Design Review Committee Meeting Agenda
Tuesday, February 04, 2025, 4:00 PM
REMOTE MEETING PARTICIPATION

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To Participate Remotely:

OPTION 1 -

1. Go to www.zoom.us and download the app or click "Join A Meeting" and use Meeting ID – 894 6138 1995
2. Or, from any device click https://us06web.zoom.us/j/89461381995

OPTION 2 - Join by phone (audio only):

1. Dial 877-853-5257 and enter meeting ID# 894 6138 1995

CALL TO ORDER

ROLL CALL

INTRODUCTIONS

MEETING ITEMS

1. LDS Temple Development (SPRV24-1001)
   Presenter: Madeline Coulter

2. 8th Avenue Apartments (DR23-07) CANCELED - WILL BE RESCHEDULED
   Presenter: Yvette Sennewald

CLOSE OF MEETING

STAFF REPORT

LDS Temple Development

Major Design Review (File no. SPRV24-1001)

TO	Design Review Committee
FROM	Madeline Coulter, Planner
LOCATION	1805 SE Bybee Rd Parcel Number: 177451010

APPLICABLE LAW: This land use application was submitted on 08/14/24 and deemed complete 11/04/24. Applicable Camas Municipal Code (CMC) chapters include Title 17 Land Development and Title 18, specifically (but not limited to): Chapter 18.19 Design Review and Chapter 18.55 Administrative Procedures.

Summary

The applicant is currently seeking design review approval to construct a 43,000 square foot, 3 story church, a 3,300 square foot utility building, with associated parking, landscaping, and parking.

The site is located is located north of NW 38th Avenue, to the south and west of the proposed SE Bybee Road realignment, and east of vacant, city owned property and a stormwater facility. The site contains trees and vegetation.

Purpose

Design Review is required under CMC Chapter 18.19. Design review is not intended to determine the appropriate use of a parcel but rather review a proposed development for compliance with City codes and plans related to landscaping, architectural elevations, and other elements relative to required improvements. The recommendations from the Design Review Committee (DRC) must consider the design review standards from the Design Review Manual and Camas Municipal Code (CMC). An enclosed checklist is to help guide you in your review but refer to the manual for specific details regarding the standards.

Standard and Specific Commercial and Gateway Design Principles and Guidelines

The standard and specific commercial and gateway principles and guidelines for a commercial building are required and must be demonstrated to have been satisfied in overall intent for design review approval. The standard design guidelines are developed to assist a project in meeting the established principles and each guideline should be adequately addressed. If the proposal cannot meet a specific guideline, then an explanation should be provided by the applicant as to why and how it will be mitigated to satisfy the intent of the design principles. The development guidelines include

five major categories: 1) Landscaping and Screening, 2) Architecture, 3) Massing and Setbacks, 4) Historic & Heritage Preservation, and 5) Circulation and Connections. **The Design Review Checklist is enclosed to help guide the DRC in reviewing the standard applicable specific design review principles and guidelines.**

Recommendation

That the Design Review Committee reviews the submitted materials, deliberates, and forwards a recommendation to staff for a final decision.

Vancouver Washington Temple

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

ARCHITECTURAL NARRATIVE

DESIGN CONTEXT AND RATIONALE

The design of the Vancouver Washington Temple draws upon a more simplified or understated elegance to Neoclassical architecture. Often referred to as the New Classical, it draws upon symmetry, simple geometry, and social demands instead of ornamental elements.
Being Vancouver is still a relatively young city, there is no discernable architectural style that prevails throughout the region, from English Baroque, Victorian, to neo-Georgian, the only similarities are brick masonry facades. Therefore, the decision was made during the precedent study to focus on the overall community and how industry and nature collide to make up a truly diverse and unique community. Bridges, which connect Washington and Oregon to commerce, cross the natural arterial of the Columbia River where commerce of salmon fishing and timber connect communities to resources. Where old meets new, binding the great outdoors with the modern world. This is why you will find arches, representing the value of bridges, and how they connect communities to nature. The local Camas Lily flower is also represented in the art glass as well as tile work throughout the temple.

Located in Clark County, Vancouver Washington is located at the heart of the Pacific Northwest. Sitting on the Columbia River, looking across to Portland Oregon, at the intersection of the modern arterial of Interstate 5, running north south, and the ancient arterial of the Columbia River, running east west, it is a jumping off point nature. Mt. Saint Helens, Mt. Adams, and Mt. Hood are all within a scenic half-day drive through tall red cedars and Douglas fir trees. Our site is in the woods with over 60 feet of grade change from east to west. Sitting prominently on the high point of the site the Temple will have view corridors to surrounding roads as the steeple mimics the surrounding cedars.

The design rationale is therefore clear; Create a Temple that enhances the Vancouver Camas area, celebrates its unique culture and traditions, and ultimately becomes a community landmark.

DESIGN CONCEPT

The exterior of the building is symmetrical in nature along its north south axis and has basic geometric forms which follow the golden ratio when it comes to massing and proportion. The exterior is comprised of ornamented stone panels, bronze colored steeple, doors, and window panels. The art glass celebrates native flora and some fauna. The windows and the door openings have a modest recessed surround.

The windows are set in recessed stone with a stylized pattern originating from interlocking arches that speak to surrounding bridges. The corners of the building are treated with simple detailing, softening the edges. Below the parapets, a ring of arches subtly crown the temple.

Similar to the exterior, the interior design is subtle and restrained. Elements of the exterior are expressed again on the interior in several instances, placing emphasis on the ordinance and significant patron areas. The secondary spaces are even more restrained, yet also beautiful. Design elements are based on a traditional design approach, but with detailing more consistent with modern approach to the neo-Classic style. These elements include subtle steps, thin lines, chamfered edges, recesses, and carefully placed motifs, and other simplified elements found in traditional design.

As you progress through the temple the spaces elevate in design, however, the materials stay the same. Finishes in the temple focus on the inherent beauty of the materials themselves. Stone tile is used for many of the floors in the temple becoming more intricate in the baptistry, then transitioning to carpet in both ordinance areas and secondary areas. The entry lobby and the ordinance spaces have a wood wainscot. The wainscot begins with less detail and transitions to more articulated details in the culminating ordinance rooms of the temple. Prominent spaces have simple stepped cornices near the ceiling, and the ceilings of ordinance rooms and prominent spaces are quiet and planar, with subtle steps that diminish in proportion at each step. These steps are accented with simple painted line work. Doors throughout are stile and rail doors, with occasional ornamented transoms similar to the exterior art glass. Windows are surrounded with a large chamfered edge at each wall opening with a sub-frame inside, similar to the doors. The art glass throughout the temple combines geometric borders with floral patterns based on abstracted local flowers such as the camas lily, with increased ornament and motif in the ordinance rooms. The Vancouver Washington Temple is tailored to its location and culture. It evokes a ship set amongst the evergreens, its steeple as the prow of the ship cutting through a sea of evergreens. It will be a beacon to the community.

SITE DESIGN IS DRIVEN BY THE FOLLOWING CRITERIA:

- Provide convenient community access to both the Temple and grounds.
- Create a strong presence along 38th Avenue and Bybee Rd.
- Maintain separate automobile traffic from bus load/unload zones.
- Provide an outdoor extension of the Temple through landscaping and viewing patios.

Two vehicular access points are provided off Bybee Rd. Both will provide full access to the temple and grounds. Internally controlled circulation within the parking lot will allow for emergency vehicle access as well as utility access.

NEIGHBORHOOD AND EXISTING FACILITY INFLUENCES…..

Property to the North: (Clark County) Residential

Property to the West: Zoned RC (Regional Commercial)

Property to the South: Zoned RC - (Mixed, Regional Commercial)

Property to the East: Zoned RC – (Single Family Residential)

With the predominant (RC) mixed use, residential uses surrounding the existing Temple site and other site improvements that have been developed associated with the Temple it was felt that the location of the facility would be best located in the center or the property boundaries with it's spire facing towards 38th Ave. This has allowed for maximizing view corridors in and out of the site.

CHAPTER 18.19 – DESIGN REVIEW (Camas WA, Municipal Code)

18.19.050 - Design principles.

The principles as provided in the DDM or DRM are mandatory and must be demonstrated to have been satisfied in overall intent in order for approval of a design review application to be granted. Standard principles shall apply to all commercial, mixed use, or multifamily uses. Specific principles are used in addition to the standard principles for gateways and corridors, commercial, mixed uses, and multifamily (e.g. apartments, townhouses, duplexes).

A. Standard Principles.
    1. Landscaping shall be done with a purpose. It shall be used as a tool to integrate the proposed development into the surrounding environment.
        i. **Response**: The landscape design is very intentional and purposeful. We intend to use native plantings along with planting as many cedars as possible to represent the NW flavor. The intention is to create a park-like setting around the Temple for members and neighbors to enjoy the grounds.

    2. All attempts shall be made at minimizing the removal of significant natural features. Significant natural features shall be integrated into the overall site plan.
        i. Response: There are no natural features of significance on our site. A tree survey has been done to identify any and all significant trees. The survey did not find any trees of significance. It is the clients intent to save as many trees as possible as well as plant as many large caliper trees instead to provide a mature landscape. View corridors are intended to frame the Temple from 38th Ave and Bybee Rd.

    3. Buildings shall have a "finished" look. Any use of panelized materials shall be integrated into the development in a manner that achieves a seamless appearance.

i. **Response:** The Temple is designed in a neo-classical style of architecture. Clad in granite to give it permeance and stature for the century to come. Glazing on the Temple will be stained glass encased in energy efficient glass to meet all energy code requirements. The steeple will be of metal.

4. A proposed development shall attempt to incorporate or enhance historic/heritage elements related to the specific site or surrounding area.
   i. **Response:** The landscape design has incorporated a plaza overlooking the wetlands to the west of the project along Fisher Creek Watershed. It should be noted that an archaeological study was done and did not identify any cultural resources.

B. Specific Principles.
   1. Gateways.
      a. Gateways shall be devoid of freestanding signs. Preexisting freestanding signs will be subject to removal at the time of any new development, redevelopment, or major rehabilitation on the site. Exemptions include approved directional, or community information signage as approved by the city.
         i. **Response**: There are no plans for freestanding signs within the right of way on 38th and Bybee. The Church will have a monument sign onsite in a planter bed that faces 38th however it will be inset approximately 50 feet from the property line. Also, near the entrances to the site there will be signage, on grade, with address per fire marshal comments.

      b. Business signage not placed on buildings shall be integrated into the landscaping/streetscaping of the subject property.
         i. **Response:** Currently there are plans for 3 signs onsite. One, to the south of the Temple will be integrated into the landscape design with simple elegance. It will be where many photos are taken for visitors and weddings. The other two monument signs will be at the entrance to the Temple along Bybee Rd., both to the north entrance and east entrance.

      c. Permanent signage within a gateway shall be standardized in a manner that creates a consistent look within the gateway in question.
         i. **Response:** There are no plans to install permanent signage within the gateway easement.

d. The surface of pedestrian walkways within intersections shall be accentuated with a unique character.
    i. **Response**: As part of this project we are aligning the current Bybee Rd., approximately 260 feet to the east to meet up with the four-way intersection and traffic light at 38th and Fisher Creek Dr. This intersection, along with walkways is established along 38th, it is our design intent to match the current City standards along Bybee Rd. as well.

e. A consistent streetscape lighting scheme shall be used.
    i. **Response:** Streetscape lighting is currently in existence along 38th Ave (the Gateway) and appears to be the City standard. Lighting along Bybee Rd. is designed to meet City standards as well.

2. Commercial and Mixed Uses.
    a. On-site parking areas shall be placed to the interior of the development unless site development proves prohibitive. All on-site parking areas along adjacent roadways shall be screened with landscaping. Downtown commercial and mixed-use areas shall not be required to provide on-site parking.
        i. **Response:** The onsite parking will be screen with both off-site road screening per City ordinance as well as onsite plantings of trees and shrubs. It is the intent to leave as much existing vegetation on the perimeter of the site for just such reasons.

    b. Buildings shall be used to define the streetscape unless site conditions prove prohibitive.
        i. **Response:** A significant amount of fill will be brought onto the site for the Temple to sit properly on the site due to the significant slope from the southeast corner to the northwest corner. The fill will allow the Temple to have a presence along 38th Avenue. The Temple's entrance will face south to address 38th.

    c. Structures abutting, located in, or located near less intensive uses or zoned areas (such as commercial developments next to residential areas) shall be designed to mitigate size and scale differences.
        i. **Response:** The Temple sits within an RC zoned site which abuts a residential neighborhood. Due to the two-story nature of the Temple with an equipment platform above we felt it appropriate to center the structure towards the middle of our

site. Cedar trees along with other species of trees will be planted to help buffer the scale of the Temple to the neighborhood to the north. Once again the south face will be partial exposed to 38th Ave. to give it presence from the Gateway corridor.

d. Developments containing a multiple of uses/activities shall integrate each use/activity in a manner that achieves a seamless appearance or creates a cohesive development.
    i. **Response:** The Temple will be a single use/functioning structure and designed in a wholistic manner. There is a utility building that is in support of the Temple and grounds. It is set in the northwest corner of the site and buffered as much as possible from view. It will be clad in a masonry type product that is not to compete with the Temples granite façade.

e. Mixed-use developments that place uses throughout the site (horizontal development) shall organize elements in a manner that minimizes their impact on adjacent lower intensity uses.
    i. **Response:** As stated above, the Temple will be a two-story structure with an equipment platform. It is set towards the middle of our site to lessen the impacts of scale to the neighborhood to the north. The utility building is a one-story structure with a low sloped roof. It is set towards the north property line, more to scale with surrounding structures off site.

f. Walls shall be broken up to avoid a blank look and to provide a sense of scale.
    i. **Response:** All four sides of the Temple will be broken up with stone detailing and stained-glass windows.

g. Outdoor lighting shall not be directed off-site.
    i. **Response:** Site/Parking lot lighting will utilize full cut-off LED fixtures on approximately 20’ steel poles with average light levels. Walkways will be illuminated to an average light level with approximately 10’ steel poles which complement parking lot poles.
    The building perimeter and Entrance lighting will be wall or ceiling/soffit mounted LED fixtures to complement the architectural building exterior.

On-grade and roof mounted lighting shall be provided for building facades and the steeple.
All exterior lighting scheduling will be controlled by the Lighting Control System. Exterior lighting will be automatically dimmed with integral sensors or scheduled to be off for a period of time each night in accordance with the Washington State Energy Code.

18.19.060 - Guidelines.

A. Standard The guidelines include five major categories:
   1. Landscaping and Screening;
      a. Landscaping and screening are an important factor in determining the overall character of the building site. Landscaping should be done with purpose, such as providing a buffer against less intense uses, screening parking or other components viewed as being intrusive, and defining the streetscape.
         i. **Response:** The design concept reflects a sense of reaching out into the community with trumpet and circular forms that orient toward the greater community. The site is symmetrical with an emphasis on the south entry as a place to gather before the main entrance.
         Smaller gathering spaces are located to the east and west.
         The planting is a mix of native and adaptive ornamental species that reflects the character of the greater landscape and serves to enhance the beauty of the building and highlight main points of interest.
         Street Right-of-Way: Planting along SE Bybee Road emphasizes street trees and uniformity of landscaping for a clean look. Parking Lot: Planting in the parking areas is low, grassy, and ornamental, and provides a sense of cover. This planting is geared toward a mix of color and native texture to represent the landscape in the views beyond, and to provide a more informal feel with a pleasant experience parking.
         Outer Woodland: The areas along the perimeter will require buffer planting; this is an opportunity to connect the wetland and natural areas beyond to the parking lots as a transition. The plants will be primarily conifers and native shrubs.

b. Signage should be placed on buildings or incorporated into the landscaping. If signs are illuminated, then they shall be front lit (light cast onto the face of the sign from a source positioned in front of the sign). Signage in the landscaping should be built into the vegetation to keep it from being the main focus – similar to the light industrial zones. Efforts should be made to make signs vandal resistant. The intent is for the landscape not to be dominated by signage as well as to soften the visual impact.
    i. **Response:** There will be 3 site signs on the grounds; two of the signs will be discreet and located at both entrances to the site off Bybee Rd. Both signs are required by the fire marshal and both will be front lit. The third sign will be a monument sign in front of the south entrance to the Temple. It will be surrounded by plantings and flowers. It too, will be front lit. All signage will be of a permanent material such as stone or precast concrete.

c. Outdoor furnishings, when used, should be compatible with the immediate environment.
    i. **Response:** The Central Oval around the Temple: The central circle will be the area around the Temple and will be both lawn and low to mid-height shrubs and trees. The goal is to enhance the Temple as the focal point, define the edges, and emphasize the circular forms.
    Seat Walls: Seat walls in the central circle will be stone and will be chosen to compliment the Temple, with detailing that reflects the Temple's form. Seat walls farther from the building may be cast-in-place concrete or ornamental block walls.
    Plants have been selected for year-round interest, with flowers, textures, and forms that will be attractive in all seasons.
    Plazas: These are areas where the plants have been selected for maximum visual interest. There will be punches of seasonal color, bulbs, and perennial flowers. This is where plants will provide the visual base for beautiful photos and joyful events. Tree species located in this area will be chosen for their lower height to ensure the building view is not obstructed. The main south entry will have the largest visual impact.

d. If the site is to be fenced, then the fencing should be incorporated into the landscaping so as to have little or no visual impact.

i. **Response**: Perimeter Fencing: The perimeter fence will be internal to the site, around the oval surrounding the Temple. Visibly permeable decorative black metal will be used to minimize visual impacts. Plantings at the foundations will further screen the bulk of the fence. Pillars located at the gates will emphasize the points of entry.

e. The vegetation to be utilized should encourage native, low maintenance plantings. Trees planted along streetscapes with overhead power lines should include only those identified on the City's Street Tree List. When possible, existing significant trees or other natural features that do not pose a hazard or hinder development should be required to remain and be incorporated into the landscaping and site plans.

   i. Response: The City of Camas Municipal Codes (CMC) require street trees, perimeter buffers, parking lot screening and landscaping, tree density, and native or drought-tolerant species. The landscape plan either meets or exceeds these requirements. It is our intent to keep as many existing sizable trees as possible. However, due to fill being brought in help level part of the site, trees will need to be removed. It is our intent to plant as many native tree species back on the grounds to maintain the northwest feel of being in a forest.

f. Landscape lighting should be low voltage, non-glare, and indirect. Street lighting, such as light poles and lamps, should be compatible with other nearby lighting on the same street, unless other lighting is expected to be replaced in the foreseeable future or a nostalgic theme compatible with the proposed development is desired.

   i. **Response:** Currently there is existing street lighting along 38th Ave. that meets Gateway standards. Street lighting along the new Bybee Rd. realignment will conform to City of Camas street lighting standards.
   Site/Parking lot lighting will utilize full cut-off LED fixtures on approximately 20' steel poles with average light levels. Walkways will be illuminated to an average light level with approximately 10' steel poles which complement parking lot poles. The building perimeter and Entrance lighting will be wall or ceiling/soffit mounted LED fixtures to complement the architectural building exterior. On-grade and roof mounted lighting shall be provided for building facades and the steeple.

