM and PM peak hours, including intersection LOS, v/c ratios, and control delays.
- Site trip generation estimates that reflect a 250-student increase in school capacity, from 500 students to 750 students. Added site trips will be estimated based on rates contained in the ITE *Trip Generation Manual, 10th Edition*.
- Trip distribution and assignment of increased site trips during the weekday AM and PM peak hours based on existing traffic count patterns, a review of the existing school district boundary, and knowledge of local connections to major travel routes.
- Year 2021 total traffic conditions (with proposed school expansion) during the weekday AM and PM peak hours, including intersection LOS, v/c ratios, and control delays.
- Analysis of 95th-percentile vehicle queuing conditions under year 2021 background and total traffic conditions of the weekday AM and PM peak hours for key intersections and site accesses along Hayes Street.
- Analysis of sight distance and turn lane needs at proposed site accesses, where applicable.
- Identification of transportation deficiencies and proposed mitigation measures.

Conclusions and recommendations are provided at the end of the report.

Study Area Intersections

Per scoping conversations with the City, the study area determined for this TIA was driven by the anticipated increase in site trip generation, the site's location within the school district service boundary, and by the functional classification and routing patterns of traffic along the roadways in the site vicinity. The following study intersections were identified for inclusion in the TIA:

- OR 214/Evergreen Road;
- OR 214/Settlemier Avenue;
- Hayes Street/Evergreen Road;
- Hayes Street/Cascade Drive;
- Hayes Street/Settlemier Avenue; and,
- Hayes Street/Site Accesses (3 proposed new locations).

The lane configurations and traffic control devices present at the first five study intersections listed above are shown in Figure 3. Conditions present at the proposed new site accesses to Hayes Street are addressed later in the future traffic conditions section of this report. As shown in Figure 3, the two existing study intersections along OR 214 are signalized. As such, existing signal timing plans were obtained from the Oregon Department of Transportation (ODOT) and incorporated into the operational analyses for these intersections. The remaining study intersections along Hayes Street are unsignalized, with all-way strop control at the Hayes Street/Evergreen Road intersection, and two-way stop control at the Hayes Street/Cascade Drive and Hayes Street/Settlemier Avenue intersections. Due to the split configuration of the Hayes Street/Settlemier Avenue intersection, this intersection was analyzed as two separate intersections for the purpose of performing operational analysis of existing conditions.

Traffic Analysis Time Periods

All operations analyses described in this report were performed for the following time periods:

- Weekday morning peak hour of the adjacent street (individual intersection peak hours occurring in the 7:00 - 9:00 AM period); and,
- Weekday afternoon peak hour of the adjacent street (individual intersection peak hours occurring in the 4:00 - 6:00 PM period).

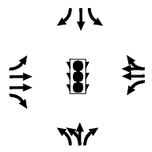
Intersection Analysis Methodology

All operations analyses described in this report were conducted using Vistro software, in accordance with the procedures stated in the *Highway Capacity Manual, 6th Edition* (HCM, Reference 1). For all intersection analyses, peak 15-minute flow rates were used to evaluate intersection performance measures such as LOS, v/c ratios, and average control delays (in seconds). A more detailed description of each of these intersection performance metrics are provided in Appendix "A".

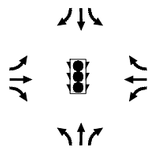
Vehicle Queuing Analysis

All intersection queuing analyses presented in this report were prepared using the static 95th percentile vehicle queues reported in Vistro. In order to provide a conservative analysis and reflect the worst-case conditions, queues were based on the peak 15-minute analysis.

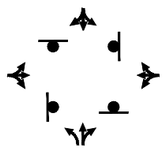
OR 214 HIGHWAY/ EVERGREEN ROAD



OR 214 HIGHWAY/ SETTLEMIER AVENUE



HAYES STREET/ EVERGREEN ROAD



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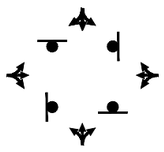
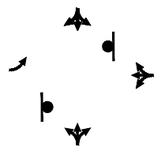


HAYES STREET/ SETTLEMIER AVENUE NORTH



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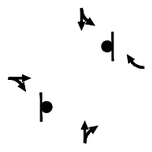
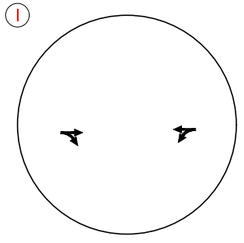


HAYES STREET/ SITE ACCESS I



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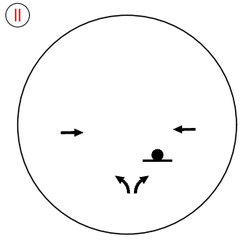
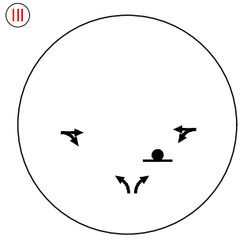


HAYES STREET/ KILLIAN SPRINGS PARKWAY



Existing Lane Configurations
Weekday AM & PM Peak Hours
Woodburn, Oregon

Figure 3

Jurisdictional Operating Standards

All study intersections must comply with adopted operating standards of the governing jurisdiction. ODOT and the City of Woodburn enforce the following mobility targets/standards during the weekday AM and PM peak hours:

- ODOT has jurisdiction of the signalized study intersections along OR 214, where the applicable mobility target is a v/c ratio of 0.95 or less during the peak hours for the intersection overall.
- The City of Woodburn has jurisdiction over the remaining study intersections along Hayes Street, where the City requires LOS E for signalized intersections, and for signalized and unsignalized intersections, a v/c ratio less than 1.00 should be maintained regardless of LOS. Also, a v/c ratio of less than 0.90 should be maintained for the critical movement of an intersection, provided the queues on the critical approach can be appropriately accommodated.

EXISTING CONDITIONS

The existing conditions analysis identifies the site conditions and current operational and geometric characteristics of the roadways within the study area. Kittelson & Associates, Inc. (Kittelson) staff visited and inventoried the proposed development site and surrounding study area in April 2020. At that time, Kittelson collected information regarding site conditions, adjacent land uses, and transportation facilities in the study area.

