Replat, Site Plan Review, Driveway Approach Permit & Adjustment

Application Submittal Date:	June 2024
Submitted To:	City of Salem Planning
Project Location:	383 Farm Credit Drive SE Salem, OR
Applicant(s):	Salem Land Group LLC
Applicant's Land Use Representative:	Britany Randall of BRAND Land Use Britany@brandlanduse.com



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Aerial View of Subject Property and Existing Development



Section 1: Property Background and Request

The applicant, Salem Land Group, LLC, is presenting a tentative replat plan, class 3 site plan

review, one class 2 adjustment, and two driveway approach permits for phased hotel developments falling within the Southeast Salem Neighborhood Association (SESNA).

The tentative replat will reconfigure three parcels, parcels 3, 4, and 5 of the Farm Credit Acres Plat, into two parcels. Phase 1 of the proposed development includes a new hotel, containing 106 guestrooms, and a driveway to Farm Credit Drive for proposed parcel 1. Phase 2 of the proposed development includes a new hotel, containing 112 guestrooms, and a driveway to Farm Credit Drive for proposed parcel 2. Both phases of development include new off-street parking areas, triggering the applicability of the climate friendly equitable community standards.

The applicant is seeking one Class 2 Adjustment to SRC 551.010(b) *Setbacks.* Setbacks within the IC zone shall be provided as set forth in Tables 551-3 and 551-4. The adjustment is requested to eliminate the 5-foot setback and Type A landscaping required along the interior property line to allow the site, upon full buildout, to function as a campus.

Section 2: Existing Conditions

The development site is approximately 5.07 acres in size and is described as Marion County Assessor Map and Tax Lots 073W36A002200, 073W36A002100, and 073W36A002000, a Marion County Tax Map is included within the exhibits list identifying the subject properties.

The site is located within corporate City limits of the City of Salem. The Salem Area Comprehensive Plan (SACP) map has a designation for the property of “Industrial Commercial”. The properties are located inside of the City’s Urban Service Area (USA).

The Comprehensive Plan designations of surrounding properties include:

North: Across Kettle Court SE, IND “Industrial”

South: IND “Industrial”

East: Across Hawthorne Avenue SE, IND “Industrial” and IC “Industrial Commercial”

West: IND “Industrial”

The subject property is zoned IC (Industrial Commercial). Surrounding properties are zoned as follows:

North: Across Kettle Court SE, IP (Industrial Park)

South: IP (Industrial Park)

East: Across Hawthorne Avenue SE, IBC (Industrial Business Campus) and IC (Industrial Commercial)

West: IP (Industrial Park)

Section 3: Findings Applicable to Replat

Chapter 205 – Land Division and Reconfiguration

Section 205.001 – Purpose

The purpose of this chapter is to provide regulations governing the division and reconfiguration of land.

Section 205.025 – Replat

(a) *Applicability*. A replat is required to reconfigure lots or parcels and public easements in a recorded partition or subdivision plat, to increase or decrease the number of lots in a subdivision, or where multiple property line adjustments require a replat. No replat shall occur without receiving tentative replat approval as set forth in this section.

Applicant's Findings: *The applicant is seeking to reconfigure three previously platted lots into two lots to prepare for the development of the site. The applicant understands because a replat is being sought, the provisions of this section are applicable.*

(b) *Procedure type*. A tentative replat is processed as a Type II procedure under SRC chapter 300.

Applicant's Findings: *The applicant understands this replat application will be processed utilizing Type II procedures.*

(c) *Submittal requirements*. In addition to the submittal requirements for a Type II application under SRC chapter 300, an application for tentative replat shall include the information required in SRC 205.030. If the replat will vacate any easement, the tentative replat plan shall show the easement proposed to be vacated.

Applicant's Findings: *The applicant has provided each item required for submittal and processing of this application. This criterion is met.*

(d) *Criteria*. A tentative replat shall be approved if all of the following criteria are met:

(1) The tentative replat does not propose to vacate any public street or road, or any recorded covenants or restrictions.

Applicant's Findings: *As demonstrated by the tentative replat provided, the proposal does not include the vacation of any public street, road, or any recorded covenants or restrictions. This criterion is met.*

(2) The tentative replat will not create nonconforming units of land or non-conforming development or increase the degree of nonconformity in existing units of land or development.

Applicant's Findings: *The proposed replat will not create or increase the degree of non-conformity in existing units of land or development. This criterion is met.*

(3) The tentative replat complies with the standards of this chapter and with all applicable provisions of the UDC.

Applicant's Findings: *The UDC implements the Salem Area Comprehensive Plan which encompasses the land use goals and guides the development of property within the corporate city limits. As demonstrated throughout this narrative, the proposed replat complies with all of the applicable provisions of the UDC. This criterion is met.*

(4) The tentative replat complies with all applicable provisions of ORS ch. 92.

Applicant's Findings: *The applicable provisions of ORS Chapter 92 are as follows: ORS 92.185, 92.185(1), 92.185(2), 92.185(3), 92.185(4), 92.185(5), and 92.185(6). Replat applications are a two-part process with the first being tentative approval and the second being final plat approval. Upon submittal of the final plat mylar review, the city surveyor will confirm compliance with ORS 92. The subject replat consists of parcels 3, 4, and 5 of the Farm Credit Acres Plat meeting the requirement that a replat shall only apply to a recorded plat. The applicant has provided deed information and a chain of title for the subject property as evidence of this fact. The replat is replating a portion of a developed subdivision making ORS 92.185(2) inapplicable to the proposal. The applicant understands the city will provide notice to owners of property within 250 feet of the subject property. In addition to the notice provided to the property owners within 250 feet, the city will provide notice to public and private utilities serving the subject property, meeting the requirement of ORS 92.185(4). Consistent with both ORS 92.185(6) and SRC 205.025(d), the proposed replat complies with all applicable subdivision standards, including lot size and dimensions, access and circulation, and availability of public and private utility infrastructure. In addition to meeting these standards, the replat does not propose altering any existing conditions. This criterion is met.*

(5) The tentative replat is not prohibited by any existing City land use approval or previous condition of approval, affecting one or both of the units of land.

Applicant's Findings: *There is not existing land use approval or previous condition of approval impacting the approvability of the proposed replat application. This criterion is met.*

(6) The tentative replat does not adversely affect the availability of, or access to, city infrastructure or public or private utilities or streets.

Applicant's Findings: *The replat does not adversely affect the availability of, or access to, city infrastructure or public or private utilities or streets. The replat is along a new street and the final configuration of the lots after the replat will still have ample street frontage and access to utilities. This is met.*

(e) *Notice to utilities*. When a utility easement is proposed to be realigned, reduced in width, or eliminated by a replat, notice of the tentative replat application shall be mailed as provided in SRC 300.520(b)(1) to all affected utility companies or public agencies. Any utility company that desires to maintain an easement that would be realigned, reduced in width, or eliminated by a proposed replat must notify the Director in writing within 14 days of the mailing date of the notice. If an objection to the realignment, reduction in width, or elimination of an easement is received within the 14-day period, the utility easement shall not be realigned, reduced in width, or eliminated.

Applicant's Findings: *In addition to the notice provided to the property owners within 250 feet, the city will provide notice to public and private utilities serving the subject property, meeting the requirement of ORS 92.185(4). This criterion will be met.*

(f) *Expiration*. Tentative replat approval shall expire as provided in SRC 300.850, unless an application for final plat is submitted within the time limits set forth in SRC 300.850, or an extension is granted pursuant to SRC 300.850(b).

Applicant's Findings: *The applicant understands their tentative replat approval will expire after two years unless an application for final plat is submitted, however, extensions to tentative replat approval are allowed.*

Section 205.030 – Additional Submittal Requirements

Applications to subdivide, partition, or replat land shall include, in addition to the submittal requirements under SRC chapter 300, the following:

(a) A tentative plan map, of a size and form and in the number of copies meeting the standards established by the Director, containing the following information:
  (1) A title block on each sheet indicating the proposed subdivision or phased subdivision name, or, if available, the partition number; the names and addresses of the landowner; the names and addresses of the professional engineers or surveyors responsible for preparing the plan; date; and township, range and section of the subject property;
  (2) Scale and north arrow;
  (3) The location of all property lines within 50 feet of the perimeter of the subject property;
  (4) The boundaries, dimensions, and area of each proposed lot or parcel;
  (5) The location, width, and names of all existing streets, flag lot accessways, and public accessways abutting the perimeter of the subject property;
  (6) The location, width, curve radius, grade, and names of all proposed streets, flag lot accessway, and public accessways;

(7) The location of all existing and proposed easements;
(8) The location, dimensions, and use of all existing and proposed public areas, including, but not limited to, stormwater management facilities and detention facilities;
(9) The location, dimensions, and use of any existing buildings and structures on the subject property, indicating which will remain and which will be removed;
(10) The location of any canals, ditches, waterways, detention facilities, sewage disposal systems, and wells on the subject property, indicating which will remain and which will be removed or decommissioned;
(11) The location of any natural topographic features on the subject property, including, but not limited to, creeks, drainage ways as shown on the most recent USGS maps, wetlands as shown on the Local Wetland Inventory, and floodplains; and
(12) For subdivisions and phased subdivisions, site topography shown at five-foot contour intervals, or two-foot contour intervals for areas within a floodplain;

(b) A current title report for the property;
(c) A completed tree inventory on a form as provided by the Director accurately identifying all existing trees on the property as of the date of application submittal and, if required under SRC chapter 808, a tree conservation plan;
(d) A geological assessment or geo-technical report, if required by SRC chapter 810;
(e) A description of the proposed stormwater management system, including pre and post construction conditions, prepared in accordance with the Public Works Design Standards;
(f) A schematic plan showing the location of existing and proposed city infrastructure;
(g) A preliminary grading plan, for partitions, subdivisions, and phased subdivisions, when grading of the subject property will be necessary to accommodate the proposed development;
(h) For residentially zoned property, where the partition or subdivision will result in a lot or parcel that is one-half acre or larger, a plan for the lot or parcel showing the location of lot or parcel lines and other details of layout, and demonstrating that future further division of the lot or parcel may readily be made without violating the development standards of the UDC and without interfering with the orderly extension and connection of adjacent streets.
(i) For partitions of property located more than 300 feet from an available sewer main, and the property will not connect to City water and sewer, a plan showing:
(1) The location of lot lines and other details of layout demonstrating that the further division and full development of the property to the urban densities allowed by the comprehensive plan may readily be made in conformance with

the development standards of the UDC, and without interfering with the orderly extension and connection of adjacent streets.

(2) The approximate location of city infrastructure following full development to the urban densities allowed by the comprehensive plan.

(j) For subdivisions and phased subdivisions:

(1) A completed trip generation estimate on forms provided by the City;

(2) A traffic impact analysis, if required under SRC chapter 803; and

(3) A statement from the County Surveyor approving the name of the subdivision or phased subdivision.

(k) For a subdivision of RA- or RS-zoned property that is at least ten acres in size, that includes or abuts a planned or existing collector or minor arterial street, and that is located at least one-quarter from all commercial, mixed-use, and neighborhood hub zones; the tentative plan shall designate the lots where neighborhood hub uses are allowed.

(l) For a subdivision of RA- or RS-zoned property that is at least five acres in size; the tentative plan shall designate the lots where middle housing will be developed to meet density requirements.

(m) For any land division creating residential flag lots after November 28, 2022, the tentative plan shall identify the number of units that will be developed on each lot served by the flag lot accessway.

Applicant's Findings: *As applicable, the required additional information has been provided. It is believed this submittal is complete and the review authority has everything needed to hold a public hearing and render a decision on the case. This criterion is met.*

Section 4: Findings Applicable to Class 3 Site Plan Review

Chapter 220 – Site Plan Review

Section 220.001 – Purpose

The purpose of this chapter is to provide a unified, consistent and efficient means to conduct site plan review for development activity that requires a building permit, to ensure that such development meets all applicable standards of the UDC, including, but not limited to, standards related to access, pedestrian connectivity, setbacks, parking areas, external refuse storage areas, open areas, landscaping, and transportation and utility infrastructure.

Section 220.005 – Site Plan Review

(a) *Applicability*.

(1) Except as provided in subsection (a)(2) of this section, site plan review approval is required:

(A) Prior to issuance of a building permit, for any development that requires a building permit;
(B) Prior to a change of use, when a building permit is not otherwise required; and
(C) Prior to commencement of work, for any of the following when a building permit is not otherwise required:
    (i) Development of a new off-street parking or vehicle use areas;
    (ii) Expansion of an existing off-street parking or vehicle use areas, when additional paved surface is added;
    (iii) Alteration of an existing off-street parking or vehicle use areas, when the existing paved surface is replaced with a new paved surface;
    (iv) Paving of an unpaved area; and
    (v) Restriping of an off-street parking or vehicular use areas, when the layout will be reconfigured.

Applicant's Findings: *The proposed development will require a building permit and new uses will be established; therefore, triggering the applicability of a site plan review application.*

(2) Exemptions.
(A) The following development that requires a building permit is exempt from site plan review:
    (i) Development of a single family use, two family use, three family use, four family use, or cottage cluster on an individual lot, including the construction of accessory structures and paving associated with such uses.
    (ii) Sign installation.
    (iii) Ordinary maintenance or repair of existing buildings, structures, utilities, landscaping, and impervious surfaces, and the installation or replacement of operational equipment or fixtures.
    (iv) The alteration to the facade of a building, except in the Mixed Use-I (MU-I), Mixed Use- II (MU-II), Mixed Use-III (MU-III), or Mixed Use-Riverfront (MU-R) zones unless there are no standards in the zone that are applicable to the proposed façade alteration.

(v) Interior construction or tenant improvements that involve no change of use or occupancy.

(vi) Demolition permit.

(vii) Construction of a fence.

(B) Any of the activities identified under subsection (a)(1)(C) of this section are exempt from site plan review if they are for a single family use, two family use, three family use, four family use, or cottage cluster on an individual lot.

Applicant's Findings: *The proposal does not meet any of the exemptions listed under this section; therefore, the applicants submittal includes a Site Plan Review application.*

(b) *Classes*. The three classes of site plan review are:

(1) *Class 1 site plan review*. Class 1 site plan review is site plan review for any development under subsection (a)(1) of this section that does not involve a land use decision or limited land use decision, as those terms are defined in ORS 197.015, and that involves either:

(A) A change of use or change of occupancy where only construction or improvements to the interior of the building or structure are required; or

(B) A change of use when a building permit is not otherwise required.

(2) *Class 2 site plan review*. Class 2 site plan review is site plan review for any development under subsection (a)(1) of this section, other than development subject to Class 1 site plan review, that does not involve a land use decision or limited land use decision, as those terms are defined in ORS 197.015.

(3) *Class 3 site plan review*. Class 3 site plan review is site plan review for any development under subsection (a)(1) of this section that involves a land use decision or limited land use decision, as those terms are defined in ORS 197.015. As used in this subsection, land use decisions and limited land use decisions include, but are not limited to, any development application that:

(A) Requires a Transportation Impact Analysis pursuant to SRC chapter 803;

(B) Requires a geotechnical report or geologic assessment under SRC chapter 810, except where a geotechnical report or geologic assessment has already been approved for the property subject to the development application;

(C) Requires deviation from clear and objective development standards of the UDC relating to streets, driveways or vision clearance areas;

(D) Proposes dedication of right-of-way which is less than the requirements of the Salem Transportation System Plan;
(E) Requires deviation from the clear and objective standards of the UDC and where the Review Authority is granted the authority to use limited discretion in deviating from the standard; or
(F) Involves the imposition of conditions of approval; or
(G) Requires a variance, adjustment, or conditional use permit.

Applicant's Findings: *The applicant is applying for adjustments to deviate from the clear and objective standards of the UDC; therefore, applying for a Class 3 Site Plan Review.*

(c) *Procedure type*.
(1) Class 1 site plan review is processed as a Type I procedure under SRC chapter 300.
(2) Class 2 site plan review is processed as a Type I procedure under SRC chapter 300.
(3) Class 3 site plan review is processed as a Type II procedure under SRC chapter 300.
(4) An application for site plan review may be processed concurrently with an application for a building permit; provided, however, the building permit shall not be issued until site plan review approval has been granted.

Applicant's Findings: *Since the proposal falls under a Class 3 Site Plan Review, the applications will be processed utilizing Type II procedures.*

(d) *Submittal requirements for Class 1 site plan review*. In lieu of the application submittal requirements under SRC chapter 300, an application for a Class 1 site plan review shall include a completed application form that shall contain the following information:
(1) The names and addresses of the applicant(s), the owner(s) of the subject property, and any authorized representative(s) thereof;
(2) The address or location of the subject property and its assessor's map and tax lot number;
(3) The size of the subject property;
(4) The comprehensive plan designation and zoning of the subject property;
(5) The type of application(s);
(6) A brief description of the proposal; and
(7) Signatures of the applicant(s), owner(s) of the subject property, and/or the duly authorized representative(s) thereof authorizing the filing of the application(s).
(e) *Submittal requirements for Class 2 and Class 3 site plan review*.

(1) *Class 2 site plan review.* In addition to the submittal requirements for a Type I application under SRC chapter 300, an application for Class 2 site plan review shall include the following:

(A) A site plan, of a size and form and in the number of copies meeting the standards established by the Planning Administrator, containing the following information:

(i) The total site area, dimensions, and orientation relative to north;

(ii) The location of all proposed primary and accessory structures and other improvements, including fences, walls, and driveways, indicating distance from the structures and improvements to all property lines and adjacent on-site structures;

(iii) Loading areas, if included in the proposed development;

(iv) The size and location of solid waste and recyclables storage and collection areas, and amount of overhead clearance above such enclosures, if included in the proposed development;

(v) An indication of future phases of development on the site, if applicable;

(vi) All proposed landscape areas on the site, with an indication of square footage and their percentage of the total site area;

(vii) The location, height, and material of fences, berms, walls, and other proposed screening as they relate to landscaping and screening required by SRC chapter 807;

(viii) The location of all trees and vegetation required to be protected pursuant to SRC chapter 808;

(ix) The location of all street trees, if applicable, or proposed location of street trees required to be planted at time of development pursuant to SRC chapter 86; and

(x) Identification of vehicle, pedestrian, and bicycle parking and circulation areas, including handicapped parking stalls, disembarking areas, accessible routes of travel, and proposed ramps.

(B) An existing conditions plan, of a size and form and in the number of copies meeting the standards established by the Planning Administrator, containing the following information:
    (i) The total site area, dimensions, and orientation relative to north;
    (ii) The location of existing structures and other improvements on the site, including accessory structures, fences, walls, and driveways, noting their distance from property lines; and
    (iii) The type, size, and location of all existing trees on the property, with an identification of those trees that will be preserved and those trees that will be removed; and
    (iv) The location of the 100-year floodplain, if applicable.

(C) A tree plan, of a size and form and in the number of copies meeting the standards established by the Planning Administrator, containing the following information:
    (i) The total site area, dimensions, and orientation relative to north;
    (ii) The location of all existing trees, indicating their species, DBH, critical root zone, and whether they will be preserved or removed;
    (iii) The location of all new trees proposed to be planted on the development site, indicating their species and caliper at the time of planting;
    (iv) The perimeter and soil depth of all proposed tree planting areas;
    (v) The location of all existing and proposed primary and accessory structures;
    (vi) The location of all existing and proposed parking and vehicle use areas; and
    (vii) For developments that include more than one-half acre of new off-street surface parking, the tree plan shall include the expected tree canopy area after 15 years for all trees not removed by the proposed development, and the caliper of all proposed new trees at the time of planting in

addition to the other requirements of the tree planting plan.

(D) A grading plan depicting proposed site conditions following completion of the proposed development, when grading of the subject property will be necessary to accommodate the proposed development.

(E) A completed trip generation estimate for the proposed development, on forms provided by the City.

(F) Building elevation drawings for any proposed new buildings and any exterior additions or alterations to existing buildings when the height of the building, or a portion of the building is changed.

(G) For development in the Mixed Use-I (MU-I) and Mixed Use-II (MU-II) Mixed Use-III (MU-III), and Mixed Use-Riverfront (MU-R) zones, architectural drawings, renderings, or sketches showing all elevations of the existing buildings and the proposed buildings as they will appear on completion.

(H) For developments that include more than one-half acre of new off-street surface parking, proof of coordination with the local electric utility to ensure the compatibility of tree canopy and root systems with planned and existing utility infrastructure.

(2) *Class 3 site plan review*. In addition to the submittal requirements for a Type II application under SRC chapter 300, an application for Class 3 site plan review shall include the following:

(A) All submittal requirements for a Class 2 site plan review under subsection (e)(1) of this section;

(B) The zoning district, comprehensive plan designation, and land uses for all properties abutting the site;

(C) Driveway locations, public and private streets, bike paths, transit stops, sidewalks, and other bike and pedestrian pathways, curbs, and easements;

(D) The elevation of the site at two-foot contour intervals, with specific identification of slopes in excess of 15 percent;

(E) The location of drainage patterns and drainage courses, if applicable;

(F) A preliminary utility plan showing capacity needs for municipal water, stormwater facilities, and sewer service, and schematic location of connection points to existing municipal water and sewer services;

(G) Summary table which includes site zoning designation; total site area; gross floor area by use (e.g., manufacturing, office, retail, storage); building height; itemized number of full size compact and handicapped parking stalls, and the collective total number; total lot coverage proposed, including areas to be paved for parking and sidewalks;
(H) A geological assessment or geotechnical report, if required by SRC chapter 810, or a certification from an engineering geologist or a geotechnical engineer that landslide risk on the site is low, and that there is no need for further landslide risk assessment; and
(I) A Transportation Impact Analysis, if required by SRC chapter 803.

Applicant's Findings: *The applicant has submitted the applicable required submittal items above. This is met.*

(f) *Criteria*.
(3) *Class 3 site plan review*. An application for Class 3 site plan review shall be granted if:
(A) The application meets all applicable standards of the UDC;

Applicant's Findings: *The applicant has compiled a complete list of applicable standards and criteria and has provided a response to each within this narrative. Where the proposal is unable to meet the standard, the applicant is requesting adjustments with mitigation where needed and possible. This criterion is met.*

(B) The transportation system provides for the safe, orderly, and efficient circulation of traffic into and out of the proposed development, and negative impacts to the transportation system are mitigated adequately;

Applicant's Findings: *The site was recently partitioned requiring the transportation system surrounding the sites to be constructed to provide safe, orderly, and efficient circulation of traffic. Therefore, the transportation system surrounding the site was recently constructed to current standards and the proposed development does not create any negative impacts to the transportation system. This criterion is met.*

(C) Parking areas and driveways are designed to facilitate safe and efficient movement of vehicles, bicycles, and pedestrians; and

Applicant's Findings: *The applicant has provided findings within this narrative related to SRC Chapter 806 demonstrating the proposed parking areas and driveways are designed in accordance with the applicable provisions. This criterion is met.*

(D) The proposed development will be adequately served with City water, sewer, stormwater facilities, and other utilities appropriate to the nature of the development.

Applicant's Findings: *Water, sewer, and stormwater facilities are available within the surrounding streets adjacent to the subject property to serve the proposed development. This criterion is met.*

Chapter 551 – IC – Industrial Commercial

Section 551.001 – Purpose

The purpose of the Industrial Commercial (IC) Zone is to implement the industrial commercial designation of the Salem Area Comprehensive Plan through the identification of allowed uses and the establishment of development standards. The IC zone generally allows a wide variety of retail, office, heavy commercial, light manufacturing, and warehousing activities.

Section 551.005 – Uses

(a) Except as otherwise provided in this section, the permitted (P), special (S), conditional (C), and prohibited (N) uses in the IC zone are set forth in Table 551-1.

Applicant's Findings: *The applicant is proposing two new hotel buildings. Short-term commercial lodging uses are an outright permitted use within the IC zone.*

(b) Continued uses. Existing, legally-established uses established prior to August 24, 2022, but which would otherwise be made nonconforming by this chapter, are hereby deemed continued uses.
   (1) Building or structures housing a continued use may be structurally altered or enlarged, or rebuilt following damage or destruction, provided such alteration, enlargement, or rebuilding complies with the standards set forth in SRC 551.010(f).
   (2) Cease of occupancy of a building or structure for a continued use shall not preclude future use of the building or structure for that use; provided, however, conversion of the building or structure to another use shall thereafter prevent conversion back to that use.

Applicant's Findings: *The subject development site is vacant. No continued uses are present. These criteria are not applicable.*

Section 551.010 – Development Standards

Development within the IC zone must comply with the development standards set forth in this section.

(a) *Lot standards*. Lots within the IC zone shall conform to the standards set forth in Table 551-2.

Applicant's Findings: *Pursuant to table 551-2, there are no lot area, lot width, or lot depth standards. The minimum street frontage requirement is 16-feet, both parcels, after the replat, will greatly exceed the minimum street frontage requirement. This is met.*

(b) *Setbacks*. Setbacks within the IC zone shall be provided as set forth in Tables 551-3 and 551-4.

Applicant's Findings: *Each parcel proposed for development is abutting a street on two sides, pursuant to table 551-3 the required setback abutting a street is a minimum of 5 feet. The applicant is providing a 20-foot setback along all sides abutting a street. Along the western boundary the property abuts properties zoned as IP (Industrial Park), while the zone-to-zone setback pursuant to table 551-4 for buildings is none, there is a minimum 5-foot zone-to-zone setback for vehicle use areas that is required to be landscaped with type A landscaping. The applicant is providing a 5-foot setback and will address the landscaping and screening later within this narrative. Because the applicant is developing the site as a complex which will eventually be complete with two hotels, an adjustment to the setback abutting the interior property lines is required. Upon approval of the requested adjustment, the setbacks established within this section will be met as shown on the submitted plans and as described above.*

(c) *Lot coverage; height*. Buildings and accessory structures within the IC zone shall conform to the lot coverage and height standards set forth in Table 551-5.

Applicant's Findings: *Pursuant to table 551-5, there is no maximum lot coverage. The maximum building height pursuant to table 551-5 is 70-feet, as shown on the submitted plans the proposed building heights for the phase 1 hotel is 53-feet and the proposed building height for the phase 2 hotel is 50-feet; therefore, the lot coverage and height requirements are met.*

(d) *Landscaping*.

(1) *Setbacks*. Required setbacks shall be landscaped. Landscaping shall conform to the standards set forth in SRC chapter 807.

(2) *Vehicle use areas*. Vehicle use areas shall be landscaped as provided under SRC chapters 806 and 807.

(3) *Development site*. A minimum of 15 percent of the development site shall be landscaped. Landscaping shall meet the Type A standard set forth in SRC chapter 807. Other required landscaping under the UDC, such as landscaping required for setbacks or vehicular use areas, may count towards meeting this requirement.

Applicant's Findings: *Landscaped areas are shown on the site plan included with this application submittal. As demonstrated by the landscape plans included with this application, the setbacks, vehicle use areas, and 15 percent of the development site will be landscaped in accordance with the applicable provisions of the SRC. The applicant includes more detail regarding landscaping later within this narrative.*

(e) *Industrial performance standards*. Within the IC zone, no land or structure shall be used or occupied unless maintained and operated in continuing compliance with all applicable standards adopted by the Oregon Department of Environmental Quality (DEQ), including the holding of all licenses and permits required by DEQ regulations, local ordinance, and state and federal law.

Applicant's Findings: *This application is for the development of two new buildings within the IC zone. The applicant understands that they must maintain and operate the land and structure in continuing compliance with all applicable standards adopted by the Oregon Department of Environmental Quality (DEQ), including the holding of all licenses and permits required by DEQ regulation, local ordinance, and state and federal law. It is unlikely these requirements will be triggered by the current proposal because the use is short-term commercial lodging. As applicable, this criterion will be met.*

(f) *Development standards for continued uses*.

(1) *Buildings*. Buildings housing a continued use may be structurally altered or enlarged, or rebuilt following damage or destruction, provided such alteration, enlargement, or rebuilding conforms to development standards set forth in this chapter and to all other applicable provisions of the UDC.

(2) *Accessory structures*. Existing accessory structures to a continued use may be structurally altered or enlarged, or rebuilt following damage or destruction, and new accessory structures to a continued use may be constructed, provided such alteration, enlargement, rebuilding, or new accessory structure construction conforms to development standards set forth in this chapter and to all other applicable provisions of the UDC.

(3) *Option to rebuild in same location*. Notwithstanding SRC 551.010(g)(1) and (2), any building or accessory structure rebuilt following damage or destruction may either be located on the same location on the lot as the original building or structure, or may be enlarged, provided the enlargement does not increase the building or structure's nonconformity to development standards set forth in this chapter and all other applicable provisions of the UDC.

Applicant's Findings: *The subject development site is vacant. No continued uses are present. These criteria are not applicable.*

Section 551.015 – Design Review

Design review under SRC chapter 225 is required for development within the IC as follows:

(a) Residential care with five or more self-contained dwelling units shall be subject to design review according to the multiple family design review standards set forth in SRC chapter 702.

Applicant's Findings: *The proposed use is for short-term commercial lodging; therefore, design review under SRC chapter 225 is not required for the proposed development. This is not applicable.*

Chapter 800 – General Development Standards

Section 800.001 – Purpose

The purpose of this chapter is to establish certain standards that apply generally to development throughout the City, regardless of zone.

Section 800.005 – Applicability

The standards set forth in this chapter apply to all development in every zone unless otherwise exempted by the UDC. In the event of a conflict between the standards set forth in this chapter and any other provision of the UDC, the more restrictive provision shall apply.

Section 800.035 – Setbacks

(a) *Setbacks to be unobstructed.* Except as otherwise provided under subsection (b) of this section, required setbacks shall be unobstructed.

(b) *Permitted projections into required setbacks.* Permitted projections into required setbacks are set forth in Table 800-2.

(c) *Zone-to-zone setbacks abutting property outside City limits or urban growth boundary*.

- (1) *Property located outside city limits.* Where a zone-to-zone setback is required abutting a property located outside the City limits, the abutting zone for purposes of determining the required zone-to-zone setback shall be the equivalent City zone identified under SRC Chapter 260, Table 260-1, based on the comprehensive plan designation for the property and its zoning in the county.
- (2) *Property located outside UGB.* Where a zone-to-zone setback is required abutting a property located outside the urban growth boundary (UGB), the abutting zone for purposes of determining the required zone-to-zone setback shall be considered a residential zone.

(d) *Setbacks abutting an interstate freeway, railroad right-of-way, or alley*.

- (1) The required setback abutting an interstate freeway, railroad right-of-way, or alley shall be considered either an interior front setback, an interior side setback, or an interior rear setback depending upon the dimensions and configuration of the lot.
- (2) Where the required interior front, interior side, or interior rear setback abutting an interstate freeway or railroad right-of-way is a zone-to-zone setback, the minimum required in interior front, interior side, or interior rear setback shall be five feet in-lieu of the zone-to-zone setback.

Applicant's Findings: *The development site does not abut an interstate freeway, railroad right-of-way, or alley; therefore, these standards are not applicable.*

Section 800.055 – Solid waste service areas

Solid waste service areas shall provide for the safe and convenient collection of solid waste and recyclable and compostable materials by the local solid waste collection franchisee.

(a) *Applicability.* Solid waste service area design standards shall apply to:
  (1) All new solid waste, recycling, and compostable service areas, where use of a solid waste, recycling, and compostable receptacle of one cubic yard or larger is proposed; and
  (2) Any change to an existing solid waste service area for receptacles of one cubic yard or larger that requires a building permit.

Applicant's Findings: *The proposal includes new solid waste service areas; therefore, triggering the applicability of this section.*

(b) *Solid waste receptacle placement standards.* All solid waste receptacles shall be placed at grade on a concrete pad that is a minimum of four inches thick, or on an asphalt pad that is a minimum of six inches thick. The pad shall have a slope of no more than a three percent and shall be designed to discharge stormwater runoff consistent with the overall stormwater management plan for the site approved by the Director.
  (1) *Pad area.* In determining the total concrete pad area for any solid waste service area:
    (A) The pad area shall extend a minimum of one foot beyond the sides and rear of the receptacle; and
    (B) The pad area shall extend a minimum three feet beyond the front of the receptacle.
    (C) In situations where receptacles face each other, a minimum four feet of pad area shall be required between the fronts of the facing receptacles.
  (2) *Minimum separation*.
    (A) A minimum separation of 1.5 feet shall be provided between the receptacle and the side wall of the enclosure.
    (B) A minimum separation of five feet shall be provided between the receptacle and any combustible walls, combustible roof eave lines, or building or structure openings.
  (3) *Vertical clearance*.
    (A) *Receptacles two cubic yards or less.* Receptacles two cubic yards or less in size shall be provided with a minimum of eight feet of unobstructed overhead or vertical clearance for servicing.

(B) *Receptacles greater than two cubic yards.* Receptacles greater than two cubic yards in size shall be provided with a minimum of 14 feet of unobstructed overhead or vertical clearance for servicing; provided, however, overhead or vertical clearance may be reduced to eight feet:

(i) For enclosures covered by partial roofs, where the partial roof over the enclosure does not cover more than the rear eight feet of the enclosure, as measured from the inside of the rear wall of the enclosure (see Figure 800-6); or

(ii) Where a physical barrier is installed within, and a maximum of eight feet from the front opening of, the enclosure preventing the backward movement of the receptacle (see Figure 800-7).

Applicant's Findings: *At the time of building permit the applicant will submit detailed plans demonstrating how the proposed trash enclosures meet the standards established within this section. This will be met.*

(c) *Permanent drop box and compactor placement standards*.

(1) All permanent drop boxes shall be placed on a concrete pad that is a minimum of six inches thick. The pad shall have a slope of no more than one percent and shall be designed to discharge stormwater runoff consistent with the overall stormwater management plan for the site approved by the Director.

(2) All permanent compactors shall be placed on a concrete pad that is structurally engineered or in compliance with the manufacturer specifications. The pad shall have a slope of no more than three percent and shall be designed to discharge stormwater runoff consistent with the overall stormwater management plan for the site approved by the Director.

(3) Pad area. The pad area shall be a minimum of 12 feet in width. The pad area shall extend a minimum of five feet beyond the rear of the permanent drop box or compactor.

(4) Minimum separation. A minimum separation of five feet shall be provided between the permanent drop box or compactor and any combustible walls, combustible roof eave lines, or building or structure openings.

Applicant's Findings: *There are not permanent drop boxes or compactors proposed with the development; therefore, these standards are not applicable.*

(d) *Solid waste service area screening standards*.

(1) Solid waste, recycling, and compostable service areas shall be screened from all streets abutting the property and from all abutting residentially zoned property by a minimum six-foot-tall sight-obscuring fence or wall; provided, however, where receptacles, drop boxes, and compactors are located within an enclosure, screening is not required. For the purpose of this standard, abutting property shall also include any residentially zoned property located across an alley from the property.
(2) Existing screening at the property line shall satisfy screening requirements if it includes a six-foot-tall sight-obscuring fence or wall.

Applicant's Findings: *As shown on the submitted plans, the solid waste service areas will be within an enclosure. At the time of building permit, the applicant will submit detailed plans demonstrating how the solid waste service area meets the screening standards. This will be met.*

(e) *Solid waste service area enclosure standards.* When enclosures are used for required screening or aesthetics, such enclosures shall conform to the standards set forth in this subsection. The overall dimensions of an enclosure are dependent upon the number and size of receptacles the enclosure is designed to accommodate.
    (1) *Front opening of enclosure.* The front opening of the enclosure shall be unobstructed and shall be a minimum of 12 feet in width.

Applicant's Findings: *As shown on the submitted plans, the front opening of the proposed enclosures are unobstructed and are just over 16-feet in width. This exceeds the minimum width required above, this standard is met.*

(2) *Measures to prevent damage to enclosure*.
    (A) Enclosures constructed of wood or chainlink fencing material shall contain a minimum four-inch nominal high bumper curb at ground level located 12 inches inside the perimeter of the outside walls of the enclosure to prevent damage from receptacle impacts.
    (B) Enclosures constructed of concrete, brick, masonry block, or similar types of material shall contain a minimum four-inch nominal high bumper curb at ground level located 12 inches inside the perimeter of the outside walls of the enclosure, or a fixed bumper rail to prevent damage from receptacle impacts.
    (C) The requirements under subsections (e)(2)(A) and (B) of this section shall not apply if the enclosure is designed to be separated:
        (i) A minimum distance of two feet from the sides of the container or receptacles; and

(ii) A minimum of three feet from the rear of the container or receptacles.

Applicant's Findings: *As shown on the submitted plans, there will be measures in place within the inside of the enclosure to prevent damage. The applicant will submit detailed plans at the time of building permit demonstrating how the proposed enclosures meet the standards of this section.*

(3) *Enclosure gates.* Any gate across the front opening of an enclosure shall swing freely without obstructions. For any enclosure opening with an unobstructed width of less than 15 feet, the gates shall open a minimum of 120 degrees. For any enclosure opening with an unobstructed width of 15 feet or greater, the gates shall open a minimum of 90 degrees. All gates shall have restrainers in the open and closed positions.

Applicant's Findings: *As shown on the submitted plans, the proposed enclosure gates are able to open and swing freely without obstructions. At the time of building permit the applicant will submit detailed plans demonstrating how the standards of this section are met.*

(4) *Prohibited enclosures.* Receptacles shall not be stored in buildings or entirely enclosed structures unless the receptacles are:

(A) Stored in areas protected by an automatic sprinkler system approved by the City Fire Marshal; or

(B) Stored in a building or structure of a fire resistive Type I or Type IIA construction that is located not less than ten feet from other buildings and used exclusively for solid waste receptacle storage.

Applicant's Findings: *The proposed enclosures are not within the buildings and are not entirely enclosed; therefore, these standards are not applicable.*

(f) *Solid waste service area vehicle access.*

(1) Vehicle operation area.

(A) A vehicle operation area shall be provided for solid waste collection service vehicles that is free of obstructions and no less than 45 feet in length and 15 feet in width; provided, however, where the front opening of an enclosure is wider than 15 feet, the width of the vehicle operation area shall be increased to equal the width of the front opening of the enclosure. Vehicle operation areas shall be made available perpendicular to the front of every receptacle, or, in the case of multiple receptacles within an enclosure, perpendicular to every enclosure opening.

(B) For solid waste service areas having receptacles of two cubic yards or less, the vehicle operation area may be located:
    (i) Perpendicular to the permanent location of the receptacle or the enclosure opening (see Figure 800-8);
    (ii) Parallel to the permanent location of the receptacle or the enclosure opening (see Figure 800-9); or
    (iii) In a location where the receptacle can be safely maneuvered manually not more than 45 feet into a position at one end of the vehicle operation area for receptacle servicing.

(C) The vehicle operation area may be coincident with a parking lot drive aisle, driveway, or alley provided that such area is kept free of parked vehicles and other obstructions at all times except for the normal ingress and egress of vehicles.

(D) Vertical clearance. Vehicle operation areas shall have a minimum vertical clearance of 14 feet.

(E) In the event that access to the vehicle operation area is not a direct approach into position for operation of the service vehicle, a turnaround, in conformance with the minimum dimension and turning radius requirements shown in Figure 800-10, shall be required to allow safe and convenient access for collection service.

(2) Vehicle operation areas shall be designed so that waste collection service vehicles are not required to back onto a public street or leave the premises.

(3) Vehicle operation areas shall be paved with asphalt, concrete, or other hard surfacing approved by the Director, and shall be adequately designed, graded, and drained to the approval of the Director.

(4) Signs. "No Parking" signs shall be placed in a prominent location on the enclosure, or painted on the pavement in front of the enclosure or receptacle, to ensure unobstructed and safe access for the servicing of receptacles.

Applicant's Findings: *As demonstrated on the submitted plans, the solid waste area vehicle access meets the standards. As mentioned previously, at the time of building permit the applicant will provide detailed plans demonstrating how the standards in this section are met.*

(g) *Notice to solid waste collection franchisee.* Upon receipt of an application to vary or adjust the standards set forth in this section, notification and opportunity to comment shall be provided to the applicable solid waste collection franchisee. Notice required

under this subsection shall be in addition to the notification required for a variance or adjustment under SRC chapter 300.

Applicant's Findings: *The applicant is not applying to adjust any of the standards set forth in this section; therefore, notice to the applicable solid waste collection franchisee is not required.*

Section 800.060 – Exterior Lighting

(a) Exterior lighting shall not shine or reflect onto adjacent properties, or cast glare onto the public right-of-way.

Applicant's Findings: *The newly proposed lighting will not case a glare onto the public right-of-way. Details regarding the lighting and a lighting plan will be provided at the time of building permit application for review and approval by the city. This criterion will be met.*

(b) Exterior light fixtures shall be located and designed so that the light source, when viewed at a height of five feet above the ground at a distance of five feet outside the boundary of the lot, shall be either:
    (1) Completely shielded from direct view; or
    (2) No greater than five foot-candles in illumination.

Applicant's Findings: *Taller light fixtures are provided to adequately illuminate the parking area and will be equipped with shields as needed in accordance with this provision. This criterion will be met.*

Section 800.065 – Pedestrian access

Except where pedestrian access standards are provided elsewhere under the UDC, and unless otherwise provided in this section, all developments, other than development of single-family, two-family, three-family, and four-family uses, and multiple family uses subject to SRC chapter 702, shall include an on-site pedestrian circulation system developed in conformance with the standards in this section. For purposes of this section development means the construction of, or addition to, a building or accessory structure or the construction of, or alteration or addition to, an off-street parking or vehicle use area. Development does not include construction of, or additions to, buildings or accessory structures that are less than 200 square feet in floor area. Development also does not include the installation of electric vehicle charging stations in existing approved parking lots or vehicle use areas.

(a) *Pedestrian connections required.* The on-site pedestrian circulation system shall provide pedestrian connectivity throughout the development site as follows:
    (1) *Connection between building entrances and streets.*
        (A) Except as otherwise provided in this subsection, a pedestrian connection shall be provided between the primary building entrance of each building on the development site and each

adjacent street. Where a building has more than one primary building entrance, a single pedestrian connection from one of the building's primary entrances to each adjacent street is allowed; provided each of the building's primary entrances are connected, via a pedestrian connection, to the required connection to the street (see Figure 800-11).

(B) Where an adjacent street is a transit route and there is an existing or planned transit stop along street frontage of the development site, at least one of the required pedestrian connections shall connect to the street within 20 feet of the transit stop (see Figure 800-12).

(C) A pedestrian connection is not required between the primary building entrance of a building and each adjacent street if:

(i) The development site is a corner lot and the building has a primary building entrance that is located within 20 feet of, and has a pedestrian connection to, the property line abutting one of the adjacent streets; or

(ii) The building is a service, storage, maintenance, or similar type building not primarily intended for human occupancy.

Applicant's Findings: *As demonstrated on the submitted plans, the applicant is providing pedestrian connections from the primary building entrances to each adjacent street. This standard is met.*

(2) *Connection between buildings on the same development site.*

(A) Except as otherwise provided in this subsection, where there is more than one building on a development site, a pedestrian connection, or pedestrian connections, shall be provided to connect the primary building entrances of all of the buildings.

(B) A pedestrian connection, or pedestrian connections, is not required between buildings on the same development site if:

(i) The buildings have a primary building entrance that is located within 20 feet of, and has a pedestrian connection to, the property line abutting a street; and

(ii) A public sidewalk within the adjacent street right-of-way provides pedestrian access between the primary building entrances; or

(iii) The buildings are service, storage, maintenance, or similar type buildings not primarily intended for human occupancy.

Applicant's Findings: *The proposed phased development includes one new building on each parcel. The applicant is providing a pedestrian connection between the two properties and two buildings. This is met.*

(3) *Connection through off-street parking areas.*

(A) Surface parking areas. Except as provided under subsection (a)(3)(A)(iii) of this section, off-street surface parking areas greater than 25,000 square feet in size or including four or more consecutive parallel drive aisles shall include pedestrian connections through the parking area to the primary building entrance or where there is no building, through the parking area as provided in this subsection.

(i) The pedestrian connections shall be:

a. Provided in a minimum amount of either one connection for every four drive aisles or one connection for every 250 feet (See Figure 800-13); provided, however, in no case shall less than one pedestrian connection be provided. Where the pedestrian connection requirements of this subsection result in a fractional number, any fractional number greater than 0.5 shall be round up to require an additional pedestrian connection;

b. Spaced a minimum of two drive aisles apart; and

c. Connected to a pedestrian connection, or pedestrian connections, that lead to the primary building entrance. Where there is no building, the pedestrian connections shall connect to the street either at the sidewalk or at the public street right-of-way when there is no sidewalk.

(ii) Where the off-street surface parking area is adjacent to a street that is a transit route and there is an existing or planned transit stop along the

street frontage of the development site, at least one of the required pedestrian connections shall connect to the street within 20 feet of the transit stop.

(iii) A pedestrian connection provided between a primary building entrance and a street may be counted as a required connection through an off-street surface parking area.

(iv) Regardless of the size of the off-street parking area, pedestrian connections are not required through off-street surface parking areas that have a depth, in all locations, of not more than 124 feet. For purposes of this subsection, parking area depth is measured through the parking area from its outside edge towards the building.

(v) For purposes of this subsection, off-street surface parking area means:

a. An off-street surface parking area that is separated from other off-street surface parking areas on the development site by either a driveway, which begins at the street and extends into the site, or other physical separation; or

b. An off-street surface parking area located in a separate location on the development site from other off-street surface parking areas.

Applicant's Findings: *The applicant is providing a pedestrian connection through the off-street parking area in-between the two proposed hotel sites. As demonstrated on the submitted plans, this pedestrian connection crosses drive aisles and has speed bumps proposed for protection of the pedestrians using this connection. This is met.*

(B) Parking structures and parking garages. Where an individual floor of a parking structure or parking garage exceeds 25,000 square feet in size, a pedestrian connection shall be provided through the parking area on that floor to an entrance/exit.

Applicant's Findings: *Parking structures and parking garages are not proposed with this development; therefore, this is not applicable.*

(4) *Connection to existing or planned paths and trails.* Where an existing or planned path or trail identified in the Salem Transportation System Plan (TSP) or the Salem Comprehensive Parks System Master Plan passes through a development site, the path or trail shall:

(A) Be constructed, and a public access easement or dedication provided; or

(B) When no abutting section of the trail or path has been constructed on adjacent property, a public access easement or dedication shall be provided for future construction of the path or trail.

Applicant's Findings: *There is not an existing or planned path or trail identified in the Salem TSP or the Parks System Master Plan; therefore, no path or trail is required or proposed.*

(5) *Connection to abutting properties.* Whenever a vehicular connection is provided from a development site to an abutting property, a pedestrian connection shall also be provided. A pedestrian connection is not required, however:

(A) To abutting properties used for activities falling within the following use classifications, use categories, and uses under SRC chapter 400:

(i) Single-family;

(ii) Two-family;

(iii) Group living;

(iv) Industrial;

(v) Infrastructure and utilities; and

(vi) Natural resources.

(B) Where the use of an abutting property has specific security needs that make providing a connection impractical or undesirable;

(C) Where on-site activities on abutting properties, such as the operation of trucks, forklifts, and other equipment and machinery would present safety conflicts with pedestrians;

(D) Where buildings or other improvements on abutting properties physically preclude a connection now or in the future; or

(E) Where physical conditions of the land, such as topography or existing natural resource areas, including, but not limited to, wetlands, ponds, lakes, streams, or rivers, make providing a connection impractical.

Applicant's Findings: *As demonstrated on the submitted plans, a vehicular connection and a pedestrian connection are provided between the two hotel sites; therefore, this is met.*

(b) *Design and materials.* Required pedestrian connections shall be in the form of a walkway, or may be in the form of a plaza. Where a path or trail identified in the Salem Transportation System Plan (TSP) or Salem Comprehensive Parks System Master Plan is required, the path or trail shall conform to the applicable standards of the TSP or Salem Comprehensive Parks System Master Plan in-lieu of the standards in this subsection.

(1) Walkways shall conform to the following:

(A) Material and width. Walkways shall be paved with a hard-surface material meeting the Public Works Design Standards, and shall be a minimum of five feet in width.

(B) Where a walkway crosses driveways, parking areas, parking lot drive aisles, and loading areas, the walkway shall be visually differentiated from such areas through the use of elevation changes, a physical separation, speed bumps, a different paving material, or other similar method. Striping does not meet this requirement, except when used in a parking structure or parking garage.

(C) Where a walkway is located adjacent to an auto travel lane, the walkway shall be raised above the auto travel lane or separated from it by a raised curb, bollards, landscaping or other physical separation. If the walkway is raised above the auto travel lane it must be raised a minimum of four inches in height and the ends of the raised portions must be equipped with curb ramps. If the walkway is separated from the auto travel lane with bollards, bollard spacing must be no further than five feet on center.

Applicant's Findings: *The proposed pedestrian connections will be paved with hard-surface material meeting the Public Works Design Standards and meet the minimum 5-feet in width and 7-feet where vehicle parking could encroach into the pedestrian walkway. Where the walkways cross drive aisles, the applicant is proposing speed bumps, as demonstrated on the submitted plans. The remaining pedestrian connections on the site that are adjacent to travel lanes are raised above the travel lanes. As demonstrated on the submitted plans and this written finding, these standards are met.*

(2) Wheel stops or extended curbs shall be provided along required pedestrian connections to prevent the encroachment of vehicles onto pedestrian connections.

Applicant's Findings: *As demonstrated on the submitted plans, the applicant is proposing 7-foot pedestrian connections along parking areas instead of wheel stops for the encroachment of vehicles. This is met.*

(c) *Lighting.* The on-site pedestrian circulation system shall be lighted to a level where the system can be used at night by employees, customers, and residents.

Applicant's Findings: *At the time of building permit submittal, the applicant will supply drawings and documentation demonstrating compliance with this section. This criterion will be met.*

(d) *Applicability of standards to development sites comprised of lots under separate ownership.*

(1) When a development site is comprised of lots under separate ownership, the pedestrian access standards set forth in this section shall apply only to the lot, or lots, proposed for development, together with any additional contiguous lots within the development site that are under the same ownership as those proposed for development.

(2) Where the pedestrian access standards of this section would otherwise require additional pedestrian connections throughout the development site beyond just the lot, or lots, proposed for development and any contiguous lots under the same ownership, the required pedestrian connections shall be extended to the boundaries of the lot, or lots, proposed for development and any contiguous lots under the same ownership in order to allow for future extension of required pedestrian connections through the other lots within the development site in conformance with the standards in this section.

Applicant's Findings: *The proposed development is under the same ownership; therefore, this is not applicable.*

Chapter 806 – Off-Street Parking, Loading, and Driveways

Section 806.001 – Purpose

The purpose of this chapter is to establish standards for off-street parking and vehicle use areas, bicycle parking, loading areas, and driveways.

Section 806.015 – Amount of Off-Street Parking

(a) *Maximum off-street parking.* Except as otherwise provided in this section, and unless otherwise provided under the UDC, off-street parking shall not exceed the amounts set forth in Table 806-1. For the purposes of calculating the maximum amount of off-street parking allowed, driveways shall not be considered off-street parking spaces.

Applicant's Findings: *Pursuant to table 806-1, short-term lodging use has a maximum parking standard of 1.5 per guest room or suite. Phase 1 includes the development of 106 rooms and is providing 114 parking stalls, where the maximum is 159 parking stalls. Phase 2 includes the development of 112 rooms and is providing 106 parking stalls, where the maximum is 168*

parking stalls. Both developments do not exceed the maximum parking standard; therefore, meeting the standard.

(b) *Compact parking.* Up to 75 percent of the off-street parking spaces provided on a development site may be compact parking spaces.

Applicant's Findings: *The applicant is providing a total of 50 compact parking spaces, 24 spaces in Phase 1 and 26 spaces in Phase 2. The total of 50 compact spaces is only 23 percent of the total parking provided, which is significantly less than the maximum of 75 percent that is allowed to be compact spaces; therefore, this standard is met.*

(c) *Carpool and vanpool parking.* New developments with 60 or more required off-street parking spaces, and falling within the public services and industrial use classifications, and the business and professional services use category, shall designate a minimum of five percent of their total off-street parking spaces for carpool or vanpool parking.

Applicant's Findings: *Pursuant to table 400-1, short-term commercial lodging is classified as commercial; therefore, carpool and vanpool parking are not required, and the applicant is not proposing any carpool or vanpool parking. This is not applicable.*

(d) *Required electric vehicle charging spaces.* For any newly constructed building with five or more dwelling units on the same lot, including buildings with a mix of residential and nonresidential uses, a minimum of 40 percent of the off-street parking spaces provided on the site for the building shall be designated as spaces to serve electrical vehicle charging. In order to comply with this subsection, such spaces shall include provisions for electrical service capacity, as defined in ORS 455.417.

Applicant's Findings: *The development does not include dwelling units and does not require electric vehicle charging spaces. This standard is not applicable.*

Section 806.020 – Method of Providing Off-Street Parking

(a) *General.* If provided, off-street parking shall be accommodated through one or more of the following methods:
  (1) *Ownership*. Ownership in fee by the owner of the property served by the parking;
  (2) *Easement.* A permanent and irrevocable easement appurtenant to the property served by the parking;
  (3) *Lease Agreement.* A lease agreement
  (4) *Lease or rental agreement in parking structure.* A lease or rental agreement in an off-street parking facility established pursuant to ORS 223.805 to 223.845;

Applicant's Findings: *The applicant is providing off-street parking through method (1) ownership. As shown on the site plan included with this application submittal, the off-street parking area is on the same site as the development it serves. This criterion is met.*

(b) *Review and filing of agreement*. Prior to execution of any lease or rental agreement set forth in this section, the form of such agreement shall be reviewed by the City Attorney. An executed copy of the approved agreement shall be filed with the Planning Administrator.

Applicant's Findings: *The applicant is providing the off-street parking through method (1) ownership. For this reason, an agreement will not be required or filed. This criterion is not applicable.*

Section 806.035 – Off-Street Parking and Vehicle Use Are Development Standards for Uses of Activities Other Than Single-Family, Two-Family, Three-Family, and Four-Family

Unless otherwise provided under the UDC, off-street parking and vehicle use areas, other than driveways and loading areas, for uses or activities other than single family, two family, three family, and four family shall be developed and maintained as provided in this section.

(a) *General applicability.* The off-street parking and vehicle use area development standards set forth in this section shall apply to:
  (1) The development of new off-street parking and vehicle use areas;
  (2) The expansion of existing off-street parking and vehicle use areas, where additional paved surface is added;
  (3) The alteration of existing off-street parking and vehicle use areas, where the existing paved surface is replaced with a new paved surface; and
  (4) The paving of an unpaved area.

Applicant's Findings: *The proposal includes the development of new off-street parking and vehicle use areas; therefore, triggering the applicability of this section.*

(b) *Location.*
  (1) *Generally*. Off-street parking and vehicle use areas shall not be located within required setbacks.

Applicant's Findings: *As shown on the submitted plans, no off-street parking is located within required setbacks. This is met.*

  (2) *Carpool and vanpool parking.* Carpool and vanpool parking shall be located so it is the closest employee parking to the building entrance normally used by employees; provided, however, it shall not be located closer than any parking designated for disabled parking.

Applicant's Findings: *There is no carpool or vanpool parking proposed with the development; therefore, this is not applicable.*

(3) *Underground parking*. Off-street parking may be located underground in all zones, except the RA and RS zones. Such underground parking may be located beneath required setbacks; provided, however, no portion of the structure enclosing the underground parking shall project into the required setback, and all required setbacks located above the underground parking structure shall be landscaped as otherwise required under the UDC.

Applicant's Findings: *There is no underground parking proposed with the development; therefore, this is not applicable.*

(c) *Perimeter setbacks and landscaping.*

(1) *Perimeter setbacks and landscaping, generally.*

(A) *Perimeter setbacks.* Perimeter setbacks, as set forth in this subsection, shall be required for off-street parking and vehicle use areas abutting streets, abutting interior front, side, and rear property lines, and adjacent to buildings and structures. Perimeter setbacks for parking garages are set forth under subsection (c)(5) of this section. Perimeter setbacks are not required for:

(i) Off-street parking and vehicle use areas abutting an alley.

(ii) Vehicle storage areas within the IG zone.

(iii) Temporary and seasonal gravel off-street parking areas, approved pursuant to SRC chapter 701, abutting nonresidential zones, uses or activities other than household living, or local streets.

(iv) Gravel off-street parking areas, approved through a conditional use permit, abutting nonresidential zones, uses or activities other than household living, or local streets.

(v) Underground parking.

(B) *Perimeter landscaping.* Required perimeter setbacks for off-street parking and vehicle use areas shall be landscaped as set forth in this subsection.

Applicant's Findings: *The applicant understands the general requirements for perimeter setbacks and landscaping and has provided detailed findings below to address each requirement.*

(2) *Perimeter setbacks and landscaping abutting streets*. Unless a greater setback is required elsewhere within the UDC, off-street parking and vehicle use areas abutting a street shall be setback and landscaped according to one the methods set forth in this subsection. Street trees located along an arterial street may be counted towards meeting the minimum required number of plant units.

(A) *Method A.* The off-street parking and vehicle use area shall be setback a minimum of ten feet (see Figure 806-1). The setback shall be landscaped according to the Type A standard set forth in SRC chapter 807.

(B) *Method B.* The off-street parking and vehicle use area shall be setback to accommodate a berm, the top of which shall be a minimum of 2.5 feet higher than the elevation of the abutting off-street parking or vehicle use area (see Figure 806-2). The berm shall have a slope no steeper than a 3:1 on all sides, and shall be landscaped according to the Type A standard set forth in SRC chapter 807 with plant materials to prevent erosion. The berm shall not alter natural drainage flows from abutting properties. Any portion of the berm that encroaches into a vision clearance area set forth in SRC chapter 805 shall have a height no greater than the maximum allowed under SRC 805.010.

(C) *Method C.* The off-street parking and vehicle use area shall be setback a minimum six feet to accommodate a minimum three-foot drop in grade from the elevation at the right-of-way line to the elevation of the abutting off-street parking or vehicular use area (see Figure 806-3). The setback shall be landscaped according to the Type A standard set forth in SRC chapter 807.

(D) *Method D.* The off-street parking and vehicle use area shall be setback a minimum six feet in conjunction with a minimum three-foot-tall brick, stone, or finished concrete wall (see Figure 806-4). The wall shall be located adjacent to, but entirely outside, the required setback. The setback shall be landscaped according to the Type A standard set forth in SRC chapter 807. Any portion of the wall that encroaches into a vision clearance area set forth in SRC chapter 805 shall have a height no greater than the maximum allowed under SRC 805.010.

(E) *Method E.* The off-street parking and vehicle use area shall be setback a minimum of six feet to accommodate green stormwater infrastructure meeting the Public Works Design Standards.

Applicant's Findings: *As demonstrated on the site plan included with this application submittal, some of the vehicular parking areas will abut Farm Credit Drive, Hawthorne Avenue, and Kettle Court. The applicant is meeting Method A and is providing a minimum setback of 10 feet from the street. All parking areas abutting a street will be setback a minimum of 20 feet from the property line. This criterion is met.*

(3) *Perimeter setbacks and landscaping abutting interior front, side, and rear property lines.* Unless a greater setback is required elsewhere within the UDC, off-street parking and vehicle use areas abutting an interior front, side, or rear property line shall be setback a minimum of five feet (see Figure 806-5). The setback shall be landscaped according to the Type A standard set forth in SRC chapter 807.

Applicant's Findings: *The western property line of the site is the only interior property line requiring a minimum setback of 5 feet meeting Type A landscape standards. As shown on the site plan provided, the applicant is proposing a setback and landscaping that meets the standard. This criterion is met.*

(4) *Setback adjacent to buildings and structures.* Except for drive-through lanes, where an off-street parking or vehicular use area is located adjacent to a building or structure, the off-street parking or vehicular use area shall be setback from the exterior wall of the building or structure by a minimum five-foot-wide landscape strip, planted to the Type A standard set forth in SRC chapter 807, or by a minimum five-foot-wide paved pedestrian walkway (see Figure 806-6). A landscape strip or paved pedestrian walkway is not required for drive-through lanes located adjacent to a building or structure.

Applicant's Findings: *The off-street parking and vehicle use areas located adjacent to the proposed buildings are setback by landscaping in addition to paved pedestrian walkways. Where there is parking adjacent to the paved pedestrian walkways, the width of the walkways has been increased to 7-feet to provide for potential vehicular encroachment. This is met.*

(5) *Perimeter setbacks and landscaping for parking garages.* Perimeter setbacks and landscaping as set forth in subsection (c) of this section shall be required for parking garages; provided, however, perimeter setbacks and landscaping are not required for:

(A) Any portion of a parking garage with frontage on a street and containing ground floor uses or activities other than parking.

(B) Any parking garage within an industrial zone, public zone, or commercial zone, other than a CO zone, that abuts an interior front, side, or rear property line where there is no required building setback.

(C) Any parking garage abutting an alley.

Applicant's Findings: *There are no parking garages proposed with the development; therefore, this is not applicable.*

(d) *Interior landscaping.*

(1) *Interior landscaping, generally.* Interior landscaping, as set forth in this subsection, shall be required for off-street parking areas 5,000 square feet or greater in size; provided, however, interior landscaping is not required for:

(i) Vehicle storage areas.
(ii) Vehicle display areas.
(iii) Temporary and seasonal gravel off-street parking areas, approved pursuant to SRC chapter 701.
(iv) Gravel off-street parking areas, approved through a conditional use permit.
(v) Underground parking.
(vi) Parking garages.

Applicant's Findings: *As shown on the site plan provided, the off-street parking areas total approximately 96,458 square feet, triggering the applicability of interior landscaping within the parking lot.*

(2) *Minimum percentage of interior landscaping required.* Interior landscaping shall be provided in amounts not less than those set forth in Table 806-4. For purposes of this subsection, the total interior area of an off-street parking area is the sum of all areas within the perimeter of the off-street parking area, including parking spaces, aisles, planting islands, corner areas, and curbed areas, but not including interior driveways. Perimeter landscaped setbacks and required landscape strips separating off-street parking areas from buildings and structures shall not count towards satisfying minimum interior landscaping requirements.

Applicant's Findings: *In accordance with Table 806-4, the applicant is required to provide a minimum of 8 percent interior landscaping which equals 7,717 square feet. As shown on the site plan provided, approximately 35,864 square feet, or 38 percent, landscaping is provided which is a combination of both perimeter and interior landscaping. This criterion is met.*

(3) *Trees.* A minimum of one deciduous shade tree shall be planted for every 12 parking spaces within an off-street parking area. Trees may be clustered within landscape islands or planter bays, and shall be distributed throughout the off-street parking area to create a canopy effect and to break up expanses of paving and long rows of parking spaces.

Applicant's Findings: *Between phases 1 and 2, a total of 220 vehicle parking spaces are proposed. In accordance with this provision, a minimum of 18 deciduous shade trees are*

required within the off-street parking areas on site. The applicant has provided landscape plans demonstrating this criterion will be met.

(4) *Landscape islands and planter bays.* Landscape islands and planter bays shall have a minimum planting area of 25 square feet, and shall have a minimum width of five feet (see Figure 806-7).

Applicant's Findings: *The applicant has provided site plans and landscape plans depicting the landscape islands proposed throughout the site. In no case is any landscape island proposed to be less than 25 square feet, and each planter has a minimum width of at least five feet. This criterion is met.*

(e) *Off-street parking area dimensions.* Off-street parking areas shall conform to the minimum dimensions set forth in Table 806-5; provided, however, minimum off-street parking area dimensions shall not apply to:
(1) Vehicle storage areas.
(2) Vehicle display areas.

Applicant's Findings: *The parking areas include 220 parking stalls upon full build out of phase one and phase two. A mix of standard (170) and compact (50) stalls is proposed which will meet the dimensional requirements for 90-degree parking angle standards. This criterion is met.*

(f) *Off-street parking area access and maneuvering.* In order to ensure safe and convenient vehicular access and maneuvering, off-street parking areas shall:
(1) Be designed so that vehicles enter and exit the street in a forward motion with no backing or maneuvering within the street; and
(2) Where a drive aisle terminates at a dead-end, include a turnaround area as shown in Figure 806-9. The turnaround shall conform to the minimum dimensions set forth in Table 806-6.

Applicant's Findings: *The proposed off-street parking area is designed so that no vehicles would have to back out or maneuver within a street. Additionally, no drive aisles terminate in a dead-end. Therefore, this is met.*

(g) *Grade*. Off-street parking and vehicle use areas shall not exceed a maximum grade of ten percent. Ramps shall not exceed a maximum grade of 15 percent.

Applicant's Findings: *At shown on the civil plans, the off-street parking and vehicle use areas do not exceed the maximum grade of 10 percent and no ramps exceed the maximum grade of 15 percent. This is met.*

(h) *Surfacing.* Off-street parking and vehicle use areas shall be paved with a hard surface material meeting the Public Works Design Standards; provided, however, up to two feet of the front of a parking space may be landscaped with ground cover plants (see Figure 806-

10). Such two-foot landscaped area may count towards meeting interior off-street parking area landscaping requirements when provided abutting a landscape island or planter bay with a minimum width of five feet but shall not count towards meeting perimeter setbacks and landscaping requirements. Paving is not required for:

(1) Vehicle storage areas within the IG zone.
(2) Temporary and seasonal gravel off-street parking areas, approved pursuant to SRC chapter 701.
(3) Gravel off-street parking areas, approved through a conditional use permit.

Applicant's Findings: *As shown on the civil plans, the off-street parking and vehicle use areas will be paved with hard surface materials meeting the Public Works Design Standards. This is met.*

(i) *Drainage.* Off-street parking and vehicle use areas shall be adequately designed, graded, and drained according to the Public Works Design Standards, or to the approval of the Director.

Applicant's Findings: *As shown on the civil plans provided, the off-street parking and vehicle use areas are designed, graded, and drained according to the Public Works Design Standards, or to the approval of the director. This is met.*

(j) *Bumper guards or wheel barriers*. Off-street parking and vehicle use areas shall include bumper guards or wheel barriers so that no portion of a vehicle will overhang or project into required setbacks and landscaped areas, pedestrian accessways, streets or alleys, or abutting property; provided, however, bumper guards or wheel barriers are not required for:

(1) Vehicle storage areas.
(2) Vehicle sales display areas.

Applicant's Findings: *The applicant is providing 7-foot pedestrian walkways where abutting vehicular parking, the applicant is also proposing a 7-foot setback where 5-feet is required abutting vehicular parking to allow for potential overhang; therefore, wheel stops are not required for the off-street parking and vehicle use areas. This criterion is met.*

(k) *Off-street parking area striping.* Off-street parking areas shall be striped in conformance with the off-street parking area dimension standards set forth in Table 806-6; provided, however, off-street parking area striping shall not be required for:

(1) Vehicle storage areas.
(2) Vehicle sales display areas.
(3) Temporary and seasonal gravel off-street parking areas, approved pursuant to SRC chapter 701.
(4) Gravel off-street parking areas, approved through a conditional use permit.

Applicant's Findings: *As demonstrated on the submitted plans, the off-street parking areas will be striped in conformance with the dimension standards set forth in table 806-5. This is met.*

(l) *Marking and signage.*

(1) *Off-street parking and vehicle use area circulation.* Where directional signs and pavement markings are included within an off-street parking or vehicle use area to control vehicle movement, such signs and marking shall conform to the Manual of Uniform Traffic Control Devices.

Applicant's Findings: *The proposed parking area is designed in a manner that maneuvering is intuitive; it is not anticipated directional markings or signage will be necessary to control vehicular movement. However, if markings or signage are determined to be necessary, the applicant will ensure they conform to the Manual or Uniform Traffic Control Devices. If applicable, this criterion will be met.*

(2) *Compact parking.* Compact parking spaces shall be clearly marked indicating the spaces are reserved for compact parking only.

Applicant's Findings: *The submitted plans identify which groupings of parking spaces will be marked as compact spaces; each individual compact spot has not been labeled; therefore, the applicant asks staff to condition that the compact spaces be clearly marked indicating the spaces are reserved for compact parking only.*

(3) *Carpool and vanpool parking.* Carpool and vanpool parking spaces shall be posted with signs indicating the spaces are reserved for carpool or vanpool use only before 9:00 a.m. on weekdays.

Applicant's Findings: *The development does not include carpool or vanpool parking; this is not applicable.*

(m) *Lighting*. Lighting for off-street parking and vehicle use areas shall not shine or reflect onto adjacent residentially zoned property, or property used for uses or activities falling under household living, or cast glare onto the street.

Applicant's Findings: *Lighting will be provided in a manner ensuring it will not shine or reflect onto adjacent properties or right-of-way. This criterion will be met.*

(n) *Additional standards for new off-street surface parking areas more than one-half acre in size.* When a total of more than one-half acre of new off-street surface parking is proposed on one or more lots within a development site, the lot(s) proposed for development shall comply with the additional standards in this subsection. For purposes of these standards, the area of an off-street surface parking area is the sum of all areas within the perimeter of the off-street parking area, including parking spaces, aisles, planting islands, corner areas, and curbed areas, but not including interior driveways and off-street loading areas.

Applicant's Findings: *As shown on the submitted plans, the total parking area will result in more than one-half acre in size; therefore, triggering the additional standards for new off-street parking areas. Findings addressing the additional standards are below.*

(1) *Climate mitigation.* Except for development that includes a public building as defined in OAR 330-135-0200 that must otherwise comply with Chapter 330, Division 135 of the Oregon Administrative Rules, development that includes a total of more than one-half acre of new off- street surface parking shall provide one or more of the following climate mitigation measures, which may be used in combination. When used in combination, each climate mitigation measure shall be counted as a proportion of the total amount of mitigation required, as shown in Figure 806-11. (Example: A development with one half acre of new off-street surface parking, including 80 parking spaces, may provide solar power generation infrastructure of 20 kilowatts; thereby meeting 50 percent of the total amount of mitigation required. The remainder may be accomplished by providing tree canopy area covering 20 percent of the new off-street parking and vehicle use areas; thereby meeting the remaining 50 percent of the total amount of mitigation required.) This requirement cannot be adjusted or varied.

(A) *Solar power generation.* On-site solar power generation infrastructure shall be provided with a capacity of at least 0.5 kilowatts per new off-street parking space. The solar power generation infrastructure shall be located on the lot(s) proposed for development but need not be located in parking or vehicle use areas.

(B) *Payment into city's equitable renewable energy fund.* A payment shall be made into the city's equitable renewable energy fund at a rate of not less than $1,500.00 per parking space and tied to inflation. The per parking space fee, adopted through Ordinance Bill No. 7-23, effective November 27, 2023, shall increase by an amount equal to any percentage increase in the consumer price index for urban wage earners and clerical workers for the Portland-Salem, Oregon region effective on July 1 of each year, unadjusted for seasonal variations, as determined by the Bureau of Labor Statistics of the Department of Labor.

(C) *Increased tree canopy coverage.* Increased on-site tree canopy area shall be provided, in conformance with the standards included under subsection (n)(3) of this section, covering at least 40 percent of new off-street parking and vehicle use areas in no more than 15 years. For purposes of this calculation, paved areas used for loading, outdoor storage of goods and materials, and solid waste services are not included in the off-street parking and vehicle use area.

Applicant's Findings: *The applicant has provided calculations on the submitted civil plans demonstrating that a combination of tree canopy and payment in lieu will be used as mitigation for the proposed off-street parking area in conformance with this standard.*

(2) *Provision of tree canopy.* Development that includes a total of more than one-half acre of new off-street surface parking shall provide tree canopy in conformance with one or more of the following:

(A) *Trees along driveways.* Trees shall be provided along both sides of driveways in conformance with the standards included under subsection (n)(3) of this section; or

(B) *Tree canopy coverage.* On-site tree canopy area shall be provided, in conformance with the standards included under subsection (n)(3) of this section, covering at least 30 percent of new off-street surface parking and vehicle use areas in no more than 15 years. For purposes of this calculation, paved areas used for loading, outdoor storage of goods and materials, and solid waste services are not included in the off-street parking and vehicle use area.

Applicant's Findings: *The applicant has provided landscaping plans for phase I of the proposed development. The applicant will provide additional details at the time of building permit application to satisfy the above requirements. This will be met.*

(3) *Tree canopy standards.* To ensure new off-street surface parking totaling more than one-half acre in size meets minimum tree canopy coverage requirements, new trees shall be planted and/or existing trees shall be preserved in conformance with the following standards:

(A) *Expected tree canopy area.*

(i) Expected on-site tree canopy area shall be based on the standards set forth in Table 806-7.

(ii) New trees that are planted shall be selected from Table 806-7. When a tree proposed to be planted is not identified in Table 806-7, the tree may be approved by the Planning Administrator if it is a native, drought resistant, species that will provide tree canopy area commensurate with either large or small trees as specified in Table 8067.

(iii) Existing trees that are preserved may be included in expected tree canopy area, regardless of species, so long as they conform to the other standards of this subsection. Mature trees 15 years of age or older may be counted with their existing canopy area at the time of application. Immature trees shall be categorized as either small or large trees based on how their species is identified in Table 806-7.

Immature trees of a species not listed in Table 806-7 shall be categorized by the Planning Administrator as either small or large based on the average spread of the species at maturity.

(iv) Each tree meeting the requirements of this subsection may be counted toward the total expected tree canopy area so long as the trunk of each tree is located within 10 feet of the parking area.

(v) Exclusions to expected tree canopy area. The following portions of tree canopy shall not be counted as part of the expected tree canopy area:

(aa) Where trees are planted in such proximity that their expected tree canopy area at 15 years will overlap by more than five linear feet, portions of the expected tree canopy area exceeding five feet of overlap shall not count toward the expected tree canopy coverage area.

(bb) Portions of expected tree canopy that overlap with any portion of an existing or proposed building shall not be counted for the purposes of meeting tree canopy requirements.

Applicant's Findings: *The applicant has provided landscaping plans for phase I of the proposed development. The applicant will provide additional details at the time of building permit application to satisfy the above requirements. This will be met.*

(B) *Tree planting standards.* Trees provided to meet tree canopy coverage requirements shall be:

(i) Planted in such proximity that they form a continuous canopy within 15 years of planting based on the expected tree canopy area of the trees set forth in Table 806-7, except where interrupted by vehicle use areas, solid waste service areas, buildings, power lines, stormwater infrastructure, and children's play areas;

(ii) Planted in planting islands containing a minimum of three trees per planting island and the minimum required soil amount per tree type specified in Table 806-7;

(iii) Planted to ensure that no more than 20 percent of their expected canopy overlaps with existing or proposed buildings;

(iv) Not less than 1.5 inch caliper in size at the time of planting; and

(v) Planted and maintained to meet, at minimum, the standards in the 2021 ANSI A300 handbook.

Applicant's Findings: *The applicant has provided landscaping plans for phase I of the proposed development outlining how the tree planting standards outlined above are met. The applicant*

will provide additional details at the time of building permit application to satisfy these requirements. This will be met.

(C) *Tree Location/Utility Coordination.* Coordination shall be demonstrated with the local electric utility to ensure the compatibility of tree canopy and root systems with planned and existing utility infrastructure.

Applicant's Findings: *The site is currently undeveloped allowing the applicant to plan the site landscaping and utility placement accordingly. At the time of building permit, the applicant will demonstrate coordination with the local electric utility to ensure the compatibility of the tree plantings with the planned utility infrastructure. This will be met.*

Section 806.040 – Driveway Development Standards for Uses of Activities Other Than Single-Family, Two-Family, Three-Family, and Four-Family

Unless otherwise provided under the UDC, driveways for uses or activities other than single family, two family, three family, or four family shall be developed and maintained as provided in this section.

(a) *Access.* Off-street parking and vehicle use areas shall have either separate driveways for ingress and egress, a single driveway for ingress and egress with an adequate turnaround that is always available, or a loop to the single point of access. The driveway approaches to the driveways shall conform to SRC chapter 804.

Applicant's Findings: *The applicant is seeking approval of a class 2 driveway approach permit and has provided findings in response to SRC Chapters 804 and 805. As demonstrated on the site plan included with this submittal, two driveway approaches are proposed to Farm Credit Drive with adequate width to accommodate ingress and egress. This is met.*

(b) *Location.* Driveways shall not be located within required setbacks except where:
- (1) The driveway provides direct access to the street, alley, or abutting property.
- (2) The driveway is a shared driveway located over the common lot line and providing access to two or more uses.

Applicant's Findings: *The location of the proposed driveway approaches provide direct access to the street. This is met.*

(c) *Setbacks and landscaping.*
- (1) *Perimeter setbacks and landscaping, generally.* Perimeter setbacks and landscaping as set forth in this subsection shall be required for driveways abutting streets and abutting interior front, side, and rear property lines; provided, however, perimeter setbacks and landscaping are not required where:
  - (A) The driveway provides direct access to the street, alley, or abutting property.

(B) The driveway is a shared driveway located over the common lot line and providing access to two or more uses.

(2) *Perimeter setbacks and landscaping abutting streets*. Unless a greater setback is required elsewhere within the UDC, driveways abutting a street shall be setback and landscaped according to the off-street parking and vehicle use area perimeter setbacks and landscaping standards set forth under SRC 806.035(c)(2).

(3) *Perimeter setbacks and landscaping abutting interior front, side, and rear property lines.* Unless a greater setback is required elsewhere within the UDC, driveways abutting an interior front, side, or rear property line shall be setback a minimum of five feet. The setback shall be landscaped according to the Type A standard set forth in SRC chapter 807.

Applicant's Findings: *The proposed driveways provide direct access to the street; therefore, perimeter setbacks and landscaping are not required, and this is not applicable.*

(d) *Dimensions.* Driveways shall conform to the minimum width set forth in Table 806-7.

Applicant's Findings: *In accordance with Table 806-8, the minimum driveway width for two-way traffic is 22-feet. As demonstrated on the site plan provided, the proposed driveways are approximately 35-feet in width. This criterion is met.*

(e) *Surfacing.* All driveways, other than access roads required by the Public Works Design Standards to provide access to City utilities, shall be paved with a hard surface material meeting the Public Works Design Standards. Access roads required by the Public Works Design Standards to provide access to City utilities shall be an all-weather surface material meeting the Public Works Design Standards; provided, however, the first ten feet of the access road leading into the property, as measured from the property line, shall be paved with a hard surface material.

Applicant's Findings: *As demonstrated on the submitted plans, the driveways are proposed to be paved with a hard surface material meeting the Public Works Design Standards. This is met.*

(f) *Drainage.* Driveways shall be adequately designed, graded, and drained according to the Public Works Design Standards, or to the approval of the Director.

Applicant's Findings: *As shown on the civil plans provided, the driveways have been designed, graded, and drained according to the Public Works Design Standards, or to the approval of the director. This criterion will be met.*

(g) *"No Parking" signs.* Driveways shall be posted with one "no parking" sign for every 60 feet of driveway length, but in no event shall less than two signs be posted.

Applicant's Findings: *As shown on the submitted plans, no driveway is proposed to reach 60 feet of length; therefore, "no parking" signs are not required.*

Section 806.045 – Bicycle Parking; When Required

(a) *General applicability.* Bicycle parking shall be provided as required under this chapter for:
    (1) Each proposed new use or activity.
    (2) Any change of use or activity.
    (3) Any intensification, expansion, or enlargement of a use or activity.

(b) *Applicability to change of use of existing building in Central Business District (CB), West Salem Central Business District (WSCB), Mixed Use-I (MU-I), Mixed Use-II (MU-II), Mixed Use-III (MU-III), Mixed Use-Riverfront (MU-R), and Edgewater/Second Street Mixed-Use Corridor (ESMU) zone.* Notwithstanding any other provision of this chapter, the bicycle parking requirements for a change of use of an existing building within the CB, WSCB, MU-I, MU-II, MU-III, MU-R, and ESMU zones where at least 75 percent of the width of the lot at the front setback line is occupied by existing buildings shall be met if there are a minimum of eight bicycle parking spaces located within the public right-of-way of the block face adjacent to the primary entrance of the building. If the minimum number of required bicycle parking spaces are not present within the block face, the applicant shall be required to obtain a permit to have the required number of spaces installed. For purposes of this subsection, "block face" means the area within the public street right-of-way located along one side of a block, from intersecting street to intersecting street.

(c) *Applicability to nonconforming bicycle parking area.* When bicycle parking is required to be added to an existing bicycle parking area that has a nonconforming number of spaces, the number of spaces required under this chapter for any new use or activity, any change of use or activity, or any intensification, expansion, or enlargement of a use or activity shall be provided, in addition to the number of spaces required to remedy the existing deficiency.

Applicant's Findings: *The proposed new development of the subject site triggers the applicability of this section.*

Section 806.050 – Proximity of Bicycle Parking to Use or Activity Served

Except as otherwise provided in this chapter, bicycle parking shall be located on the same development site as the use or activity it serves.

Applicant's Findings: *As shown on the site plan provided, bicycle parking is provided on the same development site at the use it serves. This criterion is met.*

Section 806.055 – Amount of Bicycle Parking

(a) *Minimum required bicycle parking.* Unless otherwise provided under the UDC, bicycle parking shall be provided in amounts not less than those set forth in Table 806-9.

Applicant's Findings: *In accordance with Table 806-8, short term lodging requires the greater of 4 spaces or 1 space per 50 rooms. The plans indicate 218 rooms are proposed across both phases. The proposal requires 4 bicycle parking spaces, and the applicant is proposing 8 spaces. Four spaces are proposed with each phase of development. This criterion is met.*

(b) *Long-term bicycle parking.* Long-term bicycle parking may be provided to satisfy a percentage of the minimum bicycle parking spaces required under this chapter. Such long-term bicycle parking shall not exceed the amounts set forth in Table 806-8. The maximum percentage of long-term bicycle parking allowed is based solely on the minimum number of bicycle parking spaces required. This standard shall not be construed to prohibit the provision of additional long-term bicycle parking spaces provided the minimum number of required spaces is met. *(Example: A restaurant requiring a minimum of four bicycle parking spaces may, but is not required to, designate one of the required spaces as a long-term space. Additional short-term and long term spaces may be provided as long as the minimum required three short-term spaces are maintained).*

Applicant's Findings: *No long-term bicycle parking is proposed. These criteria are not applicable.*

Section 806.060 – Bicycle Parking Development Standards

Unless otherwise provided under the UDC, bicycle parking shall be developed and maintained as set forth in this section. The standards set forth in this section shall not apply to City approved bike share stations which utilize bike docking stations.

(a) *Location.*

(1) *Short-term bicycle parking.* Short-term bicycle parking shall be located outside a building within a convenient distance of, and clearly visible from, the primary building entrance. In no event shall bicycle parking be located more than 50 feet from the primary building entrance, as measured along a direct pedestrian access route.

Applicant's Findings: *Each hotel is proposed to have its own designated bicycle parking racks and four parking stalls. The racks are shown on the plans and are located outside no more than 50 feet from the primary building entrance, as measured along the direct pedestrian route.*

(2) *Long-term bicycle parking.*

(A) *Generally.* Long-term bicycle parking shall be located:

(i) Within a building, on the ground floor or on upper floors when the bicycle parking areas are easily accessible by an elevator; or

(ii) On-site, outside of a building, in a well-lighted secure location that is sheltered from precipitation and within a convenient distance of the primary entrance.

(B) *Long-term bicycle parking for residential uses.* Long-term bicycle parking spaces for residential uses shall be located within:

(i) A residential dwelling unit;
(ii) A lockable garage;
(iii) A restricted access lockable room serving an individual dwelling unit or multiple dwelling units;
(iv) A lockable bicycle enclosure; or
(v) A bicycle locker.

(C) *Long-term bicycle parking for non-residential uses.* Long-term bicycle parking spaces for non-residential uses shall be located within:

(i) A restricted access lockable room;
(ii) A lockable bicycle enclosure; or
(iii) A bicycle locker.

Applicant's Findings: *There are no long-term bicycle parking areas proposed. This section is not applicable.*

(b) *Access.* All bicycle parking areas shall have direct and accessible access to the public right-of-way and the primary building entrance that is free of obstructions and any barriers, such as curbs or stairs, which would require users to lift their bikes in order to access the bicycle parking area.

Applicant's Findings: *As depicted on the submitted plans, all bicycle parking areas will have direct access to the public right-of-way. This criterion is met.*

(c) *Dimensions*. All bicycle parking areas shall meet the following dimension requirements:

(1) *Bicycle parking spaces.* Bicycle parking spaces shall conform to the minimum dimensions set forth in Table 806-10.
(2) *Access aisles.* Bicycle parking spaces shall be served by access aisles conforming to the minimum widths set forth in Table 806-10. Access aisles serving bicycle parking spaces may be located within the public right-of-way.

Applicant's Findings: *As depicted on the submitted plans, the bicycle parking conforms to the requirements in Table 806-9. This criterion is met.*

(d) *Surfacing.* Where bicycle parking is located outside a building, the bicycle parking area shall consist of a hard surface material, such as concrete, asphalt pavement, pavers, or similar material, meeting the Public Works Design Standards.

Applicant's Findings: *The bicycle parking area is proposed to be hard surface material meeting the Public Works Design Standards. This is met.*

(e) *Bicycle racks.* Where bicycle parking is provided in racks, the racks may be horizontal or vertical racks mounted to the ground, floor, or wall. Bicycle racks shall meet the following standards:
  (1) Racks must support the bicycle in a stable position.
    (A) For horizontal racks, the rack must support the bicycle frame in a stable position in two or more places a minimum of six inches horizontally apart without damage to the wheels, frame, or components.
    (B) For vertical racks, the rack must support the bicycle in a stable vertical position in two or more places without damage to the wheels, frame, or components.
  (2) Racks must allow the bicycle frame and at least one wheel to be locked to the rack with a high security, U-shaped shackle lock;
  (3) Racks shall be of a material that resists cutting, rusting, and bending or deformation; and
  (4) Racks shall be securely anchored.
  (5) Examples of types of bicycle racks that do, and do not, meet these standards are shown in Figure 806-11.

Applicant's Findings: *The applicant is aware of all bicycle parking requirements for racks and will conform to the requirements as shown in Figure 806-11. This criterion is met.*

(f) *Bicycle lockers.* Where bicycle parking is provided in lockers, the lockers shall meet the following standards:
  (1) Lockers shall conform to the minimum dimensions set forth in Table 806-10.
  (2) Lockers shall be served by an access aisle conforming to the minimum width set forth in Table 806-10 in front of each locker opening.
  (3) Lockers shall be securely anchored.

Applicant's Findings: *The applicant is not providing bicycle lockers; therefore, this standard is not applicable.*

Section 806.065 – Off-Street Loading Areas; When Required

(a) *General applicability.* Off-street loading shall be provided and maintained as required under this chapter for:

(1) Each proposed new use or activity.
(2) Any change of use or activity, when such change of use or activity results in a greater number of required off-street loading spaces than the previous use or activity.
(3) Any intensification, expansion, or enlargement of a use or activity.

Applicant's Findings: *The proposal is for a new development and a new use will be established; therefore, triggering the applicability of this section.*

Section 806.070 – Proximity of Off-Street Loading Areas to Use or Activity Served

Off-street loading shall be located on the same development site as the use or activity it serves.

Applicant's Findings: *The off-street loading is provided on the same development site as the use it serves. This is met.*

Section 806.075 – Amount of Off-Street Loading

Unless otherwise provided under the UDC, off-street loading shall be provided in amounts not less than those set forth in Table 806-11.

(a) *Off-street parking used for loading.* An off-street parking area meeting the requirements of this chapter may be used in place of a required off-street loading space when the use or activity does not require a delivery vehicle which exceeds a maximum combined vehicle and load rating of 8,000 pounds and the off-street parking area is located within 25 feet of the building or the use or activity that it serves.

Applicant's Findings: *In accordance with Table 806-11, the applicant is required to provide a minimum of two off-street loading space on the development site. Because delivery vehicles coming to the site will not exceed the maximum vehicle and load rating of 8,000 pounds and the off-street parking area is located within 25 feet of each of the proposed buildings, the applicant will utilize the proposed off-street parking areas as loading and will not be designating additional loading spaces. This criterion is met.*

Chapter 807 – Landscaping and Screening

Section 807.001 – Purpose

The purpose of this chapter is to establish standards for required landscaping and screening under the UDC to improve the appearance and visual character of the community, promote compatibility between land uses, encourage the retention and utilization of existing vegetation, and preserve and enhance the livability of the City.

Section 807.010 – Applicability

The provisions of this chapter apply to all required landscaping and screening under the UDC.

Applicant's Findings: *The development triggers the landscaping requirements of Chapter 807. Below the applicant provides findings regarding how the proposal meets the applicable criteria.*

Section 807.015 – Landscaping and Screening

Unless otherwise provided under the UDC, required landscaping and screening shall conform to the standards set forth in this section.

(a) *Landscaping types.* Required landscaping shall be provided according to one of the landscaping types set forth in Table 807-1. Where landscaping is required under the UDC without a reference to a specific landscaping type, the required landscaping shall meet the Type A standard.

Applicant's Findings: *The landscape type required for the development site is Type A: one plant unit per 20 square feet. The applicant has provided landscape plans demonstrating compliance with the minimum plant unit requirements. This criterion is met.*

(b) *Plant materials and corresponding plant unit values.* Plant materials, their corresponding minimum plant unit values, and minimum plant material size at time of planting for landscaping within required landscaped areas are set forth in Table 807-2. A minimum of 40 percent of the required number of plant units shall be a combination of mature trees, shade trees, evergreen/conifer trees, or ornamental trees. Plant materials shall provide for a minimum 75 percent coverage of required landscaped areas within five years.

Applicant's Findings: *The applicant's consultant team has prepared a preliminary landscape plan meeting the requirements of the IC zone and chapter 806. A plant unit breakdown, including how the site meets the CFEC and shade trees for every 12 parking spaces provided, is included with this application submittal.*

(c) *Preservation of existing trees and vegetation.* The preservation of existing trees and vegetation is encouraged. If preserved, existing trees as defined under SRC chapter 808, existing trees less than ten inches dbh, and existing vegetation may be utilized to satisfy required landscaping if they conform to the minimum plant unit requirements specified in this chapter.

Applicant's Findings: *The site does not include any existing trees for preservation this criterion is not applicable.*

(d) *Tree replanting requirements.* In addition to the landscaping required under this chapter, when existing trees, as defined under SRC chapter 808, are proposed for removal from within required setbacks or from a development site, replanting shall be required as provided in this subsection. The provisions of this subsection do not apply to

lots used for single family uses, two family uses, three family uses, four family uses, or cottage clusters.

(1) *Removal of trees within required setbacks.* When an existing tree or trees, as defined under SRC chapter 808, within a required setback are proposed for removal, two new trees shall be planted for each tree removed. Replanted trees shall be of either a shade or evergreen variety with a minimum 1.5 inch caliper.

(2) *Removal of trees from development site.* When more than 75 percent of the existing trees, as defined under SRC chapter 808, on a development site are proposed for removal, two new trees shall be planted for each tree removed in excess of 75 percent. Replanted trees shall be of either a shade or evergreen variety with a minimum 1.5 inch caliper. For purposes of this section, existing trees within vision clearance areas, or within areas to be cleared for required roads, utilities, sidewalks, trails, or stormwater facilities, shall not be counted in the total percentage of trees removed from the development site.

Applicant's Findings: *The site does not include any existing trees for preservation this criterion is not applicable.*

(e) *Screening standards.* Unless otherwise provided under the UDC, where screening is required in the form of a fence, wall, or landscaping, it shall conform to the following standards:

(1) *Height.* Fences and walls shall be a minimum of six feet in height. Landscaping shall be of a species that will attain a height of at least six feet within three years after planting.

(2) *Opacity*. Screening shall be sight-obscuring. Fences, walls, and landscaping shall be at least 75 percent opaque when viewed from any angle at a point 25 feet away from the fence, wall, or landscaping. Landscaping shall be of an evergreen species that will attain required opacity within three years after planting.

(3) *Maintenance.* Fences and walls shall be maintained in safe condition, and shall be maintained as opaque. Landscaping shall be replaced within six months after dying or becoming diseased to the point that required opacity can no longer be maintained.

Applicant's Findings: *Screening is not required. These criteria are not applicable.*

(f) *Berm*. Unless otherwise provided under the UDC, where screening is required in the form a berm, the berm shall be an earthen mound no less than three feet in height above the existing grade, and shall be constructed with a slope no steeper than 3:1 on all sides. The berm shall be planted with plant materials to prevent erosion. The berm shall not alter natural drainage flows from abutting properties.

Applicant's Findings: *The applicant is not proposing screening in the form of a berm; therefore, this is not applicable.*

(g) *Street trees*. Development adjacent to public streets shall provide street trees that meet the standards and specifications set forth in SRC chapter 86.

Applicant's Findings: *As shown on the submitted plans, the applicant is proposing street tree plantings to the maximum extent feasible along all street frontages. This is met.*

Section 807.020 – Landscaping Plan and Landscaping Permit

(a) *Landscaping plan.* A landscaping plan is required for all building permit applications for development subject to the landscaping requirements of this chapter and all landscaping permit applications required under subsection (b) of this section.

Applicant's Findings: *The applicant is aware that a landscaping plan is required when they apply for their building permits for the proposed development. The applicant has provided the landscaping plan with the land use application package and will provide a landscaping plan at the time of building permit. This is and will be met.*

Landscaping plans shall be of a size and form established by the Planning Administrator, and shall include the following:

(1) Scale and north arrow.
(2) Lot dimensions and footprint of structure(s).
(3) A legend indicating the linear footage of perimeter setbacks abutting a street or right-of-way; the linear footage of perimeter setbacks not abutting a street or right-of-way; total building square footage; total square footage of the interior area of the off-street parking area, calculated per SRC 806.035(d)(2); and total number of parking spaces.
(4) The location and size of plant materials, identified by common and botanical names, and their expected coverage within five years.
(5) The type and location of landscaping features other than plant materials, including, but not limited to, wetlands, creeks, ponds, sculpture, and benches.
(6) Fence or wall materials, when screening is required under the UDC.
(7) Abutting land uses.
(8) The type, size, and location of:
    (A) Existing trees, as defined under SRC chapter 808, existing trees less than ten inches dbh, and vegetation that will be retained to satisfy landscaping requirements of this chapter.
    (B) Existing trees, as defined under SRC chapter 808, proposed for removal.

(9) Notwithstanding subsection (a)(8) of this section, where the development site is heavily wooded, only those trees that will be affected by the proposed development need to be sited accurately. The remaining trees may be shown on the plan in the general area of their distribution.

(10) An irrigation plan identifying the materials, size, and location of all components of the irrigation system.

(11) A two-year plant establishment schedule for:

(A) Landscaped areas where a permanent underground or drip irrigation system is not required because of the use of drought resistant vegetation; or

(B) New vegetation located within stormwater facilities.

Applicant's Findings: *The applicant has provided landscaping plans that include the applicable information above. This is met.*

Section 5: Findings Applicable to Adjustments

Chapter 250 – Adjustments

Section 250.001 – Purpose

The purpose of this chapter is to provide a process to allow deviations from the development standards of the UDC for developments that, while not meeting the standards of the UDC, will continue to meet the intended purpose of those standards. Adjustments provide for an alternative way to meet the purposes of the Code and provide for flexibility to allow reasonable development of property where special conditions or unusual circumstances exist.

Section 250.005 – Adjustments

(a) *Applicability*.

(1) *Classes*.

(A) A Class 1 adjustment is an adjustment to any numerical development standard in the UDC that increases or decreases the standard by not more than 20 percent.

(B) A Class 2 adjustment is an adjustment to any development standard in the UDC other than a Class 1 adjustment, including an adjustment to any numerical development standard in the UDC that increases or decreases the standard by more than 20 percent.

(2) *Prohibition.* Notwithstanding subsection (a)(1) of this section, an adjustment shall not be granted to:

(A) Allow a use or activity not allowed under the UDC;

(B) Change the status of a use or activity under the UDC;

(C) Modify a definition or use classification;
(D) Modify a use standard;
(E) Modify the applicability of any requirement under the UDC;
(F) Modify a development standard specifically identified as non-adjustable;
(G) Modify a development standard that contains the word "prohibited";
(H) Modify a procedural requirement under the UDC;
(I) Modify a condition of approval placed on property through a previous planning action;
(J) A design review guideline or design review standard, except Multiple Family Design Review Standards in SRC Chapter 702, which may be adjusted; or
(K) The required landscaping in the Industrial Business Campus (IBC) Zone.

Applicant's Findings: *The adjustment being sought is not prohibited in accordance with the list above.*

(b) *Procedure type*. Class 1 and Class 2 adjustments are processed as a Type II Procedure under SRC chapter 300.

Applicant's Findings: *The applicant understands the procedure type for the requested adjustment.*

(c) *Submittal requirements.* In addition to the submittal requirements for a Type II application under SRC chapter 300, an application for a Class 1 or Class 2 adjustment shall include the following:
(1) A site plan, of a size and form and in the number of copies meeting the standards established by the Planning Administrator, containing all information necessary to establish satisfaction with the approval criteria. By way of example, but not of limitation, such information may include the following:
(A) The total site area, dimensions, and orientation relative to north;
(B) The location of all proposed primary and accessory structures and other improvements, including fences, walls, and driveway locations, indicating distance to such structures from all property lines and adjacent on-site structures;
(C) All proposed landscape areas on the site, with an indication of square footage and as a percentage of site area;

(D) The location, height, and material of fences, berms, walls, and other proposed screening as they relate to landscaping and screening required by SRC chapter 807;
(E) The location of all trees and vegetation required to be protected pursuant to SRC chapter 808; and
(F) Identification of vehicle, pedestrian, and bicycle parking and circulation areas, including handicapped parking stalls, disembarking areas, accessible routes of travel, and proposed ramps.

Applicant's Findings: *The plans submitted with this application include all applicable information required by this section. In conjunction with this written narrative, the review authority has all the information necessary to render a decision in this case. This criterion is met.*

(2) An existing conditions plan, of a size and form and in the number of copies meeting the standards established by the Planning Administrator, containing the following information:
(A) The total site area, dimensions, and orientation relative to north;
(B) The location of existing structures and other improvements on the site, including accessory structures, fences, walls, and driveways, noting their distance from property lines;
(C) The location of the 100-year floodplain, if applicable; and
(D) The location of drainage patterns and drainage courses, if applicable.

Applicant's Findings: *An existing conditions plan is included within the submitted civil plans. This is met.*

(d) *Criteria.*
(1) An application for a Class 1 adjustment shall be granted if all of the following criteria are met:
(A) The purpose underlying the specific development standard proposed for adjustment is:
(i) Clearly inapplicable to the proposed development; or
(ii) Clearly satisfied by the proposed development.
(B) The proposed adjustment will not unreasonably impact surrounding existing or potential uses or development.

Applicant's Findings: *The applicant is seeking approval of a class 2 adjustment; these criteria are not applicable.*

(2) An application for a Class 2 adjustment shall be granted if all of the following criteria are met:

(A) The purpose underlying the specific development standard proposed for adjustment is:

(i) Clearly inapplicable to the proposed development; or

(ii) Equally or better met by the proposed development.

Applicant's Findings: *The applicant is seeking one class 2 adjustment to eliminate the 5 foot setback and landscape buffer required along the interior property line abutting vehicle use areas. The requested adjustment meets the approval criteria (i) clearly inapplicable to the proposed development. The standard is inapplicable because the properties are proposed to be developed as a campus with site circulation and shared amenities like pedestrian paths, parking, and patio spaces. The purpose of this standard is to buffer abutting development sites from neighboring parking areas, because these properties will create a campus, the standard is inapplicable and need not be applied.*

(B) If located within a residential zone, the proposed development will not detract from the livability or appearance of the residential area.

Applicant's Findings: *The development site is not within or near a residential zone, this criterion is not applicable.*

(C) If more than one adjustment has been requested, the cumulative effect of all the adjustments result in a project which is still consistent with the overall purpose of the zone.

Applicant's Findings: *The applicant is seeking only one adjustment to a standard that is clearly inapplicable to the proposed development. This criterion does not apply.*

(e) *Transfer of adjustments.* Unless otherwise provided in the final decision granting the adjustment, an adjustment shall run with the land.

Applicant's Findings: *The applicant understands that unless the final decision states otherwise, any approved adjustments shall run with the land.*

Section 6: Findings Applicable to Airport Overlay Zone

Chapter 602 – Airport Overlay Zone

Section 602.001 – Purpose

The purpose of the Airport Overlay Zone is to establish standards to promote air navigational safety and prevent hazards and obstructions to air navigation and flight.

Section 602.010 – Airport Overlay Zone Boundary

The boundaries of the Airport Overlay Zone are shown in Figure 602-1. The Airport Overlay Zone is divided into the following areas that apply to land beneath, upon, and above the approach surface, transitional surfaces, horizontal surface, and conical surfaces of McNary Field:

(a) *Approach area.* The approach area consists of the following:
   (1) *Runway other than utility runway with only visual approach area.* The inner boundary of the runway other than utility runway with only visual approach area lies along the end of the primary surface and is 500 feet wide. The area expands outward uniformly to a width of 1,500 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the area is the continuation of the centerline of Runway 16/34.
   (2) *Non-precision instrument runway having a non-precision instrument approach with visibility minimums as low as three-quarter mile area.* The inner boundary of the non-precision instrument runway having a non-precision instrument approach with visibility minimums as low as three-quarter mile area lies along the end of the primary surface and is 1,000 feet wide. The area expands outward uniformly to a width of 4,000 feet at a horizontal distance of 10,000 feet from the primary surface. The centerline of the area is the continuation of the centerline of Runway 13.
   (3) *Precision instrument runway approach area.* The inner boundary of the precision instrument runway approach area lies along the end of the primary surface and is 1,000 feet wide. The area expands outward uniformly to a width of 16,000 feet at a horizontal distance of 10,000 feet from the primary surface and thereafter to a horizontal distance of 50,000 feet from the primary surface. The centerline of the area is the continuation of the centerline of Runway 31.

(b) *Transitional areas.* The transitional areas are those areas that lie beneath the transitional surfaces of each runway.

(c) *Horizontal area.* The boundary of the horizontal area is established by swinging arcs with 5,000 feet radii, for all utility or visual runways, and 10,000 feet radii, for all other runways, from the center of each end of the primary surface of each runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal area

(d) *Conical surface area.* The conical surface area commences at the periphery of the horizontal area and extends outward a horizontal distance of 4,000 feet.

Applicant's Findings: *The development site is subject to the restrictions of the horizontal area as it is within this boundary of the overlay zone.*

Section 602.015 – Uses

Any use that is a permitted, special, conditional, or prohibited use in the underlying zone is a permitted, special, conditional, or prohibited use in the Airport Overlay Zone.

Applicant's Findings: *The applicant understands the uses permitted are reliant on the underlying zoning and overlay zoning, not the airport overlay zone itself. The applicant is proposing short-term commercial lodging uses which are outright permitted within the IC zone. This criterion is met.*

Section 602.020 – Development Standards

Development within the Airport Overlay Zone must comply with the development standards applicable in the underlying zone and the development standards set forth in this section. The development standards in this section are in addition to, and not in lieu of, all other applicable development standards in the underlying zone. Where the development standards in this section conflict with the development standards applicable in the underlying zone or any other overlay zone, the more restrictive development standards shall be the applicable development standard.

(a) *Height.* Except as otherwise provided in this chapter, no building, structure, or object shall be erected or increased in height, and no vegetation shall be allowed to grow, to a height in excess of the height limitations set forth in this subsection. If all or part of a lot is located in more than one Airport Overlay Zone area, the applicable height limitation shall be the most restrictive height limitation.

(1) *Runway other than a utility runway with only visual approaches.* No building, structure, object, or vegetative growth shall have a height greater than that established by a plane sloping 20 feet outward for each one foot upward beginning at the end of, and at the same elevation as, the primary surface and extending to a horizontal distance of 5,000 feet along the extended centerline of Runway 16-34.

(2) *Non-precision instrument runway having a non-precision instrument approach with visibility minimums as low as three-quarter mile.* No building, structure, object, or vegetative growth shall have a height greater than that established by a plane sloping 34 feet outward for each one foot upward beginning at the end of, and at the same elevation as, the primary surface and extending to a horizontal distance of 10,000 feet along the extended centerline of Runway 13.

(3) *Precision instrument runway approach.* No building, structure, object, or vegetative growth shall have a height greater than that established by a plane

sloping 50 feet outward for each one foot upward beginning at the end of, and at the same elevation as, the primary surface and extending to a horizontal distance of 10,000 feet along the extended centerline of Runway 31; thence sloping 40 feet outward for each one foot upward to an additional horizontal

(4) *Transitional surface.* In the transitional surface, no building, structure, object, or vegetative growth shall have a height greater than that established by a plane sloping seven feet outward for each one foot upward beginning at the sides of, and at the same elevation as, the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation. In addition, in the transitional surface there are established height limits sloping seven feet outward for each one foot upward beginning at the sides of, and the same elevation as, the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach area projects beyond the conical area, there are established height limits sloping seven feet outward for each one foot upward beginning at the sides of, and the same elevation as, the approach surface, and extending a horizontal distance of 5,000 feet measured at 90-degree angles to the extended runway centerline.

Applicant's Findings: *The development site falls within the horizontal surface. Criteria 1 through 4 are not applicable.*

(5) *Horizontal surface.* In the horizontal surface, no building, structure, object, or vegetative growth shall have a height greater that that established by a horizontal plane 150 feet above the airport elevation.

Applicant's Findings: *The development site sits approximately 196 feet above sea level and the McNary Field airport is approximately 214 feet above sea level. This provision provides a maximum height of 150-feet for buildings, structures, objects, and vegetation. However, the IC zone limits building and accessory structure height to 70-feet. Furthermore, the phase 1 hotel is proposed to be 53-feet high and the phase 2 hotel is proposed to be 50-feet high. At the time signage is proposed, it will also be reviewed, and findings will show it meets the applicable restrictions. This criterion is met.*

(6) *Conical surface.* In the conical surface, no building, structure, object, or vegetative growth shall have a height greater than that established by a plane sloping 20 feet outward for each one foot upward beginning at the periphery of the horizontal surface, 150 feet above the airport elevation, and extending to a height of 350 feet above the airport elevation.

Applicant's Findings: *The development site falls within the horizontal surface. This criterion is not applicable.*

(b) *Development compatibility.* Uses within the Airport Overlay Zone shall not be developed, conducted, or maintained in such a manner as to create electrical interference with navigational signals or radio communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and other lights, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, attract wildlife, or endanger or interfere in any other manner with landing, takeoff, or maneuvering of aircraft using or intending to use McNary Field.

Applicant's Findings: *Staff will review this proposal at the time of submittal and determine development compatibility. It is the assertion of the applicant and their representatives that the use will not cause any electrical interference with navigational signals or radio communications between the airport and aircraft. This criterion is met.*

(c) *Marking and lighting.* Marking and lighting necessary to indicate the presence of buildings, structures, or vegetation to operators of aircraft in the vicinity of the airport shall be provided as required by the FAA.

Applicant's Findings: *If additional markings or lighting is determined to be required by the FAA to indicate the presence of buildings, structures, or vegetation, the applicant will comply with all reasonable requests to ensure the standards are met.*

Section 602.025 – Airport Overlay Zone Height Variance

(a) *Applicability.* No building, structure, or object shall be erected or increased in height, and no vegetation shall be allowed to grow, to a height in excess of the height limitations set forth in this chapter unless a variance has been granted pursuant to this section.

Applicant's Findings: *The applicant is meeting the standards for height restrictions within the horizontal surface area of the airport overlay zone and no variance is being sought. These criteria are not applicable.*

Section 7: Findings Applicable to Driveway Approach Permit

Chapter 804 – Driveway Approaches

Section 804.001 – Purpose

The purpose of this chapter is to establish development standards for safe and efficient access to public streets.

Section 804.010 – Applicability

This chapter applies to the design, construction, relocation, reconstruction, enlargement, or alteration of any driveway approach.

Section 804.015 – Driveway Approach Permit Required

(a) Except as otherwise provided in this chapter, a driveway approach permit shall be obtained prior to constructing, relocating, reconstructing, enlarging, or altering any driveway approach.

Applicant's Findings: *The applicant is proposing two new driveway approaches to serve the development; therefore, a driveway approach permit is required, and the applicant is requesting this permit with the consolidated application request.*

(b) Exceptions. A driveway approach permit is not required for:
  (1) The construction, relocation, reconstruction, enlargement, or alteration of any driveway approach that requires a state highway access permit; or
  (2) The construction, relocation, reconstruction, enlargement or alteration of any driveway approach that is part of the construction of a publicly or privately engineered public improvement project.

Applicant's Findings: *The proposed driveway approaches do not meet the any of the exceptions listed above; therefore, the applicant is applying for a driveway approach permit. Findings addressing the approval criteria and standards are below.*

Section 804.025 – Class 2 Driveway Approach Permit

(a) *Required*. A Class 2 driveway approach permit is required for:
  (1) A driveway approach onto a local, collector, minor arterial, major arterial, or parkway street providing access to a use other than single family, two family, three family, or four family;
  (2) Maintenance, repair, or replacement of an existing permitted driveway approach, which is part of, or needed for, redevelopment of commercial or industrially zoned property.

Applicant's Findings: *The proposal includes two new driveway approaches to Farm Credit Drive SE, classified as a local street, to a use other than single family, two family, three family, or four family; therefore, a class 2 driveway approach permit is required, and the applicant is requesting this permit with their consolidated application. Findings addressing the approval criteria and standards are provided in this narrative.*

(b) *Procedure type.* A Class 2 driveway approach permit is processed as a Type II procedure under SRC chapter 300.

Applicant's Findings: *The applicant understands a class 2 driveway approach permit is a type II procedure.*

(c) *Submittal requirements.* In lieu of the application submittal requirements under SRC chapter 300, an application for a Class 2 driveway approach permit shall include the following:
    (1) A completed application form.
    (2) A site plan, of a size and form and in the number of copies meeting the standards established by the Director, containing the following information:
        (A) The location and dimensions of the proposed driveway approach;
        (B) The relationship to nearest street intersection and adjacent driveway approaches;
        (C) Topographic conditions;
        (D) The location of all utilities;
        (E) The location of any existing or proposed buildings, structures, or vehicular use areas;
        (F) The location of any trees and vegetation adjacent to the location of the proposed driveway approach that are required to be protected pursuant to SRC chapter 808; and
        (G) The location of any street trees adjacent to the location of the proposed driveway approach.
    (3) Identification of the uses or activities served, or proposed to be served, by the driveway approach.
    (4) Any other information, as determined by the Director, which may be required to adequately review and analyze the proposed driveway approach for conformance with the applicable criteria.

Applicant's Findings: *The applicant has submitted the applicable required items above. This is met.*

(d) *Criteria*. A Class 2 driveway approach permit shall be granted if:
    (1) The proposed driveway approach meets the standards of this chapter and the Public Works Design Standards;
    (2) No site conditions prevent placing the driveway approach in the required location;
    (3) The number of driveway approaches onto an arterial are minimized;
    (4) The proposed driveway approach, where possible:
        (A) Is shared with an adjacent property; or
        (B) Takes access from the lowest classification of street abutting the property;
    (5) The proposed driveway approach meets vision clearance standards;
    (6) The proposed driveway approach does not create traffic hazards and provides for safe turning movements and access;

(7) The proposed driveway approach does not result in significant adverse impacts to the vicinity;
(8) The proposed driveway approach minimizes impact to the functionality of adjacent streets and intersections; and
(9) The proposed driveway approach balances the adverse impacts to residentially zoned property and the functionality of adjacent streets.

Applicant's Findings: *The driveway approach meets the approval criteria established in this chapter and the Public Works Design Standards for driveway approaches leading to local streets, as classified in the Salem Transportation System Plan. Additional construction details will be provided at the time of building permit application, as necessary.*

Section 804.030 – Access onto Local and Collector Streets

(a) *Number of driveway approaches*. Except as otherwise provided in this chapter, a lot or parcel is entitled to one driveway approach onto a local or collector street. Additional driveway approaches from a single family, two family, three family, or four family use onto a local or collector street may be allowed through Class 1 driveway permit approval.

Applicant's Findings: *The development includes one driveway approach per parcel onto a local street; therefore, this is met.*

(b) *Permitted access.*
(1) Driveway approaches onto local and collector streets shall only provide access to a permitted parking or vehicular use area, except where the driveway approach will provide access to a site controlled by a franchised utility service provider or a governmental entity.
(2) No access shall be provided onto a local or collector street from a proposed new single family, two family, three family, or four family use on an existing lot abutting an alley.

Applicant's Findings: *The proposed driveway approaches provide access to a parking or vehicular use area under review with this application submittal. With the approval of the Class 3 Site Plan Review, this criterion will be met.*

(c) *Spacing.* Driveway approaches providing direct access to a collector street shall be located no less than 200 feet from intersections with major arterials or minor arterials, measured from centerline to centerline.

Applicant's Findings: *The driveway approach does not provide direct access to a collector street; therefore, this is not applicable.*

(d) *Vision clearance.* Driveway approaches onto local and collector streets shall comply with the vision clearance requirements set forth in SRC chapter 805.

Applicant's Findings: *As demonstrated on the submitted plans, the proposed driveway approaches comply with the vision clearance requirements set forth in chapter 805. This is met.*

Chapter 805 – Vision Clearance

Section 805.001 – Purpose

The purpose of this chapter is to ensure visibility for vehicular, bicycle, and pedestrian traffic at the intersections of streets, alleys, flag lot accessways, and driveways.

Section 805.005 – Vision Clearance Areas

Vision clearance areas that comply with this section shall be provided at the corners of all intersections; provided, however, vision clearance areas are not required in the Central Business (CB) Zone.

(a) *Street intersections.* Vision clearance areas at street intersections shall comply with the following:
  (1) *Uncontrolled intersections.* At uncontrolled intersections, the vision clearance area shall have 30-foot legs along each street (see Figure 805-1).
  (2) *Controlled intersections*. At controlled intersections, the vision clearance area shall have a ten-foot leg along the controlled street and a 50-foot leg along the uncontrolled street (see Figure 805-2).
  (3) *One-way streets*. Notwithstanding subsections (a)(1) and (2) of this section, at an uncontrolled or controlled intersection of a one-way street, no vision clearance area is required on the corners of the intersection located downstream from the flow of traffic (see Figure 805-3).

Applicant's Findings: *The proposal does not include the construction of new street intersections; therefore, this is not applicable.*

(b) *Intersections with driveways, flag lot accessways, and alleys.* Vision clearance areas at intersections of streets and driveways, streets and flag lot accessways, streets and alleys, and alleys and driveways shall comply with the following:
  (1) *Driveways.*
    (A) Driveways serving single family and two family uses. Driveways serving single family and two family uses shall have a vision clearance area on each side of the driveway. The vision clearance area shall have ten-foot legs along each side of the driveway, and ten-foot legs along the intersecting street or alley (see Figure 805-4).

(B) Driveways serving uses other than single family and two family. Driveways serving uses other than single family and two family shall have a vision clearance area on each side of the driveway. The vision clearance area shall have ten-foot legs along the driveway and 50-foot legs along the intersecting street or alley (see Figure 805-5).

Applicant's Findings: *The proposed driveways are not serving development described in section (A) above, the applicant will address section (B) above. The applicant is aware of the vision clearance dimensions for driveways and as demonstrated on the submitted plans there are no obstructions within the vision clearance areas. This is met.*

(2) *Flag lot accessways.*

(A) Flag lot accessways serving single family and two family uses. Flag lot accessways serving single family and two family uses shall have a vision clearance area on each side of the flag lot accessway. The vision clearance area shall have ten-foot legs along each side of the flag lot accessway, and ten-foot legs along the intersecting street (see Figure 805-6).

(B) Flag lot accessways serving uses other than single family and two family. Flag lot accessways serving uses other than single family and two family shall have a vision clearance area on each side of the flag lot accessway. The vision clearance area shall have ten-foot legs along the flag lot accessway and 50-foot legs along the intersecting street (see Figure 805-7).

Applicant's Findings: *There are no flag lot accessways proposed with the development; therefore, this is not applicable.*

(3) *Alleys.* Alleys shall have a vision clearance area on each side of the alley. The vision clearance area shall have ten-foot legs along the alley and ten-foot legs along the intersecting street (see Figure 805-8).

Applicant's Findings: *There are no alleys abutting the development; therefore, this is not applicable.*

(4) *Measurement.* The legs of a vision clearance area shall be measured along the right-of-way line and along the intersecting driveway, flag lot accessway, or alley.

Applicant's Findings: *The applicant and team understand how to measure vision clearance triangles established in this section.*

Section 805.010 – Obstructions to Vision Prohibited

Except as otherwise provided in this section, vision clearance areas shall be kept free of temporary or permanent obstructions to vision from 30 inches above curb level to 8.5 feet above curb level; provided, however, where there is no curb, the height shall be measured from the street shoulder. As used in this section, temporary or permanent obstruction includes any obstruction located in the right-of-way adjacent to the vision clearance area.

(a) The following obstructions may be placed in a vision clearance area, unless the cumulative impact of the placement results in an obstruction to vision:
    (1) A column or post, so long as the column or post does not create a visual obstruction greater than 12 inches side-to-side.
    (2) Utility poles and posts, poles, or supporting members of street signs, street lights, and traffic control signs or devices installed by, or at the direction of, the Public Works Department or any other public agency having jurisdiction over the installation.
    (3) On-street parking.

(b) Trees. Trees may be planted within a vision clearance area provided they are a species listed on the parks approved street tree list, and they comply with the following:
    (1) The planting area is sufficient to support the tree when mature.
    (2) The tree will not interfere with overhead utilities.
    (3) The tree is a species that can be trimmed/pruned to provide necessary visibility.

(c) Nothing in this chapter shall be deemed to waive or alter any requirements relating to setbacks or landscaping in the UDC. In the event of a conflict between the standards of this chapter and another chapter of the UDC, the standards in this chapter shall control.

Applicant's Findings: *The applicant understands the type of obstructions that may be placed within the vision clearance areas as long as the cumulative impact does not result in a vision obstruction. Street trees are proposed within the vision clearance areas. As demonstrated on the submitted plans, the applicant does not have any visual obstructions within the vision clearance areas. This is met.*

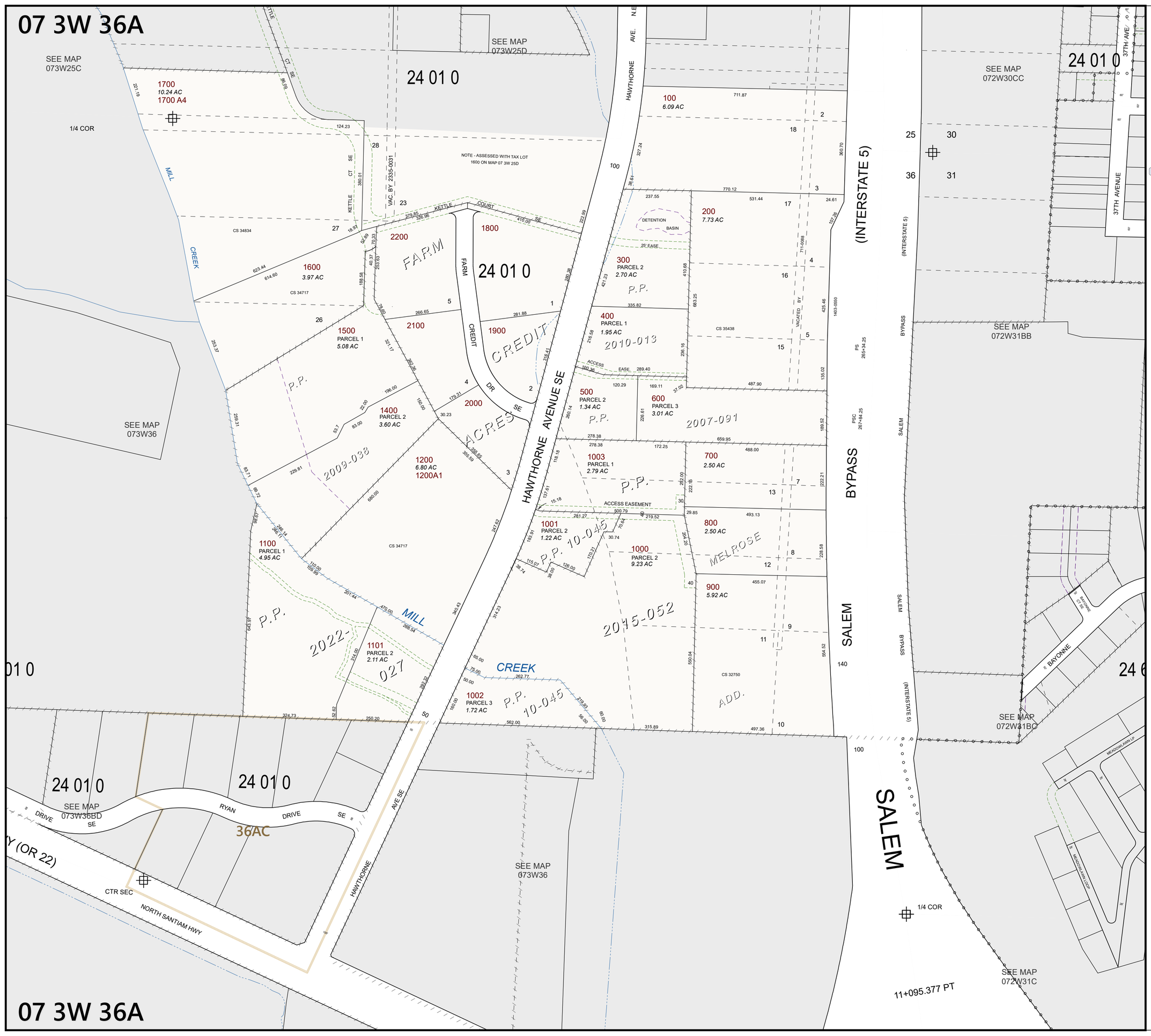
Section 8: Conclusion

Based on the facts and findings presented by the applicant within this detailed written narrative, the applicant believes they have satisfied the burden of proof required by the Unified Development Code and demonstrated how the proposed site plan review, replat, driveway approach permit, and class 2 adjustment request not only satisfies all applicable criteria but would also be a benefit to the community by providing a nice place to stay for people visiting Salem that is close to services and I-5 within the Southeast Salem Neighborhood.