All exterior lighting scheduling will be controlled by the Lighting Control System. Exterior lighting will be automatically dimmed with integral sensors or scheduled to be off for a period of time each night in accordance with the Washington State Energy Code.

2. Massing & Setbacks;
   a. Massing and setbacks are major elements of a site plan. These elements have the greatest impact as to how the proposed development relates to the surrounding area and how individuals living and visiting the area interact with the development. Major components that define the character and quality of the proposed development include the size, scale, and placement of buildings, lot coverage, and traffic/pedestrian circulation.
      i. **Response:** On a site a little over 14 acres and a building footprint of approximately 17,500 square feet the Temple is well proportioned set in the middle of the site. The grounds of the Temple site will act as a buffer between 38th Avenue and the residential neighborhood to the north. The manicured grounds will be a peaceful place of contemplation for its patrons and the neighborhood.

   b. Higher density/larger structures abutting lower density residential structures should be designed to mitigate size and scale differences. In some cases, creating a natural buffer may be appropriate.
      i. Response: It is important to establish a quiet, serene atmosphere before entering the temple itself. By setting the temple more towards the middle of the site it helps achieve a City desire to be respectful of our neighbors. By keeping the temple in the middle of our site it will help create more of a natural buffer and better provide the required amount of parking for its intended use.

3. Architecture;
   Few restrictions should be placed on the architecture and building materials used in the development. Instead, general guidelines are developed to identify the type of development desired:

   a. Buildings should have a "finished", sound, durable, and permanent appearance. Use of panelized materials should be integrated into the development in a manner that achieves a seamless appearance. This

would bring into question the use of corrugated materials, standing seam, T-1 11, or similar siding materials, unless it can be shown through the use of renderings or other visual applications that the use of these materials will produce a development with a high visual (or aesthetic) quality. The applicant and/or developer will be held accountable for ensuring that the finished development resembles and is in compliance with the submitted renderings as approved by the City.

i. **Response**: The Temple represents heaven on earth to its patrons and therefore is designed with that permanence in mind. The exterior of the Temple is designed with granite and to last 100 years plus. All the glazing will be of stained glass.

b. Placement of buildings should preserve significant natural features, such as rocks, trees, etc. In doing so, developers may make use of site variances such as adjusting setbacks.

i. **Response**: The Temple is centered on the site, however due to the natural slope of the site, fill will need to be used to provide a suitable level platform. As such, some trees will need to be removed to make this happen. Our plan is to replace the trees in kind and restore the northwest feel to the site.

c. Building walls or fences visible from roadways should be articulated in order to avoid a blank look. The wall can be broken up by including some combination of window/display space, plantings, offsetting walls with two-tone colors, or creating plazas, water features, art (civic, pop, etc.), awnings, or similar devices.

i. **Response:** Perimeter Fencing: The perimeter fence will be internal to the site, around the oval surrounding the Temple. Visibly permeable decorative black metal will be used to minimize visual impacts. Plantings at the foundations will further screen the bulk of the fence. Pillars located at the gates will emphasize the points of entry.
The Temple walls will be broken up on all four sides with stained glass windows.

d. The use of bold colors should be avoided except when used as minor accents.

i. **Response**: The Temple will be clad in a light colored granite stone. Accents of color and beauty will come in the form of stained glass.

4. Historic and heritage preservation;
    a. The use of Historic Markers, information kiosks, project names, architectural features, or other elements of the project should promote the historic heritage of the site or surrounding area.
        i. **Response**: It is our intention to use the camas lily in the stained glass, and arches in the stone to represent bridges (a strong connection to the Columbia), are used throughout the Temple and visible from the exterior.

5. Circulation and connections;

    The streetscape and pedestrian movements are the elements of primary interest for gateway properties. Streetscaping assists in defining the physical character of the area and pedestrian movements. The following additional accentuators can help further define pedestrian paths.

    a. Orient the main public entrance toward the public right-of-way. Pedestrian walkways shall connect each building's front entry with the sidewalk.
        i. Response: The main entrance to the Temple faces south towards 38th Avenue (the Gateway). The grades to the site however do not allow for a direct sidewalk connection.

    b. Bike lanes shall be provided where possible, linking public areas with neighborhoods and other local and regional bicycle corridors.
        i. **Response:** The Gateway on 38th Ave is already constructed to City standards and has a bike lane. The new connection and alignment of Bybee Rd. will also provide bike lanes to help connect the neighborhood to the north back to 38th.

    c. New developments should include plans for alternative transportation, such as providing attractive bus stop shelters, bicycle parking, etc.
        i. Response: Currently there are no plans for bus shelters along the Bybee Rd. realignment. The site is also outside of any major transit system's area of coverage. The closest transit line is to the west of the site along NE 192nd Ave and SE 34th St.

    d. Trees and planting strips or raingardens/bioswales shall be used for separating vehicles and pedestrian movements, as well as provide a secure and pedestrian friendly environment.

i. **Response:** We will be complying to the City's ordinances on trees and plantings along Bybee Road. The site will provide landscaped islands to break up the parking lot. The site will also provide a manicure park like setting around the temple as well as satellite gathering areas for viewing of the temple at a distance.

e. Where applicable (as determined by the City), sidewalks shall be separated from the roadway through the use of planter strips, planter wells or rain gardens/bioswales.
   i. **Response:** The existing sidewalk along 38th Avenue which borders our property to the south already appears to comply with City standards. The sidewalk meanders, weaving in and out between 38th and our property. Street lighting, trees, and a bike lane are provided. The proposed realignment of Bybee Road will comply with the City standards and its sidewalks will be separated from the roadway through the use of planter strips.

f. Tree spacing will be determined by the species of trees planted. The desired effect is a visual appearance of a continuous foliage canopy at maturity or seven years after tree planting (whichever comes first).
   i. **Response:** Will comply, tree spacing per City ordinance. It the clients desire to provide as mature trees as possible.

g. Patterned pavers shall be used to define and accentuate pedestrian pathways within intersections. They include pattern stone, exposed aggregate (as long as it has a finished appearance), stamped concrete, or similar paving materials.
   i. **Response:** Pedestrian pathways are provided along 38th up to the intersection of Fisher Creek. The intersection is ready to receive our new connection from Bybee Rd. We will match what the City has already provided.

h. A consistent streetscape lighting scheme shall be used that portrays the primary development period, architecture characteristics, or predetermined theme as identified in a concept plan, sub-area plan, or master plan recognized by the City.
   i. **Response:** Our streetscape lighting plans to mimic what has been provided on 38th Ave. See attached cut sheets.

18.19.090 - Deviations to design review guidelines.

A design review application that includes a deviation from any of the five major guidelines of the DRM shall be subject to review and recommendations from the design review committee. The DRC shall base its recommendation upon findings setting forth and showing that all of the following circumstances exist:

A. Special conditions or circumstances exist which render a specific requirement of the DRM unreasonable, given the location and intended use of the proposed development;

i. **Response: The** zoning in the gateway is Regional Commercial (RC). The temple meets all zoning requirements. Based on the proposed use of the Temple and the site requirements however, it is not possible to set the temple "as close to streets and roads as the zoning code allows", based on our program. Which would be up against the southern setback along 38th Ave. The temple represents the house of the Lord here on earth and as such it requires appropriate landscaping grounds surrounding it to provide a place of quiet contemplation and worship before entering the temple.

B. The special conditions and circumstances are characteristic of the proposed general use of the site, and not of a specific tenant;

i. **Response:** It is important to establish a quiet, serene atmosphere before entering the temple itself. By setting the temple more towards the middle of the site it helps achieve a City desire to be respectful of our neighbors. It will also allow us to disturb the site less than it would be by moving the temple to the southern setback. By keeping the temple in the middle of our site it will help create more of a buffer and better provide the required amount of parking for its intended use.

C. The specific conditions and circumstances are not representative of typical development which may be allowed within the zoning district;

i. **Response:** Temples are anything but "typical development" however they are allowed per the zoning (RC) and the Religious Land Use And Institutionalized Persons Act (RLUIPA). Once again it is important to the functionality of the temple to be set in a landscape of tranquility and peace.

D. The requested deviation is based upon functional consideration rather than economic hardship, personal convenience or personal design preferences;

   i. **Response**: The request is based solely on functionality and not economics. Each temple's design is unique and varies based on several factors and considerations, including but not limited to, the features of buildings and structures in the surrounding community, the capacity needed for existing and future growth in Church membership, and the inspiration of Church leadership. Every design is based on a sincere religious belief, the temple is the House of the Lord.
   Temple grounds are places of quiet contemplation and worship, however they are also open to the public. All may come to worship in their own way. For this reason, each temple is beautifully landscaped to create a sense of tranquility and peace. The grounds are used for no other purpose other than quiet meditation and worship.

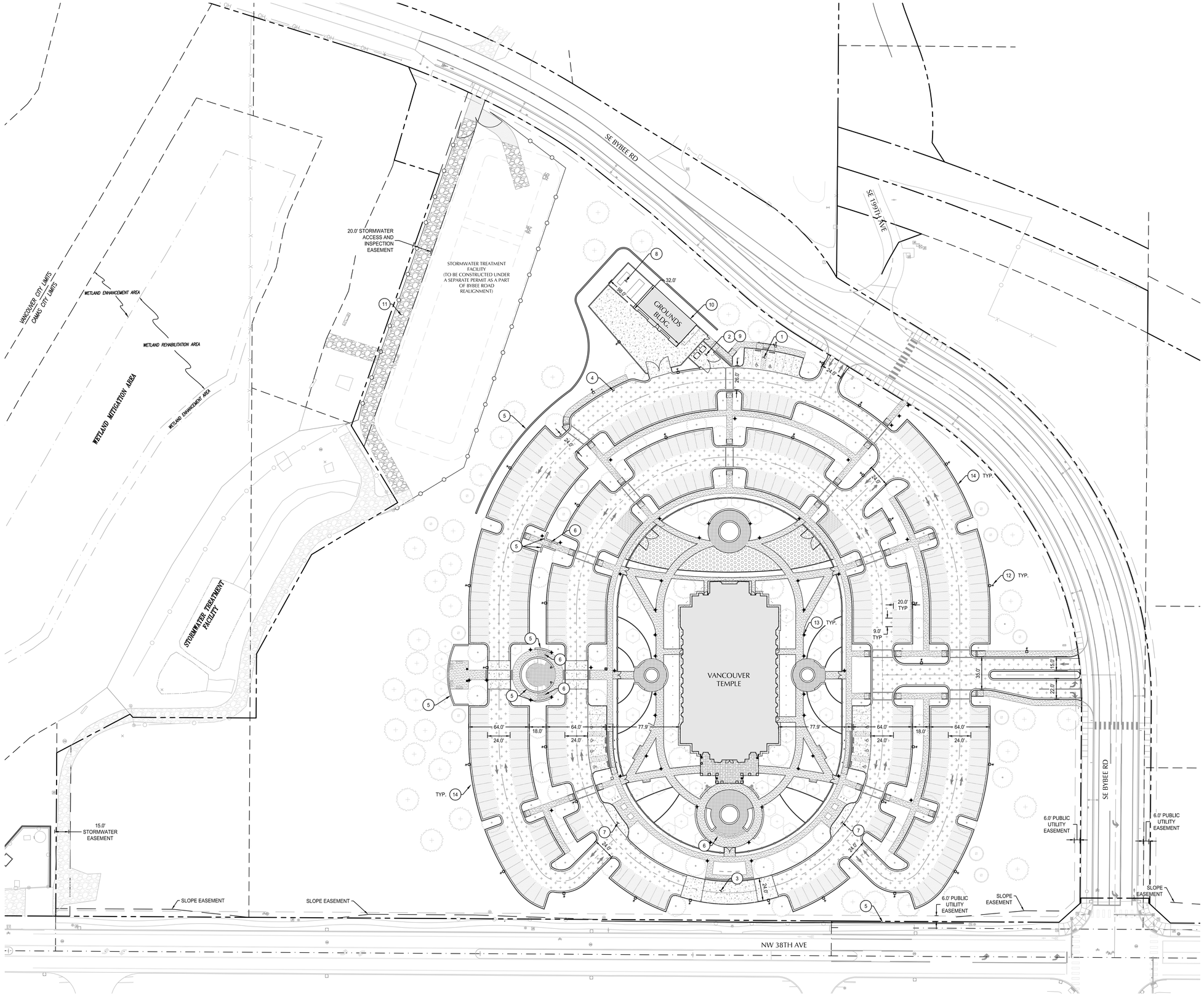
E. Variation from a guideline(s) has sufficiently been compensated by other site amenities; and

   i. **Response:** We plan to provide all amenities as required by the zoning code both onsite and offsite. It is also our design to provide beautifully manicured grounds that can be enjoyed by all, not just patrons of the Church. The grounds will be maintained year-round and as we see on other temples, it will become a destination for families.

F. The requested deviation will not result in a project that is inconsistent with the intent and general scope of the DRM principles.

   i. **Response:** We feel we meet all the DRM principles:
      i. The landscaping will be done with purpose. As described above, every bit of the site is detailed and intentional in an effort to provide the most peaceful, beautiful grounds for contemplation.
      ii. Every attempt is being made to minimize site disturbance. However, due to the existing slope of the site, there will need to be substantial fill brought in to level the ground for the temple. Every effort will be made to reestablish the grounds once built to provide a mature look to the landscape.
      iii. The temple will have a very "finished" look. The temple is designed to a standard to last a century or more. The temple will be clad in granite to lend itself to desired permanence.
      iv. The Church requires we do a precedence study of the surrounding area and incorporate features of significance and value into the

design. As stated in our opening design approach, bridges and the camas lily will be integrated throughout the temple to tailor it's design to the Vancouver, Camas area.



SHEET NOTES

1. REFERENCE ARCHITECTURAL SITE PLAN FOR ADDITIONAL SITE FEATURES.
2. REFERENCE LANDSCAPE SITE PLAN FOR PLANTINGS AND PEDESTRIAN PAVING SCHEDULE.
3. SEE PUBLIC WORKS PLAN FOR SEPARATE SE BYBEE ROAD REALIGNMENT PERMIT.
4. REFERENCE ELECTRICAL PLANS FOR SITE LIGHTING PLANS AND DETAILS.
5. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.

(X) KEY NOTES

#	DESCRIPTION
1	CONCRETE PAVEMENT AT ADA PARKING STALLS
2	CONCRETE PAVEMENT AT TRASH ENCLOSURE AND GROUNDS BUILDING DRIVE
3	DECORATIVE CONCRETE PAVEMENT AT RAISED DRIVE AISLE
4	BUS PARKING AND LOADING ZONE
5	RETAINING WALL
6	CONCRETE STAIRS
7	CONCRETE PAVEMENT AT LOADING AREA
8	MECHANICAL EQUIPMENT YARD. REFERENCE ARCHITECTURAL PLANS FOR DETAILS
9	TRASH ENCLOSURE. REFERENCE ARCHITECTURAL PLANS FOR DETAILS
10	GROUNDS MAINTENANCE BUILDING. REFERENCE ARCHITECTURAL PLANS FOR DETAILS
11	SHARED GRAVEL MAINTENANCE ACCESS DRIVE. EXISTING ACCESS TO EXISTING STORMWATER TREATMENT FACILITY TO BE REMOVED. PROPOSED MAINTENANCE ACCESS DRIVE TO SERVE ON SITE POND AND EXISTING STORMWATER TREATMENT FACILITY
12	PARKING LOT LIGHT POLE AND FIXTURE
13	PEDESTRIAN PATHWAY LIGHT POLE AND FIXTURE
14	CONCRETE CURB AND GUTTER

SHEET LEGEND

- CONCRETE PAVEMENT 7" CONC. ON 6" AGG. BASE
- STANDARD ASPHALT PAVEMENT 3" OF 1/2" DENSE GRADED, LEVEL 3 HMAC ON 6" AGG. BASE
- HEAVY ASPHALT PAVEMENT 4" OF 1/2" DENSE GRADED, LEVEL 3 HMAC ON 8" AGG. BASE
- LANDSCAPE PLANTING AREAS
- GRASSPAVE AT FIRE ACCESS PATHWAY
- EASEMENT LINE
- PROPERTY LINE

SITE DATA

SITE AREA:	577,665 SF	(13.26 ACRES)
IMPERVIOUS AREA:	259,443 SF	(5.96 ACRES)
PERVIOUS AREA:	318,222 SF	(7.30 ACRES)

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PRELIMINARY NOT FOR CONSTRUCTION

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21

REVISIONS:

DATE: SEPTEMBER 2024

SITE PLAN REVIEW

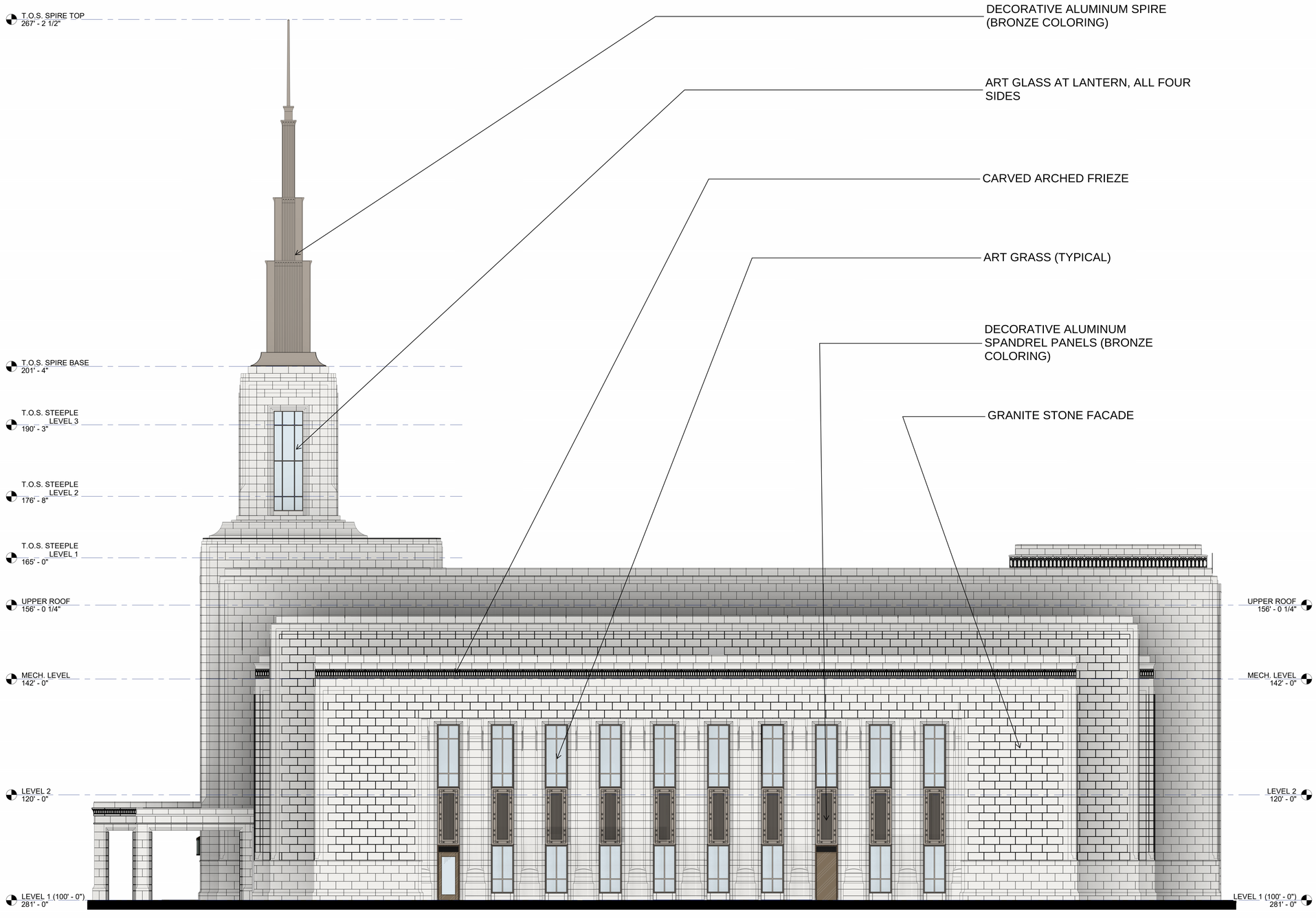
SHEET NO. C2.0

CIVIL SITE PLAN

SCALE 1 INCH = 40 FEET
40 0 40 80

File: N:\cip\2023\230466-Van-Temple\CAD\PLOT\LAND-USE\23466-SITE.dwg TAB:C2.0
Plotted: 10/17/24 at 4:45pm By: nschier
30x42