Site Conditions and Adjacent Land Uses

Nellie Muir Elementary School was originally constructed in 1963 on approximately 10 acres of land having a *Public and Semi-Public (P/SP)* zoning designation. Today, the main school building is situated in the northeast portion of the site, with four portables (e.g. temporary classrooms) surrounding it. The school is currently accessed by a surface parking lot on the north side of the building with five separate driveways established along Hayes Street. This parking lot includes a formal bus pick-up/drop-off area in front of the school entrance, and the easternmost driveway also serves as an access drive down to a loading area and small employee parking lot on the east side of the school.

Prior to the preparation of this transportation study, the City of Woodburn approved a conditional use permit (CU 2019-05) to update and expand certain portions of Nellie Muir Elementary School as part of the Woodburn School District bond measure. Facility improvements already approved for construction include:

- A new gym and additional administrative office space;
- Removal of five portable classrooms and construction of new permanent classroom space (no change in student capacity of the school);

- Removal of primary parking lot (36 spaces) in northeast corner of the site, including removal of four associated driveways along Hayes Street;
- Construction of a new parking lot (50 spaces) with formal parent pick-up/drop-off area located in northwest corner of site, accessible by separate inbound and outbound driveways to Hayes Street; and,
- Reconfiguration of the easternmost site access to Hayes Street to serve as an interim driveway leading to a bus pick-up/drop-off area on the south side of the school, an additional employee parking area (13 spaces) spaces, and access for delivery and emergency needs. City permit approvals also require dedication of public right-of-way along the east site boundary to accommodate the future extension of Killian Springs Parkway.

The improvements shown above are anticipated to occur regardless of this current development proposal, and, therefore, are expected to be in place by the fall of 2021.

Land uses in the vicinity of the school are primarily residential in nature, with established single family neighborhoods to the east, north, and west. There is a church bordering the eastern boundary of the school site along Hayes Street, and there is a mobile home park just to the north along Cascade Avenue. Immediately south of the school property lies large tracts of undeveloped property. This area is targeted for substantial residential development, to be constructed in a series of phases as part of the approved Smith Creek Development. The effects of this development are discussed later in the background traffic conditions section of this report.

Transportation Facilities

Table 1 summarizes the existing transportation facilities and roadways in the study area.

Table 1. Existing Transportation Facilities

Roadway	Functional Classification[1]	Number of Lanes	Posted Speed (mph)	Sidewalks	Bicycle Lanes	On-Street Parking
OR 214	Major Arterial	3-5[2]	30	Yes (Both Sides)	Yes	No
Hayes Street	Service Collector	2	25	Partial	No	Yes
Evergreen Road	Minor Arterial	2-3	25	Partial	Partial[3]	Yes
Cascade Drive	Local Street	2	25	No	No	Yes
Settlemier Avenue	Minor Arterial	2	30	Partial	Partial[4]	No

[1] Per City of Woodburn Transportation System Plan (TSP, Reference 2).
[2] Includes single turn lanes provided at major intersections.
[3] Bike lanes present south of Hayes Street.
[4] Bike lanes present north of OR 214.

Pedestrian and Bicycle Facilities and Volumes

As shown in Table 1, continuous sidewalk facilities are lacking on most facilities in the study area. The only facility with continuous sidewalks is OR 214, with the remaining streets having partial or no sidewalk facilities at all. There is a sidewalk facility located along the site frontage of Nellie Muir

Elementary School that extends west to Cascade Avenue. Continuous bicycle lanes are present along OR 214 and a portion of Settlemier Avenue north of OR 214, with partial bike lanes also present along Evergreen Road south of Hayes Street. The remaining streets have no designated bike lanes.

Per the raw traffic count data obtained for this study, pedestrian and bicycle demand were observed to the be low at the study intersections during the weekday AM and PM peak hour periods. The highest activity was at the Settlemier Avenue/Hayes Street intersection with 18 observed pedestrian crossings during the weekday PM peak hour. A total of 15 pedestrian crossings were observed at the Cascade Avenue/Hayes Street intersection during the AM peak hour, with 12 crossings observed at the OR 214/Evergreen Road intersection during the PM peak hour, and 10 crossings at the Evergreen Road/Hayes Street intersection during the PM peak hour. Beyond these periods, pedestrian activity was observed to be lower at 0 to 5 pedestrian crossings at the remaining intersections.

Bicycle volumes were observed to be even lower than pedestrian demand, with most intersections experiencing no bike crossings during the AM and PM peak hours. Only the Evergreen Road/Hayes Street and Settlemier Avenue/Hayes Street intersections experienced a single bike crossing.

Transit Facilities

Woodburn Transit System (WTS) provides public transit service in the city. There is a standard fixed route that operates seven days a week, Monday through Friday (7:00 AM – 7:00 PM), Saturday (9:00 AM – 5:00 PM, and Sunday (9:00 AM – 3:00 PM). This route traverses several roadways in the study area including OR 214, Hayes Street, and Settlemier Avenue. WTS also operates an express loop fixed route service during the week, Monday through Friday (9:00 AM – 6:00 PM), with service provided along portions of OR 214, Evergreen Road, Hayes Street, and Settlemier Avenue. In addition, WTS offers a free transportation for medical appointments in areas between Portland and Salem, plus a Dial-A-Ride service for people with disabilities and the elderly in Woodburn.

Traffic Safety Review

Reported crash histories of all existing study intersections were reviewed in an effort to identify potential safety issues. Crash records for each intersection were obtained from the Oregon Department of Transportation (ODOT) for the latest five-year period from January 1, 2013 through December 31, 2017. *Appendix "B" includes the reported raw crash data received from ODOT.*

Table 2 summarizes reported crash totals, collision type patterns, and severity of crashes for each study intersection having a history of reported crashes over the 5-year data period. Also shown are calculated crash rates expressed in terms of crashes per million entering vehicles (MEV). Typically, crash rates above 1.0 can be an indicator of potential geometric or operational issues where further evaluation should be considered.