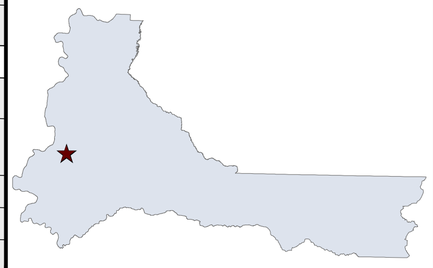
Section 9: Exhibits

Exhibit A – Marion County Tax Map

07 3W 36A



07 3W 36A
SALEM



MARION COUNTY, OREGON

NE1/4 SEC36 T7S R3W W.M.

SCALE 1" = 200'

LEGEND

LINE TYPES

- Taxlot Boundary
- Historical Boundary
- Road Right-of-Way
- Easement
- Railroad Right-of-Way
- Railroad Centerline
- Private Road ROW
- Taxcode Line
- Subdivision/Plat Bndry
- Map Boundary
- Waterline - Taxlot Bndry
- Waterline - Non Bndry

CORNER TYPES

- + 1/16TH Section Cor.
- 1/4 Section Cor.
- DLC Corner
- 16 15 / 21 22 Section Corner

NUMBERS

Tax Code Number

00 00 0

Acreage *0.25 AC*

All acres listed are Net Acres, excluding any portions of the taxlot within public ROWs

NOTES

Tick Marks: A tick mark in the road indicates that the labeled dimension extends into the public ROW

200.00
175.00

CANCELLED NUMBERS

1300
1500A1
1700A2
1700A3
1700A5

DISCLAIMER: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY

Marion County OREGON — Assessors Office Cartography Dept

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT www.co.marion.or.us

PLOT DATE: 4/29/2024

SALEM
07 3W 36A

Exhibit B – Deeds

After Recording Return to:
Gina Anne Johnnie
Sherman Sherman Johnnie & Hoyt, LLP
P.O. Box 2247
Salem, OR 97308

Mail Tax Statements to:
Salem Land Group, LLC
Joginder P. Budhraja
115 W Jackson St. Ste 2D
Ridgeland, MS 39157

MARION COUNTY RECORDS **2024-01176**
D-DEED 01/09/2024 03:56 PM
$25.00 $11.00 $10.00 $60.00 $106.00

I, Bill Burgess, County Clerk for Marion County, Oregon, certify that the instrument identified herein was recorded in the Official Records.

Pgs=5 MD1

TICOR TITLE 471823126939

WARRANTY DEED

AgWest Farm Credit, FLCA, a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, successor by merger to Northwest Farm Credit Services, FLCA, Grantor, convey and warrant to Salem Land Group, LLC, an Oregon Limited Liability Company, as to an undivided 40% interest and Joginder P. Budhraja, individually, as to an undivided 60% interest, GRANTEES, the following described real property, free of encumbrances except as specially set forth herein, situated in Marion County, Oregon, to-wit:

Lots 3, 4 and 5, FARM CREDIT ACRES, recorded August 28, 2023, Volume H49, Page 26, Plat Records, Instrument No. 2023-26219, in the City of Salem, Marion County, Oregon.

TOGETHER WITH that certain access easement set forth in Access Easement, Maintenance and Restrictive Covenants Agreement, recorded January 12, 1998 in Reel 1454, page 77, and re-recorded December 15, 1998 in Reel 1550, page 60, and amended by Agreement Extending Access Easement, Maintenance and Restrictive Covenants Agreement, recorded June 3, 1998 in Reel 1493, page 187, Records of Marion County, Oregon.

("Property"). The true consideration for this conveyance is $2,700,000.00.

The said Property is free and clear of all encumbrances save and except the following:

1. Any facts, rights, interests or claims, which are not shown by the Public Records but which could be ascertained by an inspection of the Property or by making inquiry of persons in possession thereof.
2. Easements, or claims of easement, which are not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
3. Any encroachment (of existing improvements located on the Property onto adjoining land or of existing improvements located on adjoining land onto the subject Property), encumbrance, violation, variation or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the subject Property.

4. Rights of the public to any portion of the Land lying within streets, roads and/or highways.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Jerry Alexander and Margaret Furlong Alexander
Recording Date:	November 28, 1995
Recording No:	Reel 1275, Page 451
Affects:	Southerly portion of Lot 3

6. Terms, provisions and conditions, including, but not limited to, maintenance provisions, and a covenant to share the costs of maintenance, contained in Access Easement, Maintenance and Restrictive Covenants Agreement

Recording Date:	January 12, 1998
Recording No.:	Reel 1454, Page 77

and Re-Recording Date:	December 15, 1998
and Re-Recording No:	Reel 1550, Page 60

Amended by Agreement Extending Access Easement, Maintenance and Restrictive Covenants Agreement, including the terms and provisions thereof

Recording Date:	June 3, 1998
Recording No.:	Reel 1493, Page 187

Amended by Limited Mutual Waiver of Restrictive Covenant, including the terms and provisions thereof

Recording Date:	October 18, 2019
Recording No.:	Reel 4256, Page 398

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	City of Salem
Purpose:	Underground sanitary sewer, storm drain or water pipeline or pipelines and appurtenances
Recording Date:	December 3, 2002
Recording No:	Reel 2033, Page 405
Affects:	Private roadway known as Kettle Way, reference is hereby made to said document for full particulars.

8. Road Construction Agreement, including the terms and provisions thereof,

Recording Date:	June 3, 2004

Recording No.: Reel, 2327, Page 73

Affidavit regarding road,

Recording Date: November 2, 2016
Recording No.: Reel 3877, Page 388

9. Private Stormwater Facility Maintenance Covenant and Access Easement, including the terms and provisions thereof,

Granted to: City of Salem
Recording Date: June 21, 2022
Recording No: Reel 4634, Page 247

10. Quitclaim Deed for Transfer of Interest in a Water Right and Water Conveyance Agreement, including the terms and provisions thereof,

Executed by: Northwest Farm Credit Services, FLCA, and Santiam Water Control District
Recording Date: August 22, 2022
Recording No.: Reel; 4652, Page 233

11. Restrictions, but omitting restrictions, if any, based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said restriction is permitted by applicable law, as shown on that certain plat

Name of Plat: Farm Credit Acres
Recording Date: August 28, 2023
Recording No: Volume H49, Page 26, Plat Records, Instrument No. 2023-26219

12. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of said tract/plat;

Purpose: Public utilities
Affects: 10 feet along street frontage
Purpose: Private storm drain easement for the benefit of Lot 4
Affects: Westerly 20 feet of Lot 5

Purpose: Public sidewalk and public utility
Affects: Various locations - See plat for specifics

Purpose: Storm water facility and access easement for the benefit of City of Salem
Affects: Southerly portion of Lot 2

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

DATED: January 08, 2024

AGWEST FARM CREDIT, FLCA, SUCCESSOR BY MERGER TO NORTHWEST FARM CREDIT SERVICES, FLCA

By: _____
Name: Tom Nakano
Its: Chief Financial Officer

STATE OF WASHINGTON)
) ss.
County of Spokane)

On this 8th day of January, 2024, personally appeared before me Tom Nakano, to me known to be the Chief Financial Officer of AgWest Farm Credit, FLCA, a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, successor by merger to Northwest Farm Credit Services, FLCA, and acknowledged that he signed the same as his act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this 8th day of January, 2024.

Julie M. Lachheim NOTARY PUBLIC STATE OF WASHINGTON COMM. #73494 MY COMM. EXP. 08/12/2025

_____
Notary Public for Washington
My Commission Expires: 08/12/2025

ATTACHED FOR CLARITY PURPOSES

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

DATED: January ___, 2024

AGWEST FARM CREDIT, FLCA, SUCCESSOR BY MERGER TO NORTHWEST FARM CREDIT SERVICES, FLCA

By: _____
Name: Tom Nakano
Its: Chief Financial Officer

STATE OF WASHINGTON)
) ss.
County of Spokane)

On this ___ day of January, 2024, personally appeared before me Tom Nakano, to me known to be the Chief Financial Officer of AgWest Farm Credit, FLCA, a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, successor by merger to Northwest Farm Credit Services, FLCA, and acknowledged that he signed the same as his act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this ___ day of January, 2024.

_____
Notary Public for Washington
My Commission Expires: _____

Marion County
Document Separator Page

Instrument # 2024-01176

January 09, 2024 03:56 PM

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

Fee: $106.00

Bill Burgess
Marion County Clerk

This is not an invoice.

File No.: 19-294619

Grantor
Prn Ditch, LLC; McLeod Brothers & Sisters 2, LLC; Catlin State Street Farm, LLC
Grantee
Northwest Farm Credit Services, FLCA
After recording return to
Gina Johnnie Sherman Sherman Johnnie & Hoyt, LLP P.O. Box 2247 Salem, OR 97308
Until requested, all tax statements shall be sent to
Northwest Farm Credit Services, FLCA 650 Hawthorne Ave, SE Suite 210 Salem, OR 97301 Tax Acct No(s): Account No. R82426 Map No. 07S-03W-36A 1300

REEL 4256 PAGE 397
MARION COUNTY
BILL BURGESS, COUNTY CLERK
10-18-2019 12:49 pm.
Control Number 573238 $ 96.00
Instrument 2019 00050935

AmeriTitle 29849AM

Reserved for Recorder's Use

STATUTORY WARRANTY DEED

GRANTORS: Pen-Ditch, LLC, an Oregon limited liability company; McLeod Brothers & Sisters 2, LLC, an Oregon limited liability company; and Catlin State Street Farm, LLC, an Oregon limited liability company, convey and warrant

GRANTEE: Northwest Farm Credit Services, FLCA, a federally chartered instrumentality under the Farm Credit Act of 1971, as amended, the following described real property free of encumbrances except as specifically set forth herein:

PROPERTY:

PARCEL 1:

Parcel 1, PARTITION PLAT NO. 2016-52, recorded November 28, 2016 in Reel 3885, Page 263, Records of Marion County, Oregon.

PARCEL 2:

Together with that certain access easement, as set forth in Access Easement, Maintenance and Restrictive Covenants Agreement, recorded January 12, 1998 in Reel 1454, Page 77; and re-recorded December 15, 1998 in Reel 1550, Page 60, and amended by Agreement Extending Access Easement, Maintenance and Restrictive Covenants Agreement, recorded June 3, 1998 in Reel 1493, Page 187, Records of Marion County, Oregon.

The true consideration for this conveyance is $2,505,204.96.

The said property is free and clear of all encumbrances save and except the following: See Exhibit "A" attached hereto and incorporated herein by this reference.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Executed this 17 day of October, 2019

Pen-Ditch LLC, an Oregon limited liability Company

By: The Julianne Spears Revocable Trust under Agreement dated November 26, 2013
Its: Member

By: _____
Name: Amanda Ryan Fear
Its: Trustee

McLeod Brothers & Sister 2, LLC, an Oregon limited liability company

By: _____
Name: C.J. McLeod
Its: Member

By: _____
Name: Scott A. McLeod
Its: Member

By: _____
Name: Franca Dyer
Its: Member

Catlin State Street Farm, LLC an Oregon limited liability company

By: _____
Name: Catlin Lind
Its: Member

STATE OF OREGON
COUNTY OF MULTNOMAH

This instrument was acknowledged before me this 17 day of October, 2019 by Amanda Ryan Fear as Trustee of The Julianne Spears Revocable Trust under Agreement dated November 26, 2013, as Member, of Pen-Ditch LLC, an Oregon limited liability Company, on behalf of the limited liability company.

Print Name: Trevor Garrett Cheyne
Notary Public for Oregon
My Commission Expires: 10/15/21

OFFICIAL STAMP
TREVOR GARRETT CHEYNE
NOTARY PUBLIC-OREGON
COMMISSION NO. 967534
MY COMMISSION EXPIRES OCTOBER 15, 2021

STATE OF OREGON
COUNTY OF MULTNOMAH

This instrument was acknowledged before me this 17 day of October, 2019 by CJ McLeod, Scott A. McLeod and Frances Dryer, as Members, of McLeod Brothers & Sister 2, LLC, an Oregon limited liability company, on behalf of the limited liability company.

Print Name: Trevor Garrett Cheyne
Notary Public for Oregon
My Commission Expires: 10/15/21

OFFICIAL STAMP
TREVOR GARRETT CHEYNE
NOTARY PUBLIC-OREGON
COMMISSION NO. 967534
MY COMMISSION EXPIRES OCTOBER 15, 2021

STATE OF OREGON
COUNTY OF MULTNOMAH

This instrument was acknowledged before me this 17 day of October, 2019 by Catlin Lind, as Member, of Catlin State Street Farm, LLC an Oregon limited liability company, on behalf of the limited liability company.

Print Name: Trevor Garrett Cheyne
Notary Public for Oregon
My Commission Expires: 10/15/21

OFFICIAL STAMP
TREVOR GARRETT CHEYNE
NOTARY PUBLIC-OREGON
COMMISSION NO. 967534
MY COMMISSION EXPIRES OCTOBER 15, 2021

EXHIBIT "A"

1. The property lies within and is subject to the levies and assessments of the Marion Soil and Water Conservation District. (Current as of the date of this policy)
2. The rights of the public in and to that portion of the herein described property lying within the limits ofpublic roads, streets or highways.
3. An easement including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein as set forth in instrument:
   Granted To: Jerry Alexander and Margaret Furlong
   Alexander Recorded: November 28, 1995
   Instrument No.: Reel 1275 Page 451
4. Access Easement, Maintenance and Restrictive Covenants Agreement, including the terms and provisions thereof,
   Recorded: January 12, 1998
   Instrument No.:Reel: 1454 Page: 77

   Re-recorded: December 15, 1998
   Instrument No.: Reel: 1550 Page: 60

   Amended by Agreement Extending Access Easement, Maintenance and Restrictive Covenants Agree, including the terms and provisions thereof,
   Recorded: June 3, 1998
   Instrument No.: Reel 1493 Page 187
5. An easement including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein as set forth in instrument:
   Granted To: City of Salem, a municipal
   corporation Recorded: December 3, 2002
   Instrument No.: Reel: 2033 Page: 405
6. Road Construction Agreement, including the terms and provisions thereof, Recorded: June 3, 2004
   Instrument No.: Reel: 2327 Page: 73
7. Easement for existing public utilities in vacated street area and the conditions imposed thereby. Reserved by vacation order recorded: June 21, 2004
   Instrument No.: Reel: 2335 Page: 31
8. Administrative Decision, including the terms and provisions thereof, Recorded: March 24, 2008
   Instrument No.: Reel: 2933 Page: 317
9. Notice of Decision, including the terms and provisions thereof, Recorded: May 24, 2016
   Instrument No.: Reel: 3820 Page: 133
10. Easement(s) as shown on the Partition Plat No. 2016-052.

REEL: 4256 PAGE: 397

October 18, 2019, 12:49 pm.

CONTROL #: 573238

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

FEE: $ 96.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

Exhibit C – Articles of Organization

ARTICLES OF ORGANIZATION

Corporation Division
sos.oregon.gov/business

E-FILED
Jan 03, 2024
OREGON SECRETARY OF STATE

REGISTRY NUMBER

221137193

TYPE

DOMESTIC LIMITED LIABILITY COMPANY

1. ENTITY NAME

SALEM LAND GROUP, LLC

2. MAILING ADDRESS

115 W JACKSON ST STE 2D
RIDGELAND MS 39157 USA

3. PRINCIPAL PLACE OF BUSINESS

115 W JACKSON ST STE 2D
RIDGELAND MS 39157 USA

4. NAME & ADDRESS OF REGISTERED AGENT

00329227 - C T CORPORATION SYSTEM

780 COMMERCIAL ST SE STE 100
SALEM OR 97301 USA

5. ORGANIZERS

SURESH PATEL

115 W JACKSON ST STE 2D
RIDGELAND MS 39157 USA

6. INDIVIDUALS WITH DIRECT KNOWLEDGE

SURESH PATEL

115 W JACKSON ST STE 2D
RIDGELAND MS 39157 USA

7. DURATION

PERPETUAL

8. MANAGEMENT

This Limited Liability Company will be manager-managed by one or more managers

9. OPTIONAL PROVISIONS

The company elects to indemnify its members, managers, employees, agents for liability and related expenses under ORS 63.160 to 63.170.

I declare, under penalty of perjury, that this document does not fraudulently conceal, fraudulently obscure, fraudulently alter or otherwise misrepresent the identity of the person or any officers, managers, members or agents of the limited liability company on behalf of which the person signs. This filing has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete. Making false statements in this document is against the law and may be penalized by fines, imprisonment, or both.

By typing my name in the electronic signature field, I am agreeing to conduct business electronically with the State of Oregon. I understand that transactions and/or signatures in records may not be denied legal effect solely because they are conducted, executed, or prepared in electronic form and that if a law requires a record or signature to be in writing, an electronic record or signature satisfies that requirement.

ELECTRONIC SIGNATURE

NAME

SURESH PATEL

TITLE

ORGANIZER

DATE

01-02-2024

Exhibit D – Title Report

AmeriTitle
320 Church St. NE, Salem, OR 97301
PHONE (503) 581-1431 FAX (503) 364-8716

To: Barker Surveying
3657 Kashmir Wy. SE
Salem, OR 97317
Attn: Gabe Lewman

Date: June 27, 2024
Order No. 639197AM
Reference: 073W36A 2000 / 609509
Salem, OR 97301

Your File No.: Farm Credit lots 3-5

We have enclosed our Status of Record Title Report pertaining to order number 639197AM.

Thank you for the opportunity to serve you. Your business is appreciated!

If you have any questions or need further assistance, please do not hesitate to contact your Title Officer listed below.

Sincerely,

Carlee Novak

carlee.novak@amerititle.com
Title Officer

NOTICE: Please be aware that, due to the conflict between federal and state laws concerning the legality of the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving land that is associated with these activities.

AmeriTitle
320 Church St. NE, Salem, OR 97301
PHONE (503) 581-1431 FAX (503) 364-8716

STATUS OF RECORD TITLE

Gabe Lewman
Barker Surveying
3657 Kashmir Wy. SE
Salem, OR 97317
Your Reference No. Farm Credit lots 3-5

June 27, 2024
Title Number: 639197AM
Title Officer: Carlee Novak
Fee: $600.00

We have searched the status of record title as to the following described property:

Lots 3, 4 and 5, FARM CREDIT ACRES, recorded August 28, 2023, Volume H49, Page 26, Plat Records, Instrument No. 2023-26219, in the City of Salem, Marion County, Oregon.

Vestee:

Salem Land Group, LLC, an Oregon limited liability company, as to an undivided 40% interest and Joginder P. Budhraja, as to an undivided 60% interest

and dated as of **June 24, 2024** at 7:30 a.m.

Said property is subject to the following on record matters:

1. City liens, if any, of the City of Salem.
   (No inquiry has been made. If no search is requested, this exception will remain in the policy. A charge of $25.00 per account will be added if a search is requested)
2. The property lies within and is subject to the levies and assessments of the Marion Soil and Water Conservation District.
3. An easement including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein as set forth in instrument:
   Granted To: Jerry Alexander and Margaret Furlong Alexander
   Recorded: November 28, 1995
   Instrument No.: Reel 1275 Page 451
4. Access Easement, Maintenance and Restrictive Covenants Agreement, including the terms and provisions thereof,
   Recorded: January 12, 1998
   Instrument No.:Reel: 1454 Page: 77

   Re-recorded: December 15, 1998
   Instrument No.: Reel: 1550 Page: 60

   Amended by Agreement Extending Access Easement, Maintenance and Restrictive Covenants Agree, including the terms and provisions thereof,
   Recorded: June 3, 1998
   Instrument No.: Reel 1493 Page 187

Amended by Limited Mutual Waiver of Restrictive Covenants, including the terms and provisions thereof,
Recorded: October 18, 2019
Instrument No.: Reel: 4256 Page: 398

5. An easement including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein as set forth in instrument:
Granted To: City of Salem, a municipal corporation
Recorded: December 3, 2002
Instrument No.: Reel: 2033 Page: 405

6. Road Construction Agreement, including the terms and provisions thereof,
Recorded: June 3, 2004
Instrument No.: Reel: 2327 Page: 73

7. Easement for existing public utilities in vacated street area and the conditions imposed thereby.
Reserved by vacation order recorded: June 21, 2004
Instrument No.: Reel: 2335 Page: 31

8. Administrative Decision, including the terms and provisions thereof,
Recorded: March 24, 2008
Instrument No.: Reel: 2933 Page: 317

9. Notice of Decision, including the terms and provisions thereof,
Recorded: May 24, 2016
Instrument No.: Reel: 3820 Page: 133

10. Easement(s) as shown on the Partition Plat No. 2016-052.

11. Subject to the enroachments of curbs, telephone vault, utility vault and transformer pad, as described and located on ALTA Survey, dated July 29, 2019, prepared by Barker Surveying, as Job No. 41359.

12. Private Stormwater Facility Maintenance Covenant and Access Easement, including the terms and provisions thereof,
Recorded: June 21, 2022
Instrument No.: Reel: 4634 Page: 247

13. Quitclaim Deed for Transfer of Interest in Water Right and Water Conveyance Agre, including the terms and provisions thereof,
Recorded: August 22, 2022
Instrument No.:Reel: 4652 Page: 233

14. Easements as shown on the official plat of said Land.

15. Restrictions as shown on the official plat of said Land.

16. Covenants, conditions and restrictions, but omitting any covenant or restriction based on race, color, religion, sex, sexual orientation, disability, handicap, familial status, marital status, ancestry, national origin or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law.
Recorded: December 7, 2023
Instrument No.: 2023-35975

17. Rights of tenants under existing leases or tenancies.

Tax Information:
Taxes assessed under Code No. 24010 Account No. 582426 Map No. 073W36A001300
NOTE: The 2023-2024 Taxes: $126,425.14, are Paid

Taxes assessed under Code No. 24010 Account No. 609509-NEW Map No. 073W36A002000
NOTE: The 2023-2024 Taxes: $0.00, are Paid

Taxes assessed under Code No. 24010 Account No. 609510-NEW Map No. 073W36A002100
NOTE: The 2023-2024 Taxes: $0.00, are Paid

Taxes assessed under Code No. 24010 Account No. 609511-NEW Map No. 073W36A002200
NOTE: The 2023-2024 Taxes: $0.00, are Paid

NOTE: Any map or sketch enclosed as an attachment herewith is furnished for information purposes only to assist in property location with reference to streets and other parcels. No representation is made as to accuracy and the company assumes no liability for any loss occurring by reason of reliance thereon.

THIS IS NOT A TITLE REPORT, A COMMITMENT TO ISSUE TITLE INSURANCE OR A GUARANTEE OF ANY KIND. No liability is assumed with this report. The fee charged for this service does not include supplemental reports or other services. Further dissemination of the information in this report in a form purporting to insure title to the herein described land is prohibited by law.

"Superior Service with Commitment and Respect for Customers and Employees"

Exhibit E – HOA Statement

BRAND

Homeowners Association Information

The applicant is submitting this statement to confirm there is no homeowners association (HOA) which is active or registered with the Oregon Secretary of State which impacts the subject property.

Exhibit F – HCRPZ Acknowledgement

BRAND

Historic and Cultural Resources Protection Zone Acknowledgement

The applicant is aware the subject site is identified on the City of Salem's Historic and Cultural Resources Protection Zone map. The applicant's consultant has discussed properties within these areas with the city's Historic Preservation Officer, Kimberli Fitzgerald. No public funding will be utilized to develop the subject site. At the time the site is developed, the applicant's contractors will have an inadvertent discovery plan on file with the city.

Exhibit G – TGE Form

CITY OF Salem AT YOUR SERVICE

Traffic Engineering Section
Public Works Department
555 Liberty Street SE, Room 325 Telephone: 503-588-6211
Salem, Oregon 97301-3513 TTY: 503-588-6292

Trip Generation Estimate

Street _____

Bin # _____ TGE # _____

Date Received _____

Section 1 (To be completed by applicant.)

Applicant Name: BRAND Land Use on behalf of Salem Land Group LLC Telephone: 503-370-8704

Applicant Mailing Address: 1720 Liberty Street SE

Location of New Development: Marion County Map and Tax lot Numbers 073W36A002200, 073W36A002100, and 073W36A002000
(Please provide street address. If unknown, provide approximate address and geographical description/nearest cross streets.)

Description and Size of New Development: Phased development of two new hotels and associated site improvements.
(e.g., 150 single-family homes, 20,000 sq. ft. office addition, 12-pump gas station, 50-student day care, additional parking, etc.)

Description and Size of Existing/Past Development, if any (note whether to remain or be removed): _____

Planning Action Involved, if any: _____
(e.g., zone change, subdivision, partition, conditional use, PUD, mobile home park, etc.)

Building Permit Involved:
Yes ☐ No ☐

Section 2 (To be completed by City staff.)

Proposed Use	**Existing Use**
Development Quantity:	Development Quantity:
ITE Land Use Code:	ITE Land Use Code:
Trip Generation Rate/Equation:	Trip Generation Rate or Equation:
Average Daily Trips:	Average Daily Trips:
ELNDT Adjustment Factors	**ELNDT Adjustment Factors**
Trip Length: Linked Trip:	Trip Length: Linked Trip:
TSDC Trips:	TSDC Trips:

Section 3 (To be completed by City staff.)

Transportation Impact Analysis (TIA)

Net Increase in Average Daily Trips: _____
(Proposed use minus existing use.)

☐ A TIA **will** be required:
- ☐ Arterial/Collector—1000 Trip/day Threshold
- ☐ Local Street/Alley—200 Trip/day Threshold
- ☐ Other: _____

☐ A TIA **will not** be required.

Transportation Systems Development Charge

Net Increase in TSDC Trips: _____
(Proposed use minus existing use.)

☐ A TSDC **will** be required.
(Fee determined by Development Services.)

☐ A TSDC **will not** be required.

(For additional information, refer to the back of this application.)

Section 4 (To be completed by City staff.)

Remarks:

Date: _____

cc: ☐ Chief Development Services Engineer
☐ Community Development
☐ Building Permit Application
☐ _____ By: _____

Information Required to Assess the Need for a Traffic Impact Analysis and Transportation Systems Development Charge

The following information is required in order to assess the need for a Traffic Impact Analysis (TIA) and to calculate the Transportation Systems Development Charge (TSDC) to be levied on a proposed new development.

TIA Determination:

The City of Salem may require that a TIA be prepared as part of the approval process for major new development. The purpose of a TIA is to estimate the traffic impacts created by a new development on the surrounding street system. Any significantly adverse traffic impacts identified in the TIA must be mitigated by the applicant.

The estimated daily traffic generation of a new development is used as the criteria for determining whether a TIA is needed. If the new development access is located on an arterial or collector and the estimated daily traffic generation is more than 1000 trips, a TIA may be required. If access is located on a local street or alley and the generated trips exceed 200, a TIA may be required. Other criteria such as site access issues, driveway restrictions, and existing facilities deficiencies may also be used, if recommended by City Traffic Engineering staff.

The City Traffic Engineer makes the determination as to whether a TIA is required. (For more information on TIA criteria, see Development Bulletin No. 19 dated January 20, 1995.) When the determination has been made, copies of the Trip Generation Estimate form are sent to Public Works Development Services Division and the applicant. If a planning action is required, a copy is also forwarded to the Community Development Department.

TSDC Analysis:

The City of Salem charges a TSDC on all new development that creates a net increase in traffic on the surrounding street system. The total charge is assessed on a per trip fee times the TSDC trips calculated for the development. For more information on the TSDC, see Council Staff Report dated October 9, 1995.

To assist in estimating the daily trips generated by a new development, please answer the questions in Section 1 of this sheet and return it to Room 325 of the Civic Center. If you have any questions, Traffic Engineering staff are available at 503-588-6211. A copy of the completed trip generation estimate will be returned to you at the address provided in Section 1.

No Land Use, Planning, or Development Approval applications requiring Trip Generation Estimates will be processed until this information has been provided and the TIA/TSDC assessment has been made by City Traffic Engineering staff.

Exhibit H – Neighborhood Association/Transit Contact

BRAND

Notice of Land Use Application Submittal

June 24, 2024

Southeast Salem Neighborhood Association (SESNA)

Shannon Priem
spriem@hotmail.com

Jeff Leach
landuse@sesna.community

RE: Site Plan Review, Adjustments, and Driveway Approach Permit for property identified as Marion County Map and Tax lot Numbers 073W36A002200, 073W36A002100, and 073W36A002000

Dear SESNA Neighborhood Association Chair and Land Use Chair,

We are reaching out to you regarding a project within the boundaries of your Neighborhood Association.

The applicant/property owners are seeking approval of Site Plan Review, Adjustment, Driveway Approach Permit, and Property Line Adjustments for two new hotels.

This application will be processed using Type II procedures. The neighborhood association, property owners, and tenants within 250-feet of all portions of the property will receive notice of the application and have an opportunity to provide comments.

We hope that you find this letter and attached conceptual plan informative. If you have any questions regarding this notice, please contact the applicant's land use representative.

Thank you.

Applicant Information
Salem Land Group LLC

Applicant Representative Information
BRAND Land Use, LLC | Britany Randall
Ph: 503-680-0949
Britany@BRANDlanduse.com

Shelby Guizar

From: Shelby Guizar
Sent: Monday, June 24, 2024 9:35 AM
To: spriem@hotmail.com; landuse@sesna.community
Cc: planning@cherriots.org; Britany Randall
Subject: Notice of Land Use Application
Attachments: Neighborhood Contact Letter.pdf; Overall Site Plan.pdf

Dear Neighborhood Chairs and Co-Chairs,

Please find notice of a site plan review, adjustment, driveway approach permit, and property line adjustments within your neighborhood attached. If you have questions, please feel free to contact me.

Thank you,

Shelby Guizar

BRAND
Land Use

Project Manager
Office: (503) 370-8704
Cell: (503) 509-4275
Place: 1720 Liberty Street SE
Salem, OR 97302
www.brandlanduse.com

Exhibit I – Civil Sheets

DRAWINGS FOR:

FARM CREDIT DRIVE DEVELOPMENT PHASE I

FARM CREDIT DRIVE
SALEM, OR

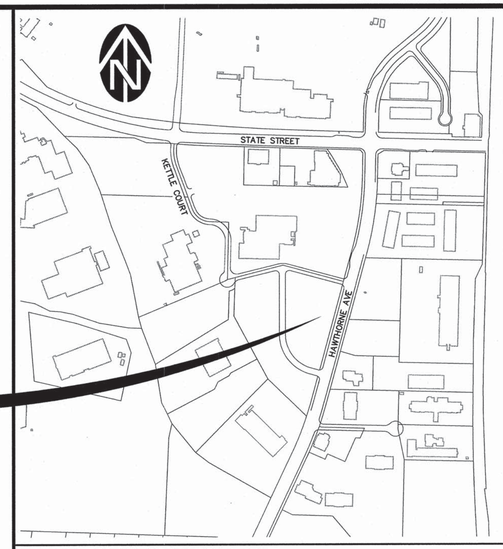
FOR:

WEALTH HOSPITALITY GROUP
115 W JACKSON STREET, SUITE 20
RIDGELAND, MS 39157

PROJECT MANAGER: KISHAN GOPAL
KISHAN@WEALTHHG.COM
601-482-6123

811
Know what's below.
Call before you dig.

PROJECT LOCATION



VICINITY MAP

GENERAL LEGEND

FOUND MONUMENT	SUBJECT PROPERTY
GUY WIRE	FENCELINE
LIGHT POLE	FENCELINE
UTILITY POLE	FENCELINE
WATER METER	EXISTING CONTOUR MAJOR
WATER VALVE	EXISTING CONTOUR MINOR
TELEPHONE RISER	GAS LINE
SANITARY SEWER CLEANOUT	WATER LINE
SANITARY SEWER MANHOLE	OVERHEAD POWER LINE
SIGN POST	UNDERGROUND POWER
STORMWATER CATCH BASIN	SANITARY SEWER LINE
STORMWATER MANHOLE	STORM LINE
GUY ANCHOR POLE	TELEPHONE LINE
UTILITY VAULT	BUILDING
MAILBOX	CONCRETE SURFACE
CONIFEROUS TREE WITH SIZE	PAVEMENT SURFACE
DECIDUOUS TREE WITH SIZE	
ELEVATION SPOTGRADE	
BENCHMARK	
DIMENSION POINT NOTHING SET OR FOUND	

ELEVATIONS SHOWN HEREON ARE BASED ON A 3-1/4" BRASS DISK IN MONUMENT WELL AT THE INTERSECTION OF STATE HIGHWAY 211 & SOUTH ONA WAY SHOWN AS A CLACKAMAS BENCHMARK ON THE IMPROVEMENT PLANS FOR "CASCADE CENTER."

ELEV: 340.16 (NAVD 88)

DRAWING INDEX

DWG	TITLE
C1.0	COVER SHEET, VICINITY & LOCATION MAPS, DRAWING INDEX
C1.1	CONSTRUCTION NOTES
C1.2	CONSTRUCTION NOTES
C1.3	REPLAT MAP
C2.0	PHASE I EROSION CONTROL NOTES & DETAILS
C2.1	PHASE I EROSION CONTROL NOTES & DETAILS
C2.2	PHASE I EROSION CONTROL NOTES & DETAILS
C2.3	PHASE I EXISTING CONDITIONS, EROSION CONTROL, & DEMOLITION PLAN
C2.4	PHASE I EROSION CONTROL PLAN - STREETS & UTILITIES
C2.5	PHASE I EROSION CONTROL PLAN - VERTICAL CONSTRUCTION
C2.6	PHASE I EROSION CONTROL PLAN - FINAL LANDSCAPE & STABILIZATION
C2.7	FLOOD PLAN (BASED UPON FEMA MAPPING & ACTUAL TOPOGRAPHY)
C2.8	EXISTING STORMWATER DRAINAGE PATTERNS
C3.0	OVERALL GRADING & DRAINAGE PLAN
C3.1	PHASE I GRADING & DRAINAGE PLAN (EAST)
C3.2	PHASE I GRADING & DRAINAGE PLAN (NORTH)
C3.3	PHASE I SURFACING PLAN (EAST)
C3.4	PHASE I FIRE ACCESS PLAN

DRAWING INDEX

DWG	TITLE
C4.0	PHASE I OVERALL UTILITY PLAN
C4.1	WATER BLOWUP DETAIL
C4.2	OVERALL STREET LIGHTING & TREES PLAN
C5.0	CIVIL DETAILS
C5.1	CIVIL DETAILS
C5.2	CIVIL DETAILS
C5.3	CIVIL DETAILS
L1.1	PLANTING PLAN
L1.2	STORMWATER FACILITY PLANTING PLAN
L1.3	PLANTING NOTES & DETAILS
L1.4	PLANTING DETAILS
L2.1	IRRIGATION PLAN
L2.2	STORMWATER FACILITY IRRIGATION PLAN
L2.3	IRRIGATION NOTES & DETAILS

NO.	DATE	DESCRIPTION
1		REVISIONS

BY

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN: SAW
DRN: AR
CKD: SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEGNER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT - PH I

COVER SHEET, VICINITY & LOCATION MAPS, & DRAWING INDEX

DRAWING
C1.0

JOB NUMBER
3155.3000.0

9/18/2024 2:31:13 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil - Phase I Construction\Plots\C1.0 Cover.dwg, (Layout1 tab)

GENERAL NOTES

1. Contractor shall procure, and conform to all construction permits required by the City of Salem.

2. Owner to pay all project permit costs, including but not limited to utility tapping, TV, and chlorination costs. The Contractor shall coordinate with the Approving Agency to determine appropriate fees and provide the Owner with 48 hours notice prior to the required payment of fees or costs. Contractor to apply for and pay all Private Plumbing and Electrical Permits

3. Oregon law requires the Contractor to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952–001–0010 through OAR 952–001–0090. Obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 503–232–1987).

4. Contractor to notify City and all utility companies a minimum of 48 business hours (2 business days) prior to start of construction, and comply with all other notification requirements of the Approving Agency with jurisdiction over the work.

5. Contractor shall provide all bonds and insurance required by public and/or private agencies having jurisdiction. Where required by public and/or private agencies having jurisdiction, the Contractor shall submit a suitable maintenance bond prior to final payment.

6. For City Construction Permits, contact Salem Public Works Engineering Construction Management at 503–588–6211. For City Building Permits, contact Salem Permit Application Center at 503–588–6256.

7. Contractor to apply for services at the Permit Application Center (PAC office) for work to be done by City forces on public mains.

8. All materials and workmanship for facilities in street right–of–way or easements shall conform to Approving Agencies' construction specifications wherein each has jurisdiction, including but not limited to the City, County, Oregon Health Division (OHD) and the Oregon Department of Environmental Quality (DEQ).

9. Unless otherwise approved by the Public Works Director, construction of all public facilities shall be done between 7:00 a.m. and 6:00 p.m., Monday through Saturday.

10. The Contractor shall perform all work necessary to complete the project in accordance with the approved construction drawings including such incidentals as may be necessary to meet the Approving Agencies' requirements and provide a completed project.

11. Any inspection by the City or other Approving Agency shall not, in any way, relieve the Contractor from any obligation to perform the work in strict compliance with the contract documents, applicable codes, and Approving Agency requirements.

12. Contractor shall maintain one complete set of approved drawings on the construction site at all times whereon he will record all approved deviations in construction from the approved drawings, as well as the station locations and depths of all existing utilities encountered. These field record drawings shall be kept up to date at all times and shall be available for inspection by the Approving Agency or Owner's Representative upon request. Failure to conform to this requirement may result in delay in payment and/or final acceptance of the project.

13. Upon completion of construction of all new facilities, Contractor shall submit a clean set of field record drawings containing all as–built information to the Engineer. All information shown on the Contractor's field record drawings shall be subject to verification. If significant errors or deviations are noted, an as–built survey prepared and stamped by a registered professional Land Surveyor shall be completed at the Contractor's expense.

14. Contractor shall procure and conform to DEQ stormwater permit No. 1200C for construction activities where 1 acre or more are disturbed.

15. The contractor shall retain and pay for the services of a registered Civil Engineer and/or Land Surveyor licensed in the State of Oregon to establish construction control and perform initial construction surveys to establish the lines and grades of improvements as indicated on the drawings. Staking for buildings, structures, curbs, gravity drainage pipes/structures and other critical improvements shall be completed using equipment accurate to 0.04 feet horizontally and 0.02 feet vertically, or better. Use of GPS equipment for final construction staking of these critical improvements is prohibited. The registered professional surveyor shall provide the design engineer with copies of all grade sheets for construction staking performed for the project.

16. See architectural drawings for site lighting, site dimensioning, and continuation of all utilities.

TRAFFIC CONTROL:

17. Contractor shall erect and maintain barricades, warning signs, traffic cones (and all other traffic control devices required) per City requirements in accordance with the current MUTCD (including Oregon amendments). Access to driveways shall be maintained at all times. All traffic control measures shall be approved and in place prior to any construction activity. Prior to any work in the existing public right–of–way, Contractor shall submit final traffic control plan to the Approving Agency for review and issuance of a Lane Closure or Work in Right–of–Way Permit.

18. Prior to any work in the existing right–of–way, Contractor shall submit final traffic control plan to City of Salem for review and issuance of lane closure permit. Contractor to obtain a lane closure permit before construction starts for any work within the existing public right–of–way, including public street improvements or driveway connections to existing streets.

TESTING AND INSPECTION:

19. For public and private improvements, the Contractor shall be responsible to ensure that all required or necessary inspections are completed by authorized inspectors prior to proceeding with subsequent work which covers or that is dependent on the work to be inspected. Failure to obtain necessary inspection(s) and approval(s) shall result in the Contractor being fully responsible for all problems and/or corrective measures arising from uninspected work.

20. Unless otherwise specified, the attached "Required Testing and Frequency" table outlines the minimum testing schedule for private improvements on the project. This testing schedule is not complete, and does not relieve the Contractor of the responsibility of obtaining all necessary inspections or observations for all work performed, regardless of who is responsible for payment. Cost for retesting shall be borne by the Contractor.

EXISTING UTILITIES & FACILITIES:

21. The location and descriptions of existing utilities shown on the drawings are compiled from available records and/or field surveys. The Engineer or utility companies do not guarantee the accuracy or the completeness of such records. Contractor shall field verify locations and sizes of all existing utilities prior to construction.

22. Utility locations are based on record information and should be field–verified. Call 1–800–332–2344 at least 48 hours prior to construction for on–site locating of utilities.

23. Contractor shall field verify location and depth of all existing utilities where new facilities cross. All utility crossings marked or shown on the drawings shall be potholed using hand tools or other non–invasive methods prior to excavating or boring. Contractor shall be responsible for exposing potential utility conflicts far enough ahead of construction to make necessary grade or alignment modifications without delaying the work. If grade or alignment modification is necessary, Contractor shall notify the Design Engineer, and the Design Engineer or the Owner's Representative shall obtain approval from the Approving Agency prior to construction.

24. The Contractor shall be responsible for locating and marking all existing survey monuments of record (including but not limited to property and street monuments) prior to construction. If any survey monuments are removed, disturbed or destroyed during construction of the project, the Contractor shall retain and pay for the services of a Registered Professional Surveyor licensed in the State of Oregon to reference and replace all such monuments prior to final payment. The monuments shall be replaced within a maximum of 90 days, and the County Surveyor shall be notified in writing as required by per ORS 209.150.

25. All facilities shall be maintained in–place by the Contractor unless otherwise shown or directed. Contractor shall take all precautions necessary to support, maintain, or otherwise protect existing utilities and other facilities at all times during construction. Contractor to leave existing facilities in an equal or better–than–original condition and to the satisfaction of the Approving Agency and Owner's Representative.

26. Utilities or interfering portions of utilities that are abandoned in place shall be removed by the Contractor to the extent necessary to accomplish the work. The Contractor shall plug the remaining exposed ends of abandoned utilities after appropriate verification procedures have taken place.

27. Contractor shall remove all existing signs, mailboxes, fences, landscaping, etc., as required to avoid damage during construction and replace them to existing or better condition.

28. Unless otherwise approved by the Approving Agency, all field tiles or drain lines intercepted or exposed during construction shall be connected to new storm lines, unless they are removed completely during construction, or are located and plugged at 50 foot maximum intervals uphill of the location intercepted. Any abandoned drain tiles downstream of the intercepting trenches shall be plugged with grout.

29. The Contractor shall be responsible for managing construction activities to ensure that public streets and right–of–ways are kept clean of mud, dust or debris. Dust abatement shall be maintained by adequate watering of the site by the Contractor.

GRADING, PAVING & DRAINAGE:

30. Contractor to review soils report prepared by Central Geotechnical Services and conform to all recommendations listed in the report.

31. (Salem Projects) All materials and workmanship for compaction, fills, grading, rocking and paving within the public right–of–way shall conform to City of Salem Standard Construction Specifications.

32. Unless otherwise noted, all grading, rocking and paving to conform to Oregon Standard Specifications for Construction (OSSC/ODOT/APWA), 2018 edition.

33. Clear and grub within work limits all surface vegetation, trees, stumps, brush, roots, etc. Do not damage or remove trees except as approved by the Owner's Representative or as shown on the drawings. Protect all roots two inches in diameter or larger.

34. Strip work limits, removing all organic matter, which cannot be compacted into a stable mass. All trees, brush, and debris associated with clearing, stripping or grading shall be removed and disposed of off–site.

35. For public and private improvements, except as otherwise allowed by the specifications required by Salem Standard Construction Specifications, drawing details or notes, immediately following stripping and grading operations, compact subgrade to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor). Subgrade must be inspected and approved by the Owner's authorized representative before placing, engineered fills or fine grading for base rock.

36. Unless otherwise required by Salem Standard Construction Specifications, Engineered fills shall be constructed and compacted in 6" lifts over approved subgrade. All fills shall be engineered and comply with the Oregon Structural Specialty Code, with each lift compacted to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor).

37. For private improvements, unless otherwise required by Salem Standard Construction Specifications, Granular baserock shall conform to the requirements of OSSC (ODOT/APWA) 02630.10 (Dense Graded Base Aggregate), with no more than 10% passing the #40 sieve and no more than 5% passing the #200 sieve.

38. Compact granular baserock to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor). Written baserock compaction test results from an independent testing laboratory must be received by the Owner's authorized representative before placing AC pavement, and a finished rock grade proof–roll (witnessed by the Owners authorized representative) must be performed.

39. For private improvements, unless otherwise required by Salem Standard Construction Specifications, A.C. pavement shall conform to OSSC (ODOT/APWA) 00745 (Hot Mixed Asphalt Concrete Pavement) for standard duty mix. Unless otherwise specified or shown on the drawings, base lifts shall be 3/4" dense graded mix, while wearing courses shall be 1/2" dense graded mix. Unless otherwise specified or shown on the drawings, A.C. pavement for parking lots and streets shall be Level 2 mix (50 blow Marshall) per OSSC (ODOT/APWA) 00744.13. A.C. Pavement shall be compacted to a minimum of 91% of maximum density as determined by the Rice standard method. Written AC pavement compaction test results from an independent testing laboratory must be received by the Owner's authorized representative before final payment.

40. Pavement surface shall be a smooth, well–sealed, tight mat without depressions or bird baths. Bony or open graded pavement surfaces shall be repaired to the satisfaction of the Owner's authorized representative, prior to final acceptance of the work.

41. For private improvements, unless otherwise required by Salem Standard Construction Specifications, HMAC mixtures shall be placed only when the surface is dry and weather conditions are such that proper handling, finishing and compaction can be accomplished. In no case shall bituminous mixtures be placed when the surface temperature is below the minimum established under 2018 OSSC (ODOT/APWA) 00744.40 (AC – Season and Temperature Limitations) or the project specifications, whichever is more stringent.

42. Contractor shall protect new pavement against traffic as required, until it has cooled sufficiently to avoid tracking.

43. For parking lots or private access drives, the final lift of AC pavement shall not be placed until after the building is fully enclosed and weatherproof, unless otherwise approved by the Owner's authorized representative.

44. Unless otherwise shown on the drawings or details, straight grades shall be run between all finish grade elevations and/or finish contour lines shown (exception: where grades are shown across sidewalks, slopes shall be adjusted to ensure that maximum allowable sidewalk cross slopes are not exceeded).

45. Finish pavement grades at transition to existing pavement shall match existing pavement grades or be feathered past joints with existing pavement as required to provide a smooth, free draining surface.

46. All existing or constructed manholes, cleanouts, monument boxes, gas valves, water valves and similar structures shall be adjusted to match finish grade of the pavement, sidewalk, landscaped area or median strip wherein they lie. Verify that all valve boxes and risers are clean and centered over the operating nut.

47. Unless otherwise shown on the drawings, no cut or fill slopes shall be constructed steeper than 3H:1V.

48. Unless otherwise shown on the landscape plans, all planter areas shall be backfilled with approved topsoil minimum 8" thick. Stripping materials shall not be used for planter backfill.

49. Contractor shall seed and mulch (uniformly by hand or hydroseed) all exposed slopes and disturbed areas which are not scheduled to be landscaped, including trench restoration areas. If the Contractor fails to apply seed and mulch in a timely manner during periods favorable for germination, or if the seeded areas fail to germinate, the Owner's Representative may (at his discretion) require the Contractor to install sod to cover such disturbed areas.

50. Grading shown on the drawings is critical to functioning of detention system and shall be strictly followed.

51. Contractor shall coordinate and ensure that detention pond volumes are inspected and approved by public agencies having jurisdiction before paving and landscaping.

CURBS & SIDEWALKS:

52. Unless otherwise shown or indicated on the drawings, 6–inches nominal curb exposure used for design of all parking lot and street grades.

53. Where new curbing connects to existing curbing or is installed along existing streets or pavement, the gutter grade shall match the existing street grades so as to allow drainage from the street to the gutter and through any transitions. The Contractor shall notify the Owner's Representative in writing of any grade discrepancies or problems prior to curb placement.

54. Not used.

55. Contractor shall construct all handicap access ramps in accordance with current ADA requirements.

56. Sidewalks shall be a minimum of 4–inches thick and standard residential driveways shall be a minimum of 6–inches thick. Commercial use driveways and alley approaches shall be minimum 8–inches thick. All curbs, sidewalks and driveways shall be constructed using 3300–psi concrete, and shall be cured with Type 1 or Type 1D clear curing compound. All sidewalks shall be ADA compliant.

57. Curb & sidewalk concrete shall be placed only during periods when it will not be damaged by rain (protect unhardened concrete from precipitation). Concrete shall not be placed on frozen baserock. Do not begin concrete placement until temperature in the shade is a minimum of 35°F and rising, and stop placement if air temperature falls below 35°F. Protect concrete from freezing for a minimum of 5 days after placement per OSSC (ODOT/APWA) 00440.40.d & 00756.40 or the project specifications, whichever is more stringent.

58. Contraction joints shall be installed directly over any pipes that cross under the sidewalk, to control cracking. In general, cracks in new curbs or sidewalks (at locations other than contraction joints) are not acceptable, and cracked panels shall be removed & replaced unless otherwise approved by the Approving Agency and the design engineer.

59. All sidewalks shall be ADA compliant. Direction of sidewalk cross slope shall conform with the slope direction shown on the grading plan. Sidewalk cross slopes shall not exceed 1:67 (1.5%) nor be less than 1%. Longitudinal slope shall not exceed 1:20 (5%).

60. Where trench excavation requires removal of PCC curbs and/or sidewalks, the curbs and/or sidewalks shall be sawcut and removed at a tooled joint unless otherwise authorized in writing by the Approving Agency. The sawcut lines shown on the drawings are schematic and not intended to show the exact alignment of such cuts.

61. Unless otherwise shown on the drawings, areas along curbs and sidewalks shall be backfilled with approved topsoil, as well as being seeded and mulched (or hydroseeded).

PIPED UTILITIES:

62. All tapping of existing public sanitary sewer, storm drain mains, and manholes must be done by City forces.

63. All tapping to be done by City of Salem forces. To schedule water/sewer/storm taps call (503) 588–6333. Taps are generally available within two business days.

64. The Contractor shall have appropriate equipment on site to produce a firm, smooth, undisturbed subgrade at the trench bottom, true to grade. The bottom of the trench excavation shall be smooth, free of loose materials or tooth grooves for the entire width of the trench prior to placing the granular bedding material.

65. All pipes shall be bedded with minimum 6–inches of 3/4"–0 crushed rock bedding and backfilled with compacted 3/4"–0 crushed rock in the pipe zone (crushed rock shall extend a minimum of 12–inches over the top of the pipe in all cases). Unless CDF or other backfill is shown or noted on the drawings, crushed rock trench backfill shall be used under all improved areas, including pavement, sidewalks, foundation slabs, buildings, etc.

66. Granular trench bedding and backfill shall conform to the requirements of OSSC (ODOT/APWA) 02630.10 (Dense Graded Base Aggregate), 3/4"–0. Unless otherwise shown on the drawings, compact granular backfill to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor).

67. Contractor shall arrange to abandon existing sewer and water services not scheduled to remain in service in accordance with approving agency requirements.

68. All piped utilities abandoned in place shall have all openings closed with concrete plugs with a minimum length equal to 2 times the diameter of the abandoned pipe.

69. The end of all utility service lines shall be marked with a 2–x–4 painted white and wired to pipe stub. The pipe depth shall be written on the post in 2" block letters and red lined on the drawings for preparation of As–Built Drawings.

70. All non–metallic water, sanitary and storm sewer piping shall have an electrically conductive insulated 12 gauge solid core copper tracer wire the full length of the installed pipe using blue wire for water and green wire for storm and sanitary piping. Tracer wire shall be extended up into all valve boxes, catch basins, manholes and lateral cleanout boxes. Tracer wire penetrations into manholes shall be within 18 inches of the rim elevation and adjacent to manhole steps. The tracer wire shall be tied to the top manhole step or otherwise supported to allow retrieval from the outside of the manhole. All tracer wire splices shall be made with waterproof splices or waterproof/corrosion resistant wire nuts.

71. No trenches in sidewalks, roads, or driveways shall be left in an open condition overnight. All such trenches shall be closed before the end of each workday and normal traffic and pedestrian flows restored.

72. Before mandrel testing, TV inspection or final acceptance of gravity pipelines, all trench compaction shall be completed and all sewers and storm drains flushed & cleaned to remove all mud, debris & foreign material from the pipelines, manholes and/or catch basins.

73. Where future extensions are shown upstream of new manholes (sewer or storm), catch basins or junction boxes, pipe stubs (with gasketed caps) shall be installed at design grades to a point 2' minimum outside of the structure.

WATER SYSTEM:

74. City forces to operate all valves, including fire hydrants, on existing public mains.

75. All Public water mains shall be class 52 ductile iron.

76. All Private water mains shall be C–900 PVC (DR 18).

77. All fittings 4–inches through 24–inches in diameter shall be ductile iron fittings in conformance with AWWA C–153 or AWWA C–110. The minimum working pressure for all MJ cast iron or ductile iron fittings 4–inches through 24–inch in diameter shall be 350 psi for MJ fittings and 250 psi for flanged fittings.

78. All water mains to be installed with a minimum 36 inch cover to finish grade unless otherwise noted or directed. Water service lines shall be installed with a minimum 30–inch cover. Deeper depths may be required as shown on the drawings or to avoid obstructions.

79. Unless otherwise shown or approved by the Engineer, all valves shall be flange connected to adjacent tees or crosses.

80. Thrust restraint shall be provided on all bends, tees and other direction changes per Approving Agency requirements and as specified or shown on the drawings.

81. All private domestic water services to be schedule 40 PVC

82. Domestic and fire backflow prevention devices and vaults shall conform to requirements of public and/or private agencies having jurisdiction. The Contractor shall be responsible for having backflow devices tested and certified prior to final acceptance of the work.

83. Contractor shall provide all necessary equipment and materials (including plugs, blowoffs, valves, service taps, etc.) required to flush, test and disinfect waterlines per the Approving Agency requirements.

84. The work shall be performed in a manner designated to maintain water service to buildings supplied from the existing waterlines. In no case shall service to any main line or building be interrupted for more than four (4) hours in any one–day. Contractor shall notify the Approving Agency and all affected residents and businesses a minimum of 24 business hours (1 business day) before any interruption of service.

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
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IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN.: SAW
DRN.: AR
CKD.: SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEBER
11443
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

CONSTRUCTION NOTES

DRAWING
C1.1

JOB NUMBER
3155.3000.0

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85. Where new waterlines cross below or within 18–inches vertical separation above a sewer main or sewer service lateral, center one full length of waterline pipe at point of crossing the sewer line or sewer lateral. In addition (unless otherwise approved in writing by the Approving Agency, existing sewer mains and/or service laterals within this zone shall be replaced with a full length of Class 50 Ductile Iron or C–900 PVC pipe (DR 18) centered at the crossing in accordance with OAR 333–061 and Approving Agency requirements. Connect to existing sewer lines with approved rubber couplings. Example: For an 8–inch waterline with 36–inches cover, 4–inch service lateral inverts within 5.67–feet (68–inches) of finish grade must be DI or C–900 PVC at the crossing.

86. All waterlines, services and appurtenances shall be pressure tested for leakage. All testing shall conform to requirements as outlined in the specifications, Approving Agency standards and/or testing forms. The hydrostatic test shall be performed with all service line corporation stops open and meter stops closed, and with all hydrant line valves open. Prior to the start of each pressure test, the position of all mainline valves, hydrant line valves and service line corporation stops in the test segment shall be verified.

87. After the pressure test and prior to disinfecting, the water lines shall be thoroughly flushed through hydrants, blow offs or by other approved means.

88. Disinfection & Bacteriological Testing. All water mains and service lines shall be chlorine disinfected per Approving Agency requirements, AWWA C–651 or OAR 333–061 (25 mg/L minimum chlorine solution, 24 hours contact time), whichever is more stringent. Unless otherwise approved by the Approving Agency, a Representative from the Approving Agency shall witness the application of the chlorine solution and the chlorine testing at the end of the 24 hour contact period. After the 24 hour chlorine contact period, the free chlorine concentration shall be checked, and if it is found to be 10 mg/L or more, the chlorine solution shall be drained (otherwise the line shall be rechlorinated), the waterline flushed with potable water, and a minimum of two consecutive samples taken at least 24 hours apart shall be collected from the waterline for microbiological analysis (ie. one sample immediately after flushing, and another sample 24 hours later). Contractor to pay for laboratory analysis of water samples taken under the supervision of the Approving Agency. If the results of both analyses indicate that the water is free of coliform organisms, the waterline may be placed in service. Should the initial treatment prove ineffective, the chlorination shall be repeated until confirmed tests show acceptable results.

89. Disinfection of Connections. For connections which cannot be disinfected with the waterline mainlines as noted above, all fittings, valves and appurtenances, including tool surfaces which will come in contact with potable water, shall be thoroughly cleaned by washing with potable water and then swabbed or sprayed with a one percent (1%) hypochlorite solution (10,000 mg/L) in accordance with the requirements of AWWA C–651 and OAR 333–061.

SEWER & STORM MANHOLES:

90. All precast manholes shall be provided with integral rubber boots. Where manholes without integral rubber boots are approved by the Owner's Representative and Approving Agency, a pipe joint shall be provided on all mainlines within 1.5 feet of the outside face of the manhole. Where required by Public Works, watertight lockdown lids required on all manholes outside of public right–of–way.

91. Openings for connections to existing manholes shall be made by core–drilling the existing manhole structure, and installing a rubber boot. Connections shall be watertight and shall provide a smooth flow into and through the manhole with no ponding. Small chipping hammers or similar light tools which will not damage or crack the manhole base may be used to shape channels, but may be used to enlarge existing openings only if authorized in writing by the Owner's Representative. Use of pneumatic jackhammers shall be prohibited.

92. Manhole channels depths (sewer & storm) shall be to the heights shown on the drawings, but in no case shall the channel depth be less than 2/3 of the pipe diameter. Channels, as well as shelves between the channels and the manhole walls, shall be sloped to drain per plan details.

93. Manholes constructed over existing sanitary sewers shall conform to the requirements of OSSC (ODOT/APWA) 490.41, Manholes over Existing Sewers. The existing pipe shall not be broken out until after the completion of the manhole test.

SANITARY SEWER SYSTEM:

94. Unless otherwise specified, sanitary sewer pipe shall be solid wall PVC in conformance with ASTM D3034, SDR 35 (≤15") or ATSM F–679, PS 46 (≥18"). Minimum stiffness shall be 46 psi per ASTM D–2412 and joint type shall be elastomeric gasket conforming to ASTM D–3212. All other appurtenances and installation to conform to the Approving Agency's specifications. All materials and workmanship for all private sanitary sewers, including sewers located within any building envelope, shall be installed in conformance with Uniform Plumbing Code requirements.

95. Unless otherwise specifically noted on the drawings, manufactured fittings (tee or wye per Approving Agency) shall be used for all lateral connections to new sewer mainlines.

96. Contractor shall provide all necessary materials, equipment and facilities to test sanitary sewer pipe and appurtenances for leakage in accordance with testing schedule herein or the Approving Agency's construction standards, whichever are more stringent. Sanitary sewer pipe and appurtenances shall be tested for leakage. Leakage tests shall include an air test of all sewer mains and laterals and vacuum testing of the manholes. Manhole testing shall be performed after completion of AC pavement and final surface restoration.

97. After manhole channeling and prior to mandrel testing and/or TV inspection, flush and clean all sewers, and remove all foreign material from the mainlines and manholes. Failure to clean all dirt, rock and debris from pipelines prior to TV inspection will result in the need to re–clean and re–TV the sewer lines.

98. Contractor shall conduct deflection test of flexible sanitary sewer pipes by pulling an approved mandrel through the completed pipeline following trench compaction. The diameter of the mandrel shall be 95% of the initial pipe diameter. Test shall be conducted not less than 30 days after the trench backfilling and compaction has been completed, unless otherwise approved by the Approving Agency.

99. Upon completion of all sanitary sewer construction, testing and repair, the Contractor shall conduct a color TV acceptance inspection of all mainlines in accordance with OSSC (ODOT/APWA) 445.74 to determine compliance with grade requirements of OSSC (ODOT/APWA) 445.40.b. The TV inspection shall be conducted by an approved technical service which is equipped to make audio–visual recordings of the TV inspections on DVD or flash drive. Unless otherwise required by the Approving Agency, a standard 1–inch diameter ball shall be suspended in front of the camera during the inspection to determine the depth of any standing water. Sufficient water to reveal low areas or reverse grades shall be discharged into the pipe immediately prior to initiation of the TV inspection. The DVD and written report shall be delivered to the Approving Agency.

STORM DRAIN SYSTEM:

100. Storm sewer pipe materials shall conform to the construction drawings and Approving Agency's requirements. Unless otherwise noted or shown on the drawings, storm sewer pipe materials with watertight joints shall conform to the attached "Storm Pipe Table". Contractor shall use uniform pipe material on each pipe run between structures unless otherwise directed or approved. Jointed HDPE pipe shall not be used for slopes exceeding ten percent (10%). All materials and workmanship for all private storm drains, including storm drains located within any building envelope, shall be installed in conformance with Uniform Plumbing Code requirements.

101. Contractor shall designate the pipe material actually installed on the field record drawings and provide this information for inclusion on the as–built drawings.

102. Catch basins and junction boxes shall be set square with buildings or with the edge of the parking lot or street wherein they lie. Storm drain inlet structures and paving shall be adjusted so water flows into the structure without ponding water.

103. Unless otherwise approved by the Engineer, all storm drain connections shall be by manufactured tees or saddles.

104. Unless otherwise shown on the drawings, all storm pipe inlets & outfalls shall be beveled flush to match the slope wherein they lie.

105. Sweep (deflect) storm sewer pipe into catch basins and manholes as required. Maximum joint deflection shall not exceed 5 degrees or manufacturers recommendations, whichever is less.

106. Unless otherwise shown or directed, install storm sewer pipe in accordance with manufacturer installation guidelines.

107. After manhole channeling and prior to mandrel testing or final acceptance, flush and clean all sewers, and remove all foreign material from the mainlines, manholes and catch basins.

108. Mandrel Testing. Contractor shall conduct deflection test of flexible storm sewer pipes by pulling an approved mandrel through the completed pipeline following trench compaction. The diameter of the mandrel shall be 95% of the initial pipe diameter. Test shall be conducted not more than 30 days after the trench backfilling and compaction has been completed.

109. Prior to acceptance, the Owner's Representative may lamp storm lines upstream & downstream of structures to verify that the pipes are clean and there is no grout or concrete in the mainlines, and that there are no observable bellies in the line. When necessary, sufficient water to reveal low areas shall be discharged into the pipe by the Contractor prior to any such inspection by the Owner's Representative or the Approving Agency.

FRANCHISE & PRIVATE UTILITIES:

110. Unless otherwise shown on the drawings or approved by jurisdiction having authority, all new franchise and private utilities (power, cable TV, telephone, gas, data, communication, control, alarms, etc.) shall be installed underground. Installation of such utilities or associated conduits in a common trench with public water, sanitary sewer, or storm sewer is prohibited.

111. Contractor shall coordinate with gas, power, telephone, and cable TV Company for location of conduits in common trenches, as well as location or relocation of vaults, pedestals, etc. The Contractor shall be responsible for providing franchise utility companies adequate written notice of availability of the open trench (typically 10 days minimum), and reasonable access to the open trench. Unless otherwise approved in writing by the Approving Agency, all above–grade facilities shall be located in PUEs (where PUEs exist or will be granted by the development), and otherwise shall be placed in a location outside the proposed sidewalk location.

112. Unless otherwise approved by the Approving Agency, installation of private utilities (including either franchise utilities or private water, sewer or storm services) in a common trench with or within 3 feet horizontally of and paralleling public water, sanitary sewer or storm drains is prohibited.

113. Power, telephone and TV trenching and conduits shall be installed per utility company requirements with pull wire. Contractor shall verify with utility company for size, location and type of conduit before construction, and shall ensure that trenches are adequately prepared for installation per utility company requirements. All changes in direction of utility conduit runs shall have long radius steel bends.

114. Contractor shall notify and coordinate with franchise utilities for removal or relocation of power poles, vaults, pedestals, manholes, etc. to avoid conflict with Public utility structures, fire hydrants, meters, sewer or storm laterals, etc.

STORM PIPE TABLE

Cover Depth	6" – 18" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2–1/2' Cover	Pipe specified for lesser cover depths –or– Class 3, ASTM C–14 non–reinforced concrete pipe with bell and spigot joints & rubber gaskets, ASTM 150 Type II cement. –or– PVC pipe conforming to AWWA C900 DR 18 (6"–12") or AWWA C–905 (14"–18") with bell and spigot joints and rubber gasket
2–1/2' to 15' Cover	Pipe specified for lesser cover depths –or– PVC pipe conforming to ASTM D–3034 PVC SDR 35 (6"–15") or ASTM F–679 PVC solid wall SDR 35 (18") with bell and spigot joints and rubber gasket. –or– HDPE (high density polyethlene) pipe conforming to AASHTO M–252, (8"–10") or AASHTO M–294 (12"–18"). For slopes less than 6% the pipe shall be ADS N–12 IB ST, Hancor Sure–Lok F477, or approved equal. For slopes greater than 6% the pipe shall be ADS N–12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.

Cover Depth	21" – 30" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2–1/2' Cover	Pipe specified for lesser cover depths –or– Class IV ASTM C–76 reinforced concrete pipe with bell and spigot joints and rubber gasket, ASTM 150, Type II cement.
2–1/2' to 15' Cover (**HDPE allowed up to 60" diameter subject to max. depth limits listed)	Pipe specified for lesser cover depths –or– ASTM F–679 PVC solid wall SDR 35 pipe with bell and spigot joints and rubber gasket –or– HDPE (high density polyethlene) pipe conforming to AASHTO M–294. For slopes less than 6% the pipe shall be ADS N–12 IB ST, Hancor Sure–Lok F477. or approved equal. For slopes greater than 6% the pipe shall be ADS N–12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– (**)jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.
Greater than 30" diameter and other pipe materials: Case by case basis.	
Perforated pipe underdrains to be SCH 40 ABS or SCH 40 PVC perforated or slotted pipe unless otherwise specified.	

REQUIRED TESTING AND FREQUENCY TABLE

Contractor to notify Owner's Representative prior to all testing, to allow Owner's Representative to be present if desired.

		Party Responsible for payment: Contractor	Party Responsible for payment: Others (see note 1)
Streets, Fire Lanes, Common Driveways, Parking Lots, Pads, Fills, etc.			
Subgrade	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓ See note 2 & note 3	
Engineered Fills	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency	✓ See note 2 & note 5	
Baserock	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓ See note 2 & note 3	
Asphalt	1 Test/6000 S.F./Lift (4 min), locations acceptable to AA (typ. alternate as above)	✓ See note 2	
Piped Utilities, All (including backfill in lifts & AC restoration at manholes, etc.)			
Trench Backfill	1 Test/200 Foot Trench/Lift (4 min)	✓ See note 2	
Trench AC Restoration	1 Test/300 Foot Trench (4 min)	✓ See note 2	
Water			
Pressure Test	(to be witnessed by Owner's Representative or approving agency)	✓ See note 4	
Bacterial Water Test	Per OHA–Drinking Water Services	See note 2	✓
Chlorine Residual Test	Per City Requirements	✓	
Sanitary Sewer			
Air Test	Per City or APWA Requirements, whichever is more stringent	✓ See note 4	
Mandrel	95% of actual inside diameter	✓ See note 4	
TV Inspection	All. Lines must be cleaned prior to TV work	✓	
Manhole	Vacuum test each manhole, witnessed by Owner's Representative or approving agency	✓ See note 2	
Pressure Test (force main)	Hydrostatic pressure test, witnessed by Owner's Representative or approving agency	✓ See note 4	
Storm			
Mandrel	95% of actual inside diameter	✓ See note 4	
Concrete, Block, etc.			
Slump, Air & Cylinders for structural & reinforced concrete, equipment slabs, curbs, sidewalks & PCC pavements. Unless otherwise specified, one set of cylinders per 100 cubic yards (or portion thereof) of each class of concrete placed per day. Slump & air tests required on same load as cylinders.		✓ See note 2	
Building permit inspection & Special Inspection for structural concrete, reinforced masonry, epoxy anchors, etc. as required by applicable State Building Codes.		✓ See note 6	
Retaining Walls			
Building permit inspection and Special Inspection, as well as compaction testing on backfill, all in conformance with applicable State Building Code requirements		✓ See note 5 & note 6	

Note 1: "Others" refers to Owner's authorized Representative or Approving Agency as applicable. Contractor responsible for scheduling testing. All testing must be completed prior to performing subsequent work.

Note 2: Testing must be performed by an approved independent testing laboratory/firm.

Note 3: In addition to in–place density testing, the subgrade and base rock shall be proof–rolled with a loaded 10 yard dump truck provided by the Contractor. Baserock proofroll shall take place immediately prior to (within 24 hours of) paving, and shall be witnessed by the Owner's authorized Representative or approving agency. Location and pattern of testing and proofroll to be as approved or directed by said Owner's authorized Representative or approving agency.

Note 4: To be witnessed by the Owner's Representative or approving agency. The Contractor shall perform pretests prior to scheduling witnessed waterline or sanitary sewer pressure tests, or pipeline mandrel test.

Note 5: The approved independent laboratory retained by the Contractor shall provide a certification (stamped by an engineer licensed in the State of Oregon) that the subgrade was prepared and all engineered fills were placed in accordance with the provisions of the construction drawings and the contract documents.

Note 6: Regardless of who is responsible for payment, the Contractor is responsible for scheduling and coordinating any and all required inspections and Special Inspections as required by applicable building codes or jurisdictions having authority.

Contractor to notify Owner's Representative prior to all testing, to allow Owner's Representative to be present if desired.

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1993
STEVEN A. WINES
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

CONSTRUCTION NOTES

DRAWING
C1.2

JOB NUMBER
3155.3000.0

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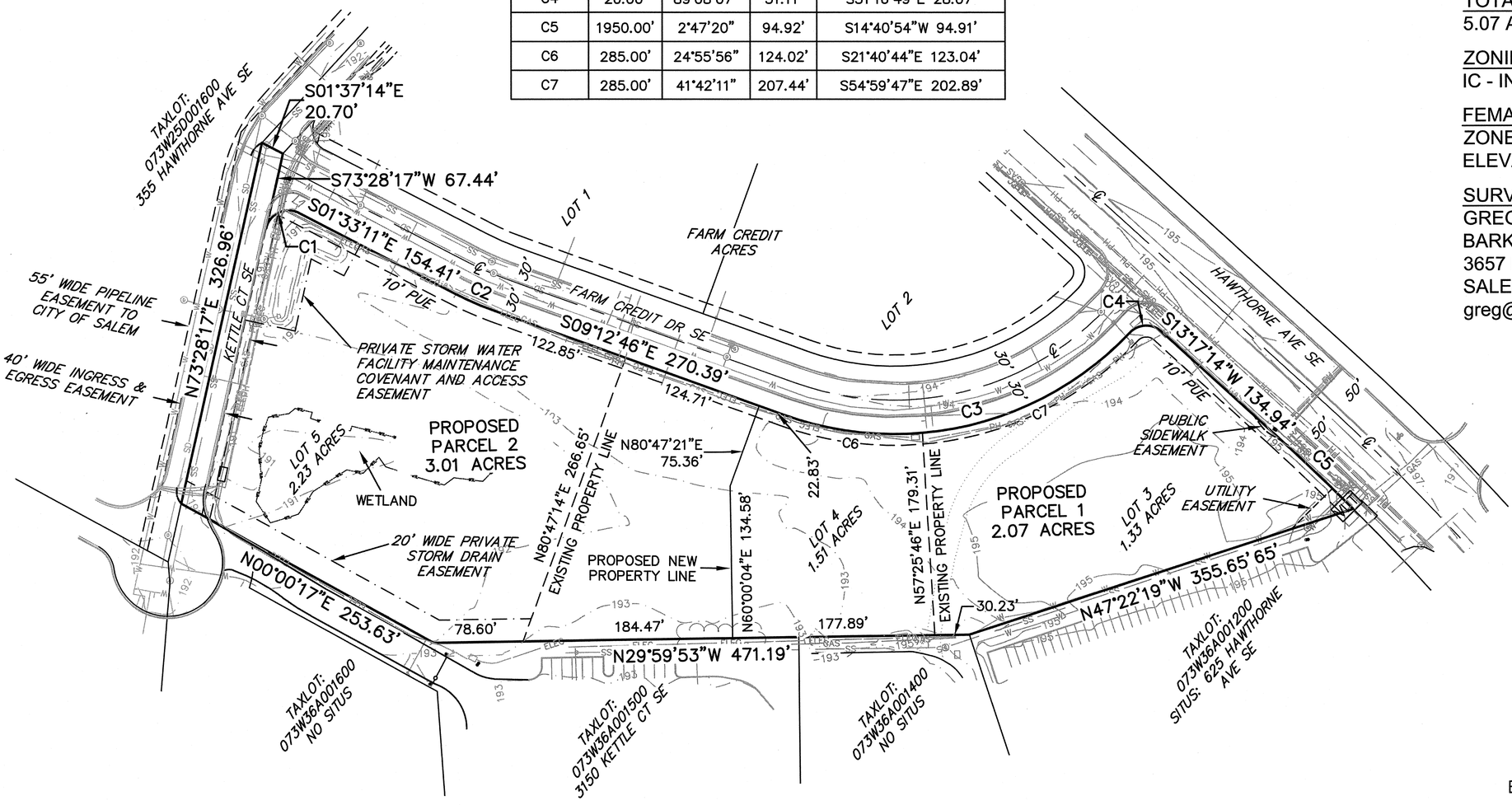
PROPOSED REPLAT SITE PLAN

FARM CREDIT ACRES LOTS 3, 4, & 5
LOCATED IN THE N.E 1/4 OF SEC. 36, T. 7 S., R. 3 W., W.M
CITY OF SALEM, MARION COUNTY, OREGON

GRAPHIC SCALE
100' 50' 0' 50' 100' 200'
(IN FEET)
1 inch = 100ft.

CURVE TABLE				
CURVE #	RADIUS	DELTA	LENGTH	CHORD BEARING & DIST.
C1	20.00'	104°58'32"	36.64'	S54°02'27"E 31.73'
C2	285.00'	7°39'35"	38.10'	S05°22'58"E 38.07'
C3	285.00'	66°38'07"	331.46'	S42°31'49"E 313.09'
C4	20.00'	89°08'07"	31.11'	S31°16'49"E 28.07'
C5	1950.00'	2°47'20"	94.92'	S14°40'54"W 94.91'
C6	285.00'	24°55'56"	124.02'	S21°40'44"E 123.04'
C7	285.00'	41°42'11"	207.44'	S54°59'47"E 202.89'

NOTE:
LOTS 3, 4, & 5 PROPOSED TO BE ADJUSTED TO 2 LOTS.



OWNER
SALEM LAND GROUP, LLC, 40%
JOGINDER P. BUGHRAJA, 60%
115 W JACKSON ST, STE 2D
RIDGELAND, MS 39157

SITE ADDRESS
N/A

TAX LOTS
07 3W 36A
2000, 2100, 2200

TOTAL AREA
5.07 ACRES

ZONING
IC - INDUSTRIAL COMMERCIAL

FEMA
ZONE AE - BASE FLOOD ELEVATION ESTABLISHED

SURVEYOR
GREGORY L. WILSON
BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OR 97317
greg@barkerwilson.com

REGISTERED PROFESSIONAL LAND SURVEYOR

PRELIMINARY

OREGON
JULY 19, 1994
GREGORY L. WILSON
2687

EXPIRES: 6/30/2024

BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OREGON 97317
PHONE (503) 588-8800
FAX (503) 363-2469
EMAIL: GREG@BARKERWILSON.COM

NO.	DATE	DESCRIPTION REVISIONS	BY
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1943
STEVEN A. WARD
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT - PH I

REPLAT MAP

DRAWING
C1.3

JOB NUMBER
3155.3000.0

9/18/2024 2:31:37 PM
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DEQ EROSION CONTROL STANDARD NOTES:

1. Include a list of all personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures (e.g. ESCP developer, BMP installer (see Section 4.10), as well as their individual responsibilities. (Section 4.4.c.ii)
2. Visual monitoring inspection reports must be made in accordance with DEQ 1200–C permit requirements. (Section 6.5)
3. Inspection logs must be kept in accordance with DEQ's 1200–C permit requirements. (Section 6.5.q)
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. (Section 4.7)
5. The permit registrant must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Sections 4 and 4.11)
6. The ESCP must be accurate and reflect site conditions. (Section 4.8)
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent within 10 days. (Section 4.9)
8. Sequence clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Section 2.2.2)
9. Create smooth surfaces between soil surface and erosion and sediment controls to prevent stormwater from bypassing controls and ponding. (section 2.2.3)
10. Identify, mark, and protect (by construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Section 2.2.1)
11. Preserve existing vegetation when practical and re–vegetate open areas. Re–vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Section 2.2.5)
12. Maintain and delineate any existing natural buffer within the 50–feet of waters of the state. (Section 2.2.4)
13. Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers prior to land disturbance. (Sections 2.1.3)
14. Control both peak flow rates and total stormwater volume, to minimize erosion at outlets and downstream channels and streambanks. (Sections 2.1.1. and 2.2.16)
15. Control sediment as needed along the site perimeter and at all operational internal storm drain inlets at all times during construction, both internally and at the site boundary. (Sections 2.2.6 and 2.2.13)
16. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Section 2.2.14)
17. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses. Temporary or permanent stabilizations measures are not required for areas that are intended to be left unvegetated, such as dirt access roads or utility pole pads. (Sections 2.2.20 and 2.2.21)
18. Establish material and waste storage areas, and other non–stormwater controls. (Section 2.3.7)
19. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that do not have lids, provide either (1) cover (e.g., a tarp, plastic sheeting, temporary roof) to prevent exposure of wastes to precipitation, or (2) a similarly effective means designed to prevent the discharge of pollutants (e.g., secondary containment). (Section 2.3.7)
20. Prevent tracking of sediment onto public or private roads using BMPs such as: construction entrance, graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land–disturbing activities. (Section 2.2.7)
21. When trucking saturated soils from the site, either use water–tight trucks or drain loads on site. (Section 2.2.7.f)
22. Control prohibited discharges from leaving the construction site, i.e., concrete wash–out, wastewater from cleanout of stucco, paint and curing compounds. (Sections 1.5 and 2.3.9)
23. Ensure that steep slope areas where construction activities are not occurring are not disturbed. (Section 2.2.10)
24. Prevent soil compaction in areas where post–construction infiltration facilities are to be installed. (Section 2.2.12)
25. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, fertilizer, pesticides and herbicides, paints, solvents, curing compounds and adhesives from construction operations.(Sections 2.2.15 and 2.3)
26. Provide plans for sedimentation basins that have been designed per Section 2.2.17 and stamped by an Oregon Professional Engineer. (See Section 2.2.17.a)
27. If engineered soils are used on site, a sedimentation basin/impoundment must be installed. (See Sections 2.2.17 and 2.2.18)
28. Provide a dewatering plan for accumulated water from precipitation and uncontaminated groundwater seepage due to shallow excavation activities. (See Section 2.4)
29. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Section 2.3)
30. Use water, soil–binding agent or other dust control technique as needed to avoid wind–blown soil. (Section 2.2.9)
31. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time–release fertilizers within any waterway riparian zone. (Section 2.3.5)
32. If an active treatment system (for example, electro–coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain Environmental Management Plan approval from DEQ before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Section 1.2.9)
33. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Section 2.2)
34. As needed based on weather conditions, at the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Section 2.2.8)
35. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Section 2.1.5.b)
36. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height and before BMP removal. (Section 2.1.5.c)
37. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Section 2.1.5.d)
38. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in–stream clean–up of sediment shall be performed according to the Oregon Department of State Lands required timeframe. (Section 2.2.19.a)
39. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Section 2.2.19)
40. Document any portion(s) of the site where land disturbing activities have permanently ceased or will be temporarily inactive for 14 or more calendar days. (Section 6.5.f.)
41. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Section 2.2.20)
42. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained soils must be removed and disposed of properly, unless needed for long term use following termination of permit coverage. (Section 2.2.21)

Rev. 12/15/20
By: Blair Edwards

YEAR: / MONTH:	'25 04	'25 05	'25 06	'25 07	'25 08	'25 09	'25 10	'25 11	'25 12	'26 01	'26 02	'26 03
CLEARING	X	X										
EXCAVATION		X	X	X								
GRADING		X	X	X	X	X						
CONSTRUCTION		X	X	X	X	X	X	X	X	X	X	
SEDIMENT CONTROLS:												
Silt Fencing		X	X	X	X	X	X	X	X	X	X	
Sediment Traps		X	X	X	X	X	X	X	X	X	X	
Sediment Basins												
Storm Inlet Protection												
Drainage Swales												
Check Dams												
Contour Furrows												
Terracing												
Pipe Slope Drains												
Rock Outlet Protection												
Gravel Construction Entrance	X	X	X	X	X	X	X	X	X			
Grass–lined Channel (Turf Reinforcement Mats)												
Protection of trees with construction fences												
Temporary Seeding and Planting												
Permanent Seeding and Planting												
Other:												

CONTROL MEASURE	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
Silt Fencing	X	X	X	X	
Construction Entrance	X	X			
Sediment Traps			X	X	
Storm Inlet Protection			X	X	
Concrete Washout			X	X	
Rock Outlet Protection			X	X	X
Permanent Seeding and Planting					X

Phase 1: Prior to Ground Disturbance
Phase 2: After Completion of Rough Grading
Phase 3: After Installation of Storm Facilities
Phase 4: After Paving & Construction
Phase 5: After Project Completion and Cleanup

BMP Rationale

A comprehensive list of available Best Management Practices (BMP) options based on DEQ's 1200–C Permit Application and ESCP Guidance Document has been reviewed to complete this Erosion and Sediment Control Plan. Some of the above listed BMPs were not chosen because they were determined to not effectively manage erosion prevention and sediment control for this project based on specific site conditions, including soil conditions, topographic constraints, accessibility to the site, and other related conditions. As the project progresses and there is a need to revise the ESCP, an Action Plan will be submitted.

SOIL TYPE(S): PER MARION CO. SOIL SURVEY THE SITE SOILS INCLUDE, "AMITY SILT LOAM, CONCORD SILT LOAM, DAYTON SILT LOAM, & WOODBURN SILT LOAM, 0 TO 3 PERCENT SLOPES."

EROSION HAZARD: PER MARION CO. SOIL SURVEY EROSION HAZARD IS "SLIGHT."

SITE AREA: 2.06 Ac

DISTURBANCE AREA: 2.06 Ac

LOCAL RAIN GAGE: CONTRACTOR TO PROVIDE RAIN GAUGE ON SITE.

INSPECTION FREQUENCY FOR BMP

Site Condition	Minimum Frequency
1. Active period	On initial date that land disturbance activities commence. Within 24 hours of any storm event, including runoff from snow melt, that results in discharge from the site. At least once every 14 days, regardless of whether stormwater runoff is occurring.
2. Inactive periods greater than fourteen (14) consecutive calendar days	The Inspector may reduce the frequency of inspections in any area of the site where the stabilization steps in Section 2.2.20 have been completed to twice per month for the first month, no less than 14 calendar days apart, then once per month.
3. Periods during which the site is inaccessible due to inclement weather	If safe, accessible and practical, inspections must occur daily at a relevant discharge point or downstream location of the receiving waterbody.
4. Periods during which construction activities are suspended and runoff is unlikely due to frozen conditions.	Visual monitoring inspections may be temporarily suspended. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.
5. Periods during which construction activities are conducted and runoff is unlikely during frozen conditions.	Visual monitoring inspections may be reduced to once a month. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.

Spill Prevention Procedures and Response

- Spill prevention is an important factor in the successful operation of a storm water injection management system. All contractor employees will be trained on this plan so that they are certain of the location of materials, who to notify in case of a spill, and how to initially contain the spill of hazardous materials. Contractor employees shall never dispose waste materials into the storm water collection/treatment system. Contractor employees will be observant of other potential contamination occurrences. All contractor employees will review this plan especially with regards to the detailed spill response steps.
- This data will be posted in an accessible area at the site.

What to do in case of a spill

1. Spill kit to be located near the job trailer or another conspicuous location and clearly marked.
2. Get the spill kit.
   a. If possible, determine visually what types of fluids have been spilled.
   b. Put on gloves and glasses or any other necessary Personal Protective Equipment (PPE).
   c. Get the absorbent material provided in the kit and the drain block cover.
   d. Place the absorbent materials in the path of the spill.
   e. Remove any debris from the vicinity of the inlet where the spill is draining.
   f. Unroll the drain block cover and place it snugly over the inlet.
   g. Verify that the cover has full contact with the rim of the inlet.
   h. Use snakes, pillow or pigs to completely contain the area.
3. Notify the following personnel immediately:
   a. 1200–C Permit Registrant's Representative
   b. When a spill includes any of the below, notify the Oregon Emergency Response System as soon as the Owner's Representative has knowledge of the release. Oregon Emergency Response System Phone: 1–800–452–0311

   i. Any amount of oil to waters of the state;
   ii. Oil spills on land in excess of 42 gallons;
   iii. Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002

NOTE: Only dry cleanup methods will be employed to clean up spills (i.e., no use of water to wash spilled materials from pavement will be conducted). All spill cleanups shall be conducted in accordance with applicable regulations.

Responsible Personnel

In case of spill contact the General Contractor and 1200–C Permit Registrant's Representative immediately. The Permit Registrant's Representative will be responsible for either managing the spill clean up for minor spills or contacting/retaining a company for the cleanup of major spills.

Waste Management Procedures

Activities performed onsite shall implement the following to eliminate the discharge of waste:

1. Locate activities that include waste products away from waters of the state and stormwater inlets or conveyances so that stormwater coming into contact with these activities cannot reach waters of the state;
2. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of liquids, and provide secondary containment (e.g. spill berms, decks, spill containment pallets);
3. Have a spill kit available on site and ensure personnel are available to respond expeditiously in the event of a leak or spill;
4. Clean up spills or contaminated surfaces immediately using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge; and
5. Store materials in a covered area (e.g., plastic sheeting, temporary roofs), or in secondary containment to prevent the exposure of these containers to precipitation or stormwater runoff, or a similarly effective means designed to prevent the discharge of pollutants from these areas.
6. Building Materials & Building Products: Minimize material exposure in cases where the exposure to precipitation or to stormwater will result in a discharge of pollutants (e.g. elevate materials from soil to prevent leaching of pollutants).

Fertilizers, pesticides, herbicides, & insecticides

Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label. When applying fertilizers, registrants must:

1. Apply at a rate and in amounts consistent with manufacturer's specifications;
2. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;
3. Avoid applying before heavy rains that could cause excess nutrients to be discharged;
4. Never apply to frozen ground;
5. Never apply to stormwater conveyance channels; and
6. Follow all other federal, state, and local requirements regarding fertilizer application.

Authorized non–stormwater discharges anticipated for the proposed project:

1. Landscape irrigation
2. Dust control water
3. Water line flushing (potable)

Potential pollutant–generating activities anticipated for the proposed project including an inventory of pollutants for each activity:

1. Mass Grading, Street & Utility Construction
   a. Sediment
   b. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
2. Vertical Construction
   a. Paints, caulks, sealants, solvents
   b. Fluorescent light ballasts
   c. Sediment
   d. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
3. Landscaping & Irrigation
   a. Fertilizers
   b. Pesticides, Herbicides, Insecticides

EROSION CONTROL INSPECTION RESPONSIBILITIES

NAME: KORY JACOBS
COMPANY NAME: VALLEY PACIFIC CONSTRUCTION
PHONE: 503-678-2696
EMAIL: KORY.J@VPCINC.ORG
TYPE OF CERTIFICATION: CESCL
CERTIFICATION #: CWTA-76073455
EXPIRATION DATE: 06/15/2025

BY | DESCRIPTION | NO. | DATE
REVISIONS
1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
DSN.: SAW
DRN.: AR
CKD.: SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 15, 1997
STEVEN A. WEBB
11943
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
EROSION CONTROL
NOTES & DETIALS

DRAWING
C2.0

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SUPPLEMENTAL WESTECH NOTES:

1. Erosion control measures shall be maintained in such a manner as to ensure that sediment and sediment–laden water does not enter the drainge system, roadways, or violate applicable water quality standards.

2. The erosion control construction, maintenance, replacement and upgrading of the erosion control facilities is the responsibility of the 1200–C Permit Registrant until all construction is completed and approved, and permanent erosion control (i.e. vegetation/landscaping) is established on all disturbed areas.

3. All recommended erosion control procedures are dependent on construction methods, staging, site conditions, weather and scheduling. During the construction period, erosion control facilities shall be upgraded as necessary due to unexpected storm events and to ensure that sediment and sediment laden water does not leave the site.

4. The 1200–C Permit Registrant is responsible for control of sediment transport within project limits. If an installed erosion control system does not adequately contain sediment on site, then the erosion control measures shall be adjusted or supplemented by the 1200–C Permit Registrant as necessary to ensure that sediment laden water does not leave the site. Additional measures shall be provided as required to ensure that all paved areas are kept clean for the duration of the project. Additional interim measures will include, at a minimum, installation of silt fences in accordance with the details shown on the drawings. These measures shall be installed along all exposed embankments and cut slopes to prevent sediment transport.

5. All existing and newly constructed storm inlets and drains shall be protected until pavement surfaces are completed and/or vegetation is established.

6. Erosion control facilities and sediment fences on active sites shall be inspected by the 1200–C Permit Registrant at least daily during any period with measurable precipitation. Any required repairs or maintenance shall be completed immediately. The erosion control facilities on inactive sites shall be inspected and maintained by the 1200–C Permit Registrant a minimum of once a month or within 24 hours following the start of a storm event.

7. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment–laden water into the downstream system. The 1200–C Permit Registrant shall remove all accumulated sediment from all impacted catch basins and storm pipes prior to acceptance by the Owner.

8. The 1200–C Permit Registrant is solely responsible for protection of all adjacent property and downstream facilities from erosion and siltation during project construction. Any damage resulting from such erosion and siltation shall be corrected at the sole expense of the 1200–C Permit Registrant.

9. Locate any portable toilets away from waters of the state and stormwater inlets or conveyances. Position portable toilets so they are secure and will not be tipped or knocked over.

10. The 1200–C Permit Registrant shall provide site watering as necessary to prevent wind erosion of fine–grained soils.

11. Unless otherwise indicated on the drawings, all temporary erosion control facilities, including sediment fences, silt sacks, bio–bags, etc. shall be removed within 30 days after permanent landscaping/vegetation is established.

12. Sediment fences shall be constructed of continuous filter fabric to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6–inch overlap, and both ends securely fastened to a post.

13. Sediment fence shall be installed per drawing details. Sediment fences shall have adequate support to contain all silt and sediment captured.

14. The standard strength filter fabric shall be fastened securely to stitched loops installed on the upslope side of the posts, and 6 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

15. Bio–filter bags shall be clean 100 percent wood product waste. Bags shall be 18–inch x 18–inch x 30–inch, weigh approximately 45 lbs., and be contained in a bag made of 1/2–inch plastic mesh.

16. Sediment barriers shall be maintained until the up–slope area has been permanently stabilized. At no time shall more than 10–inches of sediment be allowed to accumulate behind sediment fences. No more than 2 inches of sediment shall be allowed to accumulate behind bio–filter bags. Sediment shall be removed prior to reaching the above stated depths. New sediment barriers shall be installed uphill as required to control sediment transport.

17. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.

18. The 1200–C Permit Registrant shall verify that all trucks are well sealed when transporting saturated soils from the site. Water drippage from trucks transporting saturated soils must be reduced to less than 1 gallon per hour prior to leaving the site.

19. The entrance shall be maintained in a condition that will prevent tracking or flow of mud onto the public right–of–way or approved access point. The entrance may require periodic top dressing as conditions demand, and repair and/or cleanout of any structures used to trap sediment.

20. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately, and protection provided for downstream inlets and catch basins to ensure sediment laden water does not enter the storm drain system.

21. Temporary grass cover measures must be fully established by October 15th, or other cover measures (ie. erosion control blankets with anchors, 3–inches minimum of straw mulch, 6 mil HDPE plastic sheet, etc.) shall be in place over all disturbed soil areas until April 30th. To establish an adequate grass stand for controlling erosion by October 15th, it is recommended that seeding and mulching occur by September 1st. Straw mulch, if used, shall not leave any bare ground visible through the straw.

22. Minimum slope protection. For slopes steeper than 3H:1V but less than 2H:1V, use Tensar/North American Green Type S150 erosion control blanket. For slopes 2H:1V or steeper, use Tensar/North American Green Type SC150 erosion control blanket. Use a minimum of 2–inches straw mulch or Tensar/North American Green Type S150 for slopes flatter than 3H:1V. Slope protection shall be placed on all disturbed areas immediately after completion of each section of construction activity, until the erosion control seeding has been established. As an option during temporary or seasonal work stoppages, a 6–mil HDPE plastic sheet may be placed on exposed slopes. The plastic sheet shall be provided with an anchor trench at the top and bottom of the slope, and shall be sandbagged on the slopes as required to prevent damage or displacement by wind.

23. Permanent erosion control vegetation on all embankments and disturbed areas shall be re–established as soon as construction is completed.

24. Soil preparation. Topsoil should be prepared according to landscape plans, if available, or recommendations of grass seed supplier. It is recommended that slopes be textured before seeding by rack walking (ie. driving a crawling tractor up and down the slopes to leave a pattern of cleat imprints parallel to slope contours) or other method to provide stable areas for seeds to rest.

25. When used, hydromulch shall be applied with grass seed at a rate of 2000 lbs. per acre between April 30 and June 10, or between September 1 and October 1. On slopes steeper than 10 percent, hydroseed and mulch shall be applied with a bonding agent (tackifier). Application rate and methodology to be in accordance with seed supplier recommendations.

26. When used in lieu of hydromulch, dry, loose, weed free straw used as mulch shall be applied at a rate of 4000 lbs. per acre (double the hydromulch application requirement). Anchor straw by working in by hand or with equipment (rollers, cleat trackers, etc.). Mulch shall be spread uniformly immediately following seeding.

27. When conditions are not favorable to germination and establishment of the grass seed, the seeded and mulched areas shall be irrigated as required to establish the grass cover.

28. Seeding. Recommended erosion control grass seed mix is as follows. Dwarf grass mix (low height, low maintenance) consisting of dwarf perennial ryegrass (80 % by weight), creeping red fescue (20 % by weight). Application rate shall be 100 lbs. per acre minimum.

29. Grass seed shall be fertilized at a rate of 10 lbs. per 1000 S.F with 16– 16–16 slow release type fertilizer. Development areas within 50 feet of water bodies and wetlands must use a non–phosphorous fertilizer.

30. Prior to starting construction the 1200–C Permit Registrant shall acquire the services of a DEQ Certified Erosion and Sediment Control Inspector and shall submit an "Action Plan" to DEQ identifying their names, contact information, training and experience as required in Schedule A.6.b.i–ii of the 1200–C Permit

31. The 1200–C Permit Registrant shall submit "Notice of Termination" to DEQ to end the 1200–C permit coverage once all soil disturbance activities have been completed and final stabilization of exposed soils has occurred.

32. If there is any conflict, discrepancy, or inconsistency between the DEQ Erosion Control Standard Notes, the Supplemental Westech Notes, or the City of Salem EPSC Plan Standard Notes, the DEQ Notes will control.

CITY OF SALEM PUBLIC WORKS DESIGN STANDARDS:

Division 007 Appendix A–EPSC Plan Standard Notes

(a) PRE–CONSTRUCTION

(1). Prior to any land disturbing activities, the boundaries of the clearing and grading limits, vegetated buffers, and any sensitive areas shown on this plan shall be clearly delineated in the field. Unless otherwise approved, no disturbance is permitted beyond the clearing limits. The Contractor must maintain the delineation for the duration of the project. Note: vegetated corridors to be delineated with orange construction fence or approved equal.

(2). BMPs that must be installed prior to land disturbing activities are construction entrance, perimeter sediment control, and inlet protection.

(3). Hold a preconstruction conference to review the EPSCP and with the City's Project Manager and Inspector.

(b) CONSTRUCTION

(1). All sediment is required to stay on site. Sediment amounts greater than 1/2–cubic foot which leave the site must be cleaned up within 24 hours and placed back on the site and stabilized or properly disposed. Vacuuming or dry sweeping must be used to clean up released sediment and it must not be swept or washed into storm sewers, drainage ways, or water bodies. The cause of the sediment release must be found and prevented from causing a recurrence of the discharge within thesame 24 hours. Any in–stream clean up of sediment shall be performed according to the DSL required time frame.

(2). Construction, maintenance, replacement, and upgrading of erosion prevention and sediment control facilities is the sole responsibility of the Contractor until all construction is completed, approved, and permanent erosion control (i.e., vegetation/landscaping) is established on all disturbed areas.

(3). All recommended erosion prevention and sediment control procedures are dependent on construction methods, staging, site conditions, weather, and scheduling. During the construction period, erosion control facilities shall be revised, upgraded, replaced, or added, to comply with SRC and State and Federal regulatory requirements.

(4). The Contractor is solely responsible for protection of all adjacent property and downstream facilities from erosion and siltation during project construction. Any damage resulting from such erosion and siltation shall be corrected at the sole expense of the Contractor.

(5). When saturated soil is present, water–tight trucks must be used to transport saturated soils from the construction site. Soil may be drained on site at a designated location, using appropriate BMPs. Soil must be drained sufficiently to drip less than one gallon per hour prior to leaving the site.

(6). All materials spilled, dropped, or washed into storm drains must be removed immediately, and the Contractor shall provide protection of downstream inlets and catch basins to ensure sediment–laden water does not enter the storm drain system.

(7). All discharge of sediment–laden water must be treated with an appropriate BMP to remove sediment from discharge waters and to comply with SRC and State and Federal Regulatory Permits.

(8). In areas subject to wind erosion, appropriate BMPs must be used which may include the application of fine water spraying, plastic sheeting, mulching, or other approved measures.

(9). The EPSC measures and BMPs shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these measures shall be upgraded as needed to maintain compliance with all regulations.

(10). The contractor shall provide onsite water or other appropriate BMPs to prevent dust and wind erosion of fine grain soils.

(11). Disturbed areas must be stabilized after 14 days of inactivity, or immediately if rain is forecasted. See Subsection 7A.1(d)–Wet Weather Period.

(12). During the wet weather work period or when rain is forecasted, all active and inactive soil stock piles must be covered with appropriate plastic sheeting. Plastic sheeting must cover the entire stock pile and be sufficiently anchored.

(c) POLLUTANTS, SOLID WASTE AND HAZARDOUS MATERIALS MANAGEMENT

(1). Any use of toxic or other hazardous materials must include proper storage, application, and disposal.

(2). The contractor is solely responsible to properly manage pollutants, hazardous wastes, used oils, contaminated soils, concrete waste, sanitary waste, liquid waste, or other toxic substances discovered or generated during construction to prevent leakage, spills or release of pollutants to the environment and surface waters.

(3). Contractor shall develop a project specific written spill prevention and response procedures that includes employee training on spill prevention and proper disposal procedures; regular maintenance schedule for vehicles andmachinery; and material delivery and storage controls, signage, material use, and use of covered storage areas for waste and supplies. The plan shall comply with SRC and Federal and State requirements, and shall be available on site at all times.

(d) WET WEATHER PERIOD (OCTOBER 15 THROUGH APRIL 30)

(1). Construction activities must avoid or minimize the duration of disturbed areas.

(2). Temporary stabilization of the site including covering of bare soils with approved BMPs, must be installed at the end of the shift before a holiday or weekend, or at the end of each workday if rainfall is forecast in the next 24 hours.

(3). Temporary stabilization or covering of soil stockpiles and protection of stockpiles located away from construction activity must occur at the end of each workday.

(e) MAINTENANCE

(1). Erosion control measures shall be maintained in such a manner as to ensure that erosion is prevented and sediment–laden water does not enter a drainage system, roadway, or violate applicable water quality standards.

(2). Sediment shall not be washed or swept into storm sewers, drainage ways, or water bodies.

(3). Sediment must be removed from behind all sediment control measures when it has reached a height of 1/3 the barrier height, and prior to the control measures removal.

(4). Removal of trapped sediment in a sediment basin or sediment trap or catch basins must occur when the sediment retention capacity has been reduced by 50 percent; is not functioning properly and/or at the completion of project.

(5). Cleaning of all structures, inlet protection BMPs, and sump pumps must be completed regularly and as required to ensure structures and inlets function properly and flow freely.

(6). Construction site exits shall be maintained in a condition that will prevent tracking or flow of mud onto the ROW or approved access point. The entrance may require periodic top dressing as conditions demand, and repair and/or cleanout of any structures used to trap sediment. Wheel washing shall be required to prevent sediment and material tracking on road surfaces if passive BMPs are not effective.

(f) INSPECTION

(1). The EPSCP must be kept onsite at all times. All measures shown on the plan must be installed properly to ensure compliance with SRC and State and Regulatory permits, and that sediment does not enter a surface water system, roadway, or other properties.

(2). Written EPSC inspection logs shall be maintained onsite and available to City inspectors upon request.

(3). All BMPs shall be inspected at least every week. When a rainfall event exceeds 1/2–inch in a 24–hour period, daily inspection of the erosion controls, sediment controls, and discharge outfalls must be conducted and documented. Inspections shall be done by a representative of the permit registrant who is knowledgeable and experienced in the principles, practices, installation, and maintenance of erosion and sediment controls.

(g) INACTIVE CONSTRUCTION PERIODS AND POST–CONSTRUCTION

(1). Should work cease in any area for 14 days, the inactive area must be stabilized with appropriate soil stabilization BMPs. If all construction activity ceases the entire site must be temporarily stabilized using vegetation, heavy mulch layer, temporary seeding, or other method.

(2). All temporary erosion prevention and sediment control facilities shall be removed by the contractor within 30 days after permanent landscaping/vegetation is established and the threat of erosion and sediment transport has been mitigated.

(3). Temporary grass cover measures must be fully established by October 15 or other cover measures (i.e., erosion control blankets with anchors, one–inch of straw mulch, six mil HDPE plastic sheet, etc.) shall be in place over all disturbed soil areas until April 30. To establish an adequate grass stand for controlling erosion by October 15, it is recommended that seeding and mulching occur by September 1.

(4). Permanent erosion control vegetation on all embankments and disturbed areas shall be re–established as soon as construction is completed.

(h) SPECIFICATIONS

(1). Soil preparation. Topsoil should be prepared according to the landscape plans, if available, or recommendations of the grass seed supplier. Slopes shall be textured before seeding by rack walking (i.e., driving a crawling tractor up and down the slopes to leave a pattern of cleat imprints parallel to slope contours) or other method to provide stable areas for seeds to rest.

(2). Seeding. Erosion control grass seed mix shall be as follows: Dwarf grass mix (low height, low maintenance) consisting of dwarf perennial ryegrass (80 percent by weight), creeping red fescue (20 percent by weight). Application rate shall be 100 pounds per acre minimum.

(3). Grass seed shall be fertilized at a rate of ten pounds per 1,000 square feet with 16–16–16 slow release type fertilizer. Disturbed areas within 50 feet of water bodies and wetlands must use a non–phosphorous fertilizer.

(4). The application rate of fertilizers used to reestablish vegetation shall follow manufacturer's recommendations. Nutrient releases from fertilizers to surface waters shall be minimized. Time release fertilizers shall be used. Care shall be made in the application of fertilizers within any waterway riparian zone to prevent leaching into the waterway.

(5). When used, hydromulch shall be applied with grass seed at a rate of 2,000 pounds per acre between April 30 and June 10, or between September 1 and October 1. On slopes steeper than ten percent, hydroseed and mulch shall be applied with a bonding agent (tackifier). Application rate and methodology shall be in accordance with seed supplier recommendations.

(6). When used in lieu of hydromulch, dry, loose, weed–free straw used as mulch shall be applied at a rate of 4,000 pounds per acre (double the hydromulch application requirement). Anchor straw by working in by hand or with equipment (rollers, cleat trackers, etc.). Mulch shall be spread uniformly immediately following seeding.

(7). When conditions are not favorable to germination and establishment of the grass seed, the Contractor shall irrigate the seeded and mulched areas as required to establish the grass cover.

(8). Sediment fences shall be constructed of continuous filter fabric to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum six–inch overlap, and both ends securely fastened to a post.

(9). The standard strength filter fabric shall be fastened securely to stitched loops installed on the upslope side of the posts, and six inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

(10). Bio–filter bags shall be clean 100 percent wood product waste. Bags shall be 18–inch x 18–inch x 30–inch, weigh approximately 45 pounds, and be contained in a bag made of 1/2–inch plastic mesh.

(11). Minimum wet weather slope protection. For 3H:1V or steeper slopes use Bon Terra Type C2 or North American Green Type C125 erosion control blankets. Use a minimum of two inches straw mulch or North American Green Type S150 for slopes flatter than 3H:1V and greater than 6H:1V. Slopes flatter than 6H:1V use one inch straw mulch, hydroseed with hydromulch and tackifier. Slope protection shall be placed on all disturbed areas immediately after completion of each section of construction activity, until the erosion control seeding has been established. As an option during temporary or seasonal work stoppages, a six–mil HDPE plastic sheet may be placed on exposed slopes. The plastic sheet shall be provided with an anchor trench at the top and bottom of the slope, and shall be sandbagged on the slopes as required to prevent damage or displacement by wind.

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IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 15, 1983
STEVEN A. WEBER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
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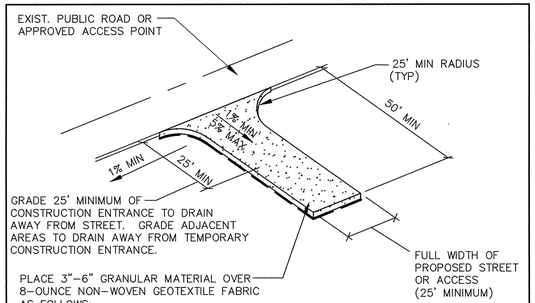
WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
EROSION CONTROL NOTES & DETAILS

DRAWING
C2.1

JOB NUMBER
3155.3000.0



DRY WEATHER ACCESS
14–INCH MIN. DEPTH OVER COMPACTED SUBGRADE & FABRIC

WET WEATHER ACCESS
24–INCH MIN. DEPTH OVER UNDISTURBED SUBGRADE & FABRIC

CONSTRUCTION NOTES:

1. THE AREA OF THE CONSTRUCTION ENTRANCE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROOTS, AND OTHER NON–COMPACTABLE MATERIAL.
2. SUBGRADE SHALL BE COMPACTED AND PROOFROLLED PRIOR TO PLACEMENT OF GRANULAR MATERIAL. FAILURE TO PASS PROOFROLL WILL REQUIRE USE OF WET WEATHER SECTION.
3. FAILURE OR PUMPING OF THE DRY WEATHER SECTION WILL REQUIRE REMOVAL OF THE GRANULAR MATERIAL AND INSTALLATION OF THE WET WEATHER SECTION.

MAINTENANCE NOTES:

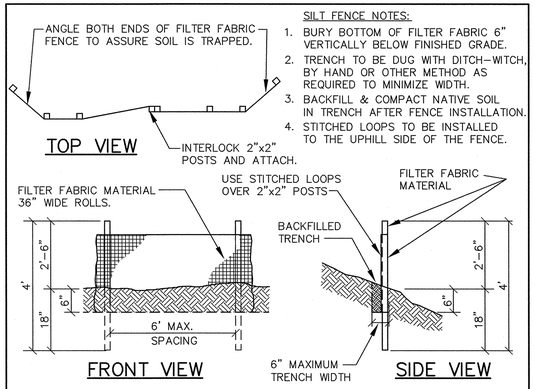
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 3"–6" INCH STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN–OUT OF STRUCTURES USED TO TRAP SEDIMENT.
2. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
3. ALL TRUCKS TRANSPORTING SATURATED SOILS SHALL BE WELL SEALED. WATER DRIPPAGE FROM TRUCKS MUST BE REDUCED TO 1 GALLON PER HOUR PRIOR TO LEAVING THE SITE.

LAST REVISION DATE:	JO #
MAY 2013	STANDARD

TEMPORARY CONSTRUCTION ENTRANCE

(NTS)

WESTECH ENG.	DETAIL NO. 6100



SILT FENCE NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. TRENCH TO BE DUG WITH DITCH–WITCH, BY HAND OR OTHER METHOD AS REQUIRED TO MINIMIZE WIDTH.
3. BACKFILL & COMPACT NATIVE SOIL IN TRENCH AFTER FENCE INSTALLATION.
4. STITCHED LOOPS TO BE INSTALLED TO THE UPHILL SIDE OF THE FENCE.

MAINTENANCE NOTES:

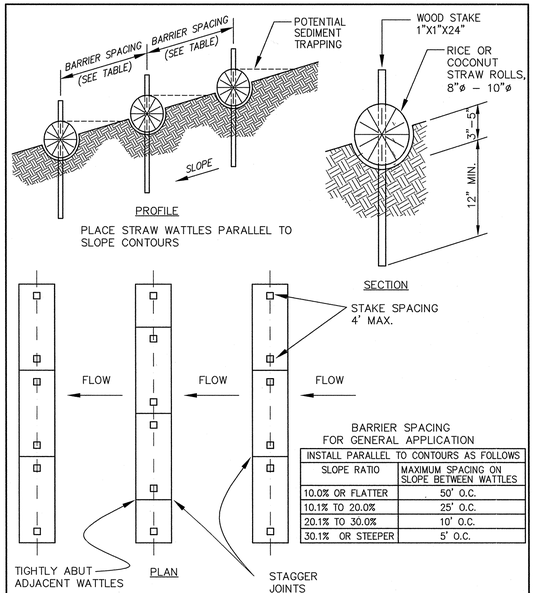
1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND SEDIMENT FENCES OR BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

LAST REVISION DATE:	JO #
APRIL 2014	STANDARD

SEDIMENT BARRIERS

(NTS)

WESTECH ENG.	DETAIL NO. 6110



BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL TO CONTOURS AS FOLLOWS	
SLOPE RATIO	MAXIMUM SPACING ON SLOPE BETWEEN WATTLES
10.0% OR FLATTER	50' O.C.
10.1% TO 20.0%	25' O.C.
20.1% TO 30.0%	10' O.C.
30.1% OR STEEPER	5' O.C.

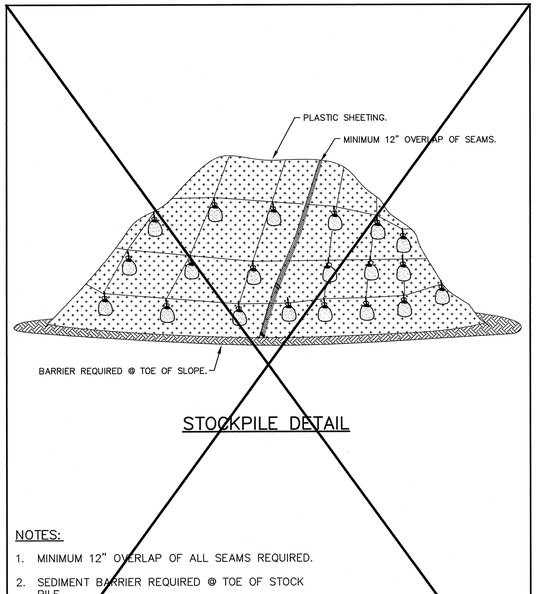
NOTES:
1. ALL MATERIAL SHALL CONFORM TO OSHD STANDARD SPECIFICATIONS, 1996 EDITION.
2. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
3. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE ABOVE THE TOP OF THE STRAW WATTLE.
4. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

LAST REVISION DATE:	JO #
DEC. 2000	STANDARD

STRAW WATTLE SEDIMENT BARRIER

(NTS)

WESTECH ENG.	DETAIL NO. 6120



STOCKPILE DETAIL

NOTES:

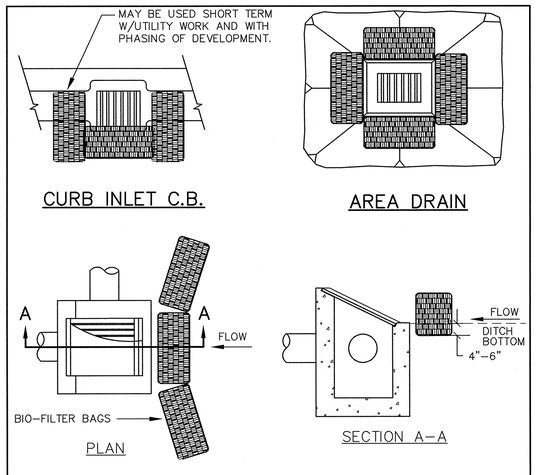
1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. SEDIMENT BARRIER REQUIRED @ TOE OF STOCK PILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.
4. PLASTIC SHEETING TO EXTEND A MINIMUM OF 12" PAST THE BOTTOM OF THE PILE ONTO SURROUNDING GRADE ON ALL SIDES.

LAST REVISION DATE:	JO #
JAN 2019	STANDARD

STOCKPILE DETAIL

(NTS)

WESTECH ENG.	DETAIL NO. 6170



DITCH INLET C.B.

MAINTENANCE NOTES:

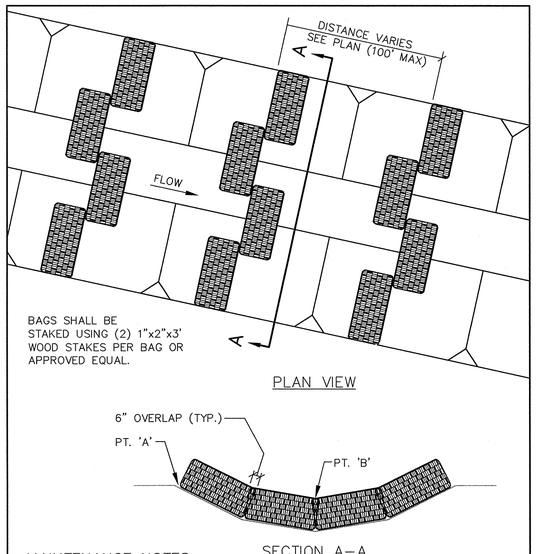
1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND SEDIMENT FENCES OR BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

LAST REVISION DATE:	JO #
APRIL 2014	STANDARD

INLET SEDIMENT CONTROL

(NTS)

WESTECH ENG.	DETAIL NO. 6130



MAINTENANCE NOTES:

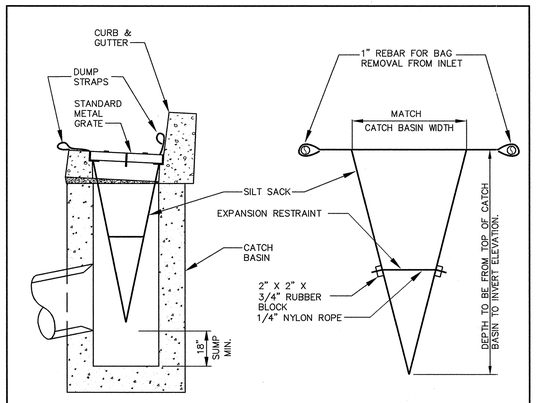
1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.
4. PT. 'A' SHALL BE 6" MIN. HIGHER THAN PT. 'B'.

LAST REVISION DATE:	JO #
APRIL 2014	STANDARD

DITCH AND SWALE EROSION PROTECTION

(NTS)

WESTECH ENG.	DETAIL NO. 6140



NOTES:

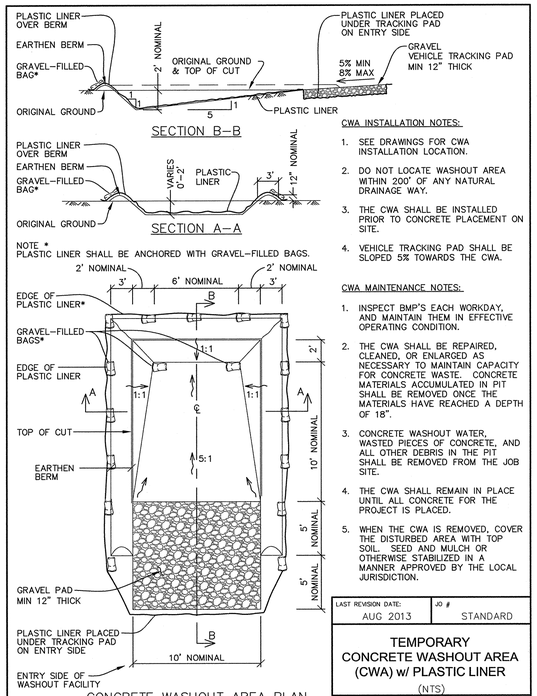
1. EMPTY SILT SACK AS NECESSARY.
2. SILTSACK SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIRONMENTAL AND SUPPLIED BY ACF WEST (503) 771–5115 OR APPROVED EQUAL.

LAST REVISION DATE:	JO #
OCT 2002	STANDARD

SILTSACK INLET DETAIL

(NTS)

WESTECH ENG.	DETAIL NO. 6150



CWA INSTALLATION NOTES:

1. SEE DRAWINGS FOR CWA INSTALLATION LOCATION.
2. DO NOT LOCATE WASHOUT AREA WITHIN 200' OF ANY NATURAL DRAINAGE WAY.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. VEHICLE TRACKING PAD SHALL BE SLOPED 5% TOWARDS THE CWA.