NO PHOTOGRAPHY
NO VIDEO RECORDING
HOLINESS TO THE LORD • THE HOUSE OF THE LORD



EAST ELEVATION

DECORATIVE ALUMINUM SPIRE (BRONZE COLORING)

ART GLASS AT LANTERN, ALL FOUR SIDES

CARVED ARCHED FRIEZE

ART GRASS (TYPICAL)

Arches

Camas lily

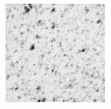
DECORATIVE ALUMINUM SPANDREL PANELS (BRONZE COLORING)

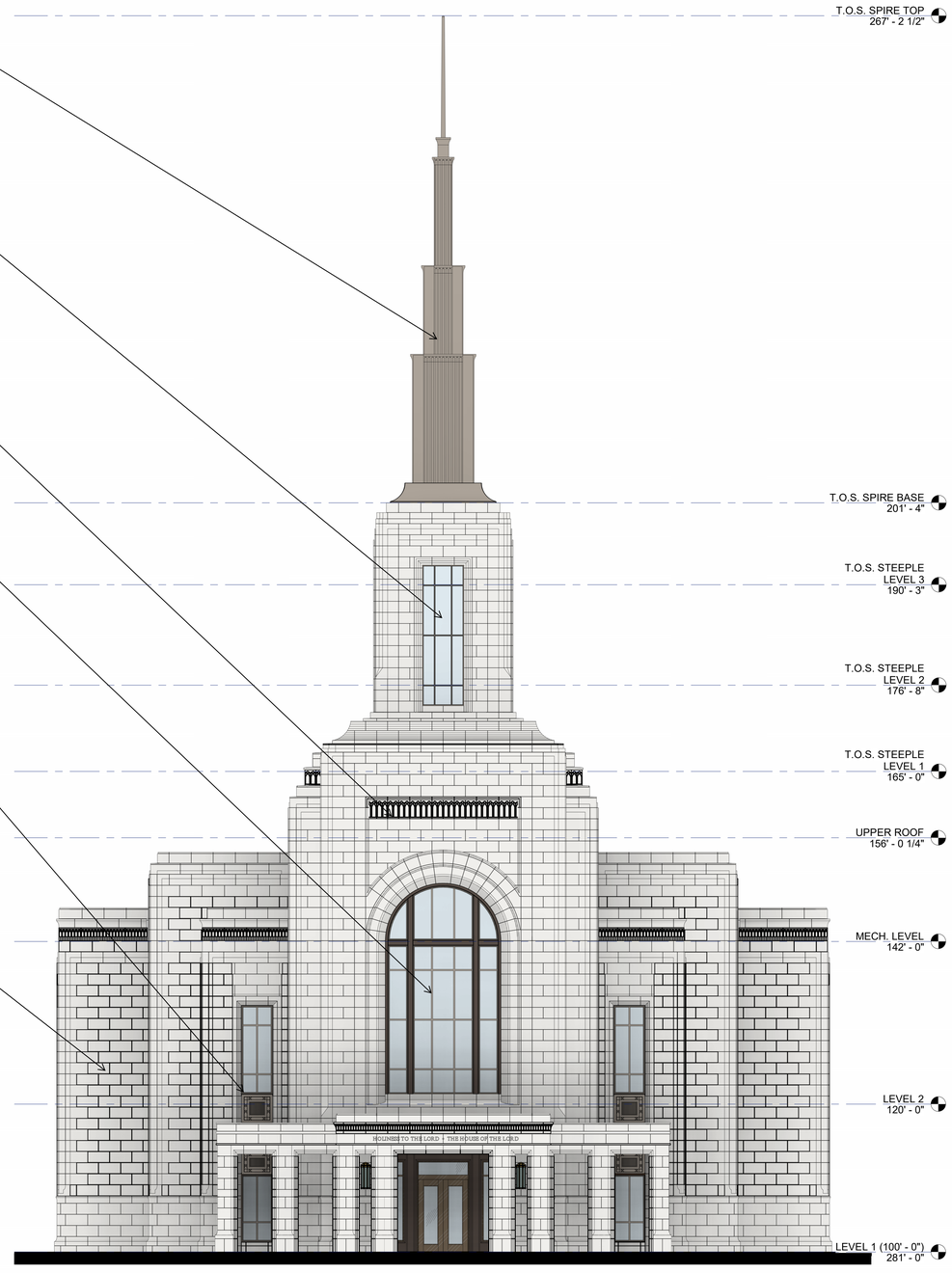
Approximate Bronze Color Range

GRANITE STONE FACADE (Range of Granite Color)

Branco Vimieiro

Branco Almeida





SOUTH ELEVATION

Bethel White Sierra White

GENERAL NOTES

1. For Typical Wall Assembly Including Material Designations And Detailing Approach, See A300 Series.
2. For Project Annotation Symbols, Refer to Sheet G002.
3. For Stone Mock-Up, see sheet A520

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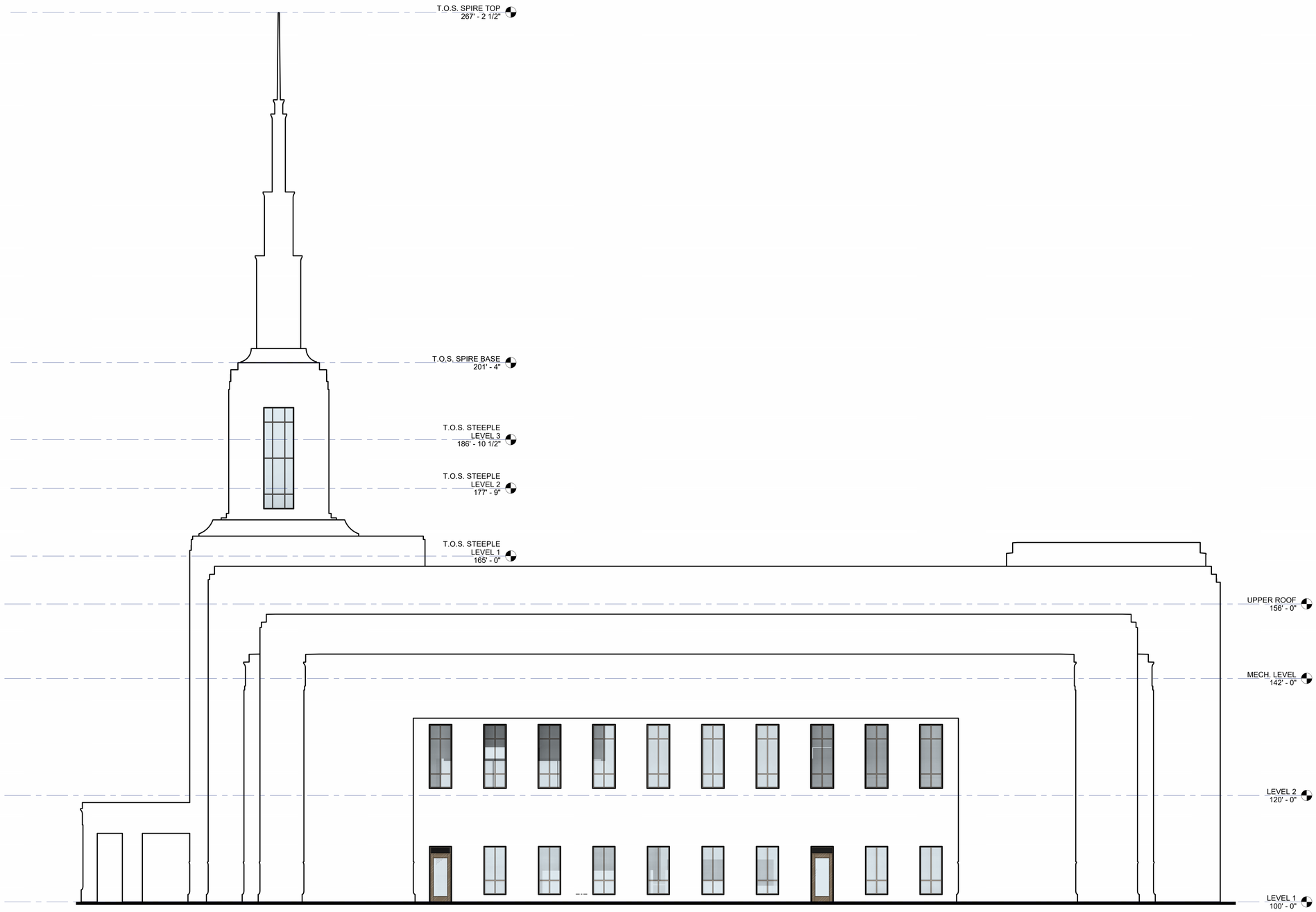

A1 EAST BUILDING ELEVATION
1/8" = 1'-0"

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SOUTHEAST BYBEE ROAD, CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21

REVISIONS:

DATE:
2024.08.02

60% DESIGN DEVELOPMENT

SHEET NO.
A201
BUILDING ELEVATIONS

GENERAL NOTES

1. For Typical Wall Assembly Including Material Designations And Detailing Approach, See A300 Series.
2. For Project Annotation Symbols, Refer to Sheet G002.
3. For Stone Mock-Up, see sheet A520

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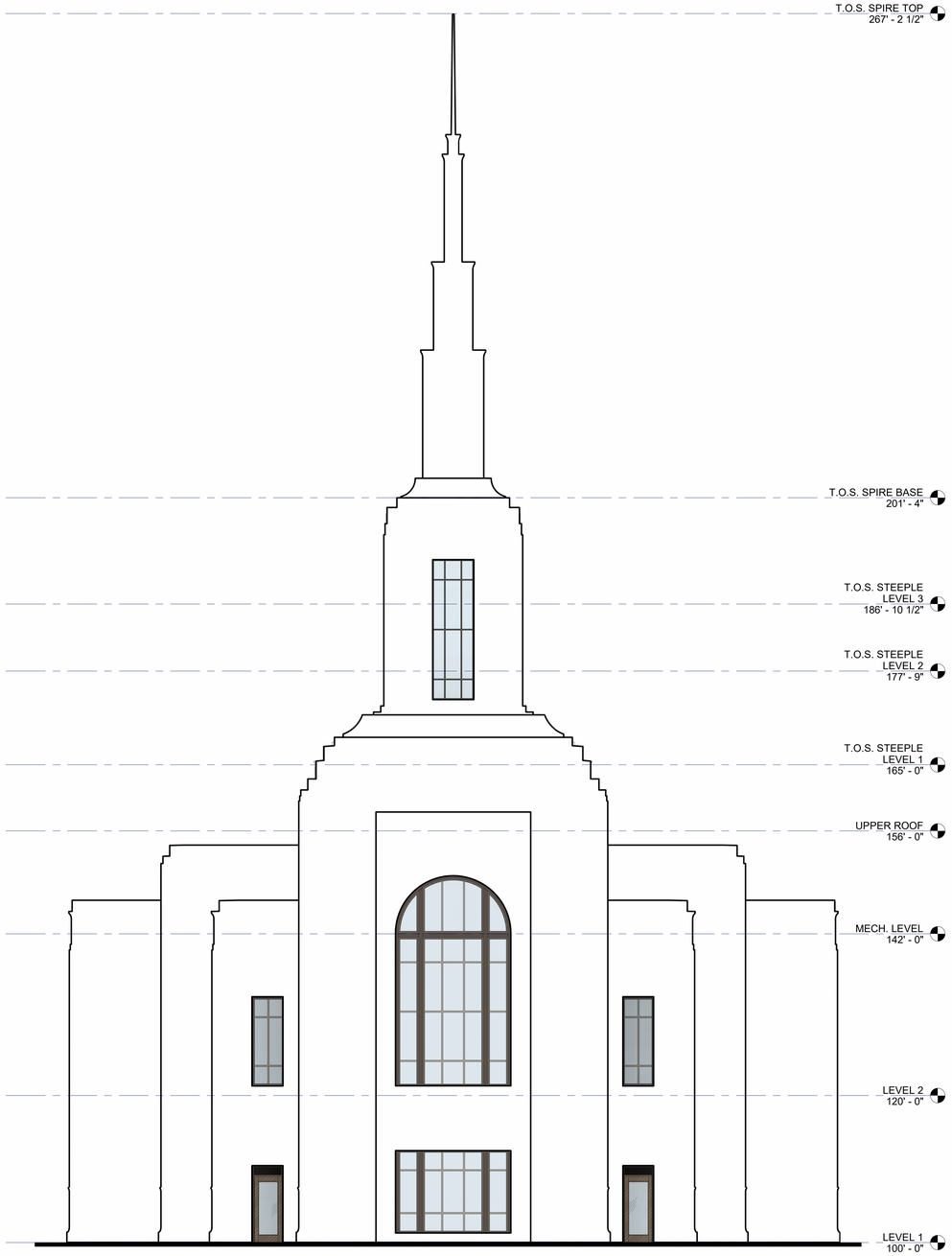
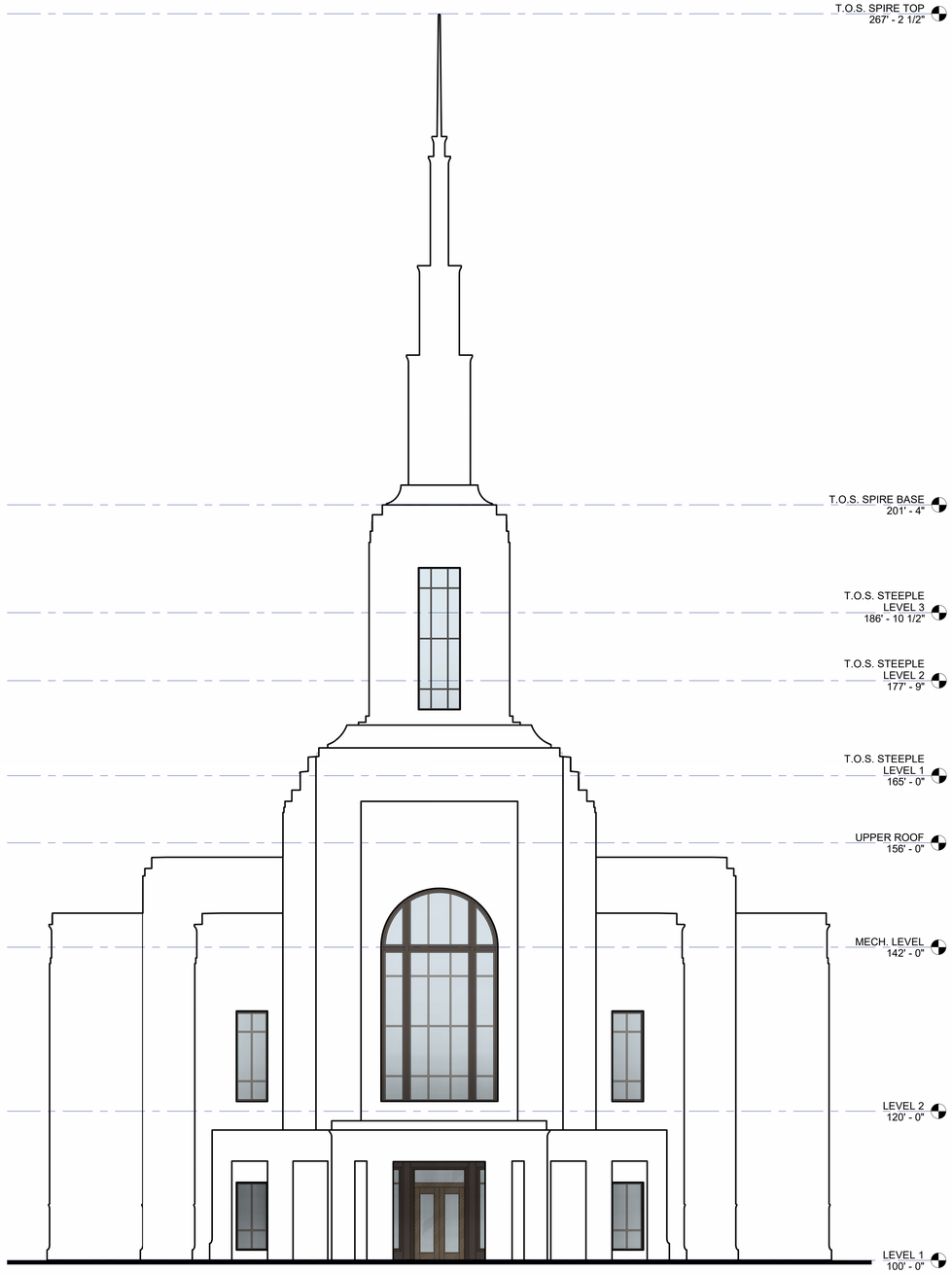


A1 NORTH BUILDING ELEVATION
1/8" = 1'-0"



A4 SOUTH BUILDING ELEVATION
1/8" = 1'-0"

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SOUTHEAST BYBEE ROAD, CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21

REVISIONS:

DATE:
2024.08.02

60% DESIGN DEVELOPMENT

SHEET NO.
A202
BUILDING ELEVATIONS

GENERAL NOTES

1. For Typical Wall Assembly Including Material Designations And Detailing Approach, See A300 Series.
2. For Project Annotation Symbols, Refer to Sheet G002.
3. For Stone Mock-Up, see sheet A520

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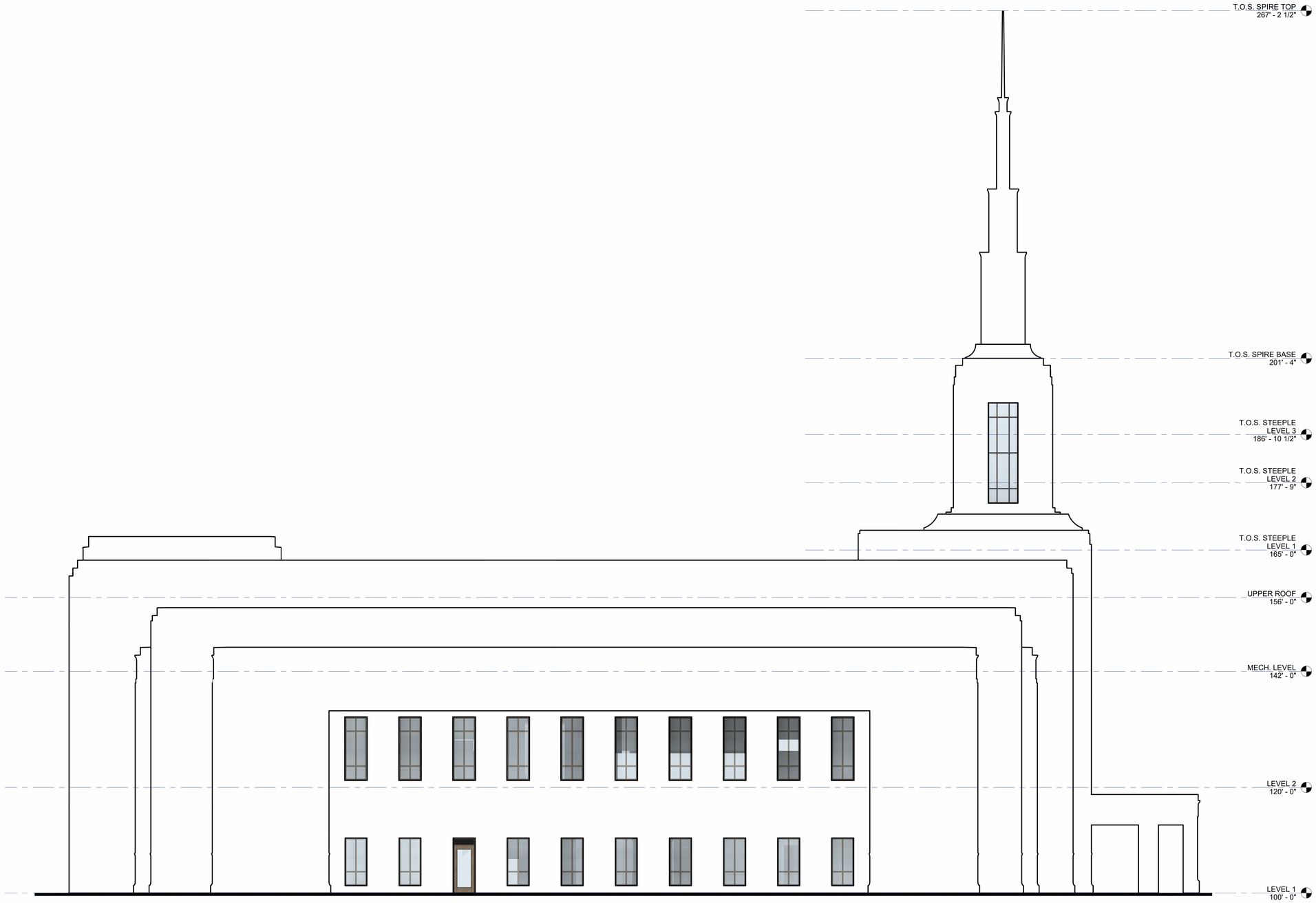


VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SOUTHEAST BYBEE ROAD, CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21
REVISIONS:

DATE:
2024.08.02
60% DESIGN DEVELOPMENT
SHEET NO.
A203
BUILDING ELEVATIONS

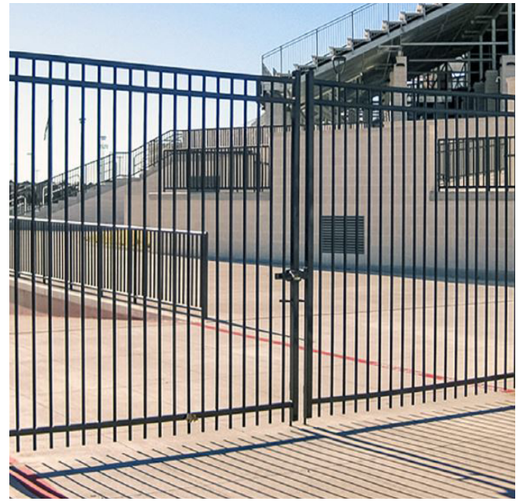
A1 WEST BUILDING ELEVATION
1/8" = 1'-0"

01

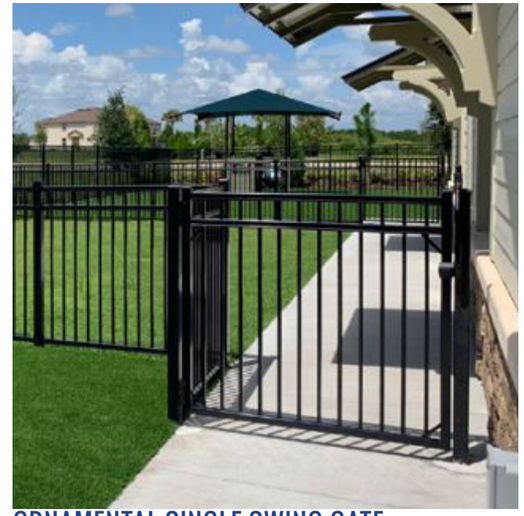
LDS VANCOUVER TEMPLE

FENCING AND GATES

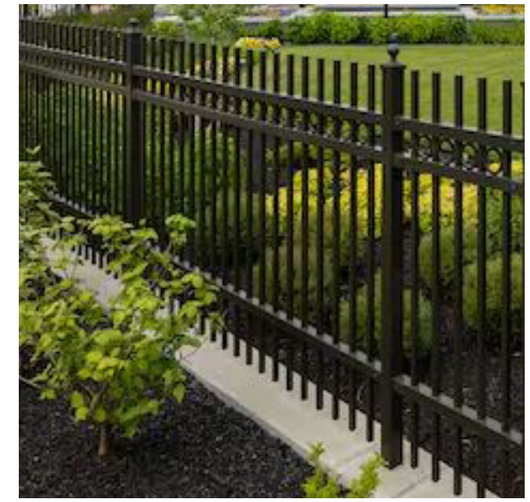
MONTAGE PLUS MAJESTIC FENCE
AMERISTAR
POWDERCOATED STEEL, BLACK



ORNAMENTAL DOUBLE SWING GATE
AMERISTAR
POWDERCOATED STEEL, BLACK, CANE BOLT



ORNAMENTAL SINGLE SWING GATE
AMERISTAR
POWDERCOATED STEEL, BLACK, 6’ HEIGHT

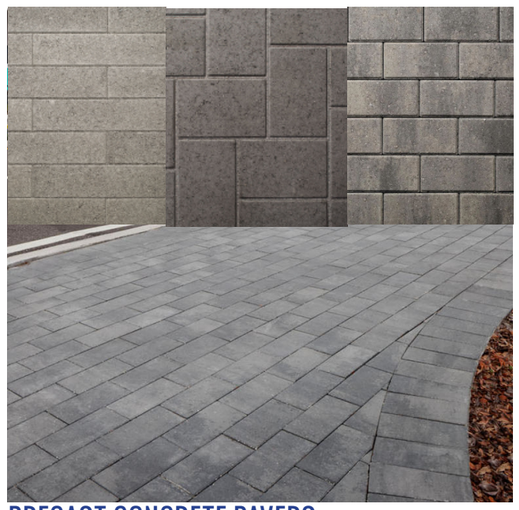


FLUSH CONCRETE MOW CURB
UNDER FENCING AND BETWEEN SHRUB/LAWN BEDS

02

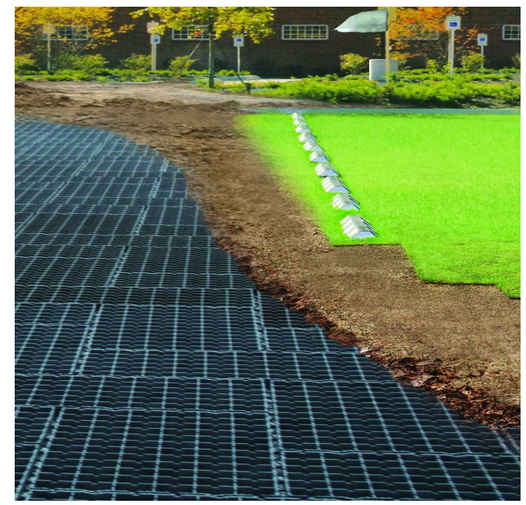
LDS VANCOUVER TEMPLE

HARDSCAPE AND PAVING



PRECAST CONCRETE PAVERS:
BELGARD DIMENSIONS
COLORS: RIO, CHARCOAL, AND GREY

STONE PAVERS
MATCH BUILDING FACADE GRANITE



VEHICULAR GRASS PAVE:
PRESTO GEOSYSTEMS
GEOBLOCK POROUS PAVEMENT SYSTEM

PLANTER WALL
CAST STONE DETAILS
CAMAS MOTIF

03 LDS VANCOUVER TEMPLE

SITE FURNISHINGS

PLAINWELL STEEL BENCH
LANDSCAPE FORMS
BLACK POWDERCOAT

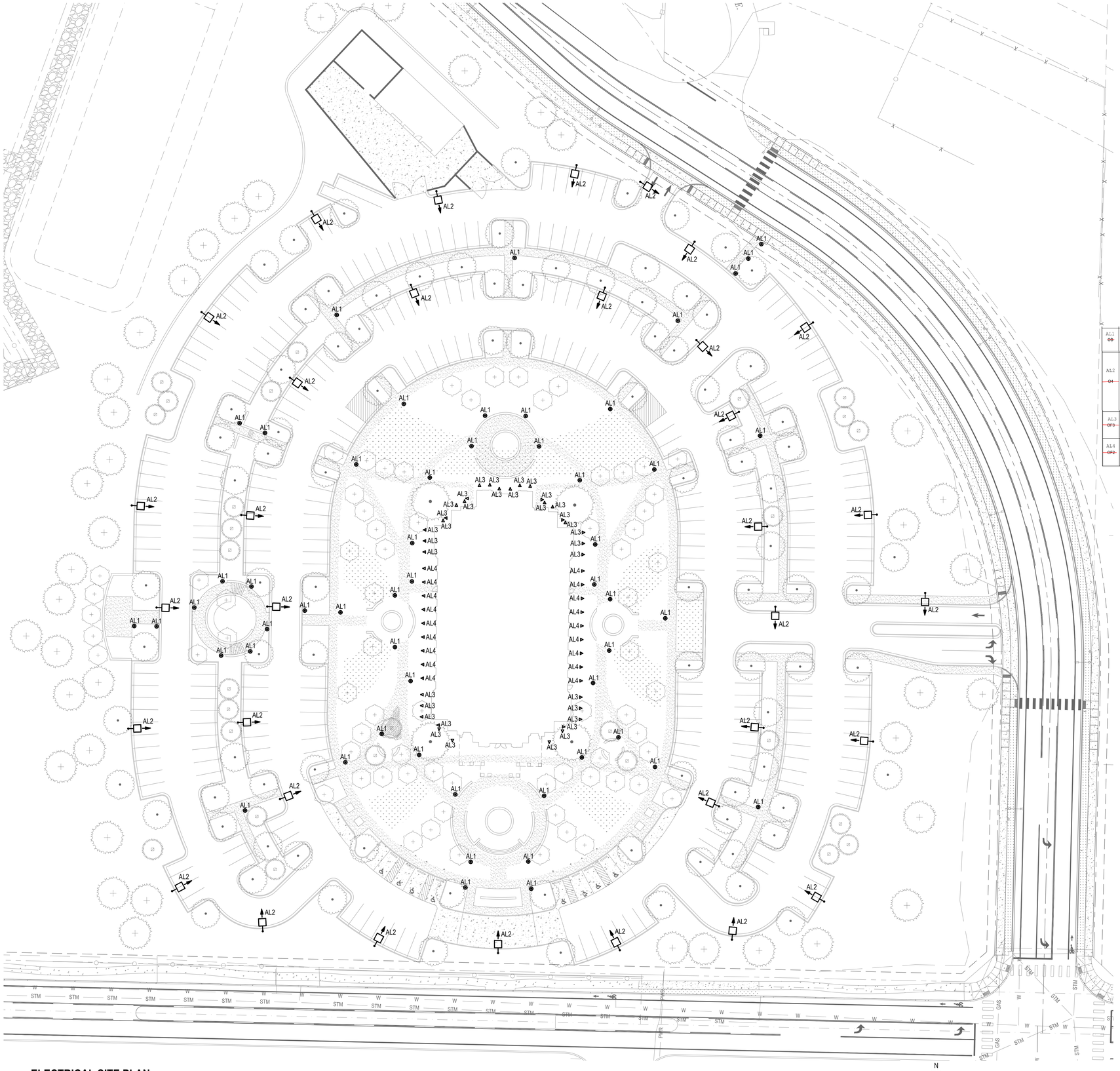
EMERSON BIKE RACK
LANDSCAPE FORMS
BLACK POWDERCOAT

SDC-45 RECEPTACLE
VICTOR STANLEY
BLACK POWDERCOAT

PAVILION PLANTER
LONGSHADOW
CAST STONE

30X42 PRINT BORDER

DRAWING BORDER



LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER
AL1	LED BOLLARD WITH FLAT TOP	LIGMAN
AL2	LED LIGHTING LED ON 20' POLE	LUMARK
AL3	GROUND MOUNTED LED FLOOD - HIGH OUTPUT	KIM LIGHTING
AL4	GROUND MOUNTED LED FLOOD	KIM LIGHTING

AL1 ~~OB~~	GROUND MOUNTED ROUND LED BOLLARD WITH FLAT TOP; HEIGHT 28"; WITH GFCI RECEPTACLE; IP65	LIGMAN OR EQUAL BY: BEGA; KIM; TESLYTE	UCO-10117-41W-2-W40-SCBA-	277 V	41 VA	995 LUMEN LED, 4000K, 80 CRI
AL2 ~~04~~	ARCHITECTURAL AREA LED SITE LUMINAIRE; DIE-CAST & EXTRUDED ALUMINUM HOUSING; TYPE IV DISTRIBUTION; FULL CUTOFF; WIRELESS DIMMING CONTROL WITH OCCUPANCY SENSOR; COORDINATE WITH MANUFACTURER FOR WIRELESS TRANSMITTER REQUIREMENTS AND COORDINATE MOUNTING LOCATIONS WITH ARCHITECT; MOUNTED ON A 20' SQUARE STRAIGHT ALUMINUM POLE; FIXTURES TO BE PROGRAMMED TO TURN ON AT DUSK, AFTER 11PM THEY SHALL REDUCE TO 50% OUTPUT AND SHALL COME ON TO FULL WHEN MOTION IS DETECTED BY THE MOTION SENSOR. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING SYSTEM AND SHALL TURN USERNAME AND PASSWORD OVER TO THE SPD PM AT TURN OVER; IP65	MCGRAW-EDISON + HAPCO; LUMARK; LITHONIA; BEACON; VISIONAIRE	PRV-PA2-A-740-U-T4-SCBA-ZW-SWPD5BZ POLE: SSA-20-B-4-4-SCBA	277 V	129 VA	17000 LUMEN LED, 4000K, 70 CRI
AL3 ~~OF3~~	GROUND MOUNTED LED FLOOD LIGHT; MEDIUM 26x26 DISTRIBUTION; SURFACE MOUNTING ON CONCRETE PAD; IP65	KIM LIGHTING OR SIMILAR BY: SIGNIFY; LITHONIA; ECOSENSE™	KFL2-24L-70-4K8-M-UNV-K-SCBA-SM12	277 V	70 VA	7363 LUMEN LED, 27445 CBCP, 4000K, 80 CRI
AL4 ~~OF2~~	GROUND MOUNTED LED FLOOD LIGHT; NARROW 17x17 DISTRIBUTION; KNUCKLE MOUNT WITH 12" STANCHION; IP65	KIM LIGHTING OR SIMILAR BY: SIGNIFY; LITHONIA; ECOSENSE™	KFL1-16L-40-4K8-N-UNV-K-SCBA-SM18	277 V	40 VA	3916 LUMEN LED, 33469 CBCP, 4000K, 80 CRI

N

20' 10' 0 30' 60'
SCALE: 1"=30'-0"

A1 ELECTRICAL SITE PLAN
1" = 30'-0"

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1819 SOUTHEAST BYBEE ROAD, CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21

REVISIONS:

DATE:
MM.DD.YYYY

PROJECT MILESTONE

SHEET NO.
E101
ELECTRICAL SITE PLAN

BEACON
design . performance . technology

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

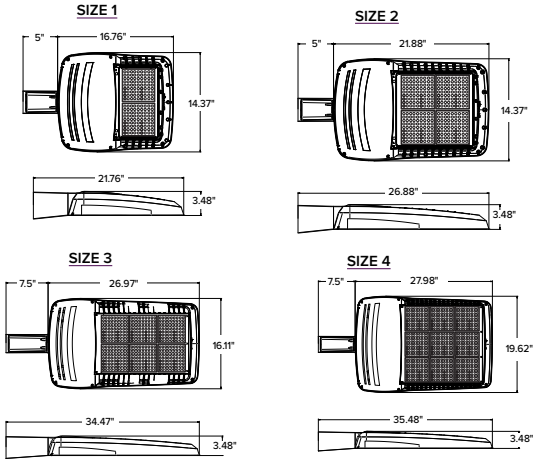
VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



c UL us IP65 | DLC LISTED | DLC LISTED PREMIUM | ida DARK SKY APPROVED 2016 | BAA | TAA

CONTROL TECHNOLOGY

NX CONNECT | NX WIRED | NX WIRELESS | LIGHTGRID+

SERVICE PROGRAMS

STOCK | QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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All values are design or typical values when measured under laboratory conditions.

BEACON
design . performance . technology

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

Item 1.