Table 2. Study Intersection Crash Summary (January 2013 through December 2017)

ID	Intersection	Total	Collision Type				Severity		Crash Rate[2]
			Rear-end	Turning	Angle	Other/Ped	PDO[1]	Injury	
1	OR 214/Evergreen Road	53	17	29	5	2	24	29	1.06
2	OR 214/Settlemier Avenue	6	3	2	1	0	1	5	0.12
3	Hayes Street/Evergreen Road	3	1	0	2	0	1	2	0.18
4	Hayes Street/Cascade Drive	2	1	0	1	0	2	0	0.16
5	Hayes Street/Settlemier Avenue	7	4	2	1	0	7	0	0.40

[1] PDO = Property Damage Only
[2] Per million entering vehicles. ADT volume estimated using PM peak hour total entering volume.

As shown in Table 2, four of the five existing study intersections have crash rates well below 1.0 per million entering vehicles. The following section provides a more in-depth review of the crash report data for the OR 214/Evergreen Road intersection, which has a crash rate of 1.06 crashes per million entering vehicles, which is just over the threshold of 1.00.

OR 214/Evergreen Road

Of the 53 reported crashes, 29 were turning-type crashes mostly involving left-turn drivers disregarding or running a red light after the yellow phase ends and hitting a vehicle in the opposing traffic lane. Most of the remaining crashes, at 17, were rear-end related, which is a particular crash pattern caused by the stop-and-go effect of traffic created by the rotating traffic signal cycles, typically during heavy traffic periods on the arterial roadway. One of the remaining crashes involved pedestrian being hit by a car. Of all 53 reported crashes, almost half involved injuries. *As a means of reducing the potential for turning-type types of crashes in the future, it is recommended that ODOT review and possibly increase the all-red clearance times between phases at this intersection, which are currently set to 0.5 seconds.*

Critical Crash Rate Assessment

Additional analysis was conducted to calculate critical crash rates for the five existing study intersections having reported crashes following the analysis methodology presented in ODOT's *SPR 667 Assessment of Statewide Intersection Safety Performance* (Reference 3). SPR 667 provides average crash rates at a variety of intersection configurations in Oregon based on the number of approaches and traffic control types. The average crash rate represents the approximate number of crashes that are "expected" at a study intersection. This average crash rate is used to calculate the critical crash rate for each study intersection, based on the *Highway Safety Manual* methodology (HSM, Reference 4). The critical crash rates shown in Table 3 serve as a threshold for further analysis.

Table 3. Intersection Critical Crash Rate Assessment (January 2013 through December 2017)

ID	Location	Total Crashes	Critical Crash Rate by Intersection Type	Critical Crash Rate by Volume	Observed Crash Rate at Intersection	Observed Crash Rate>Critical Crash Rate[1]?
1	OR 214/Evergreen Road	53	0.65	0.56	1.06	**Yes**
2	OR 214/Settlemier Avenue	6	0.65	0.56	0.12	No
3	Hayes Street/Evergreen Road	3	0.40	0.41	0.18	No
4	Hayes Street/Cascade Drive	2	0.44	0.36	0.16	No
5	Hayes Street/Settlemier Avenue	7	0.40	0.41	0.40	No

Notes: [1] Critical crash rate by intersection type or volume.

As shown in the table above, at the OR 214/Evergreen Road intersection, the observed crash rate is higher than the critical crash rates by intersection type and volume. *Per our previous recommendation, ODOT should consider increasing the red-clearance times between signal phases at this intersection to help reduce the potential for future turning-type crashes.* At the remaining four study intersections, observed crash rates are below the critical crash rates. These results indicate no further analysis of safety-based improvement measures are needed. Therefore, no other safety-based mitigation needs were identified through review of the available crash data.

Existing Traffic Volumes and Peak Hour Operations

Due to the impact of the COVID-19 virus, it was not possible to collect traffic counts reflective of normal traffic conditions. An alternative decision was made through our scoping discussions with City staff to use the intersection turn movement counts documented in the transportation impact study for the Smith Creek Development (Reference 5) immediately south of the school. Those counts, which were collected in March of 2017, captured turn movements each of the identified study intersections during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak time periods of the adjacent street system. *Appendix "C" contains the historical traffic count data for all study intersections.*

Given the dated nature of the historical traffic counts, adjustments were needed to bring older demand data up to current (pre-COVID 19) traffic conditions. Through our conversations with city staff, a review of prior traffic impact studies conducted in the area, and a review of historical traffic growth trend data collected by ODOT for OR 214 north of the project site, a 1.0% annual growth rate was determined to be appropriate and reasonable factor. This growth rate was applied to historical counts over a three-year period to achieve representative year 2020 conditions.

Consistent with prior traffic studies in the area, the traffic counts used for this study were adjusted upwards by a factor of 1.06 to account for seasonal variations in traffic. This adjustment factor was determined using the seasonal trend methodology outlined in the ODOT Analysis Procedures Manual (APM, Reference 6) to achieve estimates of the 30th highest hour volumes for all study intersections [1].

[1] The seasonal trend adjustment factor represents 30th-highest hour volume conditions. ODOT uses the 30 HV for design purposes as it represents traffic demand typically encountered during the peak travel month.

Figure 4 summarizes the final adjusted turn movement volumes reflective of year 2020 traffic conditions at all existing study intersections for the weekday AM and PM peak hours. Figure 4 also summarizes the existing traffic operations calculated for all existing study intersections during the same peak hour time periods. As shown in the figure, all existing study intersections are estimated to operate at levels which meet the applicable City or ODOT mobility standards during the weekday AM and PM peak hours. *Appendix "D" includes the existing year 2020 conditions intersection operations analysis worksheets.*

It should be noted here that while the Hayes Street/Settlemier Avenue intersection is shown to operate at LOS F during the weekday AM peak hour and LOS E during the weekday PM peak hour for the critical eastbound left-turn movement, the respective v/c ratios of 0.47 and 0.36 for this movement are still below the City's maximum standard of 0.90.