CWA MAINTENANCE NOTES:

1. INSPECT BMP'S EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 18".
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE PIT SHALL BE REMOVED FROM THE JOB SITE.
4. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

LAST REVISION DATE:	JO #
AUG 2013	STANDARD

TEMPORARY CONCRETE WASHOUT AREA (CWA) w/ PLASTIC LINER

(NTS)

WESTECH ENG.	DETAIL NO. WE6161

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		REVISIONS	

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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEBER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I EROSION CONTROL NOTES & DETAILS

DRAWING
C2.2

JOB NUMBER
3155.3000.0

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EROSION CONTROL LEGEND

- SILT FENCE SEE DTL
- SILT SACK INLET PROTECTION USE BIO BAGS ON CURB INLET CATCH BASINS. USE SILT SACKS ON STANDARD CATCH BASINS.
- BIO BAGS/CHECK DAM

DEMOLITION LEGEND

- (P) CONTRACTOR TO SAVE & PROTECT AT ALL TIMES.
- (R) CONTRACTOR TO REMOVE & DISPOSE OFF SITE.
- (R1) COORDINATE W/ UTILITY COMPANY TO REMOVE/RELOCATE
- (R2) RELOCATE BEHIND CURB/SIDEWALK
- (S) SAWCUT
- (A) ADJUST

0 20 40 80 (feet)

PORTABLE TOILET

CONSTRUCTION ENTRANCE

PCC WASHOUT

WETLAND

TREE (R)

HAWTHORNE AVE SE

KETTLE CT SE

S76°42'46"E 410.00'

N73°28'17"E 326.96'

N00°00'17"E 253.63'

N47°22'19"W 355.65'

N29°59'53"W 471.19'

N13°17'14"E 831.74'

L=94.92'
R=1950.00'
Δ=002°47'20"
CH=S14°14'54"W
94.92'

WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I EXISTING CONDITIONS, EROSION CONTROL, & DEMOLITION PLAN

DRAWING C2.3

JOB NUMBER 3155.3000.0

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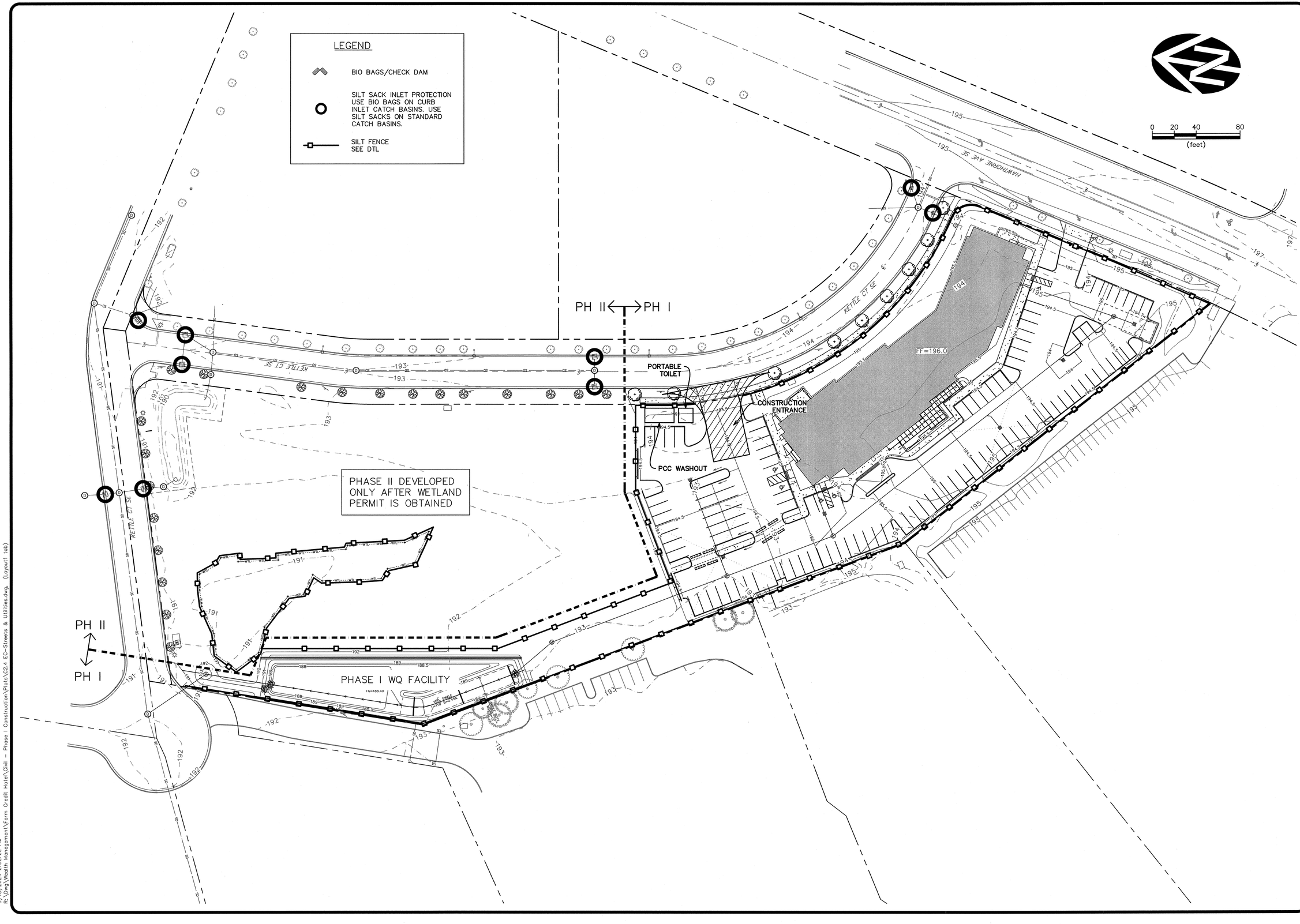
DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

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1			

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1987
STEVEN A. WH...
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
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JULY 16, 1982
STEVEN A. WINGARD
11,947
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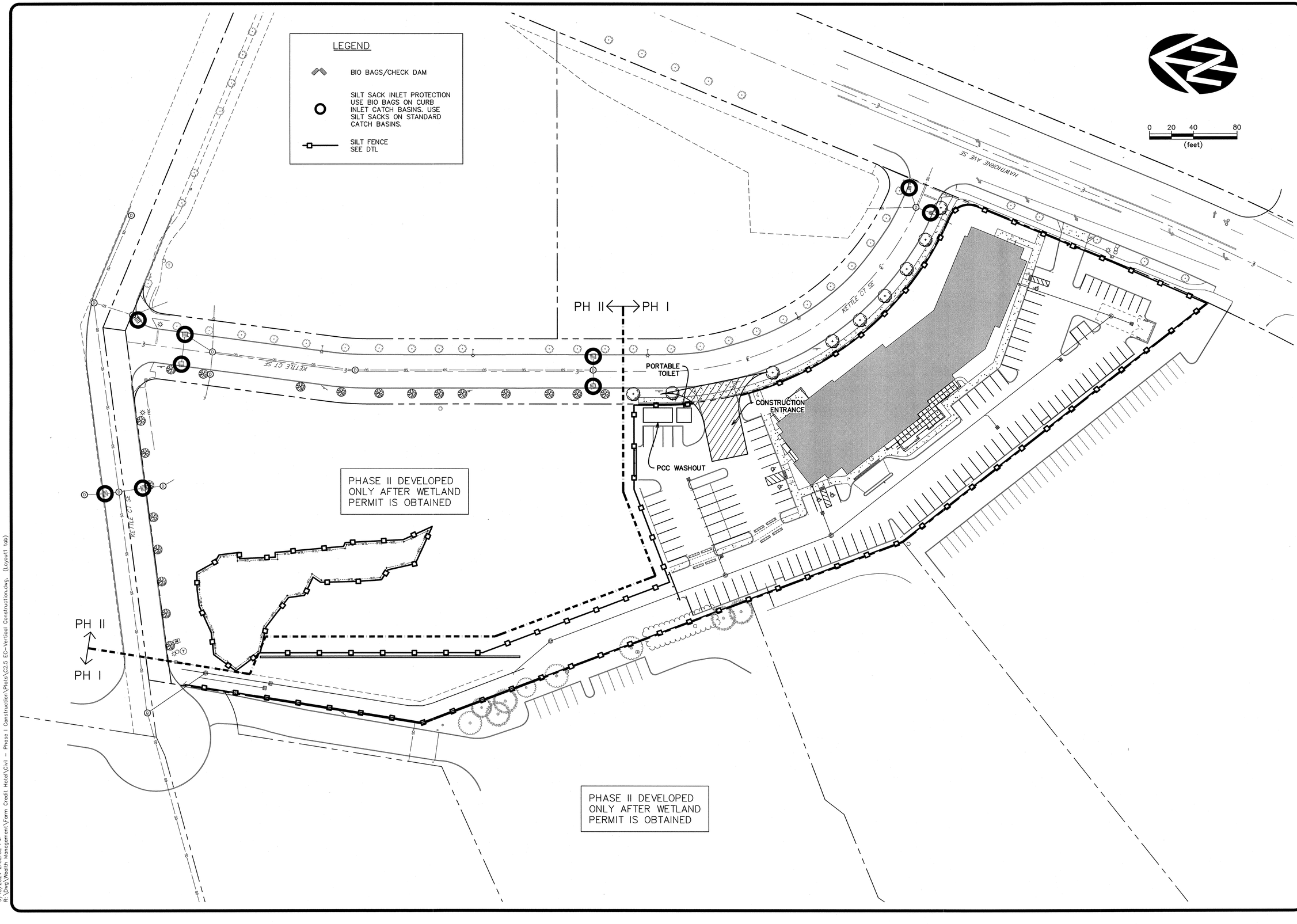
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I EROSION CONTROL PLAN– STREETS & UTILITIES

DRAWING
C2.4

JOB NUMBER
3155.3000.0

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1993
STEVEN A. WAY
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

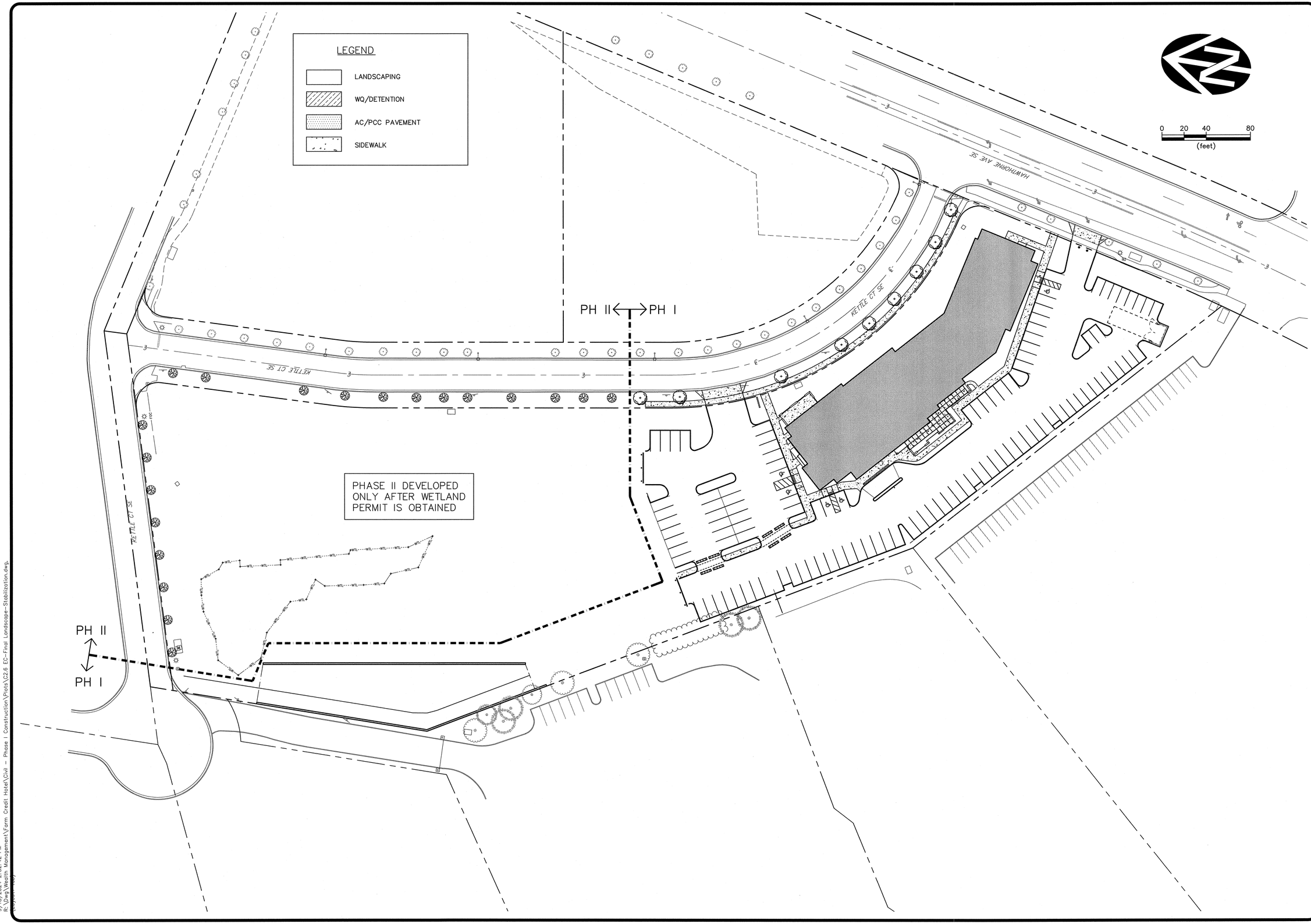
WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
EROSION CONTROL PLAN– VERTICAL CONSTRUCTION

DRAWING
C2.5

JOB NUMBER
3155.3000.0



NO.	DATE	DESCRIPTION	BY
		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1994
STEVEN A. WAY
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
EROSION CONTROL PLAN– FINAL LANDSCAPE & STABILIZATION

DRAWING
C2.6

JOB NUMBER
3155.3000.0

9/18/2024 2:32:42 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – Phase I Construction\Plots\C2.6 EC-Final Landscape-Stabilization.dwg,
ASHLEY

FEMA MAPPING ERROR:
EXTG TOPOGRAPHY ABOVE FEMA
100 YR FLOOD ELEVATION

NOTE: FLOODPLAIN DEVELOPMENT
PERMITS STILL APPLY FOR FEMA
MAPPED FLOODPLAIN AREAS

FEMA ZONE BOUNDARY

FEMA FLOOD ELEVATION CONTOUR

PROPERTY LINE

ZONE AE
100 YR FLOOD PLANE

500 YR FLOOD ZONE

192 FEET

ZONE X
(MINIMAL FLOOD HAZARD)

PARTITION PLAT 2009-38
PARCEL 1
R 3111, P. 12A, B.O.T.P.

PARTITION PLAT 2009-38
PARCEL 2
R 3111, P. 12A, B.O.T.P.

PARTITION PLAT 2016-52
PARCEL 1
R. 3885, P. 263, B.O.T.P.

TAX LOT 1500
073W36A

TAX LOT 1400
073W36A

TAX LOT 1200
073W36A

TAX LOT 2500
073W25D

LOT 151
073W36A

N00°00'00"E 253.58'

N00°00'00"W 471.11'

N47°22'39"W 355.58'

S13°17'14"W 134.94'

UTILITY EASEMENT PER R. 1275, P. 451, M.C.D.R.
L=74.92'
R=1950.00'
Δ=2°47'20"
Ch=14°40'54"W, 94.91'

99' PIPELINE EASEMENT TO CITY OF SALEM PER R. 203J, P. 405, M.C.D.R.

40' INGRESS & EGRESS EASEMENT PER R. 1560, P. 75, M.C.D.R. & R. 1560, P. 60, M.C.D.R.

CONIC GUTTER PAN

KETTLE CT SE (PRIVATE STREET)

HAWTHORNE AVE SE

WETLAND AREA

TREE LINE

CHRISTMAS TREES

BERM

SWALE

ASPH PARKING LOT

CONC GUTTER PAN

DRIVEWAY

RAISED CONC

CONC

GRAV

ASPH

R/W

0 20 40 80
FEET

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
0 1"

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1987
STEVEN A. WEBER
1184
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP

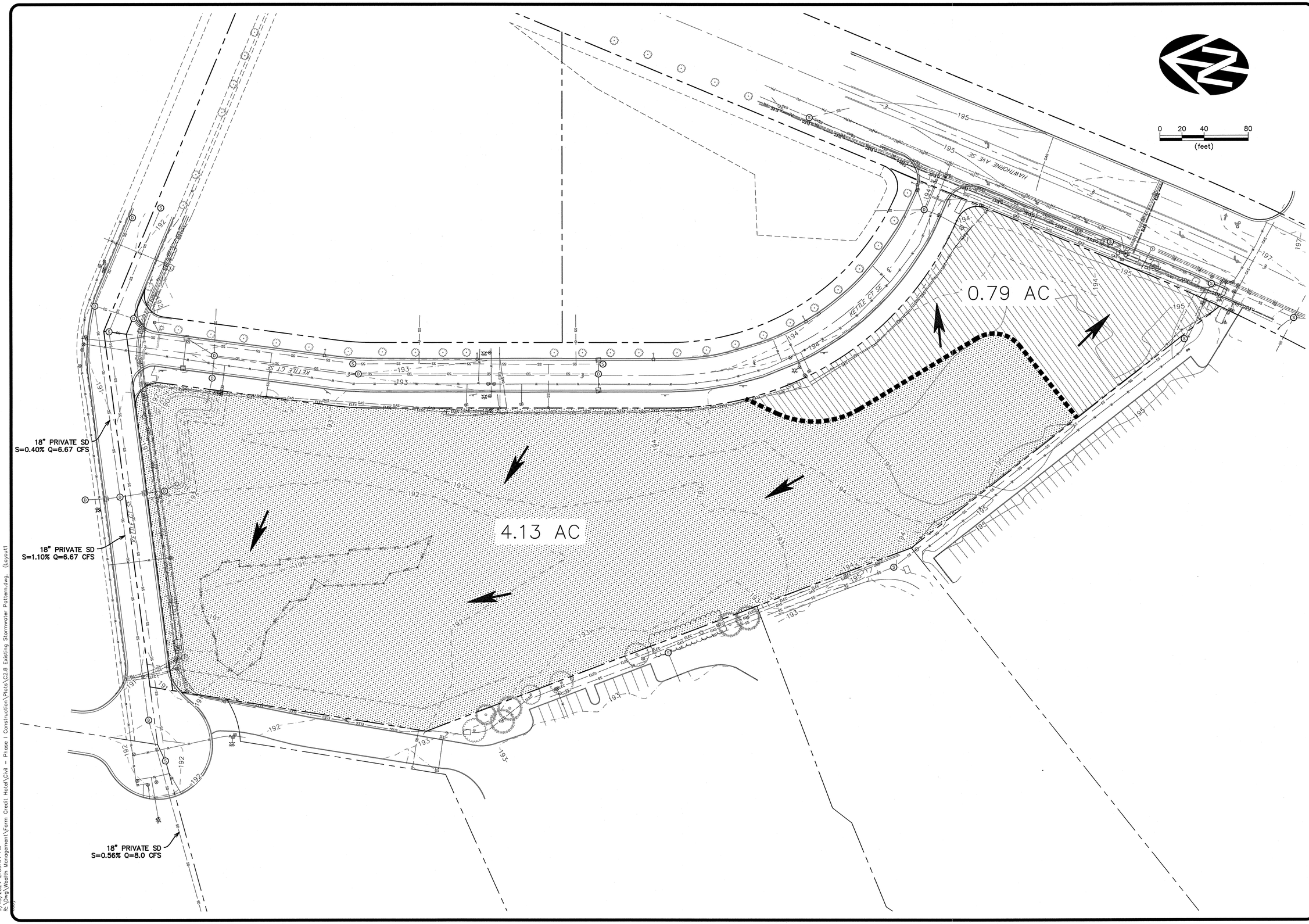
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

FLOOD PLAN
(BASED UPON FEMA MAPPING & ACTUAL TOPOGRAPHY)

DRAWING
C2.7

JOB NUMBER
3155.3000.0

9/18/2024 2:32:53 PM
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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2003
STEVEN A. WEST
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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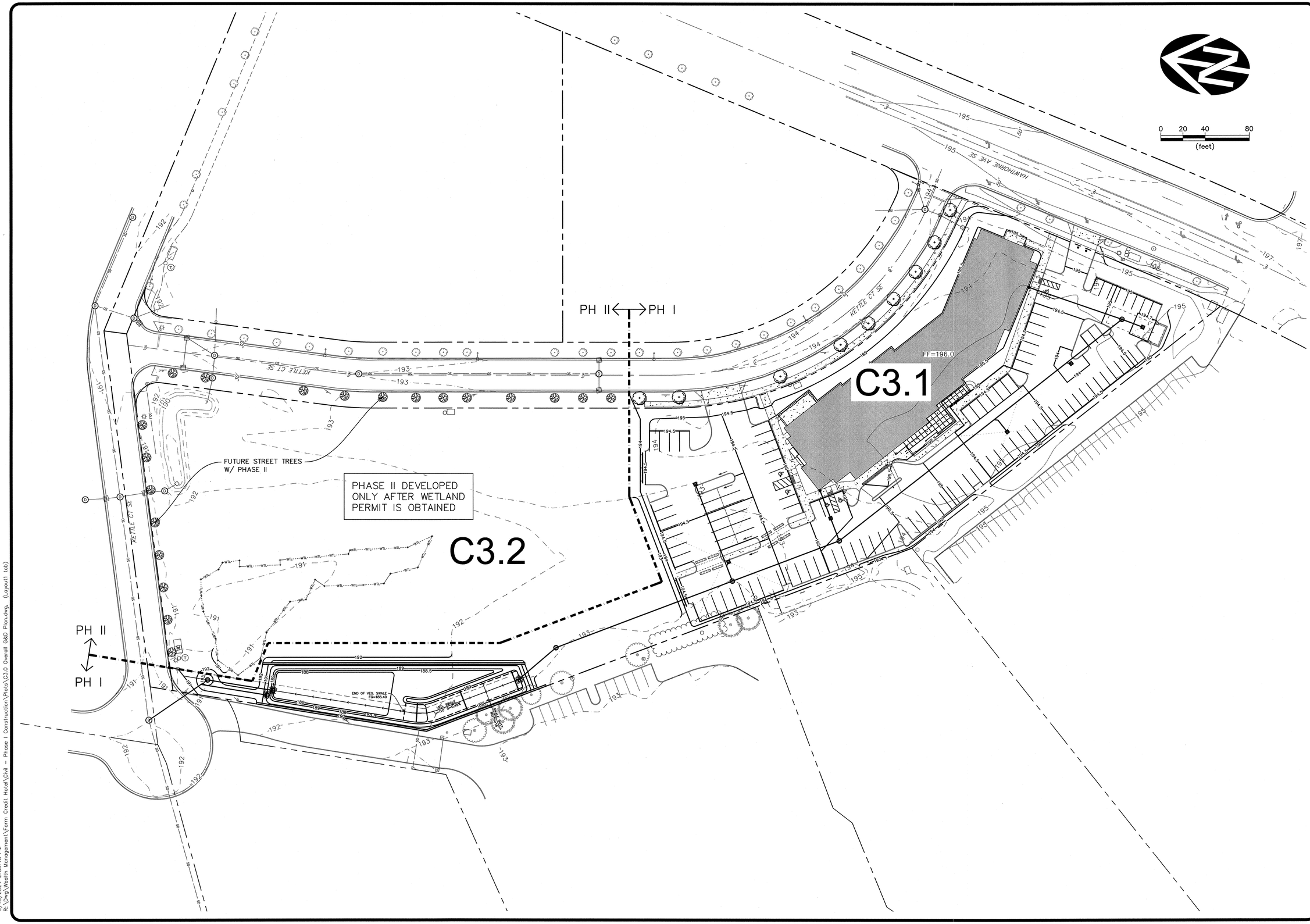
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

EXISTING STORMWATER DRAINAGE PATTERN

DRAWING
C2.8

JOB NUMBER
3155.3000.0

9/18/2024 2:33:04 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – Phase I Construction\Plots\C2.8 Existing Stormwater Pattern.dwg, (Layout1 (3))



9/18/2024 2:33:18 PM
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NO.	DATE	DESCRIPTION
1		REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
0 1"
DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1993
STEVEN A. WAGNER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

OVERALL GRADING & DRAINAGE PLAN

DRAWING
C3.0

JOB NUMBER
3155.3000.0

0 10 20 40
(feet)

MATCHLINE – SEE DWG C3.2 FOR CONTINUATION

KETTLE CT SE

EMERGENCY ACCESS ONLY

REMOVE/REPLACE CURB FOR NEW EMERGENCY ACCESS W/ 3" CURB EXPOSURE TO CITY STDS

FG=195.4

REMOVE/REPLACE CURB INSTALL NEW D/W PER CITY STDS

FG=194.5

FF=196.0

INV=192.0

8" SD L=89' S=0.55%

TC=195.5 FG=195.0

SDMH RIM=194.85 INV=191.50

CB RIM=194.5 INV=191.60

TC=195.0

TC=195.5 FG=195.0

SDCB RIM=193.80 INV=191.30

CB RIM=194.0 INV=191.50

TC=195.5 FG=195.0

12" SD L=326' S=0.40%

TC=FG=195.5

INV=192.0

1 RISER

8" SD L=27' S=5.9%

CB RIM=194.2 INV=190.40

8" SD L=22' S=1.0%

TC=195.5 FG=195.0

8" SD L=93' S=2.0%

CB RIM=193.8 INV=190.80

STANDARD BARRICADE

CB RIM=193.8 INV=192.00

STANDARD BARRICADE

12" SD L=172' S=0.40%

SDMH RIM=194.15 8" INV=189.20 12" INV=189.80

12" SD L=104' S=0.40%

SDMH RIM=195.6 INV=190.20

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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0 1"
DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2002
STEVEN A. WEHR
11943
RENEWS: 6/30/2026

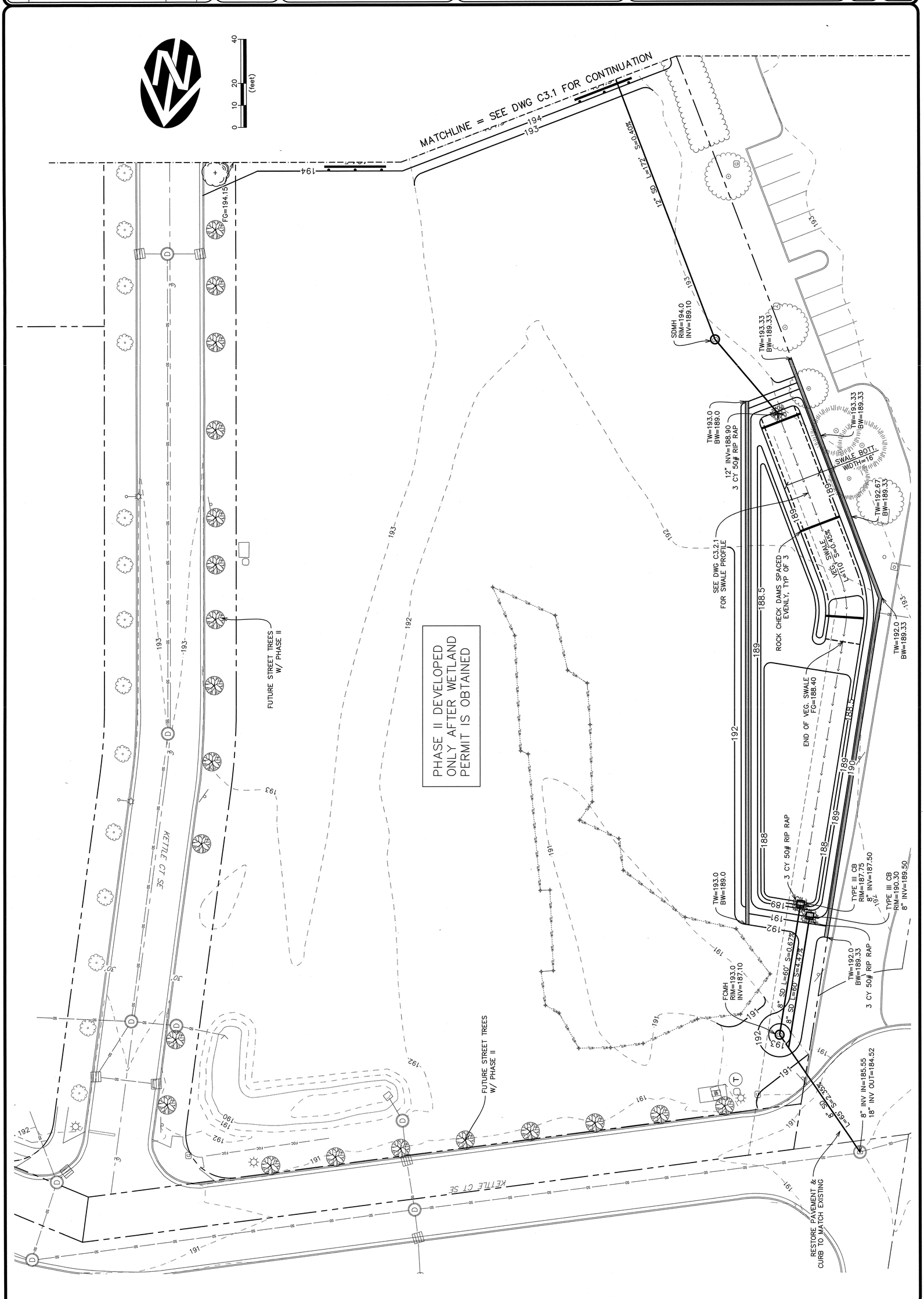
WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I GRADING & DRAINAGE PLAN (EAST)

DRAWING
C3.1

JOB NUMBER
3155.3000.0



WEALTH HOSPITALITY GROUP	
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I	
PHASE I GRADING & DRAINAGE PLAN (NORTH)	
DRAWING	C3.2
JOB NUMBER	3155.3000.0

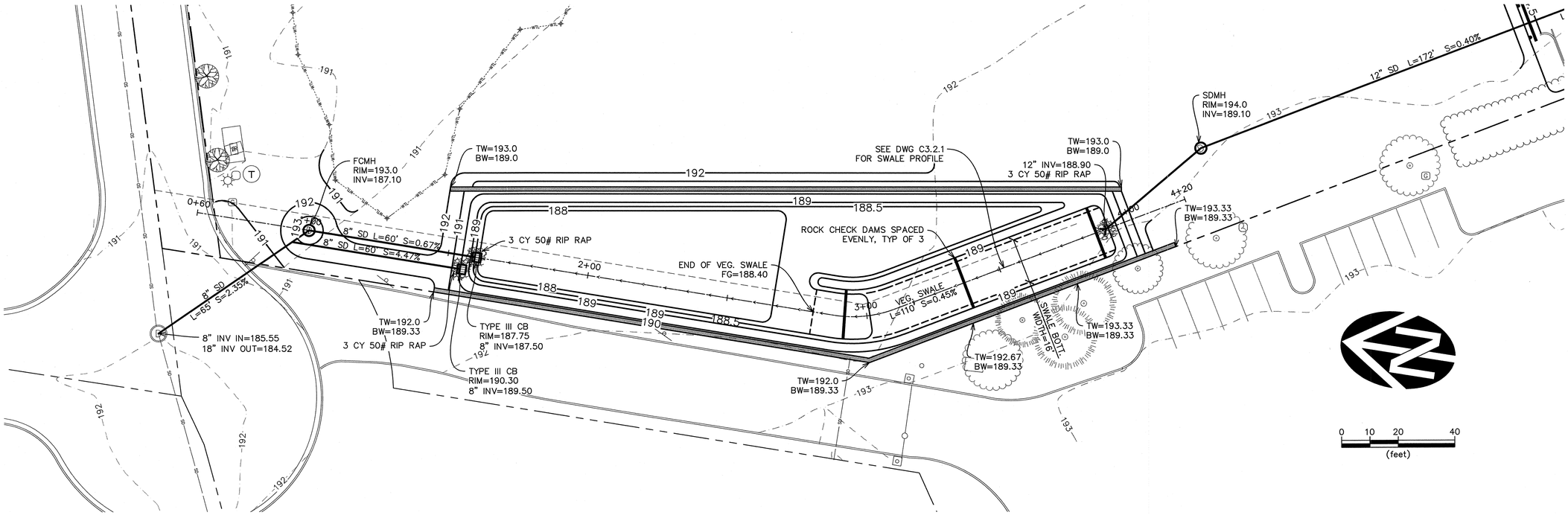
WESTECH ENGINEERING, INC.
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E-mail: westech@westech-eng.com

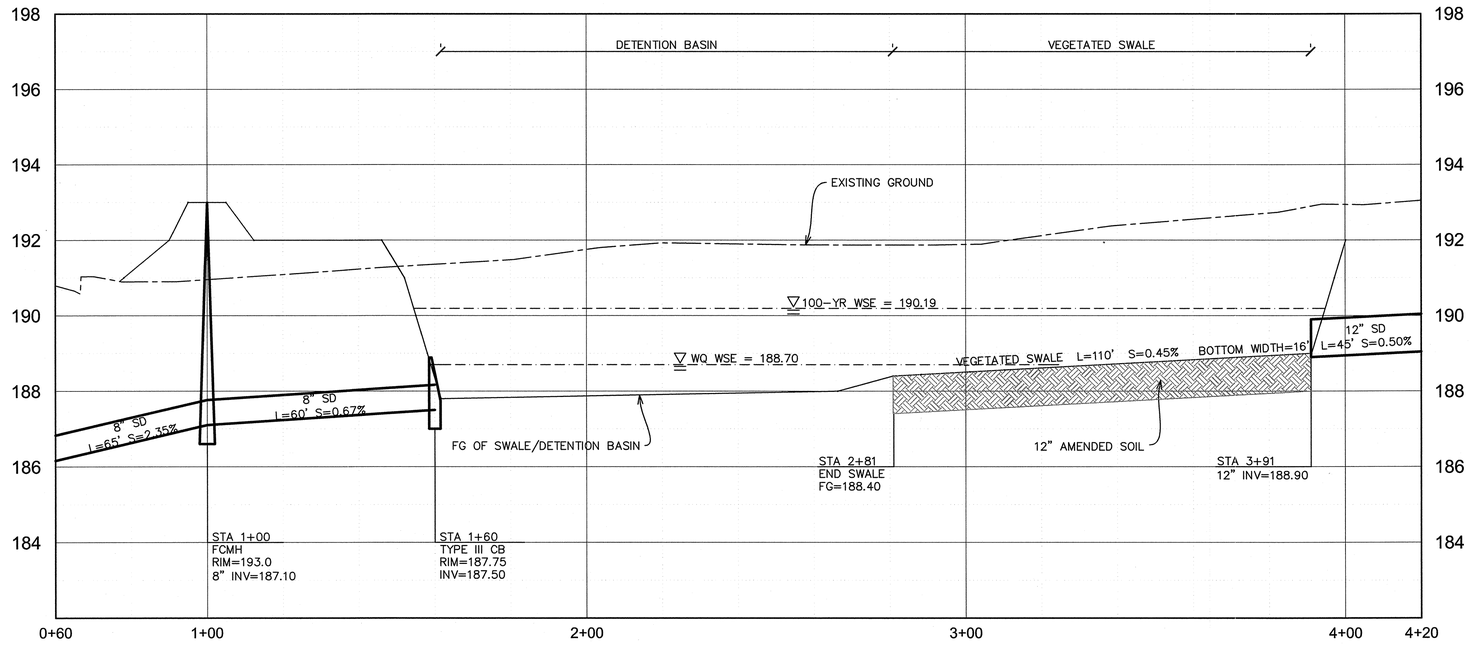
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1983
STEVEN A. WARD
RENEWS: 6/30/2026

DATE: DEC 2021	
DSN.	SAW
CK'D.	SAW
DRN.	AR

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
0 1"

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	





SWALE PROFILE

1" = 20' H, 1" = 2' V

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
11843
OREGON
JULY 16, 2004
STEVEN A. WEHRLI
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
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E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

SWALE PROFILE

DRAWING
C3.2.1

JOB NUMBER
3155.3000.0

9/18/2024 2:33:54 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil - Phase I Construction\Plots\C3.2.1 Swale Profile.dwg (C3.2.1 tab)

SPEED BUMP NOTES:

1. SPEED BUMPS SHALL BE HEAVY-DUTY COMMERCIAL SOLID RUBBER CONSTRUCTION FOR HIGH TRAFFIC AREAS OR HEAVY VEHICLES SUCH AS TRUCKS & BUSSES.
2. SPEED BUMPS SHALL BE ALTERNATING BLACK & YELLOW WITH HIGH VISIBILITY REFLECTIVE MATERIALS.
3. SPEED BUMPS SHALL BE 12" WIDE & 2.0" MIN – 2.25" MAX HIGH WITH A TOTAL LENGTH OF 10', UNLESS OTHERWISE APPROVED.
4. SPEED BUMPS SHALL BE INSTALLED WITH 12" MIN LENGTH GALVANIZED STEEL SPIKES OR APPROVED EQUAL.

0 10 20 40
(feet)

MATCHLINE – SEE DWG C3.2 FOR CONTINUATION

KETTLE CT SE

REMOVE/REPLACE CURB.
INSTALL NEW D/W
PER CITY STDS

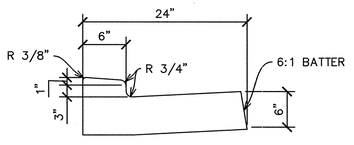
REMOVE/REPLACE CURB
FOR NEW EMERGENCY ACCESS
W/ 3" CURB EXPOSURE
TO CITY STDS. SEE DTL BELOW

STANDARD BARRICADE

STANDARD BARRICADE

SURFACING LEGEND

- LIGHT DUTY AC PAVEMENT: 3½" AC PAVEMENT (2 LIFTS) OVER 7" CR BASE
- HEAVY DUTY AC PAVEMENT: 3½" AC PAVEMENT (2 LIFTS) OVER 11" CR BASE
- HEAVY DUTY PCC: 7" 3300 PSI PCC OVER 6" CR BASE OVER COMPACTED SUBGRADE
- PCC PEDESTRIAN SIDEWALK: 4" 3300 PSI PCC OVER 2" CR BASE OVER COMPACTED SUBGRADE
- (C) TYPE 'C' CURB
- (DC) DEEP CURB
- (M) MATCH
- (E) END CURB
- (T) TRUNCATED DOMES
- (W) RETAINING WALL
- (S) SAWCUT
- (B) REMOVABLE BOLLARD
- (SB) SPEED BUMP



MODIFIED TYPE 'A' CURB
FIRE ACCESS

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
0 1"

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1993
STEVEN A. WEST
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I SURFACING PLAN (EAST)

DRAWING
C3.3

JOB NUMBER
3155.3000.0

9/18/2024 2:34:09 PM
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9/18/2024 2:34:21 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – Phase I Construction\Plots\C3.4 Phase I Fire Access.dwg, (Layout1 tab)

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEBER
11842
RENEWS: 6/30/2026

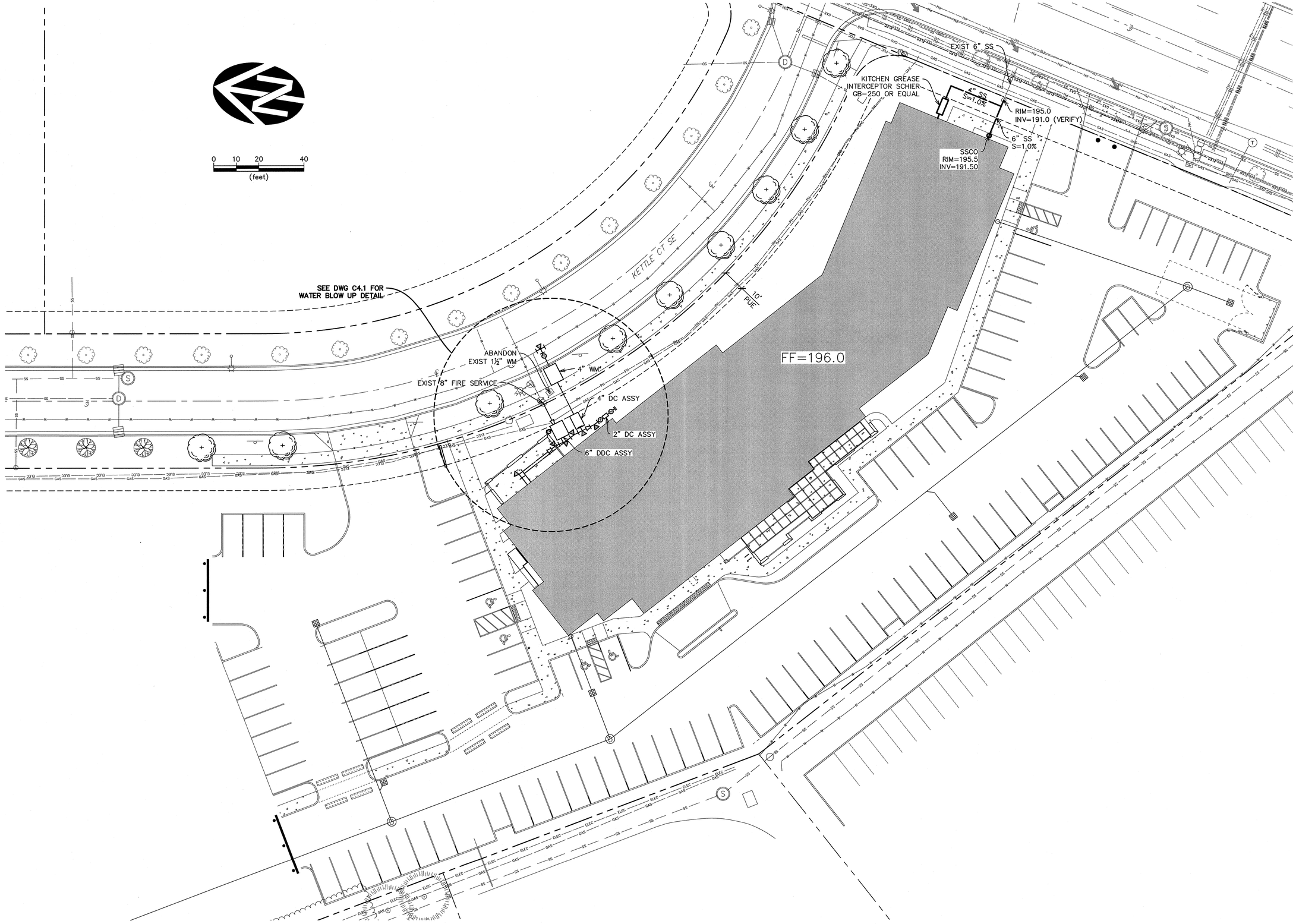
WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
FIRE ACCESS PLAN

DRAWING
C3.4

JOB NUMBER
3155.3000.0



NO.	DATE	DESCRIPTION	BY
		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2004
STEVEN A. WAY
11843
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

PHASE I
OVERALL UTILITY PLAN

DRAWING
C4.0

JOB NUMBER
3155.3000.0

9/18/2024 2:34:32 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – Phase I Construction\Plots\C4.0 Overall Phase I Utilities.dwg, (Layout1 tab)

STA 0+00
8"x4" TAPPING TEE & TB
CONTRACTOR TO PROVIDE ALL
EXCAVATION, SHORING, BACKFILL, SURFACE
RESTORATION, & TRAFFIC CONTROL

ABANDON
EXIST 1½" WM AT MAINLINE

STA 1+00
REMOVE EXIST BO &
CONNECT TO EXIST 8" GV

STA 0+08.70
4" WM

4" DI W/L

STA 0+32.62
4" DC ASSY

2" GV & PLUG
SEE LANDSCAPE DWGS
FOR CONTINUATION

2" DC ASSY

STA 1+10.69
6" DDC ASSY
W/ FDC

8" DI W/L

6"x8"
REDUCER

EXIST VAULT

FDC

STA 0+42.83
4" GV
& 4"x2" RED

STA 0+40.83
4"x4" TEE & TB

6"x8"
REDUCER

STA 1+44
90° BEND & TB

8" FIRE
4" W/L

STA 1+19.69
90° BEND & TB

10'
PUE

10' PUE

10' PUE PER
FARM CREDIT ACRES

0 5 10
(feet)

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT, ADJUST ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

D.SN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2003
STEVEN A. WAY
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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Phone: (503) 585-2474 Fax: (503) 585-3986
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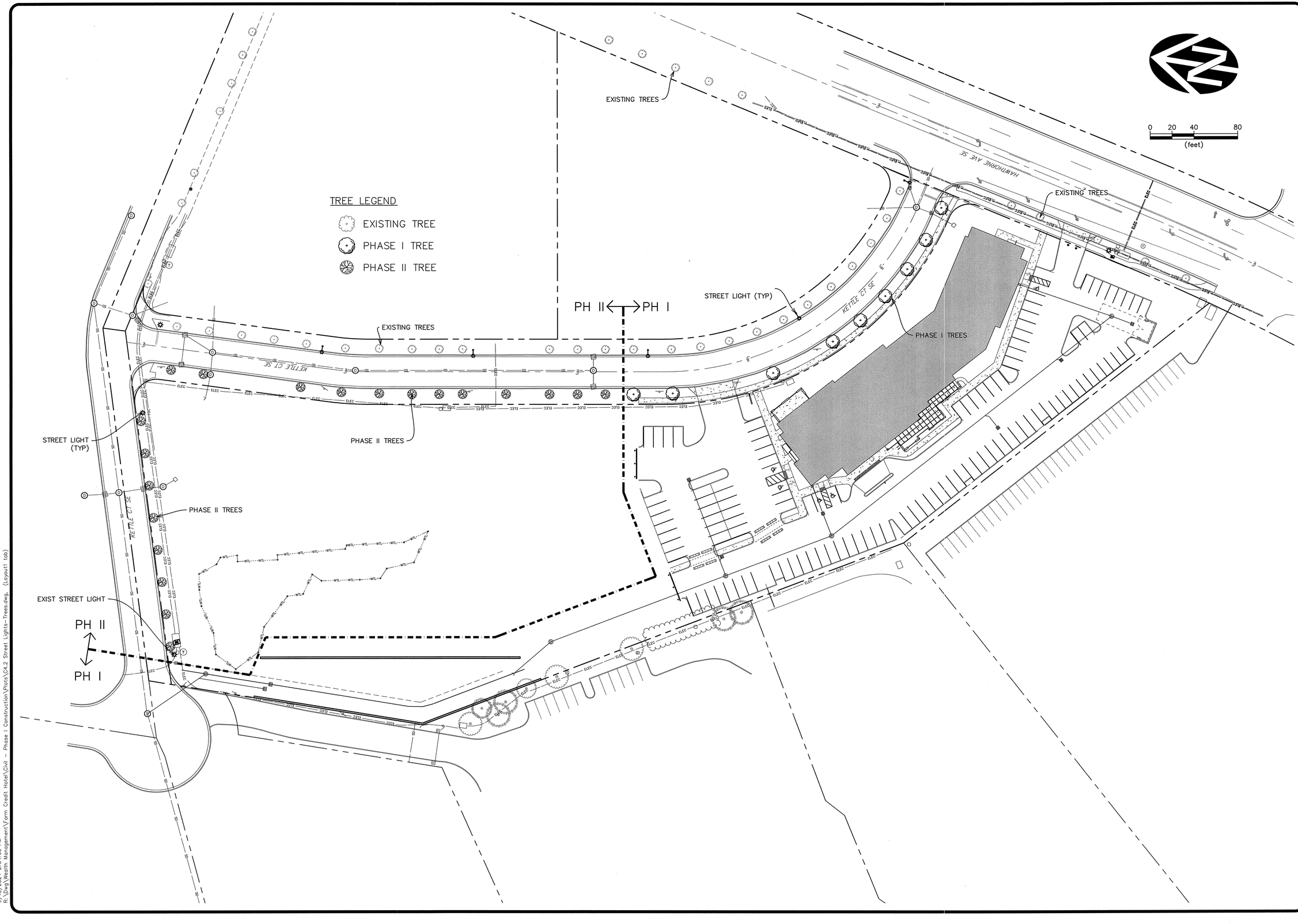
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

WATER BLOW UP DETAIL

DRAWING
C4.1

JOB NUMBER
3155.3000.0

9/18/2024 2:34:44 PM
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NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2004
STEVEN A. WEST
11943
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

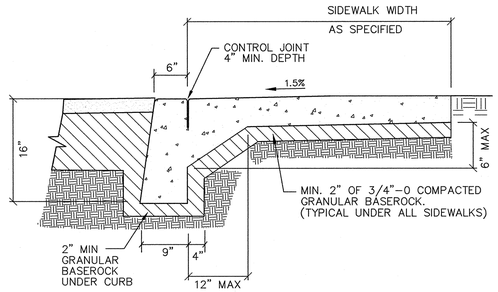
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

OVERALL STREET LIGHTING & TREE PLAN

DRAWING
C4.2

JOB NUMBER
3155.3000.0

9/18/2024 2:34:56 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – Phase I Construction\Plots\C4.2 Street Lights-Trees.dwg, (Layout1 tab)



TYPICAL SECTION

NTS

NOTES:

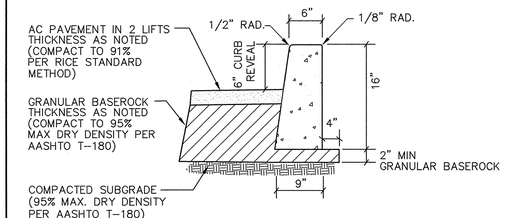
1. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
2. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
3. INSTALL TOOLED CONTRACTION JOINTS AT 5' INTERVALS. SIDEWALKS 10' & WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT 5' ON CENTER.

LAST REVISION DATE:	JO #
NOV 2013	STANDARD

MONOLITHIC CURB AND SIDEWALK

(NTS)

WESTECH ENG.	DETAIL NO. 2112



PAVEMENT/TYPE "C" CURB DETAIL

NTS

NOTES:

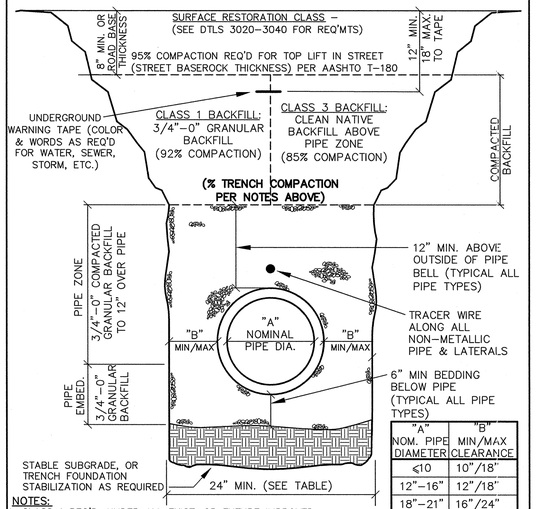
1. SEE GRADING PLAN FOR LOCATION OF LIGHT AND HEAVY DUTY PAVEMENT.
2. DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. IF SUBGRADE PASSES PROOF-ROLL BUT FAILS DENSITY TESTING, MIN. 4.5 OZ NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED ON SUBGRADE PRIOR TO PLACEMENT OF BASEROCK. FAILURE OF PROOF-ROLL WILL REQUIRE OVEREXCAVATION.
3. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER MIN. 8.0-OZ. NON-WOVEN FABRIC AS REQUIRED TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER TIRED EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
4. SUBGRADE TO BE PROOFROLLED IMMEDIATELY PRIOR TO PLACING BASEROCK. BASEROCK TO BE PROOFROLLED IMMEDIATELY PRIOR TO PAVING.
5. CONTRACTION JOINTS SHALL BE PLACED AT 15' MIN. INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB SECTION.
6. ALL CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
7. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING. USE TYPE 1 OR 1-D CLEAR CURING COMPOUND.

LAST REVISION DATE:	JO #
DEC 1999	X

PAVEMENT AND TYPE 'C' CURB DETAIL

(NTS)

WESTECH ENG.	DETAIL NO. 2390



"A" NOM. PIPE DIAMETER	"B" MIN/MAX CLEARANCE
≤10	10"/18"
12"-16"	12"/18"
18"-21"	16"/24"
24"-30"	18"/30"
>30"	24"/36"

(SEE NOTE 4)

NOTES:

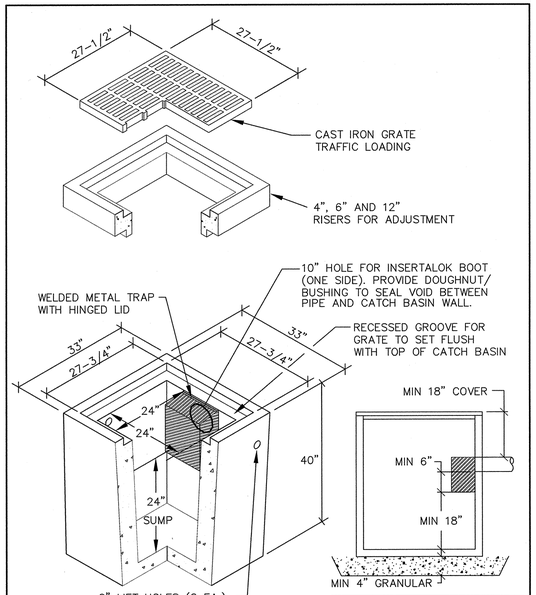
1. CLASS 1 REQ'D. UNDER ALL EXIST. OR FUTURE IMPROVED AREAS INCLUDING SIDEWALKS.
2. WHERE NEW PIPING IS IN SAME ALIGNMENT AS EXISTING PIPING, THE PIPE EMBEDMENT SHALL EXTEND TO A MIN. OF 6" BELOW THE NEW PIPING OR 6" BELOW EXISTING PIPING, WHICHEVER IS DEEPER.
3. FOR FLEXIBLE PIPE, BOTTOM OF TRENCH SHORING SHALL BE ABOVE PIPE SPRINGLINE PRIOR TO COMPACTING BACKFILL BELOW THE PIPE SPRINGLINE AND UNDER THE PIPE HAUNCHES.
4. MINIMUM CLEARANCES SHOWN ("B") ASSUMES STANDARD 6" WALL TRENCH BOXES SET ON TRENCH BOTTOM, AND REPRESENTS WIDTH REQUIRED TO CONSOLIDATE GRANULAR MATERIAL UNDER PIPE HAUNCHES (TO AVOID LOSS OF SIDE SUPPORT WHEN TRENCH BOX IS MOVED OR PULLED FORWARD). TRENCH WIDTH REDUCTION REQUIRES PRIOR APPROVAL BASED ON ACTUAL TRENCH SHORING PROPOSED.

LAST REVISION DATE:	
JAN 2016	STANDARD

TRENCH BACKFILL, BEDDING, AND PIPE ZONE

(NTS)

WESTECH ENG.	DETAIL NO. 3010



NOTES:

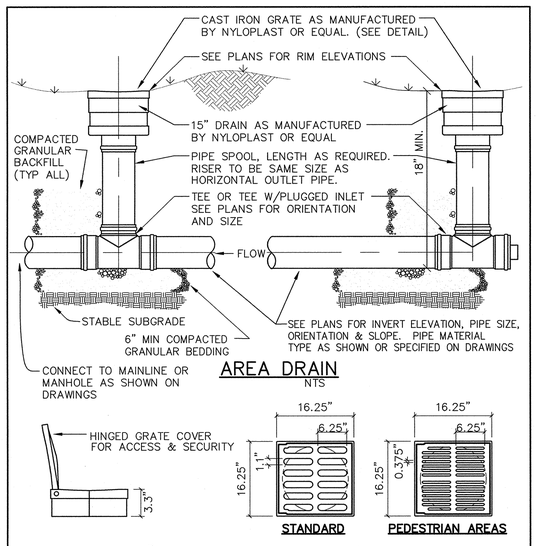
1. SEE CONSTRUCTION DRAWINGS FOR PIPE SIZE, LOCATION AND INVERT ELEVATION.
2. CONCRETE SHALL BE 4000 PSI @ 28 DAYS.
3. REBAR SHALL CONFORM TO ASTM A615 GRADE 60.
4. REBAR SHALL BE MIN. #4 BARS @ 6" C.C.
5. SET CB SQUARE WITH BUILDINGS OR WITH EDGE OF PARKING LOT OR DRIVEWAY WHEREIN IT LIES.
6. ADJUST PAVING SO WATER FLOWS TO CB WITH NO PONDING

LAST REVISION DATE:	JO #
JULY 2012	STANDARD

PARKING LOT CATCH BASIN (PRECAST CONCRETE)

(NTS)

WESTECH ENG.	DETAIL NO. 3150



15" CAST IRON GRATE DETAIL

NTS

NOTES:

1. AREA DRAIN NOT FOR USE IN AREAS SUBJECT TO VEHICLE TRAFFIC.
2. USE WATERTIGHT GASKETED FITTINGS AND ADAPTORS FOR ALL PIPE CONNECTIONS.
3. ALL GRATES IN PEDESTRIAN AREAS SHALL CONFORM WITH ADA REQUIREMENTS, INCLUDING GRATE OPENING SIZE.

LAST REVISION DATE:	JO #
SEP 2005	STANDARD

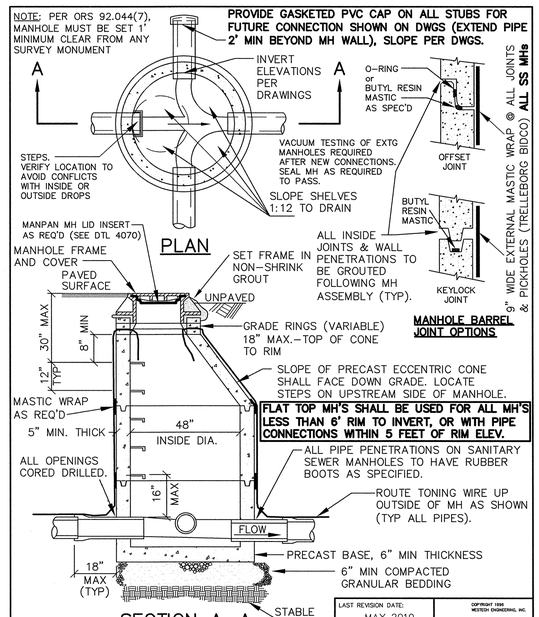
AREA DRAIN, LANDSCAPE AND PEDESTRIAN AREAS (NON-TRAFFIC)

(NTS)

WESTECH ENG.	DETAIL NO. 3550

NOTE: PER ORS 92.044(7), MANHOLE MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

PROVIDE GASKETED PVC CAP ON ALL STUBS FOR FUTURE CONNECTION SHOWN ON DWGS (EXTEND PIPE 2' MIN BEYOND MH WALL), SLOPE PER DWGS.



SECTION A-A

NOTES:

1. PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478.
2. WATERTIGHT O-RING OR MASTIC KEYLOCK JOINTS REQUIRED, EXTERNAL SEAL AT JOINTS & PICKHOLES.
3. STEPS TO BE POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD. ADD STEPS TO EXTG CONNECTION MH IF EXTG STEPS ARE ABSENT.

LAST REVISION DATE:	COPYRIGHT 1998 WESTECH ENGINEERING, INC.
MAY 2019	

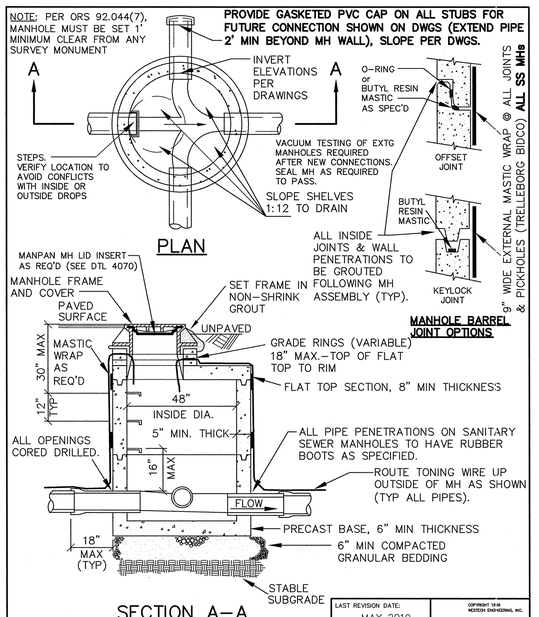
STANDARD MANHOLE FOR 21" PIPE AND SMALLER (SEWER & STORM)

(NTS)

WESTECH ENG.	DETAIL NO. 4010

NOTE: PER ORS 92.044(7), MANHOLE MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

PROVIDE GASKETED PVC CAP ON ALL STUBS FOR FUTURE CONNECTION SHOWN ON DWGS (EXTEND PIPE 2' MIN BEYOND MH WALL), SLOPE PER DWGS.



SECTION A-A

NOTES:

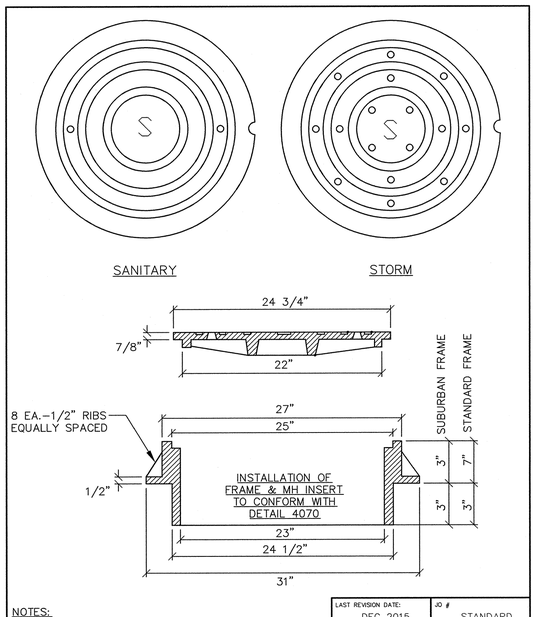
1. PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478.
2. WATERTIGHT O-RING OR MASTIC KEYLOCK JOINTS REQUIRED, EXTERNAL SEAL AT JOINTS & PICKHOLES.
3. STEPS TO BE POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD. ADD STEPS TO EXTG CONNECTION MH IF EXTG STEPS ARE ABSENT.

LAST REVISION DATE:	COPYRIGHT 1998 WESTECH ENGINEERING, INC.
MAY 2019	

FLAT TOP MANHOLE FOR 21" PIPE AND SMALLER (SEWER & STORM)

(NTS)

WESTECH ENG.	DETAIL NO. 4020



NOTES:

1. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
2. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
3. NOTCH LID FOR LIFTING HOOK.

LAST REVISION DATE:	JO #
DEC 2015	STANDARD

MANHOLE FRAME AND COVER (STANDARD AND SUBURBAN)

(NTS)

WESTECH ENG.	DETAIL NO. 4050

NO.	DATE	DESCRIPTION REVISIONS	BY
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
11843
OREGON
JULY 16, 2004
STEVEN A. WAY
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT - PH I

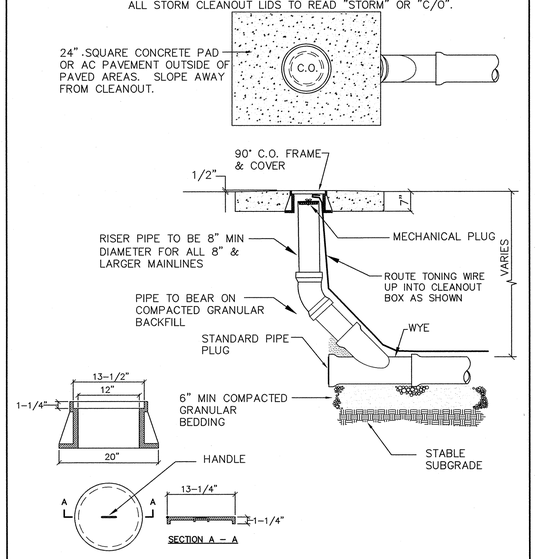
PRIVATE CIVIL DETAILS

DRAWING
C5.0

JOB NUMBER
3155.3000.0

9/18/2024 2:35:07 PM
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CLEANOUT COVERS: ALL SEWER CLEANOUT LIDS TO READ "SEWER"
ALL STORM CLEANOUT LIDS TO READ "STORM" OR "C/O".

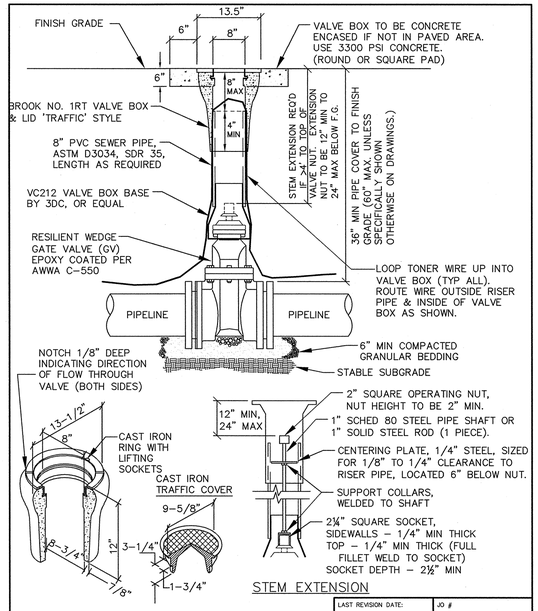


CLEANOUT FRAME & COVER

NOTES:

1. USE INLAND FOUNDRY MODEL 240 FRAME & COVER IN ALL AREAS.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.

LAST REVISION DATE:	COPYRIGHT 1998 WESTECH ENGINEERING, INC.
JULY 2015	
MAINLINE CLEANOUT	
(NTS)	
WESTECH ENG.	DETAIL NO. 4110



BROOKS NO. 1RT VALVE BOX

NOTES:

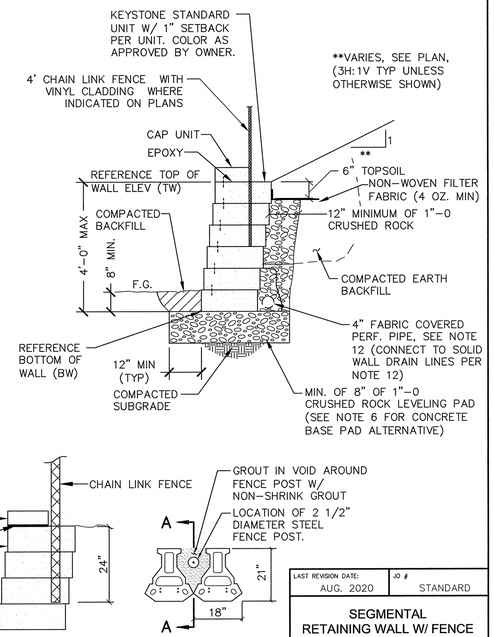
1. GV SHALL CONFORM TO AWWA C-509.
2. VALVE BOXES SHALL BE PLUMB AND CENTERED DIRECTLY OVER THE VALVE NUT.
3. VALVE BOX TOP SHALL BE ADJUSTED TO FINISHED GRADE.
4. PVC SHALL BE ONE CONTINUOUS PIECE, NO BELLS OR COUPLERS.

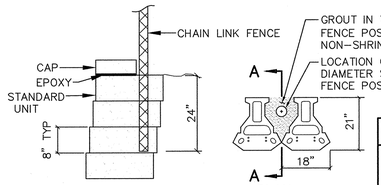
STEM EXTENSION

LAST REVISION DATE:	JO #
JULY 2017	STANDARD
GATE VALVE AND VALVE BOX DETAIL	
(NTS)	
WESTECH ENG.	DETAIL NO. 5011

RETAINING WALL NOTES:

1. Segmental Retaining Wall (SRW) concrete units shall be the standard color, rough face finish and conform to the requirements of ASTM C-90, ASTM C-140 and ASTM C-145. Owner to select color from samples submitted by Contractor.
2. Segmental concrete block units shall conform to the Keystone TM, Retaining Wall system, manufactured by Keystone TM, Pacific Northwest Inc., or an approved alternate and conform to the requirements of ASTM C-90. The wall design is based upon **Keystone Standard units (8"H x 18"W x 21.5"; 105 lbs.).**
3. The Keystone retaining wall, or approved equal, shall be constructed per manufacturer specifications and approved construction drawings, unless modified herein.
4. This SRW design is based upon the blocks specified above. The Contractor, may, at no additional cost to the owner, submit SRW design and shop drawings for an alternate SRW system for approval by the Owner's representative. The shop drawings shall include design calculations stamped by a professional engineer registered in the State of Oregon. Special inspection requirements, as specified herein, still apply to the substitute design. If the alternate wall system is approved, the Contractor shall be responsible for revising the block layout as necessary to address any differences in the SRW block dimensions.
5. The Contractor shall protect from damage, store and handle all materials in accordance with manufacturers recommendations and in a manner to prevent deterioration or damage due to moisture, temperature changes, Ultraviolet (UV) degradation, contaminants, corrosion, breaking, chipping or other causes. Damaged material shall not be incorporated into the segmental retaining wall.
6. Crushed rock leveling pad shall be placed on top of compacted subgrade. Leveling pad shall be placed and compacted to a minimum of 92% of maximum dry density per AASHTO T-180 (Modified Proctor). Leveling pad thickness shall be a minimum of 8 inches as measured in place. An acceptable alternative is a 5" concrete (3300 psi) base pad on compacted subgrade.
7. Maximum particle size for wall backfill shall not exceed 2 inches in diameter.
8. The plasticity index (PI) for the backfill material used in the reinforced wall backfill shall not exceed 30 and the liquid limit shall not exceed 40, as per ASTM D-4318. The owner does not guarantee that all site soils meet these criteria.
9. Backfill shall be placed and compacted in lifts not to exceed a loose depth thickness of 8 inches for hand operated vibratory equipment and 12 inches for walk behind, self-propelled vibratory equipment. Backfill shall be compacted to 92% of AASHTO T-180 compaction standard.
10. Drainage backfill behind wall and in voids of SRW units shall consist of 1"-0 crushed rock containing no more than 5% passing No. 200 sieve. Provide 4 oz minimum drainage fabric over drain rock (12" minimum lap at any joints).
11. Wall drainpipe shall be fabric covered (3 oz min) HDPE slotted pipe conforming to ASTM F-405 (ADS Sock or approved equivalent). Wall drain pipe shall be connected to solid-wall drain pipe(s) draining to daylight or to an approved storm drain system.
12. The overall tolerance for the constructed face of wall relative to the vertical wall design or batter shall not exceed ± 1.25 inches maximum over a 10 foot distance; 3 inches maximum.
13. The wall drainage system specified is intended to serve the Segmental Retaining Wall (SRW) in its final constructed condition in conjunction with the final site improvements in their final constructed condition. During construction, the Contractor shall manage site drainage and divert stormwater away from the wall structure as necessary to prevent overloading of wall drainage reinforced systems.
14. At the end of the each day's operation, the Contractor shall slope the last level of backfill away from the wall face to direct runoff of rainwater away from the wall face. In addition, the Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.
15. Inspection is required for construction of this segmental block retaining wall (SRW).
16. Contractor shall insure all inspections are performed prior to proceeding with the next phase of work. At a minimum inspections shall include the following items: Observation that the wall subgrade bearing capacity meets the specified soil bearing capacity, or a minimum of 2,000 psf, whichever is greater. Observations of the compacted crushed rock leveling pads and wall drainage system. Observation of the wall batter. Soil testing results for plasticity index and liquid limit values for wall backfill material. Compaction results for the wall backfill.





SECTION A-A

PLAN

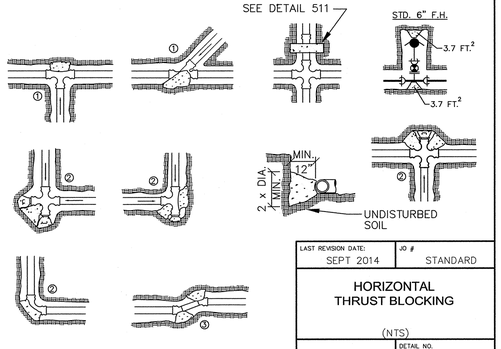
LAST REVISION DATE:	JO #
AUG. 2020	STANDARD
SEGMENTAL RETAINING WALL W/ FENCE (NON-REINFORCED)	
(NTS)	
WESTECH ENG.	DETAIL NO. 8310A

FITTING SIZE (Inches)	TEE, WYE, & ① HYDRANTS	90° BEND ② PLUGGED CROSS TEE PLUGGED-RUNS	45° BEND ③	22 1/2° BEND ③	11 1/4° BEND ③
2	*	*	*	*	*
4	1.7	2.4	1.3	*	*
6	3.7	5.3	2.9	1.5	*
8	6.7	9.5	5.1	2.7	1.3
10	10.5	14.8	8	4.1	2
12	15.1	21.3	11.6	5.9	2.9
16	26.8	37.9	20.5	10.4	5.2
18	33.9	47.9	25.9	12.8	6.7
LARGER	* *	* *	* *	* *	* *
BEARING AREA OF THRUST BLOCKS (sq. ft.)					

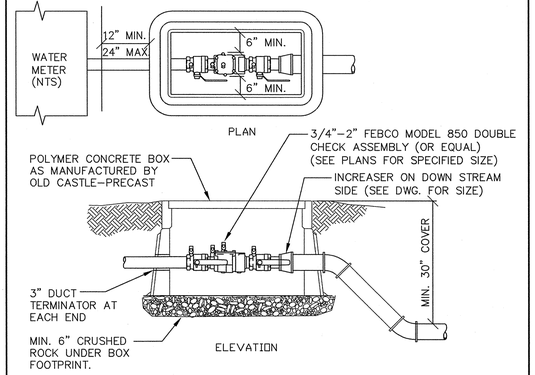
1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
   AVG. PRESSURE = 100 PSI x 2 (safety factor); 1500 PSF SOIL BEARING CAPACITY;
   NORMAL DISTRIBUTION SYSTEM DESIGN VELOCITY NOT TO EXCEED 5 FPS.
2. **ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.**
3. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
4. TRUCK-MIXED CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3300 PSI (5" MAX SLUMP). USE OF HAND-MIXED SACK-CRETE TYPE CONCRETE REQUIRES WRITTEN CITY APPROVAL PRIOR TO USE, AND SHALL BE 4000 PSI MIX, MIXED WITH MIN AMOUNT OF WATER NECESSARY FOR WORKABILITY (5" MAX SLUMP). USE OF DRY SACK-CRETE MIX (BAGS OR LOOSE MIX) IS PROHIBITED FOR PERMANENT THRUST RESTRAINT.
5. ALL PIPE ZONES SHALL BE BACKFILLED WITH GRANULAR BACKFILL AND COMPACTED.
6. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
7. VERTICAL THRUST DETAILS-SEE DWG. 512.
8. STRADDLE BLOCK DETAILS-SEE DWG. 511.

* BLOCK TO UNDISTURBED TRENCH WALLS

* * THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.



LAST REVISION DATE:	JO #
SEPT 2014	STANDARD
HORIZONTAL THRUST BLOCKING	
(NTS)	
WESTECH ENG.	DETAIL NO. 5100

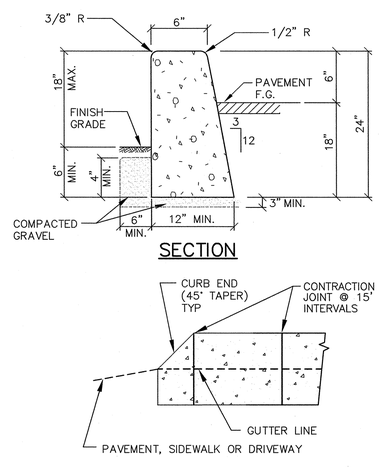


NOTES:

1. DCA- DOUBLE CHECK ASSEMBLY
2. DCA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, AND HEALTH DIVISION REQUIREMENTS.
4. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. VERIFY ADEQUATE CLEARANCES FOR TESTING AND REPAIR.
6. BRASS PLUGS SHALL BE INSTALLED IN TEST COCKS.
7. LOCK DOWN COVER WITH HEX HEAD BOLTS. COVER SHALL READ "WATER"
8. DCA SHALL NOT BE INSTALLED IN AREAS SUBJECT TO VEHICLE TRAFFIC AND PEDESTRIAN SIDEWALK AREAS.

DCA DIA.	BOX MODEL NO.	BOX NOMINAL DIMENSIONS AT TOP
3/4"	S1324B26AA	13" X 24" (26"D)
1"	S1324B26AA	13" X 24" (26"D)
1 1/2"	S1730B26AA	17" X 30" (26"D)
2"	S1730B26AA	17" X 30" (26"D)

LAST REVISION DATE:	JO #
DEC 2004	STANDARD
2" AND SMALLER DOUBLE CHECK ASSEMBLY	
(NTS)	
WESTECH ENG.	DETAIL NO. 5310



SECTION

ELEVATION

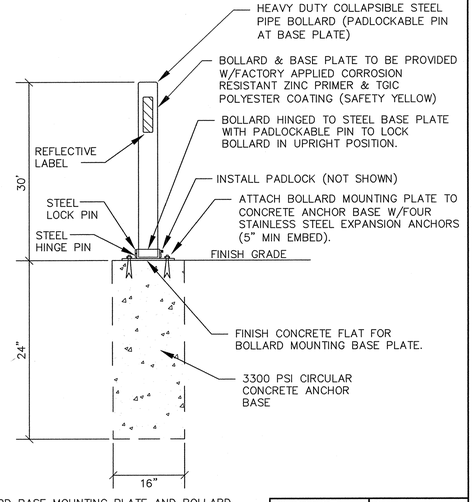
NOTE:

1. ALL CONCRETE SHALL BE 3300 PSI @ 28 DAYS, MAX 5" SLUMP, 4.5% AIR (±1.5%).

LAST REVISION DATE:	JO #
AUG 2020	STANDARD
24" DEEP CURB	
(NTS)	
WESTECH ENG.	DETAIL NO. 2110A

NOTE:

1. IF BOLLARDS ARE PLACED IN AC PAVEMENT OR CONCRETE AREAS, HOLES FOR THE CONCRETE ANCHOR BASE SHALL BE CORE DRILLED TO DIMENSIONS SHOWN.



NOTES:

1. BOLLARD BASE MOUNTING PLATE AND BOLLARD SHALL BE 4-INCH MAXIMUM HEIGHT WHEN IN COLLAPSED/DOWN POSITION.
2. UNLESS OTHERWISE SPECIFIED, PROVIDE WEATHER RESISTANT PADLOCK KEYED TO SPECIFIED PATTERN.
3. COLLAPSIBLE BOLLARD ASSEMBLY SHALL BE TRAFFICGUARD MODEL LPHDHB OR APPROVED EQUAL.
4. VERIFY BOLLARD HINGE LOCATION (IE. COLLAPSE DIRECTION) WITH OWNER PRIOR TO INSTALLATION.

LAST REVISION DATE:	JO #
OCT 2019	STANDARD
30" TALL COLLAPSIBLE PADLOCKABLE BOLLARD	
(NTS)	
WESTECH ENG.	DETAIL NO. 2264

NO.	DATE	DESCRIPTION REVISIONS	BY

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CHK. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1998
STEVEN A. WEBER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT - PH I

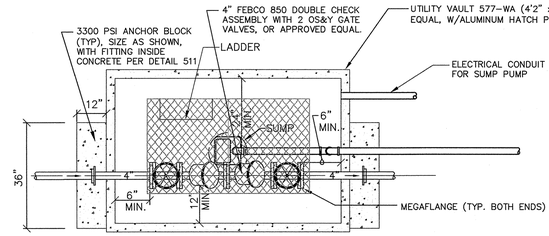
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DRAWING
C5.1

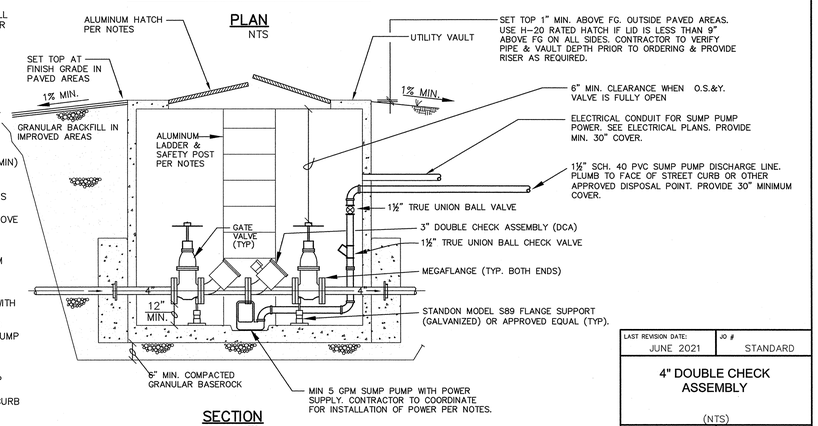
JOB NUMBER
3155.3000.0

9/18/2024 2:35:12 PM
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NOTES:
1. DCA – DOUBLE CHECK VALVE ASSEMBLY.
2. DCA, VAULT & PIPING SHALL CONFORM TO REQUIREMENTS OF ALL PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION. DCA & VAULT INSTALLATION SHALL MEET REQUIREMENTS OF OREGON HEALTH AUTHORITY, DRINKING WATER SERVICES (DWS).
3. DCA VAULT SHALL BE PLACED ON OUTSIDE OF RIGHT–OF–WAY UNLESS OTHERWISE APPROVED (RECORDED ACCESS EASEMENT TO THE CITY MAY BE REQUIRED FOR DCA VAULT ON PRIVATE PROPERTY).
4. ALL MATERIALS SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. PIPING INSIDE VAULT & THROUGH WALLS TO BE AS NOTED ON DRAWINGS. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
6. ALL VAULTS SHALL MEET OR EXCEED ASTM C–857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A–615 GRADE 60.
7. ALL PIPE OPENINGS SHALL BE CORE DRILLED (REGARDLESS OF PRESENCE OF 'KNOCKOUTS'), AND SEALED WATERTIGHT WITH NON–SHRINK GROUT.
8. ISOLATION VALVES IN METER VAULT SHALL BE RISING STEM GATE VALVE (EPOXY COATED) WITH HANDWHEEL OPERATOR.
9. METER VAULT TO BE UTILITY VAULT 687–WA OR APPROVED EQUAL, CONFORMING WITH ASTM C–857. PROVIDE ALUMINUM ANGLE FRAME HATCH (36"x 60" MIN) BY USF FABRICATION OR APPROVED EQUAL (HATCH COVER TOP TO BE SAND BLASTED NON–SLIP).
   (1) TO BE 300 PSF PEDESTRIAN RATED WHERE LID IS SET MIN. OF 9" ABOVE GRADE.
   (2) TO BE H–20 RATED IF LID IS LESS THAN 9" ABOVE GRADE, OR IF LOCATED IN TRAFFIC AREA.
10. DCA VAULT SHALL BE PROVIDED WITH AN OSHA APPROVED GALVANIZED STEEL LADDER AND ALUMINUM LADDER SAFETY EXTENSION. ATTACH TO VAULT WITH STAINLESS STEEL BOLTS.
11. CONTRACTOR TO INSTALL SUMP PUMP (5 GPM MIN) WITH 120V POWER SUPPLY, ALONG WITH PRIVATE POWER SOURCE (RESPONSIBILITY OF CONTRACTOR INSTALLING VAULT). SCHED 40 CONDUIT, WIRE, ETC. FOR SUMP PUMP POWER SHALL CONFORM WITH NEC REQUIREMENTS.
13. SUMP PUMP DISCHARGE PIPE SHALL BE 1½–INCH SCHEDULE 40 PVC, PROVIDED WITH UNION (FOR PUMP REMOVAL) CHECK VALVE AND ISOLATION BALL VALVE. CONNECT DISCHARGE TO GRAVITY STORM DRAIN OR CURB WEEP HOLE (AT LOCATION APPROVED BY PUBLIC WORKS).



PLAN
NTS

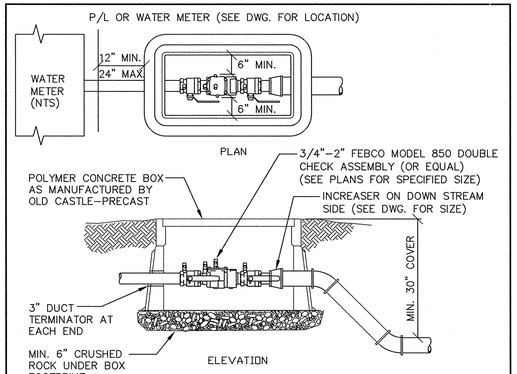


SECTION
NTS

LAST REVISION DATE:	JO #
JUNE 2021	STANDARD

4" DOUBLE CHECK ASSEMBLY
(NTS)

WESTECH ENG.	DETAIL NO. 5340



NOTES:
1. DCA– DOUBLE CHECK ASSEMBLY
2. DCA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, AND HEALTH DIVISION REQUIREMENTS.
4. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. VERIFY ADEQUATE CLEARANCES FOR TESTING AND REPAIR.
6. BRASS PLUGS SHALL BE INSTALLED IN TEST COCKS.
7. LOCK DOWN COVER WITH HEX HEAD BOLTS. COVER SHALL READ "WATER"
8. DCA SHALL NOT BE INSTALLED IN AREAS SUBJECT TO VEHICLE TRAFFIC AND PEDESTRIAN SIDEWALK AREAS.

DCA DIA.	BOX MODEL NO.	BOX NOMINAL DIMENSIONS AT TOP
3/4"	S1324B26AA	13" X 24" (26"D)
1"	S1324B26AA	13" X 24" (26"D)
1 1/2"	S1730B26AA	17" X 30" (26"D)
2"	S1730B26AA	17" X 30" (26"D)

LAST REVISION DATE:	JO #
DEC 2004	STANDARD

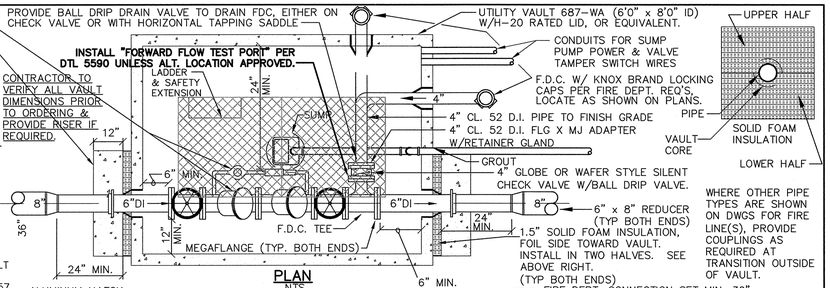
2" AND SMALLER DOUBLE CHECK ASSEMBLY
(NTS)

WESTECH ENG.	DETAIL NO. 5310

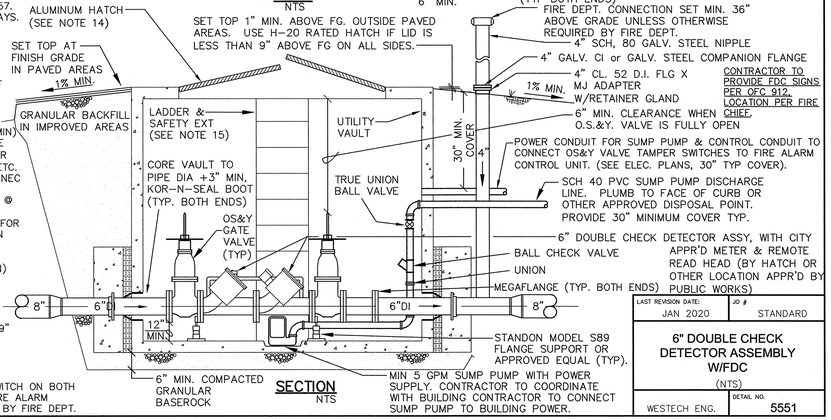
6" FEBCO 856 DOUBLE CHECK DETECTOR ASSEMBLY WITH 2 OS&Y GATE VALVES, OR APPROVED EQUAL.

36" WIDE CAST–IN–PLACE CONCRETE THRUST COLLAR WITH RETAINER GLAND CENTERED IN CONCRETE (TYPICAL BOTH ENDS)

NOTES:
1. DCDA– DOUBLE CHECK DETECTOR ASSEMBLY FDC–FIRE DEPARTMENT CONNECTION.
2. DCDA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCDA & VAULT INSTALLATION SHALL MEET REQUIREMENTS OF OREGON HEALTH AUTHORITY, DRINKING WATER SERVICES (DWS).
4. CONTRACTOR SHALL HAVE DCDA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. FDC SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
6. ALL PIPE OPENINGS SHALL BE SEALED WITH NON–SHRINK WATERTIGHT GROUT.
7. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
8. ALL VAULTS SHALL MEET OR EXCEED ASTM C–857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A–615 GRADE 60.
9. SUMP PUMP WITH POWER SUPPLY SHALL BE INSTALLED UNLESS OTHERWISE APPROVED BY PUBLIC WORKS.
10. SUMP PUMP DISCHARGE PIPE TO BE 1½–INCH SCHED 40 PVC SHALL BE PLUMBED TO FACE OF STREET CURB OR OTHER DISPOSAL POINT APPROVED BY LOCAL JURISDICTION (SEE OAR 333–061–0071.3.f).
11. CONTRACTOR TO INSTALL SUMP PUMP (5 GPM MIN) WITH 120V POWER SUPPLY, ALONG WITH PRIVATE POWER SOURCE (RESPONSIBILITY OF CONTRACTOR INSTALLING VAULT). SCHED 40 CONDUIT, WIRE, ETC. FOR SUMP PUMP POWER SHALL CONFORM WITH NEC REQUIREMENTS.
12. THRUST COLLAR CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
13. PROVIDE REMOTE READER (TOUCH READ HEAD) FOR DETECTOR LOOP METER PER LOCAL JURISDICTION REQUIREMENTS, MOUNTED ON HINGE EDGE OF HATCH.
14. ALUMINUM ANGLE FRAME HATCH (3'0"x 5'6" MIN) SHALL BE BY USF FABRICATION OR APPROVED EQUAL (SAND BLASTED NON–SLIP).
   (1) TO BE 300 PSF PEDESTRIAN RATED WHERE LID IS SET MIN. OF 9" ABOVE GRADE.
   (2) TO BE H–20 RATED IF LID IS LESS THAN 9" ABOVE GRADE, OR IF LOCATED IN TRAFFIC AREA.
15. OSHA APPROVED GALVANIZED STEEL LADDER & ALUMINUM LADDER SAFETY EXTENSION.
16. PER OFC 903.4, INSTALL APPROVED TAMPER SWITCH ON BOTH OS&Y VALVES IN VAULT, WIRED TO A LISTED FIRE ALARM CONTROL UNIT, UNLESS EXEMPTION IS GRANTED BY FIRE DEPT.



PLAN
NTS



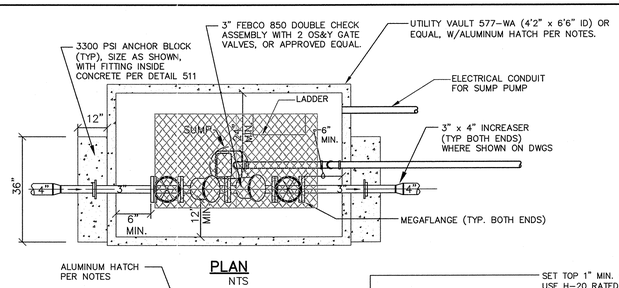
SECTION
NTS

LAST REVISION DATE:	JO #
JAN 2020	STANDARD

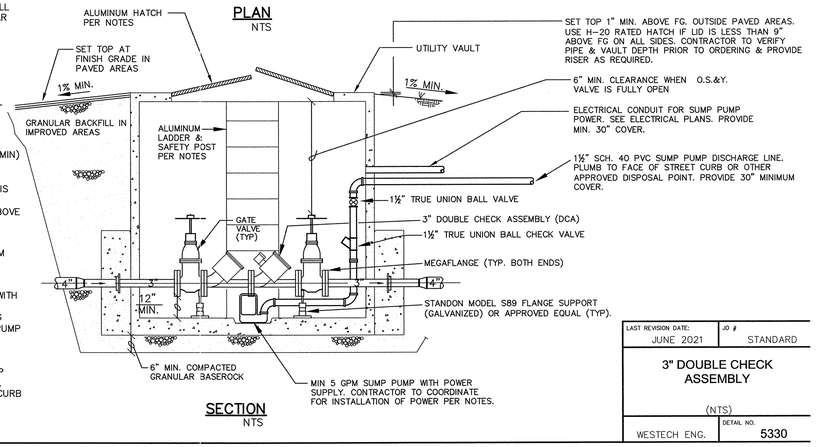
6" DOUBLE CHECK DETECTOR ASSEMBLY W/FDC
(NTS)

WESTECH ENG.	DETAIL NO. 5551

NOTES:
1. DCA – DOUBLE CHECK VALVE ASSEMBLY.
2. DCA, VAULT & PIPING SHALL CONFORM TO REQUIREMENTS OF ALL PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION. DCA & VAULT INSTALLATION SHALL MEET REQUIREMENTS OF OREGON HEALTH AUTHORITY, DRINKING WATER SERVICES (DWS).
3. DCA VAULT SHALL BE PLACED ON OUTSIDE OF RIGHT–OF–WAY UNLESS OTHERWISE APPROVED (RECORDED ACCESS EASEMENT TO THE CITY MAY BE REQUIRED FOR DCA VAULT ON PRIVATE PROPERTY).
4. ALL MATERIALS SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. PIPING INSIDE VAULT & THROUGH WALLS TO BE AS NOTED ON DRAWINGS. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
6. ALL VAULTS SHALL MEET OR EXCEED ASTM C–857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A–615 GRADE 60.
7. ALL PIPE OPENINGS SHALL BE CORE DRILLED (REGARDLESS OF PRESENCE OF 'KNOCKOUTS'), AND SEALED WATERTIGHT WITH NON–SHRINK GROUT.
8. ISOLATION VALVES IN METER VAULT SHALL BE RISING STEM GATE VALVE (EPOXY COATED) WITH HANDWHEEL OPERATOR.
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13. SUMP PUMP DISCHARGE PIPE SHALL BE 1½–INCH SCHEDULE 40 PVC, PROVIDED WITH UNION (FOR PUMP REMOVAL) CHECK VALVE AND ISOLATION BALL VALVE. CONNECT DISCHARGE TO GRAVITY STORM DRAIN OR CURB WEEP HOLE (AT LOCATION APPROVED BY PUBLIC WORKS).



PLAN
NTS



SECTION
NTS

LAST REVISION DATE:	JO #
JUNE 2021	STANDARD

3" DOUBLE CHECK ASSEMBLY
(NTS)

WESTECH ENG.	DETAIL NO. 5330

NO.	DATE	DESCRIPTION REVISIONS	BY
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 2004
STEVEN A. WANG
11943
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

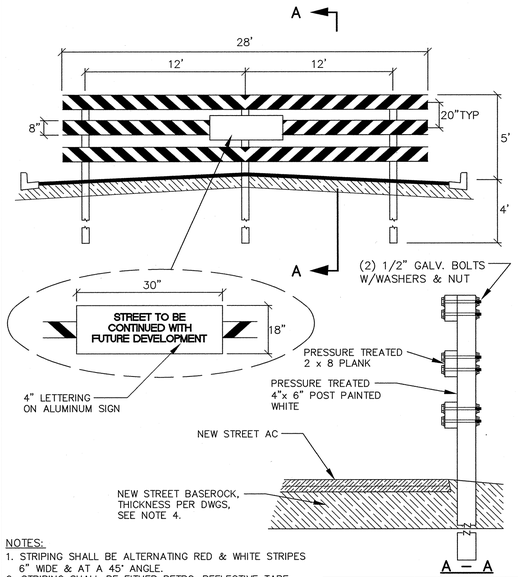
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

CIVIL DETAILS

DRAWING
C5.2

JOB NUMBER
3155.3000.0

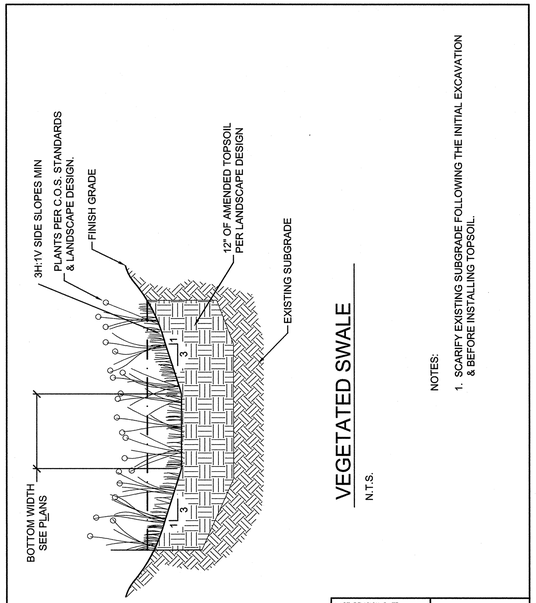
9/18/2024 2:35:17 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil - Phase I Construction\Plots\C5.0-3 Details.dwg, (C5.2 tab)



NOTES:

1. STRIPING SHALL BE ALTERNATING RED & WHITE STRIPES 6" WIDE & AT A 45° ANGLE.
2. STRIPING SHALL BE EITHER RETRO-REFLECTIVE TAPE ATTACHED WITH STAINLESS PANHEAD SCREWS OR PAINTED WITH A SEALED RETRO-REFLECTIVE SURFACE.
3. BARRICADE SHALL BE LOCATED WITHIN THE RESERVE STRIP OR EASEMENT, IF PRESENT (WITHIN THE RIGHT-OF-WAY OTHERWISE).
4. FULL DEPTH BASEROCK SHALL EXTEND BEYOND BARRICADE POSTS AS SHOWN.

LAST REVISION DATE:	STANDARD
FEB 2024	
STREET BARRICADE (STUB STREETS)	
(NTS)	
WESTECH ENG.	DETAIL NO. 2250



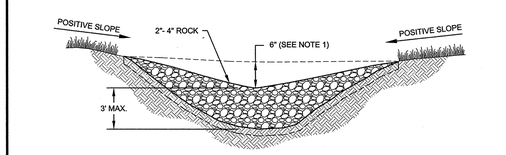
VEGETATED SWALE

N.T.S.

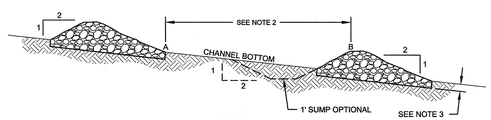
NOTES:

1. SCARIFY EXISTING SUBGRADE FOLLOWING THE INITIAL EXCAVATION & BEFORE INSTALLING TOPSOIL.

LAST REVISION DATE:	3048.0000.0
JUNE 2018	
VEGETATED SWALE	
(NTS)	
WESTECH ENG.	DETAIL NO. 3740A



CHANNEL CROSS SECTION
NTS



PROFILE
NTS

NOTES:

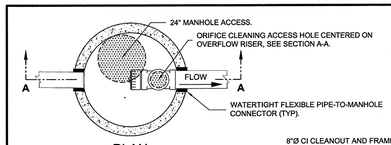
1. LOWER CENTER SECTION 6 INCHES MINIMUM TO CAUSE FLOW OVER, NOT AROUND CHECK DAM.
2. THE DISTANCE BETWEEN DAMS SHALL BE SUCH THAT THE TOE (A) OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP (B) OF THE DOWNSTREAM DAM.
3. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 TO 12 INCHES DEPENDING UPON SOIL CONDITIONS AND HEIGHT OF CHECK DAM.
4. ROCK SHALL COMPLETELY COVER CHANNEL BOTTOM AND SIDES.

CITY OF SALEM
DEPARTMENT OF PUBLIC WORKS

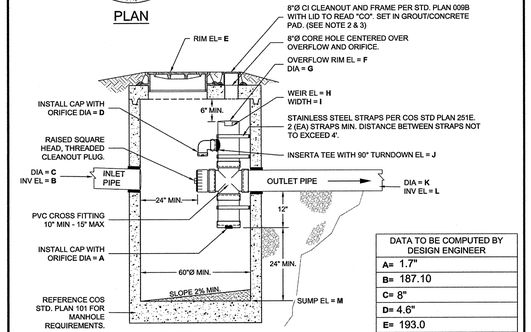
STANDARD PLAN
ROCK CHECK DAM

NO.915

APPROVED	3/10/14	DRAWN BY	DTN	1/2014
CITY ENGINEER	DATE	CHECKED BY	RLB	1/2014



PLAN



SECTION A-A
NTS

DATA TO BE COMPUTED BY DESIGN ENGINEER
A= 1.7"
B= 187.10
C= 8"
D= 4.6"
E= 193.0
F= 190.20
G= 8"
H= 189.80
I= 6.0"
J= 188.70
K= 8"
L= 187.10
M= 184.10

GENERAL NOTES

1. THIS CONTROL STRUCTURE ONLY TO BE USED WITH OUTLET PIPE UP TO 15 INCHES IN DIAMETER. IF GREATER THAN 15 INCHES USE COS STANDARD PLAN 251B.
2. ORIFICE CLEANING ACCESS TO BE AN 8 INCH CORE HOLE THROUGH FLAT-TOP (CENTERED ON OVERFLOW) WITH CAST IRON CLEANOUT BOX GROUTED TO SLAB.
3. WHEN CONSTRUCTING WITHIN PAVED SURFACE, CONSTRUCT MANHOLE LID AND CLEANOUT PER COS STANDARD PLAN 104 AND 400B RESPECTIVELY.
4. REFERENCE ORIFICE MEASUREMENT TABLE ON COS STANDARD PLAN 251E FOR ORIFICE SIZE REQUIREMENTS.

CHANGES					
ADDED ORIFICE SIZE RGMTS	4/2021	CLARIFIED MH LID AND CI FRAME	4/2021		
REMOVED SLOTTED PIPE RESTRICTOR.	4/2021				
ADDED ELEVATION DATA TABLE	4/2021				
ADJUSTED SUMP DEPTH RQMTS	4/2021				

CITY OF SALEM
DEPARTMENT OF PUBLIC WORKS

STANDARD PLAN
FLOW CONTROL MANHOLE

NO.251A

APPROVED	6/8/2021	DRAWN BY	KLA	4/2021
CITY ENGINEER	DATE	CHECKED BY	JDL	4/2021

NO.	DATE	DESCRIPTION REVISIONS	BY
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 15, 1987
STEVEN A. WEGNER
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

CIVIL DETAILS

DRAWING
C5.3

JOB NUMBER
3155.3000.0

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INTERIOR PARKING PLANTING REQUIREMENTS

REQUIRED PLANTS:	1 PLANT PER 20 SQUARE FEET = 1 PLANT UNIT (PU)

1 MATURE TREE = 15 PU
1 SHADE TREE = 10 PU
1 EVERGREEN TREE = 5 PU
1 ORNAMENTAL TREE = 2 PU
1 LARGE SHRUB = 2 PU
1 SMALL/MEDIUM SHRUB = 1 PU
LAWN/GROUNDCOVER = 1 PU PER 50 SF

LANDSCAPE SQUARE FOOTAGE =3,389 SF
NUMBER OF REQUIRED PUs = 170 PU
40% PU REQUIRED AS TREES = 68 PU

Plants	# of Plants	Plant Units
Shade Tree	12	120
Evergreen Tree	0	0
Ornamental Tree	0	0
Large Shrubs	-	-
Small / Medium Shrubs	76	76
Lawn / Groundcover	902 SF	18
Total Plant Units*		214

GENERAL LANDSCAPE PLANTING REQUIREMENTS

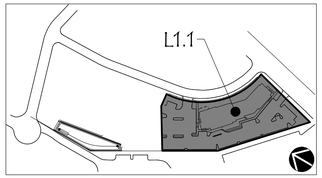
REQUIRED PLANTS:	1 PLANT PER 20 SQUARE FEET = 1 PLANT UNIT (PU)

1 MATURE TREE = 15 PU
1 SHADE TREE = 10 PU
1 EVERGREEN TREE = 5 PU
1 ORNAMENTAL TREE = 2 PU
1 LARGE SHRUB = 2 PU
1 SMALL/MEDIUM SHRUB = 1 PU
LAWN/GROUNDCOVER = 1 PU PER 50 SF

LANDSCAPE SQUARE FOOTAGE =13,955 SF
NUMBER OF REQUIRED PUs = 698 PU
40% PU REQUIRED AS TREES = 279 PU

Plants	# of Plants	Plant Units
Shade Tree	25	250
Evergreen Tree	6	30
Ornamental Tree	-	-
Large Shrubs	61	122
Small / Medium Shrubs	150	150
Lawn / Groundcover	7,405 SF	148
Total Plant Units*		700

KEY MAP:



LEGEND:

EXISTING TREES TO REMAIN

LANDSCAPE BOULDERS, 1'-3' DIA.

2"-6" ROUND ROCK, GRAY, 6" DEPTH

GENERAL NOTES:

1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. PLANT SCHEDULE SEE SHEET L1.2.
5. PLANTING NOTES AND DETAILS SEE SHEETS L1.3 AND L1.4.
6. IRRIGATION PLAN SEE SHEET L2.1.

SITE INFORMATION:

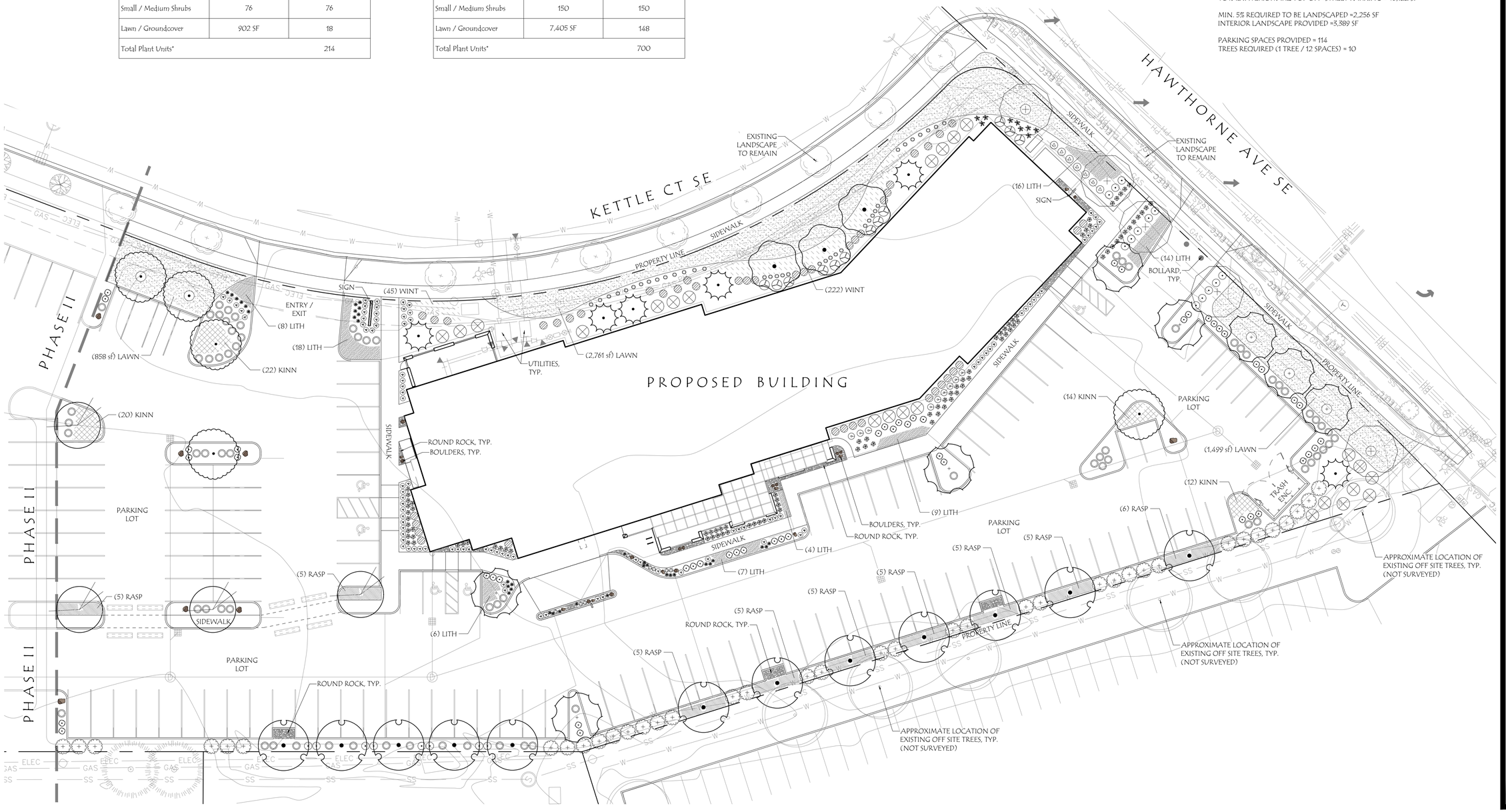
DEVELOPED SITE AREA: 89,952 SF
PROPOSED LANDSCAPING:17,544 SF

INTERIOR LANDSCAPING:

TOTAL INTERIOR AREA OF OFF-STREET PARKING = 45,122 SF

MIN. 5% REQUIRED TO BE LANDSCAPED =2,256 SF
INTERIOR LANDSCAPE PROVIDED =3,389 SF

PARKING SPACES PROVIDED = 114
TREES REQUIRED (1 TREE / 12 SPACES) = 10



Laurus Designs, LLC

1012 Pine Street
Silverton, Oregon 97381

503.784.6494
laurusdesigns.com

FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED
643
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

PLANTING PLAN

SCALE: 1" = 20' - 0"

0' 10' 20' 40'
SCALE

SEPTEMBER 20TH, 2024

REVISIONS

#	DATE	NOTES	INITIALS

L1.1

SHEET 2 OF 8

PROJECT #: 1591C

STORMWATER FACILITY PLANTING REQUIREMENTS

FACILITY NUMBER	FACILITY SF (NO WALLS)	TREES	SMALL TREES/ LARGE SHRUBS	SMALL SHRUBS	GROUND COVERS*
1	12,017 SF	24	179	310	11,947 SF

REQUIREMENTS PER 100 SF

1 TREE –OR–

4 LARGE SHRUBS –OR–

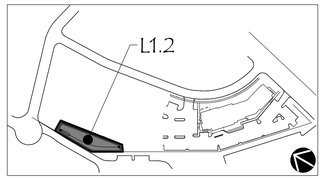
6 SMALL SHRUBS

GRASSES, HERBS AND GROUND COVER

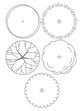
2" PEA GRAVEL ZONE 1 (ENTIRE FACILITY)

*AREA DOES NOT INCLUDE OUTFALLS, OVERFLOWS, CHECKDAMS

KEY MAP:



LEGEND:



EXISTING TREES TO REMAIN

GENERAL NOTES:

1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. PLANTING PLAN SEE SHEET L1.1.
5. PLANT SCHEDULE SEE THIS SHEET.
6. PLANTING NOTES AND DETAILS SEE SHEETS L1.3 AND L1.4.
7. IRRIGATION PLAN SEE SHEET L2.1.

STORMWATER FACILITY PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE
⊞	6	ALNUS RHOMBIFOLIA / WHITE ALDER	1 1/2" CAL., B&B
◫	15	ALNUS RUBRA / RED ALDER	1 1/2" CAL., B&B
▲	3	CORNUS NUTTALLII / PACIFIC DOGWOOD	1 1/2" CAL., B&B

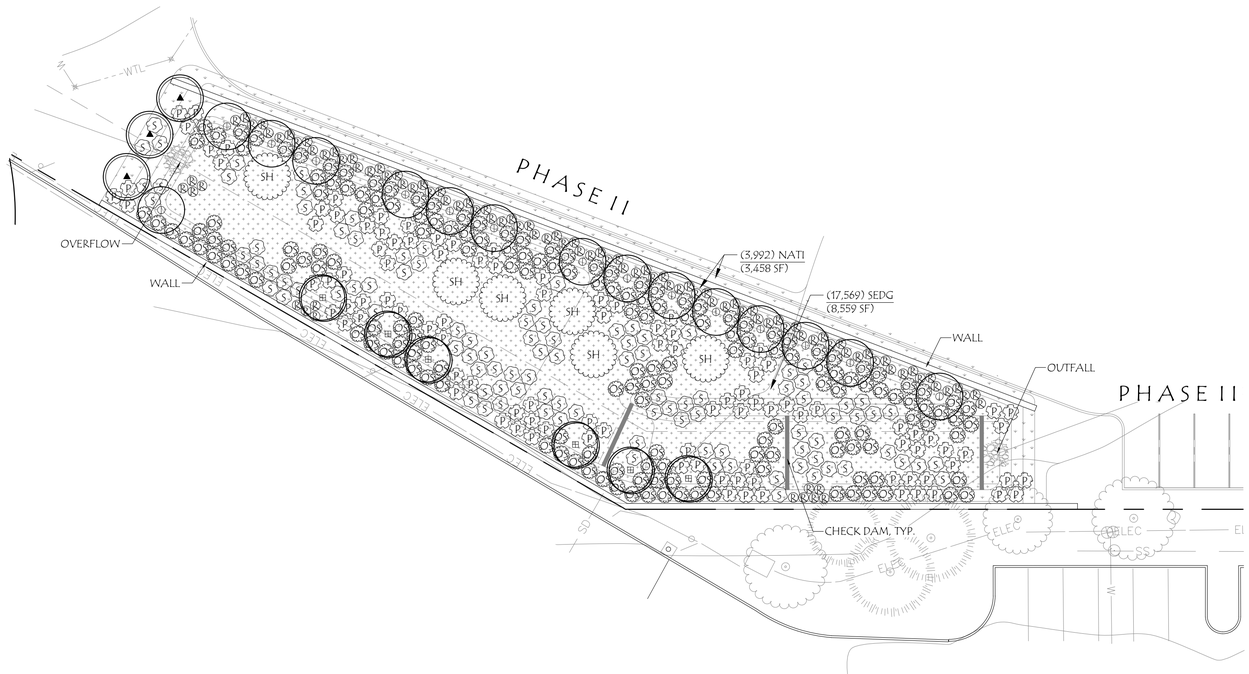
SMALL SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE
R	99	CORNUS SERICEA 'KELSEYI' / KELSEY'S DWARF RED TWIG DOGWOOD	1 GAL.
P	107	PHILADELPHUS LEWISII / WILD MOCKORANGE	1 GAL.
S	104	SPIRAEA DOUGLASII / WESTERN SPIREA	1 GAL.

LARGE SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE
OS	173	OEMLERIA CERASIFORMIS / OSOBERRY	3 GAL.
SH	6	SALIX HOOKERIANA / DUNE WILLOW	3 GAL.

GROUND COVERS		QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
SEDG (8,559 SF)		4,393 4,392 4,392 4,392	CAREX DENSA / DENSE SEDGE JUNCUS ENSIFOLIUS / DAGGER-LEAF RUSH JUNCUS TENUIS / SLENDER RUSH SCIRPUS MICROCARPUS / SMALL FRUITED BULRUSH	PLUG, MIN. 1"X6"	9" O.C., PLANT RANDOMLY FOR FULL COVERAGE
NATI (3,458 sf)		998 998 998 998	FRAGARIA VIRGINIANA / WILD STRAWBERRY ACHILLEA MILLEFOLIUM / WESTERN YARROW POTENTILLA GRACILIS / SLENDER CINQUEFOIL LUPINUS MICRANTHUS / SMALL-FLOWERED LUPINE	1 GAL.	12" O.C., PLANT RANDOMLY FOR FULL COVERAGE

STORMWATER FACILITY PLANTING NOTES:

1. THE LANDSCAPE CONTRACTOR IS TO THOROUGHLY REVIEW THE SITE. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN AND EXISTING CONDITIONS THE LANDSCAPE ARCHITECT IS TO BE IMMEDIATELY NOTIFIED.
2. IF THE LANDSCAPE CONTRACTOR STARTS WORK BEFORE SITE CONDITIONS ARE READY, THEY WILL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS RELATING TO THE CONDITION.
3. SEE CITY OF SALEM STORMWATER REQUIREMENTS FOR MORE INFORMATION.
4. CONTAINER STOCK MAY BE PLANTED YEAR ROUND IF CONDITIONS PERMIT. PLANT AFTER 48 HOURS OF DRY WEATHER TO AVOID SOIL COMPACTION. USE JUTE OR COIR MATTING TO PREVENT EROSION IF NEEDED.
5. PLANT MATERIALS SHALL BE FREE OF DISEASE, INJURY, AND INSECT INFESTATION. UNHEALTHY OR DAMAGED PLANTS SHALL BE REPLACED BY LANDSCAPE CONTRACTOR.
6. SEE CIVIL PLANS FOR GRADING, EROSION CONTROL AND SITE PREPARATION.
7. GROWING MEDIUM: 12" DEPTH AMENDED SOIL, 70% TOPSOIL AND 30% COMPOST.
8. MULCH: DO NOT USE MULCH IN ZONE 1 AND OTHER FREQUENTLY INUNDATED AREAS. ZONE 1 USE 2" THICK PEA GRAVEL OVER GROWING MEDIUM.
9. FACILITY TO BE IRRIGATED WITH IRRIGATION SYSTEM FOR A MINIMUM OF 2 YEARS. SEE IRRIGATION PLAN. PLANTS TO RECEIVE A MINIMUM OF 1" OF WATER PER WEEK FROM JUNE 15TH TO OCTOBER 15TH THE FIRST YEAR AND BE MONITORED TO MAINTAIN HEALTHY CONDITIONS. WATER AMOUNTS MAY BE REDUCED THE SECOND YEAR FROM JUNE 15TH TO OCTOBER 15TH, BUT MAINTAIN WEEKLY WATERING AND ADDITIONAL WATERING MAY BE NEEDED BASED ON MONITORING.
10. MAINTENANCE AND MONITORING TO TAKE PLACE ANNUALLY. TAG PLANTS WITH A RUST PROOF LABEL TO FACILITATE MONITORING. REPLACE DEAD OR DYING PLANT MATERIAL AS NEEDED.



PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	SIZE
+	5	ACER TATARICUM 'JFS-KW2' / RUGGED CHARM® TATARIAN MAPLE	1 1/2" CAL., B&B
•	6	CHAMAECYPARIS NOOTKATENSIS `PENDULA` / WEEPING NOOTKA CYPRESS	6`-8` HT., B&B
⟋	4	CLADRASTIS LUTEA / AMERICAN YELLOWWOOD	1 1/2" CAL., B&B
•	12	CRATAEGUS X MORDENENSIS `TOBA` / TOBA HAWTHORN	1 1/2" CAL., B&B
•	3	GINKGO BILOBA `AUTUMN GOLD` / AUTUMN GOLD MAIDENHAIR TREE	1 1/2" CAL., B&B
+	8	TILIA TOMENTOSA 'STERLING' / STERLING SILVER LINDEN	1 1/2" CAL., B&B
•	5	ZELKOVA SERRATA 'GREEN VASE' / GREEN VASE SAWLEAF ZELKOVA	1 1/2" CAL., B&B

SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE
•	50	ABELIA X GRANDIFLORA `KALEIDOSCOPE` / KALEIDOSCOPE ABELIA	2 GAL.
⋔	12	DAPHNE ODORA `MARGINATA` / WINTER DAPHNE	2 GAL.
△	8	ILEX CRENATA `SKY PENCIL` / SKY PENCIL JAPANESE HOLLY	24"-30" HT.
▨	45	ILEX CRENATA 'SOFT TOUCH' / SOFT TOUCH JAPANESE HOLLY	2 GAL.
+	38	LIGUSTRUM JAPONICUM `TEXANUM` / WAX LEAF PRIVET	5 GAL.
⊖	9	NANDINA DOMESTICA `FIREPOWER` / FIREPOWER HEAVENLY BAMBOO	1 GAL.
✶	9	POLYSTICHUM MUNITUM / WESTERN SWORD FERN	24"-30" HT.
⊗	23	PRUNUS LAUROCERASUS 'OTTO LUYKEN' / OTTO LUYKEN ENGLISH LAUREL	5 GAL.
•	21	RHAPHIOLEPIS INDICA `BALLERINA` / BALLERINA INDIAN HAWTHORN	2 GAL.
◯	73	ROSA X 'KO DOUBLE' / PINK DOUBLE KNOCKOUT ROSE	2 GAL.
△	7	SPIRAEA X BUMALDA `MAGIC CARPET` / MAGIC CARPET SPIREA	2 GAL.

GRASSES / PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE
✳	91	BOUTELOUA GRACILIS `BLONDE AMBITION` / BLONDE AMBITION BLUE GRAMA	24"-30" HT.
▢	36	HAKONECHLOA MACRA 'ALL GOLD' / ALL GOLD JAPANESE FOREST GRASS	1 GAL.
✳	36	HELICTOTRICHON SEMPERVIRENS 'SAPPHIRE' / SAPPHIRE BLUE OAT GRASS	24"-30" HT.
⁘	94	HEMEROCALLIS SPP. / DAYLILY	1 GAL.

GROUND COVERS		QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
KINN		68 (401 SF)	ARCTOSTAPHYLOS UVA-URSI `MASSACHUSETTS` / MASSACHUSETTS MANZANITA	1 GAL.	30" o.c.
WINT		267 (576 SF)	GAULTHERIA PROCUMBENS / WINTERGREEN	4" POT	18" o.c.
LITH		84 (682 SF)	LITHODORA DIFFUSA `GRACE WARD` / GRACE WARD LITHODORA	1 GAL.	36" o.c.
RASP		46 (653 SF)	RUBUS CALYCINOIDES `EMERALD CARPET` / EMERALD CARPET CREEPING RASPBERRY	1 GAL.	48" o.c.
LAWN		5,118 SF	PROTIME PT301 WATER SMARTER FESCUE	SEED AT RATE OF 7-10 LBS PER 1,000 SF	

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FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED 643
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

STORMWATER FACILITY PLANTING PLAN

SCALE: 1" = 20' - 0"

0' 10' 20' 40'

SCALE

SEPTEMBER 20TH, 2024

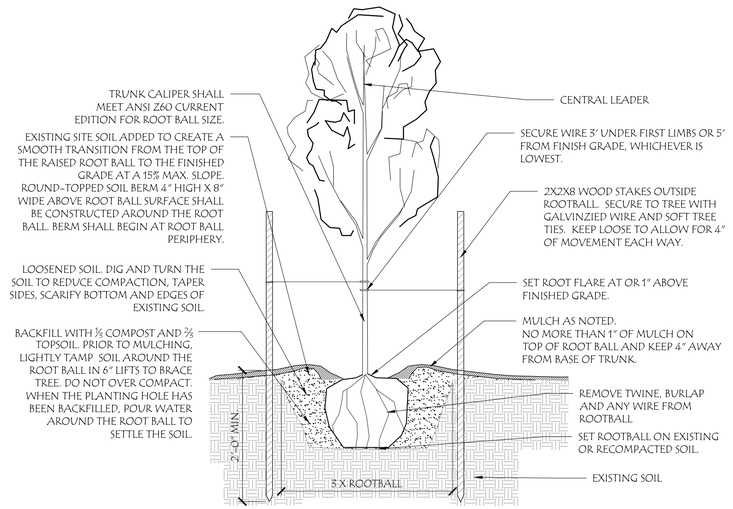
REVISIONS

#	DATE	NOTES	INITIALS

L1.2

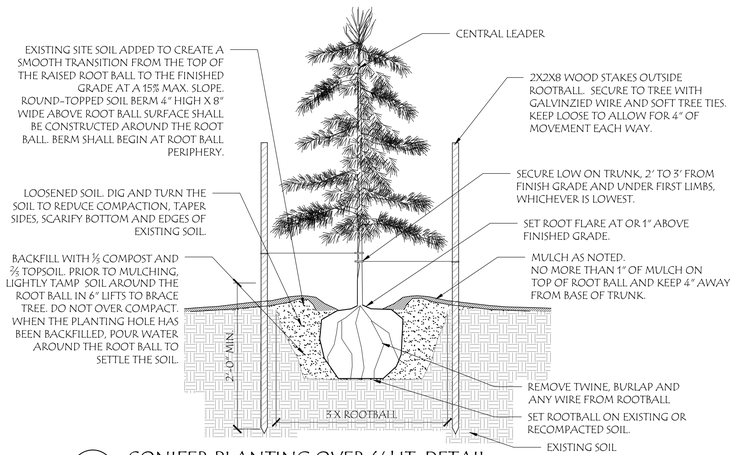
SHEET 3 OF 8

PROJECT #: 1591C



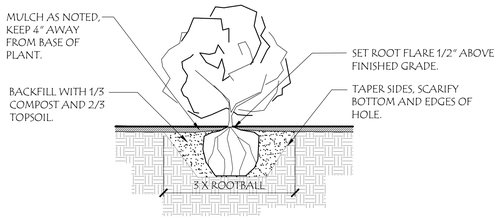
1 TREE PLANTING AT 1 1/2" CALIPER OR GREATER DETAIL

SCALE: NTS



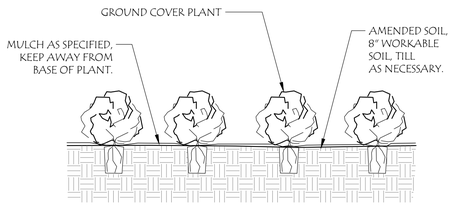
2 CONIFER PLANTING OVER 6' HT. DETAIL

SCALE: NTS



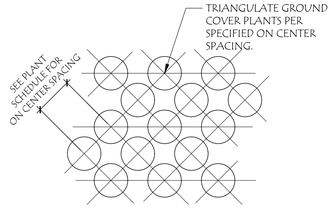
3 SHRUB AND GROUND COVER PLANTING DETAIL

SCALE: NTS



4 4" POT / PLUG PLANTING DETAIL

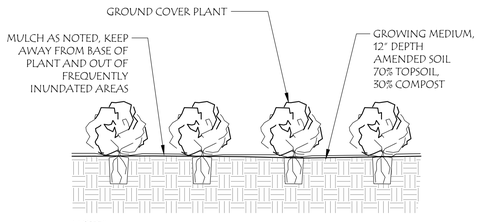
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NOTES
1. KEEP 18" FROM CURBS, SIDEWALKS, LAWN AND/OR TREES AND SHRUBS

5 GROUND COVER SPACING DETAIL

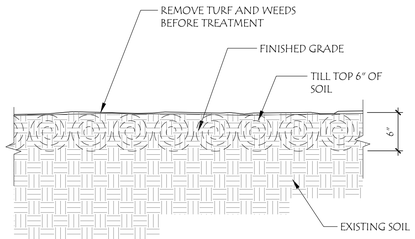
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NOTES
1. KEEP 12" FROM CURBS, SIDEWALKS, LAWN AND/OR TREES AND SHRUBS

6 STORMWATER CONTAINER PLANTS

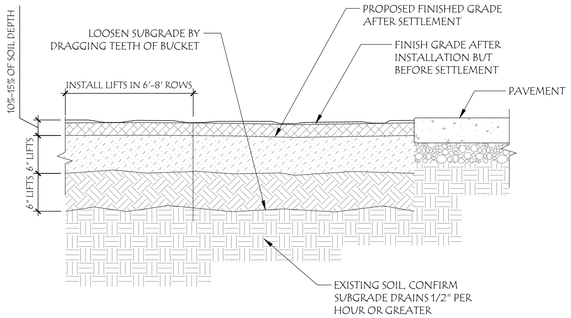
SCALE: NTS



NOTES:
1. SEE PLANTING SOIL SPECIFICATIONS OR PLANTING NOTES FOR ADDITIONAL REQUIREMENTS.