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG #

VP –

Series	
VP	Viper

Optic Platform
Micro Strike

Size	
1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine	
160L-35 [6]	5500 lumens
160L-50 [6]	7500 lumens
160L-75	10000 lumens
160L-100	12500 lumens
160L-115	15000 lumens
160L-135	18000 lumens
160L-160	21000 lumens
320L-145	21000 lumens
320L-170	24000 lumens
320L-185	27000 lumens
320L-210	30000 lumens
320L-235	33000 lumens
320L-255	36000 lumens
320L-315 [6]	40000 lumens
480L-285	40000 lumens
480L-320	44000 lumens
480L-340	48000 lumens
480L-390	52000 lumens
480L-425	55000 lumens
480L-470	60000 lumens
720L-435	60000 lumens
720L-475	65000 lumens
720L-515	70000 lumens
720L-565 [6]	75000 lumens
720L-600 [6]	80000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AP	AP-Amber Phosphor Converted
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
35K8	3500K, 80 CRI
3K9	3000K, 90 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QW	Type 5 Square Wide

Optic Rotation	
BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting	
A	Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)
A_	Arm mount for round pole [2]
ASQU	Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern
A_U	Universal arm mount for round pole [2]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [2]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [2]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

Options	
F	Fusing
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control [8]
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
WIR	LightGRID+ In-Fixture Module [3,4]
WIRSC	LightGRID+ Module and Occupancy Sensor [3,4]
Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]
Programmed Controls	
SCP-_F	Sensor Control Programmable, 8F or 40F [9]
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]
Photocontrols	
PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V
8 – BC not available on 4F and type 5 distributions
9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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TYPE: PROJECT:

CATALOG #:

Item 1.

VIPER Area/Site

VIPER LUMINAIRE

STRIKE OPTIC – ORDERING GUIDE

Example: VP–ST–1–36L-39–3K7–2–UNV–A–BLT

CATALOG #

VP –

Series	
VP	Viper

Optic Platform	
ST	Strike

Size	
1	Size 1
2	Size 2
3	Size 3
4	Size 4

Light Engine	
36L-39 [8]	5500 lumens
36L-55 [8]	7500 lumens
36L-85	10000 lumens
36L-105	12500 lumens
36L-120	14000 lumens
72L-115	15000 lumens
72L-145	18000 lumens
72L-180	21000 lumens
72L-210	24000 lumens
72L-240	27000 lumens
108L-215 [8]	27000 lumens
108L-250	30000 lumens
108L-280	33000 lumens
108L-325	36000 lumens
108L-365	40000 lumens
162L-320	40000 lumens
162L-365 [10]	44000 lumens
162L-405	48000 lumens
162L-445	52000 lumens
162L-485	55000 lumens
162L-545 [8]	60000 lumens
CLO	Custom Lumen Output [1]

CCT/CRI	
AM	monochromatic amber, 595nm
27K8	2700K, 80 CRI
3K7	3000K, 70 CRI
3K8	3000K, 80 CRI
3K9	3000K, 90 CRI
35K8	3500K, 80 CRI
4K7	4000K, 70 CRI
4K8	4000K, 80 CRI
4K9	4000K, 90 CRI
5K7	5000K, 70 CRI
5K8	5000K, 80 CRI

Distribution	
FR	Auto Front Row
2	Type 2
3	Type 3
4F	Type 4 Forward
4W	Type 4 Wide
5QN	Type 5 Square Narrow
5QW	Type 5 Square Wide
5QM	Type 5 Square Medium
5W	Type 5 Wide (Round)
5RW	Type 5 Rectangular
C	Corner Optic
TC	Tennis Court Optic

Optic Rotation	
BLANK	No Rotation
L	Optic rotation left
R	Optic rotation right

Voltage	
UNV	120-277V
120	120V
208	208V
240	240V
277	277V
347	347V
480	480V

Mounting	
A	Arm mount for square pole/flat surface
A_	Arm mount for round pole [3]
ASQU	Universal arm mount for square pole
A_U	Universal arm mount for round pole [3]
AAU	Adjustable arm for pole mounting (universal drill pattern)
AA_U	Adjustable arm mount for round pole [3]
ADU	Decorative upswept Arm (universal drill pattern)
AD_U	Decorative upswept arm mount for round pole [3]
MAF	Mast arm fitter for 2-3/8" OD horizontal arm
K	Knuckle
T	Trunnion
WB	Wall Bracket, horizontal tenon with MAF
WM	Wall mount bracket with decorative upswept arm
WA	Wall mount bracket with adjustable arm

Color	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
LGT	Light Grey Gloss Textured
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

Options	
F	Fusing
E	Battery Backup [1,2,7,8,9]
2PF	Dual Power Feed
2DR	Dual Driver
TE	Tooless Entry
BC	Backlight Control
TB	Terminal Block

Network Control Options	
NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,4,5]
NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,4,5]
NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [4,5]
WIR	LightGRID+ In-Fixture Module [4,5]
WIRSC	LightGRID+ Module and Occupancy Sensor [4,5]

Stand Alone Sensors	
BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens
BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
7PR	7-Pin Receptacle [4]
7PR-SC	7-Pin Receptacle with shorting cap [4]
3PR	3-Pin twist lock [4]
3PR-SC	3-Pin receptacle with shorting cap [4]
3PR-TL	3-Pin PCR with photocontrol [4]

Programmed Controls	
SCP-_F	Sensor Control Programmable, 8F or 40F [11]
ADD	AutoDim Timer Based Dimming [4]
ADT	AutoDim Time of Day Dimming [4]

Photocontrols	
PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option
9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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Item 1.

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size		Option	
SHD	Shield	**1**	Size 1	**HSS-90-B**	House Side Shield 90° Back
		2	Size 2	**HSS-90-F**	House Side Shield 90° Front
		3	Size 3	**HSS-90-S**	House Side Shield 90° Side
		4	Size 4	**HSS-270-BSS**	House Side Shield 270° Back/Side/Side
				HSS-270-FSS	House Side Shield 270° Front/Side/Side
				HSS-270-FSB	House Side Shield 270° Front/Side/Back
				HSS-360	House Side Shield 360°
				BC	Back Light Control
MTG	Mounting			**A**	Arm Mount for square pole/flat surface
				ASQU	Universal Arm Mount for square pole
				AAU	Adjustable Arm for pole mounting
				ADU	Decorative upswept Arm
				RPA	Round Pole Adapter
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm
				K	Knuckle
				T	Trunnion
				WB	Wall Bracket (compatible with universal arm mounts)

Accessory Type		Option	
MSC	Miscellaneous	**BIRD SPK**	Bird Spike

Color	
BLS	Black Gloss Smooth
BLT	Black Matte Textured
DBS	Dark Bronze Gloss Smooth
DBT	Dark Bronze Matte Textured
GTT	Graphite Matte Textured
LGS	Light Gray Gloss Smooth
PSS	Platinum Silver Smooth
WHS	White Gloss Smooth
WHT	White Matte Textured
VGT	Green Landscape Decorative
LEG	Legacy Colors
Color Option	
CC	Custom Color

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

☐ **NXOFM-1R1D-UNV** On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

☐ **WIR-RME-L** On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC

☐ **SCP-REMOTE** Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

For additional information related to these accessories please visit currentlighting.com/beacon. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

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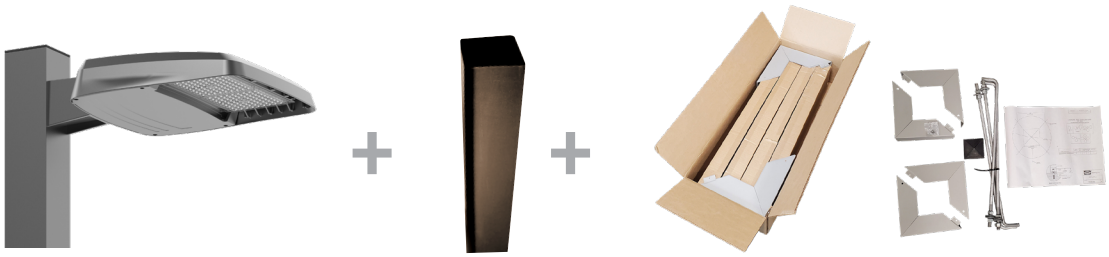
Item 1.

VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	**20' Square Straight Steel**	Single	**VP-1-160-4K-3-LS**	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	**20' Square Straight Steel**	Double	**VP-1-160-4K-3-LS**	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	**20' Square Straight Steel**	Single	**VP-1-160-4K-4F-LS**	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	**20' Square Straight Steel**	Double	**VP-1-160-4K-4F-LS**	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	**25' Square Straight Steel**	Single	**VP-1-160-4K-3-LS**	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	**25' Square Straight Steel**	Double	**VP-1-160-4K-3-LS**	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	**25' Square Straight Steel**	Single	**VP-1-160-4K-4F-LS**	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	**25' Square Straight Steel**	Double	**VP-1-160-4K-4F-LS**	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	**20' Square Straight Steel**	Single	**VP-1-160-5K-3-LS**	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	**20' Square Straight Steel**	Double	**VP-1-160-5K-3-LS**	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	**20' Square Straight Steel**	Single	**VP-1-160-5K-4F-LS**	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	**20' Square Straight Steel**	Double	**VP-1-160-5K-4F-LS**	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	**25' Square Straight Steel**	Single	**VP-1-160-5K-3-LS**	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	**25' Square Straight Steel**	Double	**VP-1-160-5K-3-LS**	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	**25' Square Straight Steel**	Single	**VP-1-160-5K-4F-LS**	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	**25' Square Straight Steel**	Double	**VP-1-160-5K-4F-LS**	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration

VM14DB

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Item 1.

VIPER Area/Site

VIPER LUMINAIRE

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

LIGHTGRID+ NX LIGHTING CONTROLS MOBILE APP

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
NX Wireless	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
NX Wireless	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
NX Wireless	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
LightGRID+	WIR-RME-L	LightGRID+ On Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR-RME-L
LightGRID+	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
Independent	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
Independent	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

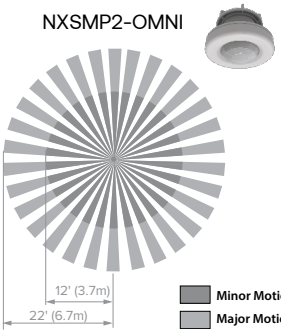
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

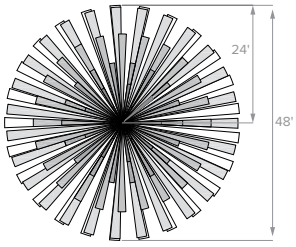
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

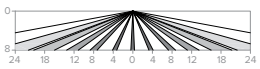
NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI



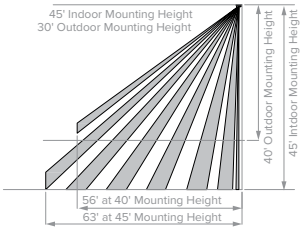
NXSMP2-LMO





Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

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CATALOG #:

Item 1.

NX LIGHTING CONTROLS FREE APP

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

Google Play

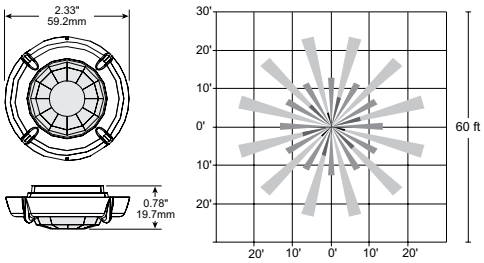
CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

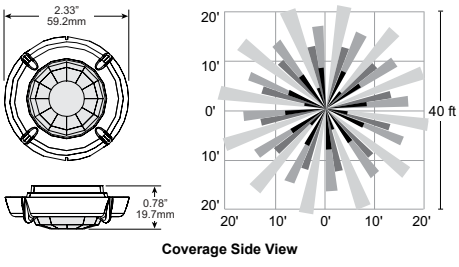
OUTDOOR LIGHTING CONTROLS OPTIONS

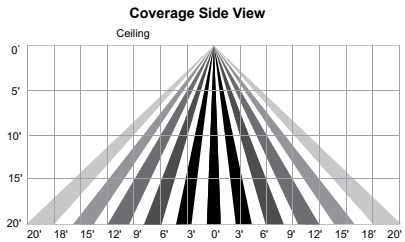
CONTROLS FUNCTIONALITY

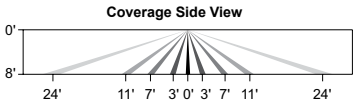
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height	
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	–	–	–	✓	✓	✓	✓	–	8ft or 40ft	SCP_F
Independent	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–	ADD
Independent	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–	ADT
Independent	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–	7PR
Independent	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–	7PR-SC
Independent	3PR	3-Pin twist lock	–	–	–	–	–	–	Paired with external control	–	–	3PR
Independent	3PR-SC	3-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–	3PR-SC
Independent	3PR-TL	3-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–	3PR-TL

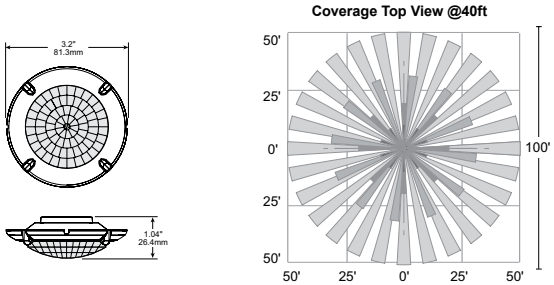
COVERAGE PATTERNS FOR SCP_F

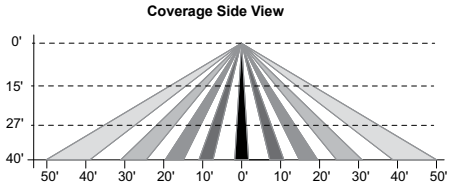












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Item 1.

VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
AP-Amber Phosphor Converted Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

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Item 1.

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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Item 1.

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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Item 1.

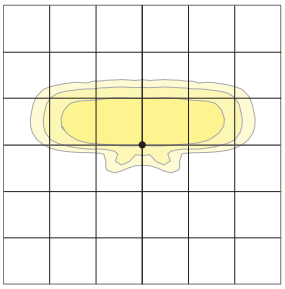
VIPER Area/Site

VIPER LUMINAIRE

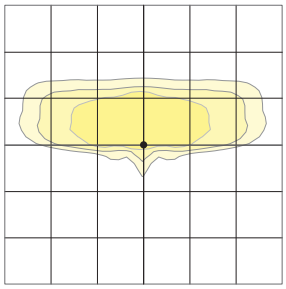
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

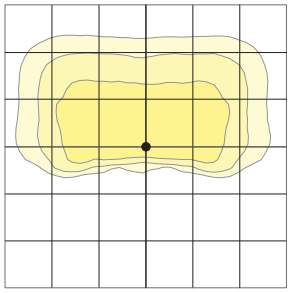
Type 2



Type 3



Type 4 Wide



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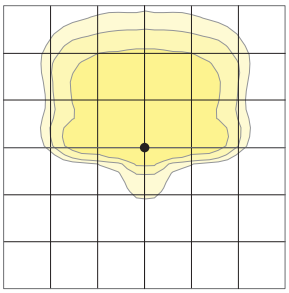
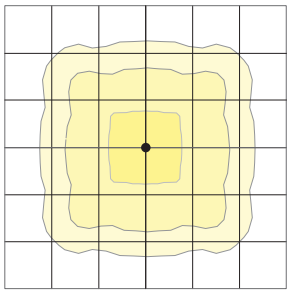


Type 5QW



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Item 1.

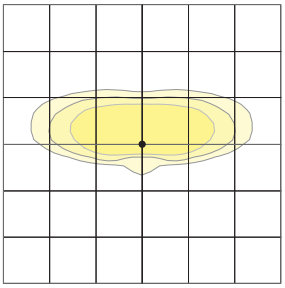
VIPER Area/Site

VIPER LUMINAIRE

OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic



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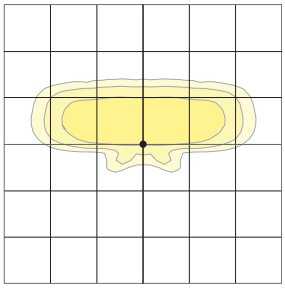

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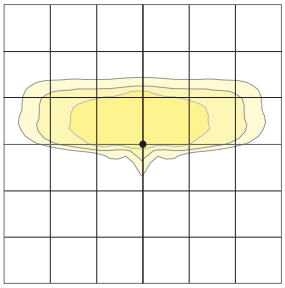
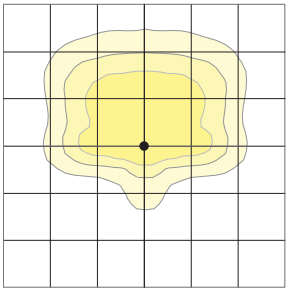


Type 4 Forward



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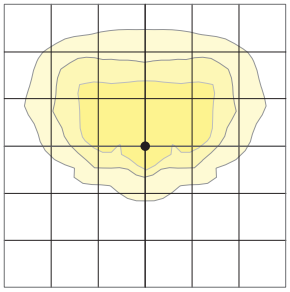
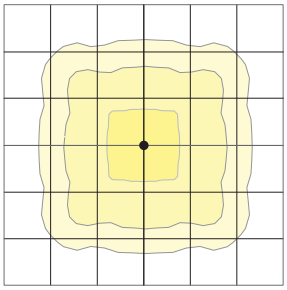
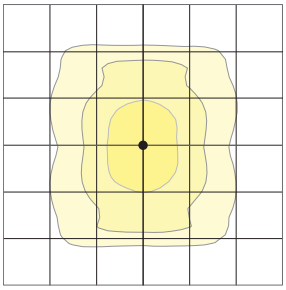


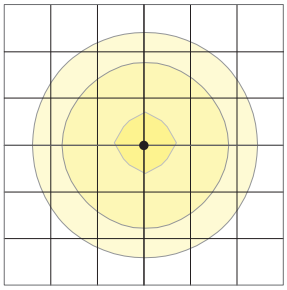
Type 5QM



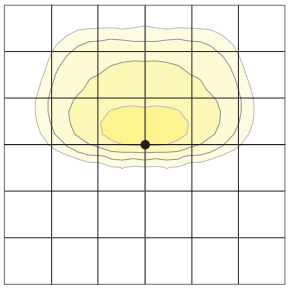
Type 5RW (rectangular)



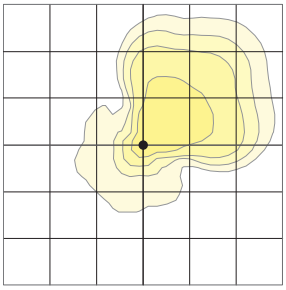
Type 5W (round wide)



Type TC



Type Corner



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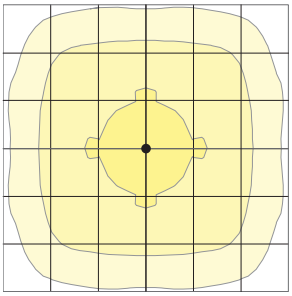

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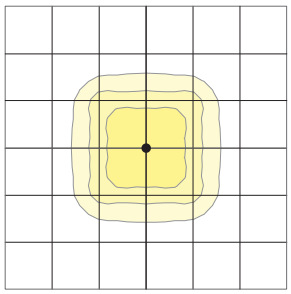

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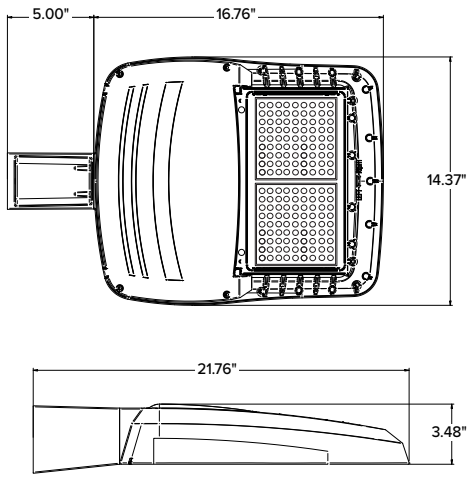
Item 1.