TRAFFIC IMPACT ANALYSIS

The traffic impact analysis identifies how the study area's transportation system will operate during the year of expected completion and occupancy of the proposed school expansion (year 2021). The impact of increased traffic generated by the proposed development during the weekday AM and PM peak hours was examined as follows:

- In-process developments and planned transportation improvements were identified;
- Year 2021 background traffic conditions were assessed (without the proposed school expansion);
- Site-generated trips (reflecting 250-student increase in school capacity) were estimated and assigned to the street system; and,
- Year 2020 total traffic conditions were assessed (with the proposed school expansion).

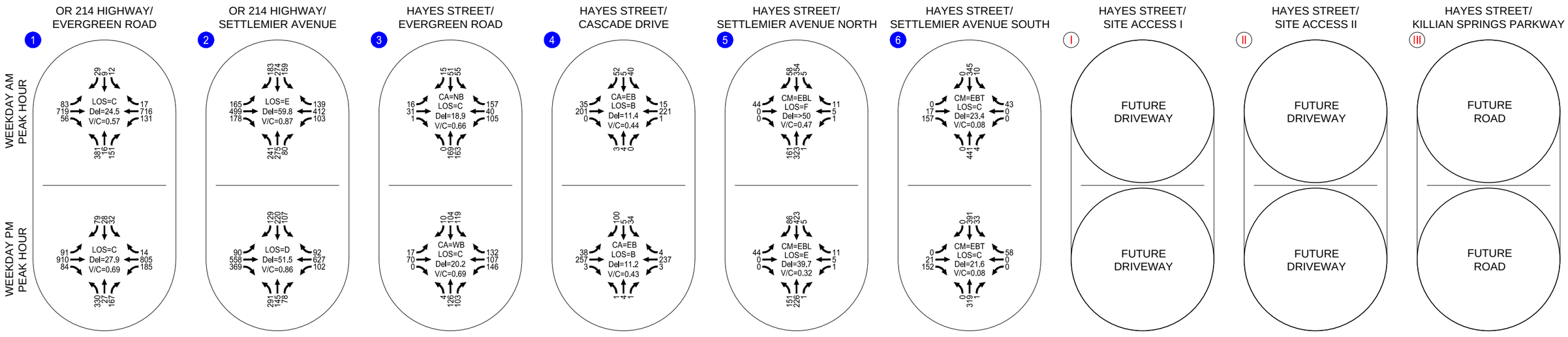
In-Process Developments and Planned Transportation Improvements

Based on scoping discussions with City staff, two approved in-process developments and one public capital improvement project were identified in the site vicinity. These private developments and capital project are described in the following sections, including key aspects that would add/change the traffic demand patterns or capacity of the street network.

Nellie Muir Elementary School Improvements

As mentioned earlier in this report, the City of Woodburn recently approved a conditional use permit to update and expand certain portions of the Nellie Muir Elementary School (CU 2019-05). Key facility improvements approved for construction are as follows:

- A new gym and additional administrative office space;
- Removal of four portable classrooms and construction of new permanent classroom space (no change in student capacity of the school);



TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL
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V/C = INTERSECTION VOLUME-TO-CAPACITY RATIO (SIGNALIZED)/CRITICAL MOVEMENT VOLUME-TO-CAPACITY RATIO (TWSC)/CRITICAL APPROACH VOLUME-TO-CAPACITY RATIO (AWSC)

Existing Traffic Conditions
Weekday AM & PM Peak Hours
Woodburn, Oregon

Figure
4

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- Removal of the primary parking lot (36 spaces) in northeast corner of the site, including removal of the four associated driveways along Hayes Street;
- A new parking lot (50 spaces) with formal parent pick-up/drop-off area located in northwest corner of site, accessible by separate inbound and outbound driveways to Hayes Street;
- Reconfiguration of the easternmost site access to Hayes Street to serve as an interim driveway for a bus pick-up/drop-off area now located on the south side of the school, an additional employee parking area (13 spaces) spaces, and access for delivery and emergency needs;
- The Woodburn School District has already dedicated additional right-of-way along the east site boundary to accommodate the future extension of Killian Springs Parkway up to Hayes Street.

For this study, the facility improvements described above were assumed to be in place under year 2021 background traffic conditions (without the proposed school expansion). While none of the improvements will alter the current capacity of the school or overall trip generation, they will alter existing site circulation patterns due to the re-configuration of parking lots and access points along Hayes Street. These physical changes are represented in Figure 5, which shows the lane configurations and traffic control devices assumed to be in place under year 2021 background conditions.

An accounting is also made for how the approved facility improvements will affect the turn movement patterns of existing school traffic under the revised site access scheme for Hayes Street. This is summarized in Appendix "E". As shown, the majority of existing school trips will utilize the new inbound and outbound-only driveway accesses to Hayes Street in order to access the reconfigured parking lot and new parent pick-up/drop-off area. A small portion of site trips will utilize the east site access along Hayes Street to access the new bus turn-around area and small employee lot. It should be emphasized that existing school traffic demand was estimated using trip rates contained in the Institute of Transportation Engineers' *Trip Generation Manual*, 10th Edition (ITE, Reference 7), using the current capacity of 500 students as the independent variable. The distribution patterns shown at the new site accesses reflect the traffic demand patterns observed at adjacent study intersections on Hayes Street, knowledge of the school district boundary, and routes leading to surrounding land uses.