7 MODIFIED EXISTING SOIL FOR TURF

SCALE: NTS



NOTES:
1. MEANS AND METHODS OF SOIL COMPACTION SHALL BE DETERMINED AT TIME OF SOIL MOCK UP.
2. SOIL COMPACTION AFTER INSTALLATION SHALL BE 75 - 250 PSI AT SOIL MOISTURE BETWEEN FIELD CAPACITY AND WILTING POINT.
3. FOR SOIL DEPTHS SEE PLANTING SOIL SPECIFICATIONS OR PLANTING NOTES.
4. SEE PLANTING SOIL SPECIFICATIONS OR PLANTING NOTES FOR ADDITIONAL REQUIREMENTS.

8 MODIFIED EXISTING SOIL WITH AMENDMENTS

SCALE: NTS

GENERAL NOTES:

1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. PLANTING PLAN SEE SHEET L1.1.
5. PLANT SCHEDULE SEE SHEET L1.2.
6. PLANTING NOTES AND DETAILS SEE THIS SHEET AND L1.4.
7. IRRIGATION PLAN SEE SHEET L2.1.

GENERAL PLANTING NOTES:

1. THE LANDSCAPE CONTRACTOR IS TO THOROUGHLY REVIEW THE SITE. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN AND EXISTING CONDITIONS THE LANDSCAPE ARCHITECT IS TO BE IMMEDIATELY NOTIFIED.
2. IF THE LANDSCAPE CONTRACTOR STARTS WORK BEFORE SITE CONDITIONS ARE READY, THEY WILL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS RELATING TO THE CONDITION.
3. PLANT MATERIALS SHALL BE FREE OF DISEASE, INJURY, AND INSECT INFESTATION. UNHEALTHY OR DAMAGED PLANTS SHALL BE REPLACED BY LANDSCAPE CONTRACTOR. ALL PLANT MATERIAL SHALL FOLLOW THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLICATIONS INCLUDING ANSI A300 AND ANSI Z60.
4. PLANTER BEDS: ALL PLANTER BEDS SHALL HAVE A MINIMUM DEPTH OF 8" WORKABLE TOPSOIL, COMPACTED AT A MAXIMUM OF 85% STANDARD PROCTOR MAXIMUM DRY DENSITY. TOPSOIL SHALL BE OVER ROCK-FREE SUBGRADE. SUBGRADE TO BE RIPPED AND TILLED TO 6" DEPTH AND REMOVE ALL DEBRIS 2" OR LARGER. SMALL PLANTER AREAS MAY REQUIRE REMOVAL OF COMPACTED SOIL, ROCK, GRAVEL TO AT LEAST 18" DEEP. LOOSEN AND AMEND SOIL BEFORE REPLACING IN 6" LIFTS TO FINISH GRADE.
5. LAWN BEDS: ALL LAWNS BEDS SHALL HAVE A MINIMUM DEPTH OF 3" WORKABLE TOPSOIL WITH 1" CLEAN, MATURE COMPOST. THOROUGHLY MIX AND TILL 2" INTO SUBGRADE FOR A TOTAL DEPTH OF 6" UNCOMPACTED, WORKABLE SOIL.
6. TOPSOIL MIX: AMEND EXISTING SOIL IN-SITU OR STOCK PILE SOIL ON SITE. IMPORT TOPSOIL ONLY AS NECESSARY. CONDUCT A SOIL SAMPLE FOR EACH TYPE OF PLANTER AREA. SEND SAMPLES TO AN INDEPENDENT LABORATORY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE AND SPECIALIZING IN AGRONOMIC SOIL ANALYSIS FOR TESTING AND AMENDMENT RECOMMENDATIONS.
7. SOIL AMENDMENTS: ADD A MINIMUM OF 3" CLEAN, MATURE COMPOST TO TOPSOIL FOR PLANTER AREAS AND 1" CLEAN, MATURE COMPOST FOR LAWN BEDS, TILL IN, FOR ALL BEDS.
   FOR BIDDING PURPOSES, ASSUME GENERAL SOIL AMENDMENTS AS FOLLOWS PER 1000' SF AT 6" LIFTS UNTIL SOIL ANALYSIS RECOMMENDATION IS COMPLETE, SEE ABOVE FOR COMPOST:
   - 25 LBS GYPSUM
   - 75 LBS LIME
   - 8 LBS SUPERPHOSPHATE
   - 3 LBS AMMONIUM NITRATE
   - 4 OZS ZINC SULFATE
   - 8 OZS MANGANESE SULFATE
8. MYCORRHIZAL FUNGI INOCULATE: USE A COMBINED ENDO AND ECTO MYCORRHIZAL FUNGI INOCULATE SUCH AS BIO-ORGANICS OR EQUAL AT A RATE OF:
   - 2" CAL. B&B TREE: 3 TEASPOONS
   - 5 GALLON: 2 TEASPOONS
   - 1-3 GALLON PLANT: 1 TEASPOON
   - 4" POT: 1/4 TEASPOON
   - SEED/TURF: 1 LB PER 2000 SF

   DO NOT USE ON RHODODENDRON/AZALEA, HUCKLEBERRY, SEDGE, RUSH, HEATH.
9. PLANTING: VERIFY SOIL IS APPROPRIATELY DRY FOR DIGGING. SEE DETAILS THIS SHEET FOR HOLE DEPTH, WIDTH AND BACKFILL. DEEP WATER IMMEDIATELY AFTER PLANTING.
10. MOUND PLANTING BED AREAS 3% FOR POSITIVE DRAINAGE AND AESTHETICS. SLOPE AWAY FROM BUILDINGS.
11. MULCH: SPREAD 2" MAX. DEPTH AGED FIR MULCH IN ALL PLANTER BEDS AND OPEN LANDSCAPE AREAS. KEEP MULCH AWAY FROM PLANT BASE.
12. FERTILIZER: DO NOT USE ADDITIONAL FERTILIZERS ON NEWLY PLANTED TREES FOR FIRST YEAR.
13. TREES: TREE STAKES TO BE REMOVED AFTER 6 MONTHS.
14. LAWN: PROVIDE 48" DIAMETER LAWN CUT-OUTS AROUND ALL TREES. MULCH CUT-OUTS, KEEP MULCH AT LEAST 4" AWAY FROM BASE OF TREE. KEEP LAWN 12" FROM FENCES AND BUILDINGS. MULCH AREAS AT FENCE AND BUILDING.
15. SEED: HYDROSEED IN SPRING AFTER MARCH 15TH OR FALL BEFORE OCTOBER 15TH.
16. PLANT QUANTITIES SHOWN ARE INTENDED TO ASSIST THE CONTRACTOR IN EVALUATING THEIR OWN TAKE-OFFS. IF THERE IS A DISCREPANCY BETWEEN PLANT QUANTITIES AND SYMBOLS SHOWN, USE THE LARGER OF THE TWO AMOUNTS. CONTRACTOR IS RESPONSIBLE FOR ALL FINAL QUANTITIES.
17. NOTIFY LANDSCAPE ARCHITECT OF SUBSTITUTIONS.
18. PLANTS TO BE UNDER WARRANTY FOR A MINIMUM OF 12 MONTHS STARTING FROM FULL COMPLETION.

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FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED 643
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

PLANTING NOTES AND DETAILS

SEPTEMBER 20TH, 2024

REVISIONS

#	DATE	NOTES	INITIALS

L1.3

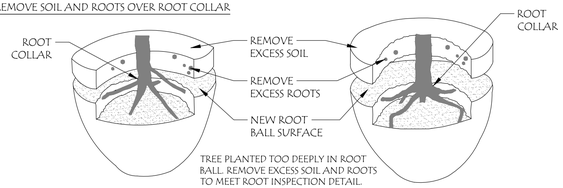
SHEET 4 OF 8

PROJECT #: 1591C

GENERAL NOTES:

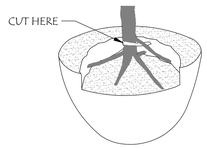
1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. PLANTING PLAN SEE SHEET L1.1.
5. PLANT SCHEDULE SEE SHEET L1.2.
6. PLANTING NOTES AND DETAILS SEE THIS SHEET AND L1.3.
7. IRRIGATION PLAN SEE SHEET L2.1.

STEP 1: REMOVE SOIL AND ROOTS OVER ROOT COLLAR

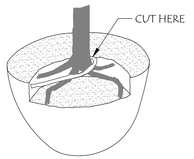


TREE PLANTED TOO DEEPLY IN ROOT BALL. REMOVE EXCESS SOIL AND ROOTS TO MEET ROOT INSPECTION DETAIL.

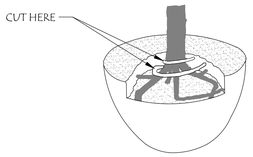
STEP 2: REMOVE DEFECTS



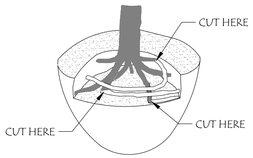
FIVE STRUCTURAL (LARGE) ROOTS SHOWN IN GRAY. REMOVE STRUCTURAL (WHITE) ROOT WRAPPING ROOT COLLAR.



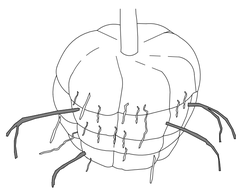
FOUR STRUCTURAL ROOTS SHOWN IN GRAY. REMOVE ROOT (WHITE) GROWING OVER STRUCTURAL ROOTS.



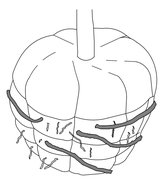
SIX STRUCTURAL ROOTS SHOWN IN GRAY. REMOVE STRUCTURAL ROOTS (WHITE) GROWING OVER ROOT COLLAR BY CUTTING THEM JUST BEFORE THEY MAKE AN ABRUPT TURN.



SEVEN STRUCTURAL ROOTS SHOWN IN GRAY. REMOVE STRUCTURAL ROOTS (WHITE) GROWING AROUND OR OVER ROOT COLLAR BY CUTTING THEM JUST BEFORE THEY MAKE AN ABRUPT TURN.



REMOVE STRUCTURAL ROOTS (4 SHOWN IN GRAY) EXTENDING FROM ROOT BALL.



REMOVE STRUCTURAL ROOTS (4 SHOWN IN GRAY) DEFLECTED ON ROOT BALL PERIPHERY. SMALL ROOTS (1/4" OR LESS) AT THE PERIPHERY OF THE ROOT BALL ARE NOT DEFINED AS DEFECTS AND DO NOT NEED TO BE REMOVED.

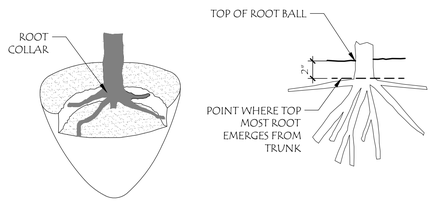
NOTES:
1- ALL TREES SHOWN ARE REJECTABLE UNLESS THEY UNDERGO RECOMMENDED CORRECTION.
2- FIRST STEP 1, THEN STEP 2. ADJUST HOLE DEPTH TO ALLOW FOR THE REMOVAL OF EXCESS SOIL AND ROOTS OVER THE ROOT COLLAR.
3- ROOTS AND SOIL MAY BE REMOVED DURING THE CORRECTION PROCESS; SUBSTRATE/SOIL SHALL BE REPLACED AFTER THE CORRECTION HAS BEEN COMPLETED.
4- TREES SHALL PASS ROOT OBSERVATIONS DETAIL FOLLOWING CORRECTION.

1 ROOT CORRECTION: BALLED & BURLAPPED

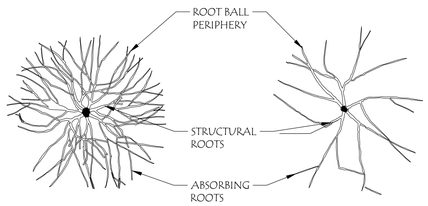
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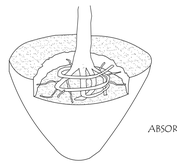
THE POINT WHERE TOP-MOST ROOT(S) EMERGES FROM THE TRUNK (ROOT COLLAR) SHOULD BE WITHIN THE TOP 2" OF SUBSTRATE. THE ROOT COLLAR AND THE ROOT BALL INTERIOR SHOULD BE FREE OF DEFECTS INCLUDING CIRCLING, KINKED, ASCENDING, AND STEM GIRDLING ROOTS. STRUCTURAL ROOTS SHALL REACH THE PERIPHERY NEAR THE TOP OF THE ROOT BALL.



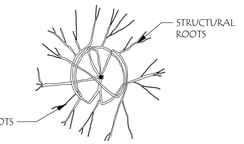
ROOTS RADIATE FROM TRUNK AND REACH SIDE OF ROOT BALL WITHOUT DEFECTING DOWN OR AROUND.

NOTES:
1- OBSERVATIONS OF ROOTS SHALL OCCUR PRIOR TO ACCEPTANCE. ROOTS AND SOIL MAY BE REMOVED DURING THE OBSERVATION PROCESS; SUBSTRATE/SOIL SHALL BE REPLACED AFTER THE OBSERVATIONS HAVE BEEN COMPLETED.

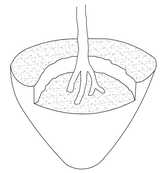
REJECTABLE



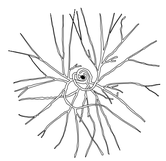
STRUCTURAL ROOTS CIRCLE INTERIOR OF ROOT BALL. NO STRUCTURAL ROOTS ARE HORIZONTAL AND REACH THE ROOT BALL PERIPHERY NEAR THE TOP OF THE ROOT BALL.



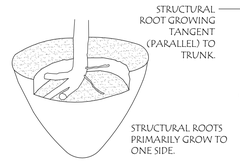
ONLY ABSORBING ROOTS REACH THE PERIPHERY NEAR THE TOP OF THE ROOT BALL. STRUCTURAL ROOTS MOSTLY WRAP OR ARE DEFLECTED ON THE ROOT BALL INTERIOR.



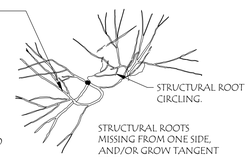
STRUCTURAL ROOTS DESCEND INTO ROOT BALL INTERIOR. NO STRUCTURAL ROOTS ARE HORIZONTAL AND REACH THE ROOT BALL PERIPHERY NEAR THE TOP OF THE ROOT BALL.



STRUCTURAL ROOTS CIRCLE AND DO NOT RADIATE FROM THE TRUNK.



STRUCTURAL ROOTS PRIMARILY GROW TO ONE SIDE.



STRUCTURAL ROOTS MISSING FROM ONE SIDE, AND/OR GROW TANGENT TO TRUNK.

2 ROOT OBSERVATIONS: BALLED AND BURLAPPED

SCALE: NTS

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FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED 643
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

PLANTING DETAILS

SEPTEMBER 20TH, 2024

REVISIONS

#	DATE	NOTES	INITIALS

L1.4

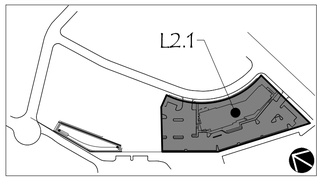
SHEET 5 OF 8

PROJECT #: 1591C

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	HUNTER ICV-G	1"	TURF ROTARY	3.45	139.2	42.3	47.9	0.31 in/h
2	HUNTER ICV-G	1"	SHRUB ROTARY	14.05	52.7	45.5	51.2	0.39 in/h
3	HUNTER ICV-G	1"	TURF ROTARY	18.16	41.9	49.3	55.0	0.47 in/h
4	HUNTER ICV-G	1"	SHRUB ROTARY	14.83	77.4	47.1	52.8	0.43 in/h
5	HUNTER ICV-G	1"	SHRUB ROTARY	16.75	400.9	46.2	52.8	0.42 in/h
6	HUNTER ICV-G	1"	TURF ROTARY	5.98	499.3	43.0	48.7	0.34 in/h
7	HUNTER ICV-G	1"	SHRUB ROTARY	18.7	506.0	50.8	58.0	0.47 in/h
8	HUNTER ICV-G	1"	SHRUB ROTOR	13.6	545.9	40.7	49.5	0.38 in/h
9	HUNTER ICV-G	1"	SHRUB ROTOR	14	559.9	42.0	50.8	0.27 in/h
10	HUNTER ICV-G	1"	SHRUB ROTOR	15.3	533.3	41.4	50.8	0.4 in/h
	Common Wire				1,035			

KEY MAP:



LEGEND:

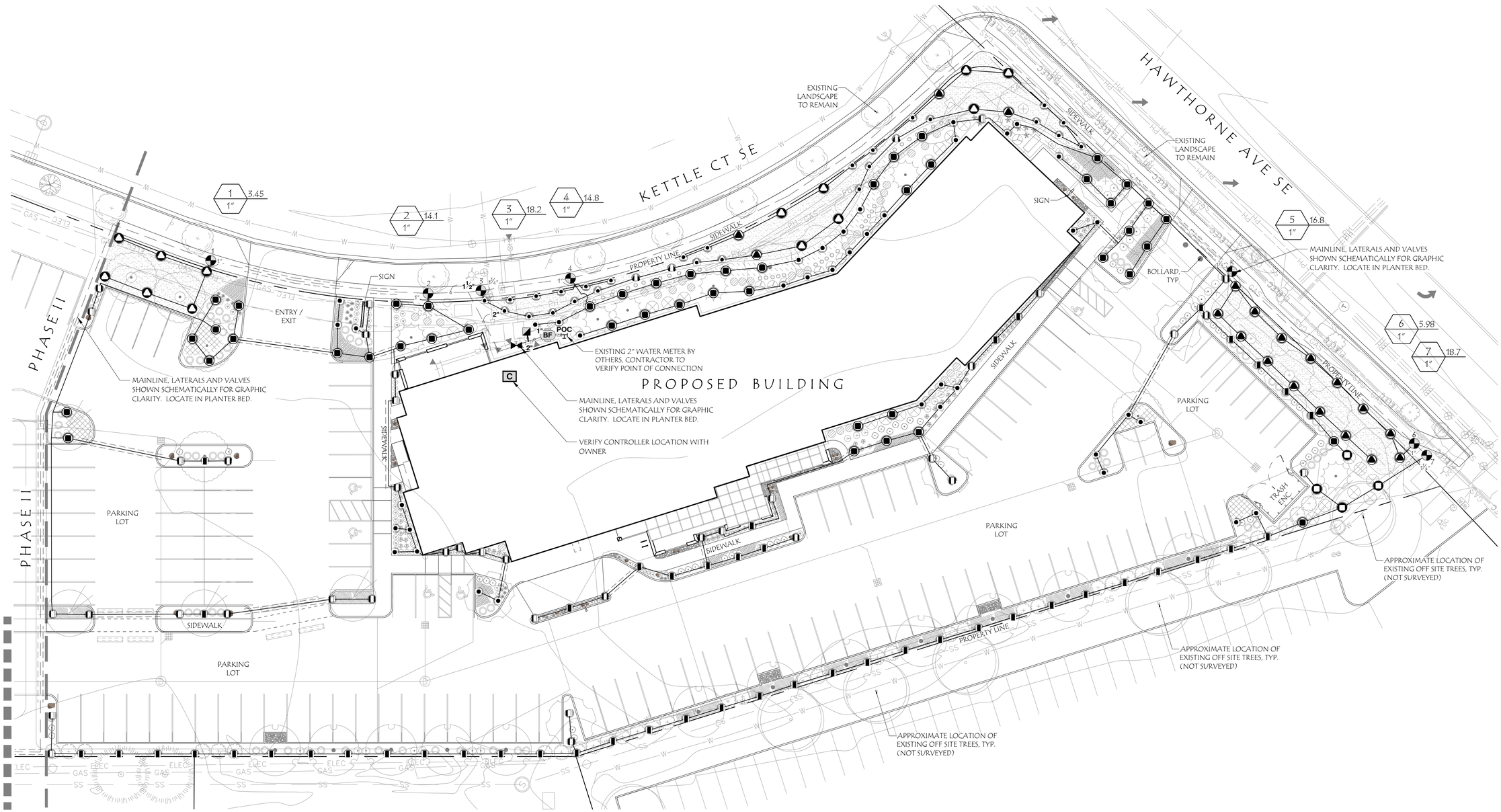
EXISTING TREES TO REMAIN

VALVE CALLOUT

Valve Number
Valve Flow
Valve Size

GENERAL NOTES:

1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. IRRIGATION SCHEDULE SEE SHEET L2.2.
5. IRRIGATION NOTES AND DETAILS SEE SHEET L2.3.
6. PLANTING PLAN SEE SHEET L1.1.



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FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED
643
LAURA A. ANTONSON
OREGON
11/16/2007
LANDSCAPE ARCHITECT

IRRIGATION PLAN

SCALE: 1" = 20' - 0"

0' 10' 20' 40'
SCALE

SEPTEMBER 20TH, 2024

REVISIONS

#	DATE	NOTES	INITIALS

L2.1

SHEET 6 OF 8

PROJECT #: 1591C

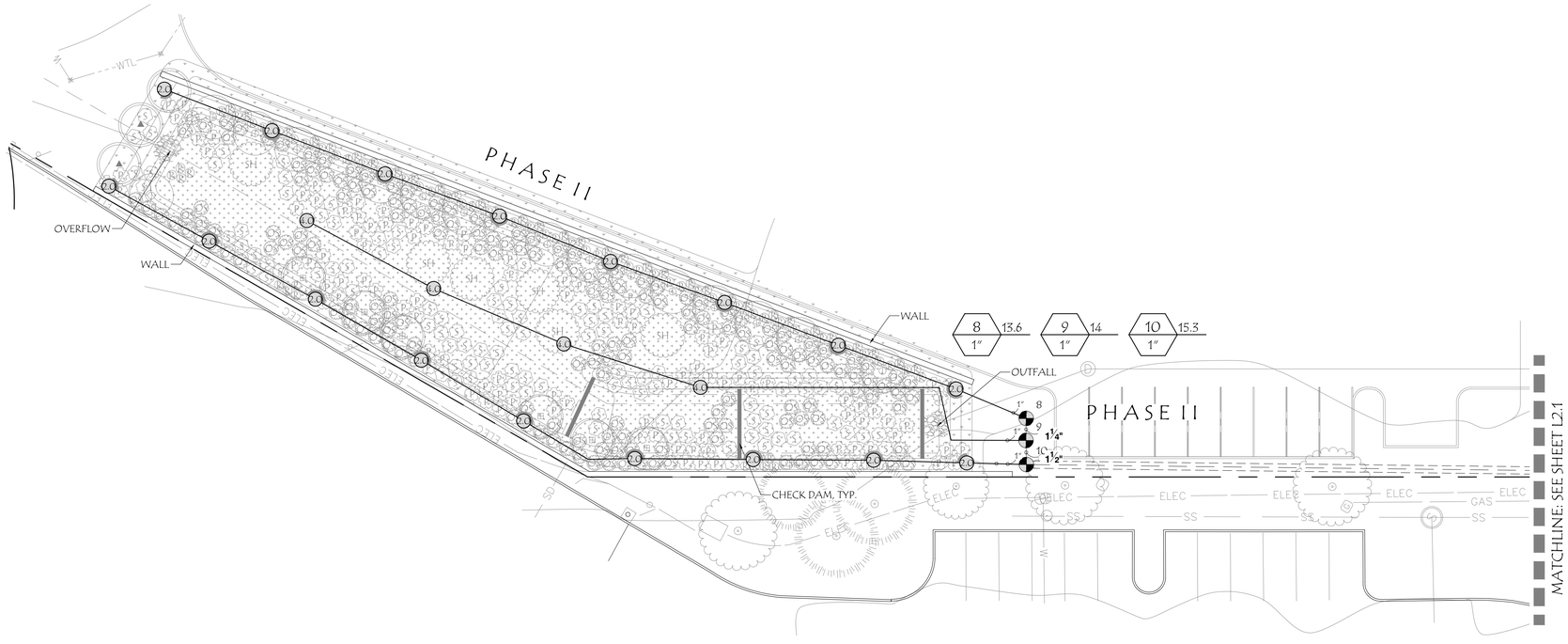
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*	PSI
LST SST RST	HUNTER MP STRIP PROS-04-PRS40-CV-F TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. LST=IVORY LEFT STRIP, SST=BROWN SIDE STRIP, RST=COPPER RIGHT STRIP.	3	40
1000	HUNTER MP1000 PROS-04-PRS40-CV-F TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.	19	40
2000	HUNTER MP2000 PROS-04-PRS40-CV-F TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.	13	40
800 A 800 F	HUNTER MP8005R PROS-04-PRS40-CV-F TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)	26	40
LST SST RST	HUNTER MP STRIP PROS-06-PRS40-CV-F SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. LST=IVORY LEFT STRIP, SST=BROWN SIDE STRIP, RST=COPPER RIGHT STRIP ON PRS40 BODY.	87	40
1000	HUNTER MP1000 PROS-06-PRS40-CV-F SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC ON PRS40 BODY.	48	40
2000	HUNTER MP2000 PROS-06-PRS40-CV-F SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC ON PRS40 BODY.	4	40
800 A 800 F	HUNTER MP8005R PROS-06-PRS40-CV-F SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)	40	40

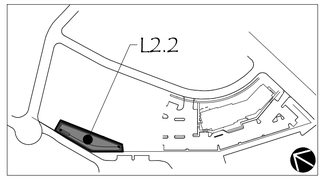
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*	PSI	GPM	RADIUS
2.0	HUNTER I-20-00 2.0 SHRUB ROTOR, FIXED ON 24" RISER. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.	17	35	1.7	33'
4.0	HUNTER I-20-00 4.0 SHRUB ROTOR, FIXED ON 24" RISER. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.	4	35	3.5	39'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	HUNTER ICV-G 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.	10
	HUNTER HQ-44LRC QUICK COUPLER VALVE, YELLOW RUBBER LOCKING COVER, RED BRASS AND STAINLESS STEEL, WITH 1" NPT INLET, 2-PIECE BODY.	1
	SHUT OFF VALVE BRASS, LINE SIZE	1
BF	ZURN 950XL1" DOUBLE CHECK VALVE ASSEMBLY	1
C	HUNTER P2C-400 WITH (02) PCM-300 (VERIFY LOCATION WITH OWNER) LIGHT COMMERCIAL & RESIDENTIAL CONTROLLER, 10-STATION EXPANDED MODULE CONTROLLER, 120 VAC, OUTDOOR/INDOOR MODEL	1
POC	POINT OF CONNECTION 2" (CONTRACTOR TO VERIFY)	1
———	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	4,278 L.F.
— — — —	IRRIGATION MAINLINE: PVC SCHEDULE 40	1,035 L.F.
= = = = = = = =	PIPE SLEEVE: 4" PVC SCHEDULE 40	653 L.F.

*QUANTITIES FOR ESTIMATING PURPOSES ONLY



KEY MAP:



LEGEND:

EXISTING TREES TO REMAIN

VALVE CALLOUT

Valve Number
Valve Flow
Valve Size

GENERAL NOTES:

1. VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE CIVIL DRAWINGS. CALL BEFORE YOU DIG. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
2. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN.
3. SEE CIVIL DRAWINGS FOR GRADING, UTILITIES AND STORMWATER.
4. IRRIGATION PLAN SEE SHEET L2.1.
5. IRRIGATION SCHEDULE SEE THIS SHEET.
6. IRRIGATION NOTES AND DETAILS SEE SHEET L2.3.
7. PLANTING PLAN SEE SHEET L1.1.

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REGISTERED 643
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OREGON
11/16/2007
LANDSCAPE ARCHITECT

STORMWATER FACILITY IRRIGATION PLAN

SCALE: 1" = 20' - 0"

0' 10' 20' 40'
SCALE

SEPTEMBER 20TH, 2024

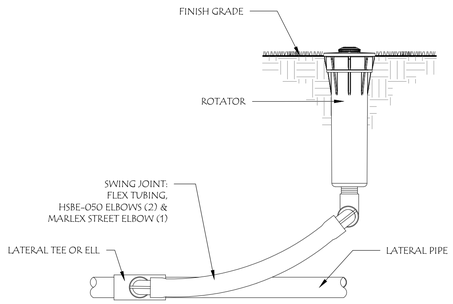
REVISIONS

#	DATE	NOTES	INITIALS

L2.2

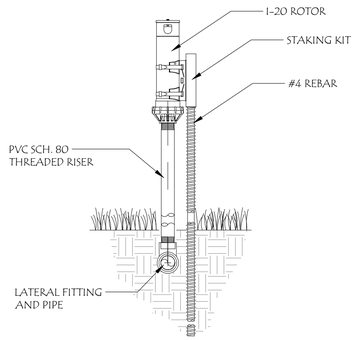
SHEET 7 OF 8

PROJECT #: 1591C



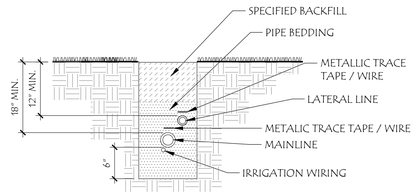
1 MP ROTATOR SWING JOINT

SCALE: NTS



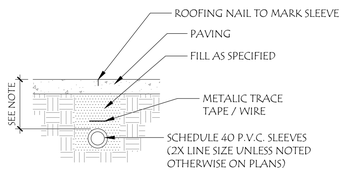
2 FIXED ROTOR STAKED

SCALE: NTS



3 TYPICAL TRENCHING

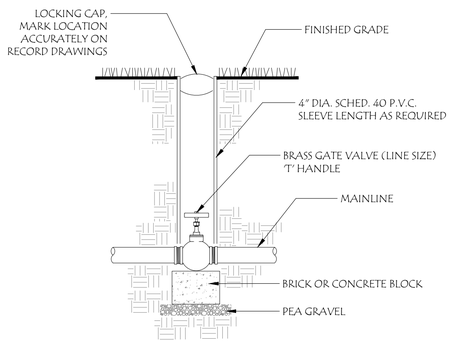
SCALE: NTS



NOTES:
1. EXTEND IRRIGATION SLEEVE 6" BEYOND EACH SIDE OF PAVING.
2. 18" MIN. DEPTH OF MAINLINE
3. 14" MIN. DEPTH OF LATERAL @ PAVING
4. 24" MIN. DEPTH OF LINES UNDER DRIVING SURFACES

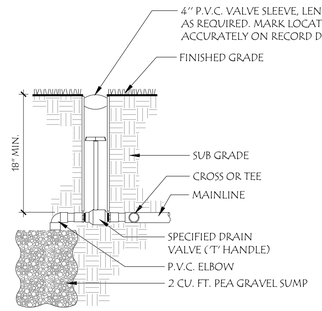
4 IRRIGATION SLEEVES

SCALE: NTS



5 BRASS SHUT OFF VALVE

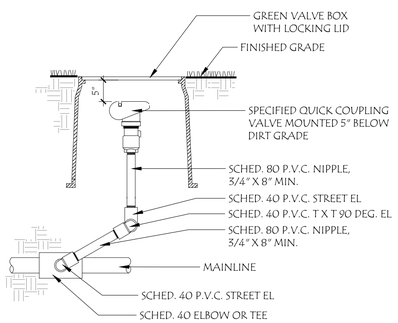
SCALE: NTS



NOTE:
MANUAL DRAIN VALVES ARE TO BE PLACED AT ALL LOW POINTS IN MAINLINE THROUGHOUT THE SITE.

6 MANUAL DRAIN VALVE

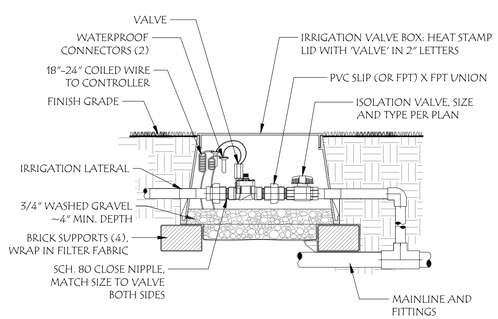
SCALE: NTS



NOTE:
SPACE 100' O.C. ALONG THE MAINLINE AND AS NOTED ON PLAN.

7 QUICK COUPLER VALVE

SCALE: NTS



8 CONTROL ZONE VALVE

SCALE: NTS

GENERAL NOTES:

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5. IRRIGATION SCHEDULE SEE SHEET L2.2.
6. IRRIGATION NOTES AND DETAILS SEE THIS SHEET.
7. PLANTING PLAN SEE SHEET L1.1.

IRRIGATION NOTES:

1. IRRIGATION SYSTEM DESIGN BASED ON 19.6 GPM AT 60 PSI. IF METER SIZE, FLOW (GPM) AND/OR STATIC PRESSURE (PSI) VARY, CONTACT LANDSCAPE ARCHITECT.
2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION (POC) ONLY. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.
3. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5-FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
4. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL AND PLUMBING CODES.
5. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION PER LOCAL CODE.
6. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWINGS IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY. PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY. ADJUST SLEEVE LOCATIONS AS NEEDED. LOCATE VALVES AT EDGE OF PLANT BEDS OR LAWN FOR GOOD ACCESS. PLACE VALVES INSIDE ROW LIMITS IF POSSIBLE, FIELD VERIFY.
7. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH A MINIMUM 12" OF COVER BASED ON FINISH GRADES. BACKFILL TRENCHES WITH NATIVE ON-SITE SOIL, FREE OF ROCK AND OTHER DELETERIOUS MATERIAL IN 4" LIFTS, TAMPING FIRMLY TO ENSURE COMPACTION, MATCH GRADE TO EXISTING PLANTER AREAS. IRRIGATION SLEEVES AT DRIVING SURFACES TO BE 24" DEEP. BACKFILL WITH NATIVE ON-SITE SOIL, FREE OF ROCK AND OTHER DELETERIOUS MATERIAL IN 4" LIFTS, TAMPING FIRMLY TO ENSURE COMPACTION. SEE CIVIL DRAWINGS FOR PAVEMENT DETAILS. SHARE TRENCHES WHENEVER POSSIBLE.
8. USE IN-LINE CHECK VALVES TO AVOID LOW LINE DRAINAGE.
9. PLACE ISOLATION VALVES AT POINT OF CONNECTION AND EACH VALVE BOX.
10. LAWN ROTATORS: 4" POP-UPS IN LAWN AREAS, SEE HEAD TYPES IN LEGEND. KEEP 2" FROM PAVING AND 4" FROM WALLS.
11. SHRUB ROTATORS: 6" POP-UPS IN PLANTER AREAS, SEE HEAD TYPES IN LEGEND. KEEP 2" FROM PAVING AND 4" FROM WALLS.
12. SHRUB ROTORS: FIXED ROTATORS WITH 24" HEIGHT STAKES.
13. CONTROLLER: EXTERIOR, VERIFY LOCATION WITH OWNER.
14. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTORS AND BE IN A VALVE OR SPLICE BOX.
15. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, U/L APPROVED DIRECT BURY.
16. CONTRACTOR TO PROVIDE AS-BUILTS TO CLIENT AND INCLUDE ZONE INFORMATION IN CONTROLLER BOX.
17. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...).

PVC PIPE SIZING SCHEDULE:

PIPE SIZING IS BASED ON GALLONS PER MINUTE (GPM) DEMAND DOWNLINE. FLOW VELOCITIES IN PIPE SHALL NOT EXCEED 5 FEET PER SECOND.

MAX. GPM, CLASS 200 PVC PIPE	MAX. GPM, SCHEDULE 40 PVC PIPE
3/4" = 10 GPM	3/4" = 8 GPM
1" = 16 GPM	1" = 12 GPM
1 1/4" = 26 GPM	1 1/4" = 22 GPM
1 1/2" = 35 GPM	1 1/2" = 30 GPM
2" = 55 GPM	2" = 50 GPM
2 1/2" = 80 GPM	2 1/2" = 70 GPM
3" = 120 GPM	3" = 110 GPM
4" = 200 GPM	4" = 190 GPM

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FARM CREDIT HOTEL

KETTLE CT SE
SALEM, OREGON

REGISTERED 643 LAURA A. ANTONSON OREGON 11/16/2007 LANDSCAPE ARCHITECT

IRRIGATION NOTES AND DETAILS

SEPTEMBER 20TH, 2024

REVISIONS

#	DATE	NOTES	INITIALS

L2.3

SHEET 8 OF 8

PROJECT #: 1591C

DRAWINGS FOR:

FARM CREDIT DRIVE DEVELOPMENT
PH I & PH II LAND USE APPLICATION

FARM CREDIT DRIVE
SALEM, OR

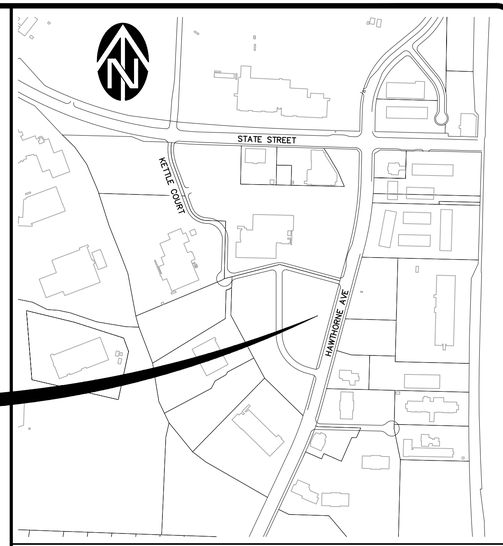
FOR:

WEALTH HOSPITALITY GROUP
115 W JACKSON STREET, SUITE 20
RIDGELAND, MS 39157

PROJECT MANAGER: KISHAN GOPAL
KISHAN@WEALTHHG.COM
601-482-6123

811
Know what's below.
Call before you dig.

PROJECT LOCATION



VICINITY MAP

GENERAL LEGEND

FOUND MONUMENT	SUBJECT PROPERTY
GUY WIRE	FENCELINE
LIGHT POLE	FENCELINE
UTILITY POLE	FENCELINE
WATER METER	—1000— EXISTING CONTOUR MAJOR
WATER VALVE	EXISTING CONTOUR MINOR
TELEPHONE RISER	GAS LINE
SANITARY SEWER CLEANOUT	WATER LINE
SANITARY SEWER MANHOLE	OVERHEAD POWER LINE
SIGN POST	UNDERGROUND POWER
STORMWATER CATCH BASIN	SANITARY SEWER LINE
STORMWATER MANHOLE	STORM LINE
GUY ANCHOR POLE	TELEPHONE LINE
UTILITY VAULT	BUILDING
MAILBOX	CONCRETE SURFACE
16" CONIFEROUS TREE WITH SIZE	PAVEMENT SURFACE
16" DECIDUOUS TREE WITH SIZE	
1000.0 ELEVATION SPOTGRADE	
BENCHMARK	
DIMENSION POINT NOTHING SET OR FOUND	

ELEVATIONS SHOWN HEREON ARE BASED ON A 3-1/4" BRASS DISK IN MONUMENT WELL AT THE INTERSECTION OF STATE HIGHWAY 211 & SOUTH DNA WAY SHOWN AS A CLACKAMAS BENCHMARK ON THE IMPROVEMENT PLANS FOR "CASCADE CENTER."

ELEV: 340.16 (NAVD 88)

DRAWING INDEX

DWG	TITLE
C1.0	COVER SHEET, VICINITY & LOCATION MAPS, DRAWING INDEX
C1.1	CONSTRUCTION NOTES
C1.2	CONSTRUCTION NOTES
C1.3	REPLAT MAP
C1.4	CLIMATE SUMMARY
C2.0	PHASE I EROSION CONTROL NOTES & DETAILS
C2.1	PHASE I EROSION CONTROL NOTES & DETAILS
C2.2	PHASE I EROSION CONTROL NOTES & DETAILS
C2.3	PHASE I EXISTING CONDITIONS, EROSION CONTROL, & DEMOLITION PLAN
C2.4	PHASE I EROSION CONTROL PLAN - STREETS & UTILITIES
C2.5	PHASE I EROSION CONTROL PLAN - VERTICAL CONSTRUCTION
C2.6	PHASE I EROSION CONTROL PLAN - FINAL LANDSCAPE & STABILIZATION
C2.7	FOOD PLAN (BASED UPON FEMA MAPPING & ACTUAL TOPOGRAPHY)
C2.8	EXISTING STORMWATER DRAINAGE PATTERN
C3.0	OVERALL GRADING & DRAINAGE PLAN
C3.1	PHASE I GRADING & DRAINAGE PLAN (EAST)
C3.2	PHASE I GRADING & DRAINAGE PLAN (NORTH)
C3.2.1	PHASE II GRADING & DRAINAGE PLAN (NORTH)
C3.3	PHASE I SURFACING PLAN (EAST)
C3.4	PHASE I SURFACING PLAN (NORTH)
C3.5	PHASE I FIRE ACCESS PLAN

DRAWING INDEX

DWG	TITLE
C4.0	PHASE I OVERALL UTILITY PLAN
C4.1	PHASE II OVERALL UTILITY PLAN
C4.2	OVERALL STREET LIGHTING & TREES PLAN
C5.0	CIVIL DETAILS
C5.1	CIVIL DETAILS
C5.2	CIVIL DETAILS

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
0 1"

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REVIEW
OREGON PROFESSIONAL ENGINEER
STEVEN A. WEBB
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

COVER SHEET,
VICINITY & LOCATION MAPS,
& DRAWING INDEX

DRAWING
C1.0

JOB NUMBER
3155.3000.0

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GENERAL NOTES

1. Contractor shall procure, and conform to all construction permits required by the City of Salem.

2. Owner to pay all project permit costs, including but not limited to utility tapping, TV, and chlorination costs. The Contractor shall coordinate with the Approving Agency to determine appropriate fees and provide the Owner with 48 hours notice prior to the required payment of fees or costs. Contractor to apply for and pay all Private Plumbing and Electrical Permits

3. Oregon law requires the Contractor to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952–001–0010 through OAR 952–001–0090. Obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 503–232–1987).

4. Contractor to notify City and all utility companies a minimum of 48 business hours (2 business days) prior to start of construction, and comply with all other notification requirements of the Approving Agency with jurisdiction over the work.

5. Contractor shall provide all bonds and insurance required by public and/or private agencies having jurisdiction. Where required by public and/or private agencies having jurisdiction, the Contractor shall submit a suitable maintenance bond prior to final payment.

6. For City Construction Permits, contact Salem Public Works Engineering Construction Management at 503–588–6211. For City Building Permits, contact Salem Permit Application Center at 503–588–6256.

7. Contractor to apply for services at the Permit Application Center (PAC office) for work to be done by City forces on public mains.

8. All materials and workmanship for facilities in street right–of–way or easements shall conform to Approving Agencies' construction specifications wherein each has jurisdiction, including but not limited to the City, County, Oregon Health Division (OHD) and the Oregon Department of Environmental Quality (DEQ).

9. Unless otherwise approved by the Public Works Director, construction of all public facilities shall be done between 7:00 a.m. and 6:00 p.m., Monday through Saturday.

10. The Contractor shall perform all work necessary to complete the project in accordance with the approved construction drawings including such incidentals as may be necessary to meet the Approving Agencies' requirements and provide a completed project.

11. Any inspection by the City or other Approving Agency shall not, in any way, relieve the Contractor from any obligation to perform the work in strict compliance with the contract documents, applicable codes, and Approving Agency requirements.

12. Contractor shall maintain one complete set of approved drawings on the construction site at all times whereon he will record all approved deviations in construction from the approved drawings, as well as the station locations and depths of all existing utilities encountered. These field record drawings shall be kept up to date at all times and shall be available for inspection by the Approving Agency or Owner's Representative upon request. Failure to conform to this requirement may result in delay in payment and/or final acceptance of the project.

13. Upon completion of construction of all new facilities, Contractor shall submit a clean set of field record drawings containing all as–built information to the Engineer. All information shown on the Contractor's field record drawings shall be subject to verification. If significant errors or deviations are noted, an as–built survey prepared and stamped by a registered professional Land Surveyor shall be completed at the Contractor's expense.

14. Contractor shall procure and conform to DEQ stormwater permit No. 1200C for construction activities where 1 acre or more are disturbed.

15. The contractor shall retain and pay for the services of a registered Civil Engineer and/or Land Surveyor licensed in the State of Oregon to establish construction control and perform initial construction surveys to establish the lines and grades of improvements as indicated on the drawings. Staking for buildings, structures, curbs, gravity drainage pipes/structures and other critical improvements shall be completed using equipment accurate to 0.04 feet horizontally and 0.02 feet vertically, or better. Use of GPS equipment for final construction staking of these critical improvements is prohibited. The registered professional surveyor shall provide the design engineer with copies of all grade sheets for construction staking performed for the project.

16. See architectural drawings for site lighting, site dimensioning, and continuation of all utilities.

TRAFFIC CONTROL:

17. Contractor shall erect and maintain barricades, warning signs, traffic cones (and all other traffic control devices required) per City requirements in accordance with the current MUTCD (including Oregon amendments). Access to driveways shall be maintained at all times. All traffic control measures shall be approved and in place prior to any construction activity. Prior to any work in the existing public right–of–way, Contractor shall submit final traffic control plan to the Approving Agency for review and issuance of a Lane Closure or Work in Right–of–Way Permit.

18. Prior to any work in the existing right–of–way, Contractor shall submit final traffic control plan to City of Salem for review and issuance of lane closure permit. Contractor to obtain a lane closure permit before construction starts for any work within the existing public right–of–way, including public street improvements or driveway connections to existing streets.

TESTING AND INSPECTION:

19. For public and private improvements, the Contractor shall be responsible to ensure that all required or necessary inspections are completed by authorized inspectors prior to proceeding with subsequent work which covers or that is dependent on the work to be inspected. Failure to obtain necessary inspection(s) and approval(s) shall result in the Contractor being fully responsible for all problems and/or corrective measures arising from uninspected work.

20. Unless otherwise specified, the attached "Required Testing and Frequency" table outlines the minimum testing schedule for private improvements on the project. This testing schedule is not complete, and does not relieve the Contractor of the responsibility of obtaining all necessary inspections or observations for all work performed, regardless of who is responsible for payment. Cost for retesting shall be borne by the Contractor.

EXISTING UTILITIES & FACILITIES:

21. The location and descriptions of existing utilities shown on the drawings are compiled from available records and/or field surveys. The Engineer or utility companies do not guarantee the accuracy or the completeness of such records. Contractor shall field verify locations and sizes of all existing utilities prior to construction.

22. Utility locations are based on record information and should be field–verified. Call 1–800–332–2344 at least 48 hours prior to construction for on–site locating of utilities.

23. Contractor shall field verify location and depth of all existing utilities where new facilities cross. All utility crossings marked or shown on the drawings shall be potholed using hand tools or other non–invasive methods prior to excavating or boring. Contractor shall be responsible for exposing potential utility conflicts far enough ahead of construction to make necessary grade or alignment modifications without delaying the work. If grade or alignment modification is necessary, Contractor shall notify the Design Engineer, and the Design Engineer or the Owner's Representative shall obtain approval from the Approving Agency prior to construction.

24. The Contractor shall be responsible for locating and marking all existing survey monuments of record (including but not limited to property and street monuments) prior to construction. If any survey monuments are removed, disturbed or destroyed during construction of the project, the Contractor shall retain and pay for the services of a Registered Professional Surveyor licensed in the State of Oregon to reference and replace all such monuments prior to final payment. The monuments shall be replaced within a maximum of 90 days, and the County Surveyor shall be notified in writing as required by per ORS 209.150.

25. All facilities shall be maintained in–place by the Contractor unless otherwise shown or directed. Contractor shall take all precautions necessary to support, maintain, or otherwise protect existing utilities and other facilities at all times during construction. Contractor to leave existing facilities in an equal or better–than–original condition and to the satisfaction of the Approving Agency and Owner's Representative.

26. Utilities or interfering portions of utilities that are abandoned in place shall be removed by the Contractor to the extent necessary to accomplish the work. The Contractor shall plug the remaining exposed ends of abandoned utilities after appropriate verification procedures have taken place.

27. Contractor shall remove all existing signs, mailboxes, fences, landscaping, etc., as required to avoid damage during construction and replace them to existing or better condition.

28. Unless otherwise approved by the Approving Agency, all field tiles or drain lines intercepted or exposed during construction shall be connected to new storm lines, unless they are removed completely during construction, or are located and plugged at 50 foot maximum intervals uphill of the location intercepted. Any abandoned drain tiles downstream of the intercepting trenches shall be plugged with grout.

29. The Contractor shall be responsible for managing construction activities to ensure that public streets and right–of–ways are kept clean of mud, dust or debris. Dust abatement shall be maintained by adequate watering of the site by the Contractor.

GRADING, PAVING & DRAINAGE:

30. Contractor to review soils report prepared by Central Geotechnical Services and conform to all recommendations listed in the report.

31. (Salem Projects) All materials and workmanship for compaction, fills, grading, rocking and paving within the public right–of–way shall conform to City of Salem Standard Construction Specifications.

32. Unless otherwise noted, all grading, rocking and paving to conform to Oregon Standard Specifications for Construction (OSSC/ODOT/APWA), 2018 edition.

33. Clear and grub within work limits all surface vegetation, trees, stumps, brush, roots, etc. Do not damage or remove trees except as approved by the Owner's Representative or as shown on the drawings. Protect all roots two inches in diameter or larger.

34. Strip work limits, removing all organic matter, which cannot be compacted into a stable mass. All trees, brush, and debris associated with clearing, stripping or grading shall be removed and disposed of off–site.

35. For public and private improvements, except as otherwise allowed by the specifications required by Salem Standard Construction Specifications, drawing details or notes, immediately following stripping and grading operations, compact subgrade to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor). Subgrade must be inspected and approved by the Owner's authorized representative before placing, engineered fills or fine grading for base rock.

36. Unless otherwise required by Salem Standard Construction Specifications, Engineered fills shall be constructed and compacted in 6" lifts over approved subgrade. All fills shall be engineered and comply with the Oregon Structural Specialty Code, with each lift compacted to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor).

37. For private improvements, unless otherwise required by Salem Standard Construction Specifications, Granular baserock shall conform to the requirements of OSSC (ODOT/APWA) 02630.10 (Dense Graded Base Aggregate), with no more than 10% passing the #40 sieve and no more than 5% passing the #200 sieve.

38. Compact granular baserock to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor). Written baserock compaction test results from an independent testing laboratory must be received by the Owner's authorized representative before placing AC pavement, and a finished rock grade proof–roll (witnessed by the Owners authorized representative) must be performed.

39. For private improvements, unless otherwise required by Salem Standard Construction Specifications, A.C. pavement shall conform to OSSC (ODOT/APWA) 00745 (Hot Mixed Asphalt Concrete Pavement) for standard duty mix. Unless otherwise specified or shown on the drawings, base lifts shall be 3/4" dense graded mix, while wearing courses shall be 1/2" dense graded mix. Unless otherwise specified or shown on the drawings, A.C. pavement for parking lots and streets shall be Level 2 mix (50 blow Marshall) per OSSC (ODOT/APWA) 00744.13. A.C. Pavement shall be compacted to a minimum of 91% of maximum density as determined by the Rice standard method. Written AC pavement compaction test results from an independent testing laboratory must be received by the Owner's authorized representative before final payment.

40. Pavement surface shall be a smooth, well–sealed, tight mat without depressions or bird baths. Bony or open graded pavement surfaces shall be repaired to the satisfaction of the Owner's authorized representative, prior to final acceptance of the work.

41. For private improvements, unless otherwise required by Salem Standard Construction Specifications, HMAC mixtures shall be placed only when the surface is dry and weather conditions are such that proper handling, finishing and compaction can be accomplished. In no case shall bituminous mixtures be placed when the surface temperature is below the minimum established under 2018 OSSC (ODOT/APWA) 00744.40 (AC – Season and Temperature Limitations) or the project specifications, whichever is more stringent.

42. Contractor shall protect new pavement against traffic as required, until it has cooled sufficiently to avoid tracking.

43. For parking lots or private access drives, the final lift of AC pavement shall not be placed until after the building is fully enclosed and weatherproof, unless otherwise approved by the Owner's authorized representative.

44. Unless otherwise shown on the drawings or details, straight grades shall be run between all finish grade elevations and/or finish contour lines shown (exception: where grades are shown across sidewalks, slopes shall be adjusted to ensure that maximum allowable sidewalk cross slopes are not exceeded).

45. Finish pavement grades at transition to existing pavement shall match existing pavement grades or be feathered past joints with existing pavement as required to provide a smooth, free draining surface.

46. All existing or constructed manholes, cleanouts, monument boxes, gas valves, water valves and similar structures shall be adjusted to match finish grade of the pavement, sidewalk, landscaped area or median strip wherein they lie. Verify that all valve boxes and risers are clean and centered over the operating nut.

47. Unless otherwise shown on the drawings, no cut or fill slopes shall be constructed steeper than 3H:1V.

48. Unless otherwise shown on the landscape plans, all planter areas shall be backfilled with approved topsoil minimum 8" thick. Stripping materials shall not be used for planter backfill.

49. Contractor shall seed and mulch (uniformly by hand or hydroseed) all exposed slopes and disturbed areas which are not scheduled to be landscaped, including trench restoration areas. If the Contractor fails to apply seed and mulch in a timely manner during periods favorable for germination, or if the seeded areas fail to germinate, the Owner's Representative may (at his discretion) require the Contractor to install sod to cover such disturbed areas.

50. Grading shown on the drawings is critical to functioning of detention system and shall be strictly followed.

51. Contractor shall coordinate and ensure that detention pond volumes are inspected and approved by public agencies having jurisdiction before paving and landscaping.

CURBS & SIDEWALKS:

52. Unless otherwise shown or indicated on the drawings, 6–inches nominal curb exposure used for design of all parking lot and street grades.

53. Where new curbing connects to existing curbing or is installed along existing streets or pavement, the gutter grade shall match the existing street grades so as to allow drainage from the street to the gutter and through any transitions. The Contractor shall notify the Owner's Representative in writing of any grade discrepancies or problems prior to curb placement.

54. Not used.

55. Contractor shall construct all handicap access ramps in accordance with current ADA requirements.

56. Sidewalks shall be a minimum of 4–inches thick and standard residential driveways shall be a minimum of 6–inches thick. Commercial use driveways and alley approaches shall be minimum 8–inches thick. All curbs, sidewalks and driveways shall be constructed using 3300–psi concrete, and shall be cured with Type 1 or Type 1D clear curing compound. All sidewalks shall be ADA compliant.

57. Curb & sidewalk concrete shall be placed only during periods when it will not be damaged by rain (protect unhardened concrete from precipitation). Concrete shall not be placed on frozen baserock. Do not begin concrete placement until temperature in the shade is a minimum of 35°F and rising, and stop placement if air temperature falls below 35°F. Protect concrete from freezing for a minimum of 5 days after placement per OSSC (ODOT/APWA) 00440.40.d & 00756.40 or the project specifications, whichever is more stringent.

58. Contraction joints shall be installed directly over any pipes that cross under the sidewalk, to control cracking. In general, cracks in new curbs or sidewalks (at locations other than contraction joints) are not acceptable, and cracked panels shall be removed & replaced unless otherwise approved by the Approving Agency and the design engineer.

59. All sidewalks shall be ADA compliant. Direction of sidewalk cross slope shall conform with the slope direction shown on the grading plan. Sidewalk cross slopes shall not exceed 1:67 (1.5%) nor be less than 1%. Longitudinal slope shall not exceed 1:20 (5%).

60. Where trench excavation requires removal of PCC curbs and/or sidewalks, the curbs and/or sidewalks shall be sawcut and removed at a tooled joint unless otherwise authorized in writing by the Approving Agency. The sawcut lines shown on the drawings are schematic and not intended to show the exact alignment of such cuts.

61. Unless otherwise shown on the drawings, areas along curbs and sidewalks shall be backfilled with approved topsoil, as well as being seeded and mulched (or hydroseeded).

PIPED UTILITIES:

62. All tapping of existing public sanitary sewer, storm drain mains, and manholes must be done by City forces.

63. All tapping to be done by City of Salem forces. To schedule water/sewer/storm taps call (503) 588–6333. Taps are generally available within two business days.

64. The Contractor shall have appropriate equipment on site to produce a firm, smooth, undisturbed subgrade at the trench bottom, true to grade. The bottom of the trench excavation shall be smooth, free of loose materials or tooth grooves for the entire width of the trench prior to placing the granular bedding material.

65. All pipes shall be bedded with minimum 6–inches of 3/4"–0 crushed rock bedding and backfilled with compacted 3/4"–0 crushed rock in the pipe zone (crushed rock shall extend a minimum of 12–inches over the top of the pipe in all cases). Unless CDF or other backfill is shown or noted on the drawings, crushed rock trench backfill shall be used under all improved areas, including pavement, sidewalks, foundation slabs, buildings, etc.

66. Granular trench bedding and backfill shall conform to the requirements of OSSC (ODOT/APWA) 02630.10 (Dense Graded Base Aggregate), 3/4"–0. Unless otherwise shown on the drawings, compact granular backfill to 92% of the maximum dry density per AASHTO T–180 test method (Modified Proctor).

67. Contractor shall arrange to abandon existing sewer and water services not scheduled to remain in service in accordance with approving agency requirements.

68. All piped utilities abandoned in place shall have all openings closed with concrete plugs with a minimum length equal to 2 times the diameter of the abandoned pipe.

69. The end of all utility service lines shall be marked with a 2–x–4 painted white and wired to pipe stub. The pipe depth shall be written on the post in 2" block letters and red lined on the drawings for preparation of As–Built Drawings.

70. All non–metallic water, sanitary and storm sewer piping shall have an electrically conductive insulated 12 gauge solid core copper tracer wire the full length of the installed pipe using blue wire for water and green wire for storm and sanitary piping. Tracer wire shall be extended up into all valve boxes, catch basins, manholes and lateral cleanout boxes. Tracer wire penetrations into manholes shall be within 18 inches of the rim elevation and adjacent to manhole steps. The tracer wire shall be tied to the top manhole step or otherwise supported to allow retrieval from the outside of the manhole. All tracer wire splices shall be made with waterproof splices or waterproof/corrosion resistant wire nuts.

71. No trenches in sidewalks, roads, or driveways shall be left in an open condition overnight. All such trenches shall be closed before the end of each workday and normal traffic and pedestrian flows restored.

72. Before mandrel testing, TV inspection or final acceptance of gravity pipelines, all trench compaction shall be completed and all sewers and storm drains flushed & cleaned to remove all mud, debris & foreign material from the pipelines, manholes and/or catch basins.

73. Where future extensions are shown upstream of new manholes (sewer or storm), catch basins or junction boxes, pipe stubs (with gasketed caps) shall be installed at design grades to a point 2' minimum outside of the structure.

WATER SYSTEM:

74. City forces to operate all valves, including fire hydrants, on existing public mains.

75. All Public water mains shall be class 52 ductile iron.

76. All Private water mains shall be C–900 PVC (DR 18).

77. All fittings 4–inches through 24–inches in diameter shall be ductile iron fittings in conformance with AWWA C–153 or AWWA C–110. The minimum working pressure for all MJ cast iron or ductile iron fittings 4–inches through 24–inch in diameter shall be 350 psi for MJ fittings and 250 psi for flanged fittings.

78. All water mains to be installed with a minimum 36 inch cover to finish grade unless otherwise noted or directed. Water service lines shall be installed with a minimum 30–inch cover. Deeper depths may be required as shown on the drawings or to avoid obstructions.

79. Unless otherwise shown or approved by the Engineer, all valves shall be flange connected to adjacent tees or crosses.

80. Thrust restraint shall be provided on all bends, tees and other direction changes per Approving Agency requirements and as specified or shown on the drawings.

81. All private domestic water services to be schedule 40 PVC

82. Domestic and fire backflow prevention devices and vaults shall conform to requirements of public and/or private agencies having jurisdiction. The Contractor shall be responsible for having backflow devices tested and certified prior to final acceptance of the work.

83. Contractor shall provide all necessary equipment and materials (including plugs, blowoffs, valves, service taps, etc.) required to flush, test and disinfect waterlines per the Approving Agency requirements.

84. The work shall be performed in a manner designated to maintain water service to buildings supplied from the existing waterlines. In no case shall service to any main line or building be interrupted for more than four (4) hours in any one–day. Contractor shall notify the Approving Agency and all affected residents and businesses a minimum of 24 business hours (1 business day) before any interruption of service.

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VERIFY SCALE
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1982 STEVEN A. WARD
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

CONSTRUCTION NOTES

DRAWING
C1.1

JOB NUMBER
3155.3000.0

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85. Where new waterlines cross below or within 18–inches vertical separation above a sewer main or sewer service lateral, center one full length of waterline pipe at point of crossing the sewer line or sewer lateral. In addition (unless otherwise approved in writing by the Approving Agency, existing sewer mains and/or service laterals within this zone shall be replaced with a full length of Class 50 Ductile Iron or C–900 PVC pipe (DR 18) centered at the crossing in accordance with OAR 333–061 and Approving Agency requirements. Connect to existing sewer lines with approved rubber couplings. Example: For an 8–inch waterline with 36–inches cover, 4–inch service lateral inverts within 5.67–feet (68–inches) of finish grade must be DI or C–900 PVC at the crossing.

86. All waterlines, services and appurtenances shall be pressure tested for leakage. All testing shall conform to requirements as outlined in the specifications, Approving Agency standards and/or testing forms. The hydrostatic test shall be performed with all service line corporation stops open and meter stops closed, and with all hydrant line valves open. Prior to the start of each pressure test, the position of all mainline valves, hydrant line valves and service line corporation stops in the test segment shall be verified.

87. After the pressure test and prior to disinfecting, the water lines shall be thoroughly flushed through hydrants, blow offs or by other approved means.

88. Disinfection & Bacteriological Testing. All water mains and service lines shall be chlorine disinfected per Approving Agency requirements, AWWA C–651 or OAR 333–061 (25 mg/L minimum chlorine solution, 24 hours contact time), whichever is more stringent. Unless otherwise approved by the Approving Agency, a Representative from the Approving Agency shall witness the application of the chlorine solution and the chlorine testing at the end of the 24 hour contact period. After the 24 hour chlorine contact period, the free chlorine concentration shall be checked, and if it is found to be 10 mg/L or more, the chlorine solution shall be drained (otherwise the line shall be rechlorinated), the waterline flushed with potable water, and a minimum of two consecutive samples taken at least 24 hours apart shall be collected from the waterline for microbiological analysis (ie. one sample immediately after flushing, and another sample 24 hours later). Contractor to pay for laboratory analysis of water samples taken under the supervision of the Approving Agency. If the results of both analyses indicate that the water is free of coliform organisms, the waterline may be placed in service. Should the initial treatment prove ineffective, the chlorination shall be repeated until confirmed tests show acceptable results.

89. Disinfection of Connections. For connections which cannot be disinfected with the waterline mainlines as noted above, all fittings, valves and appurtenances, including tool surfaces which will come in contact with potable water, shall be thoroughly cleaned by washing with potable water and then swabbed or sprayed with a one percent (1%) hypochlorite solution (10,000 mg/L) in accordance with the requirements of AWWA C–651 and OAR 333–061.

SEWER & STORM MANHOLES:

90. All precast manholes shall be provided with integral rubber boots. Where manholes without integral rubber boots are approved by the Owner's Representative and Approving Agency, a pipe joint shall be provided on all mainlines within 1.5 feet of the outside face of the manhole. Where required by Public Works, watertight lockdown lids required on all manholes outside of public right–of–way.

91. Openings for connections to existing manholes shall be made by core–drilling the existing manhole structure, and installing a rubber boot. Connections shall be watertight and shall provide a smooth flow into and through the manhole with no ponding. Small chipping hammers or similar light tools which will not damage or crack the manhole base may be used to shape channels, but may be used to enlarge existing openings only if authorized in writing by the Owner's Representative. Use of pneumatic jackhammers shall be prohibited.

92. Manhole channels depths (sewer & storm) shall be to the heights shown on the drawings, but in no case shall the channel depth be less than 2/3 of the pipe diameter. Channels, as well as shelves between the channels and the manhole walls, shall be sloped to drain per plan details.

93. Manholes constructed over existing sanitary sewers shall conform to the requirements of OSSC (ODOT/APWA) 490.41, Manholes over Existing Sewers. The existing pipe shall not be broken out until after the completion of the manhole test.

SANITARY SEWER SYSTEM:

94. Unless otherwise specified, sanitary sewer pipe shall be solid wall PVC in conformance with ASTM D3034, SDR 35 (≤15") or ATSM F–679, PS 46 (≥18"). Minimum stiffness shall be 46 psi per ASTM D–2412 and joint type shall be elastomeric gasket conforming to ASTM D–3212. All other appurtenances and installation to conform to the Approving Agency's specifications. All materials and workmanship for all private sanitary sewers, including sewers located within any building envelope, shall be installed in conformance with Uniform Plumbing Code requirements.

95. Unless otherwise specifically noted on the drawings, manufactured fittings (tee or wye per Approving Agency) shall be used for all lateral connections to new sewer mainlines.

96. Contractor shall provide all necessary materials, equipment and facilities to test sanitary sewer pipe and appurtenances for leakage in accordance with testing schedule herein or the Approving Agency's construction standards, whichever are more stringent. Sanitary sewer pipe and appurtenances shall be tested for leakage. Leakage tests shall include an air test of all sewer mains and laterals and vacuum testing of the manholes. Manhole testing shall be performed after completion of AC pavement and final surface restoration.

97. After manhole channeling and prior to mandrel testing and/or TV inspection, flush and clean all sewers, and remove all foreign material from the mainlines and manholes. Failure to clean all dirt, rock and debris from pipelines prior to TV inspection will result in the need to re–clean and re–TV the sewer lines.

98. Contractor shall conduct deflection test of flexible sanitary sewer pipes by pulling an approved mandrel through the completed pipeline following trench compaction. The diameter of the mandrel shall be 95% of the initial pipe diameter. Test shall be conducted not less than 30 days after the trench backfilling and compaction has been completed, unless otherwise approved by the Approving Agency.

99. Upon completion of all sanitary sewer construction, testing and repair, the Contractor shall conduct a color TV acceptance inspection of all mainlines in accordance with OSSC (ODOT/APWA) 445.74 to determine compliance with grade requirements of OSSC (ODOT/APWA) 445.40.b. The TV inspection shall be conducted by an approved technical service which is equipped to make audio–visual recordings of the TV inspections on DVD or flash drive. Unless otherwise required by the Approving Agency, a standard 1–inch diameter ball shall be suspended in front of the camera during the inspection to determine the depth of any standing water. Sufficient water to reveal low areas or reverse grades shall be discharged into the pipe immediately prior to initiation of the TV inspection. The DVD and written report shall be delivered to the Approving Agency.

STORM DRAIN SYSTEM:

100. Storm sewer pipe materials shall conform to the construction drawings and Approving Agency's requirements. Unless otherwise noted or shown on the drawings, storm sewer pipe materials with watertight joints shall conform to the attached "Storm Pipe Table". Contractor shall use uniform pipe material on each pipe run between structures unless otherwise directed or approved. Jointed HDPE pipe shall not be used for slopes exceeding ten percent (10%). All materials and workmanship for all private storm drains, including storm drains located within any building envelope, shall be installed in conformance with Uniform Plumbing Code requirements.

101. Contractor shall designate the pipe material actually installed on the field record drawings and provide this information for inclusion on the as–built drawings.

102. Catch basins and junction boxes shall be set square with buildings or with the edge of the parking lot or street wherein they lie. Storm drain inlet structures and paving shall be adjusted so water flows into the structure without ponding water.

103. Unless otherwise approved by the Engineer, all storm drain connections shall be by manufactured tees or saddles.

104. Unless otherwise shown on the drawings, all storm pipe inlets & outfalls shall be beveled flush to match the slope wherein they lie.

105. Sweep (deflect) storm sewer pipe into catch basins and manholes as required. Maximum joint deflection shall not exceed 5 degrees or manufacturers recommendations, whichever is less.

106. Unless otherwise shown or directed, install storm sewer pipe in accordance with manufacturer installation guidelines.

107. After manhole channeling and prior to mandrel testing or final acceptance, flush and clean all sewers, and remove all foreign material from the mainlines, manholes and catch basins.

108. Mandrel Testing. Contractor shall conduct deflection test of flexible storm sewer pipes by pulling an approved mandrel through the completed pipeline following trench compaction. The diameter of the mandrel shall be 95% of the initial pipe diameter. Test shall be conducted not more than 30 days after the trench backfilling and compaction has been completed.

109. Prior to acceptance, the Owner's Representative may lamp storm lines upstream & downstream of structures to verify that the pipes are clean and there is no grout or concrete in the mainlines, and that there are no observable bellies in the line. When necessary, sufficient water to reveal low areas shall be discharged into the pipe by the Contractor prior to any such inspection by the Owner's Representative or the Approving Agency.

FRANCHISE & PRIVATE UTILITIES:

110. Unless otherwise shown on the drawings or approved by jurisdiction having authority, all new franchise and private utilities (power, cable TV, telephone, gas, data, communication, control, alarms, etc.) shall be installed underground. Installation of such utilities or associated conduits in a common trench with public water, sanitary sewer, or storm sewer is prohibited.

111. Contractor shall coordinate with gas, power, telephone, and cable TV Company for location of conduits in common trenches, as well as location or relocation of vaults, pedestals, etc. The Contractor shall be responsible for providing franchise utility companies adequate written notice of availability of the open trench (typically 10 days minimum), and reasonable access to the open trench. Unless otherwise approved in writing by the Approving Agency, all above–grade facilities shall be located in PUEs (where PUEs exist or will be granted by the development), and otherwise shall be placed in a location outside the proposed sidewalk location.

112. Unless otherwise approved by the Approving Agency, installation of private utilities (including either franchise utilities or private water, sewer or storm services) in a common trench with or within 3 feet horizontally of and paralleling public water, sanitary sewer or storm drains is prohibited.

113. Power, telephone and TV trenching and conduits shall be installed per utility company requirements with pull wire. Contractor shall verify with utility company for size, location and type of conduit before construction, and shall ensure that trenches are adequately prepared for installation per utility company requirements. All changes in direction of utility conduit runs shall have long radius steel bends.

114. Contractor shall notify and coordinate with franchise utilities for removal or relocation of power poles, vaults, pedestals, manholes, etc. to avoid conflict with Public utility structures, fire hydrants, meters, sewer or storm laterals, etc.

STORM PIPE TABLE	
Cover Depth	6" – 18" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2–1/2' Cover	Pipe specified for lesser cover depths –or– Class 3, ASTM C–14 non–reinforced concrete pipe with bell and spigot joints & rubber gaskets, ASTM 150 Type II cement. –or– PVC pipe conforming to AWWA C900 DR 18 (6"–12") or AWWA C–905 (14"–18") with bell and spigot joints and rubber gasket
2–1/2' to 15' Cover	Pipe specified for lesser cover depths –or– PVC pipe conforming to ASTM D–3034 PVC SDR 35 (6"–15") or ASTM F–679 PVC solid wall SDR 35 (18") with bell and spigot joints and rubber gasket. –or– HDPE (high density polyethlene) pipe conforming to AASHTO M–252, (8"–10") or AASHTO M–294 (12"–18"). For slopes less than 6% the pipe shall be ADS N–12 IB ST, Hancor Sure–Lok F477, or approved equal. For slopes greater than 6% the pipe shall be ADS N–12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.
Cover Depth	21" – 30" Diameter
Less than 2' Cover	Class 50 ductile iron pipe with bell and spigot joints and rubber gasket.
2' to 2–1/2' Cover	Pipe specified for lesser cover depths –or– Class IV ASTM C–76 reinforced concrete pipe with bell and spigot joints and rubber gasket, ASTM 150, Type II cement.
2–1/2' to 15' Cover (**HDPE allowed up to 60" diameter subject to max. depth limits listed)	Pipe specified for lesser cover depths –or– ASTM F–679 PVC solid wall SDR 35 pipe with bell and spigot joints and rubber gasket –or– HDPE (high density polyethlene) pipe conforming to AASHTO M–294. For slopes less than 6% the pipe shall be ADS N–12 IB ST, Hancor Sure–Lok F477. or approved equal. For slopes greater than 6% the pipe shall be ADS N–12 IB WT, Hancor Blue Seal, or approved equal with watertight pressure testable fittings, –except– (**)jointed HDPE (high density polyethylene) pipe referenced above not permitted for depth to invert greater than 12 feet.
More than 15' Cover	See construction drawings.
Greater than 30" diameter and other pipe materials: Case by case basis.	
Perforated pipe underdrains to be SCH 40 ABS or SCH 40 PVC perforated or slotted pipe unless otherwise specified.	

REQUIRED TESTING AND FREQUENCY TABLE *Contractor to notify Owner's Representative prior to all testing, to allow Owner's Representative to be present if desired.*			Party Responsible for payment: Contractor	Party Responsible for payment: Others (see note 1)
Streets, Fire Lanes, Common Driveways, Parking Lots, Pads, Fills, etc.				
Subgrade	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓	See note 2 & note 3	
Engineered Fills	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency	✓	See note 2 & note 5	
Baserock	1 Test/4000 S.F./Lift (4 min), locations acceptable to approving agency (typically alternate sides of road or access aisles)	✓	See note 2 & note 3	
Asphalt	1 Test/6000 S.F./Lift (4 min), locations acceptable to AA (typ. alternate as above)	✓	See note 2	
Piped Utilities, All (including backfill in lifts & AC restoration at manholes, etc.)				
Trench Backfill	1 Test/200 Foot Trench/Lift (4 min)	✓	See note 2	
Trench AC Restoration	1 Test/300 Foot Trench (4 min)	✓	See note 2	
Water				
Pressure Test	(to be witnessed by Owner's Representative or approving agency)	✓	See note 4	
Bacterial Water Test	Per OHA–Drinking Water Services		See note 2	✓
Chlorine Residual Test	Per City Requirements	✓		
Sanitary Sewer				
Air Test	Per City or APWA Requirements, whichever is more stringent	✓	See note 4	
Mandrel	95% of actual inside diameter	✓	See note 4	
TV Inspection	All. Lines must be cleaned prior to TV work	✓		
Manhole	Vacuum test each manhole, witnessed by Owner's Representative or approving agency	✓	See note 2	
Pressure Test (force main)	Hydrostatic pressure test, witnessed by Owner's Representative or approving agency	✓	See note 4	
Storm				
Mandrel	95% of actual inside diameter	✓	See note 4	
Concrete, Block, etc.				
Slump, Air & Cylinders for structural & reinforced concrete, equipment slabs, curbs, sidewalks & PCC pavements. Unless otherwise specified, one set of cylinders per 100 cubic yards (or portion thereof) of each class of concrete placed per day. Slump & air tests required on same load as cylinders.		✓	See note 2	
Building permit inspection & Special Inspection for structural concrete, reinforced masonry, epoxy anchors, etc. as required by applicable State Building Codes.		✓	See note 6	
Retaining Walls				
Building permit inspection and Special Inspection, as well as compaction testing on backfill, all in conformance with applicable State Building Code requirements		✓	See note 5 & note 6	

Note 1: "Others" refers to Owner's authorized Representative or Approving Agency as applicable. Contractor responsible for scheduling testing. All testing must be completed prior to performing subsequent work.

Note 2: Testing must be performed by an approved independent testing laboratory/firm.

Note 3: In addition to in–place density testing, the subgrade and base rock shall be proof–rolled with a loaded 10 yard dump truck provided by the Contractor. Baserock proofroll shall take place immediately prior to (within 24 hours of) paving, and shall be witnessed by the Owner's authorized Representative or approving agency. Location and pattern of testing and proofroll to be as approved or directed by said Owner's authorized Representative or approving agency.

Note 4: To be witnessed by the Owner's Representative or approving agency. The Contractor shall perform pretests prior to scheduling witnessed waterline or sanitary sewer pressure tests, or pipeline mandrel test.

Note 5: The approved independent laboratory retained by the Contractor shall provide a certification (stamped by an engineer licensed in the State of Oregon) that the subgrade was prepared and all engineered fills were placed in accordance with the provisions of the construction drawings and the contract documents.

Note 6: Regardless of who is responsible for payment, the Contractor is responsible for scheduling and coordinating any and all required inspections and Special Inspections as required by applicable building codes or jurisdictions having authority.

Contractor to notify Owner's Representative prior to all testing, to allow Owner's Representative to be present if desired.

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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEGENER
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

CONSTRUCTION NOTES

DRAWING
C1.2

JOB NUMBER
3155.3000.0

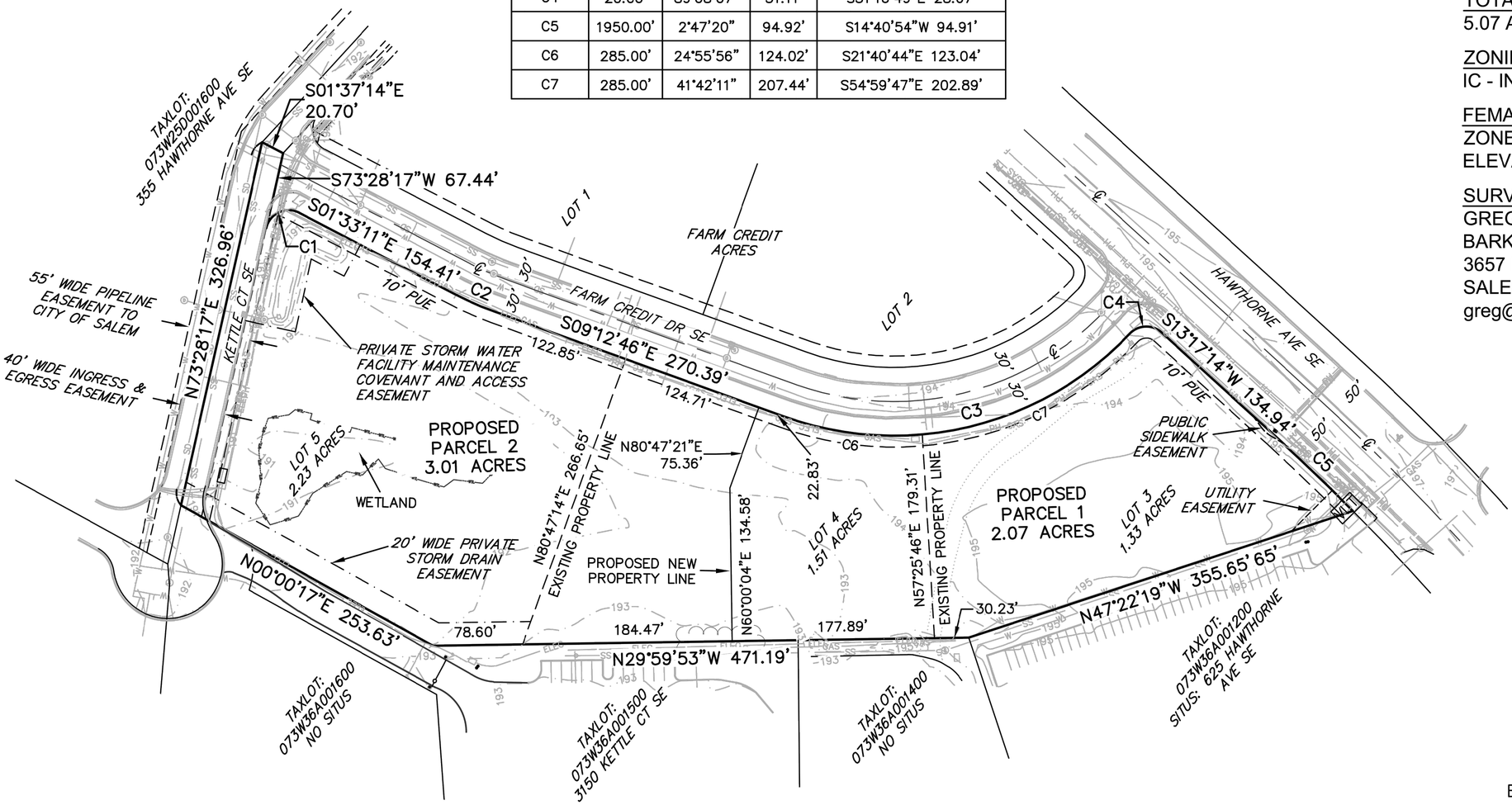
PROPOSED REPLAT SITE PLAN

FARM CREDIT ACRES LOTS 3, 4, & 5
LOCATED IN THE N.E 1/4 OF SEC. 36, T. 7 S., R. 3 W., W.M
CITY OF SALEM, MARION COUNTY, OREGON

GRAPHIC SCALE
100' 50' 0' 50' 100' 200'
(IN FEET)
1 inch = 100ft.

CURVE TABLE				
CURVE #	RADIUS	DELTA	LENGTH	CHORD BEARING & DIST.
C1	20.00'	104°58'32"	36.64'	S54°02'27"E 31.73'
C2	285.00'	7°39'35"	38.10'	S05°22'58"E 38.07'
C3	285.00'	66°38'07"	331.46'	S42°31'49"E 313.09'
C4	20.00'	89°08'07"	31.11'	S31°16'49"E 28.07'
C5	1950.00'	2°47'20"	94.92'	S14°40'54"W 94.91'
C6	285.00'	24°55'56"	124.02'	S21°40'44"E 123.04'
C7	285.00'	41°42'11"	207.44'	S54°59'47"E 202.89'

NOTE:
LOTS 3, 4, & 5 PROPOSED TO BE ADJUSTED TO 2 LOTS.



OWNER
SALEM LAND GROUP, LLC, 40%
JOGINDER P. BUGHRAJA, 60%
115 W JACKSON ST, STE 2D
RIDGELAND, MS 39157

SITE ADDRESS
N/A

TAX LOTS
07 3W 36A
2000, 2100, 2200

TOTAL AREA
5.07 ACRES

ZONING
IC - INDUSTRIAL COMMERCIAL

FEMA
ZONE AE - BASE FLOOD ELEVATION ESTABLISHED

SURVEYOR
GREGORY L. WILSON
BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OR 97317
greg@barkerwilson.com

REGISTERED PROFESSIONAL LAND SURVEYOR

PRELIMINARY

OREGON
JULY 19, 1994
GREGORY L. WILSON
2687

EXPIRES: 6/30/2024

BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OREGON 97317
PHONE (503) 588-8800
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1		REVISIONS	

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REVIEW
REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WEBB
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

REPLAT MAP

DRAWING
C1.3

JOB NUMBER
3155.3000.0

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Phase I - Climate & Equity Summary (Figure 806-11)

Area of Parking Lot =	46,254	SF
Number of parking Spaces =	106	Spaces
Area of Tree Canopy Provided (See Lanscdape)	7,200	SF
kW of Solar Provided on Buildings	0	kW

Tree canopy:

$$\left(\frac{1}{\text{area of the parking lot x 0.4}}\right) / \left(\frac{1}{\text{area of tree canopy provided}}\right) \times 100 =$$ % of mitigation requirement met via tree canopy

+

Solar Power Generation:

$$\left(\frac{1}{\text{number of parking spaces}}\right) / \left(\frac{1}{\text{kilowatts of solar x 0.5}}\right) \times 100 =$$ % of mitigation requirement met via solar power generation

+

Payment in Lieu:

$$\left(\frac{1}{\text{number of parking spaces}}\right) / \left(\frac{1}{\text{number of spaces offset by payment in lieu}}\right) \times 100 =$$ % of mitigation requirement met via payment in lieu

=

Total percentage of mitigation requirement met

Climate & Equity Calculations		
Tree Canopy % of Mitigation Provided	15.6	%
Solar Power Generation % of Mitigation Provided	0	%
City Climate Slush Fund Tax % of Mitigation Provided	84.4	%
Total	**100**	%

Phase II - Climate & Equity Summary (Figure 806-11)

Area of Parking Lot =	45,238	SF
Number of parking Spaces =	113	Spaces
Area of Tree Canopy Provided (See Lanscdape)	6,000	SF
kW of Solar Provided on Buildings	0	kW

Tree canopy:

$$\left(\frac{1}{\text{area of the parking lot x 0.4}}\right) / \left(\frac{1}{\text{area of tree canopy provided}}\right) \times 100 =$$ % of mitigation requirement met via tree canopy

+

Solar Power Generation:

$$\left(\frac{1}{\text{number of parking spaces}}\right) / \left(\frac{1}{\text{kilowatts of solar x 0.5}}\right) \times 100 =$$ % of mitigation requirement met via solar power generation

+

Payment in Lieu:

$$\left(\frac{1}{\text{number of parking spaces}}\right) / \left(\frac{1}{\text{number of spaces offset by payment in lieu}}\right) \times 100 =$$ % of mitigation requirement met via payment in lieu

=

Total percentage of mitigation requirement met

Climate & Equity Calculations		
Tree Canopy % of Mitigation Provided	13.2	%
Solar Power Generation % of Mitigation Provided	0	%
City Climate Slush Fund Tax % of Mitigation Provided	86.8	%
Total	**100**	%

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NO.	DATE	DESCRIPTION	BY
		REVISIONS	
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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 16, 1982 — STEVEN A. WARD
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

CLIMATE SUMMARY

DRAWING
C1.4

JOB NUMBER
3155.3000.0

DEQ EROSION CONTROL STANDARD NOTES:

1. Include a list of all personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures (e.g. ESCP developer, BMP installer (see Section 4.10), as well as their individual responsibilities. (Section 4.4.c.ii)
2. Visual monitoring inspection reports must be made in accordance with DEQ 1200–C permit requirements. (Section 6.5)
3. Inspection logs must be kept in accordance with DEQ's 1200–C permit requirements. (Section 6.5.q)
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. (Section 4.7)
5. The permit registrant must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Sections 4 and 4.11)
6. The ESCP must be accurate and reflect site conditions. (Section 4.8)
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent within 10 days. (Section 4.9)
8. Sequence clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Section 2.2.2)
9. Create smooth surfaces between soil surface and erosion and sediment controls to prevent stormwater from bypassing controls and ponding. (section 2.2.3)
10. Identify, mark, and protect (by construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Section 2.2.1)
11. Preserve existing vegetation when practical and re–vegetate open areas. Re–vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Section 2.2.5)
12. Maintain and delineate any existing natural buffer within the 50–feet of waters of the state. (Section 2.2.4)
13. Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers prior to land disturbance. (Sections 2.1.3)
14. Control both peak flow rates and total stormwater volume, to minimize erosion at outlets and downstream channels and streambanks. (Sections 2.1.1. and 2.2.16)
15. Control sediment as needed along the site perimeter and at all operational internal storm drain inlets at all times during construction, both internally and at the site boundary. (Sections 2.2.6 and 2.2.13)
16. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Section 2.2.14)
17. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses. Temporary or permanent stabilizations measures are not required for areas that are intended to be left unvegetated, such as dirt access roads or utility pole pads. (Sections 2.2.20 and 2.2.21)
18. Establish material and waste storage areas, and other non–stormwater controls. (Section 2.3.7)
19. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that do not have lids, provide either (1) cover (e.g., a tarp, plastic sheeting, temporary roof) to prevent exposure of wastes to precipitation, or (2) a similarly effective means designed to prevent the discharge of pollutants (e.g., secondary containment). (Section 2.3.7)
20. Prevent tracking of sediment onto public or private roads using BMPs such as: construction entrance, graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land–disturbing activities. (Section 2.2.7)
21. When trucking saturated soils from the site, either use water–tight trucks or drain loads on site. (Section 2.2.7.f)
22. Control prohibited discharges from leaving the construction site, i.e., concrete wash–out, wastewater from cleanout of stucco, paint and curing compounds. (Sections 1.5 and 2.3.9)
23. Ensure that steep slope areas where construction activities are not occurring are not disturbed. (Section 2.2.10)
24. Prevent soil compaction in areas where post–construction infiltration facilities are to be installed. (Section 2.2.12)
25. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, fertilizer, pesticides and herbicides, paints, solvents, curing compounds and adhesives from construction operations.(Sections 2.2.15 and 2.3)
26. Provide plans for sedimentation basins that have been designed per Section 2.2.17 and stamped by an Oregon Professional Engineer. (See Section 2.2.17.a)
27. If engineered soils are used on site, a sedimentation basin/impoundment must be installed. (See Sections 2.2.17 and 2.2.18)
28. Provide a dewatering plan for accumulated water from precipitation and uncontaminated groundwater seepage due to shallow excavation activities. (See Section 2.4)
29. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Section 2.3)
30. Use water, soil–binding agent or other dust control technique as needed to avoid wind–blown soil. (Section 2.2.9)
31. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time–release fertilizers within any waterway riparian zone. (Section 2.3.5)
32. If an active treatment system (for example, electro–coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain Environmental Management Plan approval from DEQ before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Section 1.2.9)
33. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Section 2.2)
34. As needed based on weather conditions, at the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Section 2.2.8)
35. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Section 2.1.5.b)
36. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height and before BMP removal. (Section 2.1.5.c)
37. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Section 2.1.5.d)
38. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in–stream clean–up of sediment shall be performed according to the Oregon Department of State Lands required timeframe. (Section 2.2.19.a)
39. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Section 2.2.19)
40. Document any portion(s) of the site where land disturbing activities have permanently ceased or will be temporarily inactive for 14 or more calendar days. (Section 6.5.f.)
41. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Section 2.2.20)
42. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained soils must be removed and disposed of properly, unless needed for long term use following termination of permit coverage. (Section 2.2.21)

Rev. 12/15/20
By: Blair Edwards

PHASE I (PHASE II – FUTURE)

YEAR: / MONTH:	'25 04	'25 05	'25 06	'25 07	'25 08	'25 09	'25 10	'25 11	'25 12	'26 01	'26 02	'26 03
CLEARING	X	X										
EXCAVATION		X	X	X								
GRADING		X	X	X	X	X						
CONSTRUCTION		X	X	X	X	X	X	X	X	X	X	
SEDIMENT CONTROLS:												
Silt Fencing		X	X	X	X	X	X	X	X	X	X	
Sediment Traps		X	X	X	X	X	X	X	X	X	X	
Sediment Basins												
Storm Inlet Protection												
Drainage Swales												
Check Dams												
Contour Furrows												
Terracing												
Pipe Slope Drains												
Rock Outlet Protection												
Gravel Construction Entrance	X	X	X	X	X	X	X	X	X			
Grass–lined Channel (Turf Reinforcement Mats)												
Protection of trees with construction fences												
Temporary Seeding and Planting												
Permanent Seeding and Planting												
Other:												

CONTROL MEASURE	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
Silt Fencing	X	X	X	X	
Construction Entrance	X	X			
Sediment Traps			X	X	
Storm Inlet Protection			X	X	
Concrete Washout			X	X	
Rock Outlet Protection			X	X	X
Permanent Seeding and Planting					X

Phase 1: Prior to Ground Disturbance
Phase 2: After Completion of Rough Grading
Phase 3: After Installation of Storm Facilities
Phase 4: After Paving & Construction
Phase 5: After Project Completion and Cleanup

BMP Rationale

A comprehensive list of available Best Management Practices (BMP) options based on DEQ's 1200–C Permit Application and ESCP Guidance Document has been reviewed to complete this Erosion and Sediment Control Plan. Some of the above listed BMPs were not chosen because they were determined to not effectively manage erosion prevention and sediment control for this project based on specific site conditions, including soil conditions, topographic constraints, accessibility to the site, and other related conditions. As the project progresses and there is a need to revise the ESCP, an Action Plan will be submitted.

SOIL TYPE(S): PER MARION CO. SOIL SURVEY THE SITE SOILS INCLUDE, "AMITY SILT LOAM, CONCORD SILT LOAM, DAYTON SILT LOAM, & WOODBURN SILT LOAM, 0 TO 3 PERCENT SLOPES."

EROSION HAZARD: PER MARION CO. SOIL SURVEY EROSION HAZARD IS "SLIGHT."

SITE AREA: 2.06 Ac

DISTURBANCE AREA: 2.06 Ac

LOCAL RAIN GAGE: CONTRACTOR TO PROVIDE RAIN GAUGE ON SITE.

INSPECTION FREQUENCY FOR BMP

Site Condition	Minimum Frequency
1. Active period	On initial date that land disturbance activities commence. Within 24 hours of any storm event, including runoff from snow melt, that results in discharge from the site. At least once every 14 days, regardless of whether stormwater runoff is occurring.
2. Inactive periods greater than fourteen (14) consecutive calendar days	The Inspector may reduce the frequency of inspections in any area of the site where the stabilization steps in Section 2.2.20 have been completed to twice per month for the first month, no less than 14 calendar days apart, then once per month.
3. Periods during which the site is inaccessible due to inclement weather	If safe, accessible and practical, inspections must occur daily at a relevant discharge point or downstream location of the receiving waterbody.
4. Periods during which construction activities are suspended and runoff is unlikely due to frozen conditions.	Visual monitoring inspections may be temporarily suspended. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.
5. Periods during which construction activities are conducted and runoff is unlikely during frozen conditions.	Visual monitoring inspections may be reduced to once a month. Immediately resume monitoring upon thawing, or when weather conditions make discharges likely.

Spill Prevention Procedures and Response

- Spill prevention is an important factor in the successful operation of a storm water injection management system. All contractor employees will be trained on this plan so that they are certain of the location of materials, who to notify in case of a spill, and how to initially contain the spill of hazardous materials. Contractor employees shall never dispose waste materials into the storm water collection/treatment system. Contractor employees will be observant of other potential contamination occurrences. All contractor employees will review this plan especially with regards to the detailed spill response steps.
- This data will be posted in an accessible area at the site.

What to do in case of a spill

1. Spill kit to be located near the job trailer or another conspicuous location and clearly marked.
2. Get the spill kit.
   a. If possible, determine visually what types of fluids have been spilled.
   b. Put on gloves and glasses or any other necessary Personal Protective Equipment (PPE).
   c. Get the absorbent material provided in the kit and the drain block cover.
   d. Place the absorbent materials in the path of the spill.
   e. Remove any debris from the vicinity of the inlet where the spill is draining.
   f. Unroll the drain block cover and place it snugly over the inlet.
   g. Verify that the cover has full contact with the rim of the inlet.
   h. Use snakes, pillow or pigs to completely contain the area.
3. Notify the following personnel immediately:
   a. 1200–C Permit Registrant's Representative
   b. When a spill includes any of the below, notify the Oregon Emergency Response System as soon as the Owner's Representative has knowledge of the release. Oregon Emergency Response System Phone: 1–800–452–0311

   i. Any amount of oil to waters of the state;
   ii. Oil spills on land in excess of 42 gallons;
   iii. Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002

NOTE: Only dry cleanup methods will be employed to clean up spills (i.e., no use of water to wash spilled materials from pavement will be conducted). All spill cleanups shall be conducted in accordance with applicable regulations.

Responsible Personnel

In case of spill contact the General Contractor and 1200–C Permit Registrant's Representative immediately. The Permit Registrant's Representative will be responsible for either managing the spill clean up for minor spills or contacting/retaining a company for the cleanup of major spills.

Waste Management Procedures

Activities performed onsite shall implement the following to eliminate the discharge of waste:

1. Locate activities that include waste products away from waters of the state and stormwater inlets or conveyances so that stormwater coming into contact with these activities cannot reach waters of the state;
2. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of liquids, and provide secondary containment (e.g. spill berms, decks, spill containment pallets);
3. Have a spill kit available on site and ensure personnel are available to respond expeditiously in the event of a leak or spill;
4. Clean up spills or contaminated surfaces immediately using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge; and
5. Store materials in a covered area (e.g., plastic sheeting, temporary roofs), or in secondary containment to prevent the exposure of these containers to precipitation or stormwater runoff, or a similarly effective means designed to prevent the discharge of pollutants from these areas.
6. Building Materials & Building Products: Minimize material exposure in cases where the exposure to precipitation or to stormwater will result in a discharge of pollutants (e.g. elevate materials from soil to prevent leaching of pollutants).

Fertilizers, pesticides, herbicides, & insecticides

Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label. When applying fertilizers, registrants must:

1. Apply at a rate and in amounts consistent with manufacturer's specifications;
2. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;
3. Avoid applying before heavy rains that could cause excess nutrients to be discharged;
4. Never apply to frozen ground;
5. Never apply to stormwater conveyance channels; and
6. Follow all other federal, state, and local requirements regarding fertilizer application.

Authorized non–stormwater discharges anticipated for the proposed project:

1. Landscape irrigation
2. Dust control water
3. Water line flushing (potable)

Potential pollutant–generating activities anticipated for the proposed project including an inventory of pollutants for each activity:

1. Mass Grading, Street & Utility Construction
   a. Sediment
   b. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
2. Vertical Construction
   a. Paints, caulks, sealants, solvents
   b. Fluorescent light ballasts
   c. Sediment
   d. Vehicle and machinery related pollutants (Fuels, hydraulic fluid, oils)
3. Landscaping & Irrigation
   a. Fertilizers
   b. Pesticides, Herbicides, Insecticides

EROSION CONTROL INSPECTION RESPONSIBILITIES

NAME: KORY JACOBS
COMPANY NAME: VALLEY PACIFIC CONSTRUCTION
PHONE: 503-678-2696
EMAIL: KORY.J@VPCINC.ORG
TYPE OF CERTIFICATION: CESCL
CERTIFICATION #: CWTA-76073455
EXPIRATION DATE: 06/15/2025

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1982 STEVEN A. WARD
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I EROSION CONTROL NOTES & DETIALS

DRAWING
C2.0

JOB NUMBER
3155.3000.0

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SUPPLEMENTAL WESTECH NOTES:

1. Erosion control measures shall be maintained in such a manner as to ensure that sediment and sediment–laden water does not enter the drainage system, roadways, or violate applicable water quality standards.

2. The erosion control construction, maintenance, replacement and upgrading of the erosion control facilities is the responsibility of the 1200–C Permit Registrant until all construction is completed and approved, and permanent erosion control (i.e. vegetation/landscaping) is established on all disturbed areas.

3. All recommended erosion control procedures are dependent on construction methods, staging, site conditions, weather and scheduling. During the construction period, erosion control facilities shall be upgraded as necessary due to unexpected storm events and to ensure that sediment and sediment laden water does not leave the site.

4. The 1200–C Permit Registrant is responsible for control of sediment transport within project limits. If an installed erosion control system does not adequately contain sediment on site, then the erosion control measures shall be adjusted or supplemented by the 1200–C Permit Registrant as necessary to ensure that sediment laden water does not leave the site. Additional measures shall be provided as required to ensure that all paved areas are kept clean for the duration of the project. Additional interim measures will include, at a minimum, installation of silt fences in accordance with the details shown on the drawings. These measures shall be installed along all exposed embankments and cut slopes to prevent sediment transport.

5. All existing and newly constructed storm inlets and drains shall be protected until pavement surfaces are completed and/or vegetation is established.

6. Erosion control facilities and sediment fences on active sites shall be inspected by the 1200–C Permit Registrant at least daily during any period with measurable precipitation. Any required repairs or maintenance shall be completed immediately. The erosion control facilities on inactive sites shall be inspected and maintained by the 1200–C Permit Registrant a minimum of once a month or within 24 hours following the start of a storm event.

7. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment–laden water into the downstream system. The 1200–C Permit Registrant shall remove all accumulated sediment from all impacted catch basins and storm pipes prior to acceptance by the Owner.

8. The 1200–C Permit Registrant is solely responsible for protection of all adjacent property and downstream facilities from erosion and siltation during project construction. Any damage resulting from such erosion and siltation shall be corrected at the sole expense of the 1200–C Permit Registrant.

9. Locate any portable toilets away from waters of the state and stormwater inlets or conveyances. Position portable toilets so they are secure and will not be tipped or knocked over.

10. The 1200–C Permit Registrant shall provide site watering as necessary to prevent wind erosion of fine–grained soils.

11. Unless otherwise indicated on the drawings, all temporary erosion control facilities, including sediment fences, silt sacks, bio–bags, etc. shall be removed within 30 days after permanent landscaping/vegetation is established.

12. Sediment fences shall be constructed of continuous filter fabric to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6–inch overlap, and both ends securely fastened to a post.

13. Sediment fence shall be installed per drawing details. Sediment fences shall have adequate support to contain all silt and sediment captured.

14. The standard strength filter fabric shall be fastened securely to stitched loops installed on the upslope side of the posts, and 6 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

15. Bio–filter bags shall be clean 100 percent wood product waste. Bags shall be 18–inch x 18–inch x 30–inch, weigh approximately 45 lbs., and be contained in a bag made of 1/2–inch plastic mesh.

16. Sediment barriers shall be maintained until the up–slope area has been permanently stabilized. At no time shall more than 10–inches of sediment be allowed to accumulate behind sediment fences. No more than 2 inches of sediment shall be allowed to accumulate behind bio–filter bags. Sediment shall be removed prior to reaching the above stated depths. New sediment barriers shall be installed uphill as required to control sediment transport.

17. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.

18. The 1200–C Permit Registrant shall verify that all trucks are well sealed when transporting saturated soils from the site. Water drippage from trucks transporting saturated soils must be reduced to less than 1 gallon per hour prior to leaving the site.

19. The entrance shall be maintained in a condition that will prevent tracking or flow of mud onto the public right–of–way or approved access point. The entrance may require periodic top dressing as conditions demand, and repair and/or cleanout of any structures used to trap sediment.

20. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately, and protection provided for downstream inlets and catch basins to ensure sediment laden water does not enter the storm drain system.

21. Temporary grass cover measures must be fully established by October 15th, or other cover measures (ie. erosion control blankets with anchors, 3–inches minimum of straw mulch, 6 mil HDPE plastic sheet, etc.) shall be in place over all disturbed soil areas until April 30th. To establish an adequate grass stand for controlling erosion by October 15th, it is recommended that seeding and mulching occur by September 1st. Straw mulch, if used, shall not leave any bare ground visible through the straw.

22. Minimum slope protection. For slopes steeper than 3H:1V but less than 2H:1V, use Tensar/North American Green Type S150 erosion control blanket. For slopes 2H:1V or steeper, use Tensar/North American Green Type SC150 erosion control blanket. Use a minimum of 2–inches straw mulch or Tensar/North American Green Type S150 for slopes flatter than 3H:1V. Slope protection shall be placed on all disturbed areas immediately after completion of each section of construction activity, until the erosion control seeding has been established. As an option during temporary or seasonal work stoppages, a 6–mil HDPE plastic sheet may be placed on exposed slopes. The plastic sheet shall be provided with an anchor trench at the top and bottom of the slope, and shall be sandbagged on the slopes as required to prevent damage or displacement by wind.

23. Permanent erosion control vegetation on all embankments and disturbed areas shall be re–established as soon as construction is completed.

24. Soil preparation. Topsoil should be prepared according to landscape plans, if available, or recommendations of grass seed supplier. It is recommended that slopes be textured before seeding by rack walking (ie. driving a crawling tractor up and down the slopes to leave a pattern of cleat imprints parallel to slope contours) or other method to provide stable areas for seeds to rest.

25. When used, hydromulch shall be applied with grass seed at a rate of 2000 lbs. per acre between April 30 and June 10, or between September 1 and October 1. On slopes steeper than 10 percent, hydroseed and mulch shall be applied with a bonding agent (tackifier). Application rate and methodology to be in accordance with seed supplier recommendations.

26. When used in lieu of hydromulch, dry, loose, weed free straw used as mulch shall be applied at a rate of 4000 lbs. per acre (double the hydromulch application requirement). Anchor straw by working in by hand or with equipment (rollers, cleat trackers, etc.). Mulch shall be spread uniformly immediately following seeding.

27. When conditions are not favorable to germination and establishment of the grass seed, the seeded and mulched areas shall be irrigated as required to establish the grass cover.

28. Seeding. Recommended erosion control grass seed mix is as follows. Dwarf grass mix (low height, low maintenance) consisting of dwarf perennial ryegrass (80 % by weight), creeping red fescue (20 % by weight). Application rate shall be 100 lbs. per acre minimum.

29. Grass seed shall be fertilized at a rate of 10 lbs. per 1000 S.F with 16– 16–16 slow release type fertilizer. Development areas within 50 feet of water bodies and wetlands must use a non–phosphorous fertilizer.

30. Prior to starting construction the 1200–C Permit Registrant shall acquire the services of a DEQ Certified Erosion and Sediment Control Inspector and shall submit an "Action Plan" to DEQ identifying their names, contact information, training and experience as required in Schedule A.6.b.i–ii of the 1200–C Permit

31. The 1200–C Permit Registrant shall submit "Notice of Termination" to DEQ to end the 1200–C permit coverage once all soil disturbance activities have been completed and final stabilization of exposed soils has occurred.

32. If there is any conflict, discrepancy, or inconsistency between the DEQ Erosion Control Standard Notes, the Supplemental Westech Notes, or the City of Salem EPSC Plan Standard Notes, the DEQ Notes will control.

CITY OF SALEM PUBLIC WORKS DESIGN STANDARDS:

Division 007 Appendix A–EPSC Plan Standard Notes

(a) PRE–CONSTRUCTION

(1). Prior to any land disturbing activities, the boundaries of the clearing and grading limits, vegetated buffers, and any sensitive areas shown on this plan shall be clearly delineated in the field. Unless otherwise approved, no disturbance is permitted beyond the clearing limits. The Contractor must maintain the delineation for the duration of the project. Note: vegetated corridors to be delineated with orange construction fence or approved equal.

(2). BMPs that must be installed prior to land disturbing activities are construction entrance, perimeter sediment control, and inlet protection.

(3). Hold a preconstruction conference to review the EPSCP and with the City's Project Manager and Inspector.

(b) CONSTRUCTION

(1). All sediment is required to stay on site. Sediment amounts greater than 1/2–cubic foot which leave the site must be cleaned up within 24 hours and placed back on the site and stabilized or properly disposed. Vacuuming or dry sweeping must be used to clean up released sediment and it must not be swept or washed into storm sewers, drainage ways, or water bodies. The cause of the sediment release must be found and prevented from causing a recurrence of the discharge within thesame 24 hours. Any in–stream clean up of sediment shall be performed according to the DSL required time frame.

(2). Construction, maintenance, replacement, and upgrading of erosion prevention and sediment control facilities is the sole responsibility of the Contractor until all construction is completed, approved, and permanent erosion control (i.e., vegetation/landscaping) is established on all disturbed areas.

(3). All recommended erosion prevention and sediment control procedures are dependent on construction methods, staging, site conditions, weather, and scheduling. During the construction period, erosion control facilities shall be revised, upgraded, replaced, or added, to comply with SRC and State and Federal regulatory requirements.

(4). The Contractor is solely responsible for protection of all adjacent property and downstream facilities from erosion and siltation during project construction. Any damage resulting from such erosion and siltation shall be corrected at the sole expense of the Contractor.

(5). When saturated soil is present, water–tight trucks must be used to transport saturated soils from the construction site. Soil may be drained on site at a designated location, using appropriate BMPs. Soil must be drained sufficiently to drip less than one gallon per hour prior to leaving the site.

(6). All materials spilled, dropped, or washed into storm drains must be removed immediately, and the Contractor shall provide protection of downstream inlets and catch basins to ensure sediment–laden water does not enter the storm drain system.

(7). All discharge of sediment–laden water must be treated with an appropriate BMP to remove sediment from discharge waters and to comply with SRC and State and Federal Regulatory Permits.

(8). In areas subject to wind erosion, appropriate BMPs must be used which may include the application of fine water spraying, plastic sheeting, mulching, or other approved measures.

(9). The EPSC measures and BMPs shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these measures shall be upgraded as needed to maintain compliance with all regulations.

(10). The contractor shall provide onsite water or other appropriate BMPs to prevent dust and wind erosion of fine grain soils.

(11). Disturbed areas must be stabilized after 14 days of inactivity, or immediately if rain is forecasted. See Subsection 7A.1(d)–Wet Weather Period.

(12). During the wet weather work period or when rain is forecasted, all active and inactive soil stock piles must be covered with appropriate plastic sheeting. Plastic sheeting must cover the entire stock pile and be sufficiently anchored.

(c) POLLUTANTS, SOLID WASTE AND HAZARDOUS MATERIALS MANAGEMENT

(1). Any use of toxic or other hazardous materials must include proper storage, application, and disposal.

(2). The contractor is solely responsible to properly manage pollutants, hazardous wastes, used oils, contaminated soils, concrete waste, sanitary waste, liquid waste, or other toxic substances discovered or generated during construction to prevent leakage, spills or release of pollutants to the environment and surface waters.

(3). Contractor shall develop a project specific written spill prevention and response procedures that includes employee training on spill prevention and proper disposal procedures; regular maintenance schedule for vehicles andmachinery; and material delivery and storage controls, signage, material use, and use of covered storage areas for waste and supplies. The plan shall comply with SRC and Federal and State requirements, and shall be available on site at all times.

(d) WET WEATHER PERIOD (OCTOBER 15 THROUGH APRIL 30)

(1). Construction activities must avoid or minimize the duration of disturbed areas.

(2). Temporary stabilization of the site including covering of bare soils with approved BMPs, must be installed at the end of the shift before a holiday or weekend, or at the end of each workday if rainfall is forecast in the next 24 hours.

(3). Temporary stabilization or covering of soil stockpiles and protection of stockpiles located away from construction activity must occur at the end of each workday.

(e) MAINTENANCE

(1). Erosion control measures shall be maintained in such a manner as to ensure that erosion is prevented and sediment–laden water does not enter a drainage system, roadway, or violate applicable water quality standards.

(2). Sediment shall not be washed or swept into storm sewers, drainage ways, or water bodies.

(3). Sediment must be removed from behind all sediment control measures when it has reached a height of 1/3 the barrier height, and prior to the control measures removal.

(4). Removal of trapped sediment in a sediment basin or sediment trap or catch basins must occur when the sediment retention capacity has been reduced by 50 percent; is not functioning properly and/or at the completion of project.

(5). Cleaning of all structures, inlet protection BMPs, and sump pumps must be completed regularly and as required to ensure structures and inlets function properly and flow freely.

(6). Construction site exits shall be maintained in a condition that will prevent tracking or flow of mud onto the ROW or approved access point. The entrance may require periodic top dressing as conditions demand, and repair and/or cleanout of any structures used to trap sediment. Wheel washing shall be required to prevent sediment and material tracking on road surfaces if passive BMPs are not effective.

(f) INSPECTION

(1). The EPSCP must be kept onsite at all times. All measures shown on the plan must be installed properly to ensure compliance with SRC and State and Regulatory permits, and that sediment does not enter a surface water system, roadway, or other properties.

(2). Written EPSC inspection logs shall be maintained onsite and available to City inspectors upon request.

(3). All BMPs shall be inspected at least every week. When a rainfall event exceeds 1/2–inch in a 24–hour period, daily inspection of the erosion controls, sediment controls, and discharge outfalls must be conducted and documented. Inspections shall be done by a representative of the permit registrant who is knowledgeable and experienced in the principles, practices, installation, and maintenance of erosion and sediment controls.

(g) INACTIVE CONSTRUCTION PERIODS AND POST–CONSTRUCTION

(1). Should work cease in any area for 14 days, the inactive area must be stabilized with appropriate soil stabilization BMPs. If all construction activity ceases the entire site must be temporarily stabilized using vegetation, heavy mulch layer, temporary seeding, or other method.

(2). All temporary erosion prevention and sediment control facilities shall be removed by the contractor within 30 days after permanent landscaping/vegetation is established and the threat of erosion and sediment transport has been mitigated.

(3). Temporary grass cover measures must be fully established by October 15 or other cover measures (i.e., erosion control blankets with anchors, one–inch of straw mulch, six mil HDPE plastic sheet, etc.) shall be in place over all disturbed soil areas until April 30. To establish an adequate grass stand for controlling erosion by October 15, it is recommended that seeding and mulching occur by September 1.

(4). Permanent erosion control vegetation on all embankments and disturbed areas shall be re–established as soon as construction is completed.

(h) SPECIFICATIONS

(1). Soil preparation. Topsoil should be prepared according to the landscape plans, if available, or recommendations of the grass seed supplier. Slopes shall be textured before seeding by rack walking (i.e., driving a crawling tractor up and down the slopes to leave a pattern of cleat imprints parallel to slope contours) or other method to provide stable areas for seeds to rest.

(2). Seeding. Erosion control grass seed mix shall be as follows: Dwarf grass mix (low height, low maintenance) consisting of dwarf perennial ryegrass (80 percent by weight), creeping red fescue (20 percent by weight). Application rate shall be 100 pounds per acre minimum.

(3). Grass seed shall be fertilized at a rate of ten pounds per 1,000 square feet with 16–16–16 slow release type fertilizer. Disturbed areas within 50 feet of water bodies and wetlands must use a non–phosphorous fertilizer.

(4). The application rate of fertilizers used to reestablish vegetation shall follow manufacturer's recommendations. Nutrient releases from fertilizers to surface waters shall be minimized. Time release fertilizers shall be used. Care shall be made in the application of fertilizers within any waterway riparian zone to prevent leaching into the waterway.

(5). When used, hydromulch shall be applied with grass seed at a rate of 2,000 pounds per acre between April 30 and June 10, or between September 1 and October 1. On slopes steeper than ten percent, hydroseed and mulch shall be applied with a bonding agent (tackifier). Application rate and methodology shall be in accordance with seed supplier recommendations.

(6). When used in lieu of hydromulch, dry, loose, weed–free straw used as mulch shall be applied at a rate of 4,000 pounds per acre (double the hydromulch application requirement). Anchor straw by working in by hand or with equipment (rollers, cleat trackers, etc.). Mulch shall be spread uniformly immediately following seeding.

(7). When conditions are not favorable to germination and establishment of the grass seed, the Contractor shall irrigate the seeded and mulched areas as required to establish the grass cover.

(8). Sediment fences shall be constructed of continuous filter fabric to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum six–inch overlap, and both ends securely fastened to a post.

(9). The standard strength filter fabric shall be fastened securely to stitched loops installed on the upslope side of the posts, and six inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

(10). Bio–filter bags shall be clean 100 percent wood product waste. Bags shall be 18–inch x 18–inch x 30–inch, weigh approximately 45 pounds, and be contained in a bag made of 1/2–inch plastic mesh.

(11). Minimum wet weather slope protection. For 3H:1V or steeper slopes use Bon Terra Type C2 or North American Green Type C125 erosion control blankets. Use a minimum of two inches straw mulch or North American Green Type S150 for slopes flatter than 3H:1V and greater than 6H:1V. Slopes flatter than 6H:1V use one inch straw mulch, hydroseed with hydromulch and tackifier. Slope protection shall be placed on all disturbed areas immediately after completion of each section of construction activity, until the erosion control seeding has been established. As an option during temporary or seasonal work stoppages, a six–mil HDPE plastic sheet may be placed on exposed slopes. The plastic sheet shall be provided with an anchor trench at the top and bottom of the slope, and shall be sandbagged on the slopes as required to prevent damage or displacement by wind.

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
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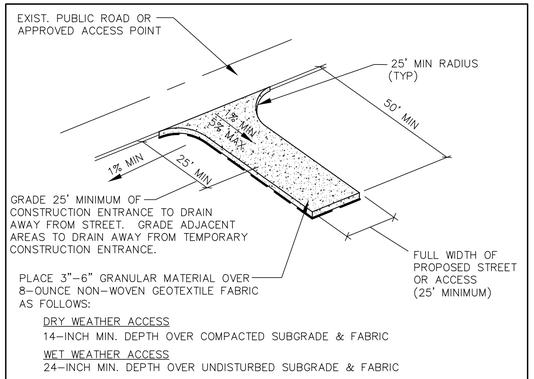
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I EROSION CONTROL NOTES & DETAILS

DRAWING
C2.1

JOB NUMBER
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DRY WEATHER ACCESS
14–INCH MIN. DEPTH OVER COMPACTED SUBGRADE & FABRIC

WET WEATHER ACCESS
24–INCH MIN. DEPTH OVER UNDISTURBED SUBGRADE & FABRIC

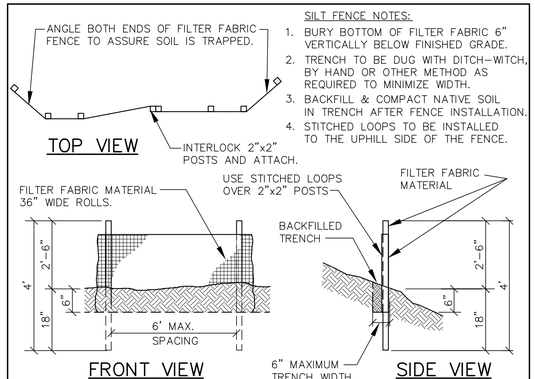
CONSTRUCTION NOTES:

1. THE AREA OF THE CONSTRUCTION ENTRANCE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROOTS, AND OTHER NON–COMPACTABLE MATERIAL.
2. SUBGRADE SHALL BE COMPACTED AND PROOFROLLED PRIOR TO PLACEMENT OF GRANULAR MATERIAL. FAILURE TO PASS PROOFROLL WILL REQUIRE USE OF WET WEATHER SECTION.
3. FAILURE OR PUMPING OF THE DRY WEATHER SECTION WILL REQUIRE REMOVAL OF THE GRANULAR MATERIAL AND INSTALLATION OF THE WET WEATHER SECTION.

MAINTENANCE NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 3"–6" INCH STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN–OUT OF STRUCTURES USED TO TRAP SEDIMENT.
2. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
3. ALL TRUCKS TRANSPORTING SATURATED SOILS SHALL BE WELL SEALED. WATER DRIPPAGE FROM TRUCKS MUST BE REDUCED TO 1 GALLON PER HOUR PRIOR TO LEAVING THE SITE.

LAST REVISION DATE: MAY 2013	JO # STANDARD
TEMPORARY CONSTRUCTION ENTRANCE (NTS)	
WESTECH ENG.	DETAIL NO. 6100



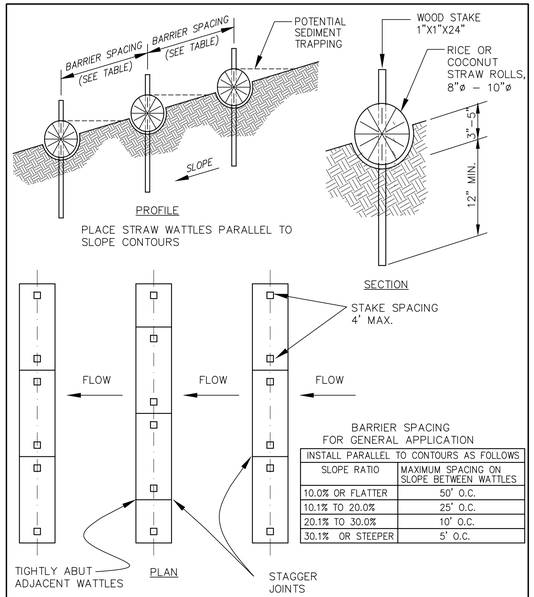
SILT FENCE NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. TRENCH TO BE DUG WITH DITCH–WITCH, BY HAND OR OTHER METHOD AS REQUIRED TO MINIMIZE WIDTH.
3. BACKFILL & COMPACT NATIVE SOIL IN TRENCH AFTER FENCE INSTALLATION.
4. STITCHED LOOPS TO BE INSTALLED TO THE UPHILL SIDE OF THE FENCE.