VIPER Area/Site

VIPER LUMINAIRE

DIMENSIONS

SIZE 1



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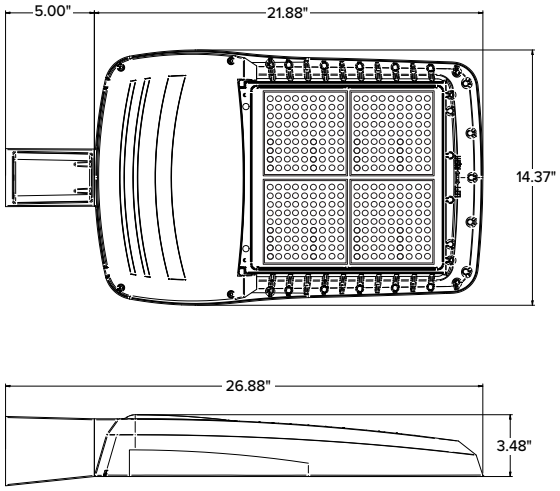

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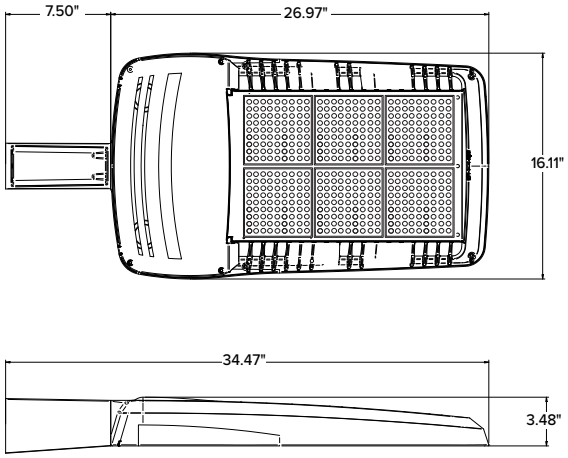
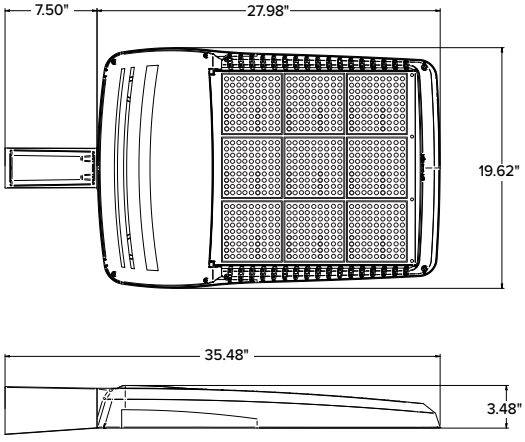


SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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Item 1.

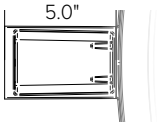
VIPER Area/Site

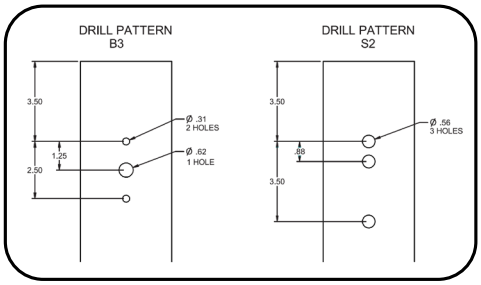
VIPER LUMINAIRE

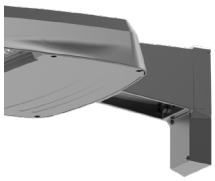
MOUNTING

A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

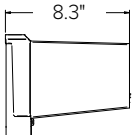


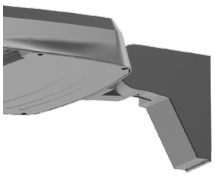




ASQU–UNIVERSAL ARM MOUNT

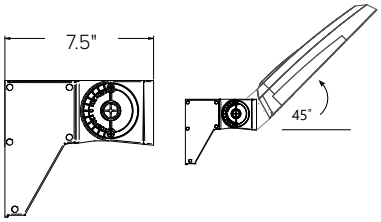
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

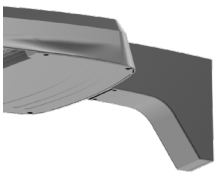




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

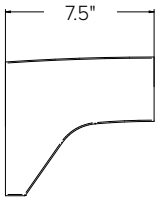
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

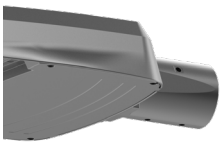




ADU–DECORATIVE UPSWEPT ARM

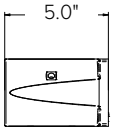
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

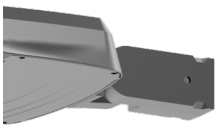




MAF–MAST ARM FITTER

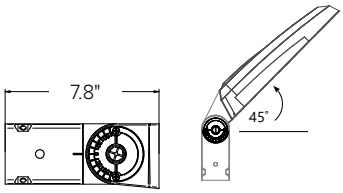
Fits 2-3/8" OD horizontal tenons.

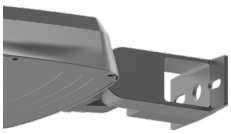




K–KNUCKLE

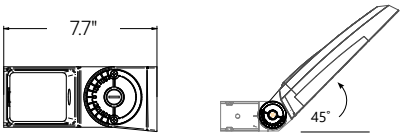
Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





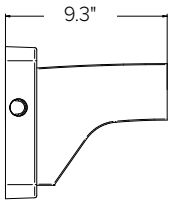
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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All values are design or typical values when measured under laboratory conditions.

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

Item 1.

VIPER Area/Site

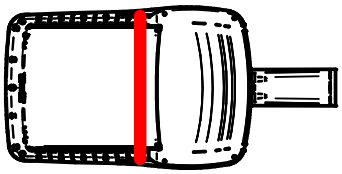
VIPER LUMINAIRE

ADDITIONAL INFORMATION (CONTINUED)

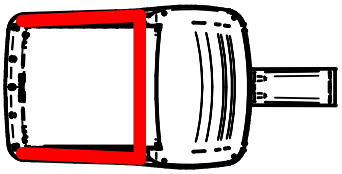
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

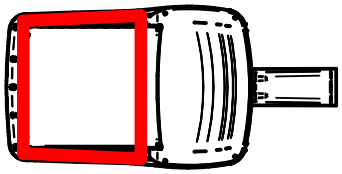
VPR2x HSS-90-B-xx



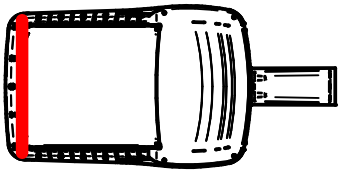
VPR2x HSS-270-BSS-xx



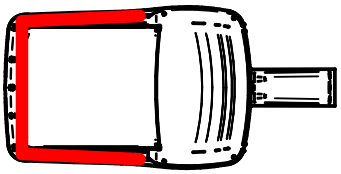
VPR2x HSS-360-xx



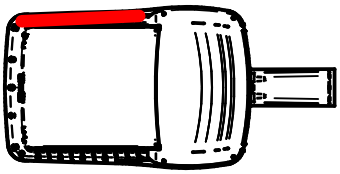
VPR2x HSS-90-F-xx



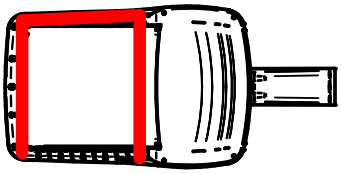
VPR2x HSS-270-FSS-xx



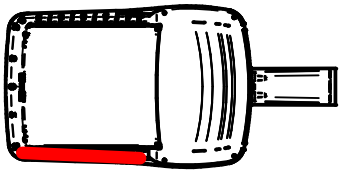
VPR2x HSS-90-S-xx



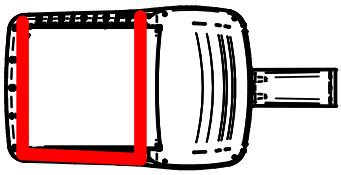
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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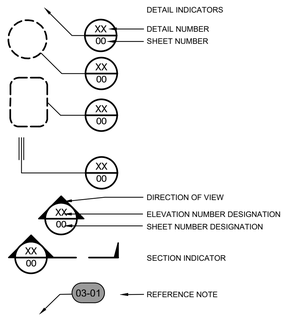
ABBREVIATIONS

ABV	ABOVE
ADJ	ADJACENT
ALT	ALTERNATE
ALN	ALIGN
APPRX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BIO	BIO-INFILTRATION
BM	BENCH MARK
BLDG	BUILDING
BO	BY OTHERS
BOT	BOTTOM
BS	BOTH SIDES
CAL	CALIPER
CB	CATCH BASIN
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CI	CAST IRON
CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CP	COORDINATES POINT / CENTER POINT
CTR	CENTER
DBL	DOUBLE
DBH	DIAMETER AT BREAST HEIGHT
DEMO	DEMOLISH / DEMOLITION
DET	DETAIL
DIA	DIAMETER
DIM	DIMENISION
DS	DOWNSPOUT
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION
ENCL	ENCLOSURE
EOP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
FBO	FURNISHED BY OWNER
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISH GRADE
FOC	FACE OF CONCRETE
FOW	FACE OF WALL
FS	FINISHED SURFACE
FTG	FOOTING
FURN	FURNITURE/ FURNISHED
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GND	GROUND
GV	GATE VALVE
HOR	HORIZONTAL
HR	HOUR
HT/H	HEIGHT / HIGH
HVAC	HEATING, VENTILATING & AIR CONDITIONING
ID	INSIDE DIAMETER
INCL	INCLUDING
INFO	INFORMATION
INT	INTERIOR
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIUM
MET/MTL	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINUMUM
MISC	MISCELLANEOUS
MIX	MIXTURE
N	NORTH
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
PA	PLANTING AREA
PC	PORTLAND CEMENT/PRECAST CONCRETE
PL	PROPERTY LINE
POLY	POLYETHYLENE
PT	PRESSURE TREATED
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
QUAL	QUALITY
RAD/r	RADIUS
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REF	REFER OR REFERENCE
REINF	REINFORCED / REINFORCING
REM	REMOVE
REPL	REPLACE
REQD	REQUIRED
REV	REVISE / REVISION
ROW	RIGHT-OF-WAY LINE
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
ST	STONE
STA	STATION
STD	STANDARD
STL	STEEL
SYM	SYMMETRICAL
SHT	SHEET
STRUCT	STRUCTURAL
S/W	SIDEWALK
T	TREAD / THICK
TC	TOP OF CURB
TEMP	TEMPORARY
THK	THICKNESS
TOC	TOP OF CONCRETE
TOS	TOP OF SLAB/ STEEL
TOW/TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VENT / VOLT/ VALVE
(V)	VERIFY
VERT	VERTICAL
VOL	VOLUME
XFMR	TRANSFORMER
&	AND
∠	ANGLE
@	AT
℄	CENTERLINE
₹	PROPERTY LINE
ø	DIAMETER
±	PLUS OR MINUS
#	NUMBER

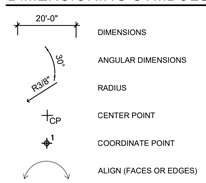
GENERAL NOTES

1. SEE SPECIFICATIONS FOR PLANT MATERIAL, TOP SOIL AND PLANTING MIX TYPES AND DEPTH, MULCHING, SOIL AMENDMENTS, FERTILIZERS AND WARRANTIES.
2. CONTRACTOR SHALL VERIFY ON-SITE CONDITIONS PRIOR TO BIDDING AND CONSTRUCTION.
3. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR READING THE PLANS, SPECIFICATIONS AND NOTES.
6. SE BYBEE ROAD RIGHT OF WAY LANDSCAPE INCLUDED FOR REFERENCE ONLY,SEE SE BYBEE ROAD REALIGNMENT PERMIT DRAWINGS DATED JULY 2024 FOR LANDSCAPE STREET FRONTAGE IMPROVEMENTS.

REFERENCE SYMBOLS



DIMENSIONING SYMBOLS



DRAWING REVISION SYMBOLS

SHEET LIST

Sheet Number	Sheet Title
L100	COVER SHEET
L101	TREE RETENTION PLAN
L102	TREE RETENTION TABLE
L103	TREE RETENTION TABLE
L104	OVERALL MATERIALS PLAN
L105	MATERIALS PLAN
L106	MATERIALS PLAN
L107	MATERIALS PLAN
L108	MATERIALS PLAN
L110	OVERALL PLANTING PLAN
L111	PLANTING PLAN
L112	PLANTING PLAN
L113	PLANTING PLAN
L114	PLANTING PLAN
L115	PLANTING PLAN
L116	PLANT SCHEDULE
L117	SOILS PLAN
L501	MATERIALS DETAILS
L502	PLANTING DETAILS

CODE SUMMARY TABLE

CAMAS MUNICIPAL CODE	CALCULATIONS	REQUIRED	PROVIDED
CITY OF CAMAS LANDSCAPE DETAIL LS1 NOTE 7: MINIMUM LANDSCAPING AS A PERCENT OF GROSS SITE AREA SHALL BE 15%	GROSS SITE AREA = 516,058 SF 516,058 X .15 = 77,408 SF	77,408 SF	207,050 SF

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21

REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.
L100
COVER SHEET

LEGEND

TREE ID
SEE ARBORIST REPORT FOR TREE DETAILS

EXISTING TREES TO REMAIN - BOTH PHASES

EXISTING TREES TO BE REMOVED - RIGHT OF WAY PHASE

EXISTING TREES TO BE REMOVED - LDS TEMPLE SITE PHASE

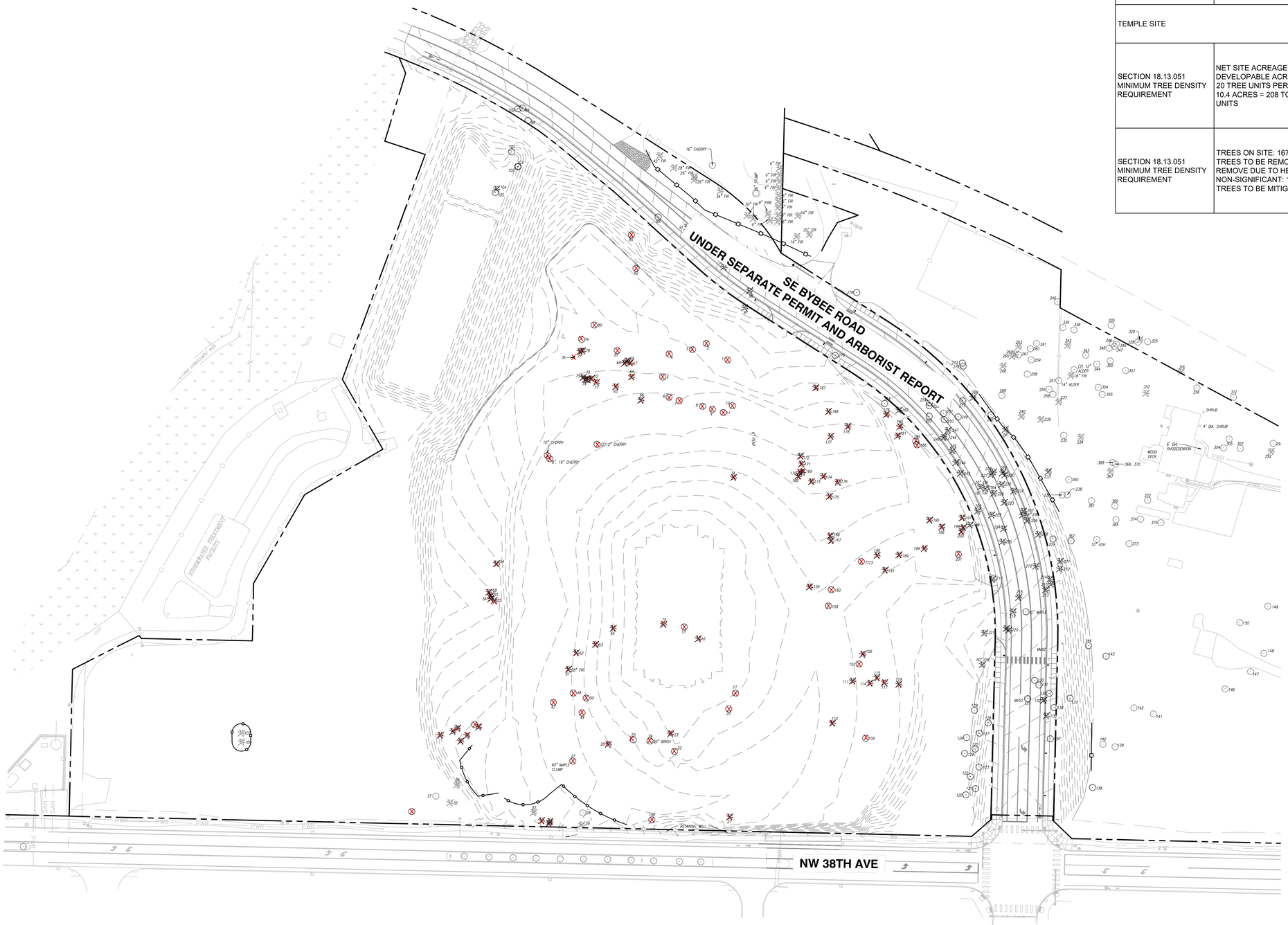
TREE PROTECTION FENCING
SEE SHEET L502 FOR DETAIL

GENERAL TREE RETENTION NOTES

1. SEE SEPARATE ISA CERTIFIED ARBORIST REPORT PREPARED FOR BYBEE ROAD BY DUDEK.
2. SEE SEPARATE ISA CERTIFIED ARBORIST REPORT PREPARED FOR TEMPLE SITE BY DUDEK.
3. BYBEE ROAD REPLACEMENT TREE PLANTING PLAN UNDER SEPARATE PERMIT.
4. SEE L110 FOR TEMPLE SITE TREE REPLACEMENT PLANTING PLAN.
5. SEE L502 FOR TREE PROTECTION FENCE DETAIL