Smith Creek Development

In 2018, the Stafford Development Company received master plan approval from the City of Woodburn for the Smith Creek Development (MP 2017-02), which will consist of up to 607 single family homes and 201 multi-family units on vacant property immediately south of the Nellie Muir Elementary School. The approved master plan is provided in Appendix "F" which also shows the nine individual development phases plan. While the associated transportation impact study indicated an expected completion date for all nine development phases in 2025, only five phases (1A, 1B, 2B, 2C, and 3B) have received final or tentative approval by the city. This is based on our discussions with city engineering staff. Therefore, by our estimates, only a portion (53%) of the total trips associated with the master plan were

OR 214 HIGHWAY/ EVERGREEN ROAD

OR 214 HIGHWAY/ SETTLEMIER AVENUE

HAYES STREET/ EVERGREEN ROAD

HAYES STREET/ CASCADE DRIVE

HAYES STREET/ SETTLEMIER AVENUE NORTH

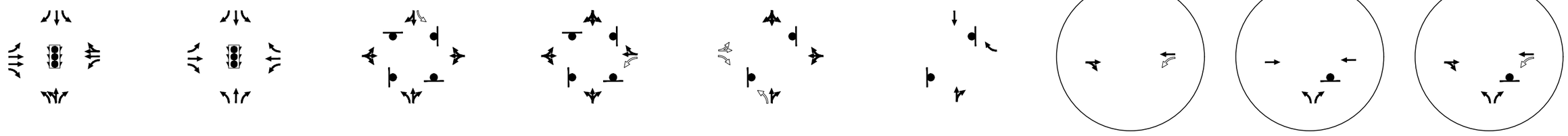
HAYES STREET/ SETTLEMIER AVENUE SOUTH

HAYES STREET/ SITE ACCESS I

HAYES STREET/ SITE ACCESS II

HAYES STREET/ KILLIAN SPRINGS PARKWAY

1 2 3 4 5 6 I II III



Assumed Lane Configurations
Weekday AM & PM Peak Hours
Woodburn, Oregon

Figure 5

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incorporated into the year 2021 background traffic conditions analysis of this study. Our assessment of these vehicle trips is included in Appendix "F".

The initial phases of the Smith Creek Development will also include two key off-site transportation improvements. First a new left-turn lane will be added on southbound approach of Evergreen Road at Hayes Street. Second, a new street (Killian Springs Parkway) will be extended up through the northern portion of the Smith Creek Development to create a new intersection at Hayes Street. The alignment of this new street will replace the temporary east site driveway that will be established for the approved Nellie Muir Elementary School expansion. These physical changes are represented in Figure 5.

West Hayes Street Improvement Project

The City of Woodburn is currently engaged in the preparation of design plans for the West Hayes Street Improvement Project. Construction of this funded capital improvement project (CIP) is expected to be completed by 2021 and will consist of new sidewalks and bicycle lanes along Hayes Street between Cascade Drive and Settlemier Avenue, a pedestrian warning/crossing device at the Hayes Street/Cozy Way intersection, establishment of a center left-turn lane along Hayes Street between Cascade Drive and Cozy Way, and intersection capacity/safety improvements at the Hayes Street/Settlemier Avenue intersection. While several design options are being considered for the Hayes/Settlemier intersection, city staff have directed Kittelson to evaluate the following two options for this study:

> **Option 1:** Realignment of the eastbound approach of Hayes Street to include separate left- and right-turn lanes under stop control, realignment of a driveway on the east side of the street to create a common four-way intersection, with free-flow conditions maintained north-south along Settlemier Avenue. This option also includes the creation of a new northbound left-turn lane, with the residual east leg of Hayes Street becomes a right-in/right-out only access to Settlemier Avenue.
>
> **Option 2:** The same physical realignment measures described above for Option 1, plus the installation of a traffic signal.

The traffic capacity improvements described previously for the in-process developments and the Hayes Street capital improvement project are reflected in Figure 5.

2021 Background Traffic Volumes and Conditions

The background traffic analysis identifies how the study area's transportation system will operate over the next year in 2021. The analysis includes a 1% annual growth factor applied to existing year 2020 volumes to account for general traffic growth trends in the city and traffic growth associated with approved in-process developments, but without traffic associated with the proposed school expansion. Figure 6 shows the resulting year 2021 background traffic volumes for the weekday AM and PM peak hours at all existing study intersections and planned school site accesses along Hayes Street, including the new intersection planned at Killian Springs Parkway.

Also shown in Figure 6 are the weekday AM and PM peak hour traffic operations calculated for these study intersections. As shown in the figure, all study intersections and site accesses are estimated to operate at levels which meet the applicable City or ODOT mobility standards during the weekday AM and PM peak hours. *Appendix "G" includes the year 2021 background conditions intersection analysis worksheets.*

It should be noted here that while the realigned two-way stop option analyzed for the Hayes Street/Settlemier Avenue intersection (Option 1) resulted in LOS F conditions during the weekday AM and PM peak hours for the critical eastbound left-turn movement, the respective v/c ratios of 0.54 and 0.37 for this movement are still below the City's maximum standard of 0.90. And, as shown in the analysis worksheets contained in the appendix, the respective vehicle queues on this approach at 61 feet and 38 feet can be accommodated within available storage. The second option to signalize this intersection (Option 2) resulted in LOS A for both peak hour periods.

Proposed Development

WSD is proposing to construct additional permanent classroom space at Nellie Muir Elementary School. As shown in the proposed site plan in Figure 2, approximately 9,400 square feet of building space will be added on to the southeast corner of the school, resulting in five new dedicated classrooms. With the proposed improvements in place, the current capacity of the school, at 500 students, will increase by 250 students. Expected completion and occupancy of the school expansion is expected to occur in the fall of 2021.