MAINTENANCE NOTES:

1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND SEDIMENT FENCES OR BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

LAST REVISION DATE: APRIL 2014	JO # STANDARD
SEDIMENT BARRIERS (NTS)	
WESTECH ENG.	DETAIL NO. 6110



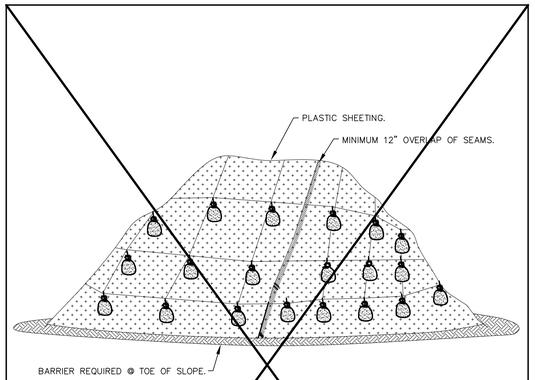
BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL TO CONTOURS AS FOLLOWS	
SLOPE RATIO	MAXIMUM SPACING ON SLOPE BETWEEN WATTLES
10.0% OR FLATTER	50' O.C.
10.1% TO 20.0%	25' O.C.
20.1% TO 30.0%	10' O.C.
30.1% OR STEEPER	5' O.C.

NOTES:

1. ALL MATERIAL SHALL CONFORM TO OSHD STANDARD SPECIFICATIONS, 1996 EDITION.
2. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
3. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE ABOVE THE TOP OF THE STRAW WATTLE.
4. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

LAST REVISION DATE: DEC. 2000	JO # STANDARD
STRAW WATTLE SEDIMENT BARRIER (NTS)	
WESTECH ENG.	DETAIL NO. 6120

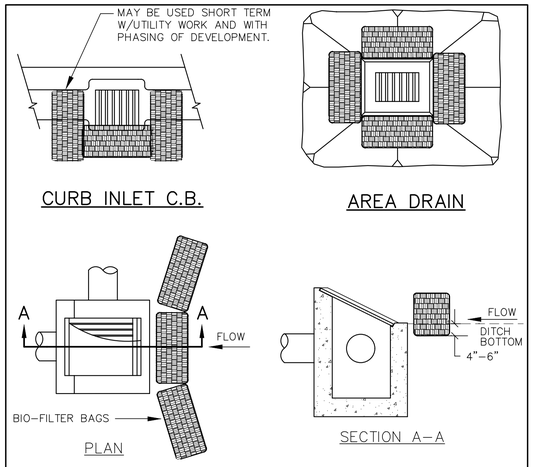


STOCKPILE DETAIL

NOTES:

1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. SEDIMENT BARRIER REQUIRED @ TOE OF STOCK PILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.
4. PLASTIC SHEETING TO EXTEND A MINIMUM OF 12" PAST THE BOTTOM OF THE PILE ONTO SURROUNDING GRADE ON ALL SIDES.

LAST REVISION DATE: JAN 2019	JO # STANDARD
STOCKPILE DETAIL (NTS)	
WESTECH ENG.	DETAIL NO. 6170

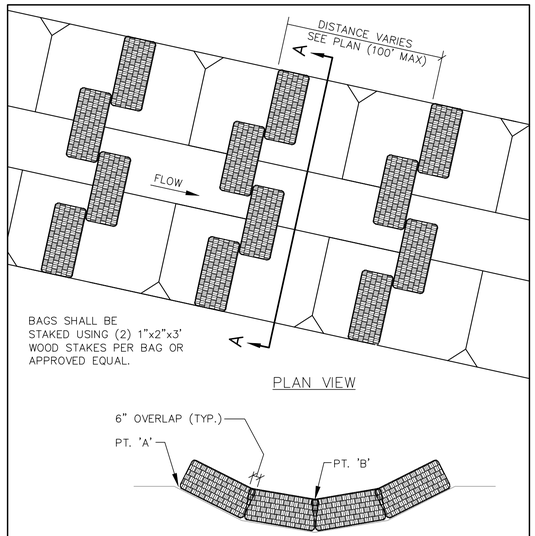


DITCH INLET C.B.

MAINTENANCE NOTES:

1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND SEDIMENT FENCES OR BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.

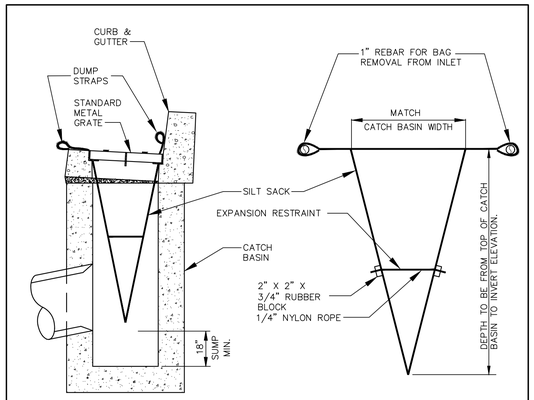
LAST REVISION DATE: APRIL 2014	JO # STANDARD
INLET SEDIMENT CONTROL (NTS)	
WESTECH ENG.	DETAIL NO. 6130



MAINTENANCE NOTES:

1. SEDIMENT BARRIERS SHALL BE MAINTAINED UNTIL UP–SLOPE AREA IS PERMANENTLY STABILIZED.
2. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE BEHIND BIOFILTER BAGS.
3. NEW SEDIMENT BARRIERS SHALL BE INSTALLED UPHILL AS REQUIRED TO CONTROL SEDIMENT TRANSPORT.
4. PT. 'A' SHALL BE 6" MIN. HIGHER THAN PT. 'B'.

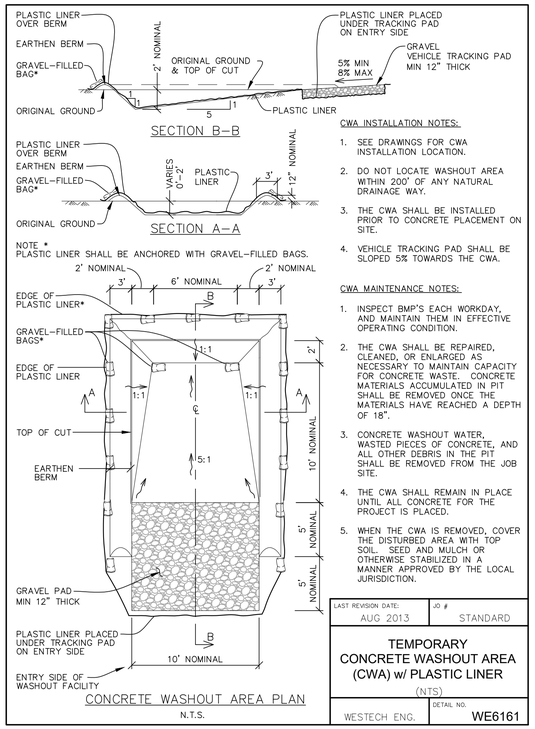
LAST REVISION DATE: APRIL 2014	JO # STANDARD
DITCH AND SWALE EROSION PROTECTION (NTS)	
WESTECH ENG.	DETAIL NO. 6140



NOTES:

1. EMPTY SILT SACK AS NECESSARY.
2. SILTSACK SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIRONMENTAL AND SUPPLIED BY ACF WEST (503) 771–5115 OR APPROVED EQUAL.

LAST REVISION DATE: OCT 2002	JO # STANDARD
SILTSACK INLET DETAIL (NTS)	
WESTECH ENG.	DETAIL NO. 6150



CWA INSTALLATION NOTES:

1. SEE DRAWINGS FOR CWA INSTALLATION LOCATION.
2. DO NOT LOCATE WASHOUT AREA WITHIN 200' OF ANY NATURAL DRAINAGE WAY.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. VEHICLE TRACKING PAD SHALL BE SLOPED 5% TOWARDS THE CWA.

CWA MAINTENANCE NOTES:

1. INSPECT BMP'S EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 18".
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE PIT SHALL BE REMOVED FROM THE JOB SITE.
4. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL. SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

LAST REVISION DATE: AUG 2013	JO # STANDARD
TEMPORARY CONCRETE WASHOUT AREA (CWA) w/ PLASTIC LINER (NTS)	
WESTECH ENG.	DETAIL NO. WE6161

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 16, 1982 — STEVEN A. WARD — RENEWS: 6/30/2026

REVIEW

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585–2474 Fax: (503) 585–3986
E–mail: westech@westech–eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I
EROSION CONTROL
NOTES & DETAILS

DRAWING
C2.2

JOB NUMBER
3155.3000.0

9/18/2024 5:03:45 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – SPR Application\Plots\C2.0–2 EC Notes & Details.dwg, (C2.2 tab)

EROSION CONTROL LEGEND

- SILT FENCE SEE DTL
- SILT SACK INLET PROTECTION USE BIO BAGS ON CURB INLET CATCH BASINS. USE SILT SACKS ON STANDARD CATCH BASINS.
- BIO BAGS/CHECK DAM

DEMOLITION LEGEND

- (P) CONTRACTOR TO SAVE & PROTECT AT ALL TIMES.
- (R) CONTRACTOR TO REMOVE & DISPOSE OFF SITE.
- (R1) COORDINATE W/ UTILITY COMPANY TO REMOVE/RELOCATE
- (R2) RELOCATE BEHIND CURB/SIDEWALK
- (S) SAWCUT
- (A) ADJUST

0 20 40 80 (feet)

TREE (R)

PORTABLE TOILET

CONSTRUCTION ENTRANCE

PCC WASHOUT

WETLAND

L=94.92'
R=1950.00'
Δ=002°47'20"
CH=S14°40'54"W
94.91'

S76°42'46"E 410.00'

N73°28'17"E 326.96'

N00°00'17"E 253.63'

N29°59'53"W 471.19'

N47°22'19"W 355.65'

N29°59'53"W 471.19'

VERIFY SCALE					
BAR IS ONE INCH ON ORIGINAL DRAWING	0 1"				
IF NOT ONE INCH, ADJUST THIS SHEET, ADJUST SCALES ACCORDINGLY					
DSN.	SAW				
DRN.	AR	1			
CKD.	SAW	NO.	DATE	DESCRIPTION	BY
DATE:	DEC 2021	REVISIONS			

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 16, 1999 — STEVEN A. WARD

REVIEW

RENEWS: 6/30/2026

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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

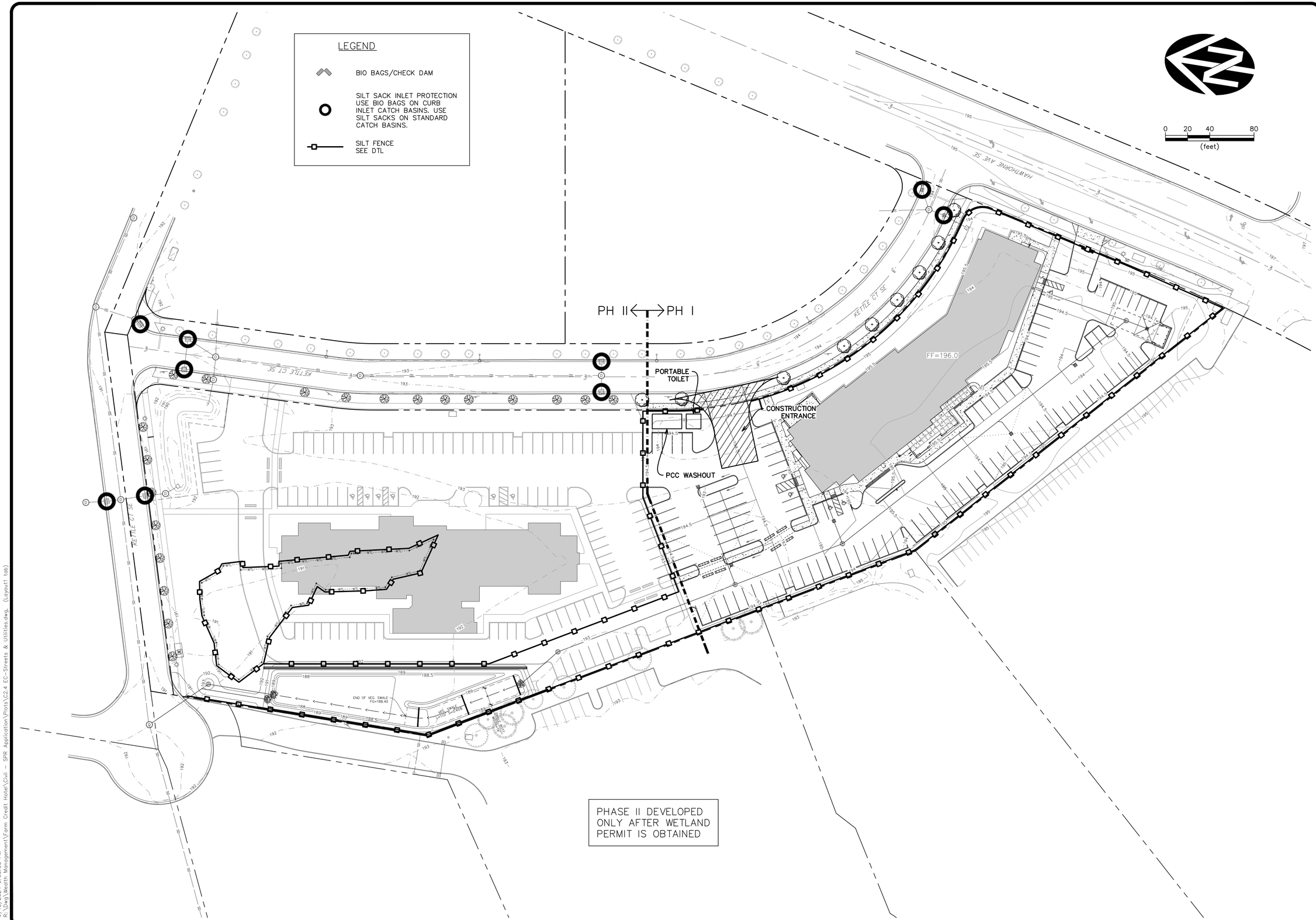
PHASE I

EXISTING CONDITIONS, EROSION CONTROL, & DEMOLITION PLAN

DRAWING
C2.3

JOB NUMBER
3155.3000.0

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH, ADJUST THIS SHEET, ADJUST SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WARD
OREGON
REVIEW
RENEWS: 6/30/2026

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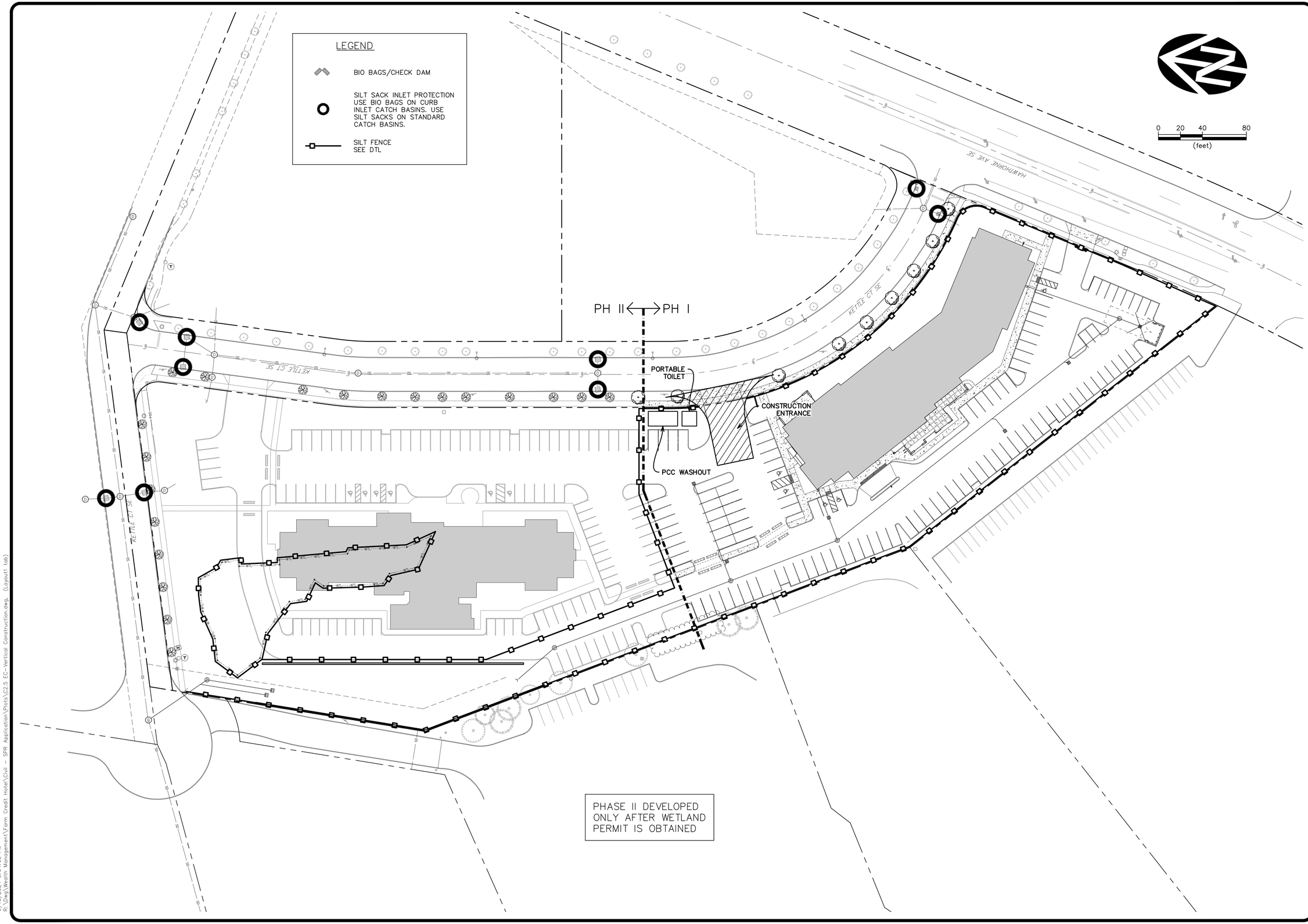
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I
EROSION CONTROL PLAN– STREETS & UTILITIES

DRAWING
C2.4

JOB NUMBER
3155.3000.0

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		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WARD
OREGON
REVIEW
RENEWS: 6/30/2026

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WEALTH HOSPITALITY GROUP

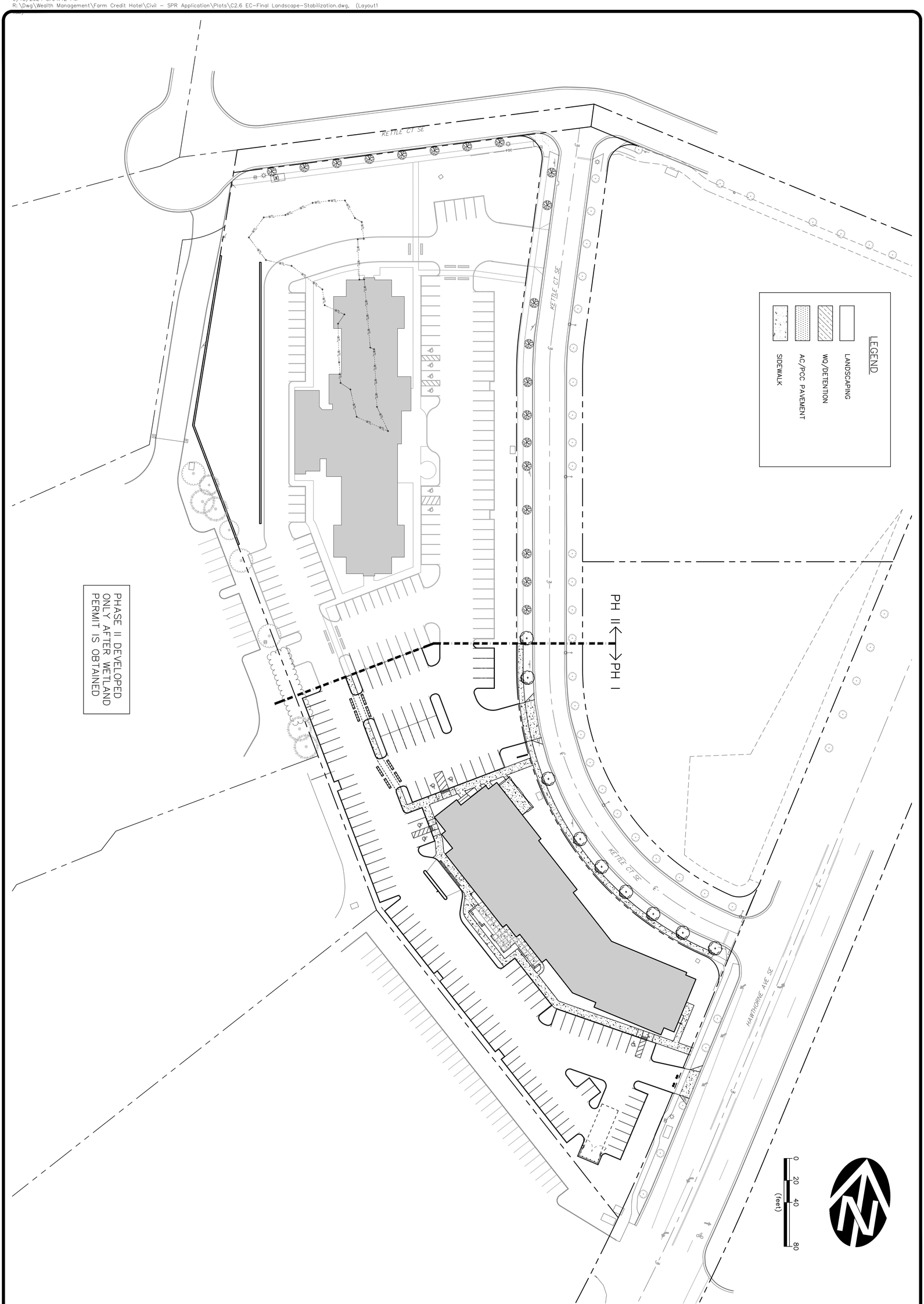
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I
EROSION CONTROL PLAN– VERTICAL CONSTRUCTION

DRAWING
C2.5

JOB NUMBER
3155.3000.0

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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I

EROSION CONTROL PLAN– FINAL LANDSCAPE & STABILIZATION

JOB NUMBER 3155.3000.0

DRAWING C2.6

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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD

REVIEW

RENEWS: 6/30/2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

NO.	DATE	DESCRIPTION	BY
1			

REVISIONS

FEMA MAPPING ERROR:
EXTG TOPOGRAPHY ABOVE FEMA
100 YR FLOOD ELEVATION

NOTE: FLOODPLAIN DEVELOPMENT
PERMITS STILL APPLY FOR FEMA
MAPPED FLOODPLAIN AREAS

FEMA ZONE BOUNDARY

FEMA FLOOD ELEVATION CONTOUR

PROPERTY LINE

ZONE AE
100 YR FLOOD PLANE

500 YR FLOOD ZONE

ZONE X
(MINIMAL FLOOD HAZARD)

192 FEET

PARTITION PLAT 2009-38
PARCEL 1
R 3111, P. 124, B.O.T.P.

PARTITION PLAT 2016-52
PARCEL 1
R 3885, P. 263, B.O.T.P.

TAX LOT 1500
073W25D

TAX LOT 1501
073W36A

TAX LOT 1400
073W36A

TAX LOT 1200
073W36A

KETTLE CT SE (PRIVATE STREET)

HAWTHORNE AVE SE

CONC GUTTER PAN

ASPH PARKING LOT

TREE LINE

CHRISTMAS TREES

WETLAND AREA

BERM

SWALE

DRIVEWAY

CONC

ASPH

R/W

N00°00'00"E 253.58'

N47°22'39"W 355.59'

S13°17'14"W 134.94'

UTILITY EASEMENT PER R. 1275, P. 451, M.C.D.R.
Δ= 2°47'20"
R=350.00'
Ch. 14°40'54"W, 94.91'

40' INGRESS & EGRESS EASEMENT PER R. 1455, P. 77, M.C.D.R. & R. 1554, P. 60, M.C.D.R.

55' PIPELINE EASEMENT TO CITY OF SALEM PER R. 2053, P. 405, M.C.D.R.

0 20 40 80
FEET

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH, ADJUST THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN.	SAW
DRN.	AR
CKD.	SAW
DATE:	DEC 2021

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

REVIEW
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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WEALTH HOSPITALITY GROUP

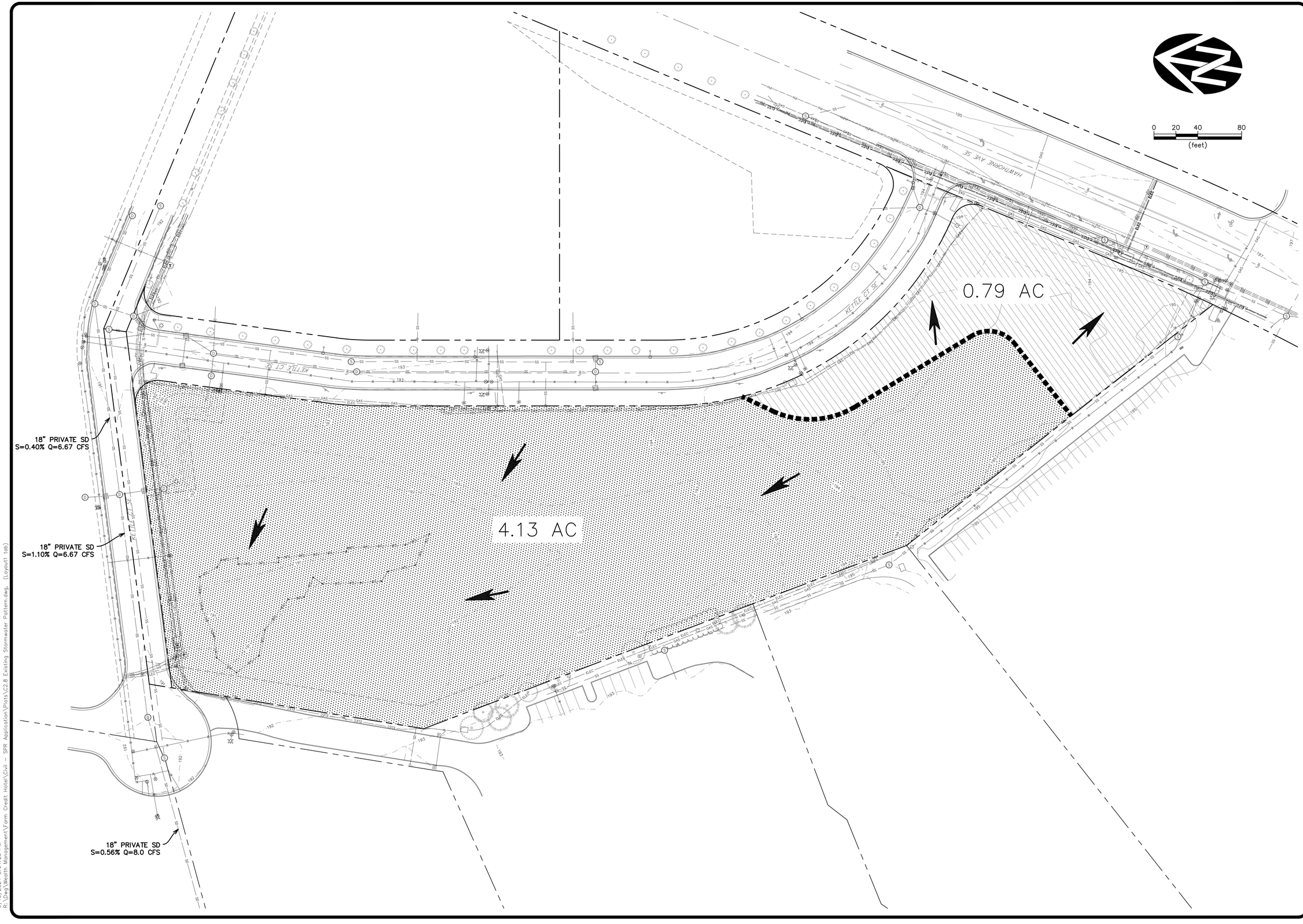
FARM CREDIT DRIVE HOTEL DEVELOPMENT

FLOOD PLAN
(BASED UPON FEMA MAPPING & ACTUAL TOPOGRAPHY)

DRAWING
C2.7

JOB NUMBER
3155.3000.0

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH, ADJUST THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN.	SAW
DRN.	AR
CKD.	SAW
DATE:	DEC 2021

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

REVIEW

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEBSTECH

RENEWS: 6/30/2026

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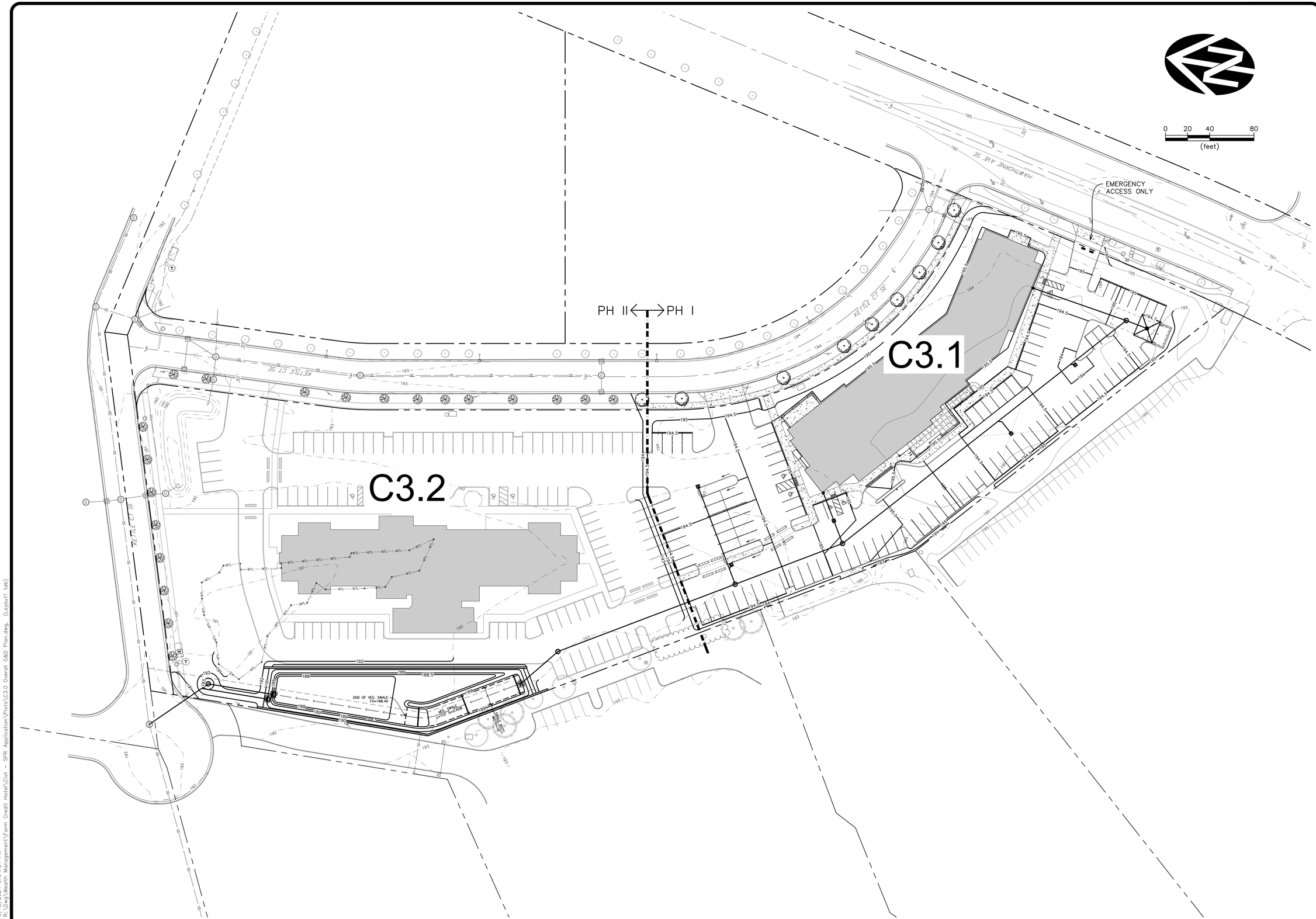
FARM CREDIT DRIVE HOTEL DEVELOPMENT

EXISTING STORMWATER DRAINAGE PATTERN

DRAWING
C2.8

JOB NUMBER
3155.3000.0

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NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WEGENER
EXPIRES: 6/30/2026

REVIEW

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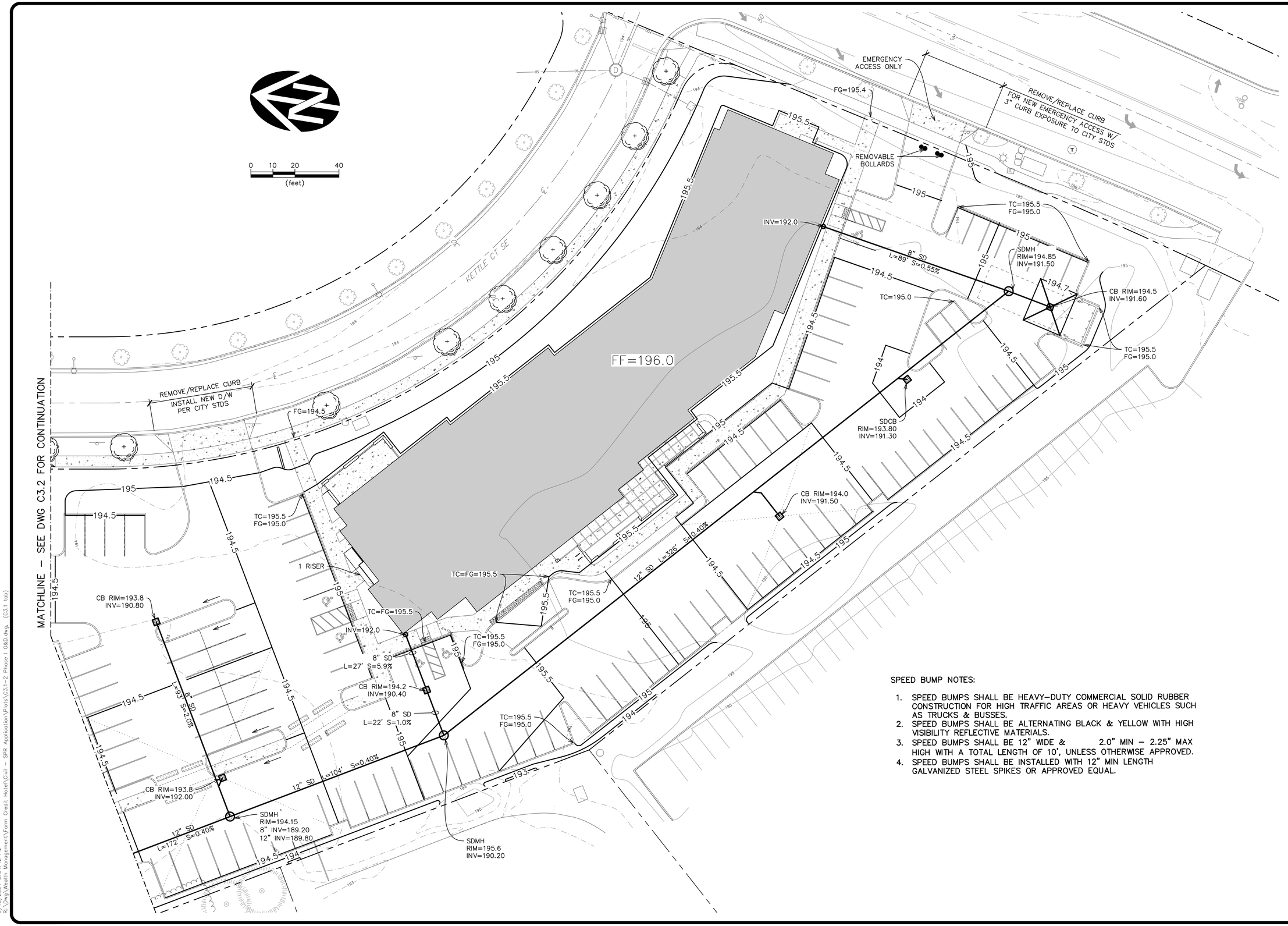
WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

OVERALL GRADING & DRAINAGE PLAN

DRAWING
C3.0

JOB NUMBER
3155.3000.0



SPEED BUMP NOTES:

1. SPEED BUMPS SHALL BE HEAVY-DUTY COMMERCIAL SOLID RUBBER CONSTRUCTION FOR HIGH TRAFFIC AREAS OR HEAVY VEHICLES SUCH AS TRUCKS & BUSSES.
2. SPEED BUMPS SHALL BE ALTERNATING BLACK & YELLOW WITH HIGH VISIBILITY REFLECTIVE MATERIALS.
3. SPEED BUMPS SHALL BE 12" WIDE & 2.0" MIN – 2.25" MAX HIGH WITH A TOTAL LENGTH OF 10', UNLESS OTHERWISE APPROVED.
4. SPEED BUMPS SHALL BE INSTALLED WITH 12" MIN LENGTH GALVANIZED STEEL SPIKES OR APPROVED EQUAL.

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REVIEW
REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 16, 1982
STEVEN A. WARD
RENEWS: 6/30/2026

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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I GRADING & DRAINAGE PLAN (EAST)

DRAWING
C3.1

JOB NUMBER
3155.3000.0

9/18/2024 5:04:42 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil – SPR Application\Plots\C3.1-2 Phase I G&D.dwg, (C3.1 tab)

SEE DWG C3.2.1 FOR FUTRE PHASE II GRADING
PHASE II DEVELOPED ONLY AFTER WETLAND
PERMIT IS OBTAINED.

MATCHLINE = SEE DWG C3.1 FOR CONTINUATION

KETTLE CT SE

KETTLE CT SE

FG=194.15

0 10 20 40
(feet)

FCMH
RIM=193.0
INV=187.10

8" SD L=60' S=0.67%

8" SD L=60' S=4.47%

8" SD L=65' S=2.35%

8" INV IN=185.55
18" INV OUT=184.52

TW=192.0
BW=189.33
3 CY 50# RIP RAP

TYPE III CB
RIM=187.75
8" INV=187.50

TYPE III CB
RIM=190.30
8" INV=189.50

3 CY 50# RIP RAP

PHASE I & II DETENTION/WQ

END OF VEG. SWALE
FG=188.40

TW=193.0
BW=189.0

SEE DWG C3.2.1
FOR SWALE PROFILE

ROCK CHECK DAMS SPACED
EVENLY, TYP OF 3

VEG. SWALE
L=110' S=0.45%

SWALE BOTT.
WIDTH=16'

TW=192.67
BW=189.33

TW=192.0
BW=189.33

TW=193.0
BW=189.0

12" INV=188.90
3 CY 50# RIP RAP

TW=193.33
BW=189.33

TW=193.33
BW=189.33

SDMH
RIM=194.0
INV=189.10

12" SD L=172' S=0.40%

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DSN.	SAW
DRN.	AR
CKD.	SAW
DATE:	DEC 2021

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1996
STEVEN A. WRAY
RENEWS: 6/30/2026

REVIEW

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I GRADING & DRAINAGE PLAN (NORTH)

DRAWING
C3.2

JOB NUMBER
3155.3000.0

PHASE II DEVELOPED ONLY AFTER WETLAND PERMIT IS OBTAINED

0 10 20 40
(feet)

KETTLE CT SE

KETTLE CT SE

193 193 192.5 192.5 193.2 192.5 192.5 193 193.5 194 194.5

TC=FG=193.2

FF=193.6

PHASE I & II DETENTION/WQ

PHASE I PIPING

BY	DESCRIPTION	NO.	DATE
	REVISIONS	1	

VERIFY SCALE
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0 1"
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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REVIEW
PROFESSIONAL ENGINEER
OREGON
JULY 16, 2014
STEVEN A. WEBB
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE II GRADING & DRAINAGE PLAN (NORTH)

DRAWING
C3.2.1

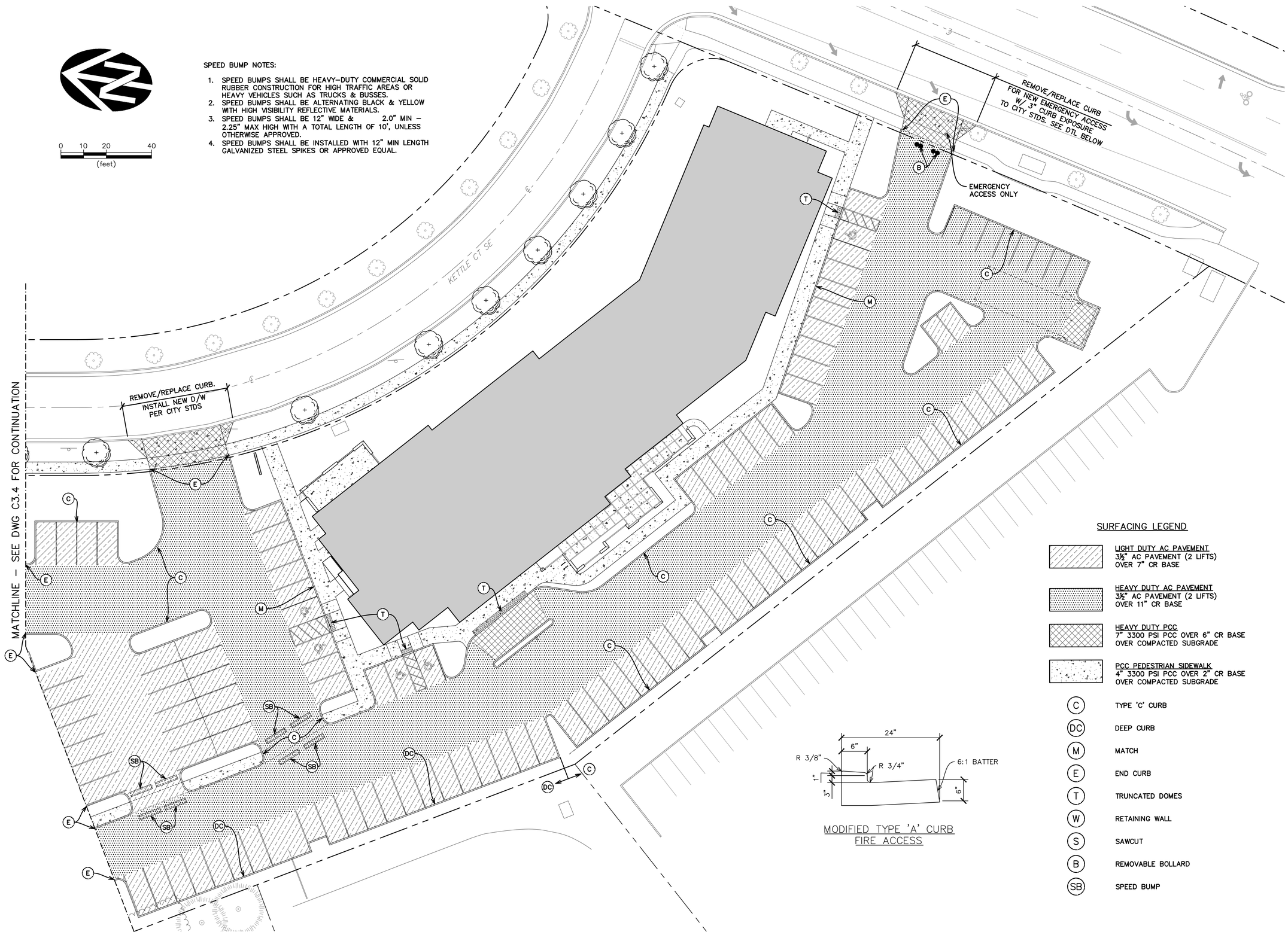
JOB NUMBER
3155.3000.0

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SPEED BUMP NOTES:

1. SPEED BUMPS SHALL BE HEAVY-DUTY COMMERCIAL SOLID RUBBER CONSTRUCTION FOR HIGH TRAFFIC AREAS OR HEAVY VEHICLES SUCH AS TRUCKS & BUSSES.
2. SPEED BUMPS SHALL BE ALTERNATING BLACK & YELLOW WITH HIGH VISIBILITY REFLECTIVE MATERIALS.
3. SPEED BUMPS SHALL BE 12" WIDE & 2.0" MIN – 2.25" MAX HIGH WITH A TOTAL LENGTH OF 10', UNLESS OTHERWISE APPROVED.
4. SPEED BUMPS SHALL BE INSTALLED WITH 12" MIN LENGTH GALVANIZED STEEL SPIKES OR APPROVED EQUAL.

0 10 20 40
(feet)



MODIFIED TYPE 'A' CURB
FIRE ACCESS

SURFACING LEGEND

- LIGHT DUTY AC PAVEMENT
  3½" AC PAVEMENT (2 LIFTS)
  OVER 7" CR BASE
- HEAVY DUTY AC PAVEMENT
  3½" AC PAVEMENT (2 LIFTS)
  OVER 11" CR BASE
- HEAVY DUTY PCC
  7" 3300 PSI PCC OVER 6" CR BASE
  OVER COMPACTED SUBGRADE
- PCC PEDESTRIAN SIDEWALK
  4" 3300 PSI PCC OVER 2" CR BASE
  OVER COMPACTED SUBGRADE

(C) TYPE 'C' CURB
(DC) DEEP CURB
(M) MATCH
(E) END CURB
(T) TRUNCATED DOMES
(W) RETAINING WALL
(S) SAWCUT
(B) REMOVABLE BOLLARD
(SB) SPEED BUMP

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

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0 1"
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DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WEBB
EXPIRES: 6/30/2026
REVIEW
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I SURFACING PLAN (EAST)

DRAWING
C3.3

JOB NUMBER
3155.3000.0

9/18/2024 5:04:59 PM
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SURFACING LEGEND

- LIGHT DUTY AC PAVEMENT
  3½" AC PAVEMENT (2 LIFTS)
  OVER 7" CR BASE
- HEAVY DUTY AC PAVEMENT
  3½" AC PAVEMENT (2 LIFTS)
  OVER 11" CR BASE
- HEAVY DUTY PCC
  7" 3300 PSI PCC OVER 6" CR BASE
  OVER COMPACTED SUBGRADE
- PCC PEDESTRIAN SIDEWALK
  4" 3300 PSI PCC OVER 2" CR BASE
  OVER COMPACTED SUBGRADE

- (C) TYPE 'C' CURB
- (M) MATCH
- (E) END CURB
- (T) TRUNCATED DOMES
- (W) RETAINING WALL
- (S) SAWCUT

KETTLE CT SE

PHASE II DEVELOPED ONLY AFTER WETLAND PERMIT IS OBTAINED

MATCHLINE = SEE DWG C3.3 FOR CONTINUATION

SPEED BUMPS

(W)

0 10 20 40
(feet)

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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1"

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REVIEW
REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WARD
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
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Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

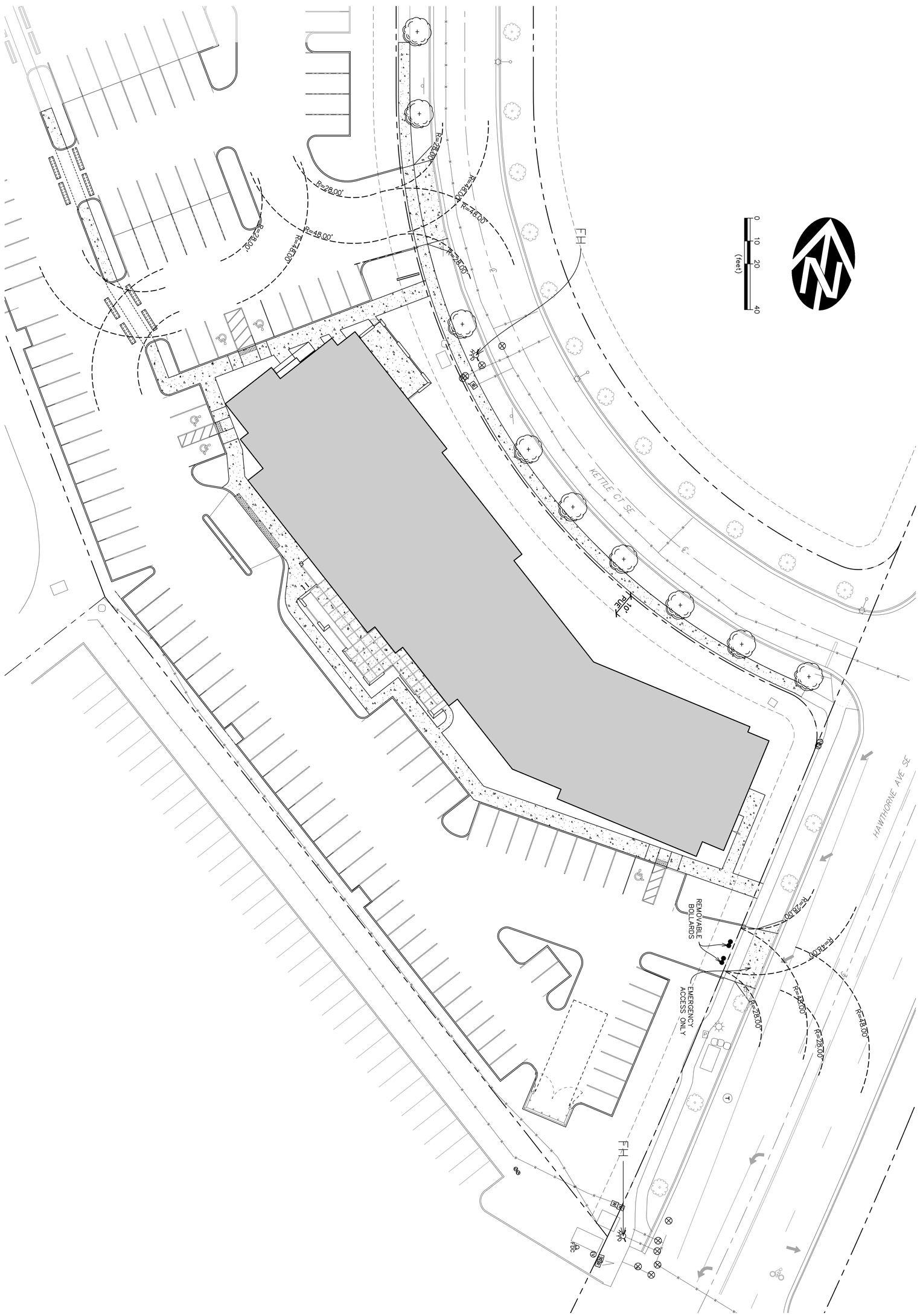
PHASE I SURFACING PLAN (NORTH)

DRAWING
C3.4

JOB NUMBER
3155.3000.0

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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I
FIRE ACCESS PLAN

DRAWING C3.5

JOB NUMBER 3155.3000.0

WESTECH ENGINEERING, INC.
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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD

REVIEW

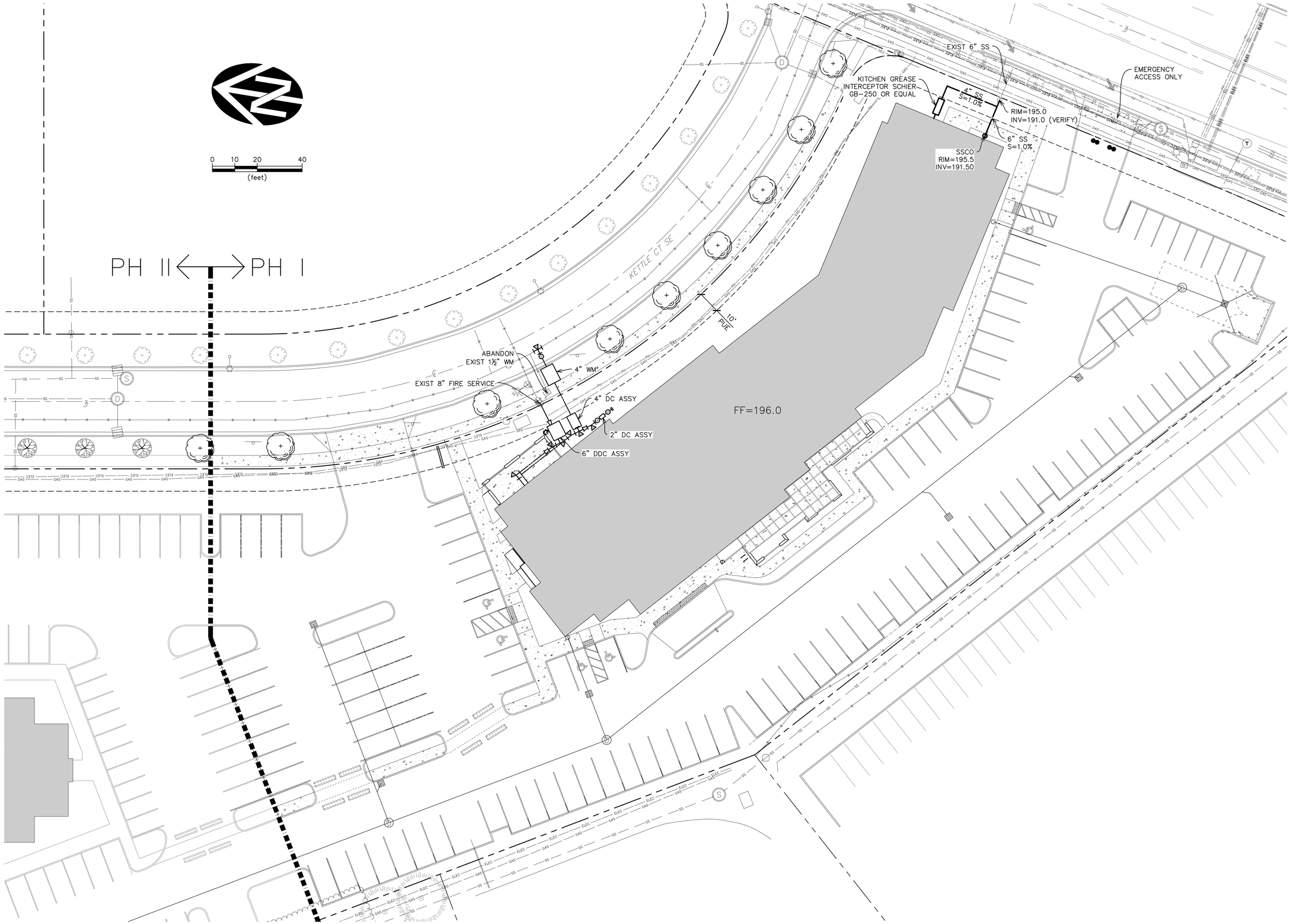
RENEWS: 6/30/2026

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRN. AR
CKD. SAW
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NO.	DATE	DESCRIPTION	BY
1			

REVISIONS



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		REVISIONS	

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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CKD. SAW
DATE: DEC 2021

REVIEW
REGISTERED PROFESSIONAL ENGINEER
OREGON
STEVEN A. WARD
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE I
OVERALL UTILITY PLAN

DRAWING
C4.0

JOB NUMBER
3155.3000.0

0 10 20 40
(feet)

KETTLE CT SE

10' PUE

4" WM

ABANDON EXIST 1½" WM

EXIST 8" WATER

4" DC ASSY

6" DDC ASSY

6" SS

8" FIRE

FF=193.6

KETTLE CT SE

BY	DESCRIPTION	NO.	DATE
	REVISIONS	1	

VERIFY SCALE
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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WEBB
EXPIRES: 6/30/2026

REVIEW

RENEWS: 6/30/2026

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WEALTH HOSPITALITY GROUP

FARM CREDIT DRIVE HOTEL DEVELOPMENT

PHASE II
OVERALL UTILITY PLAN

DRAWING
C4.1

JOB NUMBER
3155.3000.0

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TREE LEGEND

EXISTING TREE

PHASE I TREE

PHASE II TREE

EXISTING TREES

EXISTING TREES

EXISTING TREES

STREET LIGHT (TYP)

PHASE I TREES

PHASE II TREES

STREET LIGHT (TYP)

PHASE II TREES

EXIST STREET LIGHT

KETTLE CT SE

KETTLE CT SE

KETTLE CT SE

HAWTHORNE AVE SE

0 20 40 80
(feet)

VERIFY SCALE
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DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	

REVIEW

REGISTERED PROFESSIONAL ENGINEER
STEVEN A. WARD
EXPIRES: 6/30/2026

RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
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E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP

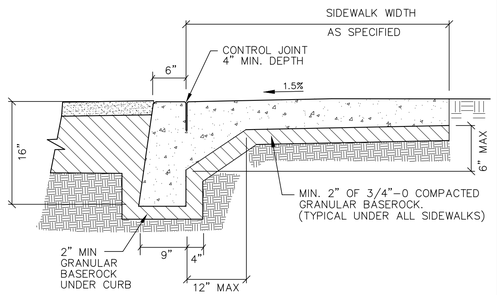
FARM CREDIT DRIVE HOTEL DEVELOPMENT

OVERALL STREET LIGHTING & TREE PLAN

DRAWING
C4.2

JOB NUMBER
3155.3000.0

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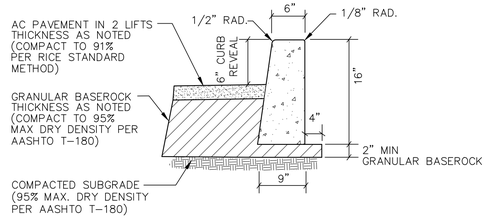
TYPICAL SECTION

NTS

NOTES:

1. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
2. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
3. INSTALL TOOLED CONTRACTION JOINTS AT 5' INTERVALS. SIDEWALKS 10' & WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT 5' ON CENTER.

LAST REVISION DATE:	JO #
NOV 2013	STANDARD
MONOLITHIC CURB AND SIDEWALK	
(NTS)	
WESTECH ENG.	DETAIL NO. 2112



PAVEMENT/TYPE "C" CURB DETAIL

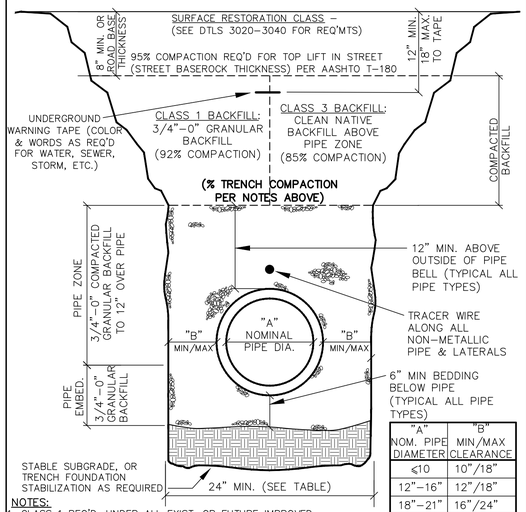
NTS

NOTES:

1. SEE GRADING PLAN FOR LOCATION OF LIGHT AND HEAVY DUTY PAVEMENT.
2. DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. IF SUBGRADE PASSES PROOF-ROLL BUT FAILS DENSITY TESTING, MIN. 4.5 OZ NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED ON SUBGRADE PRIOR TO PLACEMENT OF BASEROCK. FAILURE OF PROOF-ROLL WILL REQUIRE OVEREXCAVATION.
3. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER MIN. 8.0-OZ. NON-WOVEN FABRIC AS REQUIRED TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER TIRED EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
4. SUBGRADE TO BE PROOFROLLED IMMEDIATELY PRIOR TO PLACING BASEROCK. BASEROCK TO BE PROOFROLLED IMMEDIATELY PRIOR TO PAVING.
5. CONTRACTION JOINTS SHALL BE PLACED AT 15' MIN. INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB SECTION.
6. ALL CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
7. CURBS TO CURE A MINIMUM OF 7 DAYS PRIOR TO PLACING FINAL BASEROCK AND PAVING. USE TYPE 1 OR 1-D CLEAR CURING COMPOUND.

LAST REVISION DATE:	JO #
DEC 1999	X
PAVEMENT AND TYPE 'C' CURB DETAIL	
(NTS)	
WESTECH ENG.	DETAIL NO. 2390

TRENCH COMPACTION: CLASS 1 GRANULAR BACKFILL – 92% OPTIMUM PER AASHTO T-180 (MODIFIED PROCTOR)
CLASS 3 NATIVE BACKFILL – 85% OPTIMUM PER AASHTO T-180



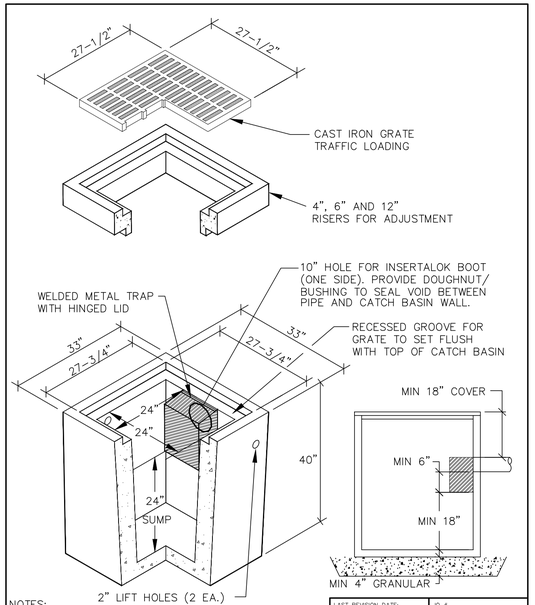
"A" NOM. PIPE DIAMETER	"B" MIN/MAX CLEARANCE
≤10	10"/18"
12"-16"	12"/18"
18"-21"	16"/24"
24"-30"	18"/30"
>30"	24"/36"

(SEE NOTE 4)

NOTES:

1. CLASS 1 REQ'D. UNDER ALL EXIST. OR FUTURE IMPROVED AREAS INCLUDING SIDEWALKS.
2. WHERE NEW PIPING IS IN SAME ALIGNMENT AS EXISTING PIPING, THE PIPE EMBEDMENT SHALL EXTEND TO A MIN. OF 6" BELOW THE NEW PIPING OR 6" BELOW EXISTING PIPING, WHICHEVER IS DEEPER.
3. FOR FLEXIBLE PIPE, BOTTOM OF TRENCH SHORING SHALL BE ABOVE PIPE SPRINGLINE PRIOR TO COMPACTING BACKFILL BELOW THE PIPE SPRINGLINE AND UNDER THE PIPE HAUNCHES.
4. MINIMUM CLEARANCES SHOWN ("B") ASSUMES STANDARD 6" WALL TRENCH BOXES SET ON TRENCH BOTTOM, AND REPRESENTS WIDTH REQUIRED TO CONSOLIDATE GRANULAR MATERIAL UNDER PIPE HAUNCHES (TO AVOID LOSS OF SIDE SUPPORT WHEN TRENCH BOX IS MOVED OR PULLED FORWARD). TRENCH WIDTH REDUCTION REQUIRES PRIOR APPROVAL BASED ON ACTUAL TRENCH SHORING PROPOSED.

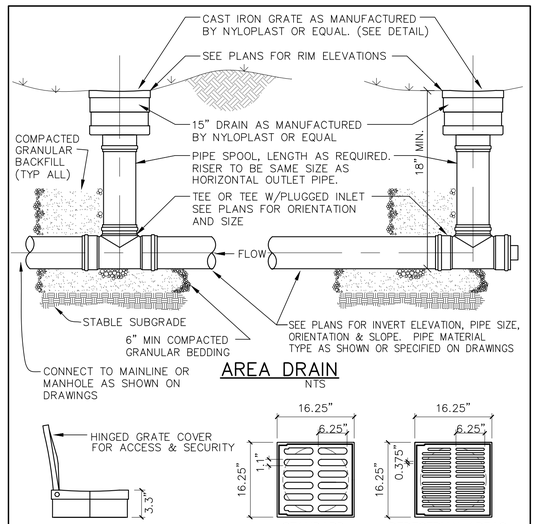
LAST REVISION DATE:	
JAN 2016	STANDARD
TRENCH BACKFILL, BEDDING, AND PIPE ZONE	
(NTS)	
WESTECH ENG.	DETAIL NO. 3010



NOTES:

1. SEE CONSTRUCTION DRAWINGS FOR PIPE SIZE, LOCATION AND INVERT ELEVATION.
2. CONCRETE SHALL BE 4000 PSI @ 28 DAYS.
3. REBAR SHALL CONFORM TO ASTM A615 GRADE 60.
4. REBAR SHALL BE MIN. #4 BARS @ 6" C.C.
5. SET CB SQUARE WITH BUILDINGS OR WITH EDGE OF PARKING LOT OR DRIVEWAY WHEREIN IT LIES.
6. ADJUST PAVING SO WATER FLOWS TO CB WITH NO PONDING

LAST REVISION DATE:	JO #
JULY 2012	STANDARD
PARKING LOT CATCH BASIN (PRECAST CONCRETE)	
(NTS)	
WESTECH ENG.	DETAIL NO. 3150



AREA DRAIN

NTS

15" CAST IRON GRATE DETAIL

NTS

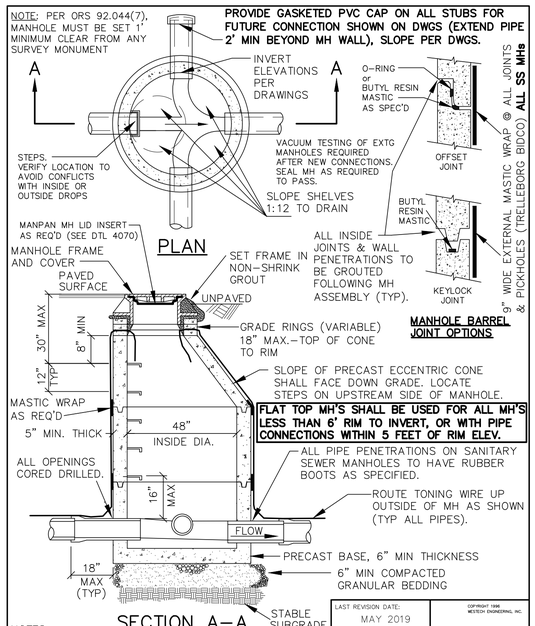
NOTES:

1. AREA DRAIN NOT FOR USE IN AREAS SUBJECT TO VEHICLE TRAFFIC.
2. USE WATERTIGHT GASKETED FITTINGS AND ADAPTORS FOR ALL PIPE CONNECTIONS.
3. ALL GRATES IN PEDESTRIAN AREAS SHALL CONFORM WITH ADA REQUIREMENTS, INCLUDING GRATE OPENING SIZE.

LAST REVISION DATE:	JO #
SEP 2005	STANDARD
AREA DRAIN, LANDSCAPE AND PEDESTRIAN AREAS (NON-TRAFFIC)	
(NTS)	
WESTECH ENG.	DETAIL NO. 3550

NOTE: PER ORS 92.044(7), MANHOLE MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

PROVIDE GASKETED PVC CAP ON ALL STUBS FOR FUTURE CONNECTION SHOWN ON DWGS (EXTEND PIPE 2' MIN BEYOND MH WALL), SLOPE PER DWGS.



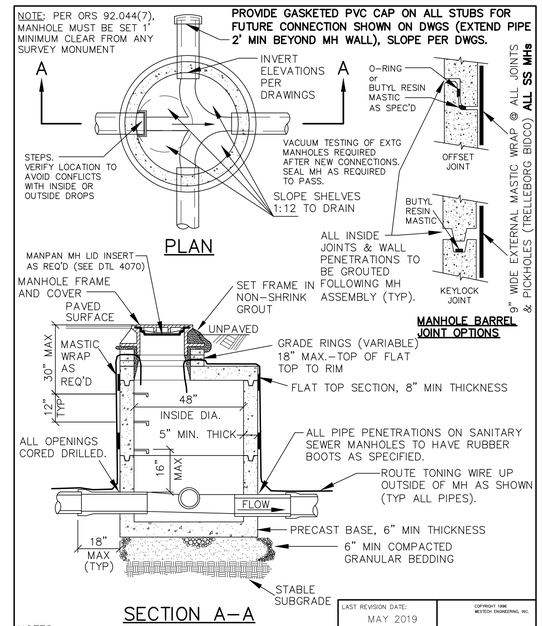
NOTES:

1. PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478.
2. WATERTIGHT O-RING OR MASTIC KEYLOCK JOINTS REQUIRED, EXTERNAL SEAL AT JOINTS & PICKHOLES.
3. STEPS TO BE POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD. ADD STEPS TO EXTG CONNECTION MH IF EXTG STEPS ARE ABSENT.

LAST REVISION DATE:	COPYRIGHT 1996 WESTECH ENGINEERING, INC.
MAY 2019	
STANDARD MANHOLE FOR 21" PIPE AND SMALLER (SEWER & STORM)	
(NTS)	
WESTECH ENG.	DETAIL NO. 4010

NOTE: PER ORS 92.044(7), MANHOLE MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

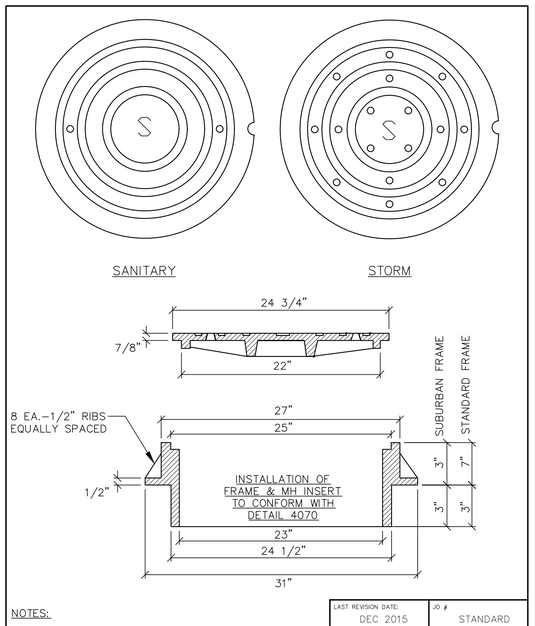
PROVIDE GASKETED PVC CAP ON ALL STUBS FOR FUTURE CONNECTION SHOWN ON DWGS (EXTEND PIPE 2' MIN BEYOND MH WALL), SLOPE PER DWGS.



NOTES:

1. PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478.
2. WATERTIGHT O-RING OR MASTIC KEYLOCK JOINTS REQUIRED, EXTERNAL SEAL AT JOINTS & PICKHOLES.
3. STEPS TO BE POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD. ADD STEPS TO EXTG CONNECTION MH IF EXTG STEPS ARE ABSENT.

LAST REVISION DATE:	
MAY 2019	COPYRIGHT 1996 WESTECH ENGINEERING, INC.
FLAT TOP MANHOLE FOR 21" PIPE AND SMALLER (SEWER & STORM)	
(NTS)	
WESTECH ENG.	DETAIL NO. 4020



NOTES:

1. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
2. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
3. NOTCH LID FOR LIFTING HOOK.

LAST REVISION DATE:	JO #
DEC 2015	STANDARD
MANHOLE FRAME AND COVER (STANDARD AND SUBURBAN)	
(NTS)	
WESTECH ENG.	DETAIL NO. 4050

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
1		REVISIONS	
DSN.	SAW		
DRN.	AR		
CKD.	SAW		
DATE:	DEC 2021		

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD
RENEWS: 6/30/2026
REVIEW

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
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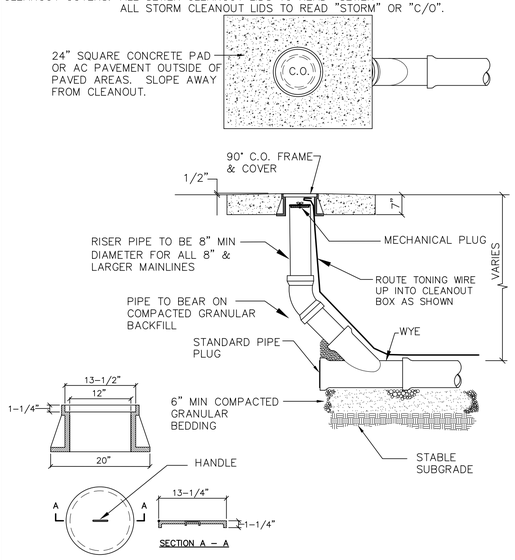
WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

PRIVATE CIVIL DETAILS

DRAWING
C5.0

JOB NUMBER
3155.3000.0

9/18/2024 5:05:36 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil - SPR Application\Plots\C5.0-2 Details.dwg, (C5.0 tab)

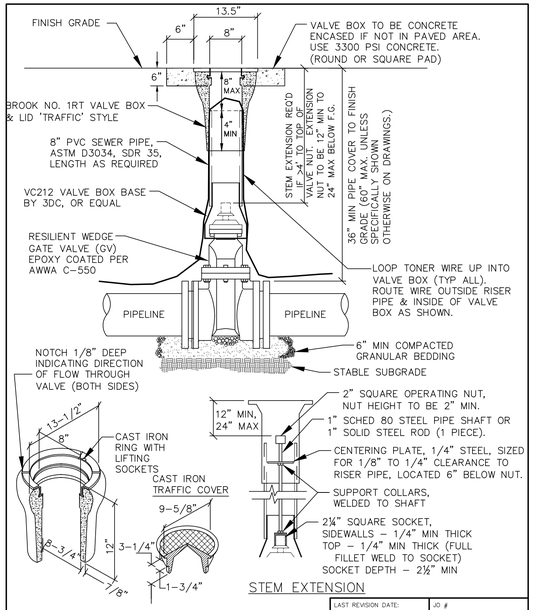


CLEANOUT FRAME & COVER

NOTES:

1. USE INLAND FOUNDRY MODEL 240 FRAME & COVER IN ALL AREAS.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48, CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.

LAST REVISION DATE:	COPYRIGHT 1996 WESTECH ENGINEERING, INC.
JULY 2015	
MAINLINE CLEANOUT	
(NTS)	
WESTECH ENG.	DETAIL NO. 4110



BROOKS NO. 1RT VALVE BOX

NOTES:

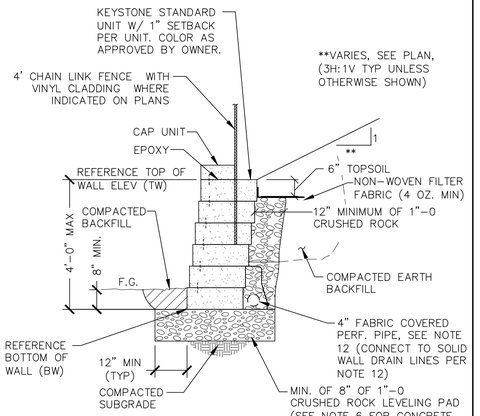
1. GV SHALL CONFORM TO AWWA C-509.
2. VALVE BOXES SHALL BE PLUMB AND CENTERED DIRECTLY OVER THE VALVE NUT.
3. VALVE BOX TOP SHALL BE ADJUSTED TO FINISHED GRADE.
4. PVC SHALL BE ONE CONTINUOUS PIECE, NO BELLS OR COUPLERS.

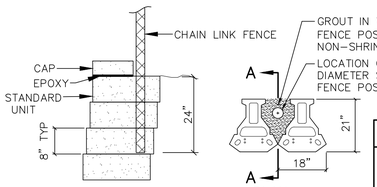
STEM EXTENSION

LAST REVISION DATE:	JO #
JULY 2017	STANDARD
GATE VALVE AND VALVE BOX DETAIL	
(NTS)	
WESTECH ENG.	DETAIL NO. 5011

RETAINING WALL NOTES:

1. Segmental Retaining Wall (SRW) concrete units shall be the standard color, rough face finish and conform to the requirements of ASTM C-90, ASTM C-140 and ASTM C-145. Owner to select color from samples submitted by Contractor.
2. Segmental concrete block units shall conform to the Keystone TM, Retaining Wall system, manufactured by Keystone TM, Pacific Northwest Inc., or an approved alternate and conform to the requirements of ASTM C-90. The wall design is based upon **Keystone Standard units (8"H x 18"W x 21.5"; 105 lbs.)**.
3. The Keystone retaining wall, or approved equal, shall be constructed per manufacturer specifications and approved construction drawings, unless modified herein.
4. This SRW design is based upon the blocks specified above. The Contractor, may, at no additional cost to the owner, submit SRW design and shop drawings for an alternate SRW system for approval by the Owner's representative. The shop drawings shall include design calculations stamped by a professional engineer registered in the State of Oregon. Special inspection requirements, as specified herein, still apply to the substitute design. If the alternate wall system is approved, the Contractor shall be responsible for revising the block layout as necessary to address any differences in the SRW block dimensions.
5. The Contractor shall protect from damage, store and handle all materials in accordance with manufacturers recommendations and in a manner to prevent deterioration or damage due to moisture, temperature changes, Ultraviolet (UV) degradation, contaminants, corrosion, breaking, chipping or other causes. Damaged material shall not be incorporated into the segmental retaining wall.
6. Crushed rock leveling pad shall be placed on top of compacted subgrade. Leveling pad shall be placed and compacted to a minimum of 92% of maximum dry density per AASHTO T-180 (Modified Proctor). Leveling pad thickness shall be a minimum of 8 inches as measured in place. An acceptable alternative is a 5" concrete (3300 psi) base pad on compacted subgrade.
7. Maximum particle size for wall backfill shall not exceed 2 inches in diameter.
8. The plasticity index (PI) for the backfill material used in the reinforced wall backfill shall not exceed 30 and the liquid limit shall not exceed 40, as per ASTM D-4318. The owner does not guarantee that all site soils meet these criteria.
9. Backfill shall be placed and compacted in lifts not to exceed a loose depth thickness of 8 inches for hand operated vibratory equipment and 12 inches for walk behind, self-propelled vibratory equipment. Backfill shall be compacted to 92% of AASHTO T-180 compaction standard.
10. Drainage backfill behind wall and in voids of SRW units shall consist of 1"-0 crushed rock containing no more than 5% passing No. 200 sieve. Provide 4 oz minimum drainage fabric over drain rock (12" minimum lap at any joints).
11. Wall drainpipe shall be fabric covered (3 oz min) HDPE slotted pipe conforming to ASTM F-405 (ADS Sock or approved equivalent). Wall drain pipe shall be connected to solid-wall drain pipe(s) draining to daylight or to an approved storm drain system.
12. The overall tolerance for the constructed face of wall relative to the vertical wall design or batter shall not exceed ± 1.25 inches maximum over a 10 foot distance; 3 inches maximum.
13. The wall drainage system specified is intended to serve the Segmental Retaining Wall (SRW) in its final constructed condition in conjunction with the final site improvements in their final constructed condition. During construction, the Contractor shall manage site drainage and divert stormwater away from the wall structure as necessary to prevent overloading of wall drainage reinforced systems.
14. At the end of the each day's operation, the Contractor shall slope the last level of backfill away from the wall face to direct runoff of rainwater away from the wall face. In addition, the Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.
15. Inspection is required for construction of this segmental block retaining wall (SRW).
16. Contractor shall insure all inspections are performed prior to proceeding with the next phase of work. At a minimum inspections shall include the following items: Observation that the wall subgrade bearing capacity meets the specified soil bearing capacity, or a minimum of 2,000 psf, whichever is greater. Observations of the compacted crushed rock leveling pads and wall drainage system. Observation of the wall batter. Soil testing results for plasticity index and liquid limit values for wall backfill material. Compaction results for the wall backfill.





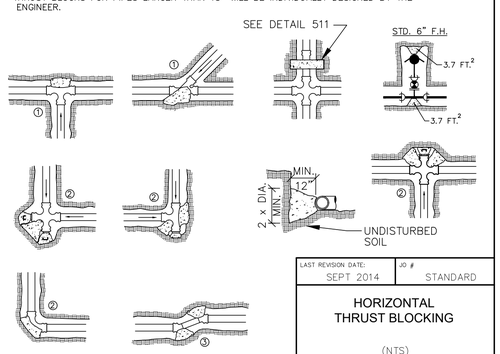
SECTION A-A

PLAN

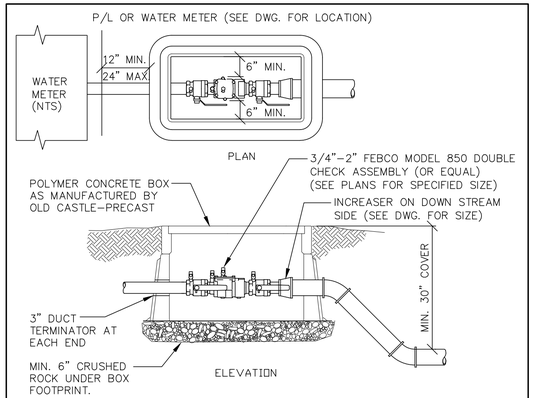
LAST REVISION DATE:	JO #
AUG. 2020	STANDARD
SEGMENTAL RETAINING WALL W/ FENCE (NON-REINFORCED)	
(NTS)	
WESTECH ENG.	DETAIL NO. 8310A

FITTING SIZE (Inches)	TEE, WYE, & ① HYDRANTS	90° BEND ② PLUGGED CROSS TEE PLUGGED-RUNS	45° BEND ③	22 1/2° BEND ③	11 1/4° BEND ③
2	*	*	*	*	*
4	1.7	2.4	1.3	*	*
6	3.7	5.3	2.9	1.5	*
8	6.7	9.5	5.1	2.7	1.3
10	10.5	14.8	8	4.1	2
12	15.1	21.3	11.6	5.9	2.9
16	26.8	37.9	20.5	10.4	5.2
18	33.9	47.9	25.9	12.8	6.7
LARGER	* *	* *	* *	* *	* *
	BEARING AREA OF THRUST BLOCKS (sq. ft.)				

1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS: AVG. PRESSURE = 100 PSI x 2 (safety factor); 1500 PSF SOIL BEARING CAPACITY; NORMAL DISTRIBUTION SYSTEM DESIGN VELOCITY NOT TO EXCEED 5 FPS.
2. **ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.**
3. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
4. TRUCK-MIXED CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3300 PSI (5" MAX SLUMP). USE OF HAND-MIXED SACK-CRETE TYPE CONCRETE REQUIRES WRITTEN CITY APPROVAL PRIOR TO USE, AND SHALL BE 4000 PSI MIX, MIXED WITH MIN AMOUNT OF WATER NECESSARY FOR WORKABILITY (5" MAX SLUMP). USE OF DRY SACK-CRETE MIX (BAGS OR LOOSE MIX) IS PROHIBITED FOR PERMANENT THRUST RESTRAINT.
5. ALL PIPE ZONES SHALL BE BACKFILLED WITH GRANULAR BACKFILL AND COMPACTED.
6. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
7. VERTICAL THRUST DETAILS-SEE DWG. 512.
8. STRADDLE BLOCK DETAILS-SEE DWG. 511.
   * BLOCK TO UNDISTURBED TRENCH WALLS
   * * THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.



LAST REVISION DATE:	JO #
SEPT 2014	STANDARD
HORIZONTAL THRUST BLOCKING	
(NTS)	
WESTECH ENG.	DETAIL NO. 5100

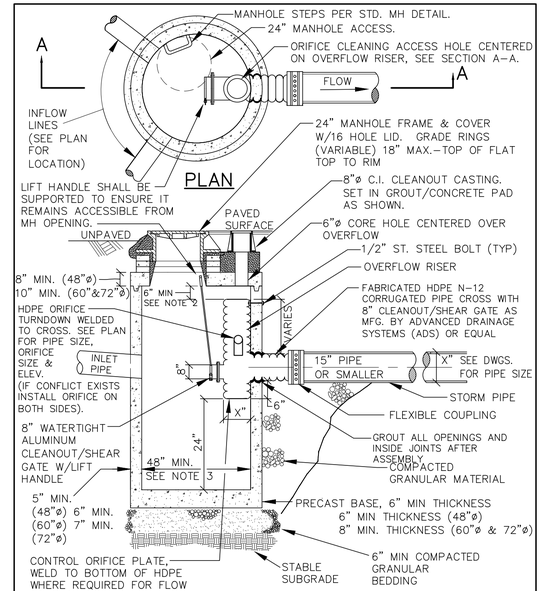


NOTES:

1. DCA- DOUBLE CHECK ASSEMBLY
2. DCA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, AND HEALTH DIVISION REQUIREMENTS.
4. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. VERIFY ADEQUATE CLEARANCES FOR TESTING AND REPAIR.
6. BRASS PLUGS SHALL BE INSTALLED IN TEST COCKS.
7. LOCK DOWN COVER WITH HEX HEAD BOLTS. COVER SHALL READ "WATER"
8. DCA SHALL NOT BE INSTALLED IN AREAS SUBJECT TO VEHICLE TRAFFIC AND PEDESTRIAN SIDEWALK AREAS.

DCA DIA.	BOX MODEL NO.	BOX NOMINAL DIMENSIONS AT TOP
3/4"	S1324B26AA	13" X 24" (26"D)
1"	S1324B26AA	13" X 24" (26"D)
1 1/2"	S1730B26AA	17" X 30" (26"D)
2"	S1730B26AA	17" X 30" (26"D)

LAST REVISION DATE:	JO #
DEC 2004	STANDARD
2" AND SMALLER DOUBLE CHECK ASSEMBLY	
(NTS)	
WESTECH ENG.	DETAIL NO. 5310



SECTION A-A

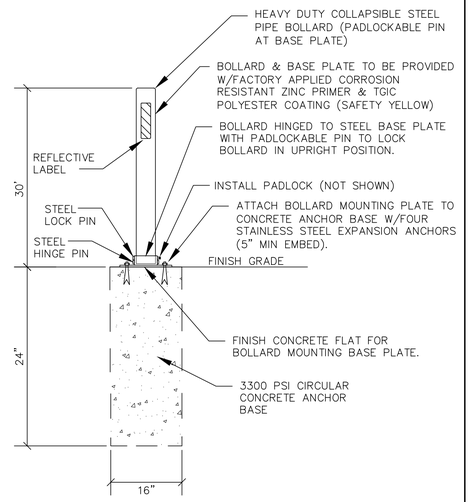
NOTES:

1. PRECAST SECTIONS SHALL CONFORM TO ASTM C-478.
2. DISTANCE FROM TOP OF OVERFLOW TO MH RIM SHALL BE BASED ON OVERFLOW CAPACITY CALC'S BY DESIGN ENGINEER (ASSUME ORIFICE CONTROL).
3. 60" MINIMUM DIA. MANHOLE REQUIRED FOR OUTLET PIPE LARGER THAN 15" OR INLET > 21".
4. ORIFICE CLEANING ACCESS TO BE 6" CORE HOLE THROUGH FLAT-TOP (CENTERED ON OVERFLOW) WITH CI CLEANOUT BOX GROUTED TO SLAB.

LAST REVISION DATE:	JO #
MAR 2010	STANDARD
POLLUTION/FLOW CONTROL MANHOLE W/OVERFLOW	
(NTS)	
WESTECH ENG.	DETAIL NO. U3201

NOTE:

1. IF BOLLARDS ARE PLACED IN AC PAVEMENT OR CONCRETE AREAS, HOLES FOR THE CONCRETE ANCHOR BASE SHALL BE CORE DRILLED TO DIMENSIONS SHOWN.



NOTES:

1. BOLLARD BASE MOUNTING PLATE AND BOLLARD SHALL BE 4-INCH MAXIMUM HEIGHT WHEN IN COLLAPSED/DOWN POSITION.
2. UNLESS OTHERWISE SPECIFIED, PROVIDE WEATHER RESISTANT PADLOCK KEYED TO SPECIFIED PATTERN.
3. COLLAPSIBLE BOLLARD ASSEMBLY SHALL BE TRAFFICGUARD MODEL LPHDHB OR APPROVED EQUAL.
4. VERIFY BOLLARD HINGE LOCATION (IE. COLLAPSE DIRECTION) WITH OWNER PRIOR TO INSTALLATION.

LAST REVISION DATE:	JO #
OCT 2019	STANDARD
30" TALL COLLAPSIBLE PADLOCKABLE BOLLARD	
(NTS)	
WESTECH ENG.	DETAIL NO. 2264

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION	BY
		REVISIONS	
1			

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
REVIEW
OREGON JULY 16, 1999
STEVEN A. WARD
RENEWS: 6/30/2026

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

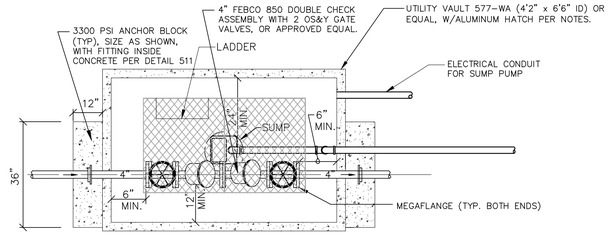
PRIVATE CIVIL DETAILS

DRAWING
C5.1

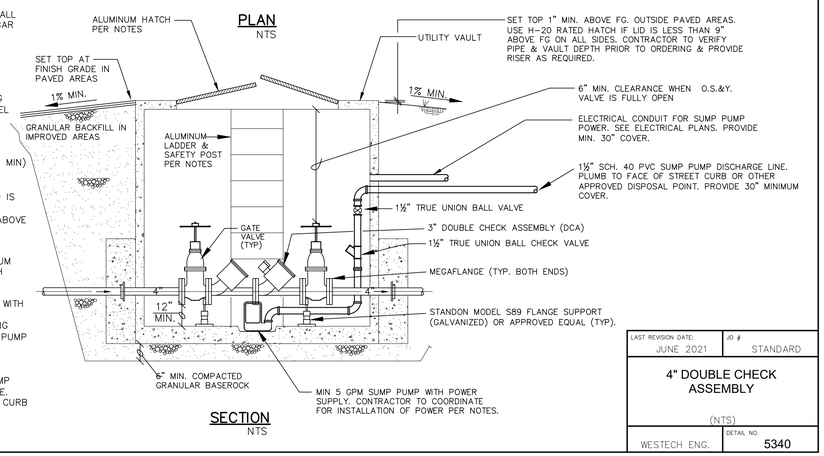
JOB NUMBER
3155.3000.0

9/18/2024 5:05:38 PM
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NOTES:
1. DCA – DOUBLE CHECK VALVE ASSEMBLY.
2. DCA, VAULT & PIPING SHALL CONFORM TO REQUIREMENTS OF ALL PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION. DCA & VAULT INSTALLATION SHALL MEET REQUIREMENTS OF OREGON HEALTH AUTHORITY, DRINKING WATER SERVICES (DWS).
3. DCA VAULT SHALL BE PLACED ON OUTSIDE OF RIGHT-OF-WAY UNLESS OTHERWISE APPROVED (RECORDED ACCESS EASEMENT TO THE CITY MAY BE REQUIRED FOR DCA VAULT ON PRIVATE PROPERTY).
4. ALL MATERIALS SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. PIPING INSIDE VAULT & THROUGH WALLS TO BE AS NOTED ON DRAWINGS. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
6. ALL VAULTS SHALL MEET OR EXCEED ASTM C-857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A-615 GRADE 60.
7. ALL PIPE OPENINGS SHALL BE CORE DRILLED (REGARDLESS OF PRESENCE OF "KNOCKOUTS"), AND SEALED WATERTIGHT WITH NON-SHRINK GROUT.
8. ISOLATION VALVES IN METER VAULT SHALL BE RISING STEM GATE VALVE (EPOXY COATED) WITH HANDWHEEL OPERATOR.
9. METER VAULT TO BE UTILITY VAULT 687-WA OR APPROVED EQUAL, CONFORMING WITH ASTM C-857. PROVIDE ALUMINUM ANGLE FRAME HATCH (36"x 60" MIN) BY USF FABRICATION OR APPROVED EQUAL (HATCH COVER TOP TO BE SAND BLASTED NON-SLIP).
   (1) TO BE 300 PSF PEDESTRIAN RATED WHERE LID IS SET MIN. OF 9" ABOVE GRADE.
   (2) TO BE H-20 RATED IF LID IS LESS THAN 9" ABOVE GRADE, OR IF LOCATED IN TRAFFIC AREA.
10. DCA VAULT SHALL BE PROVIDED WITH AN OSHA APPROVED GALVANIZED STEEL LADDER AND ALUMINUM LADDER SAFETY EXTENSION. ATTACH TO VAULT WITH STAINLESS STEEL BOLTS.
11. CONTRACTOR TO INSTALL SUMP PUMP (5 GPM MIN) WITH 120V POWER SUPPLY, ALONG WITH PRIVATE POWER SOURCE (RESPONSIBILITY OF CONTRACTOR INSTALLING VAULT). SCHED 40 CONDUIT, WIRE, ETC. FOR SUMP PUMP POWER SHALL CONFORM WITH NEC REQUIREMENTS.
13. SUMP PUMP DISCHARGE PIPE SHALL BE 1½-INCH SCHEDULE 40 PVC, PROVIDED WITH UNION (FOR PUMP REMOVAL) CHECK VALVE AND ISOLATION BALL VALVE. CONNECT DISCHARGE TO GRAVITY STORM DRAIN OR CURB WEEP HOLE (AT LOCATION APPROVED BY PUBLIC WORKS).

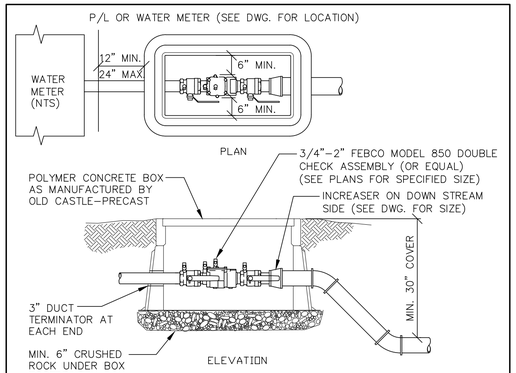


PLAN
NTS



SECTION
NTS

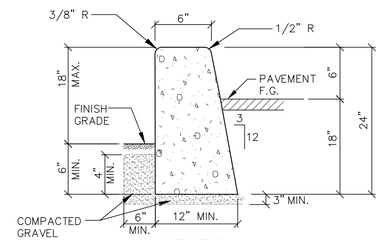
LAST REVISION DATE:	JO #
JUNE 2021	STANDARD
4" DOUBLE CHECK ASSEMBLY (NTS)	
WESTECH ENG.	DETAIL NO. 5340



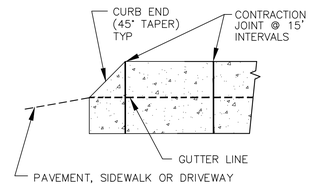
NOTES:
1. DCA– DOUBLE CHECK ASSEMBLY
2. DCA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, AND HEALTH DIVISION REQUIREMENTS.
4. CONTRACTOR SHALL HAVE DCA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. VERIFY ADEQUATE CLEARANCES FOR TESTING AND REPAIR.
6. BRASS PLUGS SHALL BE INSTALLED IN TEST COCKS.
7. LOCK DOWN COVER WITH HEX HEAD BOLTS. COVER SHALL READ "WATER"
8. DCA SHALL NOT BE INSTALLED IN AREAS SUBJECT TO VEHICLE TRAFFIC AND PEDESTRIAN SIDEWALK AREAS.

DCA DIA.	BOX MODEL NO.	BOX NOMINAL DIMENSIONS AT TOP
3/4"	S1324B26AA	13" X 24" (26"D)
1"	S1324B26AA	13" X 24" (26"D)
1 1/2"	S1730B26AA	17" X 30" (26"D)
2"	S1730B26AA	17" X 30" (26"D)

LAST REVISION DATE:	JO #
DEC 2004	STANDARD
2" AND SMALLER DOUBLE CHECK ASSEMBLY (NTS)	
WESTECH ENG.	DETAIL NO. 5310



SECTION



ELEVATION

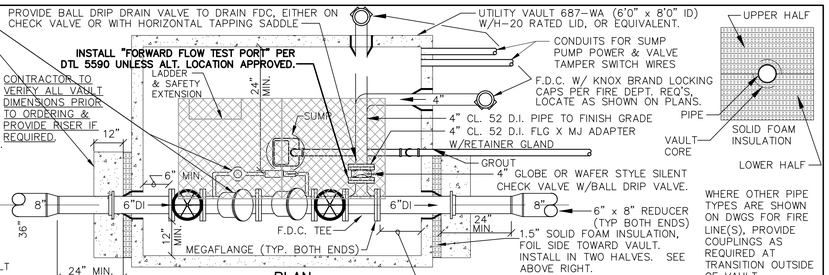
NOTE:
1. ALL CONCRETE SHALL BE 3300 PSI @ 28 DAYS, MAX 5" SLUMP, 4.5% AIR (±1.5%).

LAST REVISION DATE:	JO #
AUG 2020	STANDARD
24" DEEP CURB (NTS)	
WESTECH ENG.	DETAIL NO. 2110A

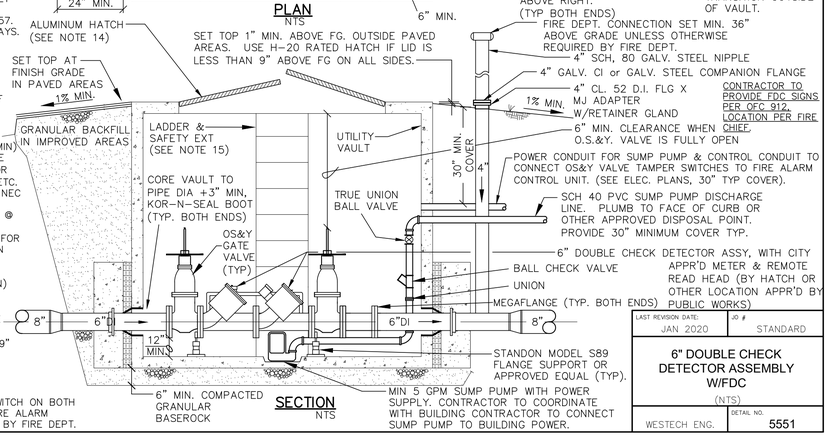
6" FEBCO 856 DOUBLE CHECK DETECTOR ASSEMBLY WITH 2 OS&Y GATE VALVES, OR APPROVED EQUAL.

36" WIDE CAST-IN-PLACE CONCRETE THRUST COLLAR WITH RETAINER GLAND CENTERED IN CONCRETE (TYPICAL BOTH ENDS)

NOTES:
1. DCDA– DOUBLE CHECK DETECTOR ASSEMBLY FDC–FIRE DEPARTMENT CONNECTION.
2. DCDA SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
3. DCDA & VAULT INSTALLATION SHALL MEET REQUIREMENTS OF OREGON HEALTH AUTHORITY, DRINKING WATER SERVICES (DWS).
4. CONTRACTOR SHALL HAVE DCDA TESTED AND CERTIFIED PRIOR TO ACCEPTANCE BY OWNER.
5. FDC SHALL NOT EXIT THROUGH THE TOP OF THE VAULT.
6. ALL PIPE OPENINGS SHALL BE SEALED WITH NON-SHRINK WATERTIGHT GROUT.
7. BENDS, CROSSES AND TEES SHALL NOT BE INSTALLED WITHIN 5 FEET OF THE OUTSIDE VAULT WALL.
8. ALL VAULTS SHALL MEET OR EXCEED ASTM C-857. ALL VAULT CONCRETE TO BE 4500 PSI @ 28 DAYS. REBAR TO BE ASTM A-615 GRADE 60.
9. SUMP PUMP WITH POWER SUPPLY SHALL BE INSTALLED UNLESS OTHERWISE APPROVED BY PUBLIC WORKS.
10. SUMP PUMP DISCHARGE PIPE TO BE 1½-INCH SCHED 40 PVC SHALL BE PLUMBED TO FACE OF STREET CURB OR OTHER DISPOSAL POINT APPROVED BY LOCAL JURISDICTION (SEE OAR 333-061-0071.3.f).
11. CONTRACTOR TO INSTALL SUMP PUMP (5 GPM MIN) WITH 120V POWER SUPPLY, ALONG WITH PRIVATE POWER SOURCE (RESPONSIBILITY OF CONTRACTOR INSTALLING VAULT). SCHED 40 CONDUIT, WIRE, ETC. FOR SUMP PUMP POWER SHALL CONFORM WITH NEC REQUIREMENTS.
12. THRUST COLLAR CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
13. PROVIDE REMOTE READER (TOUCH READ HEAD) FOR DETECTOR LOOP METER PER LOCAL JURISDICTION REQUIREMENTS, MOUNTED ON HINGE EDGE OF HATCH.
14. ALUMINUM ANGLE FRAME HATCH (3'0"x 5'6" MIN) SHALL BE BY USF FABRICATION OR APPROVED EQUAL (SAND BLASTED NON-SLIP).
   (1) TO BE 300 PSF PEDESTRIAN RATED WHERE LID IS SET MIN. OF 9" ABOVE GRADE.
   (2) TO BE H-20 RATED IF LID IS LESS THAN 9" ABOVE GRADE, OR IF LOCATED IN TRAFFIC AREA.
15. OSHA APPROVED GALVANIZED STEEL LADDER & ALUMINUM LADDER SAFETY EXTENSION.
16. PER OFC 903.4, INSTALL APPROVED TAMPER SWITCH ON BOTH OS&Y VALVES IN VAULT, WIRED TO A LISTED FIRE ALARM CONTROL UNIT, UNLESS EXEMPTION IS GRANTED BY FIRE DEPT.



PLAN
NTS



SECTION
NTS

LAST REVISION DATE:	JO #
JAN 2020	STANDARD
6" DOUBLE CHECK DETECTOR ASSEMBLY W/FDC (NTS)	
WESTECH ENG.	DETAIL NO. 5551

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1999
STEVEN A. WARD
RENEWS: 6/30/2026

REVIEW

WESTECH ENGINEERING, INC.
CONSULTING ENGINEERS AND PLANNERS
3841 Fairview Industrial Dr. S.E., Suite 100, Salem, OR 97302
Phone: (503) 585-2474 Fax: (503) 585-3986
E-mail: westech@westech-eng.com

WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

CIVIL DETAILS

DRAWING
C5.2

JOB NUMBER
3155.3000.0

9/18/2024 5:05:40 PM
R:\Dwg\Wealth Management\Farm Credit Hotel\Civil - SPR Application\Plots\C5.0-2 Details.dwg, (C5.2 tab)

Exhibit J – Stormwater Report

STORMWATER MANAGEMENT REPORT

Prepared For:

Wealth Hospitality Group

115 W Jackson St., Suite 20

Ridgeland, MS 39157

Project:

Farm Credit Drive Development

Farm Credit Drive

Salem, OR 97301

Prepared By:



Westech Engineering, Inc.
3841 Fairview Industrial Drive SE, Suite 100
Salem, OR 97302
(503) 585-2474 FAX: (503) 585-3986

J.O. 3155.3000.0

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PROJECT OVERVIEW & DESCRIPTION

1.1 SIZE & LOCATION OF PROJECT

The proposed commercial project develops 4.75-acres of a 5.30-acre lot. The property is located at the SW corner of Farm Credit Drive SE & Kettle Court SE in Salem, Oregon. Refer to the Civil Drawings for a site map of the project area.

1.2 BRIEF DESCRIPTION OF PROJECT SCOPE AND PROPOSED IMPROVEMENTS

The project scope is to develop the vacant lot in two phases for two hotels as well as accompanying parking lots and facilities. The project includes site preparation and construction of the facilities.

1.3 DESCRIPTION OF SIZE OF WATERSHED DRAINING TO THE SITE

The proposed stormwater facilities receive runoff from the 4.75-acre project area. The site will be developed in two phases. Refer to the Basin Map in Appendix A for details.

1.4 DESCRIPTION OF THE EXISTING SITE CONDITIONS, TREES & NATIVE VEGETATION, CONSTRAINTS, SENSITIVE AREAS & WATERWAYS

The existing site is undeveloped with a mixture of short grasses and brush. No trees are planned for removal. Wetlands are located in the NW corner of the site and is part of Phase 2.

1.5 SUMMARY OF GREEN STORMWATER INFRASTRUCTURE

Per Appendix 4E of the City of Salem (COS) Design Standards, a large project will be considered to have met the maximum extent feasible (MEF) requirement when the stormwater runoff from the total amount of new plus replaced impervious surfaces flows into an area set aside for GSI that is at least 10% of the total area of the new plus replaced impervious surfaces or at least 80% of all impervious area must be treated by GSI. This design implements GSI for the entire project impervious area and therefore meets MEF for GSI. See the Civil Drawings for more details.

1.6 REGULATORY PERMITS REQUIRED

City of Salem permits are required. The disturbed area is greater than 1-acre, so a DEQ 1200-C permit is required. A wetland fill permit is also required for Phase 2 of the project.

1.7 EMERGENCY STORM ESCAPE ROUTES

Flows exceeding the 100-year storm (emergency overflow) will be routed through the overflow in the storm flow control manhole.

METHODOLOGY

2.1 DEPTH TO GROUNDWATER

Per the attached Geotechnical Report prepared by Central Geotechnical Services in Appendix D, groundwater was observed at depths of 0.5 bgs to 8.5 bgs. As noted in the Geotechnical Report, the field exploration was conducted immediately following an atmospheric river in mid-December of 2023 and it is believed the shallow groundwater observed was in a perched condition. A previous Geotechnical Report was prepared by GeoEngineers for the neighboring property to the east (the NW Farm Credit Building, now named AgWest Farm Credit) and observed groundwater depths of 10-11 feet bgs during mid-December of 2019, which is similar to nearby well logs of 10-12 feet. The report for the NW Farm Credit Building is included in Appendix E for reference.

2.2 MAXIMUM INFILTRATION AND VEGETATIVE TREATMENT

As per the attached Geotechnical Report in Appendix D, the field infiltration rate was reported as zero inches/hour in the two test locations, and therefore a design infiltration rate of zero inches per hour was used for design. The water quality storm is treated by a vegetated swale.

2.3 SOIL INFORMATION

The pre-developed project site predominately contains hydrologic soil group C/D-rated soils. Per the NRCS Soil Report in Appendix B, a C/D classification indicates a D rating for natural soil conditions. Soils for the pre-developed and developed site are assumed D-rated.

2.4 HAZARDOUS MATERIAL

The owner is not aware of any hazardous material contamination onsite.

3.1 METHODS & SOFTWARE USED

HydroCAD modeling software was used to size the stormwater facilities. The Santa Barbara Unit Hydrograph Type 1A storm was used to model the required design storms. Per the City of Salem Design Standards, the design storms used were the water quality storm, (1.38-inch in 24-hours) half the 2-year, 24-hour, the 10-year, 24-hour, the 25-year, 24-hour, and the 100-year, 24-hour storm events.

Table 1 | City of Salem 24-hour Design Storms

	24-Hour Rainfall Depths for Salem, OR						
Recurrence Interval, Years	WQ	2	5	10	25	50	100
24-Hour Depths, Inches	1.38	2.2	2.7	3.2	3.6	4.1	4.4

Source: City of Salem Administrative Rules Chapter 109 – Division 004 Appendix D

3.2 CURVE NUMBER AND TIME OF CONCENTRATION CALCULATIONS

Per the COS Design Standards, the pre-developed site was covered in a combination of woods and grass, which corresponds to a pre-developed curve number of 79 for hydrologic soil group D-rated soils.

The developed impervious area was assigned a curve number of 98. The pervious areas were assigned a curve number of 80, which corresponds to good-condition grass with D-rated soils.

Time of concentration (Tc) for the pre-developed conditions was calculated to be 42.6 minutes using shallow concentrated and sheet flow equations. See the Basin Maps in Appendix A for the flow path used and refer to the HydroCAD Summaries in Appendix C for calculations. A minimum time of concentration (Tc) of 5 minutes is applied to the developed basin due to the minimum time-step used by the HydroCAD modeling software.

3.3 TREATMENT & FLOW CONTROL SIZING CALCULATIONS

The stormwater facilities are analyzed for both the ultimate build-out and the interim condition with only Phase 1 developed.

3.3.1 Ultimate Buildout

The project site was analyzed as one basin for the pre-developed and developed stormwater calculations. General basin characteristics of both pre-developed and developed conditions are listed in Table 2. For more detail refer to the Basin Maps in Appendix A and the Civil Drawings.

Table 2 | General Basin Characteristics

Basin ID	Source (Roof/Road /Other)	Impervious Area (ac)	Pervious Area (ac)	Design Storms				CN[1]	Tc (min)
				½ 2 Yr (cfs)	10 Yr (cfs)	25 Yr (cfs)	100 Yr (cfs)		
PRE	Native	-	4.75	0.14	0.78	1.02	1.52	79	42.6
DEV	Paved/ Landscape	3.55	1.20	0.82	3.01	3.46	4.35	93	5.0

[1] Weighted curve number (CN).

Stormwater from the Developed Basin is managed by a swale at the bottom of a detention basin. The detention basin has a lower section to detain the half 2-year storm event. See the attached HydroCAD and Civil Drawings for more detail.

Table 3 compares the designed and allowable swale parameters during the water quality and conveyance storms for the vegetated swale. Per the Design Standards, a Manning's "n" of 0.25 was used to design treatment of the water quality storm. Refer to the Civil Drawings and HydroCAD calculations for more details.

Table 3 | Summary of Vegetated Swale Design

COS Design Standards		Designed Vegetated Swale
Criteria	Allowable	
Manning's n – Water Quality	0.25	0.25
Maximum Water Quality Flow Depth (ft)	0.33	0.33
Maximum Water Quality Flow Velocity (fps)	0.90	0.18
Min hydraulic Residence Time (min)	9	10.0
Manning's n – Conveyance (100-yr)	0.03	0.03
Max. Conveyance Flow Depth (ft)	1.0	0.22
Max. Conveyance Flow Velocity (fps)	3.0	1.18
Min Length (ft)	100	110
Side Slope (ft:ft)	3:1	3:1
Longitudinal Slope (%)	-	0.45
Bottom Width (ft)	-	16

The design meets or exceeds all the allowed values in Section 4.4 of the COS Design Standards. The calculations in Table 3 above assumes free discharge from the swales which may not be the case during larger storms due to flow-control requirements. As shown in Table 4 below, the proposed flow-control design results in a water surface elevation of 188.70 feet reached in the water quality storm. This is 0.30-feet (3.6-inches) above the downstream finish grade of the swale (188.40-feet) and therefore meets the 4-inch maximum depth for vegetated swales in the water quality storm per the COS Design Standards.

Stormwater release from the detention basin is controlled by a flow-control manhole. See Table 4 below for a summary of facility outlet sizing and release rates. An overflow riser within the manhole conveys flows exceeding the 100-year storm. Refer to the Basin Maps in Appendix A and the Civil Drawings for more details.

Table 4 | Summary of Facility Outlet Sizing and Release Rates – Ultimate Build-out

Outlet ID/ Storm Event	Orifice Size (in)	Orifice Elevation (ft)	Release Rate (cfs)	Allowed Release Rate (cfs)	Peak WSE[1] (ft)	Overflow Elevation[3] (ft)
Half 2 Year	2.1	187.10	0.14	0.14	188.58	190.20
WQ	-	-	0.27	-	188.70	190.20
10 Year	4.6	188.70	0.76	0.78	189.66	190.20
25 Year	6.0[2]	189.80	0.85	1.02	189.88	190.20
100 Year	-	-	1.29	1.52	190.19	190.20

[1] WSE = Water Surface Elevation
[2] 25-Year and 100-Year storms controlled by a weir cut from the top of the overflow riser pipe.
[3] Overflow provided by 8-inch riser pipe within the flow-control structure.

As noted above, the developed release is less than or equal to that of the predeveloped release for all design storms.

3.3.2 Interim – Phase 1

The stormwater facilities are also designed to provide flow control to COS Design Standards for the interim with only Phase 1 developed.

The Phase 1 project site was analyzed as one basin for developed and pre-developed conditions. General basin characteristics of both pre-developed and developed conditions are listed in Table 5. For more detail refer to the Basin Maps in Appendix A and the Civil Drawings.

Table 5 | General Basin Characteristics – Phase 1

Basin ID	Source (Roof/Road /Other)	Impervious Area (ac)	Pervious Area (ac)	Design Storms				CN[1]	Tc (min)
				½ 2 Yr (cfs)	10 Yr (cfs)	25 Yr (cfs)	100 Yr (cfs)		
PRE PH 1	Native	-	2.68	0.08	0.45	0.59	0.88	79	40.4
DEV PH 1	Paved/ Landscape	1.70	0.98	0.39	1.56	1.81	2.31	91	5.0

[1] Weighted curve number (CN).

See Table 6 below for a summary of the facility outlet sizing and release rates for the Phase 1 development.

Table 6 | Summary of Facility Outlet Sizing and Release Rates – Phase 1

Outlet ID/ Storm Event	Orifice Size (in)	Orifice Elevation (ft)	Release Rate (cfs)	Allowed Release Rate (cfs)	Peak WSE[1] (ft)	Overflow Elevation[3] (ft)
Half 2 Year	1.7	187.10	0.07	0.08	188.20	190.20
WQ	-	-	0.09	-	188.41	190.20
10 Year	4.6	188.70	0.43	0.45	189.04	190.20
25 Year	6.0[2]	189.80	0.49	0.59	189.18	190.20
100 Year	-	-	0.60	0.88	189.44	190.20

[1] WSE = Water Surface Elevation
[2] 25-Year and 100-Year storms controlled by a weir cut from the top of the overflow riser pipe.
[3] Overflow provided by 8-inch riser pipe within the flow-control structure.

Please note, the first orifice requires a smaller size to manage Phase 1 only flows to pre-development conditions. When Phase 2 is developed, this orifice can be drilled larger to match the design provided in Table 4 for Ultimate Build-out.

3.4 CONVEYANCE CAPACITY CALCULATIONS

The outlet pipe from the development was designed to convey the developed 100-year, 24-hour storm. Stormwater runoff is conveyed from the facility by an 8-inch pipe. See the Civil Drawings for more detail. The full-flow capacity was calculated to be 2.03 cfs using a slope of 2.8% and Manning's n of 0.013. This is less than the 100-year storm of 1.29 cfs at Ultimate Build-Out.

3.5 SUMMARY

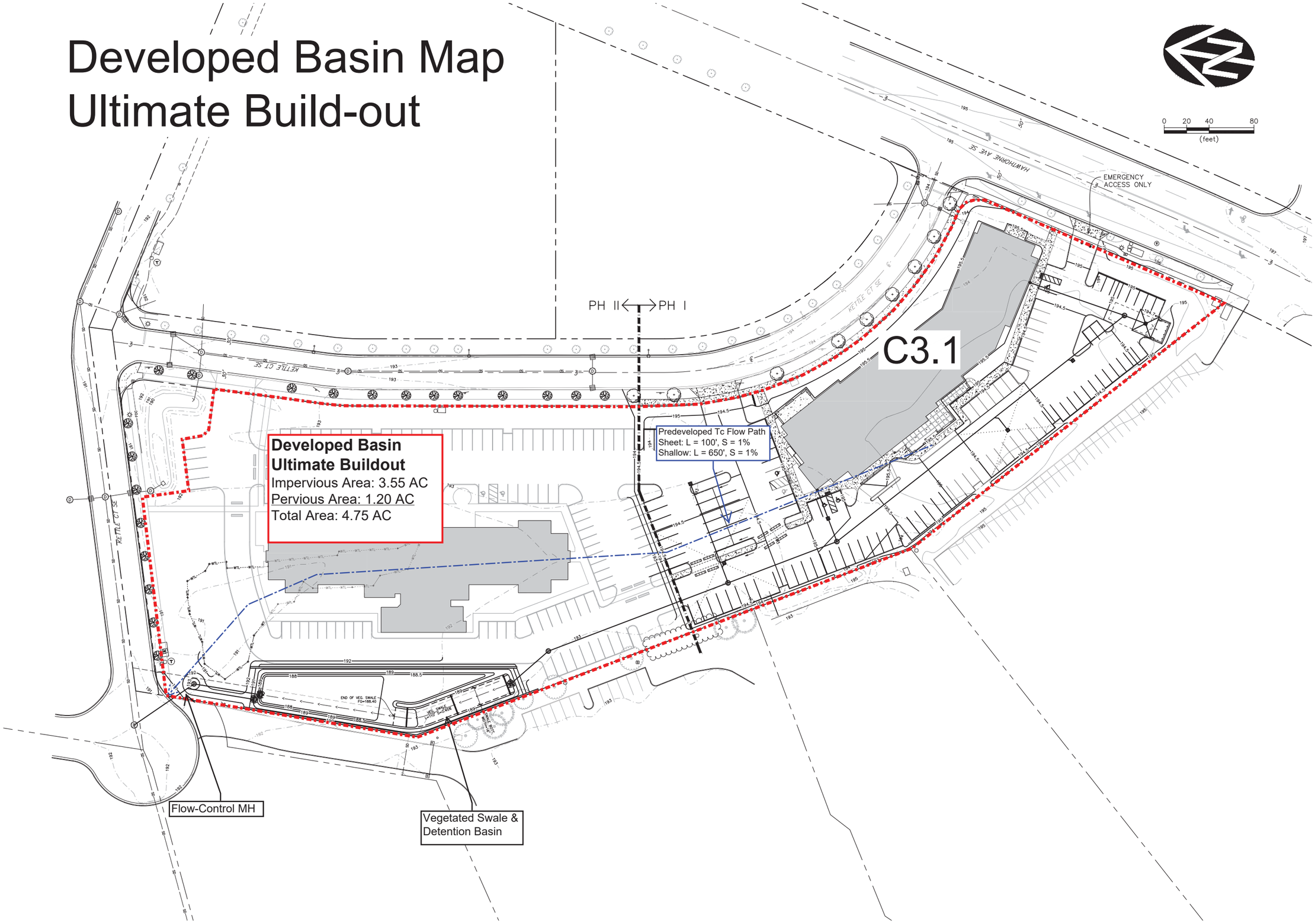
The stormwater system has been designed to release half the 2-year, 24-hour, the 10-year, 24-hour, the 25-year, 24-hour, and the 100-year, 24-hour storm events at rates less than their respective pre-developed storm. The proposed design also treats the water quality storm. Therefore, the project meets the flow control and treatment requirements as set forth in Administrative Rule 109 Division 004 - Stormwater System.