TREE RETENTION CALCULATIONS

CAMAS MUNICIPAL CODE	CALCULATIONS	REQUIRED	PROVIDED
BYBEE ROAD SITE			
SECTION 18.13.051 MINIMUM TREE DENSITY REQUIREMENT	NET SITE ACREAGE: 13.42 DEVELOPABLE ACREAGE: 2.12 20 TREE UNITS PER ACRE X 2.12 ACRES = 42 TOTAL TREE UNITS	42 TOTAL TREE UNITS	42 TOTAL TREE UNITS
SECTION 18.13.051 MINIMUM TREE DENSITY REQUIREMENT	TREES ON SITE: 188 TREES TO BE REMOVED: 72 REMOVE DUE TO HEALTH: 5 NON-SIGNIFICANT: 0 TREES TO BE MITIGATED: 67	42 REPLACEMENT TREE UNITS	42 REPLACEMENT TREE UNITS
TEMPLE SITE			
SECTION 18.13.051 MINIMUM TREE DENSITY REQUIREMENT	NET SITE ACREAGE: 13.4 DEVELOPABLE ACREAGE: 10.4 20 TREE UNITS PER ACRE X 10.4 ACRES = 208 TOTAL TREE UNITS	208 TOTAL TREE UNITS	208 TOTAL TREE UNITS
SECTION 18.13.051 MINIMUM TREE DENSITY REQUIREMENT	TREES ON SITE: 167 TREES TO BE REMOVED: 165 REMOVE DUE TO HEALTH: 7 NON-SIGNIFICANT: 1 TREES TO BE MITIGATED: 157	208 REPLACEMENT TREE UNITS	208 REPLACEMENT TREE UNITS SEE SHEET L110 PLANTING PLAN



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KMB Project # 23069

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VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21

REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.
L101
TREE RETENTION PLAN

Tree ID Number	Botanical Name	Common Name	No. of Stems	S1	S2	S3	S4	S5	S6	Combined Diameter	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Units	Evergreen	Protection Status	Tree Protection Zone (ft.)	Removed Due to Bybee Road	PROJECT
1	Liquidambar styraciflua	American sweetgum	1	12	0	0	0	0	0	12	17	13	Fair	Poor	2	No	Significant - Deciduous	15	no	LDS Church Project
2	Liquidambar styraciflua	American sweetgum	1	14	0	0	0	0	0	14	30	17	Good	Fair	3	No	Significant - Deciduous	18	no	LDS Church Project
3	Liquidambar styraciflua	American sweetgum	1	14	0	0	0	0	0	14	30	17	Good	Fair	3	No	Significant - Deciduous	18	no	LDS Church Project
4	Acer macrophyllum	Bigleaf maple	1	25	0	0	0	0	0	25	40	25	Fair	Poor	9	No	Significant - Deciduous	25	no	LDS Church Project
5	Acer platanoides	Norway maple	1	21	0	0	0	0	0	21	32	28	Fair	Fair	7	No	Significant - Deciduous	21	no	LDS Church Project
6	Acer platanoides	Norway maple	1	14	0	0	0	0	0	14	30	18	Fair	Fair	3	No	Significant - Deciduous	14	no	LDS Church Project
7	Acer platanoides	Norway maple	1	13	0	0	0	0	0	13	30	18	Fair	Fair	3	No	Significant - Deciduous	13	no	LDS Church Project
8	Acer platanoides	Norway maple	2	7	8	0	0	0	0	15	25	18	Fair	Fair	4	No	Significant - Deciduous	10	no	LDS Church Project
9	Acer platanoides	Norway maple	1	14	0	0	0	0	0	14	20	15	Fair	Fair	3	No	Significant - Deciduous	14	no	LDS Church Project
10	Populus nigra	Black poplar	4	1	4	5	2	0	0	12	25	5	Good	Fair	2	No	Significant - Deciduous	8	no	LDS Church Project
11	Acer platanoides	Norway maple	1	12	0	0	0	0	0	12	17	13	Fair	Fair	2	No	Significant - Deciduous	12	no	LDS Church Project
12	Chamaecyparis pisifera	Sawara cypress	1	8	0	0	0	0	0	8	15	8	Fair	Fair	2	Yes	Significant - Evergreen	5	no	LDS Church Project
13	Alnus rubra	Red alder	2	6	8	0	0	0	0	14	25	15	Fair	Poor	3	No	Significant - Deciduous	14	no	LDS Church Project
14	Pinus ponderosa	Ponderosa pine	1	8	0	0	0	0	0	8	30	15	Good	Good	2	Yes	Significant - Evergreen	5	no	LDS Church Project
15	Pseudotsuga menziesii	Douglas fir	1	29	0	0	0	0	0	29	70	30	Good	Good	11	Yes	Significant - Evergreen	44	no	LDS Church Project
16	Pseudotsuga menziesii	Douglas fir	1	27	0	0	0	0	0	27	70	30	Good	Good	10	Yes	Significant - Evergreen	41	no	LDS Church Project
17	Castanea sativa	Sweet chestnut	1	14	0	0	0	0	0	14	20	14	Fair	Fair	3	No	Significant - Deciduous	14	no	LDS Church Project
18	Corylus avellana	Common hazel	15	2	2	1	2	2	2	26	15	14	Fair	Fair	9	No	Significant - Deciduous	13	no	LDS Church Project
19	Corylus avellana	Common hazel	15	2	2	1	2	2	2	26	15	14	Fair	Fair	9	No	Significant - Deciduous	13	no	LDS Church Project
20	Malus domestica	Apple	1	16	0	0	0	0	0	16	15	18	Fair	Poor	4	No	Significant - Deciduous	16	no	LDS Church Project
21	Pseudotsuga menziesii	Douglas fir	1	44	0	0	0	0	0	44	75	45	Good	Good	18	Yes	Significant - Evergreen	66	no	LDS Church Project
22	Araucaria araucana	Monkey puzzle	1	25	0	0	0	0	0	25	60	35	Good	Good	9	Yes	Significant - Evergreen	38	no	LDS Church Project
23	Pseudotsuga menziesii	Douglas fir	1	48	0	0	0	0	0	48	75	45	Good	Good	20	Yes	Significant - Evergreen	72	no	LDS Church Project
24	Acer saccharum	Sugar maple	5	11	3	3	4	11	0	32	20	15	Fair	Fair	12	No	Significant - Deciduous	21	no	LDS Church Project
25	Acer platanoides	Norway maple	1	18	0	0	0	0	0	18	27	24	Fair	Good	5	No	Significant - Deciduous	18	no	LDS Church Project
26	Pseudotsuga menziesii	Douglas fir	1	48	0	0	0	0	0	48	75	45	Good	Good	20	Yes	Significant - Evergreen	72	no	LDS Church Project
27	Acer macrophyllum	Bigleaf maple	3	30	29	17	0	0	0	76	56	52	Fair	Fair	34	No	Significant - Deciduous	76	no	LDS Church Project
28	Acer platanoides	Norway maple	2	9	6	0	0	0	0	15	25	25	Fair	Fair	4	No	Significant - Deciduous	10	no	LDS Church Project
29	Pseudotsuga menziesii	Douglas fir	1	35	0	0	0	0	0	35	65	35	Good	Good	14	Yes	Significant - Evergreen	53	no	LDS Church Project
30	Pseudotsuga menziesii	Douglas fir	2	17	18	0	0	0	0	35	65	35	Poor	Fair	14	Yes	Significant - Evergreen	53	no	LDS Church Project
31	Pseudotsuga menziesii	Douglas fir	1	22	0	0	0	0	0	22	65	35	Poor	Fair	7	Yes	Significant - Evergreen	33	no	LDS Church Project
32	Pseudotsuga menziesii	Douglas fir	1	24	0	0	0	0	0	24	65	35	Poor	Fair	8	Yes	Significant - Evergreen	36	no	LDS Church Project
33	Calocedrus decurrens	California incense cedar	2	5	4	0	0	0	0	9	12	8	Good	Fair	2	Yes	Significant - Evergreen	6	no	LDS Church Project
34	Pseudotsuga menziesii	Douglas fir	1	27	0	0	0	0	0	27	65	30	Fair	Fair	10	Yes	Significant - Evergreen	41	no	LDS Church Project
35	Pseudotsuga menziesii	Douglas fir	1	27	0	0	0	0	0	27	65	30	Fair	Fair	10	Yes	Significant - Evergreen	41	no	LDS Church Project
36	Pseudotsuga menziesii	Douglas fir	1	33	0	0	0	0	0	33	75	45	Good	Fair	13	Yes	Significant - Evergreen	50	no	LDS Church Project
37	Acer macrophyllum	Bigleaf maple	1	39	0	0	0	0	0	39	58	40	Fair	Poor	16	No	Significant - Deciduous	39	no	LDS Church Project
38	Acer rubrum	Red maple	1	14	0	0	0	0	0	14	17	13	Poor	Poor	3	Yes	Significant - Evergreen	14	no	LDS Church Project
39	Pseudotsuga menziesii	Douglas fir	1	33	0	0	0	0	0	33	65	40	Fair	Fair	13	Yes	Significant - Evergreen	50	no	LDS Church Project
40	Pseudotsuga menziesii	Douglas fir	1	33	0	0	0	0	0	33	65	40	Fair	Fair	13	Yes	Significant - Evergreen	50	no	LDS Church Project
41	Pseudotsuga menziesii	Douglas fir	1	12	0	0	0	0	0	12	40	15	Fair	Fair	2	Yes	Significant - Evergreen	15	no	LDS Church Project
42	Pseudotsuga menziesii	Douglas fir	1	13	0	0	0	0	0	13	40	15	Fair	Fair	3	Yes	Significant - Evergreen	16	no	LDS Church Project
43	Pseudotsuga menziesii	Douglas fir	1	11	0	0	0	0	0	11	30	15	Fair	Fair	2	Yes	Significant - Evergreen	11	no	LDS Church Project
44	Pseudotsuga menziesii	Douglas fir	1	22	0	0	0	0	0	22	45	35	Fair	Fair	7	Yes	Significant - Evergreen	33	no	LDS Church Project
45	Acer macrophyllum	Bigleaf maple	1	30	0	0	0	0	0	30	55	40	Fair	Fair	11	No	Significant - Deciduous	30	no	LDS Church Project
46	Corylus avellana	Common hazel	20	2	3	3	1	1	1	25	10	8	Good	Fair	9	No	Significant - Deciduous	13	no	LDS Church Project
47	Malus domestica	Apple	1	12	0	0	0	0	0	12	14	12	Fair	Fair	2	No	Significant - Deciduous	12	no	LDS Church Project
48	Malus domestica	Apple	2	10	8	0	0	0	0	18	14	12	Fair	Fair	5	No	Significant - Deciduous	18	no	LDS Church Project
49	Malus domestica	Apple	5	11	8	11	4	5	0	39	28	13	Fair	Fair	16	No	Significant - Deciduous	39	no	LDS Church Project
50	Malus domestica	Apple	2	11	12	0	0	0	0	23	17	12	Fair	Fair	8	No	Significant - Deciduous	23	no	LDS Church Project
51	Pseudotsuga menziesii	Douglas fir	1	40	0	0	0	0	0	40	75	40	Good	Good	16	Yes	Significant - Evergreen	60	no	LDS Church Project
52	Pseudotsuga menziesii	Douglas fir	1	40	0	0	0	0	0	40	75	40	Good	Good	16	Yes	Significant - Evergreen	60	no	LDS Church Project
53	Pseudotsuga menziesii	Douglas fir	1	39	0	0	0	0	0	39	67	40	Good	Good	16	Yes	Significant - Evergreen	59	no	LDS Church Project
54	Pseudotsuga menziesii	Douglas fir	1	13	0	0	0	0	0	13	40	20	Fair	Fair	3	Yes	Significant - Evergreen	16	no	LDS Church Project
55	Pseudotsuga menziesii	Douglas fir	1	38	0	0	0	0	0	38	65	35	Fair	Fair	15	Yes	Significant - Evergreen	57	no	LDS Church Project
56	Pseudotsuga menziesii	Douglas fir	1	11	0	0	0	0	0	11	35	20	Fair	Fair	2	Yes	Significant - Evergreen	11	no	LDS Church Project
57	Pseudotsuga menziesii	Douglas fir	1	8	0	0	0	0	0	8	30	10	Fair	Fair	2	Yes	Significant - Evergreen	8	no	LDS Church Project
58	Pseudotsuga menziesii	Douglas fir	1	16	0	0	0	0	0	16	50	20	Fair	Fair	4	Yes	Significant - Evergreen	20	no	LDS Church Project
59	Acer platanoides	Norway maple	6	10	10	10	5	4	4	43	40	30	Fair	Fair	18	No	Significant - Deciduous	29	no	LDS Church Project
60	Acer platanoides	Norway maple	6	5	10	8	5	4	4	36	40	30	Fair	Fair	14	No	Significant - Deciduous	24	no	LDS Church Project
61	Acer platanoides	Norway maple	6	5	6	8	5	4	4	32	40	30	Fair	Fair	12	No	Significant - Deciduous	21	no	LDS Church Project
62	Acer platanoides	Norway maple	6	5	6	8	5	4	4	32	40	30	Fair	Fair	12	No	Significant - Deciduous	21	no	LDS Church Project
63	Pinus contorta	Lodgepole pine	1	16	0	0	0	0	0	16	50	20	Fair	Fair	4	Yes	Significant - Evergreen	16	no	LDS Church Project
64	Pinus contorta	Lodgepole pine	1	12	0	0	0	0	0	12	25	17	Poor	Fair	2	Yes	Significant - Evergreen	12	no	LDS Church Project
65	Pinus contorta	Lodgepole pine	1	12	0	0	0	0	0	12	40	20	Poor	Fair	2	Yes	Significant - Evergreen	12	no	LDS Church Project
66	Pinus monticola	Western white pine	1	8	0	0	0	0	0	8	12	8	Fair	Fair	2	Yes	Significant - Evergreen	5	no	LDS Church Project
67	Thuja plicata	Western red cedar	1	8	0	0	0	0	0	8	18	10	Fair	Good	2	Yes	Significant - Evergreen	5	no	LDS Church Project
68	Thuja plicata	Western red cedar	1	11	0	0	0	0	0	11	30	17	Fair	Good	2	Yes	Significant - Evergreen	7	no	LDS Church Project
69	Thuja plicata	Western red cedar	1	8	0	0	0	0	0	8	25	13	Fair	Good	2	Yes	Significant - Evergreen	5	no	LDS Church Project
70	Thuja plicata	Western red cedar	1	10	0	0	0	0	0	10	20	13	Dead	Dead	2	Yes	Significant - Evergreen	7	no	LDS Church Project
71	Thuja plicata	Western red cedar	2	30	32	0	0	0	0	62	60	25	Fair	Fair	27	Yes	Significant - Evergreen	62	no	LDS Church Project
72	Thuja plicata	Western red cedar	1	12	0	0	0	0	0	12	55	15	Dead	Dead	2	Yes	Significant - Evergreen	12	no	LDS Church Project
73	Thuja plicata	Western red cedar	2	12	20	0	0	0	0	32	60	45	Poor	Fair	12	Yes	Significant - Evergreen	32	no	LDS Church Project
74	Thuja plicata	Western red cedar	1	11	0	0	0	0	0	11	50	10	Poor	Fair	2	Yes	Significant - Evergreen	7	no	LDS Church Project
75	Thuja plicata	Western red cedar	1	24	0	0	0	0	0	24	55	25	Poor	Fair	8	Yes	Significant - Evergreen	24	no	LDS Church Project
76	Thuja occidentalis	Arborvitae	2	7	5	0	0	0	0	12	22	10	Fair	Fair	2	Yes	Significant - Evergreen	8	no	LDS Church Project
77	Thuja plicata	Western red cedar	1	11	0	0	0	0	0	11	22	10	Poor	Fair	2	Yes	Significant - Evergreen	7	no	LDS Church Project
78	Thuja plicata	Western red cedar	1	9	0	0	0	0	0	9	22	10	Poor	Fair	2	Yes	Significant - Evergreen	6	no	LDS Church Project
79	Acer platanoides	Norway maple	5	14	12	12	9	0	0	47	40	25	Fair	Fair	20	No	Significant - Deciduous	47	no	LDS Church Project
80	Acer platanoides	Norway maple	1	29	0	0	0	0	0	29	38	25	Poor	Fair	11	No	Significant - Deciduous	29	no	LDS Church Project
81	Populus nigra	Black poplar	1	15	0	0	0	0	0	15	42	20	Fair	Fair	4	No	Significant - Deciduous	15	no	LDS Church Project
82	Quercus rubra	Northern red oak	1	16	0	0	0	0	0	16	27	20	Fair	Fair	4	No	Significant - Deciduous	16	yes	LDS Church Project
83	Quercus rubra	Northern red oak	1	12	0	0	0	0	0	12	27	25	Fair	Fair	2	No	Significant - Deciduous	12	no	LDS Church Project
84	Quercus rubra	Northern red oak	1	12	0	0	0	0	0	12	12	5	Dead	Dead	2	No	Significant - Deciduous	12	no	LDS Church Project
85	Quercus rubra	Northern red oak	1	14	0	0	0	0	0	14	28	24	Fair	Fair	3	No	Significant - Deciduous	14	yes	LDS Church Project
86	Quercus rubra	Northern red oak	5	8	2	2	5	8	0	25	25	20	Fair	Fair	9	No	Significant - Deciduous	17	no	LDS Church Project
87	Quercus rubra	Northern red oak	4	2	2	2	2	0	0	8	10	5	Fair	Fair	2	No	Not protected	5	no	LDS Church Project
88	Picea glauca	White spruce	1	10	0	0	0	0	0	10	22	10	Good	Good	2	Yes	Significant - Evergreen	7	no	LDS Church Project
89	Quercus rubra	Northern red oak	1	22	0	0	0	0	0	22	38	30	Fair	Fair	7	No	Significant - Deciduous	22	no	LDS Church Project
90	Quercus rubra	Northern red oak	3	12	9	12	-	-	-	33	38	29	Fair	Fair	13	No	Significant - Deciduous	33	Yes	Bybee Road Realignment Project
91	Pinus monticola	Western white pine	1	10	-	-	-	-	-	10	15	18	Fair	Fair	2	Yes	Significant - Evergreen	7	Yes	Bybee Road Realignment Project
92	Betula pendula	Silver birch	1	13	-	-	-	-	-	13	27	20	Good	Good	3	No	Significant - Deciduous	13	Yes	Bybee Road Realignment Project
93	Thuja plicata	Western red cedar	1	13	-	-	-	-	-	13	22	15	Poor	Fair	3	Yes	Significant - Evergreen	13	yes	Bybee Road Realignment Project
94	Betula pendula	Silver birch	1	12	-	-	-	-	-	12	15	15	Poor	Fair	2	No	Significant - Deciduous	12	Yes	Bybee Road Realignment Project
95	Pinus nigra	Black pine	1	11	-	-	-	-	-	11	29	15	Fair	Good	2	Yes	Significant - Evergreen	7	yes	Bybee Road Realignment Project
96	Pseudotsuga menziesii	Douglas fir	1	49	-	-	-	-	-	49	70	45	Fair	Good	21	Yes	Significant - Evergreen	74	yes	Bybee Road Realignment Project
97	Pseudotsuga menziesii	Douglas fir	1	49	0	0	0	0	0	49	70	45	Dead	Dead	21	Yes	Significant - Evergreen	74	yes	LDS Church Project
98	Prunus avium	Sweet cherry	4	8	4	3	5	-	-	20	20	15	Fair	Fair	6	No	Significant - Deciduous	20	Yes	Bybee Road Realignment Project
99	Prunus avium	Sweet cherry	3	9	4	12	-	-	-	25	22	15	Fair	Fair	9	No	Significant - Deciduous	25	yes	Bybee Road Realignment Project
100	Prunus avium	Sweet cherry	3	10	7	6	-	-	-	23	22	15	Fair	Fair	8	No	Significant - Deciduous	23	yes	Bybee Road Realignment Project
101	Prunus avium	Sweet cherry	2	30	8	0	0	0	0	38	35	30	Fair	Fair	15	No	Significant - Deciduous	48	yes	LDS Church Project
102	Prunus avium	Sweet cherry	2	20	10	0	0	0	0	30	35	28	Fair	Fair	11	No	Significant - Deciduous	38	yes	LDS Church Project
103	Ulmus procera	English elm	2	15	5	0	0	0	0	20	29	14	Fair	Fair	6	No	Significant - Deciduous	20	yes	LDS Church Project
104	Thuja plicata	Western red cedar	3	20	17	18	0	0	0	55	38	25	Fair	Fair	24	Yes	Significant - Evergreen	55	yes	LDS Church Project
105	Quercus rubra	Northern red oak	1	15	0	0	0	0	0	15	34	20	Fair	Fair	4	No	Significant - Deciduous	15	yes	LDS Church Project
106	Pseudotsuga menziesii	Douglas fir	1	11	0	0	0	0	0	11	50	25	Good	Fair	2	Yes	Significant - Evergreen	11	no	LDS Church Project
107	Pseudotsuga menziesii	Douglas fir	1	10	0	0	0	0	0	10	38	17	Fair	Fair	2	Yes	Significant - Evergreen	10	no	LDS Church Project
108	Juglans nigra	Eastern black walnut	1	13	0	0	0	0	0	13	25	22	Good	Fair	3	No	Significant - Deciduous	16	no	LDS Church Project
109	Prunus serrulata	Japanese cherry	1	15	0	0	0	0	0	15	30	15	Poor	Poor	4	No	Significant - Deciduous	19	no	LDS Church Project
110	Pseudotsuga menziesii	Douglas fir	1	42	0	0	0	0	0	42	70	40	Fair	Fair	17	Yes	Significant - Evergreen	63	no	LDS Church Project
111	Cedrus deodara	Deodar cedar	1	20	0	0	0	0	0	20	50	27	Fair	Fair	6	Yes	Significant - Evergreen	20	no	LDS Church Project
112	Pinus nigra	Black pine	1	15	0	0	0	0	0	15	40	25	Dead	Dead	4	Yes	Significant - Evergreen	15	no	LDS Church Project
113	Pinus nigra	Black pine	1	20	0	0	0	0	0	20	20	5	Dead	Dead	6	Yes	Significant - Evergreen	20	no	LDS Church Project
114	Picea abies	Norway spruce	1	9	0	0	0	0	0	9	30	10	Fair	Fair	2	Yes	Significant - Evergreen	6	no	LDS Church Project
115	Picea pugens var glauca	Colorado blue spruce	1	9	0	0	0	0	0	9	30	10	Fair	Fair	2	Yes	Significant - Evergreen	6	no	LDS Church Project
116	Pinus ponderosa	Ponderosa pine	1	9	0	0	0	0	0	9	24	15	Good	Good	2	Yes	Significant - Evergreen	6	no	LDS Church Project
117	Pinus spp.	Pine	2	16	16	0	0	0	0	32	30	25	Dead	Dead	12	Yes	Significant - Evergreen	32	no	LDS Church Project
118	Thuja plicata	Western red cedar	1	10	0	0	0	0	0	10	20	8	Good	Good	2	Yes	Significant - Evergreen	7	no	LDS Church Project
119	Cedrus deodara	Deodar cedar	1	30	0	0	0	0	0	30	57	29	Good	Good	11	Yes	Significant - Evergreen	30	no	LDS Church Project
120	Populus trichocarpa	Black cottonwood	1	20	0	0	0	0	0	20	70	40	Good	Fair	6	No	Significant - Deciduous	30	yes	LDS Church Project
121	Populus trichocarpa	Black cottonwood	1	20	0	0	0	0	0	20	70	40	Good	Fair	6	No	Significant - Deciduous	30	yes	LDS Church Project
122	Populus trichocarpa	Black cottonwood	1	27	0	0	0	0	0	27	70	40	Good	Fair	10	No	Significant - Deciduous	41	yes	LDS Church Project
123	Populus trichocarpa	Black cottonwood	1	22	0	0	0	0	0	22	70	40	Good	Fair	7	No	Significant - Deciduous	33	yes	LDS Church Project
124	Populus trichocarpa	Black cottonwood	1	43	0	0	0	0	0	43	70	55	Good	Fair	18	No	Significant - Deciduous	65	yes	LDS Church Project
125	Populus trichocarpa	Black cottonwood	1	38	0	0	0	0	0	38	50	40	Good	Fair	15	No	Significant - Deciduous	57	yes	LDS Church Project
126	Populus trichocarpa	Black cottonwood	1	42	0	0	0	0	0	42	65	50	Good	Fair	17	No	Significant - Deciduous	63	yes	LDS Church Project
127	Populus trichocarpa	Black cottonwood	1	33	0	0	0	0	0	33	65	40	Good	Fair	13	No	Significant - Deciduous	50	yes	LDS Church Project
128	Acer macrophyllum	Bigleaf maple	8	15	14	6	10	11	15	93	65	40	Good	Fair	43	No	Significant - Deciduous	93	Yes	Bybee Road Realignment Project
129	Populus trichocarpa	Black cottonwood	1	33	0	0	0	0	0	33	48	40	Poor	Poor	13	No	Significant - Deciduous	50	yes	LDS Church Project
130	Corylus avellana	European hazel	20	5	1	1	1	1	1	24	25	30	Fair	Poor	8	No	Significant - Deciduous	12	yes	Bybee Road Realignment Project
131	Acer macrophyllum	Bigleaf maple	1	13	-	-	-	-	-	13	25	15	Dead	Dead	3	No	Significant - Deciduous	13	yes	Bybee Road Realignment Project
132	Pseudotsuga menziesii	Douglas fir	1	45	-	-	-	-	-	45	80	45	Fair	Fair	19	Yes	Significant - Evergreen	68	Yes	Bybee Road Realignment Project
133	Pseudotsuga menziesii	Douglas fir	1	40	-	-	-	-	-	40	75	45	Fair	Fair	16	Yes	Significant - Evergreen	60	Yes	Bybee Road Realignment Project
134	Acer macrophyllum	Bigleaf maple	1	12	-	-	-	-	-	12	45	40	Poor	Fair	2	No	Significant - Deciduous	12	yes	Bybee Road Realignment Project
135	Acer macrophyllum	Bigleaf maple	3	12	4	9	-	-	-	25	50	40	Poor	Fair	9	No	Significant - Deciduous	25	yes	Bybee Road Realignment Project
136	Acer macrophyllum	Bigleaf maple	1	13	-	-	-	-	-	13	50	20	Dead	Dead	3	No	Significant - Deciduous	13	yes	Bybee Road Realignment Project
137	Alnus rubra	Red alder	2	20	16	-	-	-	-	36	48	25	Dead	Dead	14	No	Significant - Deciduous	45	yes	Bybee Road Realignment Project
138	Acer macrophyllum	Bigleaf maple	1	44	-	-	-	-	-	44	48	45	Fair	Poor	18	No	Significant - Deciduous	44	yes	Bybee Road Realignment Project
139	Acer macrophyllum	Bigleaf maple	1	40	-	-	-	-	-	40	48	45	Fair	Poor	16	No	Significant - Deciduous	40	no	Bybee Road Realignment Project
140	Acer macrophyllum	Bigleaf maple	7	6	1	1	1	1	1	12	25	20	Fair	Poor	2	No	Significant - Deciduous	8	yes	Bybee Road Realignment Project
141	Acer macrophyllum	Bigleaf maple	4	12	22	8	6	-	-	48	40	30	Fair	Fair	20	No	Significant - Deciduous	48	no	Bybee Road Realignment Project
142	Acer macrophyllum	Bigleaf maple	1	13	-	-	-	-	-	13	30	20	Fair	Fair	3	No	Significant - Deciduous	13	no	Bybee Road Realignment Project
143	Acer macrophyllum	Bigleaf maple	2	25	16	-	-	-	-	41	40	30	Fair	Fair	17	No	Significant - Deciduous	41	yes	Bybee Road Realignment Project
144	Prunus subhirtella	Winter flowering cherry	1	14	-	-	-	-	-	14	30	30	Fair	Fair	3	No	Significant - Deciduous	18	yes	Bybee Road Realignment Project
145	Prunus subhirtella	Winter flowering cherry	1	14	-	-	-	-	-	14	25	10	Poor	Critical	3	No	Significant - Deciduous	18	yes	Bybee Road Realignment Project
146	Acer macrophyllum	Bigleaf maple	2	18	20	-	-	-	-	38	50	30	Fair	Fair	15	No	Significant - Deciduous	38	no	Bybee Road Realignment Project
147	Acer macrophyllum	Bigleaf maple	1	24	-	-	-	-	-	24	45	30	Poor	Fair	8	No	Significant - Deciduous	24	no	Bybee Road Realignment Project
148	Acer macrophyllum	Bigleaf maple	1	25	-	-	-	-	-	25	48	37	Poor	Fair	9	No	Significant - Deciduous	25	no	Bybee Road Realignment Project
149	Pyrus calleryana	Callery pear	4	16	5	2	4	-	-	27	27	30	Poor	Poor	10	No	Significant - Deciduous	27	no	Bybee Road Realignment Project
150	Pyrus calleryana	Callery pear	6	7	8	3	8	11	8	45	27	30	Poor	Poor	19	No	Significant - Deciduous	30	no	Bybee Road Realignment Project