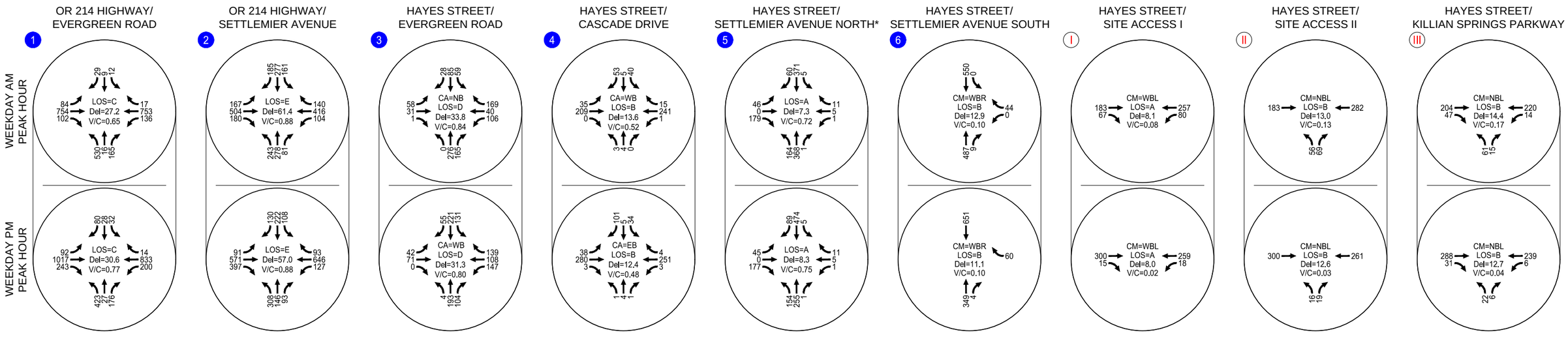
Site Trip Generation

The increase in trip generation associated with the school expansion was estimated using rates contained in the ITE *Trip Generation Manual*, 10th Edition. Based on our understanding of the project, the proposed expansion will increase the capacity of the school by 250 students, which will be used as the independent variable for estimating trips for an *Elementary School* (ITE Land Use Category 520).

Table 2 displays the estimated increase in site trip generation, expressed in terms of average daily trips (ADT), the weekday AM peak hour of the adjacent street (typically between 7:00 and 9:00 AM), and the weekday PM peak hour of the adjacent street (typically between 4:00 and 6:00 PM).

Table 4. Site Trip Generation Estimate

Land Use	ITE Code	Size (Students)	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Elementary School	520	250	450	168	90	78	43	20	23



*- Results reflect planned realignment of Hayes Street and installation of a traffic signal (Option #2). Results for maintaining two-way stop control (Option #1) are provided in the operations worksheets in the report appendices.

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Year 2021 Background Traffic Conditions
Weekday AM & PM Peak Hours
Woodburn, Oregon

Figure 6

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Site Trip Distribution

A trip distribution pattern was developed based upon our knowledge of the study area, the current school district boundary, a review of existing traffic volume patterns, and review of previous traffic impact studies completed for other developments nearby (e.g. Smith Creek Development). Figure 7 displays the estimated trip distribution patterns and resulting trip assignments for the weekday AM and PM peak hour periods at the existing study intersections and planned site accesses, including the planned Killian Springs Parkway intersection.

Year 2020 Total Traffic Conditions

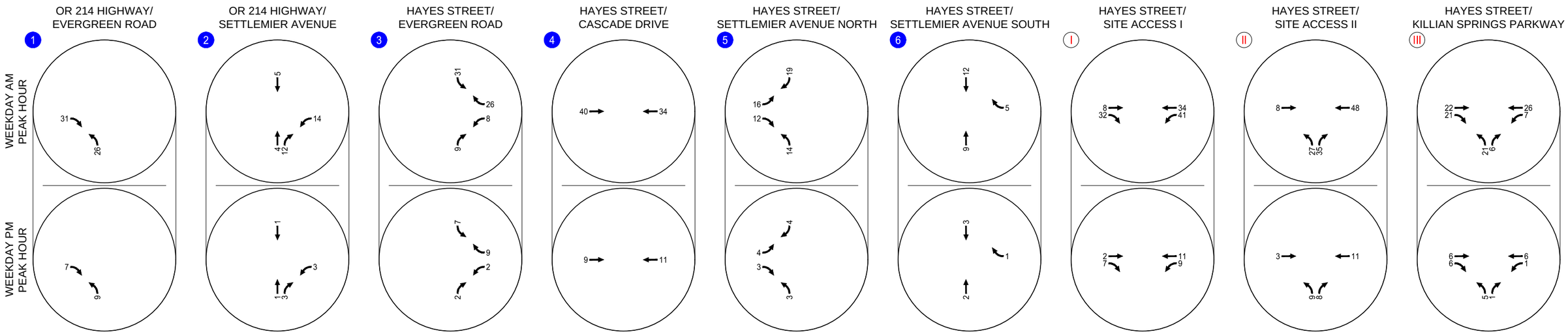
The total traffic conditions analysis forecasts how the study area's transportation system will operate with the proposed school expansion. To estimate total traffic conditions, the site-generated traffic volumes shown in Figure 7 were added to the background traffic volumes shown in Figure 6. The resulting year 2021 total traffic volumes for the weekday AM and PM peak hours at all study intersections and site accesses are shown in Figure 8.

Figure 8 also shows the weekday AM and PM peak hour traffic operations calculated for all study intersections. As shown in the figure, all but one of the study intersections are estimated to operate at levels which meet the applicable City or ODOT mobility standards during the weekday AM and PM peak hours. *Appendix "H" includes the year 2021 total conditions intersection analysis worksheets.*

Relative to the background traffic condition, the realigned two-way stop control option for the Hayes Street/Settlemier Avenue intersection (Option 1) continues to result in LOS F during the weekday AM and PM peak hours for the critical eastbound left-turn movement, with v/c ratios that are still below City standards at 0.80 and 0.41 during the respective peak hour periods. The second option to signalize this intersection (Option 2) resulted in LOS A for both peak hour periods.