Farm Credit Drive Hotel Development
Farm Credit Drive
Stormwater Calculations
Salem, Oregon

APPENDIX A

BASIN MAPS

Developed Basin Map
Ultimate Build-out



NO.	DESCRIPTION	DATE	BY
1	REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH, ADJUST SCALES ACCORDINGLY

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1999
STEVEN A. WARD
REVIEW
RENEWS: 6/30/2026

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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT

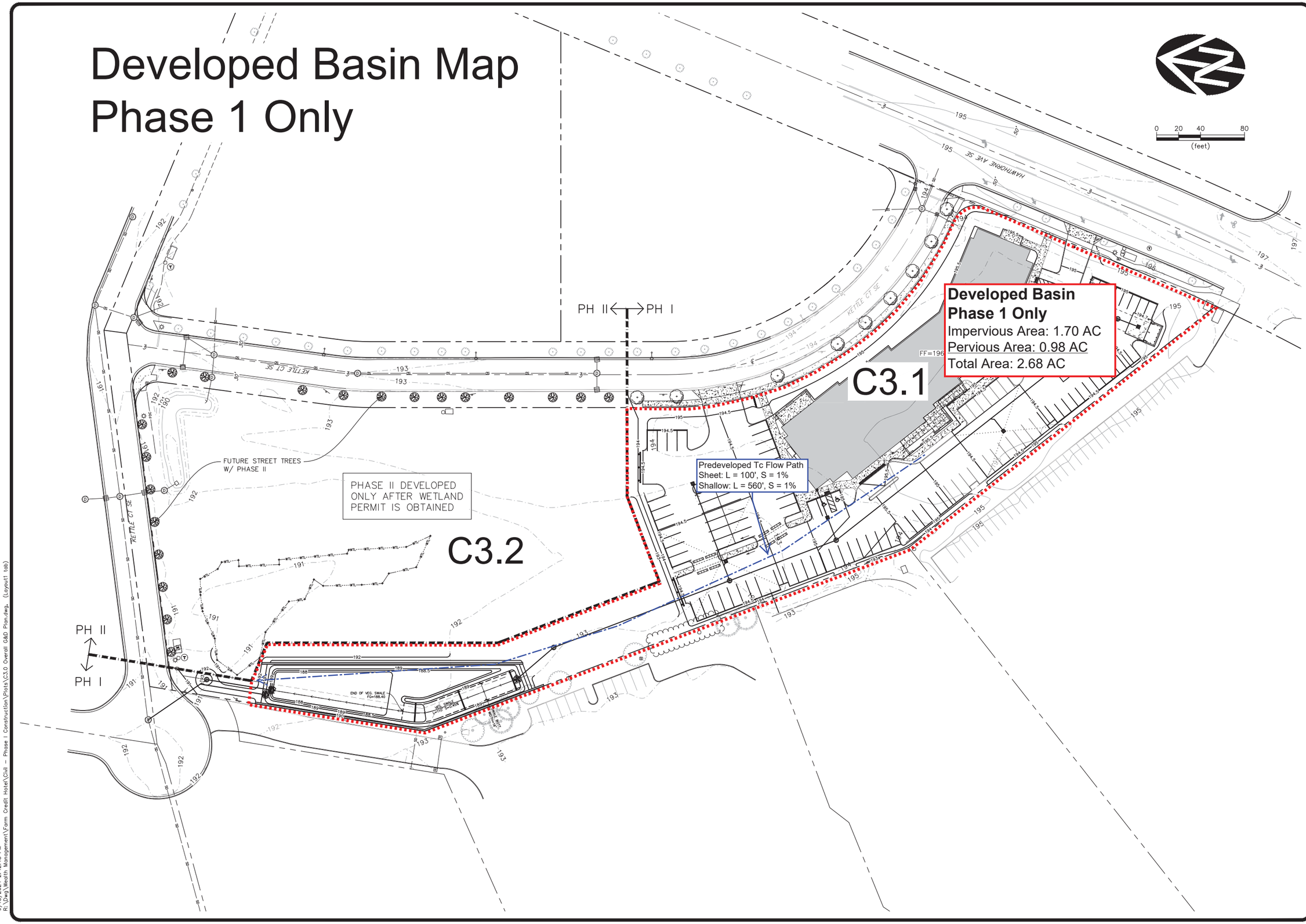
OVERALL
GRADING & DRAINAGE PLAN

DRAWING
C3.0

JOB NUMBER
3155.3000.0

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Developed Basin Map
Phase 1 Only



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NO.	DATE	DESCRIPTION	BY
		REVISIONS	

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
1"

DSN. SAW
DRN. AR
CKD. SAW
DATE: DEC 2021

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1982
STEVEN A. WARD
RENEWS: 6/30/2026

REVIEW

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WEALTH HOSPITALITY GROUP
FARM CREDIT DRIVE HOTEL DEVELOPMENT – PH I

OVERALL
GRADING & DRAINAGE PLAN

DRAWING
C3.0

JOB NUMBER
3155.3000.0

Farm Credit Drive Hotel Development
Farm Credit Drive
Stormwater Calculations
Salem, Oregon

APPENDIX B
NRCS SOIL REPORT



Map Scale: 1:1,730 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marion County Area, Oregon
Survey Area Data: Version 21, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 17, 2023—Jun 3, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Am	Amity silt loam	C/D	2.8	52.0%
Co	Concord silt loam	C/D	2.1	38.2%
Da	Dayton silt loam	D	0.0	0.4%
WuA	Woodburn silt loam, 0 to 3 percent slopes	C	0.5	9.4%
Totals for Area of Interest			**5.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

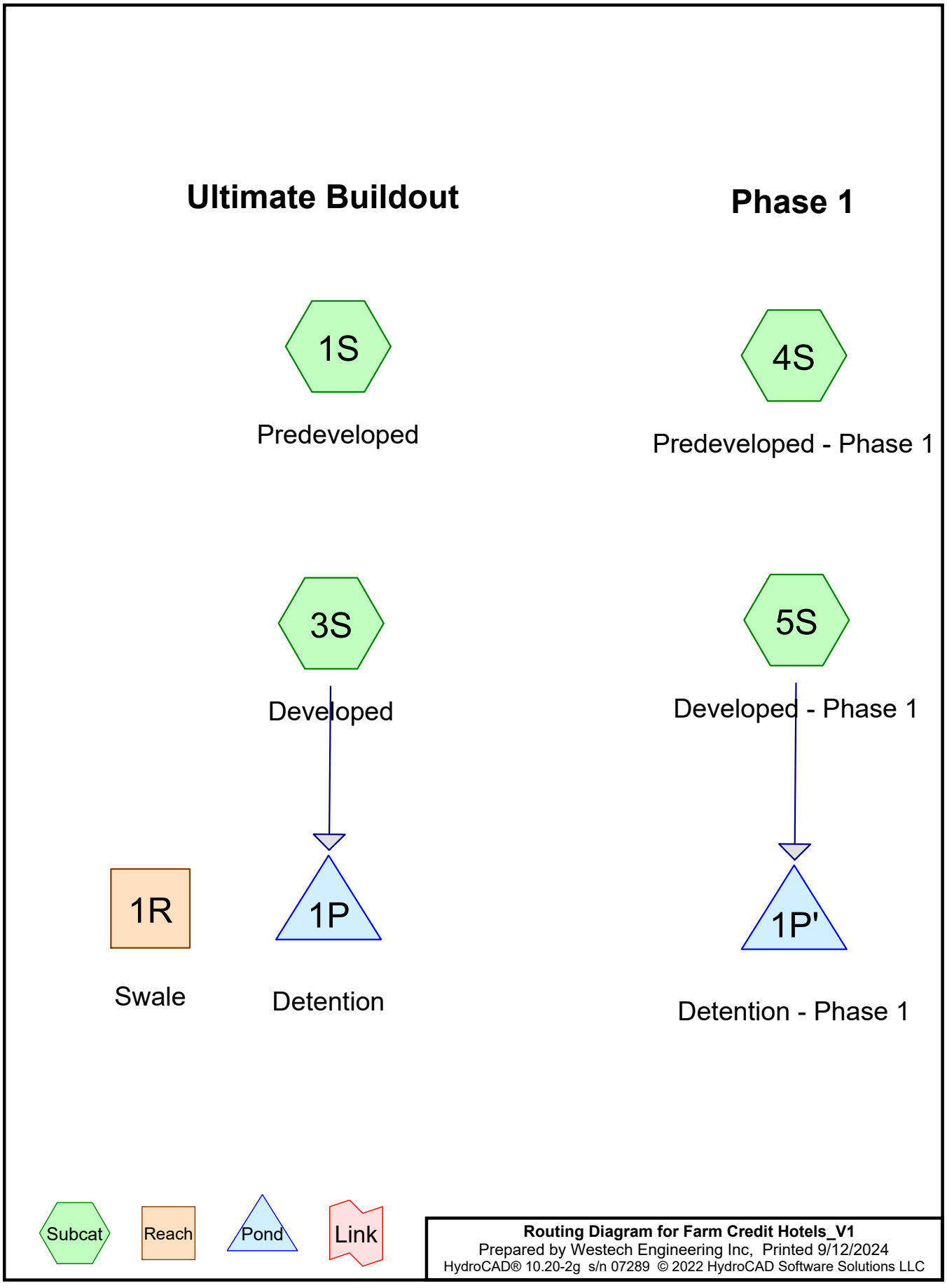
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Farm Credit Drive Hotel Development
Farm Credit Drive
Stormwater Calculations
Salem, Oregon

APPENDIX C

HYDROCAD SUMMARIES



Routing Diagram for Farm Credit Hotels_V1
Prepared by Westech Engineering Inc, Printed 9/12/2024
HydroCAD® 10.20-2g s/n 07289 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: Predeveloped

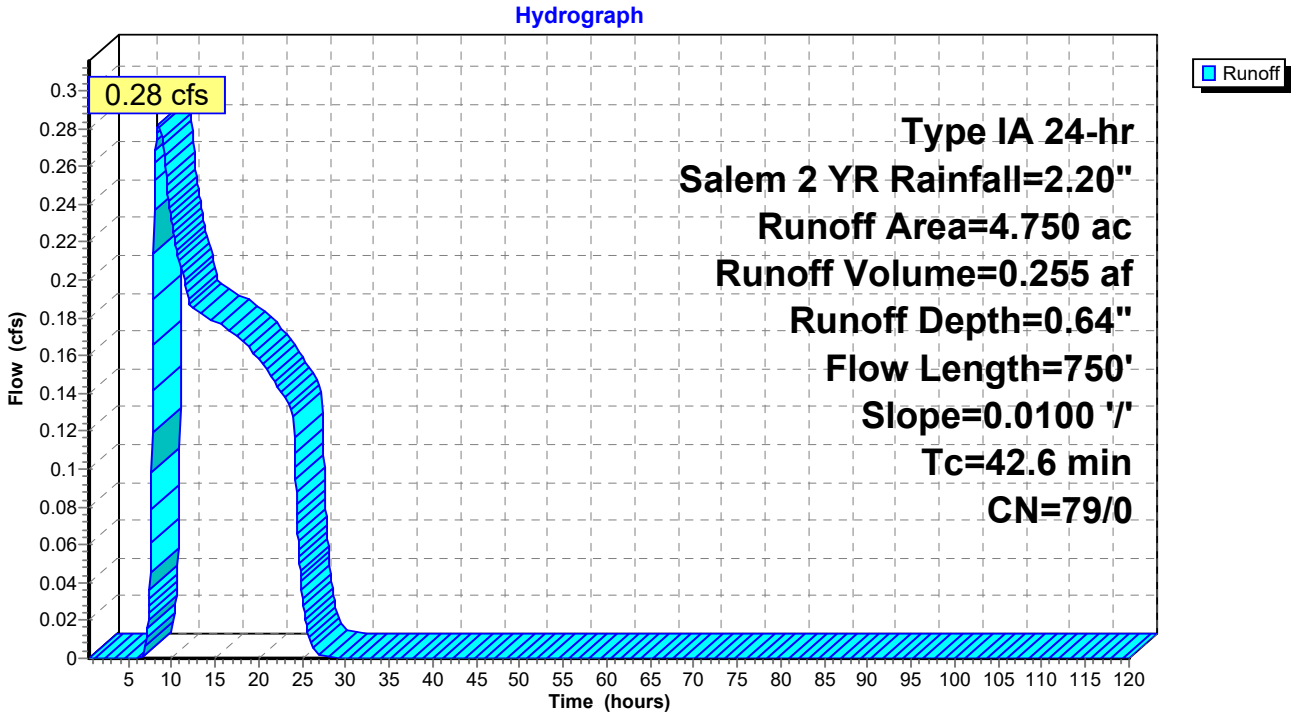
Runoff = 0.28 cfs @ 8.39 hrs, Volume= 0.255 af, Depth= 0.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 2 YR Rainfall=2.20"

Area (ac)	CN	Description
4.750	79	Woods/grass comb., Good, HSG D
4.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Flow Path** n= 0.300 P2= 2.20"
15.5	650	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
42.6	750	Total			

Subcatchment 1S: Predeveloped



Summary for Subcatchment 1S: Predeveloped

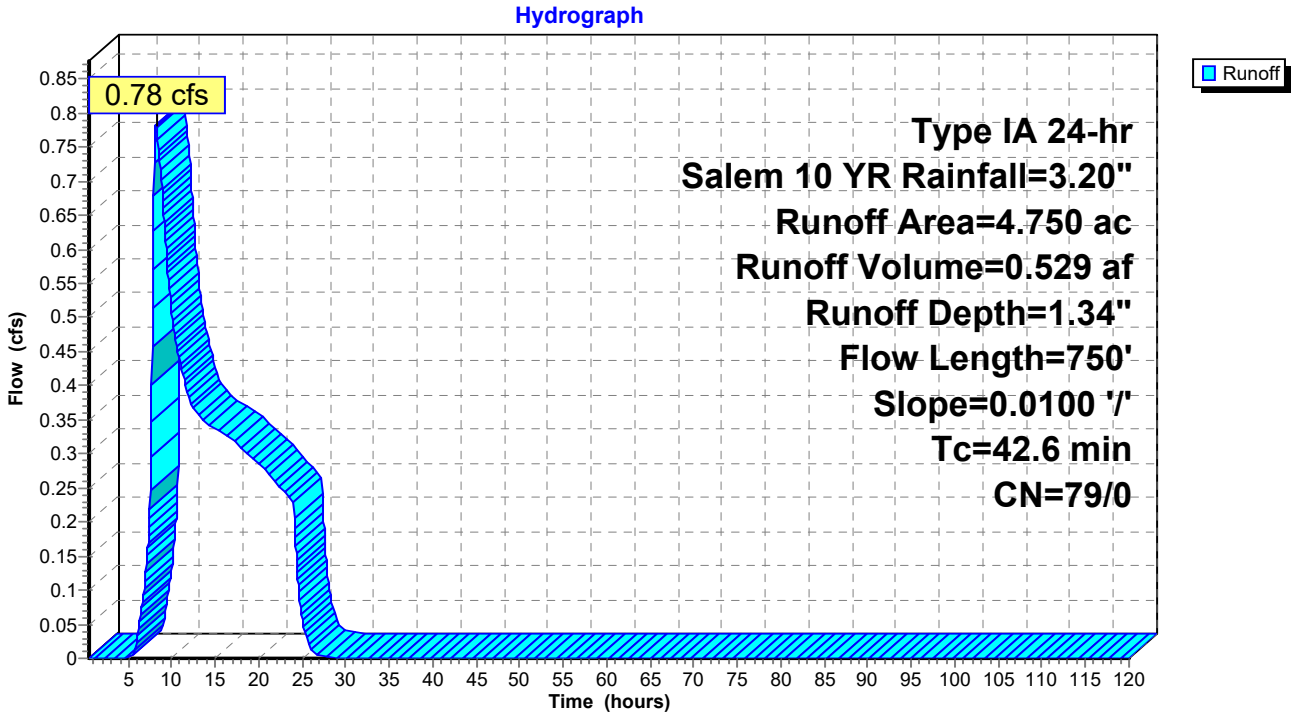
Runoff = 0.78 cfs @ 8.22 hrs, Volume= 0.529 af, Depth= 1.34"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 10 YR Rainfall=3.20"

Area (ac)	CN	Description
4.750	79	Woods/grass comb., Good, HSG D
4.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Flow Path** n= 0.300 P2= 2.20"
15.5	650	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
42.6	750	Total			

Subcatchment 1S: Predeveloped



Summary for Subcatchment 1S: Predeveloped

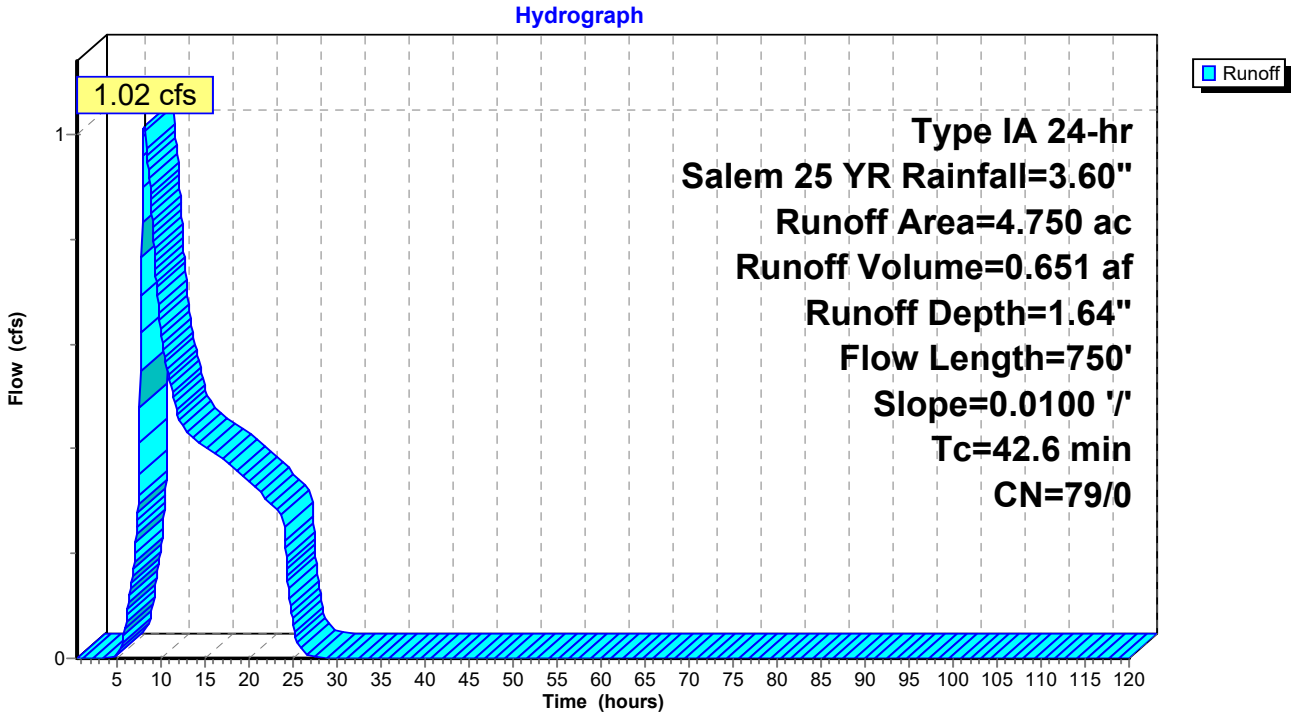
Runoff = 1.02 cfs @ 8.20 hrs, Volume= 0.651 af, Depth= 1.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 25 YR Rainfall=3.60"

Area (ac)	CN	Description
4.750	79	Woods/grass comb., Good, HSG D
4.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Flow Path** n= 0.300 P2= 2.20"
15.5	650	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
42.6	750	Total			

Subcatchment 1S: Predeveloped



Summary for Subcatchment 1S: Predeveloped

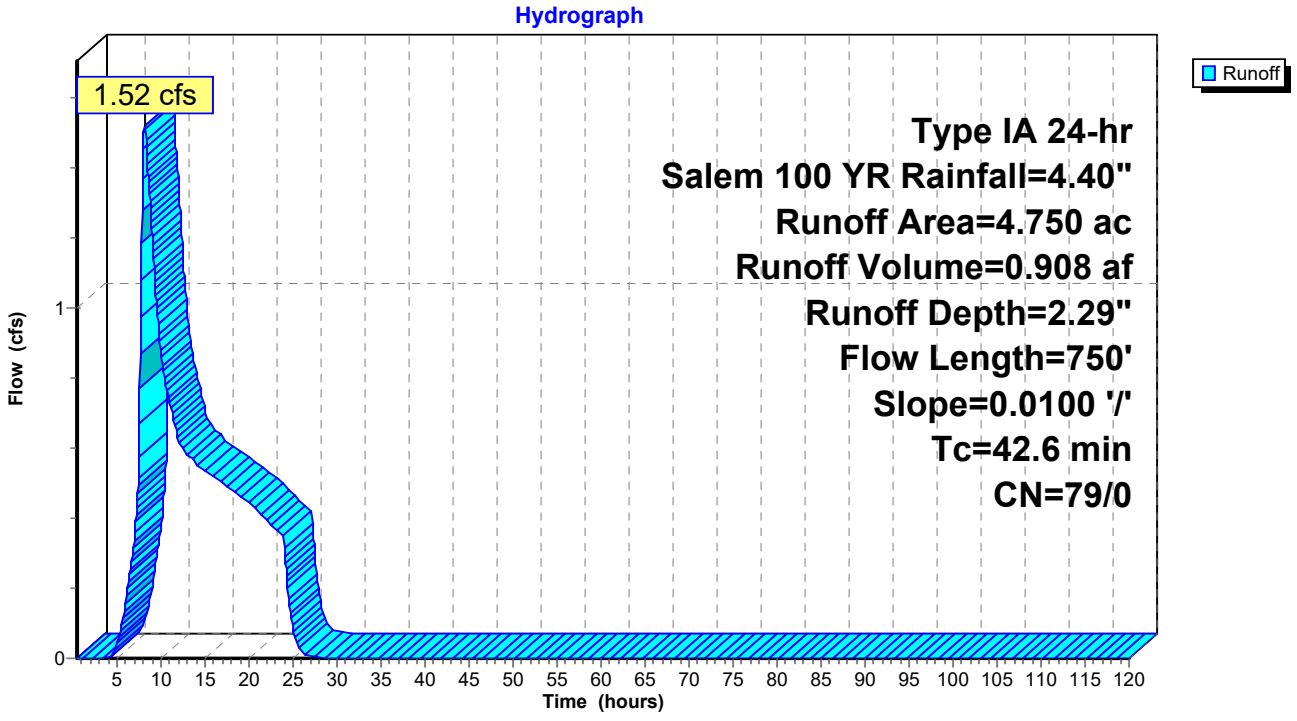
Runoff = 1.52 cfs @ 8.16 hrs, Volume= 0.908 af, Depth= 2.29"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 100 YR Rainfall=4.40"

Area (ac)	CN	Description
4.750	79	Woods/grass comb., Good, HSG D
4.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Flow Path** n= 0.300 P2= 2.20"
15.5	650	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
42.6	750	Total			

Subcatchment 1S: Predeveloped



Summary for Subcatchment 3S: Developed

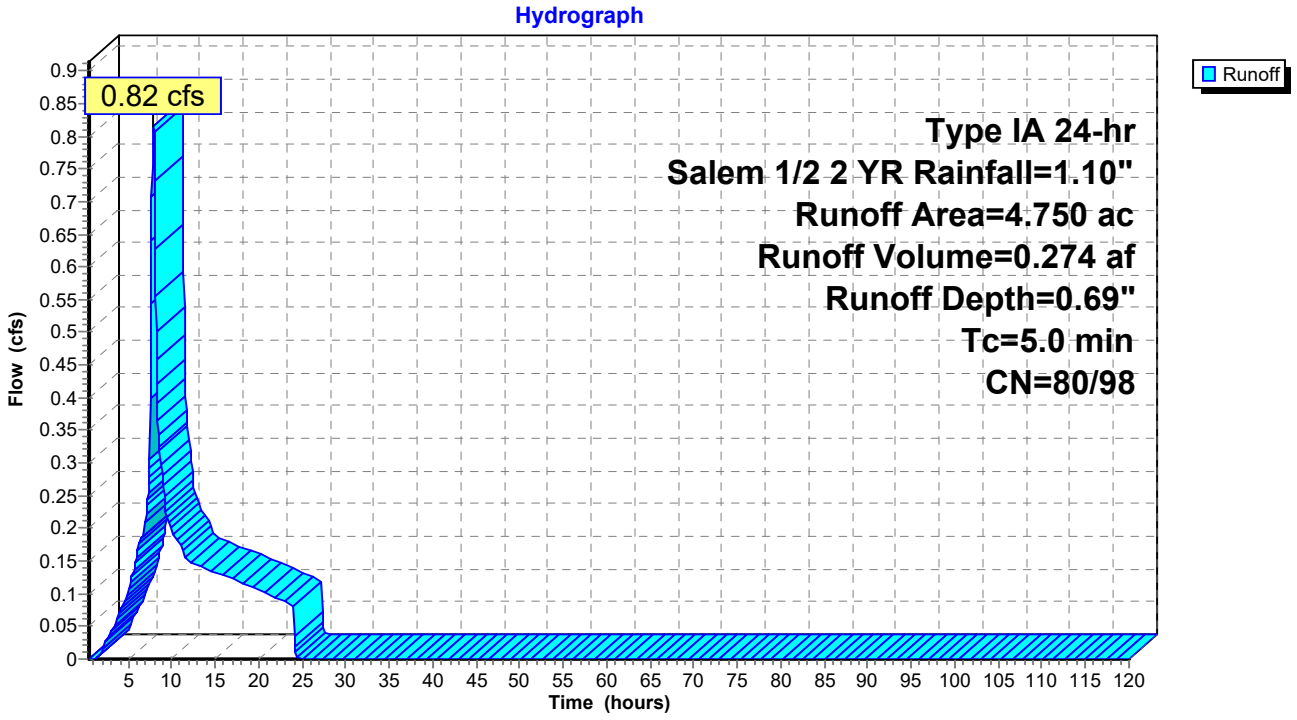
Runoff = 0.82 cfs @ 7.92 hrs, Volume= 0.274 af, Depth= 0.69"
Routed to Pond 1P : Detention

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 1/2 2 YR Rainfall=1.10"

	Area (ac)	CN	Description
*	3.550	98	Roof and Parking
	1.200	80	>75% Grass cover, Good, HSG D
	4.750	93	Weighted Average
	1.200		25.26% Pervious Area
	3.550		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Developed



Summary for Pond 1P: Detention

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth = 0.69" for Salem 1/2 2 YR event
Inflow = 0.82 cfs @ 7.92 hrs, Volume= 0.274 af
Outflow = 0.14 cfs @ 13.53 hrs, Volume= 0.274 af, Atten= 83%, Lag= 336.8 min
Primary = 0.14 cfs @ 13.53 hrs, Volume= 0.274 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 188.58' @ 13.53 hrs Surf.Area= 6,223 sf Storage= 3,178 cf

Plug-Flow detention time= 263.9 min calculated for 0.274 af (100% of inflow)
Center-of-Mass det. time= 264.0 min (985.4 - 721.5)

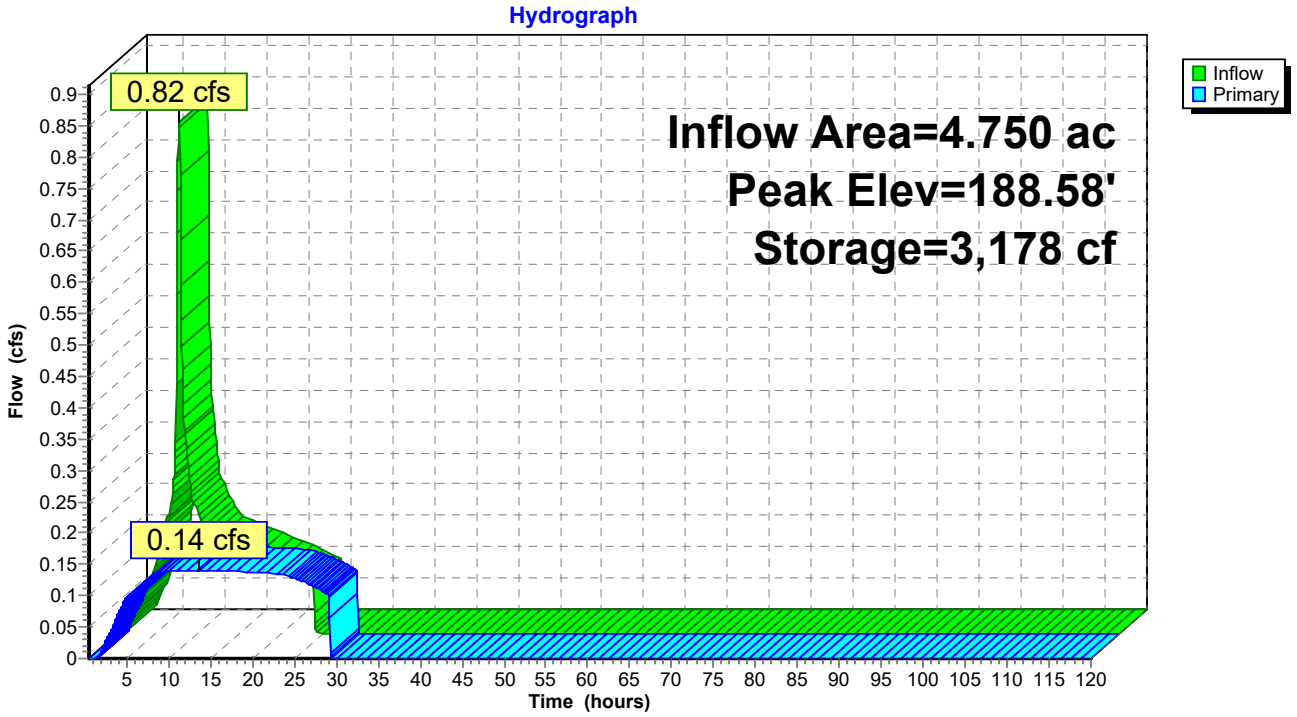
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**2.1" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.60'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 13.53 hrs HW=188.58' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.14 cfs @ 5.85 fps)
- **2=Orifice** (Controls 0.00 cfs)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P: Detention



Summary for Subcatchment 3S: Developed

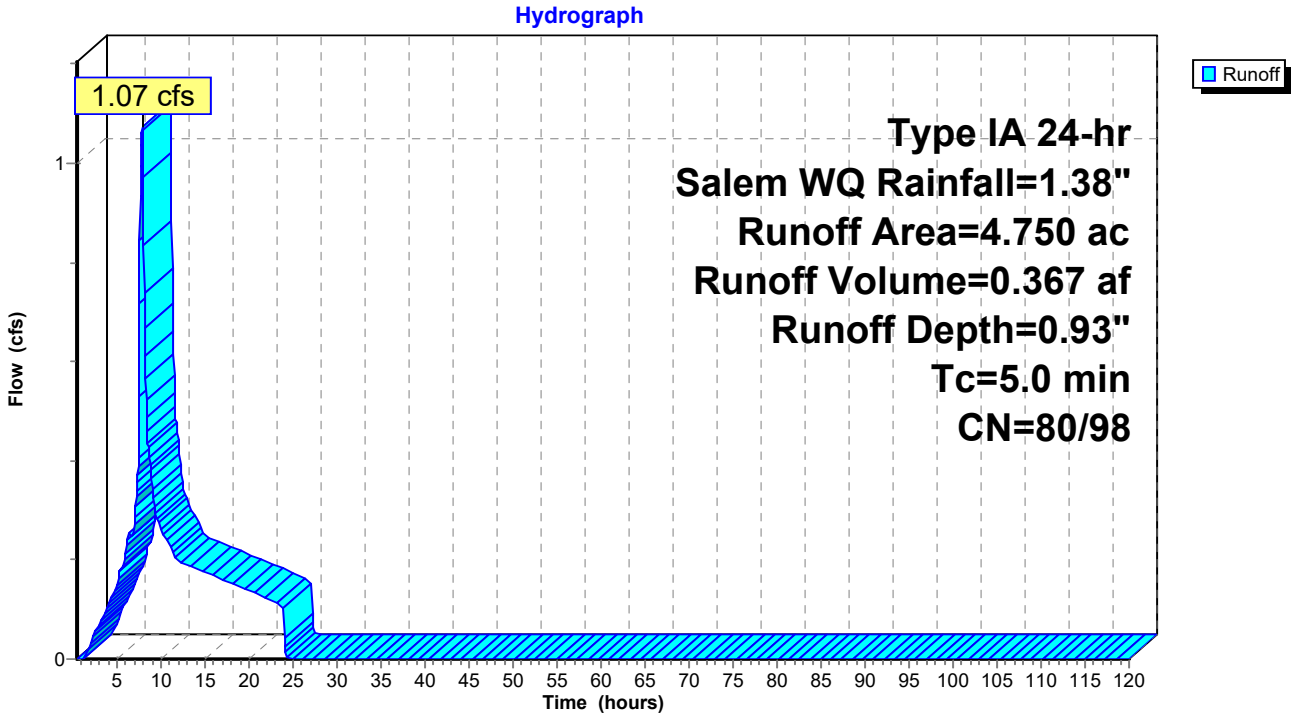
Runoff = 1.07 cfs @ 7.93 hrs, Volume= 0.367 af, Depth= 0.93"
Routed to Pond 1P : Detention

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem WQ Rainfall=1.38"

	Area (ac)	CN	Description
*	3.550	98	Roof and Parking
	1.200	80	>75% Grass cover, Good, HSG D
	4.750	93	Weighted Average
	1.200		25.26% Pervious Area
	3.550		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Developed



Summary for Pond 1P: Detention

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth = 0.93" for Salem WQ event
Inflow = 1.07 cfs @ 7.93 hrs, Volume= 0.367 af
Outflow = 0.27 cfs @ 9.80 hrs, Volume= 0.367 af, Atten= 74%, Lag= 112.6 min
Primary = 0.27 cfs @ 9.80 hrs, Volume= 0.367 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 188.70' @ 9.80 hrs Surf.Area= 6,851 sf Storage= 3,993 cf

Plug-Flow detention time= 263.5 min calculated for 0.367 af (100% of inflow)
Center-of-Mass det. time= 263.4 min (976.6 - 713.2)

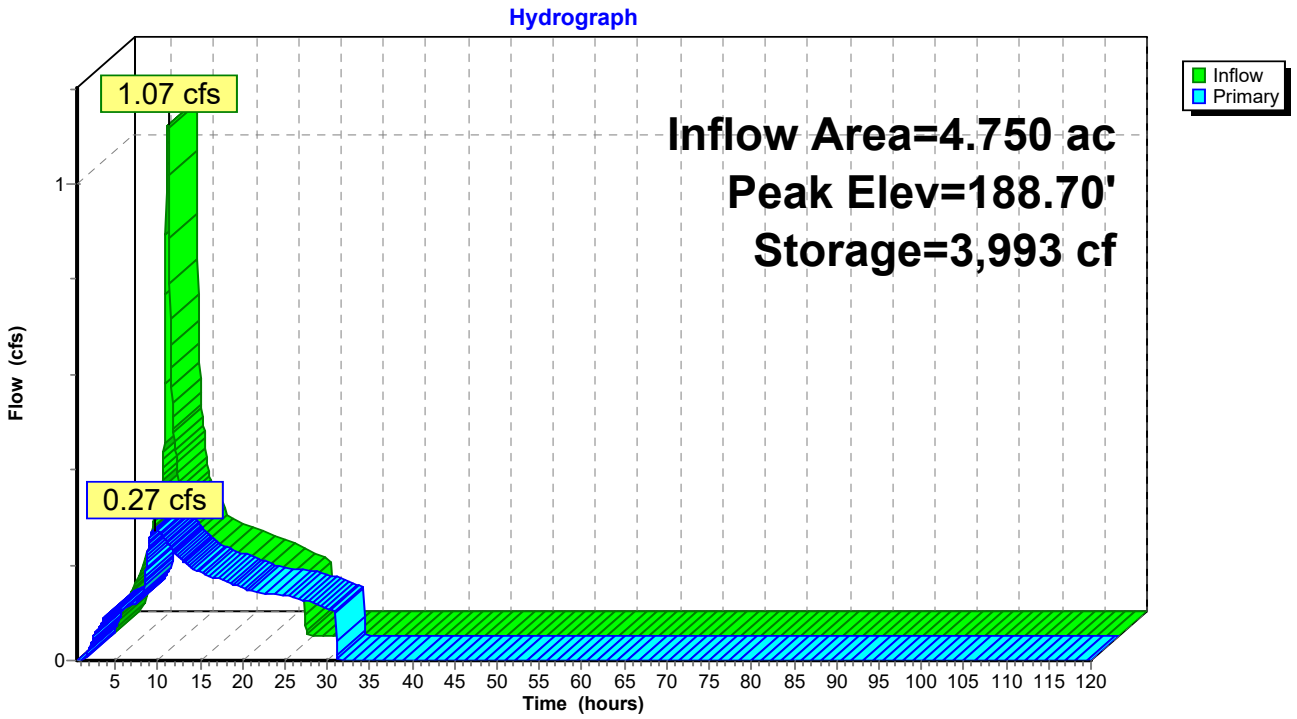
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**2.1" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.60'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.27 cfs @ 9.80 hrs HW=188.70' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.15 cfs @ 6.09 fps)
- **2=Orifice** (Weir Controls 0.13 cfs @ 1.04 fps)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P: Detention



Summary for Subcatchment 3S: Developed

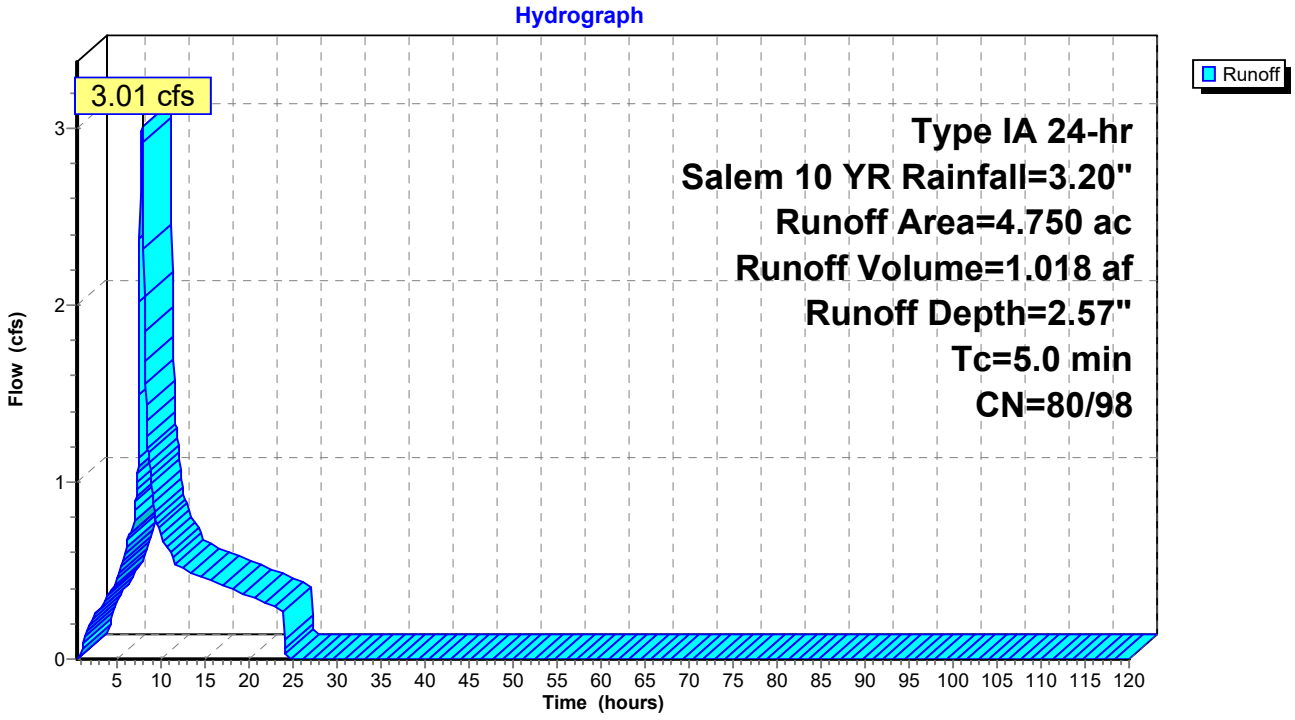
Runoff = 3.01 cfs @ 7.91 hrs, Volume= 1.018 af, Depth= 2.57"
Routed to Pond 1P : Detention

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 10 YR Rainfall=3.20"

	Area (ac)	CN	Description
*	3.550	98	Roof and Parking
	1.200	80	>75% Grass cover, Good, HSG D
	4.750	93	Weighted Average
	1.200		25.26% Pervious Area
	3.550		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Developed



Summary for Pond 1P: Detention

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth = 2.57" for Salem 10 YR event
Inflow = 3.01 cfs @ 7.91 hrs, Volume= 1.018 af
Outflow = 0.76 cfs @ 9.62 hrs, Volume= 1.018 af, Atten= 75%, Lag= 102.6 min
Primary = 0.76 cfs @ 9.62 hrs, Volume= 1.018 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 189.66' @ 9.62 hrs Surf.Area= 9,571 sf Storage= 12,202 cf

Plug-Flow detention time= 229.0 min calculated for 1.018 af (100% of inflow)
Center-of-Mass det. time= 229.2 min (917.0 - 687.8)

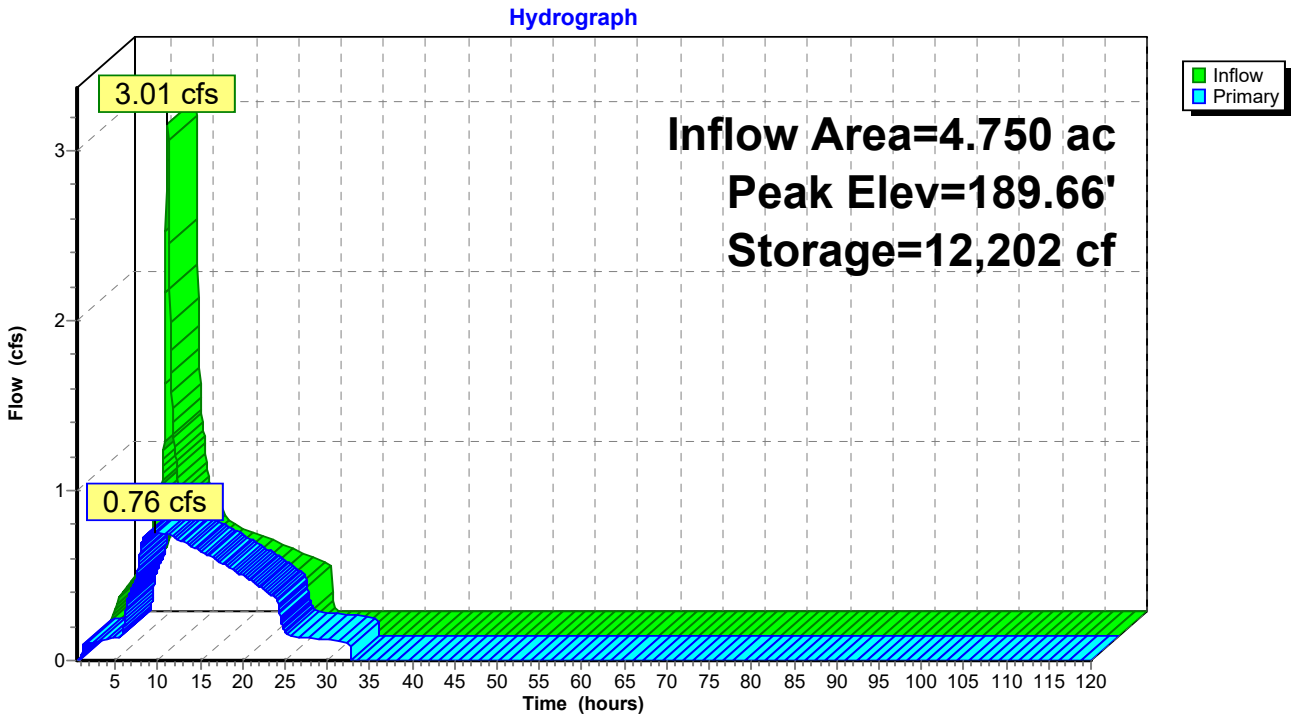
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**2.1" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.60'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.76 cfs @ 9.62 hrs HW=189.66' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.19 cfs @ 7.71 fps)
- **2=Orifice** (Orifice Controls 0.57 cfs @ 4.96 fps)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P: Detention



Summary for Subcatchment 3S: Developed

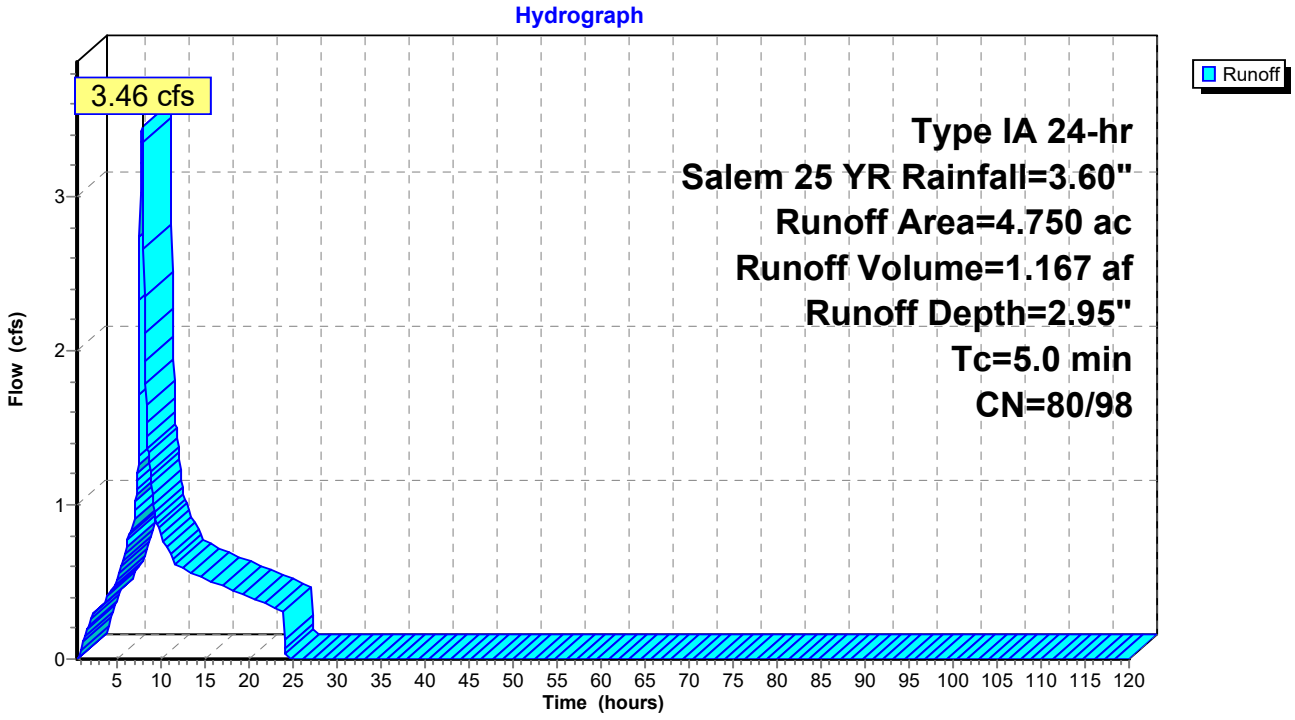
Runoff = 3.46 cfs @ 7.91 hrs, Volume= 1.167 af, Depth= 2.95"
Routed to Pond 1P : Detention

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 25 YR Rainfall=3.60"

	Area (ac)	CN	Description
*	3.550	98	Roof and Parking
	1.200	80	>75% Grass cover, Good, HSG D
	4.750	93	Weighted Average
	1.200		25.26% Pervious Area
	3.550		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Developed



Summary for Pond 1P: Detention

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth = 2.95" for Salem 25 YR event
Inflow = 3.46 cfs @ 7.91 hrs, Volume= 1.167 af
Outflow = 0.85 cfs @ 9.73 hrs, Volume= 1.167 af, Atten= 75%, Lag= 109.1 min
Primary = 0.85 cfs @ 9.73 hrs, Volume= 1.167 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 189.88' @ 9.73 hrs Surf.Area= 9,963 sf Storage= 14,296 cf

Plug-Flow detention time= 242.2 min calculated for 1.167 af (100% of inflow)
Center-of-Mass det. time= 242.3 min (927.1 - 684.8)

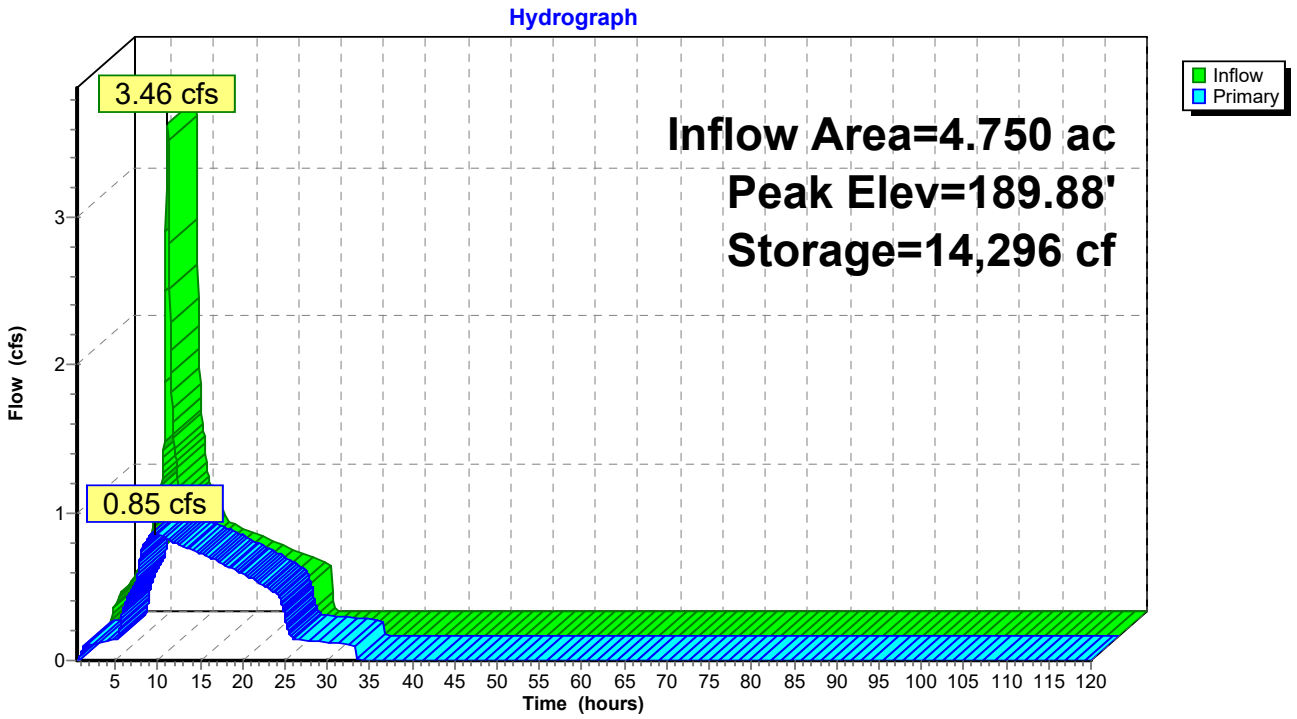
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**2.1" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.60'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.85 cfs @ 9.73 hrs HW=189.88' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.19 cfs @ 8.02 fps)
- **2=Orifice** (Orifice Controls 0.63 cfs @ 5.44 fps)
- **3=Weir Cut** (Orifice Controls 0.03 cfs @ 0.89 fps)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P: Detention



Summary for Subcatchment 3S: Developed

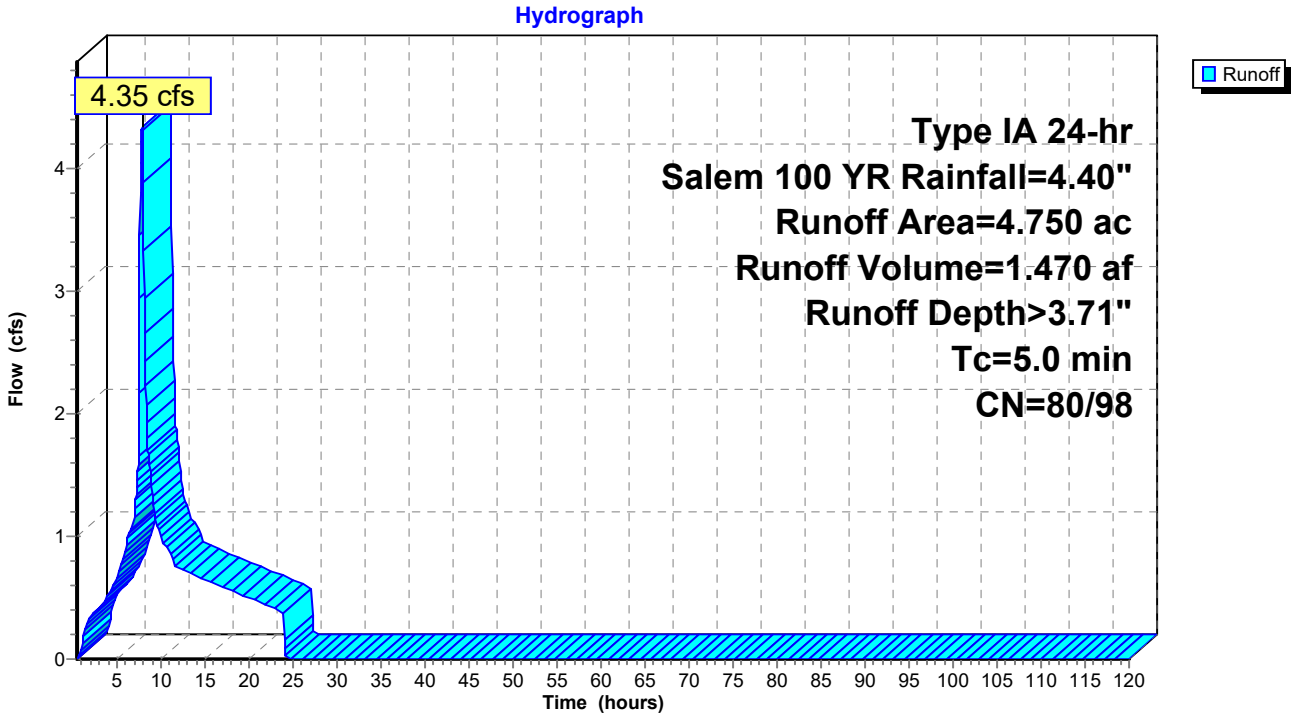
Runoff = 4.35 cfs @ 7.91 hrs, Volume= 1.470 af, Depth> 3.71"
Routed to Pond 1P : Detention

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 100 YR Rainfall=4.40"

	Area (ac)	CN	Description
*	3.550	98	Roof and Parking
	1.200	80	>75% Grass cover, Good, HSG D
	4.750	93	Weighted Average
	1.200		25.26% Pervious Area
	3.550		74.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: Developed



Summary for Pond 1P: Detention

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth > 3.71" for Salem 100 YR event
Inflow = 4.35 cfs @ 7.91 hrs, Volume= 1.470 af
Outflow = 1.29 cfs @ 9.12 hrs, Volume= 1.470 af, Atten= 70%, Lag= 72.7 min
Primary = 1.29 cfs @ 9.12 hrs, Volume= 1.470 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 190.19' @ 9.12 hrs Surf.Area= 10,298 sf Storage= 17,484 cf

Plug-Flow detention time= 244.0 min calculated for 1.469 af (100% of inflow)
Center-of-Mass det. time= 244.2 min (923.9 - 679.7)

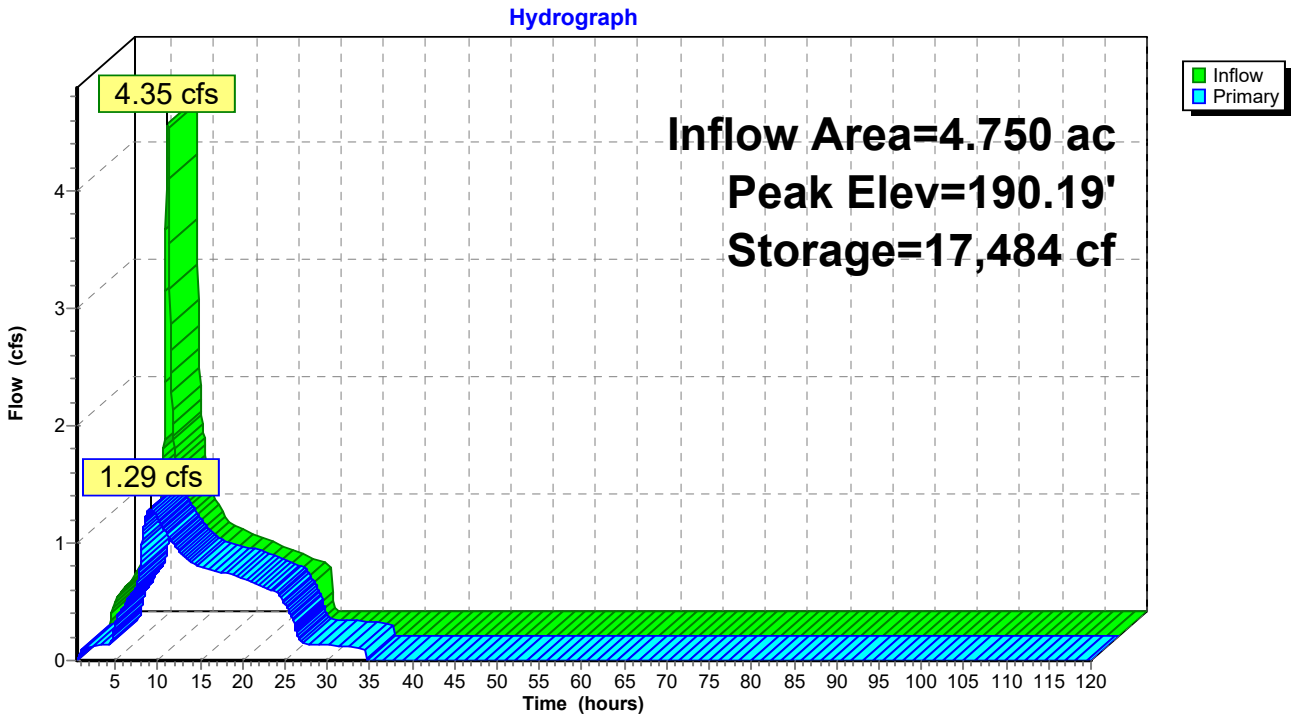
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**2.1" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.60'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.29 cfs @ 9.12 hrs HW=190.19' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.20 cfs @ 8.46 fps)
- **2=Orifice** (Orifice Controls 0.70 cfs @ 6.07 fps)
- **3=Weir Cut** (Orifice Controls 0.39 cfs @ 2.00 fps)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P: Detention



Summary for Reach 1R: Swale

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth = 0.93" for Salem WQ event
Inflow = 1.07 cfs @ 7.93 hrs, Volume= 0.367 af
Outflow = 1.04 cfs @ 8.01 hrs, Volume= 0.367 af, Atten= 4%, Lag= 5.1 min

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.18 fps, Min. Travel Time= 10.0 min
Avg. Velocity = 0.05 fps, Avg. Travel Time= 33.6 min

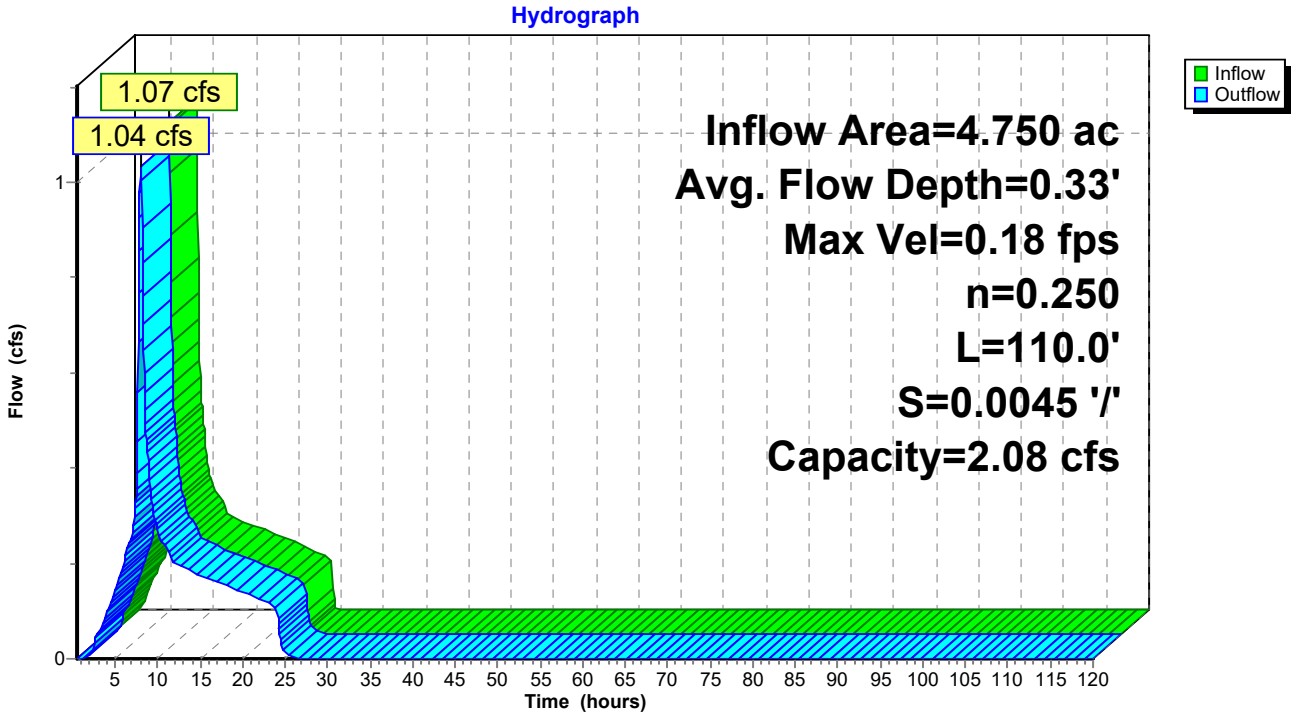
Peak Storage= 619 cf @ 8.01 hrs
Average Depth at Peak Storage= 0.33' , Surface Width= 17.99'
Bank-Full Depth= 0.50' Flow Area= 8.8 sf, Capacity= 2.08 cfs

16.00' x 0.50' deep channel, n= 0.250
Side Slope Z-value= 3.0 '/' Top Width= 19.00'
Length= 110.0' Slope= 0.0045 '/'
Inlet Invert= 188.90', Outlet Invert= 188.40'



‡

Reach 1R: Swale



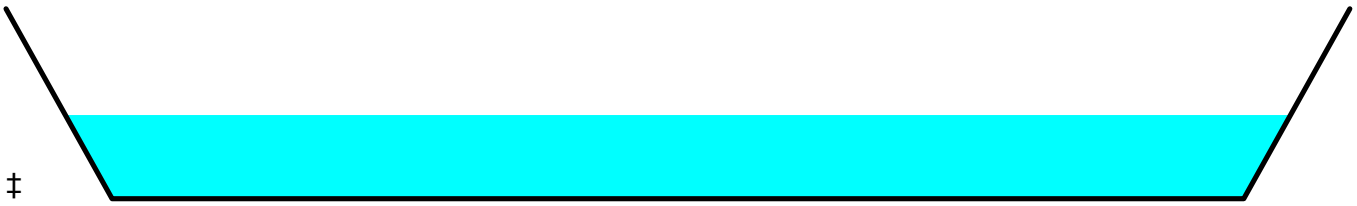
Summary for Reach 1R: Swale

Inflow Area = 4.750 ac, 74.74% Impervious, Inflow Depth > 3.71" for Salem 100 YR event
Inflow = 4.35 cfs @ 7.91 hrs, Volume= 1.470 af
Outflow = 4.35 cfs @ 7.93 hrs, Volume= 1.470 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.18 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 3.5 min

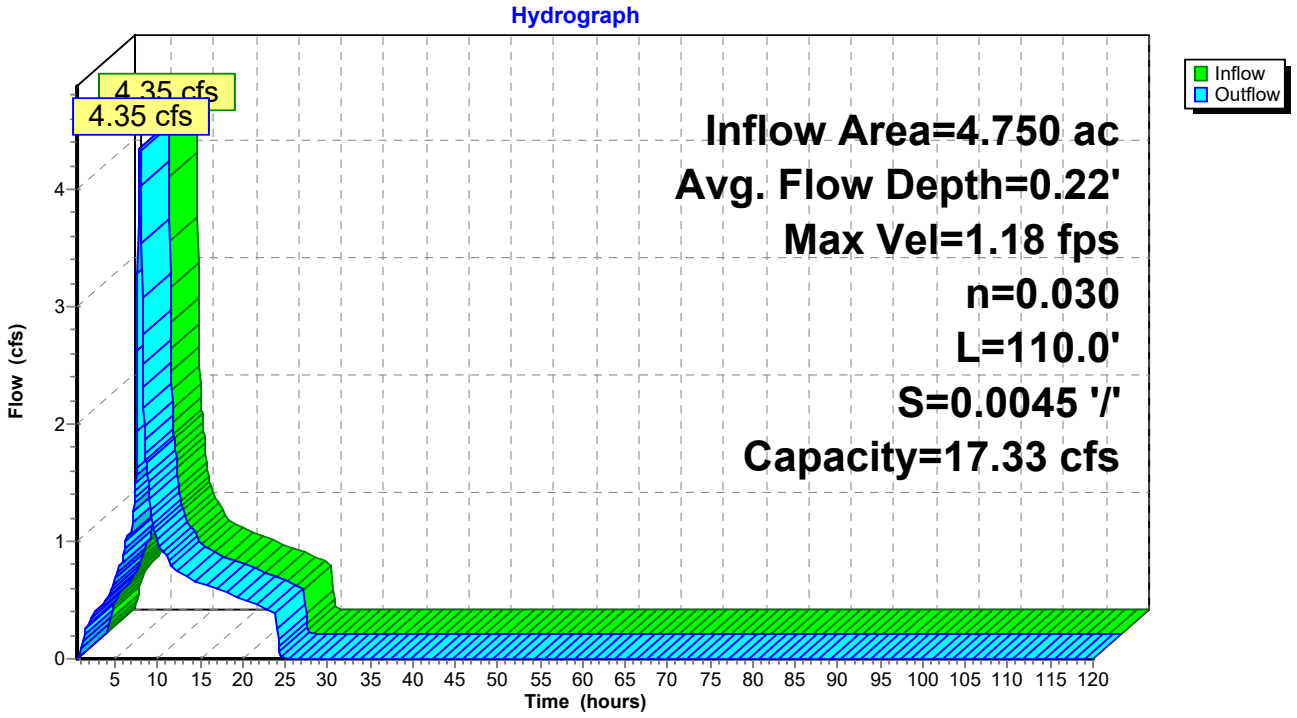
Peak Storage= 404 cf @ 7.93 hrs
Average Depth at Peak Storage= 0.22' , Surface Width= 17.32'
Bank-Full Depth= 0.50' Flow Area= 8.8 sf, Capacity= 17.33 cfs

16.00' x 0.50' deep channel, n= 0.030
Side Slope Z-value= 3.0 '/' Top Width= 19.00'
Length= 110.0' Slope= 0.0045 '/'
Inlet Invert= 188.90', Outlet Invert= 188.40'



‡

Reach 1R: Swale



Summary for Subcatchment 4S: Predeveloped - Phase 1

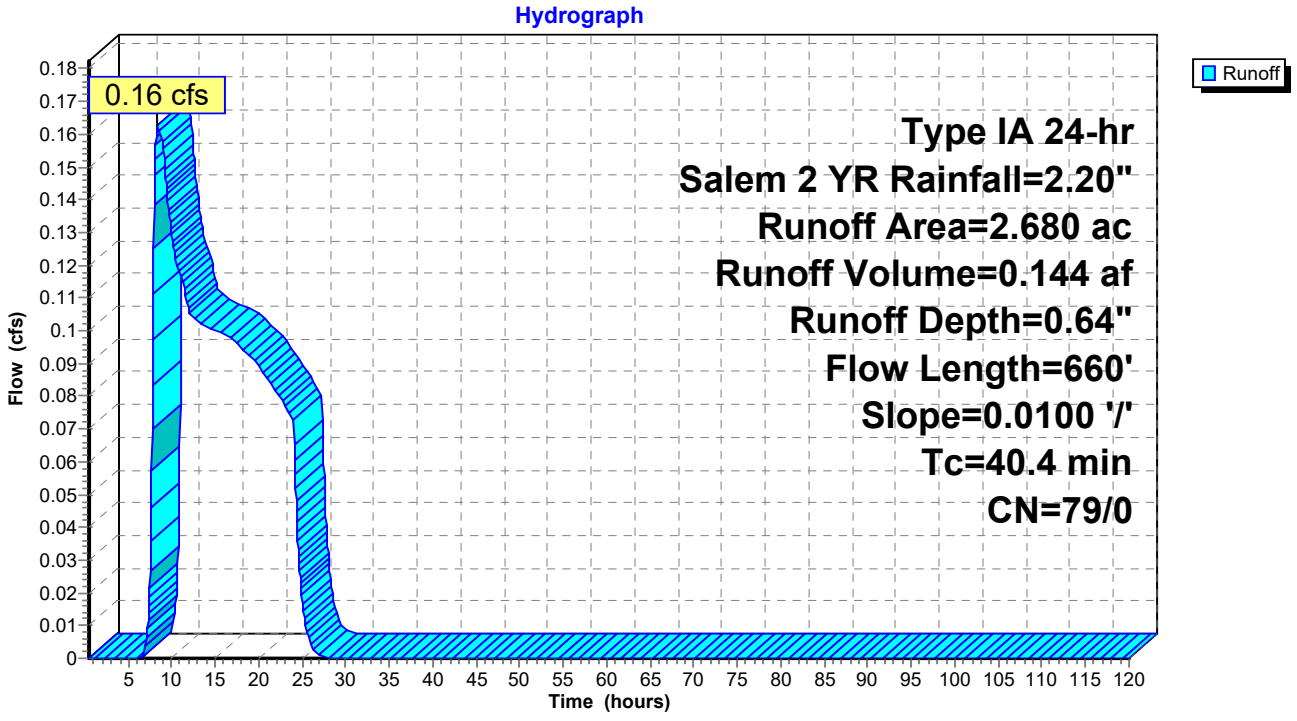
Runoff = 0.16 cfs @ 8.36 hrs, Volume= 0.144 af, Depth= 0.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 2 YR Rainfall=2.20"

	Area (ac)	CN	Description
*	2.680	79	Predevelopment, HSG group C
	2.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Predeveloped** n= 0.300 P2= 2.20"
13.3	560	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.4	660	Total			

Subcatchment 4S: Predeveloped - Phase 1



Summary for Subcatchment 4S: Predeveloped - Phase 1

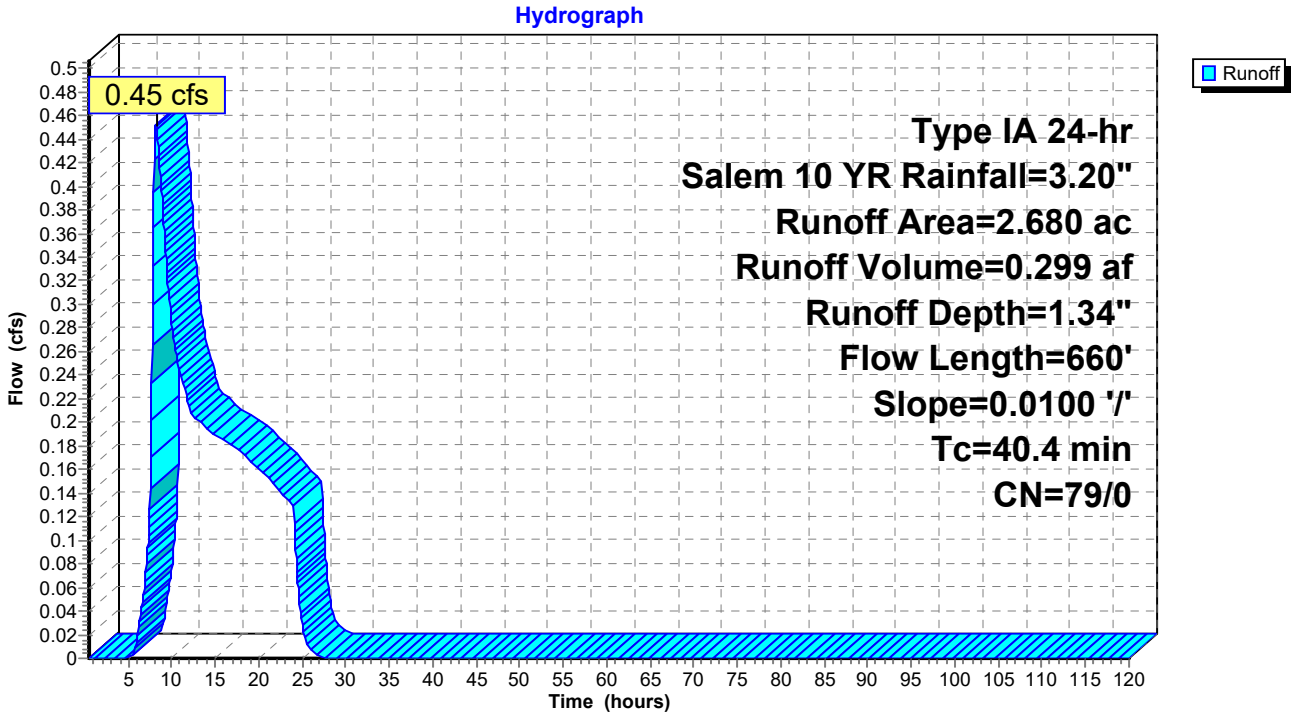
Runoff = 0.45 cfs @ 8.21 hrs, Volume= 0.299 af, Depth= 1.34"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 10 YR Rainfall=3.20"

	Area (ac)	CN	Description
*	2.680	79	Predevelopment, HSG group C
	2.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Predeveloped** n= 0.300 P2= 2.20"
13.3	560	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.4	660	Total			

Subcatchment 4S: Predeveloped - Phase 1



Summary for Subcatchment 4S: Predeveloped - Phase 1

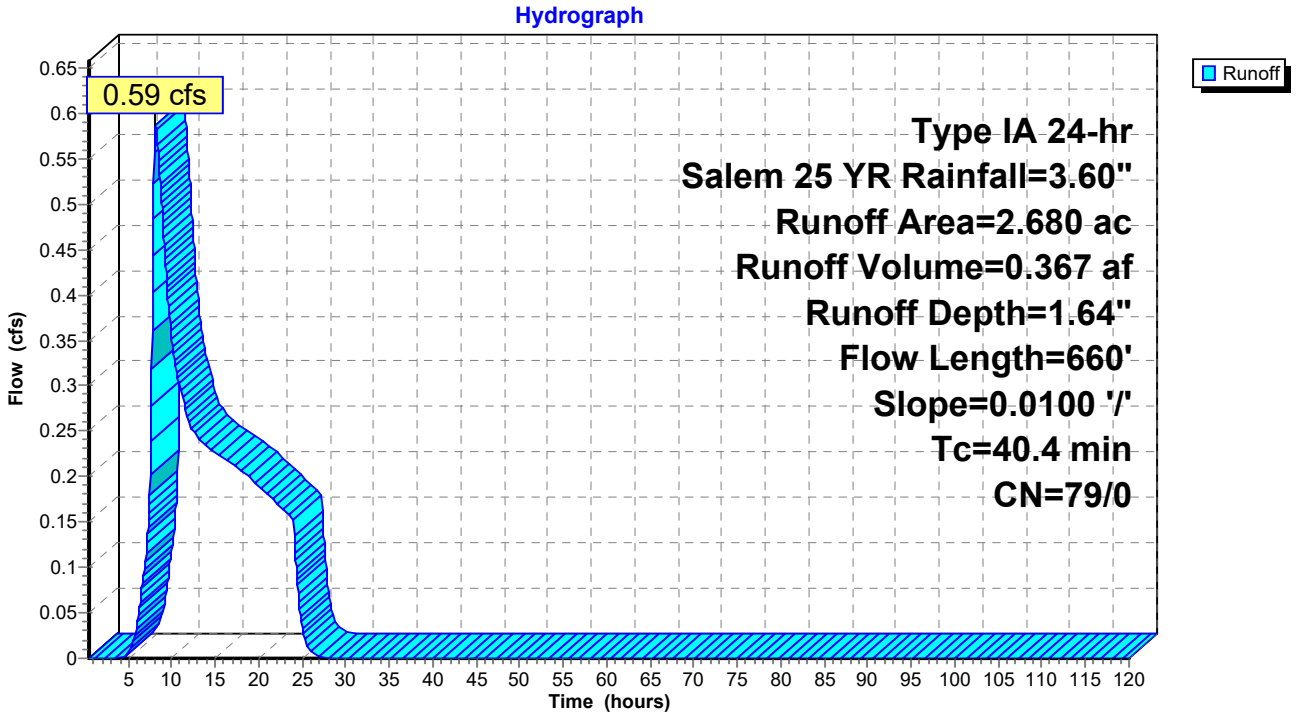
Runoff = 0.59 cfs @ 8.18 hrs, Volume= 0.367 af, Depth= 1.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 25 YR Rainfall=3.60"

	Area (ac)	CN	Description
*	2.680	79	Predevelopment, HSG group C
	2.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Predeveloped** n= 0.300 P2= 2.20"
13.3	560	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.4	660	Total			

Subcatchment 4S: Predeveloped - Phase 1



Summary for Subcatchment 4S: Predeveloped - Phase 1

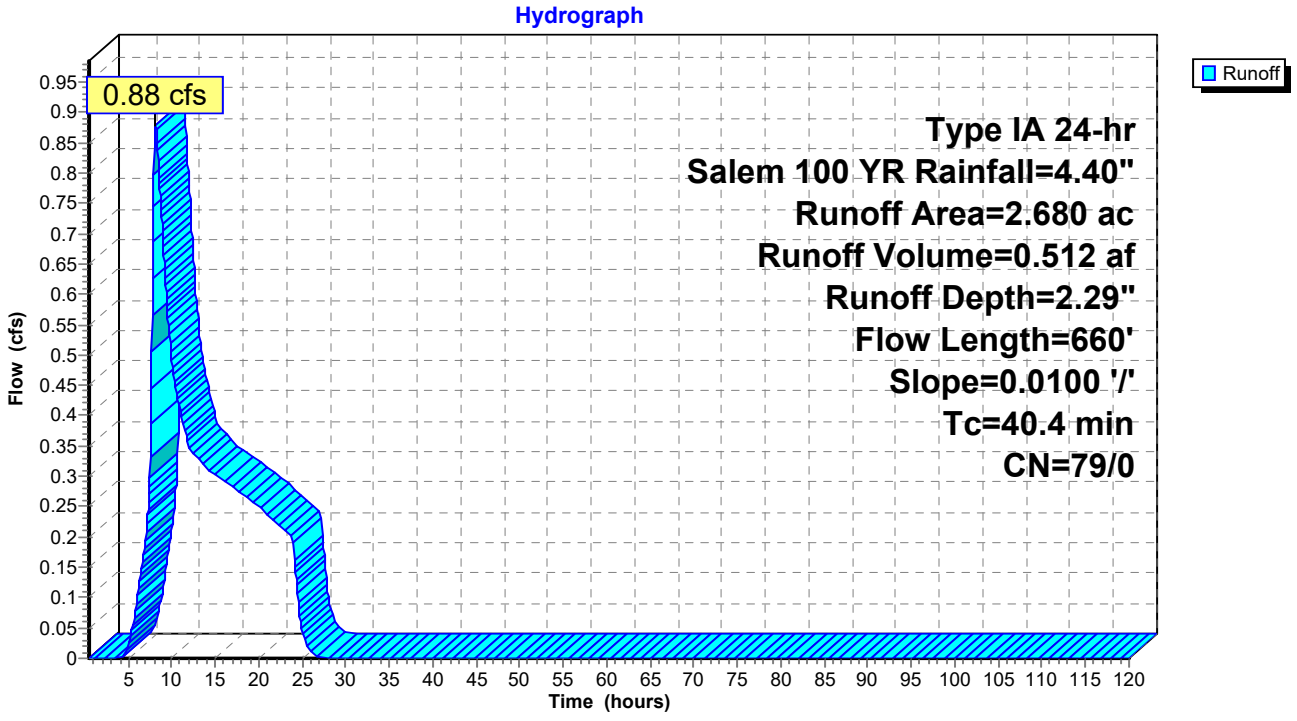
Runoff = 0.88 cfs @ 8.15 hrs, Volume= 0.512 af, Depth= 2.29"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 100 YR Rainfall=4.40"

	Area (ac)	CN	Description
*	2.680	79	Predevelopment, HSG group C
	2.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.1	100	0.0100	0.06		**Sheet Flow, Predeveloped** n= 0.300 P2= 2.20"
13.3	560	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
40.4	660	Total			

Subcatchment 4S: Predeveloped - Phase 1



Summary for Subcatchment 5S: Developed - Phase 1

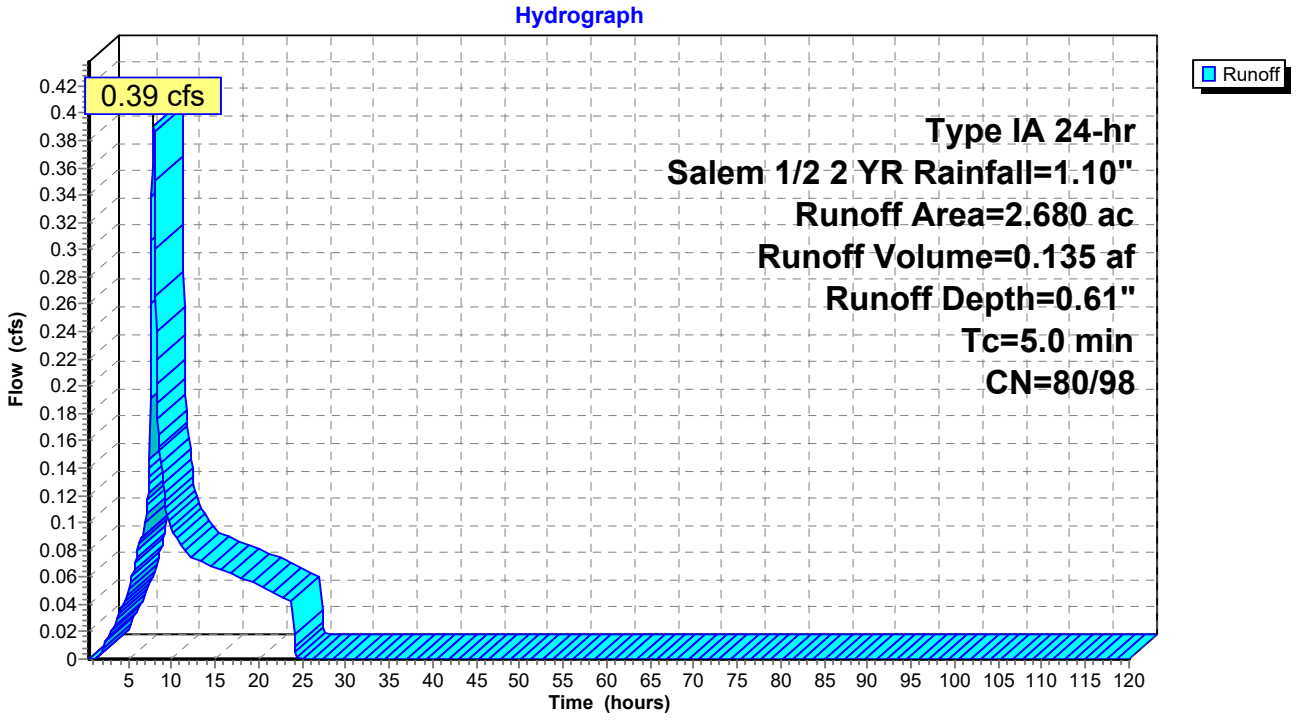
Runoff = 0.39 cfs @ 7.92 hrs, Volume= 0.135 af, Depth= 0.61"
Routed to Pond 1P' : Detention - Phase 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 1/2 2 YR Rainfall=1.10"

	Area (ac)	CN	Description
*	1.700	98	Roof and Parking
	0.980	80	>75% Grass cover, Good, HSG D
	2.680	91	Weighted Average
	0.980		36.57% Pervious Area
	1.700		63.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Developed - Phase 1



Summary for Pond 1P': Detention - Phase 1

Inflow Area = 2.680 ac, 63.43% Impervious, Inflow Depth = 0.61" for Salem 1/2 2 YR event
Inflow = 0.39 cfs @ 7.92 hrs, Volume= 0.135 af
Outflow = 0.08 cfs @ 11.46 hrs, Volume= 0.135 af, Atten= 80%, Lag= 212.8 min
Primary = 0.08 cfs @ 11.46 hrs, Volume= 0.135 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 188.20' @ 11.46 hrs Surf.Area= 4,375 sf Storage= 1,212 cf

Plug-Flow detention time= 163.7 min calculated for 0.135 af (100% of inflow)
Center-of-Mass det. time= 163.7 min (893.5 - 729.9)

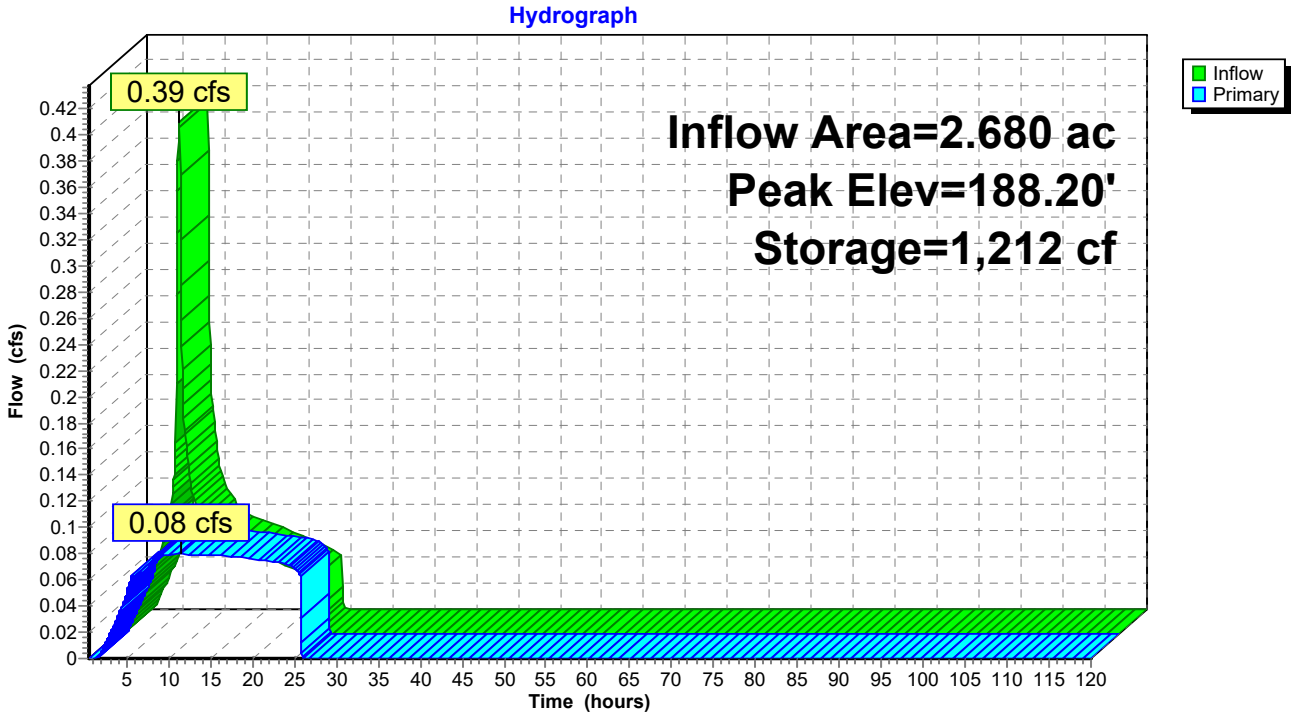
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**1.7" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.70'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 11.46 hrs HW=188.20' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.08 cfs @ 5.06 fps)
- **2=Orifice** (Controls 0.00 cfs)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P': Detention - Phase 1



Summary for Subcatchment 5S: Developed - Phase 1

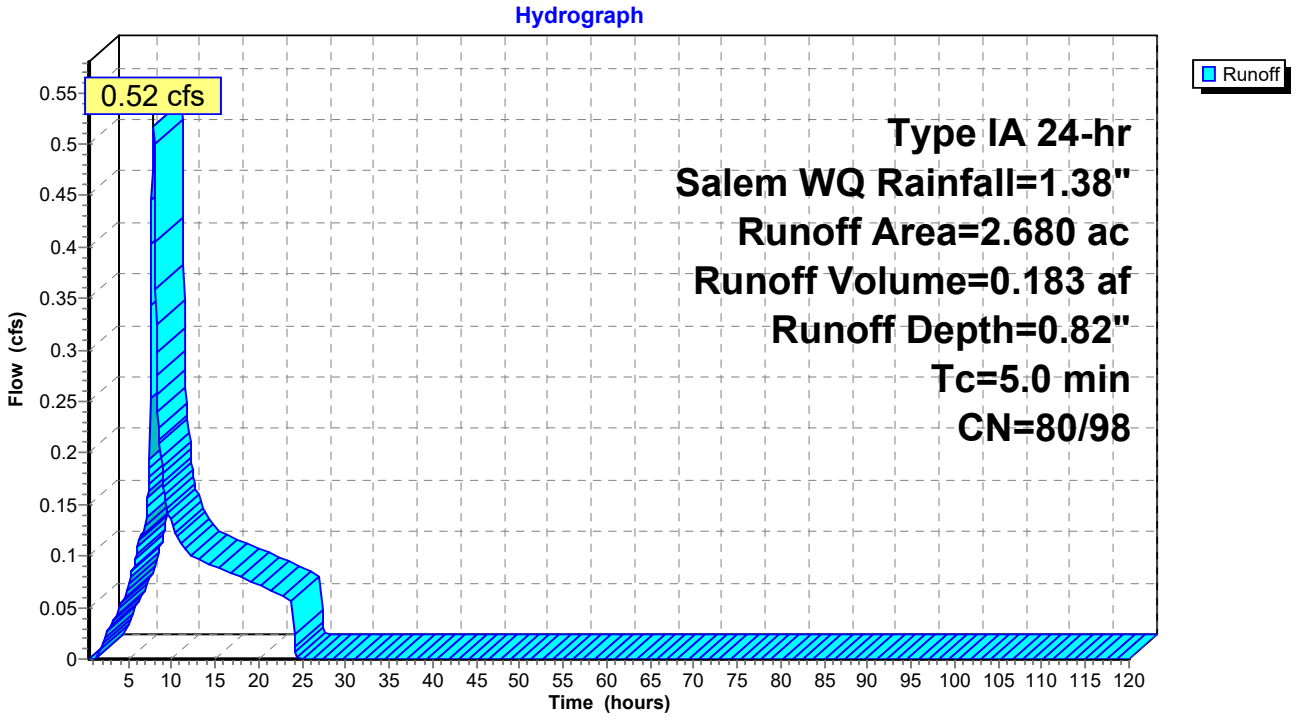
Runoff = 0.52 cfs @ 7.94 hrs, Volume= 0.183 af, Depth= 0.82"
Routed to Pond 1P' : Detention - Phase 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem WQ Rainfall=1.38"

	Area (ac)	CN	Description
*	1.700	98	Roof and Parking
	0.980	80	>75% Grass cover, Good, HSG D
	2.680	91	Weighted Average
	0.980		36.57% Pervious Area
	1.700		63.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Developed - Phase 1



Summary for Pond 1P': Detention - Phase 1

Inflow Area = 2.680 ac, 63.43% Impervious, Inflow Depth = 0.82" for Salem WQ event
Inflow = 0.52 cfs @ 7.94 hrs, Volume= 0.183 af
Outflow = 0.09 cfs @ 15.87 hrs, Volume= 0.183 af, Atten= 83%, Lag= 475.8 min
Primary = 0.09 cfs @ 15.87 hrs, Volume= 0.183 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 188.41' @ 15.87 hrs Surf.Area= 5,414 sf Storage= 2,237 cf

Plug-Flow detention time= 299.0 min calculated for 0.183 af (100% of inflow)
Center-of-Mass det. time= 299.0 min (1,022.3 - 723.3)

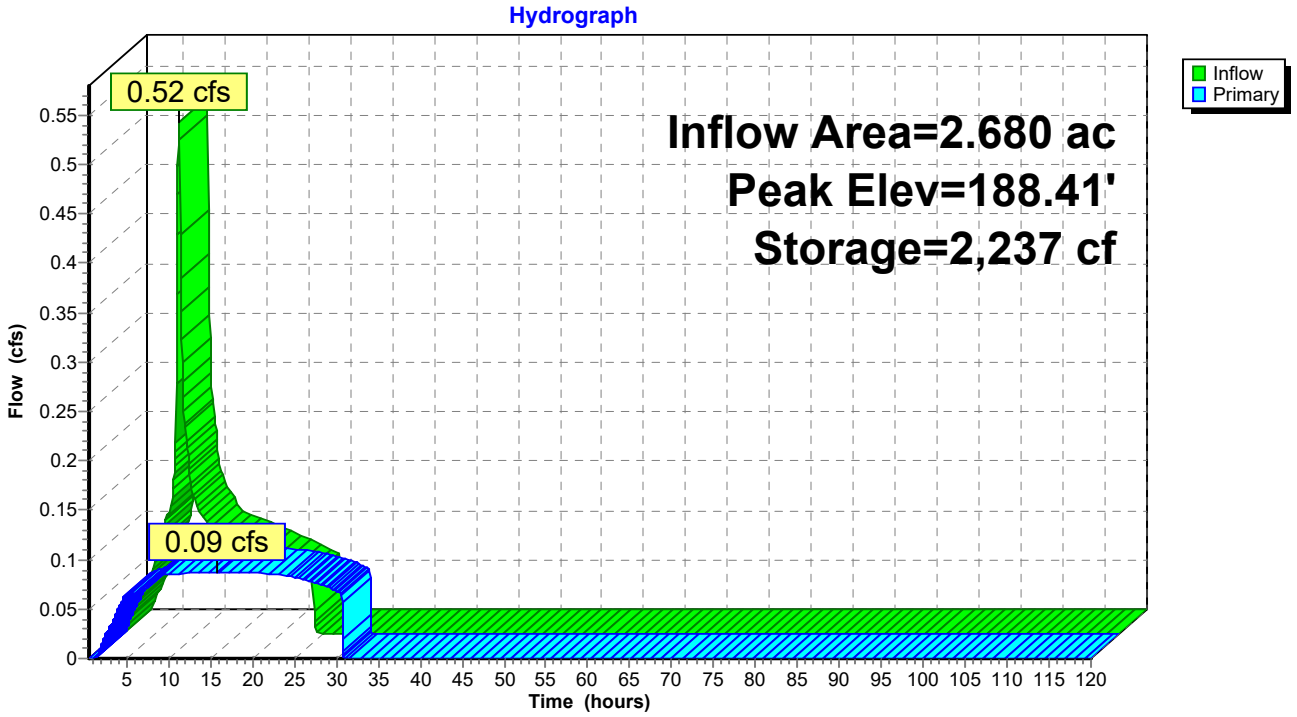
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**1.7" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.70'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 15.87 hrs HW=188.41' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.09 cfs @ 5.52 fps)
- **2=Orifice** (Controls 0.00 cfs)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P': Detention - Phase 1



Summary for Subcatchment 5S: Developed - Phase 1

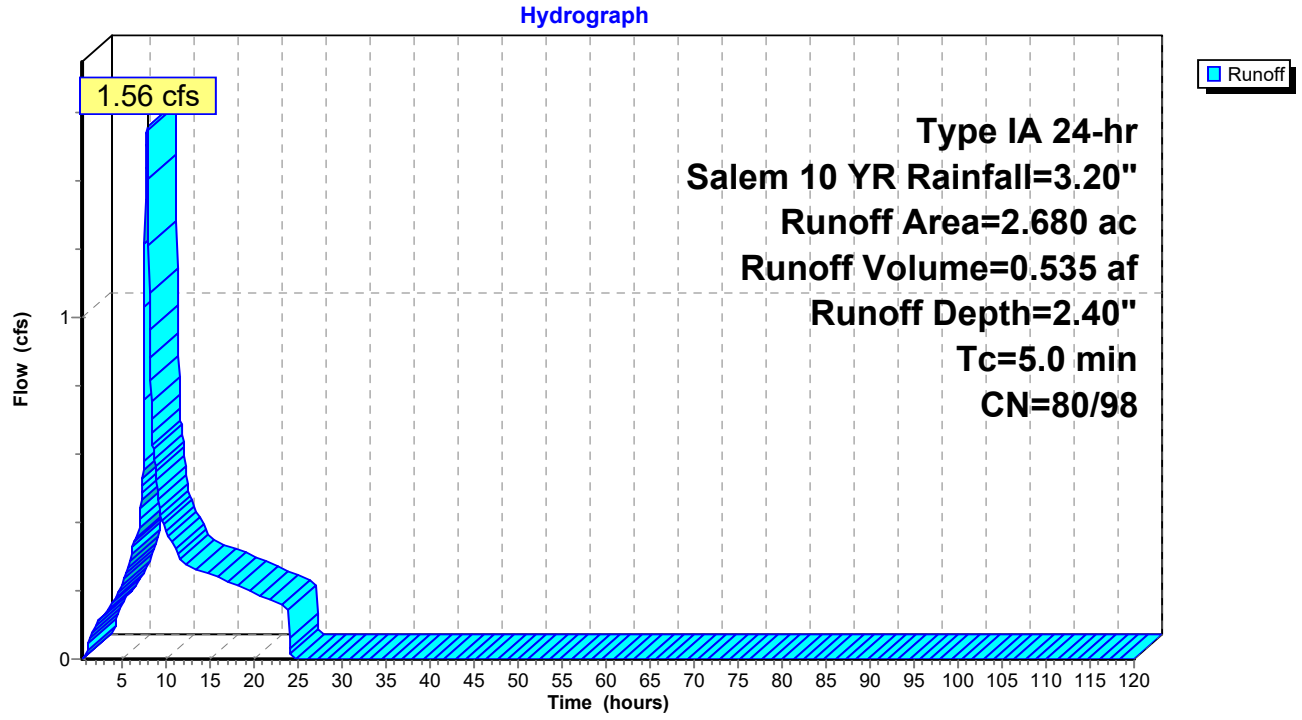
Runoff = 1.56 cfs @ 7.92 hrs, Volume= 0.535 af, Depth= 2.40"
Routed to Pond 1P' : Detention - Phase 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 10 YR Rainfall=3.20"

	Area (ac)	CN	Description
*	1.700	98	Roof and Parking
	0.980	80	>75% Grass cover, Good, HSG D
	2.680	91	Weighted Average
	0.980		36.57% Pervious Area
	1.700		63.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Developed - Phase 1



Summary for Pond 1P': Detention - Phase 1

Inflow Area = 2.680 ac, 63.43% Impervious, Inflow Depth = 2.40" for Salem 10 YR event
Inflow = 1.56 cfs @ 7.92 hrs, Volume= 0.535 af
Outflow = 0.43 cfs @ 9.34 hrs, Volume= 0.535 af, Atten= 72%, Lag= 84.8 min
Primary = 0.43 cfs @ 9.34 hrs, Volume= 0.535 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 189.04' @ 9.34 hrs Surf.Area= 8,437 sf Storage= 6,622 cf

Plug-Flow detention time= 312.6 min calculated for 0.535 af (100% of inflow)
Center-of-Mass det. time= 312.8 min (1,012.6 - 699.7)

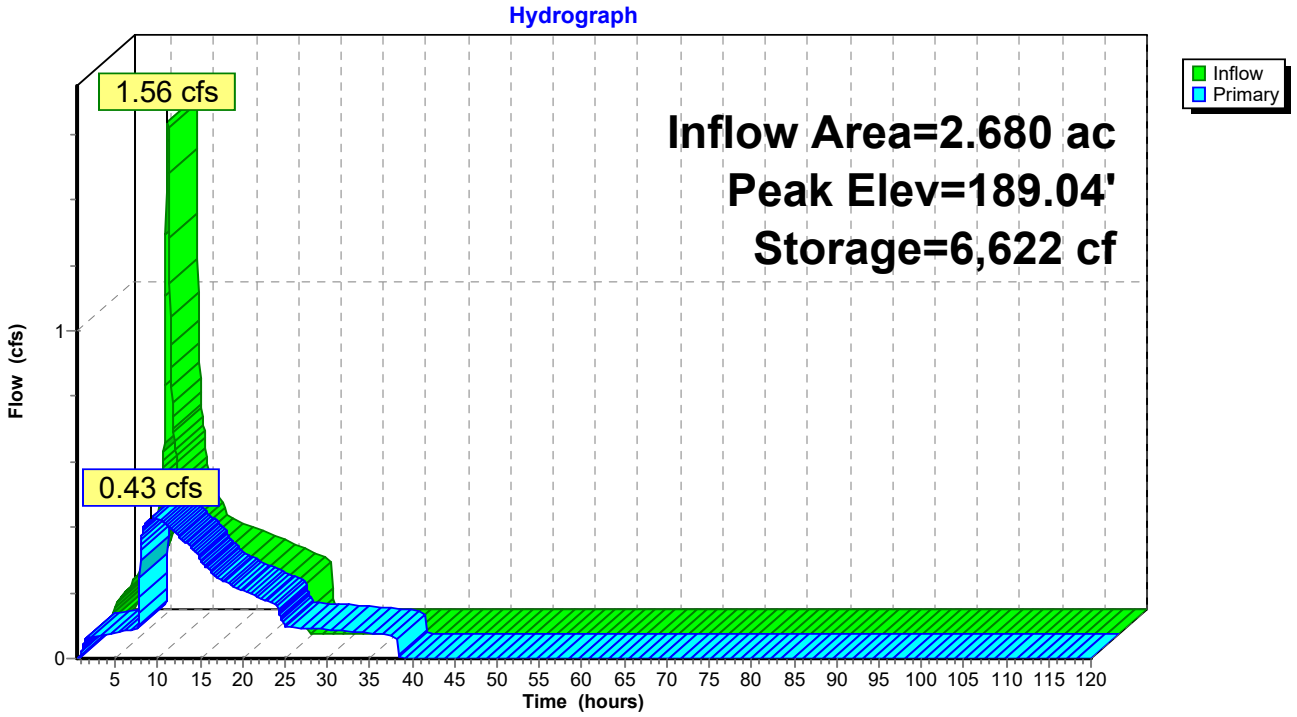
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**1.7" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.70'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.43 cfs @ 9.34 hrs HW=189.04' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.11 cfs @ 6.71 fps)
- **2=Orifice** (Orifice Controls 0.32 cfs @ 2.82 fps)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P': Detention - Phase 1



Summary for Subcatchment 5S: Developed - Phase 1

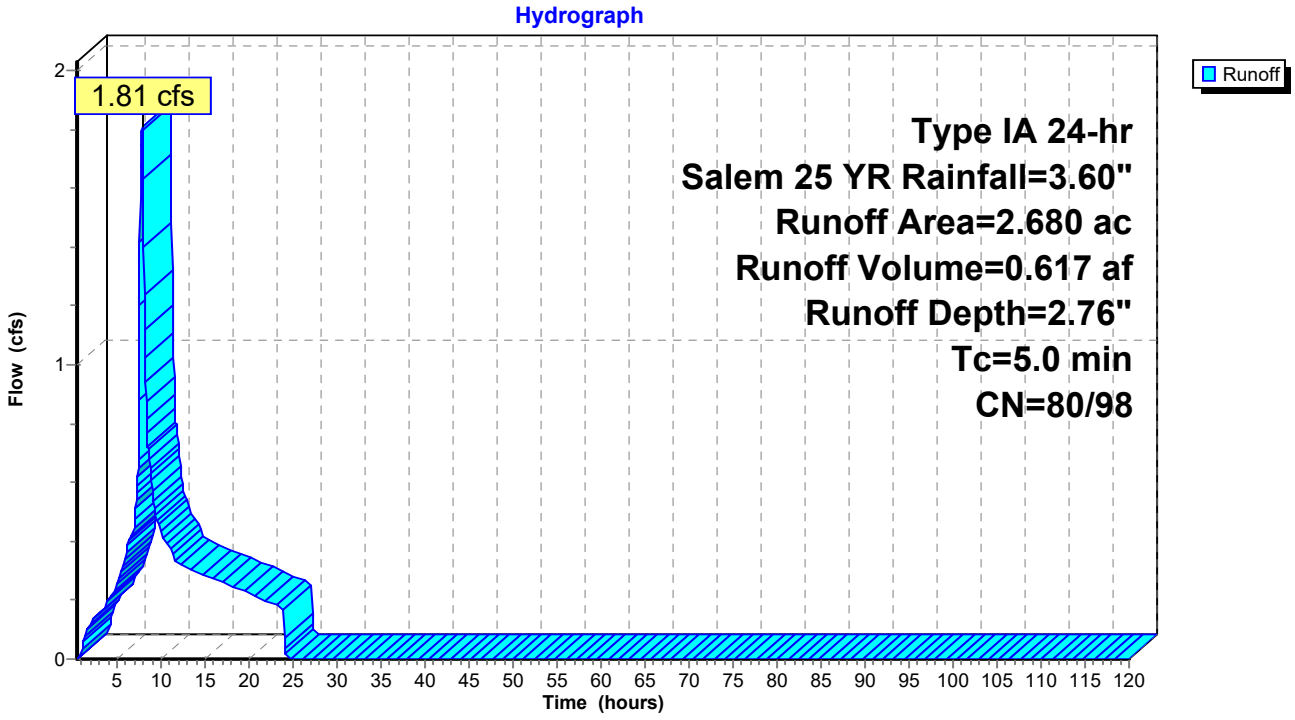
Runoff = 1.81 cfs @ 7.92 hrs, Volume= 0.617 af, Depth= 2.76"
Routed to Pond 1P' : Detention - Phase 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 25 YR Rainfall=3.60"

	Area (ac)	CN	Description
*	1.700	98	Roof and Parking
	0.980	80	>75% Grass cover, Good, HSG D
	2.680	91	Weighted Average
	0.980		36.57% Pervious Area
	1.700		63.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Developed - Phase 1



Summary for Pond 1P': Detention - Phase 1

Inflow Area = 2.680 ac, 63.43% Impervious, Inflow Depth = 2.76" for Salem 25 YR event
Inflow = 1.81 cfs @ 7.92 hrs, Volume= 0.617 af
Outflow = 0.49 cfs @ 9.34 hrs, Volume= 0.617 af, Atten= 73%, Lag= 85.5 min
Primary = 0.49 cfs @ 9.34 hrs, Volume= 0.617 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 189.18' @ 9.34 hrs Surf.Area= 8,687 sf Storage= 7,792 cf

Plug-Flow detention time= 298.9 min calculated for 0.617 af (100% of inflow)
Center-of-Mass det. time= 299.1 min (995.6 - 696.5)

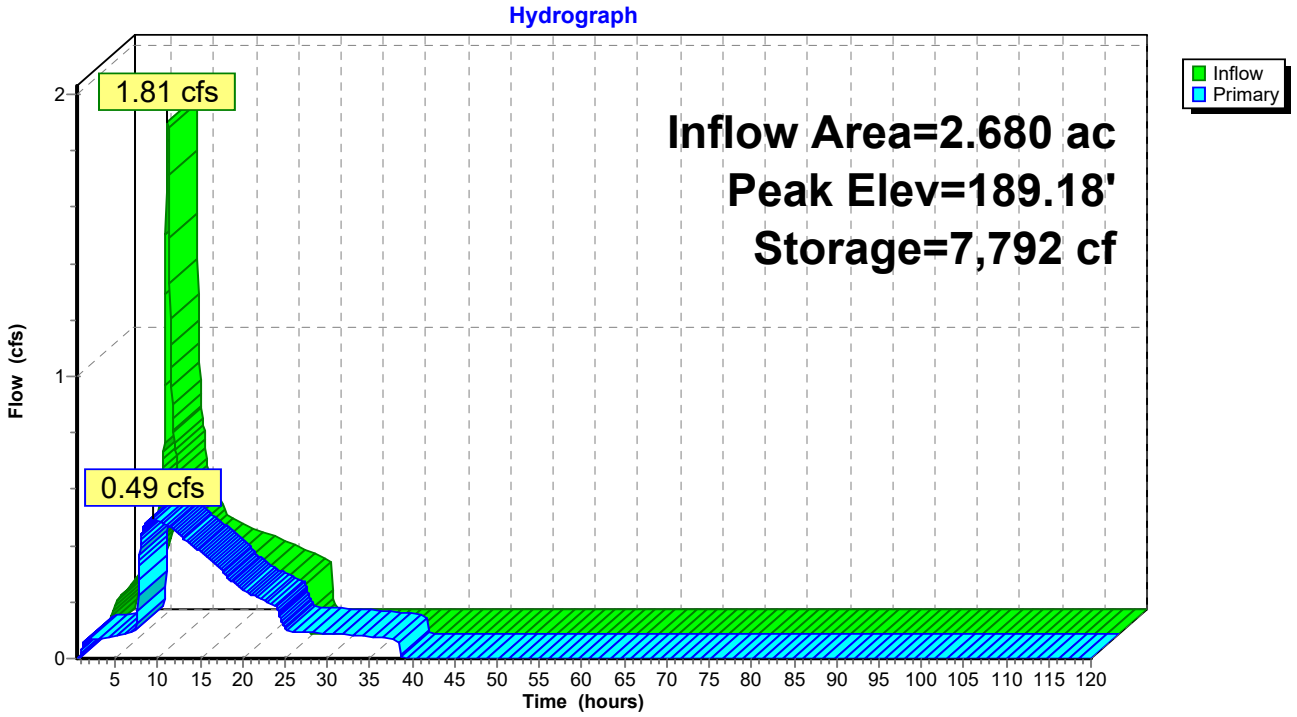
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**1.7" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.70'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.49 cfs @ 9.34 hrs HW=189.18' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.11 cfs @ 6.94 fps)
- **2=Orifice** (Orifice Controls 0.38 cfs @ 3.33 fps)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P': Detention - Phase 1



Summary for Subcatchment 5S: Developed - Phase 1

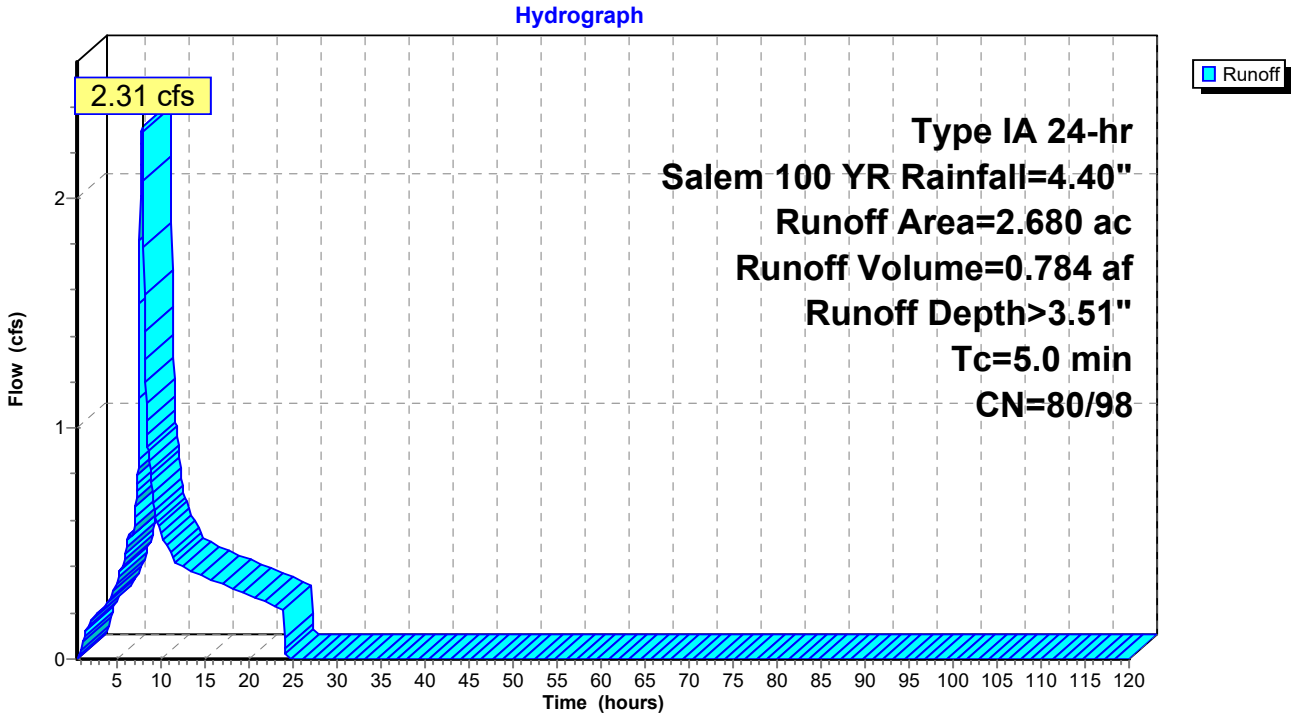
Runoff = 2.31 cfs @ 7.92 hrs, Volume= 0.784 af, Depth> 3.51"
Routed to Pond 1P' : Detention - Phase 1

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.50-120.00 hrs, dt= 0.05 hrs
Type IA 24-hr Salem 100 YR Rainfall=4.40"

	Area (ac)	CN	Description
*	1.700	98	Roof and Parking
	0.980	80	>75% Grass cover, Good, HSG D
	2.680	91	Weighted Average
	0.980		36.57% Pervious Area
	1.700		63.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Developed - Phase 1



Summary for Pond 1P': Detention - Phase 1

Inflow Area = 2.680 ac, 63.43% Impervious, Inflow Depth > 3.51" for Salem 100 YR event
Inflow = 2.31 cfs @ 7.92 hrs, Volume= 0.784 af
Outflow = 0.60 cfs @ 9.47 hrs, Volume= 0.784 af, Atten= 74%, Lag= 93.1 min
Primary = 0.60 cfs @ 9.47 hrs, Volume= 0.784 af
Routed to nonexistent node 18L

Routing by Stor-Ind method, Time Span= 0.50-120.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 189.44' @ 9.47 hrs Surf.Area= 9,173 sf Storage= 10,165 cf

Plug-Flow detention time= 289.9 min calculated for 0.784 af (100% of inflow)
Center-of-Mass det. time= 290.2 min (981.2 - 691.0)

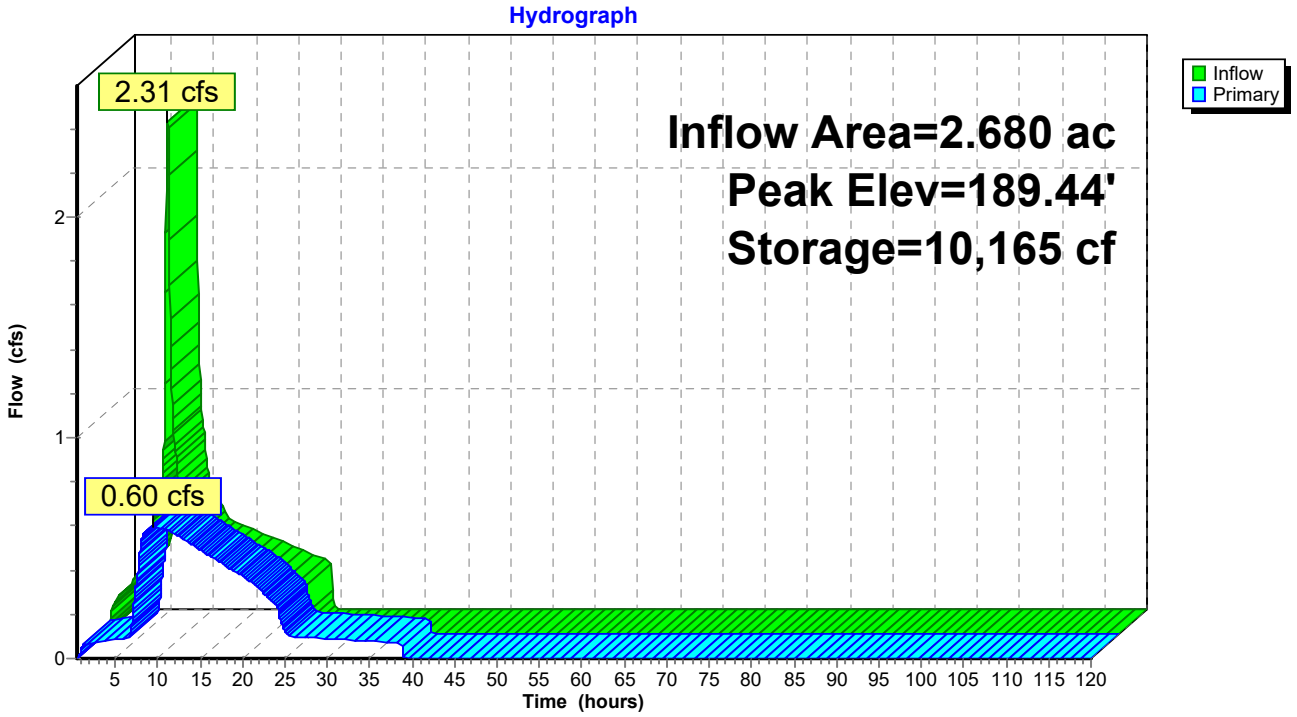
Volume	Invert	Avail.Storage	Storage Description
#1	187.75'	36,905 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
187.75	0	0	0
188.00	3,360	420	420
188.50	5,840	2,300	2,720
189.00	8,360	3,550	6,270
190.00	10,190	9,275	15,545
191.00	10,760	10,475	26,020
192.00	11,010	10,885	36,905

Device	Routing	Invert	Outlet Devices
#1	Primary	187.10'	**1.7" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#2	Primary	188.70'	**4.6" Horiz. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Primary	189.80'	**6.0" W x 6.0" H Vert. Weir Cut** C= 0.600 Limited to weir flow at low heads
#4	Primary	190.20'	**8.0" Horiz. O/F Riser** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.60 cfs @ 9.47 hrs HW=189.44' (Free Discharge)
- **1=Orifice** (Orifice Controls 0.12 cfs @ 7.37 fps)
- **2=Orifice** (Orifice Controls 0.48 cfs @ 4.15 fps)
- **3=Weir Cut** (Controls 0.00 cfs)
- **4=O/F Riser** (Controls 0.00 cfs)

Pond 1P': Detention - Phase 1



APPENDIX D

GEOTECHNICAL REPORT

CENTRAL
GEOTECHNICAL SERVICES

10240 SW Nimbus Avenue
Suite L6
Portland, Oregon 97223
503.616.9419
www.centralgeotech.com

December 27, 2023

Westech Engineering, Inc.
3841 Fairview Industrial Drive SE, Suite 100
Salem, Oregon97302

Attention: Steve Ward, PE

Re: Report of Geotechnical Engineering Services:
Farm Credit Drive Hotel Development
Farm Credit Drive
Salem, Oregon

CGS Project: Westech-9-01

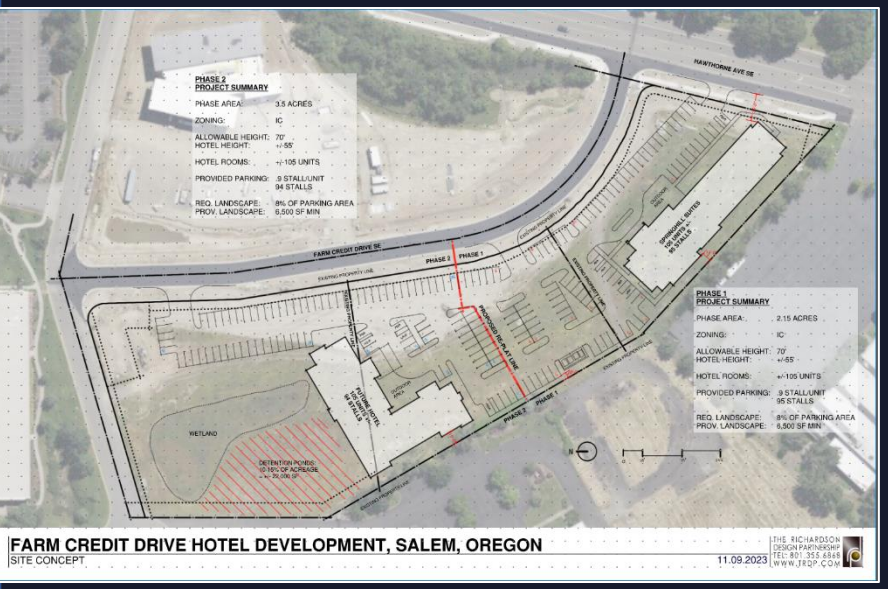
Central Geotechnical Services, LLC (CGS) is pleased to submit this report of geotechnical engineering services for the proposed Farm Credit Drive Hotel Development project located in Salem, Oregon. The report was prepared for conformance with the contract dated September 12, 2023, that was authorized verbally by Westech Engineering, Inc in an email dated December 7, 2023. We appreciate the opportunity to be of service to Westech Engineering, Inc. Please call our office with questions about this report.

Respectfully,
Central Geotechnical Services, LLC

_____

Julio Vela, PhD, P.E., G.E.
Principal Engineer







Report of Geotechnical Engineering Services

Farm Credit Drive Hotel Development
CGS Project: Westech-9-01

Prepared For:

Westech Engineering, Inc.
3841 Fairview Industrial Drive SE, Suite 100
Salem, Oregon

December 27, 2023

Submitted by:

CENTRAL
GEOTECHNICAL SERVICES, LLC

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1.0 INTRODUCTION

Central Geotechnical Services, LLC (CGS) is pleased to submit this report of geotechnical engineering services to Westech Engineering, Inc. (Westech) for the proposed Farm Credit Drive Hotel Development project located at Farm Credit Drive SE in Salem, Oregon. The project site is currently undeveloped except for an existing stormwater detention pond in the northeast corner of the subject project which services the adjacent Farm Credit Union site to the east. The location of the site is shown in the Vicinity Map, Figure 1.

Our understanding of the project was developed based on our engineer's prior experience at the adjacent site and public infrastructure development, information provided to us by Westech, a review of Google Earth aerial imagery and geotechnical reports from our files in the vicinity of the site, and a review of a preliminary site conceptual plan titled "*Farm Credit Drive Hotel Development, Salem, Oregon"* by The Richardson Design Partnership dated November 9, 2023, provided to us by Westech.

Based on the information provided to us, we understand that the project will include two phases of construction. Each phase will include construction an approximately 15,000 square foot (sf) 5- story 105-unit hotel structure consisting of four stories of wood framing over a 1-story concrete podium, and associated underground utilities, and asphalt concrete paved parking areas and drive aisles.

Column and wall structural loads were not available at the time that this report was prepared. We have assumed structural loads generally consistent with the proposed structure type and size; up to 150-kip column loads, 3 kips per lineal foot wall loading, and 150 psf floor loads. If it is determined that structural loads will exceed, we should be contacted to update our recommendations.

2.0 PURPOSE AND SCOPE OF WORK

The purpose of our services was to evaluate soil and groundwater conditions as a basis for developing geotechnical engineering design criteria for the proposed project. All geotechnical work completed was directly supervised by a geotechnical engineer licensed in the state of Oregon. Our scope of services included the following:

1. Reviewed information regarding subsurface soil and groundwater conditions in the vicinity of the site, including reports in our files, selected geologic maps, and other geotechnical engineering-related information.
2. Coordinated and managed the field investigation, including public utility notification and scheduling of subcontractors and CGS field staff.
3. Explored subsurface soil and groundwater conditions at site by conducting seven (7) drilled borings to 5- to 12-ft below ground surface (bgs). Drilled borings conducted within the footprint of the proposed hotel structures encountered practical refusal on dense materials at a shallower depth than borings originally proposed of 15 to -20 feet bgs.
4. Obtained samples at representative intervals from the explorations, observed groundwater conditions and maintained detailed logs in general accordance with ASTM International (ASTM) Standard Practices Test Method D 2488. The field activities were observed by qualified staff from our office.
5. Completed dynamic cone penetration (DCP) tests at eight (8) locations in proposed paved areas to determine subgrade modulus for pavement design.