Hayes Street/Evergreen Road Intersection

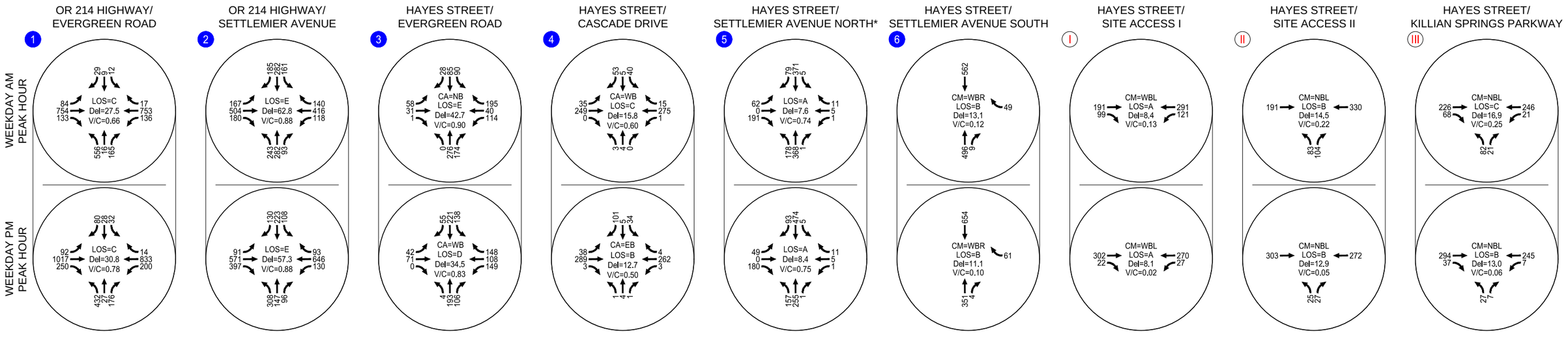
Based on our traffic capacity calculations, the northbound approach of the Hayes Street/Evergreen Road intersection is forecast to reach a LOS E during the weekday AM peak hour, with a v/c ratio that just reaches the City's maximum threshold of 0.90. However, upon further review of our site trip assignment figures, we believe our traffic forecast is likely double-counting some of the added school trips entering this intersection. The reason for this is because many of the added school trips will replace or redirect trips already generated by new land uses within the Smith Creek Development nearby. Removal of just a few of these double-counted trips would result in a v/c ratio below 0.90 and, thus, meet the City's mobility standard. Therefore, we are not recommending any conditional mitigation measures for this intersection.



Distribution Patterns and Site-Generated Trip Assignments
Weekday AM & PM Peak Hours
Woodburn, Oregon

Figure 7

KITTELSON & ASSOCIATES



*- Results reflect planned realignment of Hayes Street and installation of a traffic signal (Option #2). Results for maintaining two-way stop control (Option #1) are provided in the report appendices.

TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL
CA = CRITICAL APPROACH (AWSC)
CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)/CRITICAL APPROACH LEVEL OF SERVICE (AWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (TWSC)/CRITICAL APPROACH CONTROL DELAY (AWSC)
V/C = INTERSECTION VOLUME-TO-CAPACITY RATIO (SIGNALIZED)/CRITICAL MOVEMENT VOLUME-TO-CAPACITY RATIO (TWSC)/CRITICAL APPROACH VOLUME-TO-CAPACITY RATIO (AWSC)

Year 2021 Total Traffic Conditions Weekday AM & PM Peak Hours Woodburn, Oregon

Figure 8

KITTELSON & ASSOCIATES

95th-percentile Queuing Analysis

A 95th-percentile queuing analysis was performed for key study intersections to ensure that adequate vehicle stacking can be achieved, particularly for the planned site accesses along Hayes Street and the adjacent intersections at Cascade Drive to the west and the planned street extension of Killian Springs Parkway to the east. For the analysis, 95th percentile vehicle queues for the year 2021 background and total traffic conditions were evaluated for the weekday AM and PM peak hours and compared using the outputs generated by the Vistro software program.

Table 3 summarizes the results of the queuing analyses for the two respective peak hour periods. Considering each of the study intersections are unsignalized, queues are shown only for movements that experience delays from stop-controlled approaches or for movements involving left-turns which experience conflicts due to opposing free-flow traffic. *All 95th-percentile vehicle queue analysis outputs are included in the same operational analysis worksheets provided in Appendices "G" and "H".*

Table 5. Summary of 95th-Percentile Queues (Weekday AM Peak Hour)

Intersection	Movement	Queue Storage Available (feet)	95th-percentile Queue (feet)		Queue Storage Adequate?
			2021 Background	2021 Total	
			AM (PM)	AM (PM)	
Cascade Avenue/ Hayes Street	NB LTR	Cont.	<5 (<5)	<5 (<5)	Yes
	SB LTR	Cont.	20 (21)	21 (22)	Yes
	EB LTR	Cont.	63 (66)	86 (70)	Yes
	WB L WB TR	90* 90*	<5 (<5) 76 (51)	<5 (<5) **101** (55)	Yes **Yes*****
West Site Access (inbound)/ Hayes Street	WB L	160*	7 (<5)	11	Yes
East Site Access (outbound)/ Hayes Street	NB L	60**	12 (<5)	20	Yes
	NB R	60**	9 (<5)	14	Yes
Killian Springs Parkway/ Hayes Street	NB LR	Cont.	15 (<5)	25	Yes
	WB L	420*	<5 (<5)	<5	Yes

WB= Westbound, SB = Southbound, EB = Eastbound, NB = Northbound, L = Left, T = Through, R = Right, LTR = Shared left/through/right
Cont. = Continuous storage available for turn lane.
*The storage shown reflects distance to the next adjacent intersection or site driveway.
** The storage shown reflects the distance down the next internal drive aisle within the site.
*** Queue demand on the westbound approach to this intersection is shown to extend approximately 11 feet into the west site access on Hayes Street. Given that this driveway will be restricted to inbound movements only, westbound queues should not interfere with drivers' ability to turn left into the site access.

As shown in Table 3, vehicle queues will be adequately accommodated by available turn lane storage at the site accesses and adjacent intersections on Hayes Street under year 2021 background and total build-out conditions.

Sight Distance Review

An intersection sight distance analysis was conducted to ensure safe traffic movements at the new outbound-only site access to the main school parking lot along Hayes Street as well as the planned Killian Springs Parkway/Hayes Street intersection, which will service the school's bus turn-around area and employee lot. For the analysis, intersection sight distance (ISD) was assessed using design parameters from *A Policy on Geometric Design of Highways and Streets (*AASHTO, Reference 8).

One of the variables in determining safe sight distance metrics according to AASHTO guidelines is the design speed of the respective roadway. Hayes Street has a posted speed limit of 25 mph, but there is also a posted school zone and speed limit sign of 20 mph that is active during school hours (Monday – Friday, 7:00 AM – 5:00 PM). In addition, the nearby intersection at Cascade Avenue/Hayes Street is all-way stop controlled, which results in slower traffic speeds for vehicles as they enter or leave this intersection.