6. Performed infiltration tests at two locations on site on site at locations specified by the project team. Infiltration tests were completed at a depth of 5 feet bgs using downhole falling head test procedures consistent with Division 004 of the City of Salem Department of Public Works Design Standards (COSDS).
7. Performed laboratory tests on selected soil samples obtained from the explorations to evaluate pertinent engineering characteristics. Specific laboratory tests included moisture content determinations.
8. Provided a geotechnical evaluation of the site and provide design recommendations in a geotechnical report that addresses the following geotechnical components:
    a. A general description of site topography, geology and subsurface conditions;
    b. An opinion as to the adequacy of the proposed development from a geotechnical engineering standpoint;
    c. A summary of field infiltration testing and a discussion relating to the suitability of on-site infiltration facilities based on subsurface conditions and on-site testing.
    d. Recommendations for site preparation measures, including disposition of undocumented fill and unsuitable native soils, recommendations for temporary cut slopes and constraints for wet weather construction;
    e. Recommendations for temporary excavation and temporary excavation protection, such as excavation sheeting and bracing;
    f. Recommendations for earthwork construction, including use of on-site and imported structural fill and fill placement and compaction requirements;
    g. Provide geotechnical engineering recommendations for use in designing conventional retaining walls, including backfill and drainage requirements and static and seismic lateral earth pressures;
    h. Recommendations for foundations to support the proposed structures, including minimum width and embedment, design soil bearing pressures, settlement estimates (total and differential), coefficient of friction and passive earth pressures for sliding resistance. We have assumed that shallow foundations can be used to adequately support the structures;
    i. Recommendations for supporting on-grade slabs, including base rock, capillary break, and modulus of subgrade reaction;
    j. Seismic design parameters, including soil site class evaluation in accordance with the 2018 International Building Code (IBC) and the current version of the Oregon State Structural Code.
    k. Recommendations for construction asphaltic pavement sections for the proposed paved areas including subgrade, base rock, drainage, and pavement sections. Our recommendations will be based on the estimated traffic loads or loads provided by the project team and on subsurface data obtained as part of this scope of work.

3.0 SITE CONDITIONS

3.1. Site Geology

The site is located near the margin of a narrow drainage valley of Mill Creek that separates the Salem Hills to the west and the Waldo Hills to the east, which are structural highs located within the larger Willamette Valley physiographic province (Orr and Orr 1999). The valley is described as a cut for the ancestral course of the North Santiam River, which emptied into the Salem Basin to the north. The North Santiam River is believed to have deposited large sand and gravel fans in the Stayton and Salem Basins during the late Pliocene to Pleistocene (approximately 2 million to 100,000 years before present). The sand and gravel deposits that exist at the valley floor and were mined from nearby sites were likely deposited by the ancestral North Santiam River, which is now occupied by Mill Creek.

The highlands flanking the valley make up the Salem Hills, and the Waldo Hills are generally mapped as basalt flows belonging to the Columbia River Basalt Group (CRBG). The Miocene Age (approximately 17 million to 6 million years before present) CRBG comprises a series of thick basalt flows that filled lowland areas throughout much of the northern Willamette Valley (Tolan and Beeson 2000). The basalt in the area was subsequently faulted by the compressional tectonics of the region, including the uplifted highlands on the eastern portion of the site. A review of the United States Geological Survey (USGS) Fault and Fold Data base does not show an known Quaternary-age fault that traverses the site.

Our review of the site geology, together with on-site observations, suggest that the site geology generally conforms to Lower Terrace deposits of alluvial bottom lands mapped in the area. Linn gravel deposits were encountered beneath alluvial deposits at depth.

3.2. Surface Conditions

The overall site encompasses approximately 6-acres of structurall undeveloped land, except for existing stormwater infrastructure in the northeast extent of the site near the corner of Farm Credit Drive SE and Kettle Court SE. Some surface grading and use during adjacent construction resulted in a generally level, but disturbed site surface. The site is generally surfaced by short grasses. Upper surface soils are disturbed in some areas from development and prior agricultural use – most recently a tree farm. The site is generally flat or sloping gently to a depression in the north half (phase 2) of the site directly north of the proposed hotel where pooled water was observed at the surface during our explorations.

3.3. Subsurface Conditions

Subsurface conditions at the site were explored by drilling seven (7) geotechnical borings (B-1 through B-7) and completing two infiltration tests (INF-1 and INF-2) on December 12, 2023. Exploratory borings were completed to final depths of 5- feet (ft) bgs in the areas of proposed AC pavement and up to 12-feet bgs (practical refusal) in the footprint of the proposed hotel structures. Approximate locations of explorations completed at the site are presented in Figure 2. The logs of CGS's explorations completed for this study are presented in Appendix A.

Soil samples obtained during our explorations were taken to CGS's laboratory for further evaluation. Selected samples were tested for determination of moisture content, fines content, and gradation. A description of laboratory testing and test results are presented in Appendix A.

3.3.1. Soil Conditions

Subsurface conditions observed in our explorations generally consist of an approximately 1- to 1 ½-ft veneer of soft to very soft silt with organic matter overlying alluvium. We interpret the soft soils mantling the site as a tilled zone from previous agricultural use and staging and surficial grading during adjacent development. Soils beneath the tilled zone generally consist of medium stiff to very stiff alluvial silt that was observed to extend up to 8 feet bgs underlain by a unit of very dense gravel with silt that was observed to the maximum depths completed in our explorations.

3.3.2. Groundwater Conditions

Groundwater was observed within all of our explorations, except B-6, as noted in Table 1. It should be noted that our field explorations were completed during the wet season immediately following an atmospheric river. Based on observations on site and data from nearby sites, groundwater may be present at shallower depths in a perched condition on harder underlying layers as it moves downslope during wet times of the year or during extended periods of wet weather. Groundwater conditions at the site are expected to vary seasonally due to rainfall events and other factors not observed in our explorations.

Table 1. Depth to Groundwater

Exploration	Depth to Groundwater (ft bgs)
B-1	1.0
B-2	0.5
B-3	1
B-4	8.5
B-5	3
B-6	Not Observed
B-7	1.8
INF-1	3.7
INF-2	3.7

4.0 INFILTRATION TESTING

As requested by the project team, we conducted two on-site infiltration tests to assist in the evaluation of the site for stormwater design at the exploration locations as shown in Figure 2 at a depth of 5 feet bgs. Site stormwater design is anticipated to include a detention pond north of the adjacent phase 2 hotel building.

On-site testing was conducted in general accordance with the professional encased falling head procedure outlined in Division 004 of the COSDS. Our general procedure included drilling an 6.25-inch diameter hole to insert a 6-inch diameter polyvinyl chloride (PVC) pipe for the encased falling head procedure at a depth of 5 feet bgs.

The encased PVC pipe was filled with clean water to approximately 1 foot above the soil at the bottom of the drilled hole. The initial fill of water did not drain into the soil within 10 minutes, so the water level was maintained, and the soil allowed to saturate for 4 hours at the test location. Following the initial soak period, the levels were checked, and it was observed that the water level in the PVC pipes had risen (i.e. water flow into pipe. The water level was monitored over the course of 3, 1-hour long iterations at both locations. Field test results are summarized in Table 2.

Table 2. Field Measured Infiltration results

Infiltration Test No.	Location	Depth (feet)	USCS Material Type	Field Measured Infiltration Rate[1] (in/hr)
INF-1	See Site Plan	5	ML	0.0
INF-2	See Site Plan	5	ML	0.0

Notes:

1. Appropriate factors should be applied to the field-measured infiltration rate, based on the design methodology and specify system used.

Infiltration rates shown in Table 2 represent a field-measured infiltration rate. Summarized rates indicate 0 inches per hour (in/hr) because minimal to no infiltration (drop in water levels) was observed during the testing period. Field measurements are limited to the accuracy of equipment employed to conduct the test and the specified time interval in the City specifications. Actual long-term infiltration rates of the on-site soils are likely greater than 0 in/hr if measured over very long-time frames (much longer than the time frames prescribed in the testing standards) when static groundwater elevation is below the bottom of the infiltration depth. A field-measured rate of 0 in/hr generally indicates infiltration less than 1/8 inch per hour, which is about the limit of the field measuring equipment.

Very shallow depths of groundwater (likely perched) were observed across the site as noted in Section 3.3.2 above. This significantly reduces the potential for infiltration on site both during testing and during wet times of the year when infiltration facilities are installed to be a functioning design feature.

Even accounting for 1/8 inch per hour as a field-measured rate, these rates represent a relatively short-term infiltration rate, and factors of safety have not been applied for the type of infiltration system being considered, or for variability that may be present across large areas in the on-site soil. In our opinion, and consistent with the state of the practice, correction factors should be applied to this measured rate to reflect the localized area of testing relative to the field sizes. If these rates are used for design, we recommend additional field testing at the location of proposed infiltration facilities during facility construction to verify design rates.

Appropriate correction factors should also be applied by the project civil engineer to account for long-term infiltration parameters. From a geotechnical perspective, we recommend a factor of safety (correction factor) of at least 2 be applied to the field infiltration values to account for potential soil variability with depth and location within the area tested. In addition, the stormwater system design engineer should determine and apply appropriate remaining correction factor values, or factors of safety, to account for repeated wetting and drying that occur in this area, degree of in-system filtration, frequency and type of system maintenance, vegetation, potential for siltation and bio-fouling, etc., as well as system design correction factors for overflow or redundancy, and base and facility size.

The actual depths, lateral extent and estimated infiltration rates can vary from the values presented above. Field testing/confirmation during construction is often required in large or long systems or other situations

where soil conditions may vary within the area where the system is constructed. The results of this field testing might necessitate that the infiltration locations be modified to achieve the design infiltration rate.

The infiltration flow rate of a focused stormwater system like a drywell or small infiltration box or pond typically diminishes over time as suspended solids and precipitates in the stormwater further clog the void spaces between the soil particles or cake on the infiltration surface or in the engineered media. The serviceable life of an infiltration media in a stormwater system can be extended by pre-filtering or with on-going accessible maintenance. Eventually, most systems will fail and will need to be replaced or have media regenerated or replaced.

We recommend that infiltration systems include an overflow that is connected to a suitable discharge point. Also, infiltration systems can cause localized, high groundwater levels and should not be located near basement walls, retaining walls or other embedded structures unless these are specifically designed to account for the resulting hydrostatic pressure. Infiltration locations should not be located on sloping ground, unless it is approved by a geotechnical engineer, and should not be infiltrated at a location that allows for flow to travel laterally toward a slope face, such as a mounded water condition or too close to a slope face that could cause instability of the slope.

4.1. Suitability of Infiltration System

We understand that site stormwater infrastructure will consist of a detention pond, not an infiltration facility. However, we offer the following conclusions should infiltration be considered to manage site stormwater.

Successful design and implementation of stormwater infiltration systems and whether a system is suitable for development depends on several site-specific factors. Stormwater infiltration systems are generally best suited for sites having sandy or gravelly soil with saturated hydraulic conductivities greater than 2 in/hr. Sites with silty or clayey soil, are generally not well- suited for long-term stormwater infiltration or as a sole method of stormwater infiltration. Soils that have fine-grained matrices are susceptible to volumetric change and softening during wetting and drying cycles. Fine-grained soils also have large variations in the magnitude of infiltration rates because of bedding and stratification that occurs during alluvial deposition, and often have thin layers of less permeable or impermeable soil within a larger layer.

Local groundwater conditions also significantly affect the capacity to infiltrate from a stormwater system. Sites with shallow groundwater can result in groundwater mounding. A hydraulic gradient that reaches the level of water in the soil immediately drops to zero and local groundwater will rise and mound and the infiltration rate slows dramatically, resulting in overflows or system flooding (failure). Groundwater mounding can also negatively impact structures, slopes or other areas adjacent to the stormwater infiltration facility. Typically, we do not recommend using infiltration systems where groundwater is less than 10 feet below the bottom of the proposed system unless the host soil is very permeable and consistently graded and will not cause mounding. Some jurisdictions require a minimum of 5 or 10 feet between high groundwater conditions and the bottom of proposed facilities. Depending on the size of the project, adjacent features such as streams that can source water to a system instead of allowing it to drain and on-site soil infiltration capacities, there may be conditions where even a 10-foot separation between the level of groundwater and the base of the infiltration system may not be sufficient.

Considering the potential for shallow groundwater, the hydraulically restricting underlying generally medium stiff or stiffer, fine-grained soil conditions, on-site infiltration will likely be minimal during wet times of the year and infiltration may cause mounding of groundwater if areas of perched water are present in the area. We do

not recommend stormwater infiltration be used as the exclusive method of stormwater management and recommend an overflow be a part of system design.

5.0 CONCLUSIONS

Based on our explorations, testing, and analyses, it is our opinion that the site is suitable for the proposed project from a geotechnical standpoint, provided the recommendations in this report are incorporated into project design and implemented during construction. We offer the following conclusions regarding geotechnical engineering design and construction at the site.

- Because of the fine-grained composition of site surface soils and the history of tilling over the site surface, near surface soils will become significantly disturbed if earthwork or construction traffic over the site occurs during period of wet weather or when the moisture content of the soil is more than a few percentage points over optimum. Wet weather construction practices will be required over exposed native soils; except, potentially during the dry summer months.
- Proposed structures can be satisfactorily supported on continuous and isolated shallow foundations supported on 2-foot-thick structural fill crushed rock bearing pads that extends to the firm native soils. Crushed rock bearing pads should extend laterally 1 foot beyond the edges of shallow foundations.
- Surface conditions at the site consist of vegetated areas covered with grasses and shrubs. Clearing stripping and grubbing will be required. We anticipate a stripping depth of approximately 8- to 12-inches bgs to remove topsoil and organic upper soils. Grubbing and deeper excavations up to several feet will be required to remove root zones of shrubs and trees where encountered. Portions of the site were previously heavily vegetated with Christmas trees and previously buried roots are also expected. Root balls from cut stands of trees should be grabbed and removed. Cleared, stripped and grubbed materials should be hauled off site and properly disposed of unless otherwise allowed by project specifications for other uses such as landscaping or stockpiling.
- A “tilled zone” mantels the site from previous agricultural use. The tilled zone consists of moist loose (loosened by tilling/farming activities) silt with trace roots and extends to a depth of approximately 12- to 18 inches bgs. The tilled zone is too loose/disturbed in its current state to support structures, including buildings, foundations, floor slabs, pavements and other settlement-sensitive structures. Therefore, in areas designated to receive fill, and in areas where site cuts do not extend below the tilled zone, it should be either: (1) scarified, moisture-conditioned and compacted in place during the dry season; or (2)- removed and replaced with Imported Select Structural Fill if construction occurs during the wet season or at other times when the material cannot be compacted in place.
- Previously farmed areas can have buried features that are not encountered in geotechnical borings and test pits, for example: old foundations, structures, agricultural drainpipes, and cisterns. We recommend a budget contingency be in place to remove old, buried features.
- Groundwater was observed during our explorations as shallow as 0.5 feet bgs. Based on our experience and our observations, groundwater shallower than areal groundwater depths may be present during periods of persistent rainfall. Significant dewatering using sump pumping (may be intensive use depending on extent and duration of excavation) could be required where excavations extend beneath the groundwater table depending on subsurface conditions at the time of construction and the time of year of construction. If more extensive dewatering is required, such as wells or well points, they should be

designed by a registered professional engineer or hydrogeologist and submitted to the project team for approval prior to implementation.

- Existing site structures and structural features designated for removal from within the footprint of proposed improvements should be demolished and completely removed from the site.
- Existing utilities below proposed new structural areas should be relocated or abandoned and grouted full if left in place.
- Soils at the site below the topsoil/tilled zone are suitable to use as structural fill if they are properly moisture conditioned and compacted. Based on our subsurface observations and laboratory testing, and near surface fine-grained site soils are considered to be highly susceptible to moisture and will be very difficult to work with when wet of optimum. Wet weather construction practices will be required over exposed native soils and to protect exposed subgrades.
- Standard pavement sections as summarized in this report, consisting of AC over aggregate base and/or aggregate subbase, over properly prepared subgrade, can be used to support the estimated traffic loads.
- Slabs on grade for the proposed structures can be satisfactorily supported on aggregate base that is founded on firm native soils or on structural fill that extends to the firm native soils below the tilled zone. We recommend that slabs-on-grade be provided with proper moisture control by constructing the aggregate base as a capillary break and providing a vapor barrier for moisture-sensitive applications.

6.0 EARTHWORK RECOMMENDATIONS

6.1. Site Preparation

In general, initial site preparation and primary earthwork operations will include improvement of the tilled zone (dry weather) or removal and replacement with properly compacted structural fill (wet weather), stripping and grubbing of upper organics, removal or relocation of existing site utilities if present beneath proposed development, excavating and filling for foundations and utilities, and fine grading to establish final grades.

All existing utilities in proposed earthwork construction areas should be identified prior to excavation. Live utility lines beneath proposed structures should be completely removed or filled with grout to reduce potential settlement of new structures. Soft or loose soil encountered in utility line excavations should be removed and replaced with structural fill where it is located within structural areas.

Debris materials generated during demolition of existing improvements or relocation of utilities should be transported off site for disposal. Existing voids and new depressions created during site preparation, and resulting from removal of existing utilities, or other subsurface elements, should be cleaned of loose soil or debris down to firm soil and backfilled with compacted structural fill. Disturbance to a greater depth should be expected if site preparation and earthwork are conducted during period of wet weather.

6.2. Demolition

All structures and below ground structural elements to be demolished should be completely removed from proposed structural areas and for a margin of at least 5 feet around proposed structural areas. Proposed structural areas are areas where new structures will be built, including foundations and pavements. Existing utilities that will be abandoned on site should be identified prior to construction. Abandoned utility lines should

be completely removed or filled with grout if abandoned and left in place to reduce potential settlement or caving in the future. Materials generated during demolition should be transported off site and properly disposed.

6.3. Stripping

Based on our observations at the site, we estimate that the depth of stripping should be on the order of about 8- to 12-inches. Greater stripping depths may be required to remove localized zones of loose or organic soil, and in areas where moderate to heavy vegetation are present, or where surface disturbance from prior use has occurred. Actual stripping depths should be based on field observations at the time of construction. Stripped material should be transported off site for disposal unless otherwise allowed by project specifications for other uses such as landscaping.

6.4. Clearing and Grubbing

Site clearing will be required to remove site vegetation, including grass, shrubs and root zones from prior Christmas tree stands that are designated for removal. Following clearing, grubbing and excavations up to several feet will be required to remove the root zones of shrubs and trees. Deeper excavations may be required to remove the root zones from former Christmas tree stands, if encountered. In general, roots larger than ½ inch in diameter should be removed. Excavations to remove root zones should be done with a smooth bucket to minimize subgrade disturbance. Grubbed materials should be hauled off site and properly disposed of unless otherwise allowed by the project specifications for other uses such as landscaping, stockpiling or on-site burning.

Existing voids and new depressions created during demolition, clearing, grubbing or other site preparation activities, should be excavated to firm soil and backfilled with imported Select Structural Fill material as defined in this report. Greater depths of disturbance should be expected if site preparation and earthwork are conducted during periods of wet weather.

6.5. Improvement of Tilled Zone

A “tilled zone” mantels the site from previous agricultural use of the property that consists of disturbed soil comprising moist to wet very soft to medium stiff silt with trace roots that was observed to extend up to approximately 18-inches bgs. The tilled zone if generally too soft to support structures, including buildings, foundations, pavements, floor slabs, and other settlement-sensitive structures. If the tilled zone remains in place to receive site fills it should be either (1) scarified, moisture-conditioned and compacted in-place during the dry season; or (2) removed and replaced with imported Select Structural Fill if construction occurs during the wet season or at other times when the material cannot be compacted in place. If the tilled zone is cut away (cuts extend below the till zone) as part of site grading, recompaction or removal of in-place undisturbed soils is not required.

The tilled zone will generally be soft, especially when wet and will provide marginal to poor support for construction equipment. Wet weather construction practices will be required when improving the tilled zone, except during the dry summer months.

Subgrade improvement for the tilled zone can be accomplished by removing and replacing or scarifying and re-compacting soil within the tilled zone. Scarification is typically performed by ripping with agricultural discs and aerating the soils to dry them during dry weather periods. Considerable soil processing, including moisture

conditions (primarily drying – to reduce the existing moisture content), should be expected to adequately compact the tilled zone. If the soil cannot be properly moisture conditioned (dried), the subgrade should be removed and replaced with Imported Select Structural Fill. If the project specifications allow, the tilled zone can be cement amended as described in the Cement Amendment section of this report. Cement amendment is typically performed to depths of 12- to 18-inches. When performed in silty soils, such as those at the site, multiple tilling and application passes may be required to adequately blend and amend the soils.

6.6. Subgrade Preparation and Evaluation

As described, disturbed materials may be present after demolition and site stripping are complete. Subgrade areas should be prepared to be in a uniform unyielding condition prior to placement of structural fill or structural elements. As discussed in the subgrade protection and wet weather considerations section of this report, because of the fines content, surficial silty and clayey soil can be sensitive to small changes in moisture content and will be difficult, or not possible, to compact adequately during wet weather. While tilling and compacting the subgrade is the economical method for subgrade improvement, it will likely only be possible during extended dry periods and following moisture-conditioning of the soil or on the relatively small overall site if large equipment is required.

Upon completion of site preparation activities, exposed subgrades should be proof-rolled with a fully loaded dump truck or similar heavy rubber-tired construction equipment where space allows to identify soft, loose or unsuitable areas. Probing may be used for evaluating smaller areas or where proof-rolling is not practical. Proof-rolling and probing should be conducted prior to placing fill and should be performed by a representative of CGS who will evaluate the suitability of the subgrade and identify areas of yielding that are indicative of soft or loose soil. If soft or loose zones are identified during proof-rolling or probing, these areas should be excavated to the extent indicated by our representative and replaced with structural fill.

During wet weather, or when the exposed subgrade is wet or unsuitable for proof-rolling, the prepared subgrade should be evaluated by observing excavation activity and probing with a steel foundation probe. Observations, probing and compaction testing should be performed by a member of our staff. Wet soil that has been disturbed due to site preparation activities or soft or loose zones identified during probing should be removed and replaced with compacted structural fill.

6.7. Subgrade Protection and Wet Weather Considerations

Upper fine grained site soils are considered highly susceptible to moisture. Wet weather construction practices will be necessary if construction takes place during wet weather conditions. It may be necessary to use track-mounted equipment, load removed material into trucks supported on gravel haul roads, use gravel working pads and employ other methods to reduce ground disturbance. The contractor should be responsible for protecting the subgrade during construction.

Earthwork planning should include considerations for minimizing subgrade disturbance. We provide the following recommendations if wet weather construction is considered:

- The ground surface in and around the work area should be sloped so that surface water is directed to a sump or discharge location. The ground surface should be graded such that areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work areas.

- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting or similar means.
- The site soils should not be left in a disturbed or uncompacted state and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation may reduce the extent to which these soils become wet or unstable.
- Construction activities should be scheduled so that the length of time that soil is left exposed to moisture is reduced to the extent practicable.
- Construction traffic should be restricted to specific areas of the site, preferably areas that are not susceptible to wet weather disturbance such as haul roads and areas that are adequately surfaced with working pad materials.
- When on-site, moisture sensitive soils are wet of optimum, they are easily disturbed and will not provide adequate support for construction traffic nor for the proposed development. The use of granular haul roads and staging areas will be necessary to support heavy construction traffic. Generally, a 12- to 16-inch-thick mat of Imported Select Structural Fill should be sufficient for light staging areas for the building pad and light staging activities but is not expected to be adequate to support repeated heavy equipment or truck traffic. The thickness of the Imported Select Structural Fill for haul roads and areas with repeated heavy construction traffic should be increased to between 18 and 24 inches. The actual thickness of haul roads and staging areas should be determined at the time of construction and based on the contractor's approach to site development and the amount and type of construction traffic.
- During periods of wet weather, concrete should be placed as soon as practical after preparing foundation excavations. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, the water should be removed, and the foundation subgrade should be re-evaluated before placing reinforcing steel or concrete. Foundation subgrade protection, such as a 3- to 4-inch thickness of Aggregate Base/Aggregate Subbase or lean concrete, may be necessary if footing excavations are exposed to extended wet weather conditions.

During wet weather, or when the exposed subgrade is wet or unsuitable for proof-rolling, the prepared subgrade should be evaluated by observing excavation activity and probing with a steel foundation probe. Observations and probing should be performed by a member of our staff. Wet soil that has been disturbed due to site preparation activities, or soft or loose zones identified during probing, should be removed, and replaced with Imported Select Structural Fill.

6.8. Soil Amendment with Cement

As an alternative to the using Imported Select Structural Fill material for wet weather structural fill, an experienced contractor may be able to amend the on-site soil with portland cement concrete (PCC) to obtain suitable support properties. It is often less costly to amend on-site soils than to remove and replace soft soils with imported granular materials. We also considered lime amendment for the site soils. However, based on our experience on nearby sites, in-place soil moisture contents, observed soil types and processing speed, cement amendment would be more suitable at this site than lime amendment. Single pass tilling depths for cement amendment equipment is typically 18 inches or less. However, multiple tilling passes may be required to adequately blend in the cement with the soils and to sufficiently process the soils. It may also be necessary to place the recommended cement quantities in multiple passes between tilling passes, which requires intermediate compaction.

The contractor should be responsible for selecting the means and methods to construct the amended soil without disturbing exposed subgrades. We recommend low ground-pressure (such as balloon-tired) cement spreading equipment be required. We have observed other methods used for spreading that have resulted in significant site disturbance and high remedial costs. For example, we have observed amendment efforts using a spreader truck equipped with road tires pulled by track-mounted equipment that resulted in significant disturbance to the work area and required re-working large areas of cement-amended product at additional expense.

Areas of standing water, or areas where traffic patterns are concentrated and disturbing the subgrade, will also create a need for higher amounts of cement to be applied and additional tilling for better mixing and cement hydration prior to final compaction.

Successful use of soil amendment depends on the use of correct mixing techniques, the soil moisture content at the time of amendment and amendment quantities. Specific recommendations, based on exposed site conditions for soil amending, can be provided if necessary. However, for preliminary planning purposes, it may be assumed that a minimum of 5 percent cement (by dry weight, assuming a unit weight of 100 pounds per cubic foot [pcf]) will be sufficient for improving on-site soils. Treatment depths of 12 to 16 inches are typical (assuming a seven-day unconfined compressive strength of at least 80 pounds per square inch [psi]), although they may be adjusted in the field depending on site conditions. Soil amending should be conducted in accordance with the specifications provided in Oregon Structural Specialty Code (OSSC) 00344 (Treated Subgrade).

We recommend a target strength for cement-amended soils of 80 psi. The amount of cement used to achieve this target generally varies with moisture content and soil type. It is difficult to predict field performance of soil-to-cement amendment due to variability in soil response and we recommend laboratory testing to confirm expectations. However, for preliminary design purposes, 4 to 5 percent cement by weight of dry soil can generally be used when the soil moisture content does not exceed approximately 20 percent. If the soil moisture content is in the range of 20 to 35 percent, 5 to 7 percent by weight of dry soil is recommended. The amount of cement added to the soil should be adjusted based on field observations and performance.

PCC-amended soil is hard and has low permeability; therefore, this soil does not drain well nor is it suitable for planting. Future landscape areas should not be cement amended, if practical, or accommodations should be planned for drainage and planting. Cement amendment should not be used if runoff during construction cannot be directed away from adjacent low-lying wet areas and active waterways and drainage paths.

When used for constructing pavement, staging, or haul road subgrades, the amended surface should be protected from abrasion by placing a minimum 4-inch thickness of base rock material (Aggregate Base/Aggregate Subbase). To prevent strength loss during curing, cement-amended soil should be allowed to cure for a minimum of four days prior to placing the base rock. The base rock typically becomes contaminated with soil during construction. Contaminated base rock should be removed and replaced with clean base rock in pavement areas to meet the required thickness(es) in the “Pavement Recommendations” section to this report.

It is not possible to amend soil during heavy or continuous rainfall. Work should be completed during suitable weather conditions.

6.9. Dewatering

As discussed in the "Groundwater" section of this report, groundwater was encountered in our explorations as shallow as 6-inches bgs at the time of our explorations during the wet season. It is anticipated that groundwater could be a major factor during relatively shallow excavations and earthwork depending on groundwater conditions at the time of construction. Excavations that extend into saturated/wet soils should be dewatered. Sump pumps are expected to adequately address groundwater encountered in shallow excavations. Intensive use of sump pumps (increased size/capacity or quantity) may be required during or after periods of persistent rainfall. In addition to groundwater seepage and upward confining flow, surface water inflow to the excavations during the wet season can be problematic. Provisions for surface water control during earthwork and excavations should be included in the project plans and should be installed prior to commencing earthwork.

Wells (external to the excavation) or well points (internal to the excavation) may be necessary where excavations extend significantly below the groundwater table and for extended periods of time. The contractor should be required to submit a dewatering plan prepared by a registered professional engineer or hydrogeologist for review by the project team including CGS if this is required to maintain a dry working excavation. Additionally, it should be noted that dewatering near existing structures using wells or well points could result in settlement in addition to the long-term static settlement estimate presented in this report from loading.

If sandy soil is present at the base of the excavation, dewatering should be extended deeper than the base to prevent upward inflow of water that will cause upward heaving from the base. This may also require a section of stabilization material (4-inch- or 2-inch-minus crushed rock) up to 3 feet thick to be placed at the base of the excavation as a working and firm foundation surface. In addition, inflowing water into excavations may result in saturated soils to flow in, commonly referred to as "running sand" conditions. This would necessitate filtered dewatering methods or dewatering externally from the excavation.

The level of effort required for dewatering and degree of base stabilization required will depend to a great extent on the time of year during which construction is accomplished and the duration of open excavation. In general, we recommend that construction be completed in the late summer or early autumn months when the groundwater level is typically at its lowest elevation, or that a plan be in place for more intense dewatering systems to be used in deeper excavations as necessary. The contractor is in the best position to understand the required construction sequence and should be responsible for the design, installation, monitoring, and maintenance of any required dewatering system(s). If wells or well points are necessary, the contractor should submit a dewatering plan prepared by a registered professional engineer or geologist for review by the project team if required.

6.10. Trench Shoring

All trench excavations should be made in accordance with applicable Occupational Safety and Health Administration (OSHA) and state regulations. In our opinion, fine grained native site soils are generally OSHA Types B, provided there is no seepage and excavations occur during periods of dry weather. Temporary excavations deeper than 4 feet should be shored or laid back at an inclination of 1H:1V or flatter for type B if workers are required to enter. Excavations made to construct footings or other structural elements should be laid back or shored at the surface as necessary to prevent soil from falling into excavations.

It should be expected that unsupported cut slopes will experience some sloughing and raveling if exposed to water. Plastic sheeting, placed over the exposed slope and directing water away from the slope, will reduce the potential for sloughing and erosion of cut slopes during wet weather.

The contractor is responsible for shoring methods and shoring system design. Shoring systems should be designed by a professional engineer before installation.

In our opinion, the contractor will be in the best position to observe subsurface conditions continuously throughout the construction process and to respond to the soil and groundwater conditions. Construction site safety is generally the sole responsibility of the contractor, who also is solely responsible for the means, methods, and sequencing of the construction operations and choices regarding excavations and shoring.

Under no circumstances should the information provided by CGS be interpreted to mean that CGS is assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

6.11. Structural Fill and Backfill

6.11.1. General

Structural areas include areas beneath foundations, floor slabs, pavements, and any other areas intended to support structures or within the influence zone of structures. Fill intended for use in structural areas should meet the criteria for structural fill presented below. All structural fill soils should be free of debris, clay balls, roots, organic matter, frozen soil, man-made contaminants, particles with greatest dimension exceeding 4 inches (3-inch-maximum particle size in building footprints) and other deleterious materials.

The suitability of soil for use as structural fill will depend on the gradation and moisture content of the soil. As the amount of fines in the soil matrix increases, the soil becomes increasingly sensitive to small changes in moisture content and achieving the required degree of compaction becomes more difficult or impossible. Recommendations for suitable fill material are provided in the following sections.

6.11.2. Reuse of On-Site Soils

On-site near surface soil generally consists of native silt or gravel with varying silt content. On-site soils can be used as structural fill, provided the material meets the above requirements. Materials with appreciable fines with high moisture will likely be unsuitable as structural fill during most of the year. If the soil is too wet to achieve satisfactory compaction, moisture conditioning by drying back the material will be required. If the material cannot be properly moisture conditioned (dried back), we recommend using imported material for structural fill.

An experienced field representative from CGS should determine the suitability of on-site soil encountered during earthwork activities for reuse as structural fill.

6.11.3. Imported Select Structural Fill

Imported Select Structural Fill may be used as structural fill and should consist of pit or quarry run rock, crushed rock, or crushed gravel and sand that is fairly well-graded between coarse and fine sizes (approximately 25 to 65 percent passing the U.S. No. 4 sieve). It should have less than 5-percent passing the U.S. No. 200 sieve and

have a minimum of 75 percent fractured particles according to American Association of State Highway and Transportation Officials (AASHTO) T-335.

6.11.4. Aggregate Base

Aggregate base material located under floor slabs crushed rock used in footing overexcavations should consist of imported clean, durable, crushed angular rock. Such rock should be well-graded, have a maximum particle size of 1 inch and have less than 5 percent passing the U.S. No. 200 sieve (3 percent for retaining walls). In addition, aggregate base shall have a minimum of 75 percent fractured particles according to AASHTO T-355 and a sand equivalent of not less than 30 percent based on AASHTO T-176.

6.11.5. Trench Backfill

Backfill for pipe bedding and in the pipe zone should consist of well-graded granular material with a maximum particle size of ¾ inch and less than 5 percent passing the U.S. No. 200 sieve. The material should be free of organic matter and other deleterious materials. Further, the backfill should meet the pipe manufacturer's recommendations. Above the pipe zone backfill, Imported Select Structural Fill may be used as described above.

6.11.6. Fill Placement and Compaction

Structural fill should be compacted at moisture contents that are within 3 percent of the optimum moisture content as determined by ASTM International (ASTM) Test Method D 1557 (Modified Proctor). The optimum moisture content varies with gradation and should be evaluated during construction. Fill material that is not near the optimum moisture content should be moisture conditioned prior to compaction.

Fill and backfill material should be placed in uniform, horizontal lifts and compacted with appropriate equipment. The appropriate lift thickness will vary depending on the material and compaction equipment used. Fill material should be compacted in accordance with Table 3. It is the contractor's responsibility to select appropriate compaction equipment and place the material in lifts that are thin enough to meet these criteria. However, in no case should the loose lift thickness exceed 18 inches.

While not anticipated, in addition to the recommendations in Table 3 fill placed on slopes steeper than 5H:1V should be "keyed" into the existing ground surface by cutting horizontal benches into the existing slope for fill placement. Bench widths should at minimum, be wide enough to accommodate compaction equipment, and should be cut at the intersection of the existing slope and the vertical cut of the previous benches.

Fill placed to construct permanent slopes should be placed and compacted beyond the line of the finished slope and cut back to finished grade such that the finished face of the slope consists of material compacted by vertical compaction and not down the face of the slope.

Table 3. Compaction Criteria

Fill Type.	Compaction Requirements		
	Percent Maximum Dry Density Determined by ASTM Test Method D 1557 at ± 3% of Optimum Moisture		
	0 to 2 Feet Below Subgrade	> 2 Feet Below Subgrade	Pipe Zone
Fine-grained soils (non-expansive)	92	92	-----
Imported Granular, maximum particle size < 1¼ inch	95	95	-----
Imported Granular, maximum particle size 1¼ inch to 6 inches (3-inch-maximum under building footprints)	n/a (proof-roll)	n/a (proof-roll)	-----
Retaining Wall Backfill*	92	92	------
Nonstructural Zones	90	90	90
Trench Backfill	95	90	90

Note:

* Measures should be taken to prevent overcompaction of the backfill behind retaining walls. We recommend placing the zone of backfill located within 5 feet of the wall in lifts not exceeding about 6 inches in loose thickness and compacting this zone with hand-operated equipment such as a vibrating plate compactor or a jumping jack.

A representative from CGS should evaluate the compaction of each lift of fill. Compaction should be evaluated by compaction testing unless other methods are proposed for oversized materials and are approved by CGS during construction. These other methods typically involve procedural placement and compaction specifications together with verification requirements such as proof-rolling.

7.0 STRUCTURAL DESIGN RECOMMENDATIONS

7.1. Shallow Foundation Support

Detailed structural loading was not available at the time that this report was prepared. We have assumed structural loading consistent with similar development and structure types of column loads up to 150 kips or, wall loads of up to 3 klf, and floor loads for slabs on grade of up to 150 psf. If design loads exceed these values, our recommendations may need to be revised.

The proposed structures can be satisfactorily founded on continuous wall or isolated column footings supported on 2-ft thick granular bearing pads constructed on firm native soils encountered below the tilled zone. Exterior footings should be established at least 18 inches below the lowest adjacent grade. The recommended minimum footing depth is greater than the anticipated frost depth. Interior footings can be found a minimum of 12 inches below the top of the first-floor slab. Isolated column and continuous wall footings should have minimum widths of 24- and 18-inches, respectively.

7.1.1. Foundation Subgrade Preparation

Subgrades beneath proposed structural elements should be prepared as described below and in the "Earthworks" section of this report. We recommend loose or disturbed soils resulting from foundation excavation be removed before placing reinforcing steel and concrete. Foundation bearing surfaces should not be exposed to standing water. If water infiltrates and pools in the excavation, the water, along with any disturbed soil, should be removed before placing reinforcing steel and concrete.

To limit potential post-construction settlement, footing elevation subgrade soils should be overexcavated and replaced with a minimum 2-foot-thick granular bearing pad consisting of crushed rock structural fill compacted in accordance with the Earthworks Recommendations section of this report. Granular pads compacted as structural fill should extend outward one foot per 2 feet of total depth.

We recommend CGS observe all foundation subgrades before placing concrete forms and reinforcing steel to determine that bearing surfaces have been adequately prepared and the soil conditions are consistent with those observed during our explorations.

7.1.2. Isolated Spread Footings

We recommend conventional footings be proportioned using a maximum allowable bearing pressure of 2,500 psf if supported on firm, fine-grained native soils or on structural fill placed over firm native soils. These bearing pressures apply to the total of dead and long-term live loads and may be increased by one-third when considering earthquake or wind loads. This is a net bearing pressure. The weight of the footing and overlying backfill can be ignored in calculating footing sizes.

7.1.3. Foundation Settlement

Foundations designed and constructed as recommended are expected to experience settlements of less than 1-inch. Differential settlements of up to one half of the total settlement magnitude can be expected between adjacent footings supporting comparable loads.

7.1.4. Lateral Resistance

Lateral loads can be resisted by a combination of friction between the footing and the supporting soil, and by the passive lateral resistance of the soil surrounding the embedded portions of the footings. A coefficient of friction between the concrete and soil of 0.35 and a passive lateral resistance corresponding to an equivalent fluid density of 250 pcf may be used for design. These values are appropriate for foundation elements that are poured directly against the native soils or surrounded by compacted structural fill.

The passive earth pressure and friction components may be combined, provided the passive component does not exceed two-thirds of the total.

The passive earth pressure value is based on the assumptions that the adjacent grade is level and static groundwater remains below the base of the footing throughout the year. The top 1 foot of soil should be neglected when calculating passive lateral earth pressures unless the adjacent area is covered with pavement. The lateral resistance values do not include safety factors.

7.2. Drainage Considerations

We recommend the ground surface be sloped away from the buildings at least 5 percent for a minimum distance of 10 feet measured perpendicular to the face of the wall in accordance with section 1804.4 of the 2018 IBC. All downspouts should be tightlined away from the building foundation areas and should also be discharged into a stormwater disposal system. Downspouts should not be connected to footing drains.

Because of the potential for shallow groundwater, we recommend that perimeter drains be included in the design and be installed at the base of the exterior footings. The perimeter footing drains should be provided with cleanouts and should consist of at least 4-inch-diameter perforated pipe placed on a 3-inch bed of and surrounded by 6 inches of drainage material enclosed in a non-woven geotextile such as Mirafi 140N (or approved equivalent) to prevent fine soil from migrating into the drain material. We recommend against using flexible tubing for footing drainpipes. The perimeter drains should be sloped to drain by gravity to a suitable discharge point, preferably a storm drain. We recommend that the cleanouts be covered and placed in flush-mounted utility boxes. Water collected in roof downspout lines must not be routed to the footing drain lines.

If elevator pits, utility vaults, or other subterranean open structural elements are installed below the expected level of groundwater, we recommend foundation drains be installed as described above. Active dewatering or tightline routing of draining water will be required during wet times of the year at these locations in order to provide a removal pathway.

7.3. Floor Slabs

Satisfactory subgrade support for floor slabs on grade supporting up to 150 psf floor loads can be obtained provided the floor slab subgrade is described in the “Earthwork Recommendations” section of this report. Slabs should be reinforced according to their proposed use and per the structural engineer’s recommendations. Subgrade support for concrete slabs can be obtained from the firm native soils underlying the topsoil or on structural fill placed over firm native soils.

We recommend that on-grade slabs be underlain by a minimum 6-inch-thickness of aggregate base in order to provide the structural design support for subgrade reaction as described below and to act as a capillary break material to reduce the potential for moisture migration into the slab. The aggregate base section should be placed as recommended in the “Fill Placement and Compaction” section of this report.

If dry on-grade slabs are required, for example at interior spaces where adhesives are used to anchor carpet or tile to the slab, a waterproof liner may be placed as a vapor barrier below the slab. The vapor barrier should be selected by the structural engineer and should be accounted for in the design floor section and mix design selection for the concrete, to accommodate the effect of the vapor barrier on concrete slab curing.

Load-bearing concrete slabs prepared as recommended should be designed assuming a modulus of subgrade reaction (k) of 150 psi per inch. This value is for a 1-foot by 1-foot square plate. The coefficient of subgrade reaction for a foundation varies based on its minimum width according to the following equation:

$$k_s = k_{s1}\left[\frac{B+1}{2B}\right]^2$$

Where k_s is the coefficient of subgrade reaction, ks1 is the coefficient of subgrade reaction for a 1-ft by 1-ft plate, and B is the minimum width or lateral dimension of the mat.

If dry on-grade slabs are required, for example at interior spaces where adhesives are used to anchor carpet or tile to the slab, a waterproof liner may be placed as a vapor barrier below the slab. The vapor barrier should be selected by the structural engineer and should be accounted for in the design floor section and mix design selection for the concrete, to accommodate the effect of the vapor barrier on concrete slab curing.

We estimate that concrete slabs constructed as recommended will settle less than ½-inch. Floor slab subgrades should be evaluated according to the "Subgrade Evaluation" section of this report.

7.4. Seismic Design

Parameters provided on Table 3 are based on the conditions encountered during our subsurface exploration program and the procedure and requirements outlined in the 2018 IBC. Per American Society of Civil Engineers (ASCE) 7-16 Section 11.4.8, a site-specific response analysis is required for site class F sites, and a ground motion hazard analysis or site-specific response analysis is required to determine the design ground motions for structures on Site Class D and E sites with S_1 greater than or equal to 0.2g.

For this project, the site is classified as site class D; therefore, the provisions of 11.4.8 are applicable. Alternatively, the parameters listed on Table 3 may be used to determine the design ground motions if the exceptions provided in ASCE 7-16 Supplement 3 are met. The applicable exceptions for the project site listed in ASCE 7-16 Supplement 3 are provided below for reference.

From ASCE 7-16 Supplement 3
Exception: A ground motion hazard analysis not required:

1. Where the values of the parameter S_{M1} determined by Eq. (11.4-2) is increased by 50% for all applications of S_{M1} in the standard. And:
2. The resulting value of the parameter S_{D1} determined by Eq. (11.4-4) shall be used for all applications of S_{D1} in the standard.

If it is desirable to avoid these exceptions, a ground motion hazard analysis would need to be completed to determine the design seismic parameters for the site.

Table 4. Mapped 2022 IBC Seismic design parameters

Parameter	Recommended Value[1,2]
Site Class	D
Mapped Spectral Response Acceleration at Short Period (S_S)	0.809 g
Mapped Spectral Response Acceleration at 1 Second Period (S_1)	0.406 g
Site Modified Peak Ground Acceleration (PGA_M)	0.459 g
Site Amplification Factor at 0.2 second period (F_a)	1.177
Site Amplification Factor at 1.0 second period (F_v)	1.894
Design Spectral Acceleration at 0.2 second period (S_{DS})	0.635 g
Design Spectral Acceleration at 1.0 second period (S_{D1})[(3)]	0.769

Note:
[1] Parameters developed based on Latitude 45.440413° and Longitude -122.675778 °using the ATC Hazards online tool.
[2] These values are only valid if the structural engineer utilizes Exception 1 of ASCE 7-16 Supplement 3 Exception 1.
[3] Increased by a factor of 1.5 per ASCE 7-16 Supplement 3 Exception 1.

7.4.1. Liquefaction Potential

Liquefaction is a phenomenon caused by a rapid increase in pore water pressure that reduces the effective stress between soil particles to near zero. The excessive buildup of pore water pressure results in the sudden loss of shear strength in a soil. Granular soil, which relies on interparticle friction for strength, is susceptible to liquefaction until the excess pore pressures can dissipate. Sand boils and flows observed at the ground surface after an earthquake are the result of excess pore pressures dissipating upwards, carrying soil particles with the draining water. In general, loose, saturated sand soil with low silt and clay contents is the most susceptible to liquefaction. Low plasticity, silty sand may be moderately susceptible to liquefaction under relatively higher levels of ground shaking.

As discussed in the groundwater section of this report, groundwater was encountered during our explorations. Site soils below the groundwater table are expected to include soft to stiff clay and very dense gravel. Therefore, it is our opinion that risk of liquefaction for the design level event is low.

8.0 PAVEMENT RECOMMENDATIONS

Our pavement recommendations are based on the results of our on-site field testing as described below, and our analysis. The recommended pavement sections assume that final improvements surrounding the pavement will be designed and constructed such that stormwater or excess irrigation water from landscape areas does not infiltrate below the pavement section into the base rock materials.

8.1. Dynamic Cone Penetrometer (DCP) Field Testing and Resilient Modulus (M_R)

We conducted eight DCP tests onsite within the footprint of the proposed paved drive aisles and paved parking areas. Testing was completed in general accordance with ASTM D6951 to estimate subgrade resilient modulus at the exploration locations. We recorded penetration depth of the cone for each blow of the hammer and terminated testing when at refusal of penetration or end of rod length. We plotted depth of penetration versus blow count and visually assessed where the slope of the data plot was relatively constant and at depths where the slope of the data plot changed significantly. We used the first slope of the data plot to estimate the base layer resilient modulus. We used the slope of the data beyond the first change in slope to estimate the resilient modulus of the subgrade. We used least squares regression to determine the slopes and the equation from the ODOT Pavement Design Guide[1] (herein referred to as the ODOT guide) to estimate the moduli using a correction factor cf = 0.35 for estimating the subgrade resilient moduli. Table 5 lists the estimated subgrade resilient modulus at each test location based on data obtained in the upper 18- to 36-inches below the proposed pavement section.

[1] ODOT, 2019. Pavement Design Guide, January 2021.

Table 5. Estimated Subgrade Resilient Moduli Based on DCP Testing

Exploration	Estimated Resilient Modulus (psi)
DCP-1	4,320
DCP-2	4,000
DCP-3	4,090
DCP-4	4,350
DCP-5	4,950
DCP-6	4,960
DCP-7	3,370
DCP-8	4,750

8.2. On-Site Asphalt Concrete Pavement

Our pavement recommendations for On-site Local roads assume that traffic at the site will consist of occasional passenger cars and semi-trailer trucks. We do not have specific information on the frequency and type of vehicles that will use the area; however, we have based our design analysis on traffic loading consistent with to account for delivery- and service-type vehicles and passenger car traffic for the heavy-duty pavement sections including up to two heavy trucks per day, and passenger car traffic only for the light-duty pavement sections. Our pavement analyses for on-site pavements assumes the following:

- The pavement subgrades, fill subgrades and site earthwork used to establish AC pavement grades below the Aggregate Subbase and Aggregate Base materials have been prepared as described in the "Earthwork Recommendations" section of the Geotechnical Report.
- A resilient modulus of 20,000 pounds per square inch (psi) has been estimated for compacted Aggregate Subbase and Aggregate Base materials.
- A resilient modulus of 4,500 psi was estimated for firm native soils or structural fill placed on firm native soils or compacted on-site soils.
- Initial and terminal serviceability indices of 4.2 and 2.5, respectively.
- Reliability and standard deviations of 85 percent and 0.45, respectively.
- Structural coefficients of 0.42 and 0.10 for the asphalt and base rock, respectively.
- A 20-year design life with no growth.
- Truck traffic consists of an even distribution of three-axle service trucks and large, four-axle trucks per day.

If any of the noted assumptions vary from project design use, our office should be contacted with the appropriate information so that the pavement designs can be revised or confirmed adequate.

For light duty (General Automobile parking areas with no truck traffic), we recommend the following pavement section:

- 3.0 inches of ½-inch, Level 2, dense ACP
- 7.0 inches of aggregate base

- Subgrade stabilization (if required)
- Subgrade geotextile

For heavy duty areas (Heavy semi-trailer delivery areas), we recommend the following pavement sections based on an assumed number of semi-trailer trucks per day:

- 3.0 inches of ½-inch, Level 2, dense ACP
- 8.0 inches of aggregate base
- Subgrade stabilization (if required)
- Subgrade geotextile

The aggregate base course should conform to the "Aggregate Base" section of this report and be compacted to at least 95 percent of the maximum dry density (MDD) determined in accordance with AASHTO T-180/ASTM Test Method D 1557. The AC pavement should conform to Section 00745 of the most current edition of the ODOT Standard Specifications for Highway Construction. The Job Mix Formula should meet the requirements for a ½-inch Dense Graded Level 2 Mix. The AC should be PG 64-22 grade meeting the ODOT Standard Specifications for Asphalt Materials. AC pavement should be compacted to 92.0 percent at Maximum Theoretical Unit Weight (Rice Gravity) of AASHTO T-209.

If the subgrade is cement amended as part of site development to a minimum depth of 12-inches, the minimum base thicknesses presented above can be reduced to 4 inches. The reduced base rock thickness assumes subgrade is cement treated as described in Section 6.0 of this report and has a minimum seven-day compressive strength of 80-psi. We recommend assuming a minimum cement ration of 5 percent by dry weight. In addition, to prevent strength loss during curing, cement-amended areas should be allowed to cure without construction traffic for at least 5 day.

9.0 LIMITATIONS OF REPORT

We have prepared this report for the exclusive use of Westech Engineering Inc. and their authorized parties for the project specifically identified in this report only. The report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, CGS should be notified for review of the recommendations of this report, and revision of such if necessary.

This report is not intended for use by others, and the information contained herein is not applicable to other sites. No other party may rely on the product of our services unless we agree in advance and in writing to such reliance.

We recommend that CGS be retained to review the plans and specifications and verify that our recommendations have been interpreted and implemented as intended. Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated. Should CGS not be retained for Design or Construction related services further into the development process, this report and its recommendations should be considered void, as we cannot take on responsibility for construction operations that were unobserved by our office.

Within the limitations of scope, schedule and budget, the analysis, conclusions, and recommendations presented in this report were prepared in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology in this area at the time the report was prepared.

10.0 SIGNATURES

We appreciate the opportunity to provide geotechnical services to support your project. If you feel obliged, we welcome referrals from our previous clients and would enjoy the opportunity to work with others in your professional and personal networks.

Central Geotechnical Services, LLC

REGISTERED PROFESSIONAL ENGINEER
60333
12/27/23
OREGON
FEBRUARY 08, 2000
JULIO C VELA
EXPIRES: 06/30/24

Julio Vela, PhD, PE, GE
Principal Engineer

Blayne Sandau, PE, GIT
Project Engineer

11.0 REFERENCES

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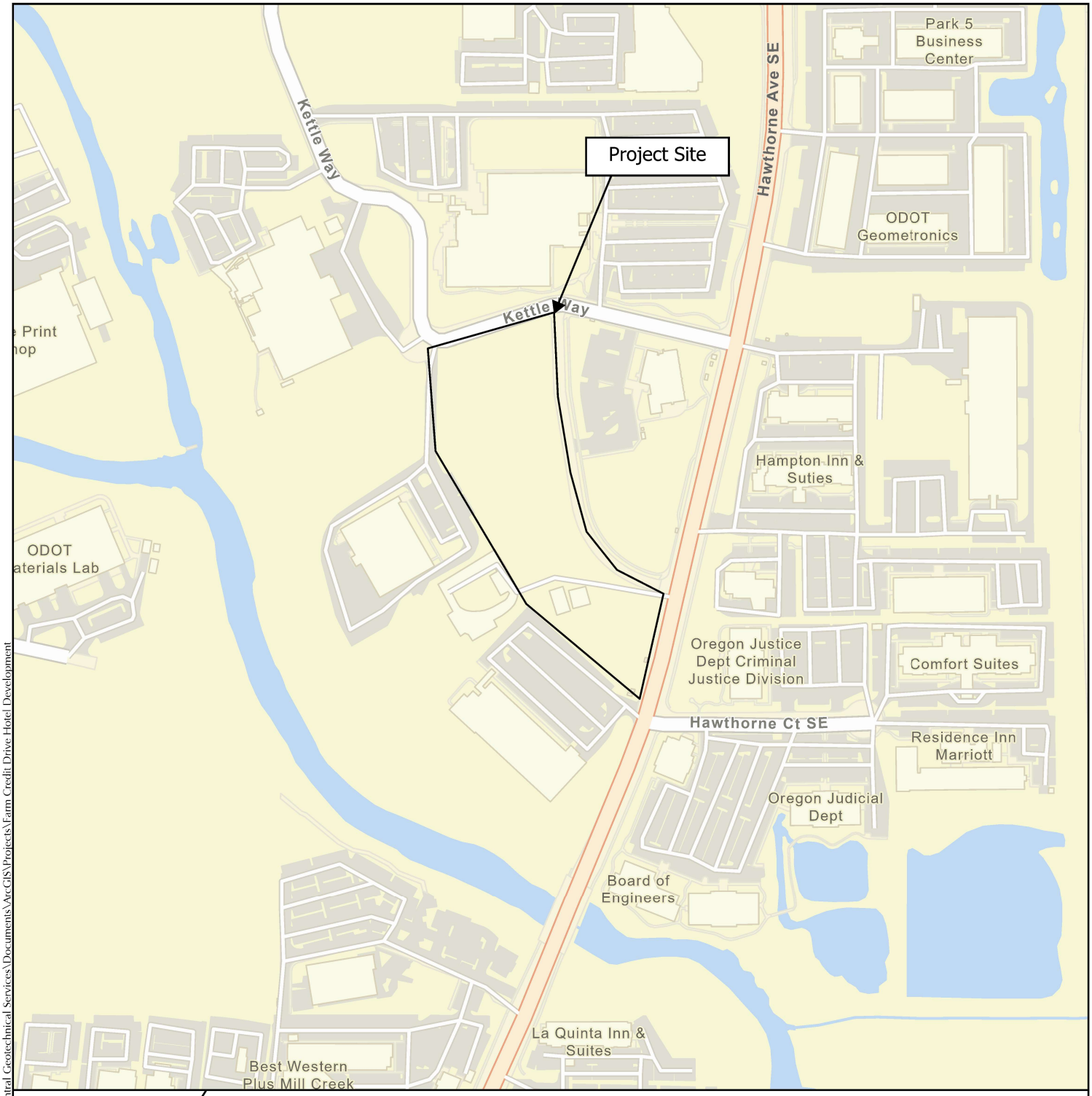
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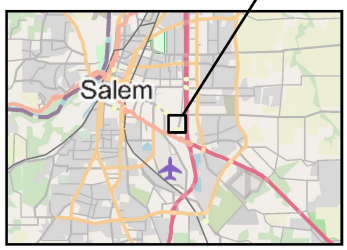
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0 500 1,000 Feet

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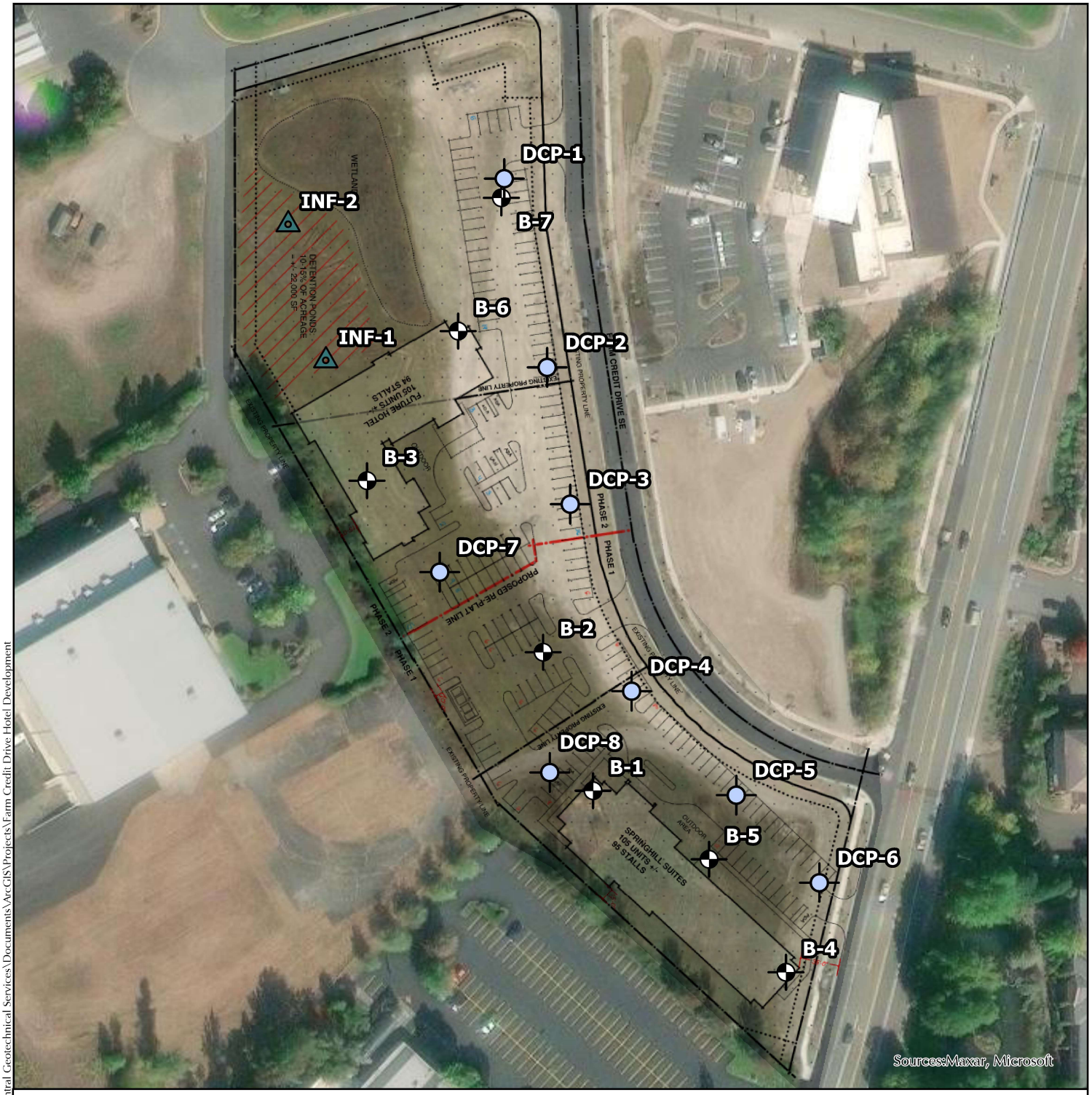
Farm Credit Drive Hotel Development

Project Vicinity

CENTRAL Geotechnical Services, LLC

Figure-1

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Legend

- Boring Designation and Appoximate Location
- DCP Designation and Approximate Location
- Infiltration Designation and Approximate Location

Disclaimer: The locations of features shown in this figure may be approximate. CGS makes no warranty or representation as to the accuracy, completeness, or suitability of the figure, or data contained therein.

N

0 200 400 Feet

Farm Credit Drive Hotel Development

Site Plan

CENTRAL Geotechnical Services, LLC

Figure-2

Default Folder: C:\Users\cgsuser.GIS-WORKSTATION\OneDrive - Central Geotechnical Services\Documents\ArcGIS\Projects\Farm Credit Drive Hotel Development

CENTRAL
GEOTECHNICAL SERVICES

APPENDIX A: Field Explorations

APPENDIX A
FIELD EXPLORATIONS AND LABORATORY TESTING

Field Explorations

Soil and groundwater conditions at the proposed project were explored on December 12, 2023 by completing nine drilled borings (B-1 through B-7 and INF-1/INF-2), at the approximate locations shown on the Site Plan, Figure 2. The exploratory borings (B-1 through B-7) were extended to practical refusal at final depths of between 8½- to 12-feet below ground surface and the infiltration tests were advanced to approximately 5-ft bgs using solid stem drilling techniques; The borings and test pits were completed with a drill rig owned and operated by Dan J. Fischer Excavating.

The drilling was continuously monitored by a qualified staff from our office who maintained detailed logs of subsurface explorations, visually classified the soil encountered and obtained representative soil samples from the borings. Representative soil samples were obtained from each boring at approximate 2½-and 5 foot-depth intervals using a 1-inch, inside-diameter, standard split spoon sampler. The samplers were driven into the soil using a 140-pound hammer, free-falling 30 inches on each blow. The number of blows required to drive the sampler each of three, 6-inch increments of penetration were recorded in the field. The sum of the blow counts for the last two, 6-inch increments of penetration is reported on the boring logs as the ASTM International (ASTM) Test Method D 1556 Standard Penetration Test (SPT) N-value. Disturbed, grab samples from test pit excavations were collected at select depth intervals.

Recovered soil samples from exploratory borings and test pits were visually classified in the field in general accordance with ASTM D 2488 and the classification chart listed in Key to Exploration Logs. Logs of the borings are presented in this Appendix. The logs are based on interpretation of the field and laboratory data and indicate the depth at which subsurface materials, or their characteristics change, although these changes might actually be gradual.

Laboratory Testing

Soil samples obtained from the explorations were visually classified in the field and in our laboratory using the USCS and ASTM classification methods. ASTM Test Method D 2488 was used to visually classify the soil samples, while ASTM D 2487 was used to classify the soils based on laboratory tests results. Moisture content tests were performed in general accordance with ASTM D 2216-05. Results of the moisture contents testing are presented in the appropriate exploration logs at the respective sample depths.

Central Geotechnical Services
10240 SW Nimbus Ave, Suite L6
Portland, OR 97223
Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-1

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 1.00 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet			▼		
3			SPT 1	16	35	4-5-9	
5							
6			SPT 2	18		4-5-6	
7							
8		8.0	SPT 3	6		4-8-50/5"	
9		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet 9.0					

Practical refusal at 9 feet bgs
Groundwater was observed at 1 foot bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

BORING TEMPLATE_2 - CGS BORING LOG.GDT - 12/20/23 07:51 - C:\USERS\CGSUSER\CENTRAL GEOTECHNICAL SERVICES\CGS - PROJECTS\R-Z\WESTECH\WESTECH-9\WESTECH-9-01\FIELD EXPLORATION\2_FIELD AND DRAFT LOGS\WESTECH-9-01 C

Central Geotechnical Services
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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-2

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: 0.50 ft
Groundwater at end of drilling: ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet			▽		
3			SPT 1	12		3-4-6	
5							
6			SPT 2	18	37	4-6-7	
7							
7.5		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet	SPT 3	2		25-50/5"	
9.0							

Practical refusal at 9 feet bgs
Groundwater was observed at 0.5 foot bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-3

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 1.00 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet			▼		
3			SPT 1	12	41	3-4-6	
5							
6			SPT 2	10		3-5-9	
7							
7.5							
8		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet	SPT 3	4		35-50/5"	
9							
9.0							

Practical refusal at 9 feet bgs
Groundwater was observed at 1 foot bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-4

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 7.00 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Very-stiff SILT (ML), with fine sand, brown, wet					
3			SPT 1	16		4-7-10	
6			SPT 2	16	37	6-7-10	
7		7.0			▼		
8		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet	SPT 3	2		50/5"	
		8.5					

Practical refusal at 8.5 feet bgs
Groundwater was observed at 1 foot bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-5

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 3.00 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet					
3			SPT 1	16	39 ▼	3-5-8	
6			SPT 2	16		6-5-9	
7.5							
8		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet	SPT 3	2		18-50/5"	
9		9.0					

Practical refusal at 9 feet bgs
Groundwater was observed at 3 feet bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-6

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet					
3			SPT 1	10		3-6-8	
6			SPT 2	16	36	5-7-7	
8			SPT 3	8		3-10-50/5"	
8.0		Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet					
9.0							

Practical refusal at 9 feet bgs
Groundwater was not observed

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

BORING LOG B-7

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 1.75 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Very-stiff SILT (ML), with fine sand, brown, wet			▼		
3			SPT 1	16	38	3-6-10	
5		becomes stiff below 5-fet bgs	SPT 2	18		7-7-5	
8		8.0 Very-dense GRAVEL (GP-GM) with fine to coarse sand and silt, brown, wet	SPT 3	16		6-24-32	
10			SPT 4	2		47-50/5"	
11		11.5					

Practical refusal at 11.75 feet bgs
Groundwater was observed at 1.75 feet bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

INFILTRATION LOG INF-1

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 3.70 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Very-stiff SILT (ML), with fine sand, brown, wet					
4.6			SPT 1	16	▼	3-7-9	

Boring terminated at 4.6 feet bgs
Groundwater observed at 3.7 feet bgs

Operator: Dan J Fischer Excavating
Drilling Method: 4 3/8" Solid Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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Telephone: (503) 616-9419

Project No:
Westech-9-01

INFILTRATION LOG INF-2

Project: Farm Credit Hotel Development
Location: Farm Credit Dr SE and Kettle Ct SE, Salem, OR
Client: Westech

Date Started: 12/12/23
Date Completed: 12/12/23

Approximate Ground Elevation:
Groundwater first observed: ---
Groundwater at end of drilling: 3.70 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (in.)	MOISTURE (%)	BLOW COUNTS	LAB RESULTS/ REMARKS
0		Stiff SILT (ML), with fine sand, brown, wet					
1							
2							
3							
4			SPT 1	16	▼	5-6-7	
5		5.0					

Boring terminated at 5 feet bgs
Groundwater observed at 3.7 feet bgs

Operator: Dan J Fischer Excavating
Drilling Method: 6.25" Hollow Stem Auger
Equipment: Trailer Mounted Drill Rig

Logged By: Troy Howard
Checked By: Blayne Sandau

Approximate Location Coordinates:
Lat: Long:

Remarks:

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CGS Project	Westech-9-01
Project Name	Farm Credit Drive Hotel Development
Tester	TH
Checked by	BCS
Date	12/12/2023
Method	Encased falling head

INF-1

Time	Head (in)	Test time (minutes)	hours
10:25	44.25	0.00	0
15:00	44.25	275.00	4.583333333

Test	Infiltration Rate (in/hr)	
1	0	*No water added to pipe. Head was observed due to flow of groundwater into pipe (exfiltration) during period of observation
2	0	
3	0	

INF-2

Time	Head (in)	Test time (minutes)	hours
9:54	30	0.00	0
12:45	44.25	171.00	2.85
14:00	44.25	75.00	1.25
15:01	44.25	61.00	1.016666667

Test	Infiltration Rate (in/hr)	
1	0	*No water added to pipe. Head was observed due to flow of groundwater into pipe (exfiltration) during period of observation
2	0	
3	0	

APPENDIX D

GEOTECHNICAL REPORT FOR NEIGHBORING NW FARM CREDIT BUILDING

Geotechnical Engineering Report

NW Farm Credit Building
Salem, Oregon

for
Northwest Farm Credit Services

January 17, 2020

GeoEngineers
Earth Science + Technology

Geotechnical Engineering Report

NW Farm Credit Building
Salem, Oregon

for
Northwest Farm Credit Services

January 17, 2020

GeoEngineers

333 High Street NE, Suite 102
Salem, Oregon 97301
971.304.3078

Geotechnical Engineering Report

NW Farm Credit Building
Salem, Oregon

File No. 21978-002-02

January 17, 2020

Prepared for:

Northwest Farm Credit Services
201 South Flint Road
Spokane, Washington

Attention: Doug Dittamore

Prepared by:

GeoEngineers, Inc.
333 High Street NE, Suite 102
Salem, Oregon 97301
971.304.3078

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60333
OREGON
FEBRUARY 08, 2000
JULIO C VELA

01/17/2020

EXPIRES: 06/30/2020

TNG:JCV:cje

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GeoEngineers

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Appendix B. Report Limitations and Guidelines for Use

1.0 INTRODUCTION

GeoEngineers, Inc. (GeoEngineers), is pleased to submit this geotechnical engineering report for the proposed NW Farm Credit (NWFC) Building in Salem, Oregon. The proposed site is located southwest of the intersection of Hawthorne Avenue SE and Kettle Court SE. The location of the site is shown in the Vicinity Map, Figure 1.

Our understanding of the project was developed from site information provided to us by Westech Engineering, Inc. (Westech) and NWFC, aerial imagery of the area, a preliminary site plan (Concept A), and geotechnical reports for the area in our files. Based this information, it is our understanding that the proposed development will consist of constructing a two-story Farm Credit Building, including associated parking lot. The project will include off-site improvements that include widening of Hawthorne Avenue SE, as well as on-site infiltration facilities for stormwater runoff. We anticipate finished grade will be within 1 to 2 feet of current site grades and will require minimum site cuts and fills for development of the proposed building and surrounding parking.

Based on discussions with the project team, maximum interior column loads are on the order of 110 kips. We have assumed that maximum wall loads will be on the order of 3 to 5 kips per lineal foot (klf) with exterior column loads on the order of 40 kips, and that floor loads for slabs on grade will be 100 pounds per square foot (psf) or less.

2.0 SCOPE OF SERVICES

The purpose of our services was to evaluate on-site soil and groundwater conditions as a basis for providing development-specific geotechnical engineering design recommendations for the proposed project. Our scope of services was provided in general accordance with our proposal titled, "Proposal for Geotechnical Engineering Design Services," dated October 18, 2019, and authorized on November 12, 2019, and the Revised Contract Amendment No. 1, dated December 9, 2019, and authorized on December 10, 2019.

3.0 SITE CONDITIONS

3.1. Surface Conditions

The proposed development is located southwest of the intersection of Kettle Court SE and Hawthorne Avenue SE. The overall property is bordered by Kettle Court SE to the north, Hawthorne Avenue SE to the east and commercial development to the south and west. The project area encompasses approximately 2.75 acres and is currently occupied by a Christmas tree crop with trees between 7 and 10 feet tall. Other portions of the site are covered with grass in open areas, and with heavy vegetation consisting of shrubs and trees along the east edge of the site adjacent to Hawthorne Avenue SE. The area of the proposed development in the north portion of the site as shown in the Site Plan, Figure 2, is relatively flat with an approximate elevation of 195 to 198 feet above mean sea level.

3.2. Site Geology

The site is located near the margin of a narrow drainage valley of Mill Creek that separates the Salem Hills to the west and the Waldo Hills to the east, which are structural highs located within the larger Willamette Valley physiographic province (Orr and Orr 1999). The valley is described as a cut for the ancestral course

of the North Santiam River, which emptied into the Salem Basin to the north. The North Santiam River is believed to have deposited large sand and gravel fans in the Stayton and Salem basins during the late Pliocene to Pleistocene (approximately 2 million to 100,000 years before present). The sand and gravel deposits that exist at the valley floor and were mined from nearby sites, were likely deposited by the ancestral North Santiam River, which is now occupied by Mill Creek.

The highlands flanking the valley make up the Salem Hills, and the Waldo Hills are generally mapped as basalt flows belonging to the Columbia River Basalt Group (CRBG). The Miocene Age (approximately 17 million to 6 million years old) CRBG comprises a series of thick basalt flows that filled lowland areas throughout much of the northern Willamette Valley (Tolan and Beeson 2000). The basalt in the area was subsequently faulted by the compressional tectonics of the region, including the uplifted highlands on the eastern portion of the site. A review of the United States Geological Survey (USGS) Fault and Fold Database does not show any known Quaternary-age fault that traverses the site.

Our review of the site geology, together with on-site observations, suggests that the site geology generally conforms to Lower terrace deposits of alluvial bottom lands mapped in the area. Linn gravel deposits were encountered beneath alluvial deposits at deeper depths.

3.3. Subsurface Conditions

We completed field explorations at the site on December 6 and 30, 2019. Our explorations included:

- Eleven on-site test pit explorations (TP-1 through TP-11) to depths between 5 and 14 feet below ground surface (bgs), with two dynamic cone penetrometer (DCP) tests (DCP-1 and DCP-2) conducted at two of the test pits (TP-7 and TP-10).
- Two on-site infiltration tests (IT-1 and IT-2) performed at a depth of 3½ feet bgs.
- Three pavement borings (B-1 through B-3) along Hawthorne Avenue SE to a depth of 5½ feet bgs, with three DCP tests (DCP-3 through DCP-5) conducted within the borings.

The approximate locations of the explorations are shown in Figure 2. A member of our professional staff maintained detailed logs of the soils encountered and gathered representative soil samples. Appendix A summarizes our exploration methods and presents our exploration logs along with IT and DCP results. Laboratory test results are provided in the exploration logs and described in Appendix A.

3.3.1. On-Site Test Pits

In general, on-site subsurface conditions consist of approximately 1½ feet of soft to medium stiff topsoil with organic matter overlying alluvium. The mantle of topsoil at the site is indicative of a tilled zone from previous agricultural use. The underlying alluvium consists of soft to very stiff (generally medium stiff to stiff) lean clay to clayey silt to a depth of 8 feet bgs, where we encountered medium dense gravel with silt, sand and cobbles to the maximum depth explored. In general, the gravel consists of a coarse (3- to 8-inch diameter) silty/clayey gravel with cobbles and small boulders. All test pits terminated in this dense gravel deposit.

3.3.2. Hawthorne Avenue SE Pavement Explorations

Our pavement explorations along Hawthorne Avenue SE encountered 6 to 7 inches of asphalt concrete (AC) pavement overlying approximately 12 inches of medium dense, poorly graded gravel present in the overall

structure as the supporting aggregate base. Below the pavement section, our borings encountered medium dense to very dense silty gravel fill to the maximum depth explored, except in B-2 and B-3 where we encountered medium dense silty sand and medium stiff silt fill below 4 feet bgs.

3.4. Groundwater

Groundwater seepage was observed between 10 and 11 feet bgs in all of the deep test pit explorations. Test Pit 2 was left open for the day and allowed to equilibrate, and groundwater was measured at 10½ feet bgs. Nearby well logs published by the Oregon Water Resources Department show a similar groundwater depth of 10 to 12 feet bgs. Shallower water levels may be a result of perched groundwater conditions in the fine-grained native soils. Groundwater may be very shallow during wet times of the year or during extended periods of wet weather. Presence of shallow water will likely significantly affect capacity of soils to infiltrate stormwater. Groundwater conditions at the site are expected to vary seasonally due to rainfall events and other factors not observed in our explorations. Dewatering of trenches and excavations will be required when groundwater seepage and/or perched groundwater are encountered. Significant dewatering will be required if utility trenches are required below the depth of observed groundwater.

4.0 CONCLUSIONS

Based on our explorations, testing and analyses, it is our opinion that the site is suitable for the proposed project from a geotechnical standpoint, provided the recommendations in this report are included in design and construction. We offer the following summary of conclusions regarding geotechnical design at the site.

- Because of the fine-grained composition of the site surface soils and the history of tilling over the site surface, near-surface soils will become significantly disturbed if earthwork or construction traffic over the site occurs during periods of wet weather or when the moisture content of the soil is more than a few percentage points above optimum. Wet weather construction practices will be required over exposed native soils, except during the dry summer months.
- Surface conditions at the site consist primarily of vegetated areas covered with grasses, shrubs and trees; therefore, clearing, stripping and grubbing will be required. We anticipate a stripping depth of approximately 8 to 12 inches bgs to remove the topsoil layer. Grubbing and deeper excavations up to several feet will be required to remove the root zones of shrubs and more mature trees. Portions of the site are heavily vegetated with Christmas trees and previously buried roots are also expected, even in the current grassy areas of the site. Root balls from cut stands of trees should be grubbed and removed. Cleared, stripped and grubbed materials should be hauled off site and properly disposed unless otherwise allowed by the project specifications for other uses such as landscaping, stockpiling or on-site burning.
- Proposed structures can be satisfactorily supported on continuous and isolated shallow foundations supported on medium stiff or better native soils, or on structural fill that extends to native soil.
- Based on proposed development, our foundation recommendations are based on maximum anticipated loads of 110 kips or less for columns, 5 klf or less for walls, and floor loads of 100 psf or less. Based on these design loads, we estimate total settlement to be less than 1 inch. If larger structural loads are anticipated, we should review and reassess the estimated settlement.
- Slabs-on-grade will be satisfactorily supported on stiff native soils with a minimum 6-inch layer of compacted crushed rock base overlying approved subgrade or on structural fill over stiff native soils.

- Groundwater was measured at the site at a depth of approximately 10½ feet bgs and may be present at higher elevations during periods of persistent rainfall. Dewatering may be required for deeper excavations.
- The field-measured infiltration rates are very near zero. On-site stormwater infiltration is likely not feasible as the sole method of stormwater disposal.
- Standard pavement sections prepared as described in this report will suitably support the estimated traffic loads provided the site subgrade is prepared as recommended.

5.0 INFILTRATION TESTING

As requested by the project team, we conducted infiltration tests on site to assist in evaluation of the site for stormwater infiltration design at proposed stormwater treatment area in the northwest corner of the site. We conducted two infiltration tests (IT-1 and IT-2) at a depth of approximately 3½ feet bgs at the locations shown in Figure 2. Testing was conducted using the open pit falling head procedure consistent with the method outlined in "Division 004" of the *City of Salem Department of Public Works Administrative Rules Design Standards* (COSDS). A 2-inch layer of washed, bagged gravel was placed in the bottom of the approximate 2-foot by 2-foot excavation prior to adding water to diminish disturbance from flowing water at the base of the test pit. The test area was pre-soaked over a 4-hour period by repeated addition of water into the excavation when necessary.

After the saturation period, the hole was filled with clean water to at least 12 inches above the soil in the bottom of the excavation and then the drop in water level was measured over a period of time. In the case where the water level falls during the time-measured testing, infiltration rates diminish as a result of less head from the water column in the test. We observed very small to negligible drops in the water level during the testing period in the native clay soils. The field test results are summarized in Table 1. The data and incremental infiltration rates are included in the infiltration test data summary in Appendix A, Figures A-18 and A-19.

TABLE 1. INFILTRATION RESULTS

Infiltration Test No.	Location	Depth (feet)	USCS Material Type	Field Measured Infiltration Rate[1] (inches/hour)
IT-1	NW corner of site (see Site Plan)	3.5	CL	0.2
IT-2	NW corner of site (see Site Plan)	3.5	CL	0.4

Notes:

[1] Appropriate factors should be applied to the field-measured infiltration rate, based on the design methodology and specific system used.

USCS = Unified Soil Classification System

The infiltration rates shown in Table 1 are field-measured infiltration rates and represent a relatively short-term measured rate. Factors of safety have not been applied for the type of infiltration system being considered, or for variability that may be present in the on-site soil. In our opinion, and consistent with the

state of the practice, correction factors should be applied to this measured rate to reflect the small area of testing and the number of tests conducted.

Appropriate correction factors should be applied by the project civil engineer to account for long-term infiltration parameters. From a geotechnical perspective, we recommend a factor of safety (correction factor) of at least 2 be applied to this type of field infiltration testing result to account for potential soil variability with depth and location within the area tested. In addition, the stormwater system design engineer should determine and apply appropriate remaining correction factor values, or factors of safety, to account for repeated wetting and drying that occur in this area, degree of in-system filtration, frequency and type of system maintenance, vegetation, potential for siltation and bio-fouling, etc., as well as system design correction factors for overflow or redundancy, and base and facility size.

The actual depths, lateral extent, and estimated infiltration rates can vary from the values presented above. Field testing/confirmation during construction is often required in large or long systems or other situations where soil conditions may vary within the area where the system is constructed. The results of this field testing might necessitate that the infiltration locations be modified to achieve the design infiltration rate.

The infiltration flow rate of a focused stormwater system typically diminishes over time as suspended solids and precipitates in the stormwater slowly clog the void spaces between the soil particles or cake on the infiltration surface. The serviceable life of a stormwater system can be extended by pre-filtering or with on-going accessible maintenance. Eventually, most systems will fail and will need to be replaced or have media regenerated or replaced. We recommend that infiltration systems include an overflow that is connected to a suitable discharge point. Also, infiltration systems can cause localized high groundwater levels and should not be located near basement walls, retaining walls, or other embedded structures unless these are specifically designed to account for the resulting hydrostatic pressure. Infiltration locations should not be located on sloping ground, unless it is approved by a geotechnical engineer, and should not be infiltrated at a location that allows for flow to travel laterally toward a slope face, such as a mounded water condition or too close to a slope face.

5.1. Suitability of Infiltration System

Successful design and implementation of stormwater infiltration systems and whether a system is suitable for a development depend on several site-specific factors. Stormwater infiltration systems are generally best suited for sites having sandy or gravelly soil with saturated hydraulic conductivities greater than 2 inches per hour. Sites with silty or clayey soil are generally not well-suited for development using exclusively stormwater disposal. Soils that have fine-grained matrices are susceptible to volumetric change and softening during wetting and drying cycles. Fine-grained soils also have large variations in the magnitude of infiltration rates because of bedding and stratification that occurs during alluvial deposition, and often have thin layers of less permeable or impermeable soil within a larger layer.

Local groundwater conditions also significantly affect the capacity to infiltrate from a stormwater system. Sites with shallow groundwater, such as this site, can result in groundwater mounding. A hydraulic gradient that reaches the level of water in the soil immediately drops to zero and local groundwater will rise and mound and the infiltration rate slows dramatically, resulting in overflows or system flooding (failure). Groundwater mounding can also negatively impact structures, slopes, or other areas adjacent to the stormwater infiltration facility. Typically, we do not recommend using infiltration systems where

groundwater is less than 10 feet below the bottom of the proposed system unless the host soil is very permeable and consistently graded and will not cause mounding.

The City of Salem typically requires a minimum of 3 feet between high groundwater conditions and the bottom of proposed facilities. Depending on the size and location of proposed infiltration facilities, adjacent features such as streams or creeks that can source water to a system instead of allowing it to drain, and on-site soil infiltration capacities, there may be conditions where even a 5- to 10-foot separation between the level of groundwater and the base of the infiltration system may not be sufficient.

Considering the shallow groundwater at the site, and the consistent underlying generally medium stiff, fine-grained soil, on-site infiltration will be minimal during wet times of the year and infiltration may cause mounding of groundwater. We do not recommend stormwater infiltration be used as the exclusive method of stormwater management and should be designed to have an overflow to a suitable discharge point. On-site infiltration should be considered as having only marginal potential for success at the site.

6.0 EARTHWORK RECOMMENDATIONS

6.1. Site Preparation

In general, site preparation and earthwork for site development will include significant clearing and grubbing in the areas of the Christmas tree stands (existing and former), stripping, grading the site, removal or relocation of existing site utilities if present beneath proposed buildings, and excavating for utilities and foundations.

6.1.1. Demolition

If present, existing utilities that will be abandoned on site should be identified prior to project construction. Abandoned utility lines beneath proposed structural areas should be completely removed or filled with grout if abandoned and left in-place in order to reduce potential settlement or caving in the future. Materials generated during demolition of existing utilities should be transported off site for disposal.

Existing voids and new depressions created, removal of existing utilities, or other subsurface elements, should be cleaned of loose soil or debris down to firm soil and backfilled with compacted structural fill. Disturbance to a greater depth should be expected if site preparation and earthwork are conducted during periods of wet weather.

6.1.2. Stripping

Based on our observations at the site, we estimate that the depth of stripping should be on the order of about 8 to 12 inches depending on the thickness of the tree stands, maturity of root systems, and location within the agricultural field. Greater stripping depths may be required to remove localized zones of loose or organic soil, and in areas where more moderate to heavy vegetation are present, or where surface disturbance from prior use has occurred. The actual stripping depth should be based on field observations at the time of construction. Stripped material should be transported off site for disposal unless otherwise allowed by the project specifications for other uses such as landscaping.

6.1.3. Clearing and Grubbing

Site clearing will be required to remove site vegetation, including grass, shrubs, and trees and tree stands that are designated for removal. Following clearing, grubbing and excavations up to several feet will be required to remove the root zones of shrubs and trees. Deeper excavations, up to 3 or 4 feet may be required to remove the root zones of large trees. Roots larger than ½ inch in diameter should be removed. Excavations to remove root zones should be done with a smooth bucket to minimize subgrade disturbance. The east portion of the site is heavily vegetated. Grubbed materials should be hauled off site and properly disposed unless otherwise allowed by the project specifications for other uses such as landscaping, stockpiling or on-site burning.

Existing voids and new depressions created during demolition, clearing, grubbing or other site preparation activities, should be excavated to firm soil and backfilled with Imported Select Structural Fill. Greater depths of disturbance should be expected if site preparation and earthwork are conducted during periods of wet weather.

6.1.4. Subgrade Improvement for the Tilled Zone

A "tilled zone" mantels the site from previous agriculture land use. The tilled zone consists of disturbed soil comprised of moist, soft to medium stiff silt with trace roots and extends to a depth of approximately 18 inches bgs. The tilled zone is generally too soft to support structures, including buildings, foundations, floor slabs, pavements and other settlement-sensitive structures. Therefore, if the tilled zone remains in place to receive site fills during mass grading, it should be either: (1) scarified, moisture-conditioned and compacted in-place during the dry season; or (2) removed and replaced with Imported Select Structural Fill if construction occurs during the wet season, or at other times when the material cannot be compacted in place. If the tilled zone is cut away (cuts extend below the tilled zone) as a part of mass grading, recompaction or removal of in-place undisturbed soils is not required.

The tilled zone soil will be generally soft, especially when wet and will provide marginal to poor support for construction equipment. Wet weather construction practices will be required when improving the tilled zone, except during the dry summer months.

Subgrade improvement for the tilled zone can be accomplished by removing and replacing or scarifying and re-compacting soil within the tilled zone. Scarification is typically performed by ripping with agricultural discs and aerating the soils to dry them during dry weather periods. Considerable soil processing, including moisture conditioning (primarily drying - to reduce the existing moisture content), should be expected to adequately compact the tilled zone. If the soil cannot be properly moisture conditioned (dried), the subgrade should be removed and replaced with Imported Select Structural Fill. If the project specifications allow, the tilled zone can be cement amended as described in Section 6.4 of this report. Cement amendment is typically performed to depths of 12 to 18 inches. When performed in silty soils, such as those at the site, multiple tilling and application passes may be required to adequately blend and amend the soils.

6.2. Subgrade Preparation and Evaluation

As described above, disturbed material may be present after demolition and site stripping are complete. Subgrade areas should be prepared to be in a uniform unyielding condition prior to placement of structural fill or structural elements. We recommend that prepared subgrades be observed by a member of our firm, who will evaluate the suitability of the subgrade and identify any areas of yielding, which are indicative of soft or loose soil.

The exposed subgrade soil should be proof-rolled with heavy rubber-tired equipment and/or probed with a ½-inch-diameter steel rod, as appropriate depending on prevailing conditions. If soft, yielding or otherwise unsuitable areas revealed during probing or proof-rolling cannot be compacted to a stable and uniformly firm condition, we recommend that: (1) the subgrade soils be scarified (e.g., with a ripper on a dozer or a farmer's disc), aerated and recompacted; or (2) the unsuitable soils be removed and replaced with structural fill, as needed.

6.3. Subgrade Protection and Wet Weather Considerations

The fine-grained soils at the site are highly susceptible to moisture. Wet weather construction practices will be necessary if work is performed during periods of wet weather. If site grading will occur during wet weather conditions, it will be necessary to use track-mounted equipment, load removed material into trucks supported on existing gravel surfacing, use gravel working pads, and employ other methods to reduce ground disturbance. The contractor should be responsible to protect the subgrade during construction.

Earthwork planning should include considerations for minimizing subgrade disturbance. We provide the following recommendations if wet weather construction is considered:

- The ground surface in and around the work area should be sloped so that surface water is directed to a sump or discharge location. The ground surface should be graded such that areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from the work area.
- Earthwork activities should not take place during periods of heavy precipitation.
- Slopes with exposed soils should be covered with plastic sheeting or similar means.
- The site soils should not be left uncompacted and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation will reduce the extent to which these soils become wet or unstable.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practicable.
- Construction traffic should be restricted to specific areas of the site, preferably areas that are surfaced with working pad materials not susceptible to wet weather disturbance such as haul roads and rocked staging areas.
- When on-site fine-grained soils are wet of optimum, they are easily disturbed and will not provide adequate support for construction traffic or the proposed development. The use of granular haul roads and staging areas will be necessary for support of construction traffic. Generally, a 12- to 16-inch-thick mat of imported granular base rock aggregate material is sufficient for light staging areas for the building pad and light staging activities, but is not expected to be adequate to support repeated heavy equipment or truck traffic. The granular mat for haul roads and areas with repeated heavy construction traffic should be increased to between 18 and 24 inches. The actual thickness of haul roads and staging areas should be based on the contractor's approach to site development, and the amount and type of construction traffic.

- The base rock thickness described in Section 9.0 of this report is intended to support post-construction design traffic loads. The design base rock thickness may not support construction traffic or pavement construction. A thicker base rock section may be required to support construction traffic as noted above.
- During periods of wet weather, concrete should be placed as soon as practical after preparation of the footing excavations. Foundation bearing surfaces should not be exposed to standing water. Should water infiltrate and pool in the excavation, it should be removed before placing structural fill or reinforcing steel. Subgrade protection for foundations consisting of a lean concrete mat may be necessary if footing excavations are exposed to extended wet weather conditions.

During wet weather, or when the exposed subgrade is wet or unsuitable for proof-rolling, the prepared subgrade should be evaluated by observing excavation activity and probing with a steel foundation probe. Observations, probing, and compaction testing should be performed by a member of our staff. Wet soil that has been disturbed due to site preparation activities or soft or loose zones identified during probing should be removed and replaced with compacted structural fill.

6.4. Soil Amendment with Cement

As an alternative to the using Imported Select Structural Fill material for wet weather structural fill, an experienced contractor may be able to amend the on-site soil with portland cement concrete (PCC) to obtain suitable support properties. It is often less costly to amend on-site soils than to remove and replace soft soils with imported granular materials. Single pass tilling depths for cement amendment equipment is typically 18 inches or less. However, multiple tilling passes may be required to adequately blend in the cement with the soils and to sufficiently process the soils. It may also be necessary to place the recommended cement quantities in multiple passes between tilling passes, which requires intermediate compaction.

The contractor should be responsible for selecting the means and methods to construct the amended soil without disturbing exposed subgrades. We recommend low ground-pressure (such as balloon-tired) cement spreading equipment be required. We have observed other methods used for spreading that have resulted in significant site disturbance and high remedial costs. For example, we have observed amendment efforts to use a spreader truck equipped with road tires pulled by track-mounted equipment that resulted in significant disturbance to the work area and required re-working large areas of cement-amended product at additional expense.

Areas of standing water, or areas where traffic patterns are concentrated and disturbing the subgrade, will also create a need for higher amounts of cement to be applied and additional tilling for better mixing and cement hydration prior to final compaction.

Successful use of soil amendment depends on the use of correct mixing techniques, the soil moisture content at the time of amendment and amendment quantities. Specific recommendations, based on exposed site conditions, for soil amending can be provided, if necessary. However, for preliminary planning purposes, it may be assumed that a minimum of 5 percent cement (by dry weight, assuming a unit weight of 100 pounds per cubic foot [pcf]) will be sufficient for improving on-site soils. Treatment depths of 12 to 16 inches are typical (assuming a seven-day unconfined compressive strength of at least 80 pounds per square inch [psi]), although this may be adjusted in the field depending on site conditions. Soil amending

should be conducted in accordance with the specifications provided in Oregon Structural Specialty Code (OSSC) 00344 (Treated Subgrade).

We recommend a target strength for cement-amended soils of 80 psi. The amount of cement used to achieve this target generally varies with moisture content and soil type. It is difficult to predict field performance of soil-to-cement amendment due to variability in soil response and we recommend laboratory testing to confirm expectations. However, for preliminary design purposes, 4 to 5 percent cement by weight of dry soil can generally be used when the soil moisture content does not exceed approximately 20 percent. If the soil moisture content is in the range of 20 to 35 percent, 5 to 7 percent by weight of dry soil is recommended. The amount of cement added to the soil should be adjusted based on field observations and performance.

PCC-amended soil is hard and has low permeability; therefore, this soil does not drain well nor is it suitable for planting. Future landscape areas should not be cement amended, if practical, or accommodations should be planned for drainage and planting. Cement amendment should not be used if runoff during construction cannot be directed away from adjacent low-lying, wet areas and active waterways and drainage paths.

When used for constructing pavement, staging or haul road subgrades, the amended surface should be protected from abrasion by placing a minimum 4-inch thickness of base rock material (Aggregate Base/ Aggregate Subbase). To prevent strength loss during curing, cement-amended soil should be allowed to cure for a minimum of four days prior to placing the base rock. The base rock typically becomes contaminated with soil during construction. Contaminated base rock should be removed and replaced with clean base rock in pavement areas to meet the required thickness(es) in Section 9.0 to this report.

It is not possible to amend soil during heavy or continuous rainfall. Work should be completed during suitable weather conditions.

6.5. Excavation

Based on the materials encountered in our subsurface exploration, it is our opinion that conventional earthmoving equipment in proper working condition should be capable of making necessary general excavations.

The earthwork contractor should be responsible for reviewing this report, including the boring logs, providing their own assessments, and providing equipment and methods needed to excavate the site soils while protecting subgrades.

6.6. Dewatering

Groundwater was observed at depths between 10 and 11 feet bgs during on-site explorations although typically below the anticipated excavation depth, but water levels may be as shallow as 6 feet bgs after extended periods of wet weather or may be perched in some areas of the site. Excavations that extend into saturated/wet soils should be dewatered. Sump pumps are expected to adequately address groundwater encountered in shallow excavations. In addition to groundwater seepage and upward confining flow, surface water inflow to the excavations during the wet season can be problematic. Provisions for surface water control during earthwork and excavations should be included in the project plans and should be installed prior to commencing earthwork.

6.7. Trench Cuts and Trench Shoring

All trench excavations should be made in accordance with applicable Occupational Safety and Health Administration (OSHA) and state regulations. In our opinion, native clay soils are generally OSHA Type B. Excavations deeper than 4 feet should be shored or laid back at an inclination of 1H:1V (horizontal to vertical) or flatter if workers are required to enter. Excavations made to construct footings or other structural elements should be laid back or shored at the surface as necessary to prevent soil from falling into excavations.

Shoring for trenches less than 6 feet deep that are above the effects of groundwater should be possible with a conventional box system. Moderate sloughing should be expected outside the box. Shoring deeper than 6 feet or below the groundwater table should be designed by a registered engineer before installation. Further, the shoring design engineer should be provided with a copy of this report.

It should be expected that unsupported cut slopes will experience some sloughing and raveling if exposed to water. Plastic sheeting placed over the exposed slope, and directing water away from the slope, will reduce the potential for sloughing and erosion of cut slopes during wet weather.

In our opinion, the contractor will be in the best position to observe subsurface conditions continuously throughout the construction process and to respond to the soil and groundwater conditions. Construction site safety is generally the sole responsibility of the contractor, whom is also solely responsible for the means, methods, and sequencing of the construction operations and choices regarding excavations and shoring. Under no circumstances should the information provided by GeoEngineers be interpreted to mean that GeoEngineers is assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

6.8. Erosion Control

Erosion control plans are required on construction projects located within Marion County in accordance with Oregon Administrative Rules (OAR) 340-41-006 and 340-41-455 and City of Salem regulations. Measures that can be employed to reduce erosion include the use of silt fences, hay bales, buffer zones of natural growth, sedimentation ponds, and granular haul roads.

6.9. Fill Materials

6.9.1. General

Structural areas include areas beneath foundations, floor slabs, pavements, and any other areas intended to support structures or within the influence zone of structures should generally meet the criteria for structural fill presented below. All structural fill soils should be free of debris, clay balls, roots, organic matter, frozen soil, man-made contaminants, particles with greatest dimension exceeding 4 inches (3-inch maximum particle size in building footprints), and other deleterious materials. The suitability of soil for use as structural fill will depend on the gradation and moisture content of the soil. As the amount of fines in the soil matrix increases, the soil becomes increasingly more sensitive to small changes in moisture content and achieving the required degree of compaction becomes more difficult or impossible. Recommendations for suitable fill material are provided in the following sections.

6.9.2. On-Site Soils

The near-surface on-site soils consist of lean clay. Near-surface soils are generally suitable for reuse as structural fill provided the soil is adequately moisture conditioned, and free of organic debris. When used as structural fill, the on-site soil should be placed in lifts with a maximum uncompacted thickness of 8 inches. Fine-grained soil (lean clay to clayey silt) should be compacted to not less than 92 percent of the maximum dry density (MDD), as determined by ASTM International (ASTM) Standard Practices Test Method D 1557. The site soil is fine-grained and sensitive to small changes in moisture content and highly susceptible to disturbance when wet. Use of the on-site material as structural fill will not be possible during wet weather (see Section 6.3 of this report) or when the moisture content of the soil is more than two or three percentage points above optimum. When wet of optimum, fine-grained soils will need to be dried back in order to achieve adequate compaction.

6.9.3. Imported Select Structural Fill

Select imported granular material may be used as structural fill. The imported material should consist of pit or quarry run rock, crushed rock, or crushed gravel and sand that is fairly well-graded between coarse and fine sizes (approximately 25 to 65 percent passing the U.S. No. 4 sieve). It should have less than 5 percent passing the U.S. No. 200 sieve and have a minimum of 75 percent fractured particles according to American Association of State Highway and Transportation Officials (AASHTO) TP-61.

6.9.4. Aggregate Base

Aggregate base material located under floor slabs and pavements and crushed rock used in footing overexcavations should consist of imported clean, durable, crushed angular rock. Such rock should be well-graded, have a maximum particle size of 1 inch and have less than 5 percent passing the U.S. No. 200 sieve (3 percent for retaining walls). In addition, aggregate base shall have a minimum of 75 percent fractured particles according to AASHTO TP-61 and a sand equivalent of not less than 30 percent based on AASHTO T-176.

6.9.5. Trench Backfill

Backfill for pipe bedding and in the pipe zone should consist of well-graded granular material with a maximum particle size of ¾ inch and less than 5 percent passing the U.S. No. 200 sieve. The material should be free of organic matter and other deleterious materials. Further, the backfill should meet the pipe manufacturer's recommendations. Above the pipe zone backfill, Imported Select Structural Fill may be used as described above.

6.10. Fill Placement and Compaction

Structural fill should be compacted at moisture contents that are within 3 percent of the optimum moisture content as determined by ASTM Test Method D 1557 (Modified Proctor). The optimum moisture content varies with gradation and should be evaluated during construction. Fill material that is not near the optimum moisture content should be moisture conditioned prior to compaction.

Fill and backfill material should be placed in uniform, horizontal lifts, and compacted with appropriate equipment. The appropriate lift thickness will vary depending on the material and compaction equipment used. Fill material should be compacted in accordance with Table 2, below. It is the contractor's

responsibility to select appropriate compaction equipment and place the material in lifts that are thin enough to meet these criteria. However, in no case should the loose lift thickness exceed 18 inches.

TABLE 2. COMPACTION CRITERIA

Fill Type	Compaction Requirements		
	Percent Maximum Dry Density Determined by ASTM Test Method D 1557 at ± 3% of Optimum Moisture		
	0 to 2 Feet Below Subgrade	> 2 Feet Below Subgrade	Pipe Zone
Fine-grained soils (non-expansive)	92	92	-----
Imported Granular, maximum particle size < 1¼ inch	95	95	-----
Imported Granular, maximum particle size 1¼ inch to 4 inches (3-inch maximum under building footprints)	n/a (proof-roll)	n/a (proof-roll)	-----
Retaining Wall Backfill*	92	92	------
Nonstructural Zones	90	90	90
Trench Backfill	95	90	90

Note:

* Measures should be taken to prevent overcompaction of the backfill behind retaining walls. We recommend placing the zone of backfill located within 5 feet of the wall in lifts not exceeding about 6 inches in loose thickness and compacting this zone with hand-operated equipment such as a vibrating plate compactor and a jumping jack.

A representative from GeoEngineers should evaluate compaction of each lift of fill. Compaction should be evaluated by compaction testing unless other methods are proposed for oversized materials and are approved by GeoEngineers during construction. These other methods typically involve procedural placement and compaction specifications together with verifying requirements such as proof-rolling.

7.0 STRUCTURAL DESIGN RECOMMENDATIONS

7.1. Foundation Support Recommendations

Based on discussions with the project team, maximum interior column loads are on the order of 110 kips. We have assumed that maximum exterior column loads will be on the order of 40 kips, that maximum wall loads will be on the order of 3 to 5 klf and that floor loads for slabs on grade will be 100 psf or less for the proposed building. If design loads exceed these values, our recommendations may need to be revised.

Proposed structures can be satisfactorily founded on continuous strip or isolated column footings supported on firm native soils, or on structural fill placed over native soils. Exterior footings should be established at least 18 inches below the lowest adjacent grade. The recommended minimum footing depth is greater than the anticipated frost depth. Interior footings can be founded a minimum of 12 inches below the top of the floor slab. Isolated column and continuous wall footings should have minimum widths of 24 and 18 inches, respectively.

7.1.1. Foundation Subgrade Preparation

We recommend loose or disturbed soils resulting from foundation excavation be removed before placing reinforcing steel and concrete. Foundation bearing surfaces should not be exposed to standing water. If water infiltrates and pools in the excavation, the water, along with any disturbed soil, should be removed before placing reinforcing steel. A thin layer of crushed rock can be used to provide protection to the subgrade from weather and light foot traffic. Compaction should be performed as described in Section 6.10.

We recommend GeoEngineers observe all foundation excavations before placing concrete forms and reinforcing steel in order to determine that bearing surfaces have been adequately prepared and the soil conditions are consistent with those observed during our explorations.

7.1.2. Bearing Capacity – Spread Footings

We recommend conventional footings be proportioned using a maximum allowable bearing pressure of 2,500 psf if supported on native medium stiff or better lean clay or on compacted structural fill overlying firm native soils. This bearing pressures applies to the total of dead and long-term live loads and may be increased by one-third when considering earthquake or wind loads. This is a net bearing pressure. The weight of the footing and overlying backfill can be ignored in calculating footing sizes.

7.1.3. Foundation Settlement

Foundations designed and constructed as recommended are expected to experience settlements of less than 1 inch. Differential settlements of up to one half of the total settlement magnitude can be expected between adjacent footings supporting comparable loads.

7.1.4. Lateral Resistance

Lateral loads on footings can be resisted by passive earth pressures on the sides of footings and by friction on the bearing surface. We recommend that passive earth pressures be calculated using an equivalent fluid unit weight of 220 pcf for foundations confined by native medium stiff or better lean clay and 300 pcf if confined by a minimum of 2 feet of imported granular fill.

We recommend using a friction coefficient of 0.35 for foundations placed on the native medium stiff or better lean clay, or 0.50 for foundations placed on a minimum 2-foot-thickness of compacted crushed rock. The passive earth pressure and friction components may be combined provided the passive component does not exceed two-thirds of the total.

The passive earth pressure value is based on the assumptions that the adjacent grade is level and static groundwater remains below the base of the footing throughout the year. The top 1 foot of soil should be neglected when calculating passive lateral earth pressures unless the adjacent area is covered with pavement or slab-on-grade. The lateral resistance values include a safety factor of approximately 1.5.

7.2. Drainage Considerations

We recommend the ground surface be sloped away from the buildings at least 2 percent. All downspouts should be tightlined away from the building foundation areas and should also be discharged into a stormwater disposal system. Downspouts should not be connected to footing drains.

Although not required based on expected groundwater depths, if perimeter footing drains are used for below-grade structural elements or crawlspaces, they should be installed at the base of the exterior footings. The perimeter footing drains should be provided with cleanouts and should consist of at least 4-inch-diameter perforated pipe placed on a 3-inch bed of, and surrounded by, 6 inches of drainage material enclosed in a non-woven geotextile such as Mirafi 140N (or approved equivalent) to prevent fine soil from migrating into the drain material. We recommend against using flexible tubing for footing drainpipes. The perimeter drains should be sloped to drain by gravity to a suitable discharge point, preferably a storm drain. We recommend that the cleanouts be covered and placed in flush-mounted utility boxes. Water collected in roof downspout lines must not be routed to the footing drain lines.

If an elevator pit or utility vaults or other subterranean open structural elements are installed below the expected level of groundwater, we recommend foundation drains be installed as described above. Active dewatering or tightline routing of draining water will be required during wet times of the year at these locations in order to provide a removal pathway.

7.3. Floor Slabs

Satisfactory subgrade support for floor slabs supporting the planned 100 psf floor loads can be obtained provided the floor slab subgrade is as described in Section 6.1 of this report. Slabs should be reinforced according to their proposed use and per the structural engineer's recommendations. Subgrade support for concrete slabs can be obtained from the medium stiff or stiffer native soils. We recommend that on-grade slabs be underlain by a minimum 6-inch-thick compacted crushed rock base section to reduce the potential for moisture migration into the slab and to provide the structural support as noted below. The crushed rock base material should consist of Aggregate Base material as described Section 6.9 of this report. The material should be placed as recommended in Section 6.10.

If dry slabs are required (e.g., where adhesives are used to anchor carpet or tile to the slab), a waterproof liner may be placed as a vapor barrier below the slab. The vapor barrier should be selected by the structural engineer and should be accounted for in the design floor section and mix design selection for the concrete, to accommodate the effect of the vapor barrier on concrete slab curing. Load-bearing concrete slabs should be designed assuming a modulus of subgrade reaction (k) of 125 psi per inch. We estimate that concrete slabs constructed as recommended will settle less than ½ inch. We recommend that the floor slab subgrade be evaluated by proof-rolling prior to placing concrete.

7.4. Seismic Design

Parameters provided in Table 3 are based on the conditions encountered during our subsurface exploration program and the procedure outlined in the 2015 International Building Code (IBC). Some jurisdictions are beginning to adopt the 2018 IBC, which references the 2016 Minimum Design Loads for Buildings and Other Structures (American Society of Civil Engineers [ASCE] 7-16) and the 2019 OSSC. Per ASCE 7-16 Section 11.4.8, a ground motion hazard analysis or site-specific response analysis is required to determine the design ground motions for structures on Site Class D sites with S_1 greater than or equal to 0.2g.

Based on the 2018 IBC and the 2019 OSSC, the project site is classified as Site Class D with an S_1 value of 0.406g; therefore, the provision of 11.4.8 applies. Alternatively, the parameters listed in Table 4 below may be used to determine the design ground motions if Exception 2 of Section 11.4.8 of ASCE 7-16 is used. Using this exception, the seismic response coefficient (C_s) is determined by Equation (Eq.) (12.8-2) for values of $T \leq 1.5T_S$, and taken as equal to 1.5 times the value computed in accordance with either Eq. (12.8-3) for $T_L \geq T > 1.5T_s$ or Eq. (12.8-4) for $T > T_L$, where T represents the fundamental period of the

structure and T_S=0.809 sec. If requested, we can complete a site-specific seismic response analysis which might provide somewhat reduced seismic demands from the parameters in Table 4 and the requirements for using Exception 2 of Section 11.4.8 in ASCE 7-16. The reduced values will likely not be significant enough to warrant the additional cost of further evaluation if designing to 2018 IBC.

We recommend seismic design be performed using the values noted in Table 3 or Table 4 below depending on the version of the IBC used for design.

TABLE 3. MAPPED 2015 IBC SEISMIC DESIGN PARAMETERS

Parameter	Recommended Value[1]
Site Class	D
Mapped Spectral Response Acceleration at Short Period (S_S)	0.911 g
Mapped Spectral Response Acceleration at 1 Second Period (S_1)	0.428 g
Site Modified Peak Ground Acceleration (PGA_M)	0.414 g
Site Amplification Factor at 0.2 second period (F_a)	1.135
Site Amplification Factor at 1.0 second period (F_v)	1.572
Design Spectral Acceleration at 0.2 second period (S_{DS})	0.690 g
Design Spectral Acceleration at 1.0 second period (S_{D1})	0.449 g

Note:

[1] Parameters developed based on Latitude 44.925120° and Longitude -122.994761° using the ATC Hazards online tool.

TABLE 4. MAPPED 2018 IBC SEISMIC DESIGN PARAMETERS

Parameter	Recommended Value[1,2]
Site Class	D
Mapped Spectral Response Acceleration at Short Period (S_S)	0.808 g
Mapped Spectral Response Acceleration at 1 Second Period (S_1)	0.406 g
Site Modified Peak Ground Acceleration (PGA_M)	0.459 g
Site Amplification Factor at 0.2 second period (F_a)	1.177
Site Amplification Factor at 1.0 second period (F_v)	1.894
Design Spectral Acceleration at 0.2 second period (S_{DS})	0.634 g
Design Spectral Acceleration at 1.0 second period (S_{D1})	0.513 g

Note:

[1] Parameters developed based on Latitude 44.925120° and Longitude -122.994761° using the ATC Hazards online tool.

[2] These values are only valid if the structural engineer utilizes Exception 2 of Section 11.4.8 (ASCE 7-16).

8.0 OTHER CONSIDERATIONS

8.1. Frost Penetration

The near-surface soils are slightly to moderately susceptible to frost heave. However, floor slabs are expected to bear on compacted granular fill and the foundations will be founded below the anticipated

depth of frost penetration in the region, which is approximately 12 inches. The recommended exterior and interior footing embedment depths provided above should allow adequate frost protection.

8.2. Expansive Soils

Based on our laboratory test results and experience with similar soils in the area, we do not consider the soils encountered in our borings to be expansive.

8.1. Agricultural Test Results

As requested by the project team, near-surface soil samples were collected for agricultural testing. Test results and general requirements for soil fertility for landscape plantings are provided in Appendix A. Landscape planners may require different nutrients or application levels than the guidelines provided depending on the plant material used.

9.0 PAVEMENT RECOMMENDATIONS

9.1. Dynamic Cone Penetrometer (DCP) Testing

We conducted DCP tests in general accordance with ASTM D 6951 to estimate the subgrade resilient modulus (M_R) at each test location as shown in Figure 2. We recorded penetration depth of the cone versus hammer blow count and terminated testing at depths of 46 to 64 inches below the existing ground surface.

We plotted depth of penetration versus blow count and visually assessed regions where slopes of the data were relatively constant using the equation from the Oregon Department of Transportation (ODOT) Pavement Design Guide to estimate the moduli using a conversion coefficient, C_f = 0.35. Table 5 lists our estimate of the subgrade resilient modulus at each test location based on data obtained in the upper 18 inches below the existing ground surface. For DCP tests along Hawthorne Avenue SE (DCP-3 through DCP-5), the estimates of the resilient moduli are for the soil fill that was encountered in our borings beneath the pavement and aggregate base; these values do not represent the native subgrade conditions that will be present for road widening of Hawthorne Avenue and are not used in the pavement design. Field data are summarized in Figures A-20 through A-24.

TABLE 5. ESTIMATED SUBGRADE RESILIENT MODULI BASED ON DCP TESTING

Boring Number	Estimated Resilient Modulus (psi)
DCP-1	4,500
DCP-2	4,800
DCP-3	8,000*
DCP-4	7,000*
DCP-5	6,600*

Note: * DCPs performed within soil fill below existing pavement; not used for design.

9.2. On-site Asphalt Concrete (AC) Pavement Sections

The following pavement recommendations are provided in the event that the parking and drive areas are constructed as a part of the project. Pavement subgrades should be prepared in accordance with Section 6.0 of this report. Our pavement recommendations assume that traffic at the site will consist of occasional truck traffic and passenger cars. We do not have specific information on the frequency and type of vehicles

that will use the area; however, we have based our design analysis on traffic consisting of two heavy trucks per day to account for delivery and service-type vehicles and passenger car traffic for the heavy-duty pavement sections, and passenger car traffic only for the light-duty pavement sections.

Our pavement recommendations are based on the following assumptions:

- The on-site soil subgrade below proposed fill placed to raise site grades or below aggregate base sections has been prepared as described in Section 6.1 of this report, and observations indicate that subgrade is in a firm and unyielding condition.
- A resilient modulus of 20,000 psi was estimated for base rock prepared and compacted as recommended.
- A resilient modulus of 4,500 psi was estimated for firm in-place soils or structural fill placed on firm native soils below the tilled zone.
- Initial and terminal serviceability indices of 4.2 and 2.5, respectively.
- Reliability and standard deviations of 85 percent and 0.45, respectively.
- Structural coefficients of 0.41 and 0.12 for the asphalt and base rock, respectively.
- A 20-year design life.
- Truck traffic consists of an even distribution of three-axle service trucks and large, four-axle trucks per day.

If any of the noted assumptions vary from project design use, our office should be contacted with the appropriate information so that the pavement designs can be revised or confirmed adequate. The recommended minimum pavement sections are provided in Table 6 below.

TABLE 6. MINIMUM PAVEMENT SECTIONS FOR ON-SITE ROADWAYS AND PARKING AREAS

	Minimum Asphalt Thickness (inches)	Minimum Base Thickness (inches)
Light-Duty (cars only)	3.0	7.0
Heavy-Duty	3.0	8.0

If the soil subgrade is cement amended as part of site development to a minimum depth of 12 inches, the minimum base thickness in Table 6 above can be reduced to 4 inches. The reduced base thickness assumes subgrade is cement treated as described in Section 6.0 of this report and has a minimum seven-day compressive strength of 80 psi. We recommend assuming a minimum cement ration of 5 percent by dry weight. In addition, to prevent strength loss during curing, cement-amended areas should be allowed to cure without construction traffic for at least four days.

The aggregate base course should conform to Section 6.9.4 of this report and be compacted to at least 95 percent of the MDD determined in accordance with AASHTO T-180/ASTM Test Method D 1557.

The AC pavement should conform to Section 00745 of the most current edition of the ODOT Standard Specifications for Highway Construction. The Job Mix Formula should meet the requirements for a ½-inch Dense Graded Level 2 Mix. The AC should be PG 64-22 grade meeting the ODOT Standard Specifications for Asphalt Materials. AC pavement should be compacted to 91.0 percent of Maximum Theoretical Unit Weight (Rice Gravity) of AASHTO T-209.

The recommended pavement sections assume that final improvements surrounding the pavement will be designed and constructed such that stormwater or excess irrigation water from landscape areas does not infiltrate below the pavement section into the crushed base.

9.3. Hawthorne Avenue SE AC Pavement Sections

Based on discussions with the project team, Hawthorne Avenue SE will be widened along its frontage with the development. We conducted three pavement cores and explorations within the roadway. Boring logs are included in Appendix A for borings B-1, B-2, and B-3. Existing pavement section thickness along the southbound lane fronting the site consists of 6 to 7 inches of AC over 12 inches of crushed rock aggregate base.

For pavement widening, pavement subgrades should be prepared in accordance with Section 6.0 of this report. We do not have specific information on the frequency and type of vehicles for design of the public roadway. We have based our design analyses on traffic loads required by Division 006 of COSDS 109-006 (January 2014) for a street classified as a "Major Arterial" as designated by the City of Salem. A default 18-kip equivalent single axle load (ESAL) of 10,000,000 ESALs was used for a major arterial road per Table 6-23 of the COSDS.

Our pavement recommendations are based on the following assumptions and design parameters included in the Asphalt Pavement Association of Oregon (APAO) Design Manual and the COSDS Guidelines:

- The pavement subgrades, fill subgrades and site earthwork used to establish road grades below the Aggregate Subbase and Aggregate Base materials have been prepared as described in Section 6.0 of this report.
- A resilient modulus of 20,000 psi has been estimated for compacted Aggregate Subbase and Aggregate Base materials.
- A resilient modulus of 6,000 psi was assumed for structural fill that will be placed to match existing grade of Hawthorne Avenue.
- Initial and terminal serviceability indices of 4.2 and 2.5, respectively.
- Reliability and standard deviations of 90 percent and 0.45, respectively.
- Structural coefficients of 0.41 and 0.12 for the asphalt and base rock, respectively.
- A 20-year design life.
- Estimated traffic levels consistent with streets designated as a "Major Arterial."

The recommended minimum pavement sections are provided in Table 7. If any of the noted assumptions vary from project design use, our office should be contacted with the appropriate information so that the pavement designs can be revised or confirmed adequate.

TABLE 7. MINIMUM PAVEMENT SECTIONS FOR HAWTHORNE ROAD WIDENING

Minimum Asphalt Thickness (inches)	Minimum Aggregate Base Thickness (inches)
9.0	14.0

The aggregate base course should conform to Section 6.9.4 of this report and be compacted to at least 95 percent of the MDD determined in accordance with AASHTO T-180/ASTM Test Method D 1557.

The AC pavement should conform to Section 00745 of the most current edition of the ODOT Standard Specifications for Highway Construction. The Job Mix Formula should meet the requirements for a ½-inch Dense Graded Level 3 Mix. The AC should be PG 64-22 grade meeting the ODOT Standard Specifications for Asphalt Materials. AC pavement should be compacted to 91.0 percent at Maximum Theoretical Unit Weight (Rice Gravity) of AASHTO T-209.

10.0 DESIGN REVIEW AND CONSTRUCTION SERVICES

Recommendations provided in this report are based on the assumptions and design information stated herein. We welcome the opportunity to review and discuss construction plans and specifications for this project as they are being developed. In addition, GeoEngineers should be retained to review the geotechnical-related portions of the plans and specifications to evaluate whether they are in conformance with the recommendations provided in this report.

Satisfactory construction and earthwork performance depend to a large degree on quality of construction. Sufficient monitoring of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions often requires experience; therefore, qualified personnel should visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those anticipated.

We recommend that GeoEngineers be retained to observe construction at the site to confirm that subsurface conditions are consistent with the site explorations, and to confirm that the intent of project plans and specifications relating to earthwork, pavement and foundation construction are being met.

11.0 LIMITATIONS

We have prepared this report for the exclusive use of Northwest Farm Credit Services and their authorized agents and/or regulatory agencies for the proposed NW Farm Credit Building project in Salem, Oregon.

This report is not intended for use by others, and the information contained herein is not applicable to other sites. No other party may rely on the product of our services unless we agree in advance and in writing to such reliance.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in the area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

12.0 REFERENCES

American Association of State Highway and Transportation Officials (AASHTO). 1993. Guide for Design of Pavement Structures.

City of Salem Department of Public Works Administrative Rules Design Standards (COSDS). 2014. City of Salem Administrative Rules Division 004.

International Code Council. 2014. Oregon Structural Specialty Code (OSSC).

International Code Council. 2015. International Building Code (IBC).

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Occupational Safety and Health Administration (OSHA) Technical Manual Section V: Chapter 2, Excavations: Hazard Recognition in Trenching and Shoring: http://www.osha.gov/dts/osta/otm/otm_v/otm_v_2.html

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Orr, Elizabeth and William Orr. 1999. Geology of Oregon, 5th Edition, Kendall/Hunt Publishing Company, Dubuque, Iowa, pp. 167-203.

Tolan, T. L. and M. H. Beeson. 2000. Geologic Map of the Salem East 7.5 Minute Quadrangle, Marion County, Oregon: U.S. Geological Survey, Open-File Report 00-351, scale 1:24,000.

FIGURES

GeoEngineers



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 UTM Zone 10N

Vicinity Map

NW Farm Credit Building
Salem, Oregon

GeoEngineers

Figure 1

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Legend

- Boring and Dynamic Cone Penetrometer Number and Approximate Location
- Test Pit and Dynamic Cone Penetrometer Number and Approximate Location
- Test Pit Number and Approximate Location
- Approximate Subject Property Boundary

120 0 120
Feet

N
W E
S

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Roads from Marion County GIS.
Projection: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

P:\21\21978002\GIS\MXD\21978002_F02_SP.mxd Date Exported: 01/13/20 by ccabrera

Site Plan

NW Farm Credit Building
Salem, Oregon

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Figure 2

APPENDICES

GeoEngineers

APPENDIX A
Field Explorations and Field/Laboratory Testing

APPENDIX A
FIELD EXPLORATIONS AND FIELD/LABORATORY TESTING

Field Explorations and Testing

Soil and groundwater conditions at the proposed NW Farm Credit Building project were explored on December 6 and 30, 2019, by completing eleven test pit explorations (TP-1 through TP-11) to depths between 5 and 14 feet below ground surface (bgs), two infiltration tests (IT-1 and IT-2) at a depth of 3½ feet bgs, three drilled borings (B-1 to B-3) advanced to depths of 5½ feet bgs and five dynamic cone penetrometer (DCP) tests (DCP-1 through DCP-5). Approximate locations of our explorations in relation to the proposed development are shown in Figure 2. The test pits were excavated with a CAT 316 Excavator owned and operated by K&E Excavating out of Salem, Oregon. The borings were advanced with a solid-stem auger using a trailer-mounted drill rig owned and operated by Dan Fischer Excavating.

Drilled boring and test pit explorations were continuously monitored by a staff geotechnical engineer from our office who maintained a detailed log of subsurface explorations, visually classified the soil encountered and obtained representative soil samples from the borings and test pits. Within the drilled borings, Representative soil samples were obtained from each boring at approximate 2.5- to 5-foot-depth intervals using a 1-inch, inside-diameter, standard split spoon sampler. The samplers were driven into the soil using a 140-pound hammer, free-falling 30 inches on each blow with a rope and cathead. The number of blows required to drive the sampler each of three, 6-inch increments of penetration were recorded in the field. The sum of the blow counts for the last two, 6-inch increments of penetration is reported on the boring logs as the ASTM International (ASTM) D 1556 Standard Penetration Test (SPT) N-value.

DCP tests were performed by a staff geotechnical engineer from our office who recorded blow count versus cumulative penetration depth. This penetration resistance data was compared to the adjacent explorations where a detailed log of subsurface explorations was maintained, the soils encountered were visually classified and representative soil samples from the borings were obtained.

Recovered soil samples were visually classified in the field in general accordance with ASTM Test Method D 2488 and the classification chart listed in Key to Exploration Logs, Figure A-1. Logs of the borings are presented in Figures A-2 through A-4. Logs of the test pits are presented in Figures A-5 through A-17. The logs are based on interpretation of the field and laboratory data, and indicate the depth at which subsurface materials or their characteristics change, although these changes might actually be gradual.

A summary of the infiltration test results is presented in Figures A-18 and A-19. Results of the DCP testing are presented in Figures A-20 through A-24.

Laboratory Testing

Soil samples obtained from the explorations were visually classified in the field and in our laboratory using the Unified Soil Classification System (USCS) and ASTM classification methods. ASTM Test Method D 2488 was used to visually classify the soil samples, while ASTM D 2487 was used to classify the soils based on laboratory tests results. Moisture content tests were performed in general accordance with ASTM Method D 2216. Two Atterberg limits tests were performed in accordance with ASTM D 4318. Moisture content results are presented on the appropriate exploration logs at the respective sample depths, and the Atterberg limits results in Figure A-25 in this appendix. As requested, topsoil testing for physical properties and nutrient levels; including soil particle gradations, pH, salt, CEC, major nutrients (N, K, P), organics content, contaminates, including arsenic, lead, and mercury were performed by A&L Western Agricultural Laboratories. Results of the testing are presented in Figures A-26 through A-33.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point lead test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

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Figure A-1

Drilled Start 12/30/2019 End 12/30/2019	Total Depth (ft) 5.5	Logged By JJW Checked By TNG	Driller Dan Fischer Excavation	Drilling Method Solid-stem Auger	
Surface Elevation (ft) 199 Vertical Datum NAVD88		Hammer Data Rope & Cathead 140 (lbs) / 30 (in) Drop		Drilling Equipment Buck Rodgers 160 Trailer Rig	
Latitude 44.925008 Longitude -122.994181		System Datum WGS84 (feet)		Groundwater not observed at time of exploration	

Notes: Note: See Figure A-1 for explanation of symbols.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	0						AC	Approximately 7 inches asphalt concrete			
							GP	Approximately 12 inches gray poorly graded gravel with sand (medium dense, moist) (base fill)			
							GM	Gray silty angular basaltic gravel with sand (dense, moist) (fill)			
		10	36		1						
195		10	17		2						
	5							Becomes medium dense			

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Boring B-1

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-2
Sheet 1 of 1

Date:1/14/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_GEOTECH_STANDARD_%F_NO_GW

Drilled Start 12/30/2019 End 12/30/2019	Total Depth (ft) 5.5	Logged By JJW Checked By TNG	Driller Dan Fischer Excavation	Drilling Method Solid-stem Auger	
Surface Elevation (ft) 198 Vertical Datum NAVD88		Hammer Data Rope & Cathead 140 (lbs) / 30 (in) Drop		Drilling Equipment Buck Rodgers 160 Trailer Rig	
Latitude 44.924267 Longitude -122.994408		System Datum WGS84 (feet)		Groundwater not observed at time of exploration	

Notes: Note: See Figure A-1 for explanation of symbols.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	0						AC	Approximately 6 inches asphalt concrete			
							GP	Approximately 12 inches gray poorly graded gravel with sand (medium dense, moist) (base fill)			
							GM	Gray silty angular basaltic gravel with sand (very dense, moist) (fill)			
195		9	41		1						
		3	14		2		SM	Gray silty sand with gravel (medium dense, moist)			
	5										

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Date:1/14/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_GEOTECH_STANDARD_%F_NO_GW

Log of Boring B-2

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-3
Sheet 1 of 1

Drilled Start 12/30/2020 End 12/30/2019	Total Depth (ft) 5.5	Logged By JJW Checked By TNG	Driller Dan Fischer Excavation	Drilling Method Solid-stem Auger	
Surface Elevation (ft) 199 Vertical Datum NAVD88		Hammer Data Rope & Cathead 140 (lbs) / 30 (in) Drop		Drilling Equipment Buck Rodgers 160 Trailer Rig	
Latitude 44.923261 Longitude -122.994736		System Datum WGS84 (feet)		Groundwater not observed at time of exploration	

Notes: Note: See Figure A-1 for explanation of symbols.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	0						AC	Approximately 6 inches asphalt concrete			
							GP	Approximately 12 inches gray poorly graded gravel with sand (medium dense, moist) (base fill)			
		12	54		1		GM	Gray silty angular to subround basaltic gravel with sand (very dense, moist) (fill)			
		6	19		2						
195								Becomes medium dense			
		8	12		3		ML	Dark gray silt with sand and occasional gravel (stiff, moist)			
	5										

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Date:1/14/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_GEOTECH_STANDARD_%F_NO_GW

Log of Boring B-3

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-4

Date Excavated	12/6/2019	Total Depth (ft)	3.5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445531.18 -1225944.18	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass and tree rootlets) (medium stiff to stiff, moist)			PP=3½ tsf at 1 foot
195	2		1		CL	Light brown lean clay (medium stiff to stiff, moist) (alluvium)			PP=3.0 tsf at 2 feet
194	3		2						PP=3.0 tsf at 3 feet Infiltration test performed at 3½ feet

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit IT-1

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-5
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	3.5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445530.81 -1225944.01	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass and tree rootlets) (medium stiff to stiff, moist)			PP=3½ tsf at 1 foot
195	2		1		CL	Light brown lean clay (medium stiff to stiff, moist) (alluvium)			PP=3.0 tsf at 2 feet
194	3		2						PP=3.0 tst at 3 feet
									Infiltration test performed at 3½ feet

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit IT-2

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-6
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	14	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	198 NAVD88	Latitude Longitude	445530.95 -1225941.45	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
197	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass and tree rootlets) (medium stiff to stiff, moist)			PP=3½ tsf at 1 foot
196	2				CL	Light brown lean clay (medium stiff to stiff, moist) (alluvium)			PP=3.0 tsf at 2 feet
195	3	■	1 MC				21		PP=3.0 tsf at 3 feet
194	4	■	2			Becomes medium stiff			PP=2½ tsf at 4 feet
193	5	■	3 MC			Becomes soft to medium stiff	36		FP=12 inches at 5 feet
192	6								
191	7								
190	8				GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
189	9								
188	10	■	4			Becomes wet			Moderate groundwater seepage observed at 10 feet at time of drilling; moderate to severe caving observed at 10 to 14 feet bgs at time of drilling
187	11								
186	12								
185	13								
184	14								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-1

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-7
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	12	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445530.67 -1225940.64	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff to stiff, moist)			PP=3½ tsf at 1 foot
195	2		1 AL		CL	Light brown lean clay (medium stiff to stiff, moist) (alluvium)	28		PP=3½ tsf at 2 feet AL (LL = 47; PI = 22)
194	3								PP=3½ tsf at 3 feet
193	4		2						PP=2½ tsf at 4 feet Probed 10 to 12 inches at 4½ feet with ½-inch-diameter probe rod
192	5					Becomes soft to medium stiff			
191	6								
190	7								
189	8		3		SP-SM	Dark gray poorly graded sand with silt and gravel (medium dense, moist)			
188	9				GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
187	10								Moderate to severe caving observed at 10 to 12 feet bgs
186	11					Becomes wet			Groundwater observed at 10½ feet bgs
185	12								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-2

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-8
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\2197800202.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	12	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445530.34 -1225941.7	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=2½ tsf at 1 foot
195	2		1 MC		CL	Light brown lean clay (medium stiff to stiff, moist) (alluvium)	33		PP=2½ tsf at 2 feet
194	3								PP=3 tsf at 3 feet
193	4		2						PP=4 tsf at 4 feet Probed 8 to 12 inches at 4½ feet with ½-inch-diameter probe rod
192	5					Becomes soft to medium stiff			
191	6								
190	7								
189	8		3		GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
188	9								
187	10								Moderate to severe caving observed at 10 to 12 feet bgs
186	11					Becomes wet			Moderate to severe groundwater seepage observed at 11 feet bgs
185	12								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-3

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-9
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	12	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	196 NAVD88	Latitude Longitude	445529.52 -1225941.28	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
195	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=2 tsf at 1 foot
194	2				CL	Light brown lean clay (medium stiff to stiff) (alluvium)			PP=2¾ tsf at 2 feet
193	3	■	1 MC				35		PP=4 tsf at 3 feet
192	4					Becomes soft to medium stiff			PP=3 tsf at 4 feet
191	5	■	2						Probed 12 to 16 inches at 4½ feet with ½-inch-diameter probe rod
190	6								
189	7	■	3						
188	8				GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
187	9								
186	10								Moderate to severe caving observed at 10 to 12 feet bgs
185	11					Becomes wet			Moderate groundwater seepage observed at 11 feet bgs
184	12								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-4

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-10
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\2197800202.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	12	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445530.23 -1225940.77	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff to stiff, moist)			PP=3.0 tsf at 1 foot
195	2				CL	Light brown lean clay (stiff to very stiff, moist) (alluvium)			PP=4½ tsf at 2 feet
194	3		1						PP=4½ tsf at 3 feet
193	4					Becomes medium stiff			PP=3.0 tsf at 4 feet Probed 6 to 12 inches at 4½ feet with a ½-inch-diameter probe rod
192	5		2						
191	6								
190	7		3						
189	8				GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
188	9								
187	10								Moderate to severe caving observed at 10 to 12 feet bgs
186	11					Becomes wet			Moderate groundwater seepage observed at 11 feet bgs
185	12								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-5

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-11
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	12	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	See "Remarks" section for groundwater observed See "Remarks" section for caving observed
Surface Elevation (ft) Vertical Datum	196 NAVD88	Latitude Longitude	445529.87 -1225940.43	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
195	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff to stiff, moist)			PP=3½ tsf at 1 foot
194	2		1		CL	Light brown lean clay (stiff to very stiff, moist) (alluvium)			PP=4.0 tsf at 2 feet
193	3								PP=4½ tsf at 3 feet
192	4		2			Becomes medium stiff			PP=1.0 tsf at 4 feet
191	5					Becomes soft to medium stiff			Probed 12 inches at 4½ feet with ½-inch-diameter probe rod
190	6								
189	7								
188	8				GP-GM	Dark gray rounded gravel with silt, sand and cobbles (medium dense, moist)			
187	9		3						
186	10								Moderate to severe caving observed at 10 to 12 feet bgs
185	11					Becomes wet			Moderate to severe groundwater seepage observed at 10½ feet bgs
184	12								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-6

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-12
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\2197800202.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	198 NAVD88	Latitude Longitude	445530.39 -1225942.45	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
197	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff to stiff, moist)			PP=3¾ tsf at 1 foot
196	2				CL	Light brown lean clay (stiff, moist) (alluvium)			PP=3¾ tsf at 2 feet
195	3		1 MC				35		PP=4½ tsf at 3 feet
194	4					Becomes medium stiff			PP=2.0 tsf at 4 feet
193	5		2						Probed 8 to 12 inches at 4½ feet with ½-inch-diameter probe rod

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-7

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-13
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445529.23 -1225942.46	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=3.0 tsf at 1 foot
195	2		1 AL		CL	Light brown lean clay (medium stiff, moist) (alluvium)	32		PP=2½ tsf at 2 feet AL (LL = 46; PI = 21)
194	3								PP=2.0 tsf at 3 feet
193	4		2						PP=2.0 tsf at 4 feet
192	5								Probed 10 to 12 inches at 4½ feet with ½-inch-diameter probe rod

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-8

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-14
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	195 NAVD88	Latitude Longitude	445530.01 -1225939.54	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
194	1				TS	Approximately 1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=1½ tsf at 1 foot
193	2				CL	Light brown lean clay (medium stiff, moist) (alluvium)			PP=4.0 tsf at 2 feet
192	3		1						PP=1½ tsf at 3 feet
191	4								PP=3½ tsf at 4 feet
190	5		2			Becomes medium stiff to soft			Probed 12 inches at 5 feet with ½-inch-diameter probe rod

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-9

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-15
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002O2.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	197 NAVD88	Latitude Longitude	445525.77 -1225942.91	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
196	1				TS	1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=2½ tsf at 1 foot
195	2		1 MC		CL	Light brown lean clay (stiff, moist) (alluvium)	34		PP=4.0 tsf at 2½ feet
194	3								PP=3.0 tsf at 3 feet
193	4		2			Becomes medium stiff to stiff			
192	5								Probed 4 to 8 inches at 4½ feet with ½-inch-diameter probe rod

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-10

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-16
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

Date Excavated	12/6/2019	Total Depth (ft)	5	Logged By JJW Checked By TNG	Excavator K&E Excavating Equipment CAT 316 Excavator	Groundwater not observed Caving not observed
Surface Elevation (ft) Vertical Datum	196 NAVD88	Latitude Longitude	445525.03 -1225941.09	Coordinate System Horizontal Datum	WGS84 (feet)	

Elevation (feet)	Depth (feet)	SAMPLE: Testing Sample	SAMPLE: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
195	1				TS	1½ feet dark brown silty topsoil with organic matter (grass rootlets) (medium stiff, moist)			PP=4½ tsf at 1 foot
194	2				CL	Light brown lean clay (stiff, moist) (alluvium)			PP=2½ tsf at 2 feet
193	3		1						PP=3.0 tsf at 3 feet
192	4								PP=4½ tsf at 4 feet
191	5		2			Grades with rounded gravel and cobbles, very stiff			Probed 4 to 6 inches at 4½ feet with ½-inch-diameter probe rod

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

Log of Test Pit TP-11

GeoEngineers

Project: NW Farm Credit Building
Project Location: Salem, Oregon
Project Number: 21978-002-02

Figure A-17
Sheet 1 of 1

Date:1/17/20 Path:P:\21\21978002\GINT\21978002.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_TESTPIT_1P_GEOTEC_%F

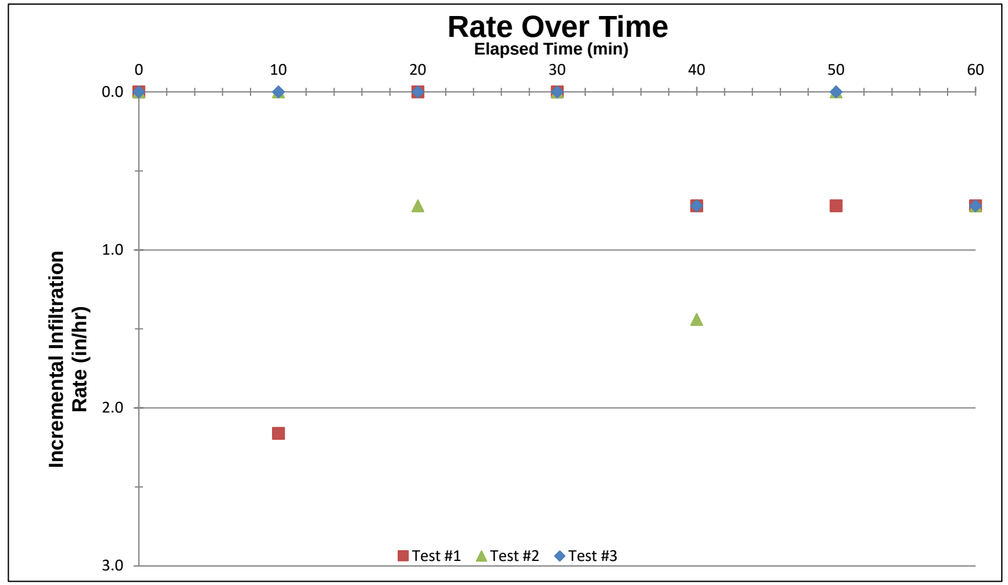
Location: Kettle Ct SE, Salem
Depth to bottom: 3.5'
Tester's Name: Jason Weber
Tester's Company: GeoEngineers

Date: 12/6/2019
Dimension: 2' by 2'
Tester's Contact No: 605-380-8841

Test Hole Number: IT-1
Test Method: Open Pit
GeoEngineers Job: 21978-002-02

	Depth	Soil Texture
	0-1.5'	Dark brown silty top soil with organics (medium stiff to stiff, moist)
	1.5'- 3.5'	Light brown lean clay (medium stiff to stiff, moist)

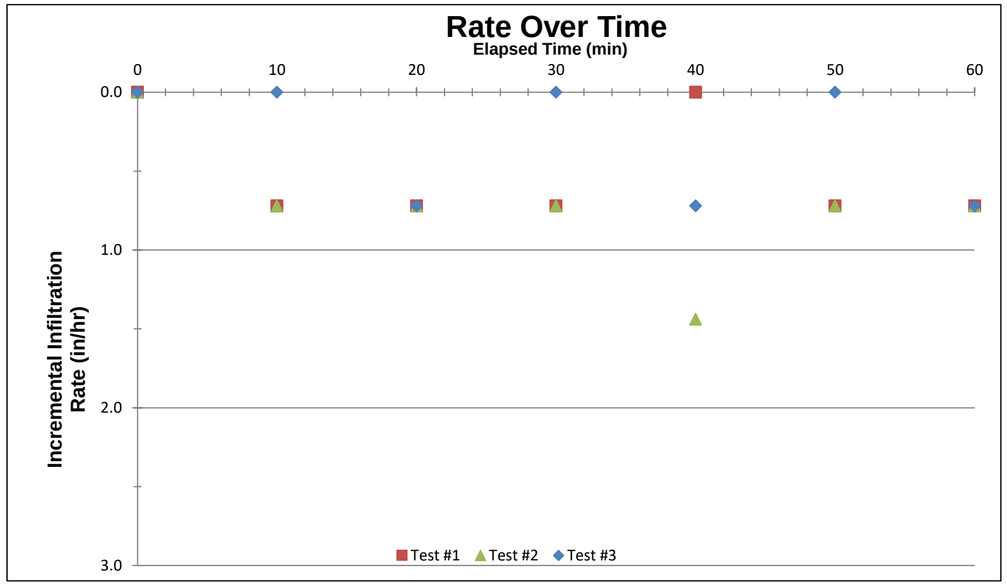
Time of Day	Time Interval (min)	Total Time (min)	Depth to Water from Top of Pipe (inches)	Dist. Interval (inches)	Infiltration (inches/hour)	
12/6/2019 8:40	0	0	19.0	-	-	Initial test (Saturation)
12/6/2019 9:28	48	48	20.8	1.8	2.3	
12/6/2019 10:31	63	111	22.0	1.2	1.1	
12/6/2019 12:06	95	206	24.0	2.0	1.3	
Refill						
12/6/2019 12:10	0	0	18.8	-	-	
12/6/2019 12:40	30	30	19.0	0.1	0.2	
12/6/2019 12:40	0	0	19.0	-	-	Test #1
12/6/2019 12:50	10	10	19.3	0.4	2.2	
12/6/2019 13:00	10	20	19.3	0.0	0.0	
12/6/2019 13:10	10	30	19.3	0.0	0.0	
12/6/2019 13:20	10	40	19.4	0.1	0.7	
12/6/2019 13:30	10	50	19.6	0.1	0.7	
12/6/2019 13:40	10	60	19.7	0.1	0.7	
12/6/2019 13:40	0	0	19.7	-	-	Test #2
12/6/2019 13:50	10	10	19.7	0.0	0.0	
12/6/2019 14:00	10	20	19.8	0.1	0.7	
12/6/2019 14:10	10	30	19.8	0.0	0.0	
12/6/2019 14:20	10	40	20.0	0.2	1.4	
12/6/2019 14:30	10	50	20.0	0.0	0.0	
12/6/2019 14:40	10	60	20.2	0.1	0.7	
12/6/2019 14:40	0	0	18.0	-	-	Test #3
12/6/2019 14:50	10	10	18.0	0.0	0.0	
12/6/2019 15:00	10	20	18.0	0.0	0.0	
12/6/2019 15:10	10	30	18.0	0.0	0.0	
12/6/2019 15:20	10	40	18.1	0.1	0.7	
12/6/2019 15:30	10	50	18.1	0.0	0.0	
12/6/2019 15:40	10	60	18.2	0.1	0.7	



Location: Kettle Ct SE, Salem | Date: 12/6/2019 | Test Hole Number: IT-2
Depth to bottom: 3.5' | Dimension: 2' by 2' | Test Method: Open Pit
Tester's Name: Jason Weber | GeoEngineers Job: 21978-002-02
Tester's Company: GeoEngineers | Tester's Contact No: 605-380-8841

	Depth	Soil Texture
	0-1.5'	Dark brown silty top soil with organics (medium stiff to stiff, moist)
	1.5'- 3.5'	Light brown lean clay (medium stiff to stiff, moist)

Time of Day	Time Interval (min)	Total Time (min)	Depth to Water from Top of Pipe (inches)	Dist. Interval (inches)	Infiltration (inches/hour)	
12/6/2019 8:39	0	0	20.4	-	-	Initial test (Saturation)
12/6/2019 9:29	60	60	21.2	0.8	0.8	
12/6/2019 10:30	61	121	22.8	1.6	1.5	
12/6/2019 12:05	95	216	22.8	0.0	0.0	
Refill						
12/6/2019 12:06	0	0	19.9	-	-	
12/6/2019 12:40	34	34	20.2	0.2	0.4	
12/6/2019 12:40	0	0	20.2	-	-	Test #1
12/6/2019 12:50	10	10	20.3	0.1	0.7	
12/6/2019 13:00	10	20	20.4	0.1	0.7	
12/6/2019 13:10	10	30	20.5	0.1	0.7	
12/6/2019 13:20	10	40	20.5	0.0	0.0	
12/6/2019 13:30	10	50	20.6	0.1	0.7	
12/6/2019 13:40	10	60	20.8	0.1	0.7	
12/6/2019 13:40	0	0	20.8	-	-	Test #2
12/6/2019 13:50	10	10	20.9	0.1	0.7	
12/6/2019 14:00	10	20	21.0	0.1	0.7	
12/6/2019 14:10	10	30	21.1	0.1	0.7	
12/6/2019 14:20	10	40	21.4	0.2	1.4	
12/6/2019 14:30	10	50	21.5	0.1	0.7	
12/6/2019 14:40	10	60	21.6	0.1	0.7	
12/6/2019 14:45	0	0	18.6	-	-	Test #3
12/6/2019 14:55	10	10	18.6	0.0	0.0	
12/6/2019 15:05	10	20	18.7	0.1	0.7	
12/6/2019 15:15	10	30	18.7	0.0	0.0	
12/6/2019 15:25	10	40	18.8	0.1	0.7	
12/6/2019 15:35	10	50	18.8	0.0	0.0	
12/6/2019 15:45	10	60	19.0	0.1	0.7	



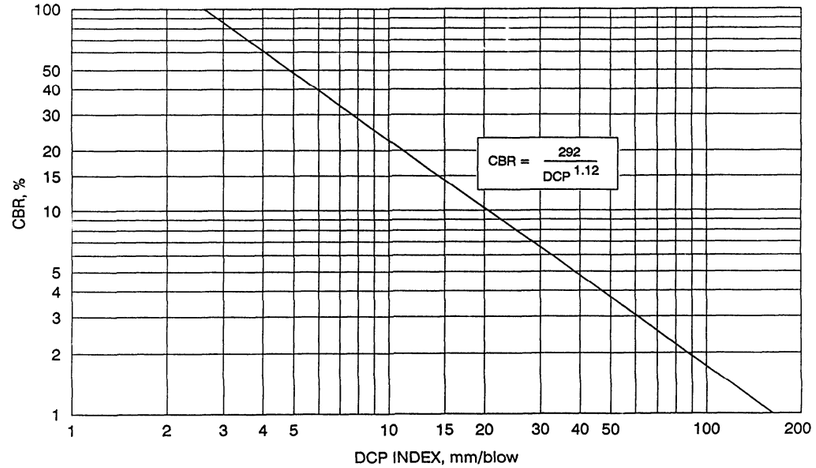
Location: Kettle Ct SE, Salem, OR
Depth to bottom: 46-inches
Tester's Name: Jason Weber
Tester's Company: GeoEngineers, Inc.

Date: 12/6/2019
Tester's Contact No: 605380-8841

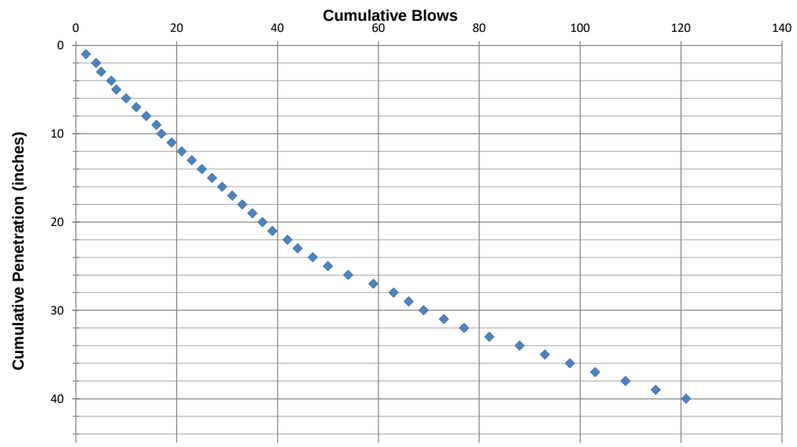
Test Hole Number: TP-10 / DCP-1
Test Method: Dynamic Cone Penetration
GeoEngineers Job: 21978-002-02

Depth, feet	Soil Texture
0-18"	Dark Brown silty top soil with organics (medium stiff, moist)
18" - 46"	Light Brown lean clay (stiff, moist)

Test increment	Number of blows	Cumulative blows	Depth below ground surface	Penetration per increment	Cumulative penetration	Cummulative Penetration	Penetration per blow set	Penetration per blow	Hammer blow factor	DCP Index	DCP Index	CBR	M_R
#	#	#	(in)	(mm)	(mm)	(in)	(in)	(in)	1 for 8-kg 2 for 4.6-kg hammer	in/blow	mm/blow	%	psi
1	2	2	7.0	25.4	25.40	1.0	1.0	0.50	2	1.00	25.40	8	4859
2	2	4	8.0	25.4	50.80	2.0	1.0	0.50	2	1.00	25.40	8	4859
3	1	5	9.0	25.4	76.20	3.0	1.0	1.00	2	2.00	50.80	4	3708
4	2	7	10.0	25.4	101.60	4.0	1.0	0.50	2	1.00	25.40	8	4859
5	1	8	11.0	25.4	127.00	5.0	1.0	1.00	2	2.00	50.80	4	3708
6	2	10	12.0	25.4	152.40	6.0	1.0	0.50	2	1.00	25.40	8	4859
7	2	12	13.0	25.4	177.80	7.0	1.0	0.50	2	1.00	25.40	8	4859
8	2	14	14.0	25.4	203.20	8.0	1.0	0.50	2	1.00	25.40	8	4859
9	2	16	15.0	25.4	228.60	9.0	1.0	0.50	2	1.00	25.40	8	4859
10	1	17	16.0	25.4	254.00	10.0	1.0	1.00	2	2.00	50.80	4	3708
11	2	19	17.0	25.4	279.40	11.0	1.0	0.50	2	1.00	25.40	8	4859
12	2	21	18.0	25.4	304.80	12.0	1.0	0.50	2	1.00	25.40	8	4859
13	2	23	19.0	25.4	330.20	13.0	1.0	0.50	2	1.00	25.40	8	4859
14	2	25	20.0	25.4	355.60	14.0	1.0	0.50	2	1.00	25.40	8	4859
15	2	27	21.0	25.4	381.00	15.0	1.0	0.50	2	1.00	25.40	8	4859
16	2	29	22.0	25.4	406.40	16.0	1.0	0.50	2	1.00	25.40	8	4859
17	2	31	23.0	25.4	431.80	17.0	1.0	0.50	2	1.00	25.40	8	4859
18	2	33	24.0	25.4	457.20	18.0	1.0	0.50	2	1.00	25.40	8	4859
19	2	35	25.0	25.4	482.60	19.0	1.0	0.50	2	1.00	25.40	8	4859
20	2	37	26.0	25.4	508.00	20.0	1.0	0.50	2	1.00	25.40	8	4859
21	2	39	27.0	25.4	533.40	21.0	1.0	0.50	2	1.00	25.40	8	4859
22	3	42	28.0	25.4	558.80	22.0	1.0	0.33	2	0.67	16.93	12	5692
23	2	44	29.0	25.4	584.20	23.0	1.0	0.50	2	1.00	25.40	8	4859
24	3	47	30.0	25.4	609.60	24.0	1.0	0.33	2	0.67	16.93	12	5692
25	3	50	31.0	25.4	635.00	25.0	1.0	0.33	2	0.67	16.93	12	5692
26	4	54	32.0	25.4	660.40	26.0	1.0	0.25	2	0.50	12.70	17	6368
27	5	59	33.0	25.4	685.80	27.0	1.0	0.20	2	0.40	10.16	22	6947
28	4	63	34.0	25.4	711.20	28.0	1.0	0.25	2	0.50	12.70	17	6368
29	3	66	35.0	25.4	736.60	29.0	1.0	0.33	2	0.67	16.93	12	5692
30	3	69	36.0	25.4	762.00	30.0	1.0	0.33	2	0.67	16.93	12	5692
31	4	73	37.0	25.4	787.40	31.0	1.0	0.25	2	0.50	12.70	17	6368
32	4	77	38.0	25.4	812.80	32.0	1.0	0.25	2	0.50	12.70	17	6368
33	5	82	39.0	25.4	838.20	33.0	1.0	0.20	2	0.40	10.16	22	6947
34	6	88	40.0	25.4	863.60	34.0	1.0	0.17	2	0.33	8.47	27	7459
35	5	93	41.0	25.4	889.00	35.0	1.0	0.20	2	0.40	10.16	22	6947
36	5	98	42.0	25.4	914.40	36.0	1.0	0.20	2	0.40	10.16	22	6947
37	5	103	43.0	25.4	939.80	37.0	1.0	0.20	2	0.40	10.16	22	6947
38	6	109	44.0	25.4	965.20	38.0	1.0	0.17	2	0.33	8.47	27	7459
39	6	115	45.0	25.4	990.60	39.0	1.0	0.17	2	0.33	8.47	27	7459
40	6	121	46.0	25.4	1016.00	40.0	1.0	0.17	2	0.33	8.47	27	7459



(after Webster et al., 1992)
Webster, S. L., Grau, R. H., and Williams, T. P. (1992). Description and application of dual mass dynamic cone penetrometer. Department of the Army Waterways Equipment Station, No. GL-92-3.



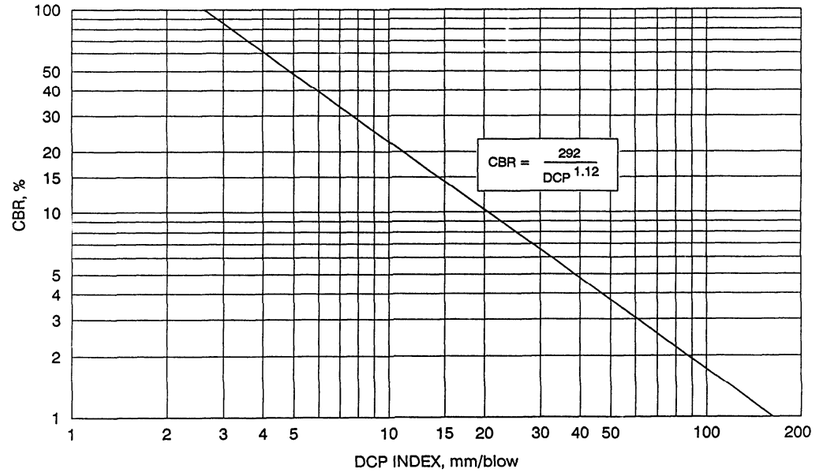
Location: Kettle Ct SE, Salem, OR
Depth to bottom: 46-inches
Tester's Name: Jason Weber
Tester's Company: GeoEngineers, Inc.

Date: 12/6/2019
Tester's Contact No: 605380-8841

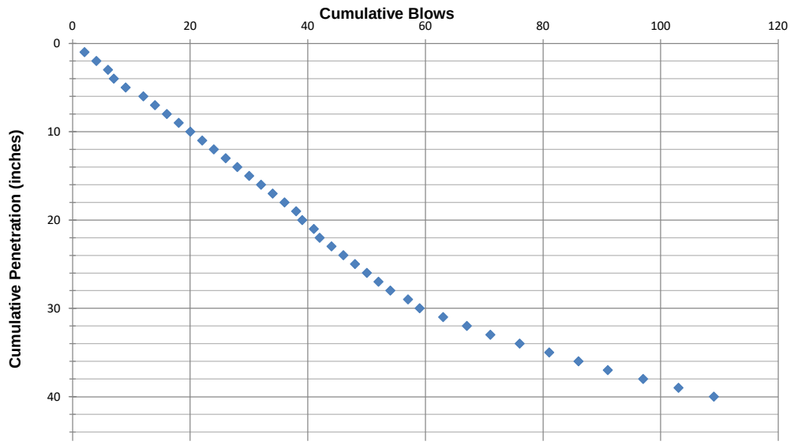
Test Hole Number: TP-7 / DCP-2
Test Method: Dynamic Cone Penetration
GeoEngineers Job: 21978-002-02

Depth, feet	Soil Texture
0-18"	Dark Brown silty top soil with organics (medium stiff to stiff, moist)
18" - 46"	Light Brown lean clay (stiff, moist)

Test increment	Number of blows	Cumulative blows	Depth below ground surface	Penetration per increment	Cumulative penetration	Cummulative Penetration	Penetration per blow set	Penetration per blow	Hammer blow factor	DCP Index	DCP Index	CBR	M_R
#	#	#	(in)	(mm)	(mm)	(in)	(in)	(in)	1 for 8-kg 2 for 4.6-kg hammer	in/blow	mm/blow	%	psi
1	2	2	7.0	25.4	25.40	1.0	1.0	0.50	2	1.00	25.40	8	4859
2	2	4	8.0	25.4	50.80	2.0	1.0	0.50	2	1.00	25.40	8	4859
3	2	6	9.0	25.4	76.20	3.0	1.0	0.50	2	1.00	25.40	8	4859
4	1	7	10.0	25.4	101.60	4.0	1.0	1.00	2	2.00	50.80	4	3708
5	2	9	11.0	25.4	127.00	5.0	1.0	0.50	2	1.00	25.40	8	4859
6	3	12	12.0	25.4	152.40	6.0	1.0	0.33	2	0.67	16.93	12	5692
7	2	14	13.0	25.4	177.80	7.0	1.0	0.50	2	1.00	25.40	8	4859
8	2	16	14.0	25.4	203.20	8.0	1.0	0.50	2	1.00	25.40	8	4859
9	2	18	15.0	25.4	228.60	9.0	1.0	0.50	2	1.00	25.40	8	4859
10	2	20	16.0	25.4	254.00	10.0	1.0	0.50	2	1.00	25.40	8	4859
11	2	22	17.0	25.4	279.40	11.0	1.0	0.50	2	1.00	25.40	8	4859
12	2	24	18.0	25.4	304.80	12.0	1.0	0.50	2	1.00	25.40	8	4859
13	2	26	19.0	25.4	330.20	13.0	1.0	0.50	2	1.00	25.40	8	4859
14	2	28	20.0	25.4	355.60	14.0	1.0	0.50	2	1.00	25.40	8	4859
15	2	30	21.0	25.4	381.00	15.0	1.0	0.50	2	1.00	25.40	8	4859
16	2	32	22.0	25.4	406.40	16.0	1.0	0.50	2	1.00	25.40	8	4859
17	2	34	23.0	25.4	431.80	17.0	1.0	0.50	2	1.00	25.40	8	4859
18	2	36	24.0	25.4	457.20	18.0	1.0	0.50	2	1.00	25.40	8	4859
19	2	38	25.0	25.4	482.60	19.0	1.0	0.50	2	1.00	25.40	8	4859
20	1	39	26.0	25.4	508.00	20.0	1.0	1.00	2	2.00	50.80	4	3708
21	2	41	27.0	25.4	533.40	21.0	1.0	0.50	2	1.00	25.40	8	4859
22	1	42	28.0	25.4	558.80	22.0	1.0	1.00	2	2.00	50.80	4	3708
23	2	44	29.0	25.4	584.20	23.0	1.0	0.50	2	1.00	25.40	8	4859
24	2	46	30.0	25.4	609.60	24.0	1.0	0.50	2	1.00	25.40	8	4859
25	2	48	31.0	25.4	635.00	25.0	1.0	0.50	2	1.00	25.40	8	4859
26	2	50	32.0	25.4	660.40	26.0	1.0	0.50	2	1.00	25.40	8	4859
27	2	52	33.0	25.4	685.80	27.0	1.0	0.50	2	1.00	25.40	8	4859
28	2	54	34.0	25.4	711.20	28.0	1.0	0.50	2	1.00	25.40	8	4859
29	3	57	35.0	25.4	736.60	29.0	1.0	0.33	2	0.67	16.93	12	5692
30	2	59	36.0	25.4	762.00	30.0	1.0	0.50	2	1.00	25.40	8	4859
31	4	63	37.0	25.4	787.40	31.0	1.0	0.25	2	0.50	12.70	17	6368
32	4	67	38.0	25.4	812.80	32.0	1.0	0.25	2	0.50	12.70	17	6368
33	4	71	39.0	25.4	838.20	33.0	1.0	0.25	2	0.50	12.70	17	6368
34	5	76	40.0	25.4	863.60	34.0	1.0	0.20	2	0.40	10.16	22	6947
35	5	81	41.0	25.4	889.00	35.0	1.0	0.20	2	0.40	10.16	22	6947
36	5	86	42.0	25.4	914.40	36.0	1.0	0.20	2	0.40	10.16	22	6947
37	5	91	43.0	25.4	939.80	37.0	1.0	0.20	2	0.40	10.16	22	6947
38	6	97	44.0	25.4	965.20	38.0	1.0	0.17	2	0.33	8.47	27	7459
39	6	103	45.0	25.4	990.60	39.0	1.0	0.17	2	0.33	8.47	27	7459
40	6	109	46.0	25.4	1016.00	40.0	1.0	0.17	2	0.33	8.47	27	7459



(after Webster et al., 1992)
Webster, S. L., Grau, R. H., and Williams, T. P. (1992). Description and application of dual mass dynamic cone penetrometer. Department of the Army Waterways Equipment Station, No. GL-92-3.



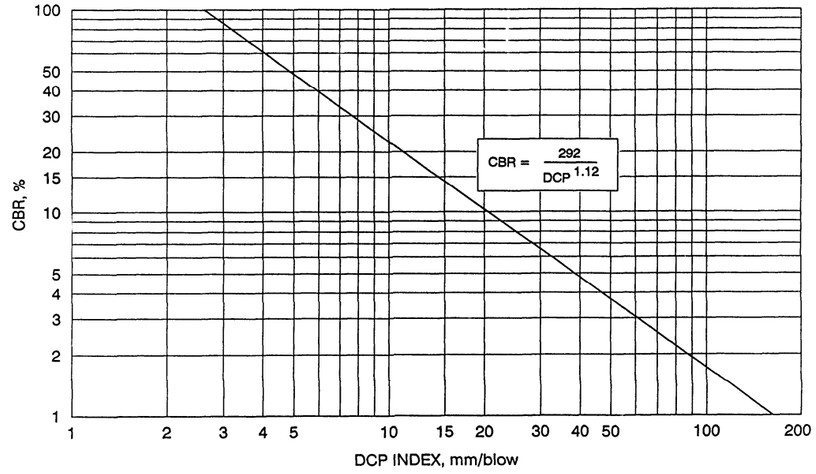
Location: SE Hawthorne SE, Salem, OR
Depth to bottom: 49-inches
Tester's Name: Jason Weber
Tester's Company: GeoEngineers, Inc.

Date: 12/30/2019
Tester's Contact No: 605-380-8841

Test Hole Number: B-1 / DCP-3
Test Method: Dynamic Cone Penetration
GeoEngineers Job: 21978-002-02

Depth, feet	Soil Texture
0-7"	Asphalt Concrete Pavement
7"-19"	Gray poorly grade gravel with sand (medium dense, mosit) (Base)
19" - 49"	Gray silty angular basaltic gravel with sand (dense, moist) (fill)

Test increment	Number of blows	Cumulative blows	Depth below ground surface	Penetration per increment	Cumulative penetration	Cummulative Penetration	Penetration per blow set	Penetration per blow	Hammer blow factor	DCP Index	DCP Index	CBR	M_R
#	#	#	(in)	(mm)	(mm)	(in)	(in)	(in)	1 for 8-kg 2 for 4.6-kg hammer	in/blow	mm/blow	%	psi
1	4	4	31.0	25.4	25.40	1.0	1.0	0.25	2	0.50	12.70	17	6368
2	3	7	32.0	25.4	50.80	2.0	1.0	0.33	2	0.67	16.93	12	5692
3	8	15	33.0	25.4	76.20	3.0	1.0	0.13	2	0.25	6.35	37	8344
4	18	33	34.0	25.4	101.60	4.0	1.0	0.06	2	0.11	2.82	91	11448
5	17	50	35.0	25.4	127.00	5.0	1.0	0.06	2	0.12	2.99	86	11196
6	17	67	36.0	25.4	152.40	6.0	1.0	0.06	2	0.12	2.99	86	11196
7	18	85	37.0	25.4	177.80	7.0	1.0	0.06	2	0.11	2.82	91	11448
8	11	96	38.0	25.4	203.20	8.0	1.0	0.09	2	0.18	4.62	53	9448
9	6	102	39.0	25.4	228.60	9.0	1.0	0.17	2	0.33	8.47	27	7459
10	12	114	40.0	25.4	254.00	10.0	1.0	0.08	2	0.17	4.23	58	9774
11	6	120	41.0	25.4	279.40	11.0	1.0	0.17	2	0.33	8.47	27	7459
12	6	126	42.0	25.4	304.80	12.0	1.0	0.17	2	0.33	8.47	27	7459
13	6	132	43.0	25.4	330.20	13.0	1.0	0.17	2	0.33	8.47	27	7459
14	4	136	44.0	25.4	355.60	14.0	1.0	0.25	2	0.50	12.70	17	6368
15	7	143	45.0	25.4	381.00	15.0	1.0	0.14	2	0.29	7.26	32	7921
16	10	153	46.0	25.4	406.40	16.0	1.0	0.10	2	0.20	5.08	47	9103
17	19	172	47.0	25.4	431.80	17.0	1.0	0.05	2	0.11	2.67	97	11692
18	21	193	48.0	25.4	457.20	18.0	1.0	0.05	2	0.10	2.42	109	12158
19	38	231	49.0	25.4	482.60	19.0	1.0	0.03	2	0.05	1.34	211	15321



(after Webster et al., 1992)
Webster, S. L., Grau, R. H., and Williams, T. P. (1992). Description and application of dual mass dynamic cone penetrometer. Department of the Army Waterways Equipment Station, No. GL-92-3.

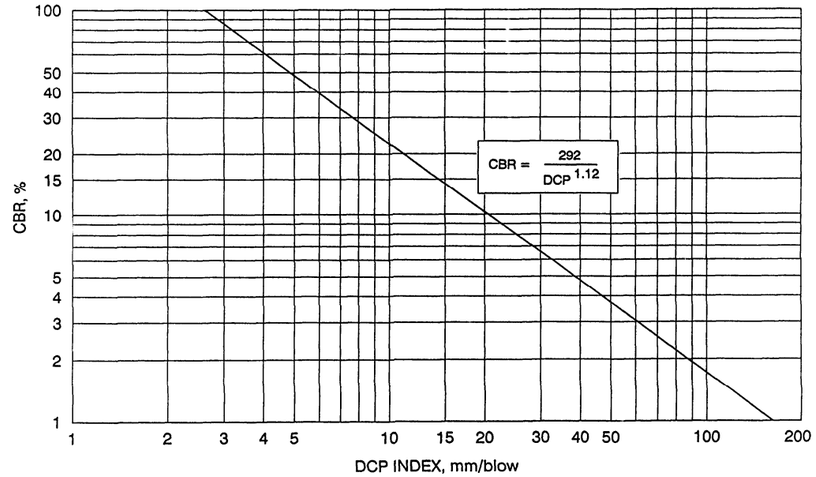
Location: SE Hawthorne SE, Salem, OR
Depth to bottom: 64-inches
Tester's Name: Jason Weber
Tester's Company: GeoEngineers, Inc.

Date: 12/30/2019
Tester's Contact No: 605-380-8841

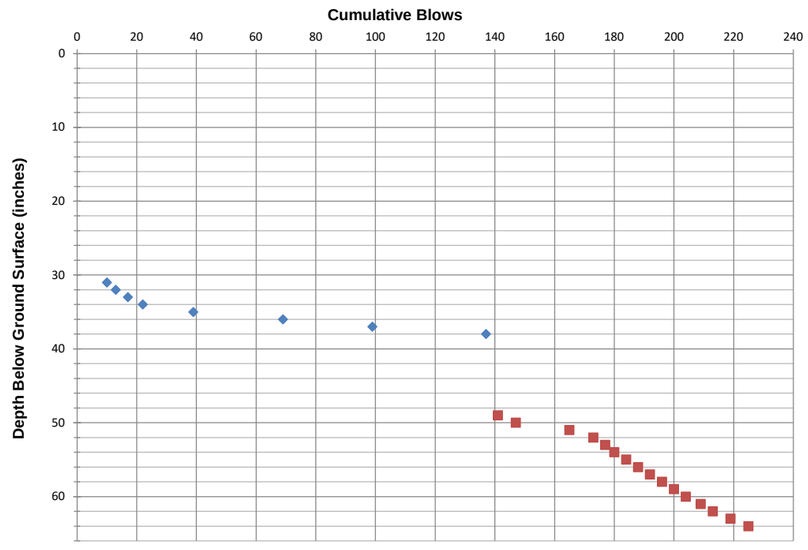
Test Hole Number: B-2 / DCP-4
Test Method: Dynamic Cone Penetration
GeoEngineers Job: 21978-002-02

Depth, feet	Soil Texture
0-6"	Asphalt Concrete Pavement
6"-18"	Gray poorly grade gravel with sand (medium dense, mosit) (Base)
18" - 48"	Gray silty angular basaltic gravel with sand (very dense, moist) (fill)
48" - 64"	Gray silty sand with gravel (medium dense, moist) (fill)

Test increment	Number of blows	Cumulative blows	Depth below ground surface	Penetration per increment	Cumulative penetration	Cummulative Penetration	Penetration per blow set	Penetration per blow	Hammer blow factor	DCP Index	DCP Index	CBR	M_R
#	#	#	(in)	(mm)	(mm)	(in)	(in)	(in)	1 for 8-kg 2 for 4.6-kg hammer	in/blow	mm/blow	%	psi
1	10	10	31.0	25.4	25.40	1.0	1.0	0.10	2	0.20	5.08	47	9103
2	3	13	32.0	25.4	50.80	2.0	1.0	0.33	2	0.67	16.93	12	5692
3	4	17	33.0	25.4	76.20	3.0	1.0	0.25	2	0.50	12.70	17	6368
4	5	22	34.0	25.4	101.60	4.0	1.0	0.20	2	0.40	10.16	22	6947
5	17	39	35.0	25.4	127.00	5.0	1.0	0.06	2	0.12	2.99	86	11196
6	30	69	36.0	25.4	152.40	6.0	1.0	0.03	2	0.07	1.69	162	13972
7	30	99	37.0	25.4	177.80	7.0	1.0	0.03	2	0.07	1.69	162	13972
8	38	137	38.0	25.4	203.20	8.0	1.0	0.03	2	0.05	1.34	211	15321
Reseated DCP at 4' bgs													
1	4	141	49.0	25.4	25.40	1.0	1.0	0.25	2	0.50	12.70	17	6368
2	6	147	50.0	25.4	50.80	2.0	1.0	0.17	2	0.33	8.47	27	7459
3	18	165	51.0	25.4	76.20	3.0	1.0	0.06	2	0.11	2.82	91	11448
4	8	173	52.0	25.4	101.60	4.0	1.0	0.13	2	0.25	6.35	37	8344
5	4	177	53.0	25.4	127.00	5.0	1.0	0.25	2	0.50	12.70	17	6368
6	3	180	54.0	25.4	152.40	6.0	1.0	0.33	2	0.67	16.93	12	5692
7	4	184	55.0	25.4	177.80	7.0	1.0	0.25	2	0.50	12.70	17	6368
8	4	188	56.0	25.4	203.20	8.0	1.0	0.25	2	0.50	12.70	17	6368
9	4	192	57.0	25.4	228.60	9.0	1.0	0.25	2	0.50	12.70	17	6368
10	4	196	58.0	25.4	254.00	10.0	1.0	0.25	2	0.50	12.70	17	6368
11	4	200	59.0	25.4	279.40	11.0	1.0	0.25	2	0.50	12.70	17	6368
12	4	204	60.0	25.4	304.80	12.0	1.0	0.25	2	0.50	12.70	17	6368
13	5	209	61.0	25.4	330.20	13.0	1.0	0.20	2	0.40	10.16	22	6947
14	4	213	62.0	25.4	355.60	14.0	1.0	0.25	2	0.50	12.70	17	6368
15	6	219	63.0	25.4	381.00	15.0	1.0	0.17	2	0.33	8.47	27	7459
16	6	225	64.0	25.4	406.40	16.0	1.0	0.17	2	0.33	8.47	27	7459



(after Webster et al., 1992)
Webster, S. L., Grau, R. H., and Williams, T. P. (1992). Description and application of dual mass dynamic cone penetrometer. Department of the Army Waterways Equipment Station, No. GL-92-3.



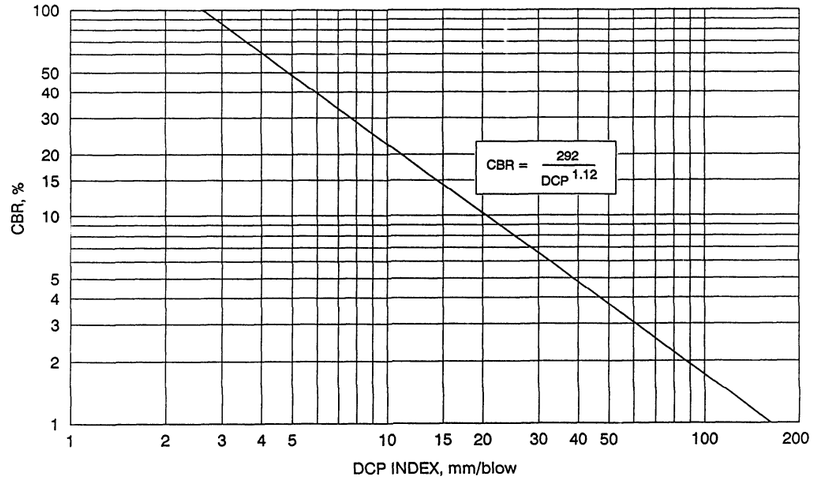
Location: SE Hawthorne SE, Salem, OR
Depth to bottom: 56-inches
Tester's Name: Jason Weber
Tester's Company: GeoEngineers, Inc.

Date: 12/30/2019
Tester's Contact No: 605-380-8841

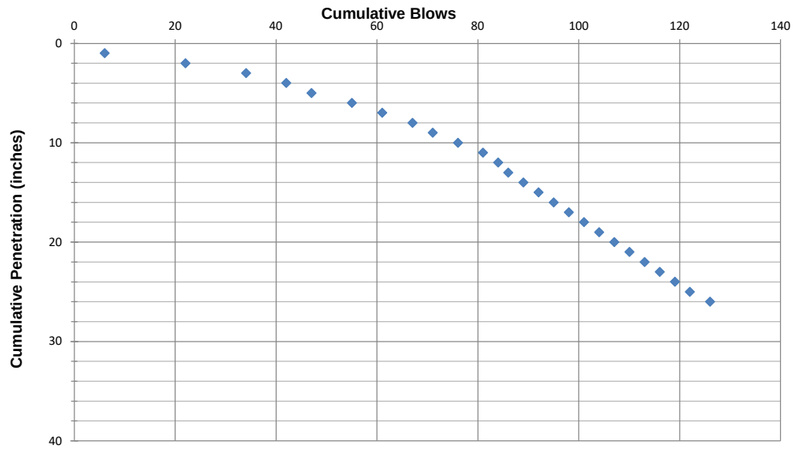
Test Hole Number: B-3 / DCP-5
Test Method: Dynamic Cone Penetration
GeoEngineers Job: 21978-002-02

Depth, feet	Soil Texture
0-6"	Asphalt Concrete Pavement
6"-18"	Gray poorly grade gravel with sand (medium dense, mosit) (Base)
18"-48"	Gray silty angular to subrounded basaltic gravel with sand (very dense, moist) (fill)
48"-56"	Dark gray silt with sand and occasional gravel (stiff, moist)

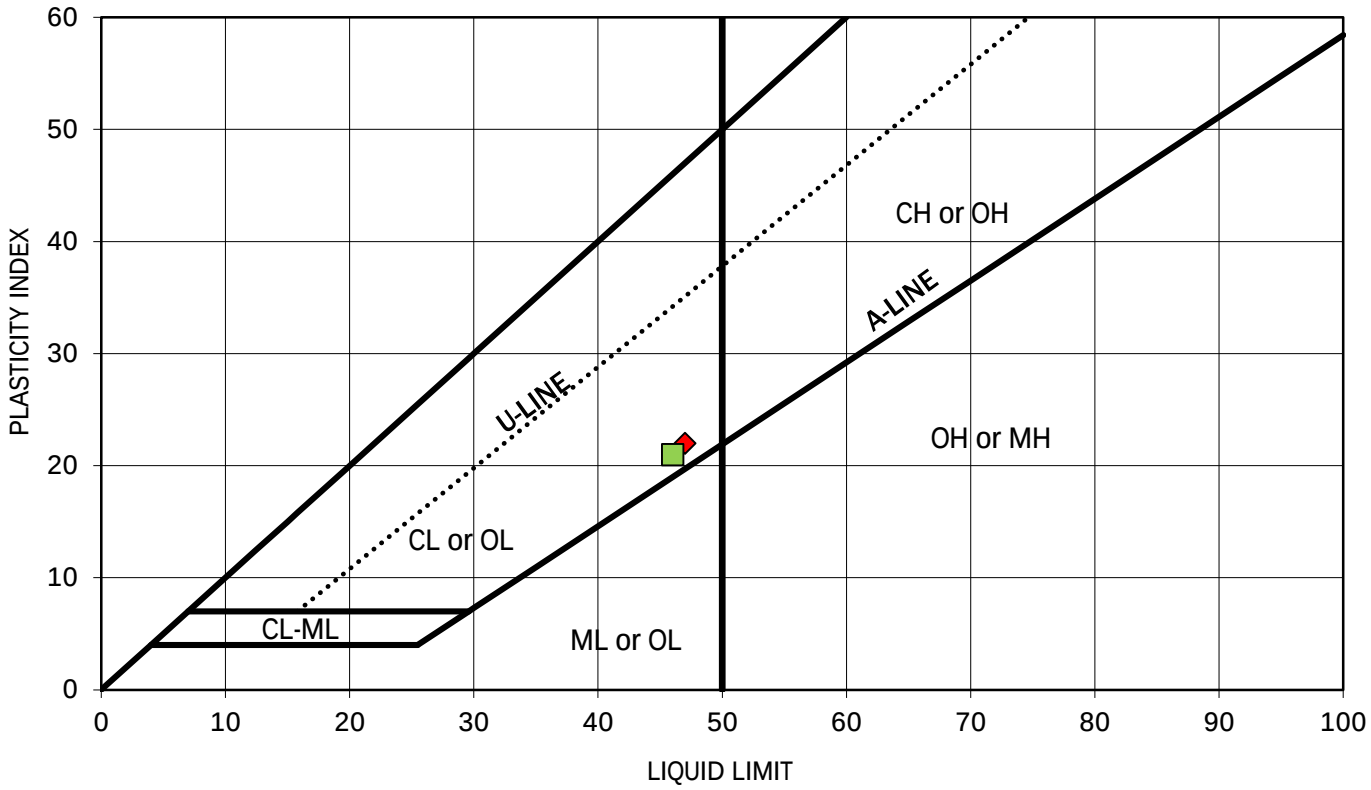
Test increment	Number of blows	Cumulative blows	Depth below ground surface	Penetration per increment	Cumulative penetration	Cummulative Penetration	Penetration per blow set	Penetration per blow	Hammer blow factor	DCP Index	DCP Index	CBR	M_R
#	#	#	(in)	(mm)	(mm)	(in)	(in)	(in)	1 for 8-kg 2 for 4.6-kg hammer	in/blow	mm/blow	%	psi
1	6	6	31.0	25.4	25.40	1.0	1.0	0.17	2	0.33	8.47	27	7459
2	16	22	32.0	25.4	50.80	2.0	1.0	0.06	2	0.13	3.18	80	10934
3	12	34	33.0	25.4	76.20	3.0	1.0	0.08	2	0.17	4.23	58	9774
4	8	42	34.0	25.4	101.60	4.0	1.0	0.13	2	0.25	6.35	37	8344
5	5	47	35.0	25.4	127.00	5.0	1.0	0.20	2	0.40	10.16	22	6947
6	8	55	36.0	25.4	152.40	6.0	1.0	0.13	2	0.25	6.35	37	8344
7	6	61	37.0	25.4	177.80	7.0	1.0	0.17	2	0.33	8.47	27	7459
8	6	67	38.0	25.4	203.20	8.0	1.0	0.17	2	0.33	8.47	27	7459
9	4	71	39.0	25.4	228.60	9.0	1.0	0.25	2	0.50	12.70	17	6368
10	5	76	40.0	25.4	254.00	10.0	1.0	0.20	2	0.40	10.16	22	6947
11	5	81	41.0	25.4	279.40	11.0	1.0	0.20	2	0.40	10.16	22	6947
12	3	84	42.0	25.4	304.80	12.0	1.0	0.33	2	0.67	16.93	12	5692
13	2	86	43.0	25.4	330.20	13.0	1.0	0.50	2	1.00	25.40	8	4859
14	3	89	44.0	25.4	355.60	14.0	1.0	0.33	2	0.67	16.93	12	5692
15	3	92	45.0	25.4	381.00	15.0	1.0	0.33	2	0.67	16.93	12	5692
16	3	95	46.0	25.4	406.40	16.0	1.0	0.33	2	0.67	16.93	12	5692
17	3	98	47.0	25.4	431.80	17.0	1.0	0.33	2	0.67	16.93	12	5692
18	3	101	48.0	25.4	457.20	18.0	1.0	0.33	2	0.67	16.93	12	5692
19	3	104	49.0	25.4	482.60	19.0	1.0	0.33	2	0.67	16.93	12	5692
20	3	107	50.0	25.4	508.00	20.0	1.0	0.33	2	0.67	16.93	12	5692
21	3	110	51.0	25.4	533.40	21.0	1.0	0.33	2	0.67	16.93	12	5692
22	3	113	52.0	25.4	558.80	22.0	1.0	0.33	2	0.67	16.93	12	5692
23	3	116	53.0	25.4	584.20	23.0	1.0	0.33	2	0.67	16.93	12	5692
24	3	119	54.0	25.4	609.60	24.0	1.0	0.33	2	0.67	16.93	12	5692
25	3	122	55.0	25.4	635.00	25.0	1.0	0.33	2	0.67	16.93	12	5692
26	4	126	56.0	25.4	660.40	26.0	1.0	0.25	2	0.50	12.70	17	6368



(after Webster et al., 1992)
Webster, S. L., Grau, R. H., and Williams, T. P. (1992). Description and application of dual mass dynamic cone penetrometer. Department of the Army Waterways Equipment Station, No. GL-92-3.



PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	TP-2	2	28	47	22	Yellow-brown lean clay (CL)
■	TP-8	2	32	46	21	Yellow-brown lean clay (CL)

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The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

NW Farm Credit Building
Salem, Oregon

GeoEngineers

Figure A-25

21978-002-02 Date Exported: 01/14/20

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10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 19-354-107 **CLIENT NO:** 99999

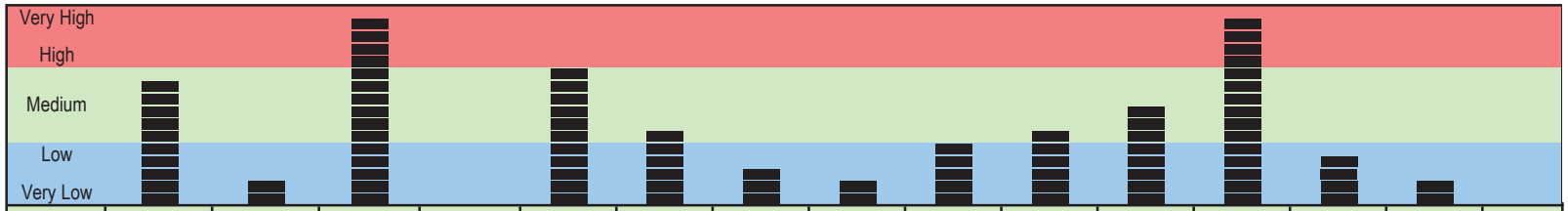
SEND TO: GEOENGINEERS, INC.
4000 KRUSE WAY PLACE BLDG 3
LAKE OSWEGO, OR 97035-

GROWER:

SUBMITTED BY: JASON WEBER

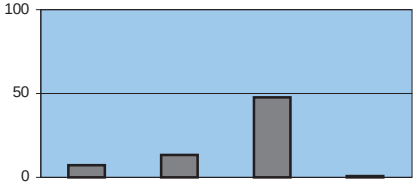
Graphical Soil Analysis Report

DATE OF REPORT: 01/10/20 **LAB NO:** 58762 **SAMPLE ID:** COMP1 **PAGE:** 1



Analyte	Organic Matter %	Nitrogen NO_3-N ppm	Phosphorus Weak Bray ppm	Phosphorus $NaHCO_3$-P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Chloride Cl ppm
Results	4.1	4	92	79	281	163	958	14	10	1.4	8	92	0.7	0.3	

Percent Cation Saturation (computed)



Potassium K %	Magnesium Mg %	Calcium Ca %	Sodium Na %
7.2	13.4	47.8	0.6

ACIDIC — BASIC

LOW — AVERAGE — HIGH

ECe dS/m	CEC meq/100g	Ex. Lime	pH
0.4	10.0	L	5.3

INCREASING SALINITY →

← INCREASING NEED FOR LIME

Buffer pH: 6.3

NaHCO3-P unreliable at this soil pH

Soil Fertility Guidelines

CROP: LANDSCAPE **RATE:** lb/1000 sq ft **NOTES:**

Dolomite (100 score)	Lime (100 score)	Gypsum	Elemental Sulfur	Nitrogen N	Phosphate P_2O_5	Potash K_2O	Magnesium Mg	Sulfur SO_4-S	Zinc Zn	Manganese Mn	Iron Fe	Copper Cu	Boron B	
140				3.4				0.5					*	

COMMENTS

LIME REQUIREMENT: Liming may be necessary if buffer index is less than 6.9. Guidelines are based upon common agricultural lime (100-score) per six-inch depth to raise SOIL pH to about 6.5.
PRIOR TO PLANTING: Spread the above requirements per 1000 sq ft and mix into the top 6 inches of soil.
Initially, limit nitrogen to 25-30 ppm NO3-N or 1.5 lb N/1000 sq ft, to avoid salt damage.
SPLIT any extra nitrogen evenly over the active growing season. Adjust rate according to local condition and requirements. Allow for adequate establishment first (up to 30 days).
* ZINC: Where levels are low, apply according to label instructions. Consider fertilizer brands that als contain zinc, although they may not be sufficient to correct a severe deficiency.

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REPORT NUMBER: 19-354-107 **CLIENT NO:** 99999

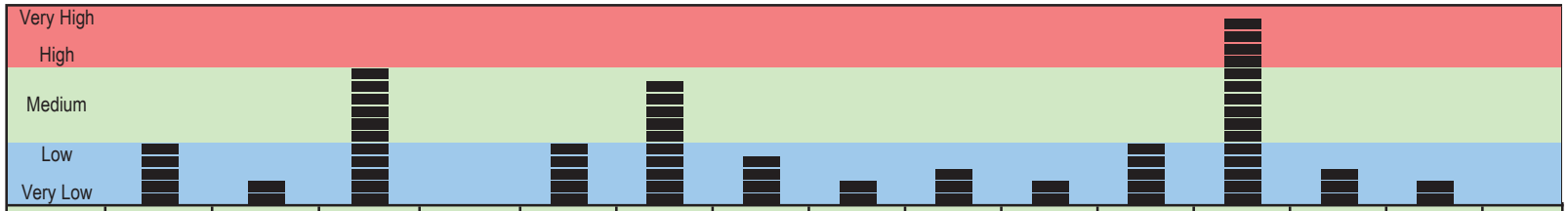
SEND TO: GEOENGINEERS, INC.
4000 KRUSE WAY PLACE BLDG 3
LAKE OSWEGO, OR 97035-

GROWER:

SUBMITTED BY: JASON WEBER

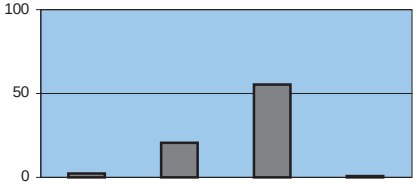
Graphical Soil Analysis Report

DATE OF REPORT: 01/10/20 **LAB NO:** 58763 **SAMPLE ID:** COMP2 **PAGE:** 2



Analyte	Organic Matter %	Nitrogen NO_3-N ppm	Phosphorus Weak Bray ppm	Phosphorus $NaHCO_3$-P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Chloride Cl ppm
Results	2.3	3	32	27	128	351	1546	20	6	0.3	4	54	0.6	0.2	

Percent Cation Saturation (computed)



Potassium K %	Magnesium Mg %	Calcium Ca %	Sodium Na %
2.3	20.7	55.3	0.6

ACIDIC — BASIC

LOW — AVERAGE — HIGH

ECe dS/m	CEC meq/100g	Ex. Lime	pH
0.4	13.9	L	5.7

INCREASING SALINITY →

← INCREASING NEED FOR LIME

Buffer pH: 6.6

NaHCO3-P unreliable at this soil pH

Soil Fertility Guidelines

CROP: LANDSCAPE **RATE:** lb/1000 sq ft **NOTES:**

Dolomite (100 score)	Lime (100 score)	Gypsum	Elemental Sulfur	Nitrogen N	Phosphate P_2O_5	Potash K_2O	Magnesium Mg	Sulfur SO_4-S	Zinc Zn	Manganese Mn	Iron Fe	Copper Cu	Boron B	
	70			3.5	2.0	3.5		0.6	*				*	

COMMENTS

MICRONUTRIENTS: Where levels appear to be high, avoid any further applications for the time being. Very high (VH) levels may not necessarily be toxic, but avoid. Maintain correct soil pH.
* BORON may not necessarily be deficient in the soil, and it is hard to correct an excessive application Therefore, apply boron only if confirmed deficient through a leaf analysis.
PLEASE REFER to previous comments for remaining report.

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REPORT NUMBER: 19-354-107 **CLIENT:** 99999

SUBMITTED BY:

SEND TO: GEOENGINEERS, INC.
4000 KRUSE WAY PLACE BLDG 3
LAKE OSWEGO, OR 97035-

GROWER:

DATE OF REPORT: 01/10/20

SOIL PHYSICAL CHARACTERISTICS

Sample ID	Lab Number	% Sand	% Silt	% Clay	Soil Texture	Moisture @ 1/3 Bar	Moisture @ 15 Bar	Available Water %
COMP1	58762	16	55	29	SILTY CLAY LOAM			
COMP2	58763	12	59	29	SILTY CLAY LOAM			

NOTES:

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Report No: 19-354-107

Account No: 99999-D

Send to: GEOENGINEERS, INC
4000 KRUSE WAY PL. BLDG.3
LAKE OSWEGO, OR 97035

Project ID: ANDREW BORGELT

Submitted by: JASON WEBER

Lab Number: 58762

Sample ID: COMP1

Date Received: 12/20/2019
Date Reported: 01/10/2020

METALS SOIL ANALYSIS REPORT

Sample Preparation Method: EPA SW846-3050 B

Detection Limit mg/kg	Analyte	Level Found mg/kg	Method Code
0.25	Arsenic	3.35	EPA SW846-6010
0.5	Lead	13.5	EPA SW846-6010
0.05	Mercury	BDL	EPA SW846-7471A

BDL - INDICATES THE LEVEL FOUND IS BELOW THE ESTABLISHED DETECTION LIMIT FOR THAT ANALYTE.
ANALYZED ON A DRY BASIS.

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Rogell Rogers, CCA, PCA
Agronomist

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Report No: 19-354-107

Account No: 99999-D

Send to: GEOENGINEERS, INC
4000 KRUSE WAY PL. BLDG.3
LAKE OSWEGO, OR 97035

Project ID: ANDREW BORGELT

Submitted by: JASON WEBER

Lab Number: 58763

Sample ID: COMP2

Date Received: 12/20/2019
Date Reported: 01/10/2020

METALS SOIL ANALYSIS REPORT

Sample Preparation Method: EPA SW846-3050 B

Detection Limit mg/kg	Analyte	Level Found mg/kg	Method Code
0.25	Arsenic	5.72	EPA SW846-6010
0.5	Lead	10.9	EPA SW846-6010
0.05	Mercury	BDL	EPA SW846-7471A

BDL - INDICATES THE LEVEL FOUND IS BELOW THE ESTABLISHED DETECTION LIMIT FOR THAT ANALYTE.
ANALYZED ON A DRY BASIS.

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Agronomist

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A&L TECH NOTES

SOIL ANALYSIS

General Guidelines for Interpreting Soil Analysis Ratings

Comments: Note that the cations potassium, magnesium, calcium and sodium are rated according to what percentage of the total cation exchange capacity they take.
A clay soil may have 4,000 ppm calcium whereas a sandy soil may have only 400 ppm and both may be rated as "medium" in terms of their percent cation saturation.

These ratings are not crop-specific. However, when soil fertility guidelines are requested, specific crop requirements and tolerances are taken into account.

Analyte	Description	Units	VLow	Low	Medium	High	VHigh
OM	Organic Matter	percent	0.3	2.2	3.7	5.2	15.0
pH	Soil pH	pH	5.0	6.0	7.5	8.5	10.0
P1	Weak Bray-phosphorus	ppm	8.0	17.0	26.0	39.0	90.0
HCO_3-P	$NaHCO_3$-phosphorus	ppm	3.0	7.0	13.0	22.0	50.0
K	Potassium	% Cation Sat.	0.6	2.0	5.0	10.0	15.0
Mg	Magnesium	% Cation Sat.	5.0	10.0	20.0	25.0	35.0
Ca	Calcium	% Cation Sat.	35.0	60.0	70.0	75.0	85.0
Na	Sodium	% Cation Sat.	1.0	3.0	5.0	10.0	30.0
NO_3-N	Nitrate-Nitrogen	ppm	4.0	12.0	25.0	40.0	65.0
S	Sulfate-Sulfur	ppm	3.0	10.0	25.0	35.0	60.0
Zn	Zinc	ppm	0.5	1.0	3.0	6.0	9.0
Mn	Manganese	ppm	1.0	2.0	12.0	30.0	40.0
Fe	Iron	ppm	5.0	10.0	16.0	25.0	35.0
Cu	Copper	ppm	0.3	0.8	1.2	2.5	5.0
B	Boron	ppm	0.3	0.5	1.2	2.0	5.0
Ex. Lime	Excess Lime	percent	1.0	2.0	3.0	4.0	7.0
SS (ECe)	Soluble Salts	mmhos/cm	0.3	0.7	2.0	4.0	6.0
Cl	Chloride	ppm	70.0	170.0	350.0	900.0	999.9
Mo	Molybdenum	ppm	0.05	0.1	0.2	0.4	1.0

Example: Organic matter = "Medium" between 2.3% and 3.7% (inclusive of numbers)

A & L Western Agricultural Laboratories, Inc.

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Phone (209) 529-4080 • Fax (209) 529-4736

Oregon Office:
10220 S.W. Nimbus Ave., Bldg. K-9
Portland, OR 97223
Phone (503) 968-9225 • Fax (503) 598-7702

02/02

The Soil Experts.

EXPLANATION OF SOIL FERTILITY GUIDELINES

CROP

Crops are listed in the same order as they appear on the information sheet or cover letter, submitted with soil samples. If you do not specify a desired yield goal, one will be selected on the basis of the information supplied.

SOIL AMENDMENTS

DOLOMITIC AND CALCITIC LIME:
Limestone recommendations are based on the Sikora buffer index which mimics the SMP buffer index. Normally, they will be sufficient to raise the soil pH to 6.5. Comments will stipulate otherwise, when dealing with organic soils or acid-loving crops.
Limestone recommendations will be based on a six-inch depth of soil. If lime is to be incorporated to a greater depth, rates can be increased accordingly. However, adequate incorporation is essential to avoid localized high pH zones.
If the magnesium saturation of the soil is less than 15%, dolomitic limestone will generally be recommended. If it is greater than 15%, calcitic limestone will generally be recommended.

GYPSUM AND ELEMENTAL SULFUR:
Gypsum may be recommended if soils contain more than 5% sodium saturation or more than 25% magnesium saturation.
Elemental sulfur or acids will be recommended if free lime is present or if the soil pH is considered too high. Note that gypsum DOES NOT effectively reduce soil pH.

FERTILIZER RECOMMENDATIONS

Fertilizer recommendations are designed to provide sufficient nutrients for the crop to be grown at the desired yield level and to build toward a balanced cation exchange capacity. However, if a soil is severely deficient of nutrients, it may be economically impractical to raise levels sufficiently in one year.
If soil nutrient levels are excessive, comments will indicate this.

NITROGEN:
Time of application and type of nitrogen fertilizer are two primary considerations in best management practices (BMP's).
Timing of applications should coincide with greatest crop demand, unless slow-release fertilizers are employed.
Nitrate-nitrogen is immediately available to the crop, but is also subject to leaching.
Ammonium-nitrogen is less subject to leaching, and may be considered in the fertilizer program.
Urea-nitrogen is subject to leaching until bacterial conversion into the ammonium form takes place. Specially coated slow-release forms of urea are also available.

PHOSPHATE:
Phosphate fertilization is essential for vigorous root development and early crop establishment.
Phosphate recommendations based on soil tests may sometimes seem excessive. Phosphate reserves from a greater depth may prove to be adequate, particularly in tree and vine crops. A foliar analysis is always recommended to confirm overall phosphate status.

POTASH:
Potash recommendations are based on both the parts per million of potassium existing in the soil and the percent potassium saturation. Sandy soils tend to hold less potassium and a higher cation saturation percentage may be advised.
In order to avoid damage, normally no more than 20 to 40 lb of potash per acre should be banded close to seed. Further quantities may be broadcast or water-run.

MAGNESIUM:
Low levels of soil magnesium may be corrected by either adding dolomitic limestone where soil pH is also low, or by adding neutral salts such as magnesium sulfate (Epsom salt) and sulfate of potash magnesia where soil pH is acceptable.
Dolomitic limestone may contain 10 to 12% Mg.
Magnesium sulfate contains 10% Mg.
Sulfate of potash magnesia contains 11% Mg.

SULFATE-SULFUR:
Sulfur is absorbed by plant roots in a sulfate form (SO_4). Note that if elemental sulfur or gypsum is recommended, there is no need to add further sulfur.
Elemental sulfur will slowly convert to sulfuric acid (H_2SO_4) through microbial action.
Gypsum ($Ca\ SO_4.2H_2O$) contains up to 18% sulfate-sulfur.

MICRONUTRIENTS:
(Zn, Mn, Fe, Cu, B)
Recommendations for micronutrients are given in the elemental form and on a broadcast basis.
Banded applications: divide the rate by a factor of 2 to 3.
Chelated materials: follow label directions.
In many cases, the most efficient application of micronutrients is through microirrigation or foliar sprays.
Always confirm micronutrient deficiencies through tissue analysis, particularly when considering boron applications.

HOME GARDENS, TURF, AND ORNAMENTALS

Recommendations may be converted into pounds per thousand square feet when dealing with smaller areas.

lb/ac ÷ 44 = approximately lb/1000 sq ft
(43,560 sq ft/ac)

For additional information, refer to the A & L Agronomy Handbook

Revised 05/12

EXPLANATION OF SOIL ANALYSIS REPORT

ORGANIC MATTER:
Percent organic matter is determined by combustion on a dried, screened sample. Total organic content may be higher than reported if a portion of un-decomposed organic matter is excluded during screening. Ground samples are passed through a 2 mm screen.
Estimated Nitrogen Release (ENR) from the organic matter during the growing season is based on soil texture and environmental conditions, and can therefore be only an estimate.

PHOSPHORUS:
A & L Western Agricultural Laboratories routinely run two extractions for phosphorus.
Weak Bray (P1) for acidic soils: A level above 30 ppm P is desired for top production in most crops. This extraction procedure is unreliable in calcareous soils (where free lime is present).
Olsen (sodium bicarbonate) for calcareous soils: A level above 15 ppm P is desired for top production in most crops.

POTASSIUM, MAGNESIUM, CALCIUM, SODIUM:
The above four elements are referred to as cations and together with any free hydrogen ions, determine what is referred to as the computed Cation Exchange Capacity (CEC). Excessive levels of calcium and sodium will cause CEC to be over-estimated. See across.

HYDROGEN:
Hydrogen ions are measured in meq/100g soil and are computed according to soil pH. This column will be empty if soil pH is 7.0 and above. View with caution if soil pH is less than 5.0, as the computed CEC may be over-estimated.

pH:
This is measured in terms of either soil pH or a buffer index.
Soil pH: This is measured off a saturated paste using de-ionized water. It is a measure of active acidity or alkalinity. Mineral soils should have a pH of 6.0 to 7.0 for most crops, while a pH of 5.5 to 6.0 is adequate for organic soils (over 20% organic matter).
Buffer Index: This is a measure of both active and reserve acidity, and is measured off a Sikora buffer solution that mimics that of Shoemaker-McLean-Pratt. This may also be computed on a standard soil test, depending on soil pH and CEC.
Lime requirement depends on the quality *(lime score)* of the liming material used, and is a function of the total neutralizing value or calcium carbonate equivalent (cce), degree of fineness or particle size (ff), and the moisture factor (mf).
For example:
Common agricultural lime may contain a lime score of 70.

cce	x	ff	x	mf	=	lime score
90	x	0.85	x	0.90	=	70

The following table is a general guideline for use of such a material. For other liming materials, divide 70 by the known lime score, then multiply by the rates in the table.

Tons/acre agricultural lime (70-score) per 6-inch depth Adapted from "Methods of Soil Analysis" Part 2, ASA Publication, but using the Sikora buffer method.

Buffer index	To pH 6.5	To pH 6.0	To pH 5.5
7.0	none	none	none
6.9	0.5	none	none
6.8	1.0	0.5	none
6.7	1.5	1.0	none
6.6	2.0	1.5	1.0
6.5	3.0	2.0	1.5
6.4	3.5	2.5	2.0
6.3	4.0	3.0	2.5
6.2	4.5	3.5	3.0
6.1	5.0	4.0	3.5
6.0	6.0	4.5	4.0
5.9	6.5	5.0	4.5
5.8	7.0	6.0	4.5
5.7	8.0	6.5	5.0
5.6	9.0	7.5	5.5
5.5	9.5	7.5	6.0

Example: If the buffer index reads 6.6 then one would require about 2.0 tons/ac to raise soil pH to 6.5, 1.5 tons/ac to raise it to 6.0, and 1.0 ton/ac to raise it to 5.5.

CATION EXCHANGE CAPACITY (CEC):
This is a measure of the capacity of the soil to hold exchangeable cations. These include potassium (K), magnesium (Mg), calcium (Ca), sodium (Na), and hydrogen (H).
CEC is measured in terms of milliequivalents per 100 grams of soil (meq/100g). It depends largely on the amount of clay and organic matter present. The larger this value, the more cations the soil is able to hold against leaching.

PERCENT CATION SATURATION:
This is computed after converting the exchangeable cations in ppm to meq/100g soil. A well-balanced soil may contain 2-5% K, 10-20% Mg, 60-70% Ca, less than 5% Na, and less than 15% H.

NITRATE-NITROGEN and SULFATE-SULFUR:
Only these readily available forms of nitrogen and sulfur are provided on the standard soil report. Extra testing may be requested for other forms such as total levels or organic and ammonium-nitrogen.

MICRONUTRIENTS (Zn, Mn, Fe, Cu, B):
Always refer to a plant analysis to confirm micronutrient status.

EXCESS LIME:
This is a visual rating of free lime present by use of the "fizz" test using dilute acid. "H" may be associated with poor growth in calcareous soils.

SOLUBLE SALTS (mmhos/cm):
Reporting units are equivalent to dS/m shown on other reports. Soluble salts are measured off a saturated paste extract, and their interpretation is crop-dependent.

Revised 05/12

APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory "limitations" provisions in its reports. Please confer with GeoEngineers if you need to know more how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for Northwest Farm Credit Services and their agents for the Project specifically identified in the report. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with Northwest Farm Credit Services dated October 18, 2019, and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the proposed NW Farm Credit Building Project in Salem, Oregon. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- elevation, configuration, location, orientation or weight of the proposed structure;

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Environmental Concerns Are Not Covered

Unless environmental services were specifically included in our scope of services, this report does not provide any environmental findings, conclusions, or recommendations, including but not limited to, the likelihood of encountering underground storage tanks or regulated contaminants.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical and Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

We have developed the following recommendations based on data gathered from subsurface investigation(s). These investigations sample just a small percentage of a site to create a snapshot of the subsurface conditions elsewhere on the site. Such sampling on its own cannot provide a complete and accurate view of subsurface conditions for the entire site. Therefore, the recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most

effective means of managing the risks associated with unanticipated conditions. If another party performs field observation and confirms our expectations, the other party must take full responsibility for both the observations and recommendations. Please note, however, that another party would lack our project-specific knowledge and resources.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- encourages contractors to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer.

Contractors Are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.

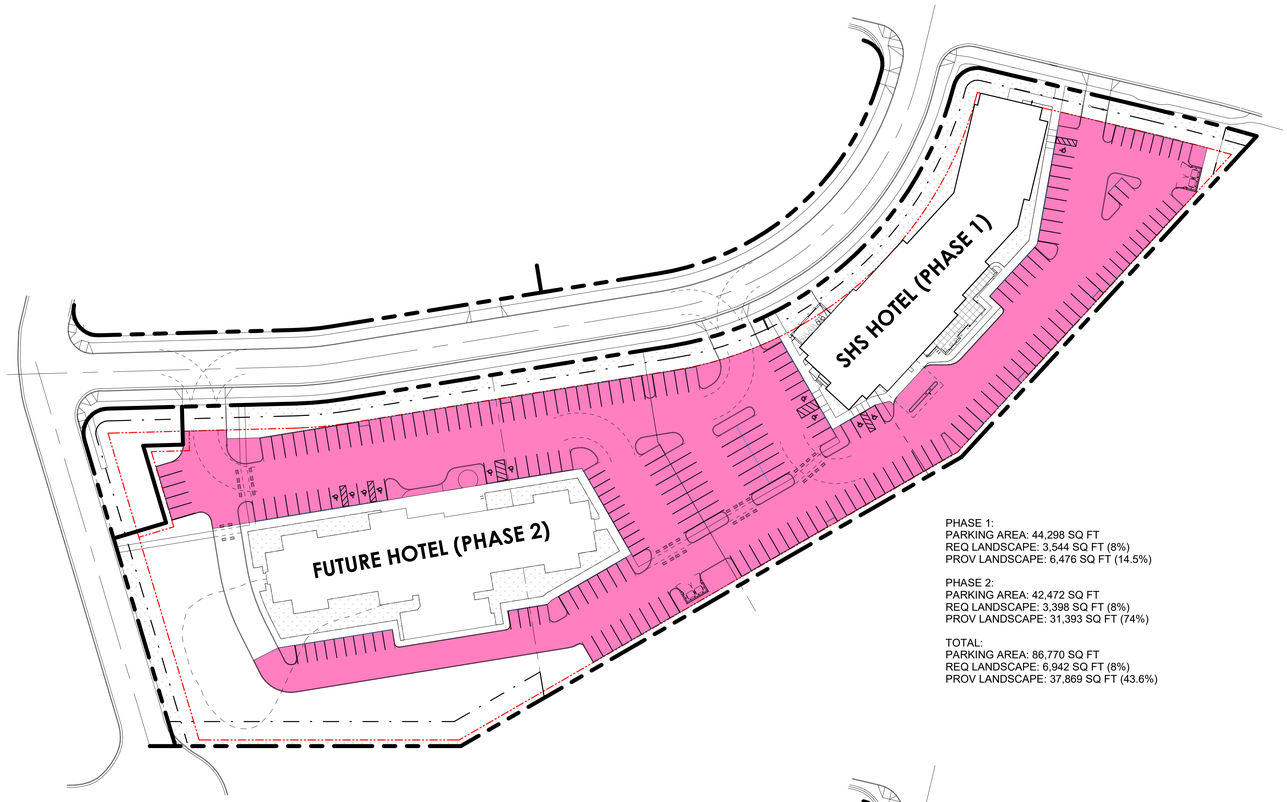
Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

GeoEngineers

Exhibit K – Architectural Sheets



PHASE 1:
PARKING AREA: 44,298 SQ FT
REQ LANDSCAPE: 3,544 SQ FT (8%)
PROV LANDSCAPE: 6,476 SQ FT (14.5%)

PHASE 2:
PARKING AREA: 42,472 SQ FT
REQ LANDSCAPE: 3,398 SQ FT (8%)
PROV LANDSCAPE: 31,393 SQ FT (74%)

TOTAL:
PARKING AREA: 86,770 SQ FT
REQ LANDSCAPE: 6,942 SQ FT (8%)
PROV LANDSCAPE: 37,869 SQ FT (43.6%)

2 DEVELOPMENT PLAN PARKING AREA
1" = 50'-0"



PHASE 1:
PARKING AREA: 44,298 SQ FT
REQ LANDSCAPE: 3,544 SQ FT (8%)
PROV LANDSCAPE: 6,476 SQ FT (14.5%)

PHASE 2:
PARKING AREA: 42,472 SQ FT
REQ LANDSCAPE: 3,398 SQ FT (8%)
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TOTAL:
PARKING AREA: 86,770 SQ FT
REQ LANDSCAPE: 6,942 SQ FT (8%)
PROV LANDSCAPE: 37,869 SQ FT (43.6%)

1 DEVELOPMENT PLAN - PARKING LANDSCAPE AREA
1" = 50'-0"

DEVELOPMENT INFORMATION

AREA MATRIX
ZONING: IC

PHASE 1 SITE AREA: 1.99 ACRES (86,902 SQ FT)
PHASE 2 SITE AREA: 2.92 ACRES (127,195 SQ FT)
TOTAL COMBINED SITE AREA: 4.91 ACRES (214,097 SQ FT) ~4.92
PHASE 1 LANDSCAPE AREA: 23% / 0.45 ACRES (19,813 SQ FT)
PHASE 2 LANDSCAPE AREA: 37% / 1.09 ACRES (47,319 SQ FT)
TOTAL COMBINED LANDSCAPE AREA: 33% / 1.54 ACRES (67,132 SQ FT)

BUILDING TOTALS
PHASE 1 BUILDING HEIGHT: 53' 9 5/8" (4-STORIES)
PHASE 2 BUILDING HEIGHT: 50'-0"± (4-STORIES)

"SHORT TERM COMMERCIAL LODGING" (HOTEL) OCCUPANCY: R-1
PHASE 1 GROSS BUILDING AREA: 74,108 SQ FT
PHASE 2 GROSS BUILDING AREA: 64,862 SQ FT

DEVELOPMENT PARKING
PARKING STALLS MAX: 1.5 (218 UNITS) = 327 MAX STALLS
PARKING STALLS PROVIDED: 220 STALLS (114-PHASE 1 / 106-PHASE 2)
STANDARD STALLS - 170 STALLS (90-PHASE 1 / 84-PHASE 2)
COMPACT STALLS - 50 STALLS (24-PHASE 1 / 26-PHASE 2) (23%)

REQUIRED BIKE PARKING: 6 STALLS (3-PHASE 1 / 3-PHASE 2)
PROVIDED BIKE PARKING: 8 STALLS (4-PHASE 1 / 4-PHASE 2)

PHASE 1 OFF-STREET PARKING AREA: 44,298 SQ FT
PHASE 1 PARKING LANDSCAPE: 14.5% (6,476 SQ FT) (MIN REQ'D 8%)

PHASE 2 OFF-STREET PARKING AREA: 42,472 SQ FT
PHASE 2 PARKING LANDSCAPE: 27% (31,393 SQ FT) (MIN REQ'D 74%)

SITE LEGEND

- SETBACK
- EASEMENT
- PROPERTY LINE
- FENCE
- ACCESSIBLE ROUTE

THE RICHARDSON DESIGN PARTNERSHIP, L.L.C.
510 South 600 East
Salt Lake City, Utah 84102
P: 801.355.6868
F: 801.355.6880

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CONSULTANT:

OWNER:
WEALTH MANAGEMENT
TBD

PROJECT:
FARM CREDIT DRIVE
HOTEL
DEVELOPMENT
FARM CREDIT DR SALEM, OR

#	ISSUE DATE	DESCRIPTION
	08.01.2024	
#	REV. DATE	DESCRIPTION

DESIGN DEVELOPMENT

SITE AREA PLAN

PROJECT #: Project Number
DRAWN BY: Author
CHECKED BY: Checker

SHEET #
AS099

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SITE LEGEND

- SETBACK
- EASEMENT
- PROPERTY LINE
- FENCE
- ACCESSIBLE ROUTE

DEVELOPMENT INFORMATION

AREA MATRIX
ZONING: IC

PHASE 1 SITE AREA: 1.99 ACRES (86,902 SQ FT)
PHASE 2 SITE AREA: 2.92 ACRES (127,195 SQ FT)
TOTAL COMBINED SITE AREA: 4.91 ACRES (214,097 SQ FT) --4.92
PHASE 1 LANDSCAPE AREA: 23% / 0.45 ACRES (19,813 SQ FT)
PHASE 2 LANDSCAPE AREA: 37% / 1.09 ACRES (47,319 SQ FT)
TOTAL COMBINED LANDSCAPE AREA: 33% / 1.54 ACRES (67,132 SQ FT)

BUILDING TOTALS
PHASE 1 BUILDING HEIGHT: 53' 9 5/8" (4-STORIES)
PHASE 2 BUILDING HEIGHT: 50'-0"± (4-STORIES)

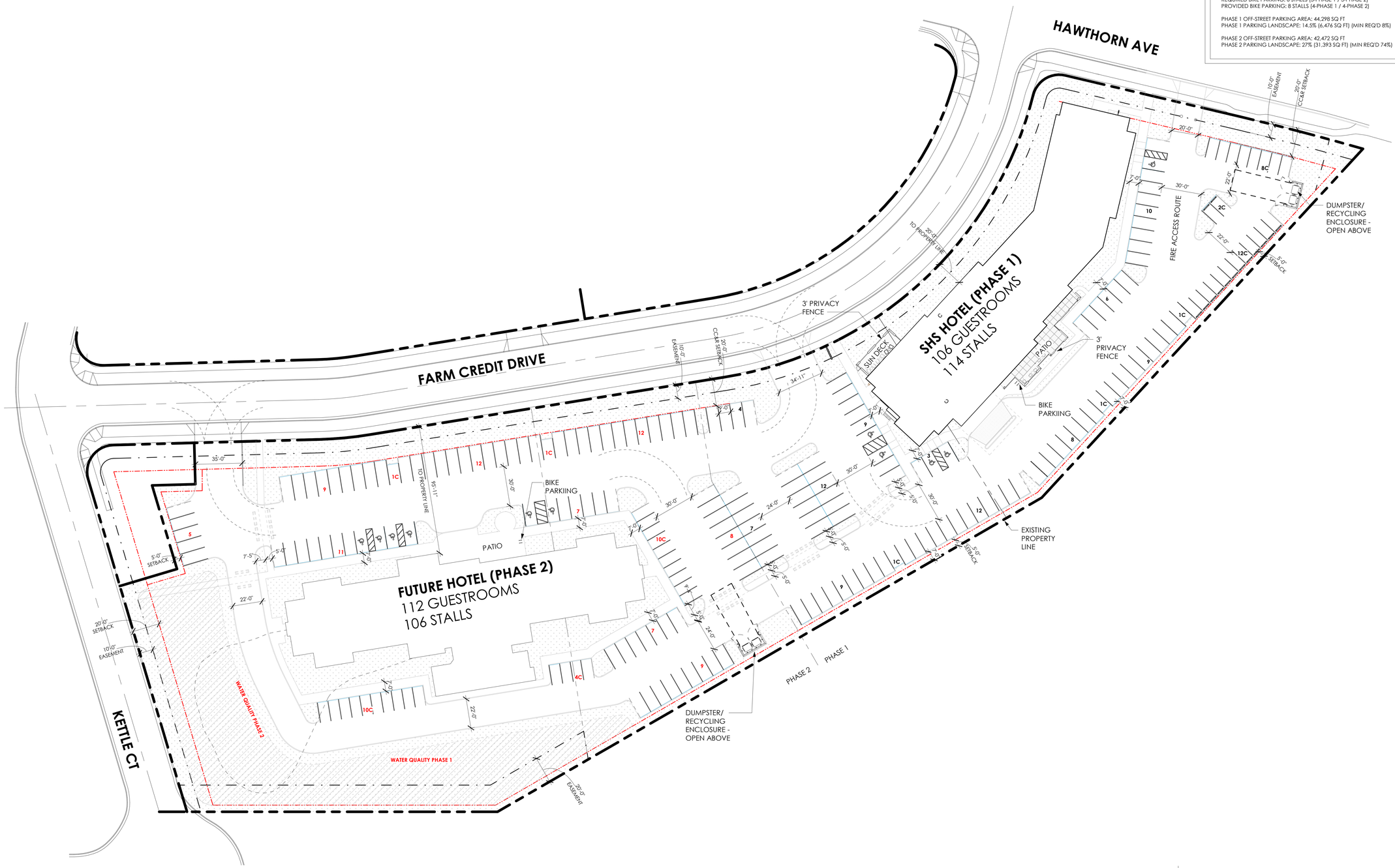
"SHORT TERM COMMERCIAL LODGING" (HOTEL) OCCUPANCY: R-1
PHASE 1 GROSS BUILDING AREA: 74,108 SQ FT
PHASE 2 GROSS BUILDING AREA: 64,862 SQ FT

DEVELOPMENT PARKING
PARKING STALLS MAX: 1.5 (218 UNITS) = 327 MAX STALLS
PARKING STALLS PROVIDED: 220 STALLS (114-PHASE 1 / 106-PHASE 2)
STANDARD STALLS - 170 STALLS (90-PHASE 1 / 84-PHASE 2)
COMPACT STALLS - 50 STALLS (24-PHASE 1 / 26-PHASE 2) (23%)

REQUIRED BIKE PARKING: 6 STALLS (3-PHASE 1 / 3-PHASE 2)
PROVIDED BIKE PARKING: 8 STALLS (4-PHASE 1 / 4-PHASE 2)

PHASE 1 OFF-STREET PARKING AREA: 44,298 SQ FT
PHASE 1 PARKING LANDSCAPE: 14.5% (6,476 SQ FT) (MIN REQ'D 8%)

PHASE 2 OFF-STREET PARKING AREA: 42,472 SQ FT
PHASE 2 PARKING LANDSCAPE: 27% (31,393 SQ FT) (MIN REQ'D 74%)



2 DEVELOPMENT PLAN
AS100
SCALE: 1" = 30'-0"

THE RICHARDSON DESIGN PARTNERSHIP, L.L.C.
510 South 600 East
Salt Lake City, Utah 84102
P: 801.355.6888
F: 801.355.6880

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CONSULTANT:

OWNER: TBD

WEALTH MANAGEMENT

PROJECT: FARM CREDIT DRIVE HOTEL DEVELOPMENT
FARM CREDIT DR SALEM, OR

ISSUE DATE	DESCRIPTION
08.08.2024	
# REV. DATE	DESCRIPTION

DESIGN DEVELOPMENT

DEVELOPMENT PLAN

PROJECT # Project Number
DRAWN BY: Author
CHECKED BY: Checker

SHEET # AS100

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1 AS101 **PHASE 1 SITE PLAN**
SCALE: 1" = 20'-0"

SITE INFORMATION

PROPERTY AREA: 2.00 ACRES (99,506 SQ FT)
ZONING: IC

SPRINGHILL SUITES HOTEL: 4 STORY (106 ROOMS)

PHASE 1 PARKING
PARKING STALLS MAX: 1.5(105 UNITS) = 157.5 MAX STALLS
PARKING STALLS PROVIDED: 114
STANDARD STALLS - 90
COMPACT STALLS "C" - 24

ADA STALLS REQUIRED: 5
ADA STALLS PROVIDED: 5 (1 VAN STALL)

OFF-STREET PARKING AREA: 44,298 SQ FT
REQUIRED PARKING LANDSCAPE: 8% (3,544 SQ FT)
PROVIDED PARKING LANDSCAPE: 14.5% (6,473 SQ FT)

SITE LEGEND

- SETBACK
- EASEMENT
- PROPERTY LINE
- FENCE
- ACCESSIBLE ROUTE

SHEET NOTES

KEY #	KEYNOTE TEXT
10.32	MONUMENT SIGNAGE PER MARRIOTT STANDARDS, COORDINATE WITH ELECTTRICAL AND ACCESS REQUIREMENTS.
10.48	ILLUMINATED BLADE SIGNAGE PER MARRIOTT STANDARDS, COORDINATE WITH ELECTRICAL AND ACCESS REQUIREMENTS

THE RICHARDSON DESIGN PARTNERSHIP, L.L.C.
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Salt Lake City, Utah 84102
P: 801.355.6888
F: 801.355.6880

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CONSULTANT:

OWNER:
WEALTH MANAGEMENT
TBD

PROJECT:
FARM CREDIT DRIVE
HOTEL
DEVELOPMENT
FARM CREDIT DR SALEM, OR

ISSUE DATE	DESCRIPTION
08.08.2024	

# REV. DATE	DESCRIPTION

DESIGN DEVELOPMENT

ARCHITECTURAL
SITE PLAN

PROJECT #: Project Number
DRAWN BY: Author
CHECKED BY: Checker

SHEET #
AS101

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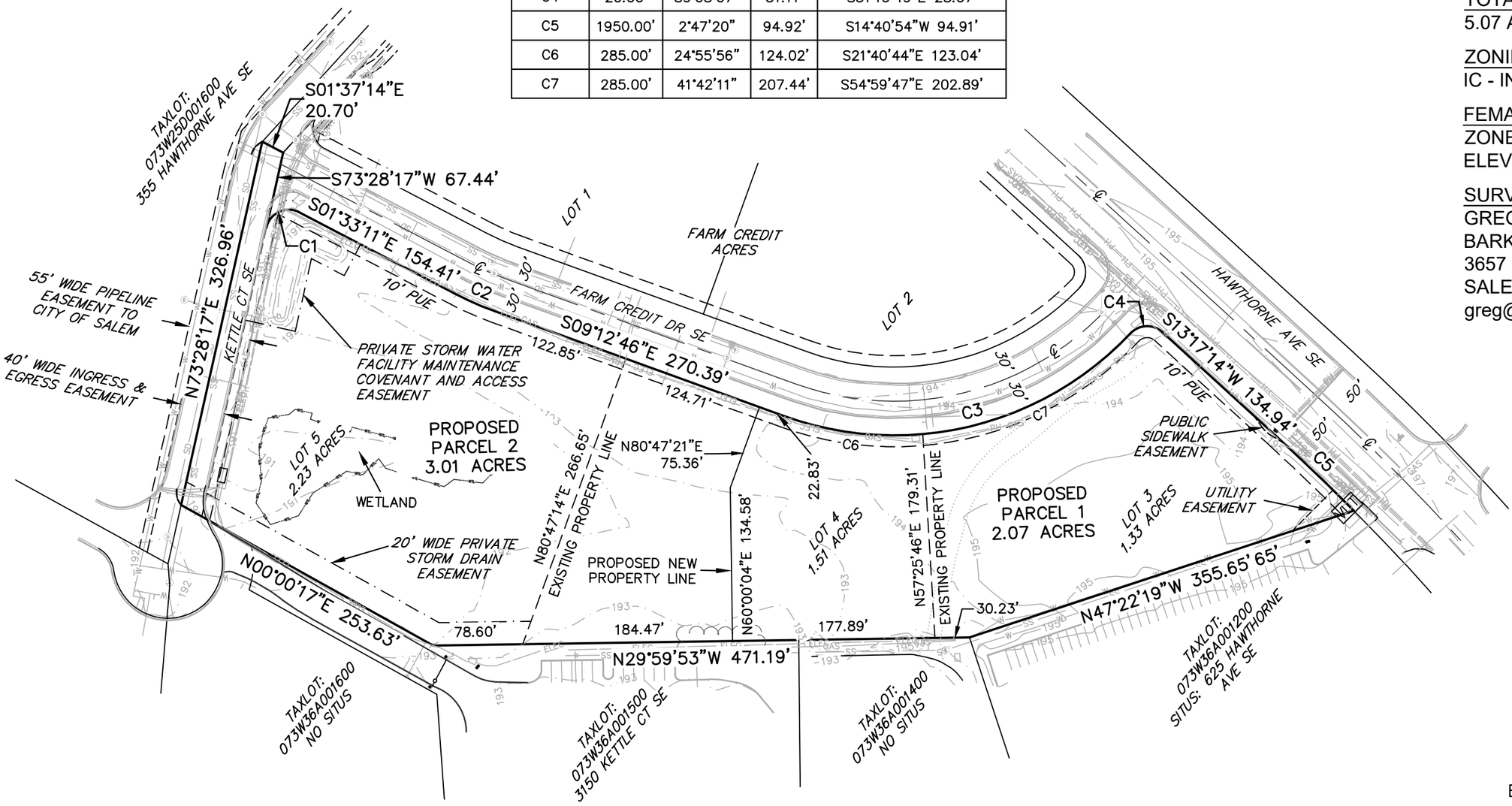
Exhibit L – Replat Plan

PROPOSED REPLAT SITE PLAN

FARM CREDIT ACRES LOTS 3, 4, & 5
LOCATED IN THE N.E 1/4 OF SEC. 36, T. 7 S., R. 3 W., W.M
CITY OF SALEM, MARION COUNTY, OREGON

GRAPHIC SCALE
100' 50' 0' 50' 100' 200'
(IN FEET)
1 inch = 100ft.

CURVE TABLE				
CURVE #	RADIUS	DELTA	LENGTH	CHORD BEARING & DIST.
C1	20.00'	104°58'32"	36.64'	S54°02'27"E 31.73'
C2	285.00'	7°39'35"	38.10'	S05°22'58"E 38.07'
C3	285.00'	66°38'07"	331.46'	S42°31'49"E 313.09'
C4	20.00'	89°08'07"	31.11'	S31°16'49"E 28.07'
C5	1950.00'	2°47'20"	94.92'	S14°40'54"W 94.91'
C6	285.00'	24°55'56"	124.02'	S21°40'44"E 123.04'
C7	285.00'	41°42'11"	207.44'	S54°59'47"E 202.89'



OWNER
SALEM LAND GROUP, LLC, 40%
JOGINDER P. BUGHRAJA, 60%
115 W JACKSON ST, STE 2D
RIDGELAND, MS 39157

SITE ADDRESS
N/A

TAX LOTS
07 3W 36A
2000, 2100, 2200

TOTAL AREA
5.07 ACRES

ZONING
IC - INDUSTRIAL COMMERCIAL

FEMA
ZONE AE - BASE FLOOD
ELEVATION ESTABLISHED

SURVEYOR
GREGORY L. WILSON
BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OR 97317
greg@barkerwilson.com

REGISTERED PROFESSIONAL LAND SURVEYOR

PRELIMINARY

OREGON
JULY 19, 1994
GREGORY L. WILSON
2687

EXPIRES: 6/30/2024

BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OREGON 97317
PHONE (503) 588-8800
FAX (503) 363-2469
EMAIL: GREG@BARKERWILSON.COM

Exhibit M – DSL Concurrence Letter

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

State Land Board

Kate Brown
Governor

Bev Clarno
Secretary of State

Tobias Read
State Treasurer

October 29, 2019

Westech Engineering, Inc.
Attn: Steve Ward
3841 Fairview Industrial Drive SE, Suite 100
Salem, OR 97302

Re: WD # 2019-0458 **Approved**
Wetland Delineation Report for Kettle Court/Hawthorne Avenue
Marion County; T7S R3W S36A, TL1300
Salem Local Wetlands Inventory, Wetland MC-K

Dear Mr. Ward:

The Department of State Lands has reviewed the wetland delineation report prepared by SWCA Environmental Consultants for the site referenced above. Based upon the information presented in the report and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, 2 wetlands (Wetlands A-B, totaling approximately 0.38 acres) and one waterway (Pond) were identified. They are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Marion County, Daniel Evans, PWS, at (503) 986-5271.

Sincerely,

Peter Ryan Digitally signed by Peter Ryan
Date: 2019.10.29 12:24:46
-07'00'

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: C. Mirth Walker, PWS, SWCA Environmental Consultants
City of Salem Planning Department (Maps enclosed for updating LWI)
Kinsey Friesen, Corps of Engineers
Mike DeBlasi, DSL
Patricia Farrell, City of Salem Public Works
Zach Diehl, Kyle Anderson, City of Salem GIS

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4. Call 503-986-5200 with questions.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF of the completed cover from and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

☒ Applicant ☐ Owner Name, Firm and Address: **Steve Ward, PE** **Westech Engineering, Inc.** 3841 Fairview Industrial Drive SE, Suite 100 Salem, OR 97302	Business phone # 503-585-2474 Mobile phone # (optional) 503-931-3460 E-mail: sward@westech-eng.com
☐ Authorized Legal Agent, Name and Address:	Business phone # Mobile phone # E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.
Typed/Printed Name: **Steve Ward** Signature: _____
Date: 8/5/2019 Special instructions regarding site access: **Contact consultant.**

Project and Site Information (using decimal degree format for lat/long.,enter centroid of site or start & end points of linear project)

Project Name: **Kettle Court/Hawthorne Avenue**	Latitude: **44.924761**	Longitude: **-122.995486**
Proposed Use: **Commercial development**	Tax Map # **07 3W 36A**	
Project Street Address (or other descriptive location): **South of Kettle Court SE and west of Hawthorne Avenue SE** City: **Salem** County: **Multnomah**	Township **7S** Range **3W** Section **36A** QQ NE1/4 Tax Lot(s) **1300** Waterway: **N/A** River Mile: **N/A** NWI Quad(s):, **Oregon**	

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: **C. Mirth Walker, PWS** **SWCA Environmental Consultants** 1220 SW Morrison St., Suite 700 Portland, OR 97205	Phone # **503-224-0333 ext. 6250** Mobile phone # **503-860-1708** E-mail: **cmwalker@swca.com**

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: C. Mirth Walker Digitally signed by C. Mirth Walker DN: cn=C. Mirth Walker, o, ou=SWCA Environmental Consultants, email=cmwalker@swca.com, c=US Date: 2019.08.06 11:51:24 -07'00' Date: **July 25, 2019**

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No | Study Area size: **10.13 acres** | Total Wetland Acreage: **0.38**

Check Applicable Boxes Below

☐ R-F permit application submitted	☒ Fee payment submitted **$ 454 to be paid by cc**
☐ Mitigation bank site	☐ Fee ($100) for resubmittal of rejected report
☐ Industrial Land Certification Program Site	☐ Request for Reissuance. See eligibility criteria. (no fee) DSL # _____ Expiration date _____
☐ Wetland restoration/enhancement project (not mitigation)	
☐ Previous delineation/application on parcel If known, previous DSL #	☒ LWI shows wetland or waters on parcel Wetland ID code **MC-K (portion)**

For Office Use Only

DSL Reviewer: DE Fee Paid Date: ____/____/____ DSL WD # 2019-0458
Date Delineation Received: 8/6/19 Scanned: ☐ Electronic: ☒ DSL App. # _____

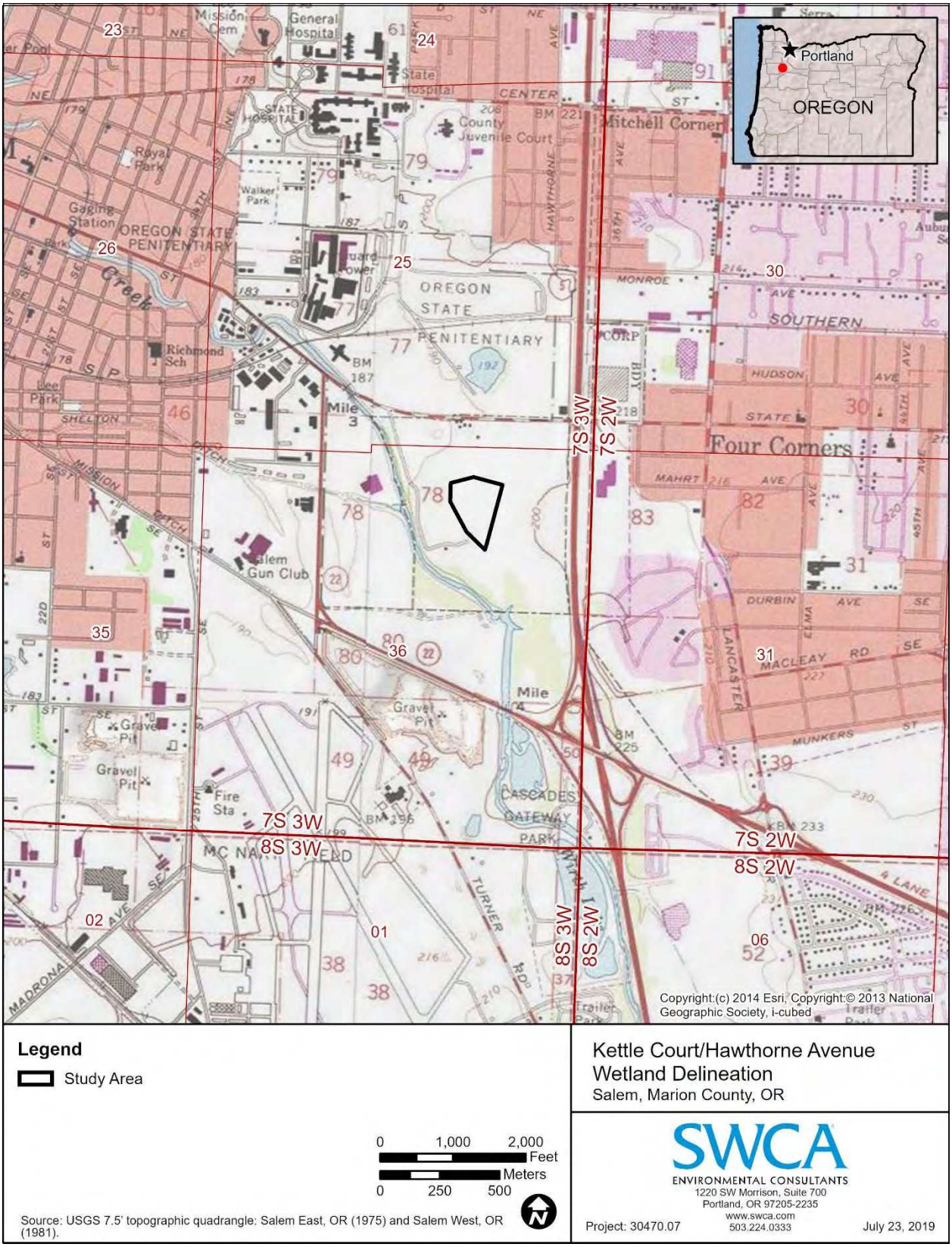


Figure 1. Site location map.

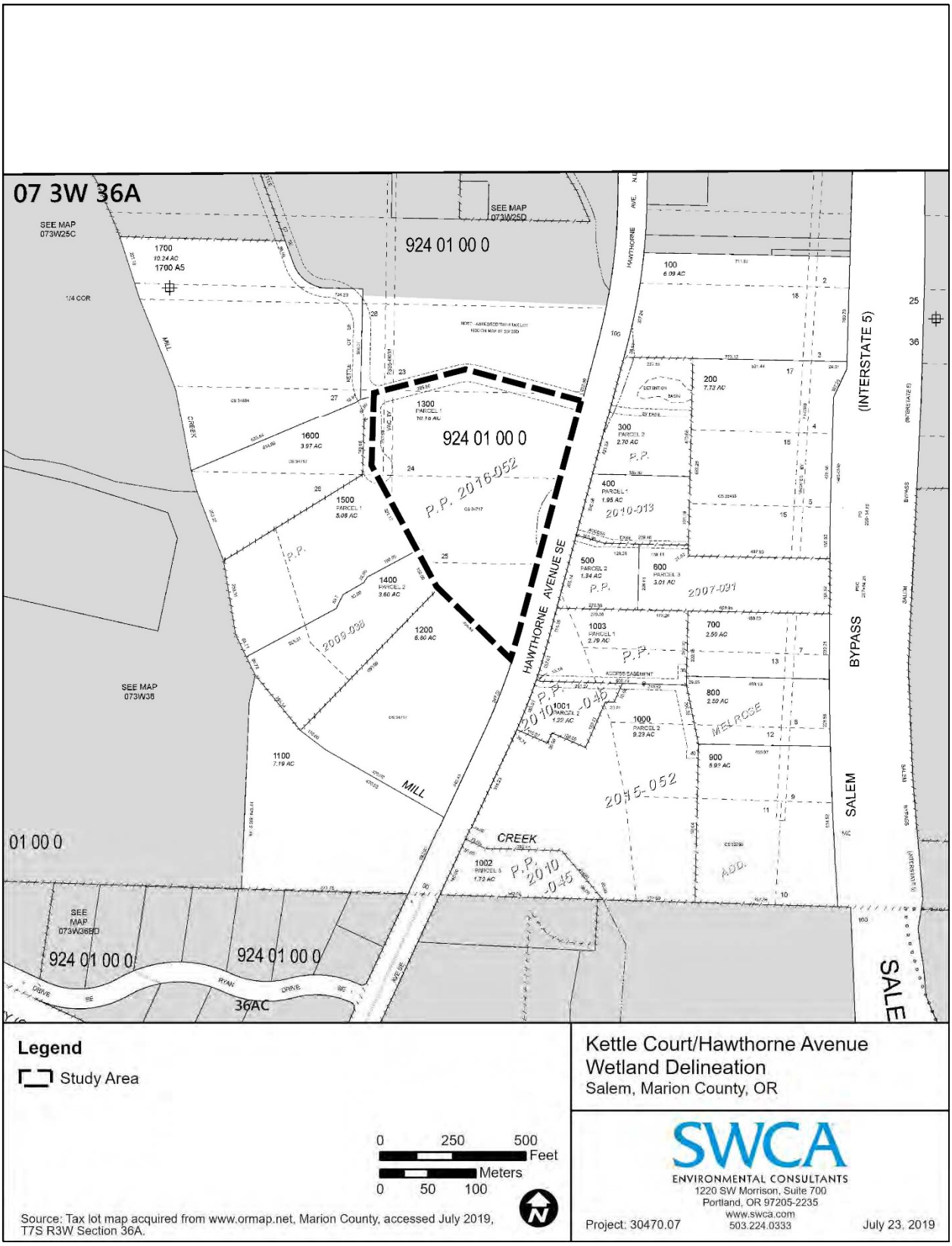
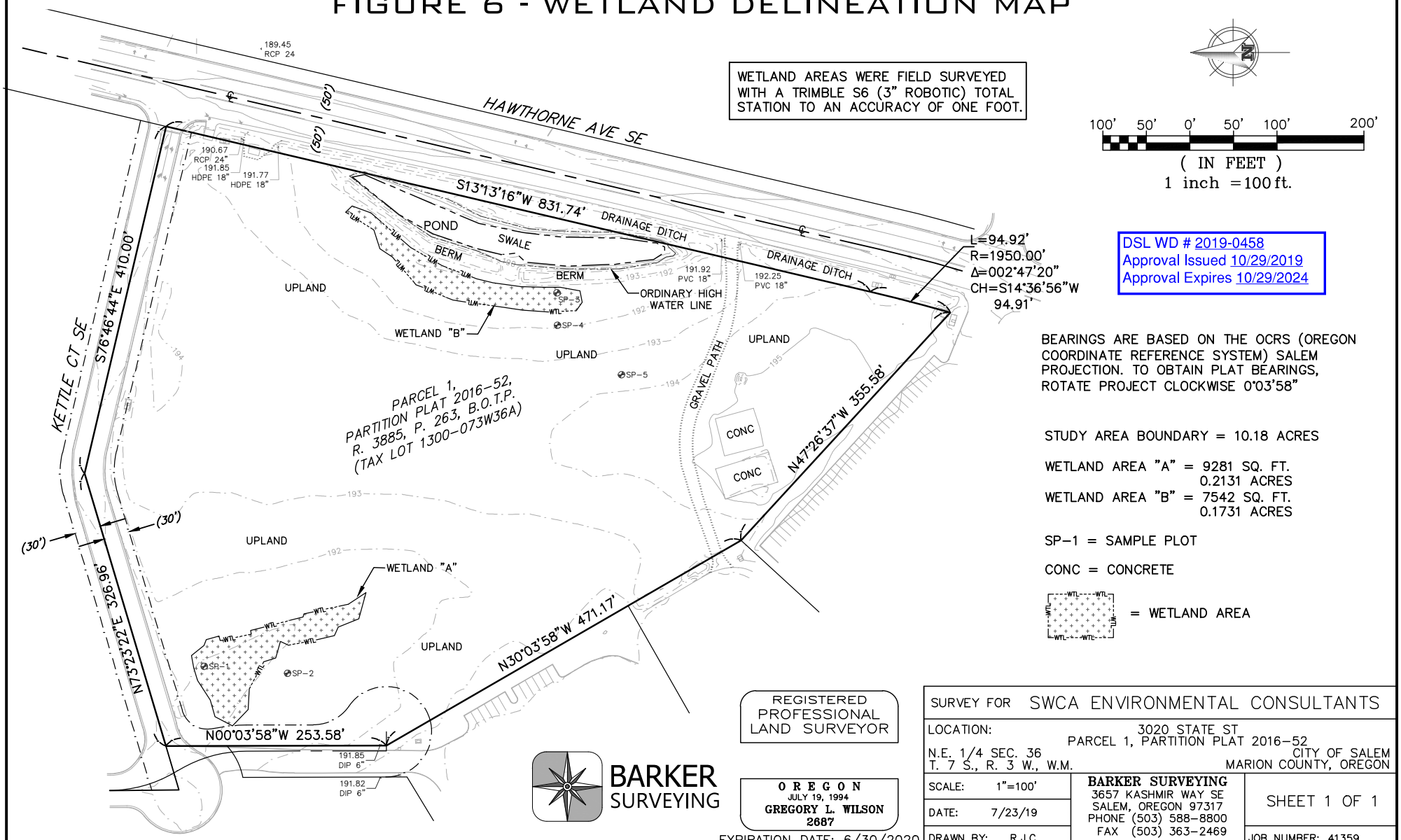


Figure 3. Tax lot map from ORmap on paper base.

FIGURE 6 - WETLAND DELINEATION MAP



WETLAND AREAS WERE FIELD SURVEYED WITH A TRIMBLE S6 (3" ROBOTIC) TOTAL STATION TO AN ACCURACY OF ONE FOOT.

100' 50' 0' 50' 100' 200'
(IN FEET)
1 inch = 100 ft.

DSL WD # 2019-0458
Approval Issued 10/29/2019
Approval Expires 10/29/2024

BEARINGS ARE BASED ON THE OCRS (OREGON COORDINATE REFERENCE SYSTEM) SALEM PROJECTION. TO OBTAIN PLAT BEARINGS, ROTATE PROJECT CLOCKWISE 0°03'58"

STUDY AREA BOUNDARY = 10.18 ACRES

WETLAND AREA "A" = 9281 SQ. FT.
0.2131 ACRES
WETLAND AREA "B" = 7542 SQ. FT.
0.1731 ACRES

SP-1 = SAMPLE PLOT

CONC = CONCRETE

= WETLAND AREA

BARKER SURVEYING

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 19, 1994
GREGORY L. WILSON
2687

EXPIRATION DATE: 6/30/2020

SURVEY FOR SWCA ENVIRONMENTAL CONSULTANTS

LOCATION: 3020 STATE ST
PARCEL 1, PARTITION PLAT 2016-52
N.E. 1/4 SEC. 36 CITY OF SALEM
T. 7 S., R. 3 W., W.M. MARION COUNTY, OREGON

SCALE: 1"=100'
DATE: 7/23/19
DRAWN BY: R.J.C.

BARKER SURVEYING
3657 KASHMIR WAY SE
SALEM, OREGON 97317
PHONE (503) 588-8800
FAX (503) 363-2469
EMAIL: INFO@BARKERWILSON.COM

SHEET 1 OF 1

JOB NUMBER: 41359