The ISD analysis assumes the new outbound-only site access to Hayes Street plus the planned Killian Pacific Parkway intersection will be stop-controlled from the minor approaches, while the major approaches of Hayes Street remain uncontrolled. For the analysis, measurements were obtained in the field and from a scaled site plan to account for landscaping conditions. Also, consideration was given to the City's planned widening project along Hayes Street, which will result in three travel lanes, bike lanes and sidewalks in this area. These improvements will effectively remove several existing trees along the site frontage, thus, freeing up more sight distance along the roadway.

Consistent with AASHTO guidelines, the ISD analysis relies on measurements taken from a viewpoint of 15 feet behind the edge of the travel lane and from a height of 3.5 feet above the ground, looking toward an object that is 3.5 feet above the ground. These measurements were then compared against design values for the most critical maneuver specified in AASHTO (Case B1 – Left Turn from the Minor Road). The results of the ISD analysis are presented in Table 6.

Table 6. Intersection Sight Distance Analysis Results

Intersection	Direction of View	Field/Site Plan Measurement (feet)	Assumed Design Speed (mph)	AASHTO Minimum Design Guideline (feet)	Adequate ISD Available?
Outbound-only Site Access/ Hayes Street	West East	250* >450	20* 25	225 280	Yes Yes
Killian Pacific Parkway/ Hayes Street	West East	>450 >450	25 25	280 280	Yes Yes

*The ISD measurement shown reflects the distance drivers can see to the adjacent intersection at Cascade Avenue/Hayes Street. Also, for this particular assessment, it was assumed drivers exiting from the adjacent intersection are traveling at a speed of 20 mph.

As shown in the previous table and in the attached exhibits, there will be adequate ISD at the outbound-only site access to Hayes Street and the planned Killian Springs Parkway/Hayes Street intersection.

FINDINGS AND RECOMMENDATIONS

The primary findings and recommendations of this study are summarized below.

Proposed Development

- The proposed development includes construction of approximately 9,400 square feet of additional permanent classroom space at Nellie Muir Elementary School.
- With proposed improvements in place, the current capacity of the school, at 500 students, will increase by 250 students.
- Expected completion and occupancy of the school expansion is expected to occur in the fall of 2021.

Site Trip Generation

- The 250-student increase in school capacity is expected to add 450 weekday trips, 168 weekday AM peak hour trips, and 43 weekday PM peak hour trips to the street system.

Traffic Operations

- Under existing year 2020 conditions, year 2021 background conditions (without the school expansion), and year 2021 total traffic conditions (with the school expansion in place), all study intersections and site accesses are projected to operate at levels which meet the mobility standards of the governing agency during the weekday AM and PM peak hours.
- It is important to note that if two-way stop control is maintained at the Hayes Street/Settlemier Avenue intersection as part of the City's Hayes Street Capital Improvement plan, the critical eastbound left-turn movement will reach LOS F during the weekday AM and PM peak hours. Although, the movement does continue to function with v/c ratios that are still below the City's maximum standard of 0.90. If the intersection is signalized as part of the City's capital project, operations are expected to improve to LOS A for both peak hour periods.

Vehicle Queuing

- A 95th-percentile queuing analysis was performed during the weekday AM and PM peak hours for year 2021 background and total traffic conditions. No queuing deficiencies are forecast to occur at the proposed site accesses along Hayes Street, or at the adjacent intersections of Cascade Avenue or the future Killian Springs Parkway extension. Vehicle queues are estimated to be contained within available lane storage.

Safety

- Based on five years of reported crash data by ODOT, all but one study intersection experienced a limited number of reported crashes, few to no reported injuries, and low crash rates, indicating no further analysis of safety-based improvement measures are needed.
- Crash data for the OR 214/Evergreen Road intersection revealed a repetitive pattern of turning-type crashes. With an observed crash rate of 1.06 crashes per million entering vehicles, this rate exceeds the critical crash rates for this intersection type and volume.

Sight Distance

- Sight distance measurements indicate there is adequate intersection sight distance at the proposed site accesses along Hayes Street and for the planned intersection at Killian Springs Parkway.

Recommendations

- Based on the proposed site plan and current conditions, it is recommended that the tall stand of mature trees lining the site frontage on Hayes Street be removed to maximize sight distance at the site access driveways. Alternatively, these trees are scheduled to be removed by the City as part of the Hayes Street Transportation Improvement project.
- In addition, any new landscaping or above-ground utilities placed on-site or at the site driveway intersections should maintain the minimum AASHTO sight distances upon buildout of the site, per City requirements.
- As a means of reducing the potential for turning-type types of crashes in the future, it is recommended that ODOT review and possibly increase the 0.5-second all-red clearance times between signal phases at the OR 214/Evergreen Road intersection.

We trust this Traffic Impact Analysis provides sufficient detail for review of the proposed retail project. If you have any questions, please call us at 503-535-7447.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Brian J. Dunn, P.E.
Associate Engineer

REFERENCES

1) Transportation Research Board. *Highway Capacity Manual, 6th Edition*. 2016.
2) City of Woodburn, Oregon. Transportation System Plan 2019-2039. 2019.
3) Oregon Department of Transportation. *Assessment of Statewide Intersection Safety Performance, Final Report.* June 2011.
4) American Association of State Highway and Transportation Officials. *Highway Safety Manual, 1st Edition.* Volume 1. 2010.
5) DKS Associates, *Traffic Impact Study for Smith Creek Development*. March 2018.
6) ODOT, *Analysis Procedures Manual, Version 2.0.* Updated March 2020.
7) Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition*. 2018.
8) American Association of State Highway and Transportation Officials. *Geometric Design of Highways and Streets, 7th Edition.* 2018.

APPENDICES

A. Description of Level-of-Service Methods and Criteria

B. ODOT Crash Data

C. Historical Traffic Counts

D. Existing Year 2020 Traffic Conditions Worksheets

E. Adjustments for Existing School Trips

F. Smith Creek Master Plan and Approved Trips

G. Year 2021 Background Traffic Conditions Worksheets

H. Year 2021 Total Traffic Conditions Worksheets