Tree ID Number	Botanical Name	Common Name	No. of Stems	S1	S2	S3	S4	S5	S6	Combined Diameter	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Units	Evergreen	Protection Status	Tree Protection Zone (ft.)	Removed Due to Bybee Road	PROJECT
151	Betula pendula	Silver birch	4	12	12	3	11	-	-	38	35	32	Fair	Fair	15	No	Significant - Deciduous	38	no	Bybee Road Realignment Project
152	Acer x fremanii	Freeman maple	2	8	7	-	-	-	-	15	35	20	Fair	Fair	4	No	Significant - Deciduous	10	no	Bybee Road Realignment Project
153	Acer x fremanii	Freeman maple	4	3	3	5	3	-	-	14	35	20	Fair	Fair	3	No	Significant - Deciduous	9	no	Bybee Road Realignment Project
154	Pseudotsuga menziesii	Douglas fir	1	26	-	-	-	-	-	26	75	27	Good	Good	9	Yes	Significant - Evergreen	39	no	Bybee Road Realignment Project
155	Pseudotsuga menziesii	Douglas fir	1	16	-	-	-	-	-	16	50	27	Good	Good	4	Yes	Significant - Evergreen	20	no	Bybee Road Realignment Project
156	Thuja plicata	Western red cedar	1	16	0	0	0	0	0	16	48	32	Good	Good	4	Yes	Significant - Evergreen	16	no	LDS Church Project
157	Thuja plicata	Western red cedar	1	16	0	0	0	0	0	16	48	32	Good	Good	4	Yes	Significant - Evergreen	16	no	LDS Church Project
158	Malus spp.	Apple	2	22	13	0	0	0	0	35	45	35	Fair	Fair	14	No	Significant - Deciduous	35	no	LDS Church Project
159	Pseudotsuga menziesii	Douglas fir	1	42	0	0	0	0	0	42	70	40	Good	Fair	17	Yes	Significant - Evergreen	63	no	LDS Church Project
160	Malus spp.	Apple	3	12	5	4	0	0	0	21	27	15	Poor	Poor	7	No	Significant - Deciduous	21	no	LDS Church Project
161	Corylus avellana	Common hazel	15	3	3	4	3	2	3	41	15	15	Fair	Poor	17	No	Significant - Deciduous	21	no	LDS Church Project
162	Corylus avellana	Common hazel	15	3	3	4	3	2	3	41	15	15	Fair	Poor	17	No	Significant - Deciduous	21	no	LDS Church Project
163	Malus spp.	Apple	1	12	0	0	0	0	0	12	27	20	Fair	Poor	2	No	Significant - Deciduous	12	no	LDS Church Project
164	Corylus avellana	Common hazel	15	3	3	4	3	2	3	41	15	15	Fair	Poor	17	No	Significant - Deciduous	21	no	LDS Church Project
165	Corylus avellana	Common hazel	15	3	3	4	3	2	3	41	15	15	Fair	Poor	17	No	Significant - Deciduous	21	no	LDS Church Project
166	Pseudotsuga menziesii	Douglas fir	1	44	0	0	0	0	0	44	75	45	Good	Fair	18	Yes	Significant - Evergreen	66	no	LDS Church Project
167	Pseudotsuga menziesii	Douglas fir	1	34	0	0	0	0	0	34	68	40	Good	Fair	13	Yes	Significant - Evergreen	51	no	LDS Church Project
168	Pseudotsuga menziesii	Douglas fir	2	14	17	0	0	0	0	31	60	30	Good	Fair	12	Yes	Significant - Evergreen	47	no	LDS Church Project
169	Pseudotsuga menziesii	Douglas fir	1	22	0	0	0	0	0	22	60	30	Good	Fair	7	Yes	Significant - Evergreen	33	no	LDS Church Project
170	Pseudotsuga menziesii	Douglas fir	1	16	0	0	0	0	0	16	55	20	Fair	Fair	4	Yes	Significant - Evergreen	20	no	LDS Church Project
171	Pseudotsuga menziesii	Douglas fir	1	22	0	0	0	0	0	22	70	25	Fair	Fair	7	Yes	Significant - Evergreen	33	no	LDS Church Project
172	Pseudotsuga menziesii	Douglas fir	1	39	0	0	0	0	0	39	70	30	Fair	Fair	16	Yes	Significant - Evergreen	59	no	LDS Church Project
173	Pseudotsuga menziesii	Douglas fir	1	44	0	0	0	0	0	44	70	45	Fair	Fair	18	Yes	Significant - Evergreen	66	no	LDS Church Project
174	Pseudotsuga menziesii	Douglas fir	1	30	0	0	0	0	0	30	70	30	Fair	Fair	11	Yes	Significant - Evergreen	45	no	LDS Church Project
175	Pseudotsuga menziesii	Douglas fir	1	37	0	0	0	0	0	37	70	37	Fair	Fair	15	Yes	Significant - Evergreen	56	no	LDS Church Project
176	Pseudotsuga menziesii	Douglas fir	1	37	0	0	0	0	0	37	70	37	Fair	Fair	15	Yes	Significant - Evergreen	56	no	LDS Church Project
177	Pseudotsuga menziesii	Douglas fir	2	37	35	0	0	0	0	72	70	50	Poor	Fair	32	Yes	Significant - Evergreen	108	no	LDS Church Project
178	Pseudotsuga menziesii	Douglas fir	1	46	0	0	0	0	0	46	70	40	Fair	Fair	19	Yes	Significant - Evergreen	69	no	LDS Church Project
179	Pseudotsuga menziesii	Douglas fir	1	46	0	0	0	0	0	46	70	40	Fair	Fair	19	Yes	Significant - Evergreen	69	yes	LDS Church Project
180	Pseudotsuga menziesii	Douglas fir	1	35	0	0	0	0	0	35	70	40	Fair	Fair	14	Yes	Significant - Evergreen	53	yes	LDS Church Project
181	Pseudotsuga menziesii	Douglas fir	1	45	0	0	0	0	0	45	70	40	Fair	Fair	19	Yes	Significant - Evergreen	68	yes	LDS Church Project
182	Pseudotsuga menziesii	Douglas fir	1	9	0	0	0	0	0	9	25	15	Fair	Fair	2	Yes	Significant - Evergreen	9	yes	LDS Church Project
183	Corylus avellana	Common hazel	15	8	1	1	1	1	1	22	20	20	Fair	Fair	7	No	Significant - Deciduous	11	yes	LDS Church Project
184	Corylus avellana	Common hazel	15	8	8	8	6	4	8	51	20	20	Fair	Fair	22	No	Significant - Deciduous	26	no	LDS Church Project
185	Prunus subhirtella	Winter flowering cherry	1	20	0	0	0	0	0	20	40	20	Fair	Fair	6	No	Significant - Deciduous	25	yes	LDS Church Project
186	Prunus subhirtella	Winter flowering cherry	2	20	14	0	0	0	0	34	40	20	Fair	Fair	13	No	Significant - Deciduous	43	yes	LDS Church Project
187	Pseudotsuga menziesii	Douglas fir	1	25	0	0	0	0	0	25	50	40	Poor	Poor	9	Yes	Significant - Evergreen	38	no	LDS Church Project
188	Pseudotsuga menziesii	Douglas fir	1	37	0	0	0	0	0	37	70	50	Fair	Fair	15	Yes	Significant - Evergreen	56	no	LDS Church Project
189	Cedrus deodara	Deodar cedar	1	22	0	0	0	0	0	22	50	35	Fair	Fair	7	Yes	Significant - Evergreen	22	no	LDS Church Project
190	Cedrus deodara	Deodar cedar	1	24	0	0	0	0	0	24	50	35	Fair	Poor	8	Yes	Significant - Evergreen	24	no	LDS Church Project
191	Pseudotsuga menziesii	Douglas fir	1	23	0	0	0	0	0	23	50	35	Fair	Fair	8	Yes	Significant - Evergreen	35	no	LDS Church Project
192	Pyrus calleryana	Callery pear	2	7	5	0	0	0	0	12	20	10	Fair	Fair	2	No	Significant - Deciduous	8	no	LDS Church Project
193	Pyrus calleryana	Callery pear	2	8	5	0	0	0	0	13	20	10	Critical	Poor	3	No	Significant - Deciduous	9	no	LDS Church Project
194	Pseudotsuga menziesii	Douglas fir	1	45	0	0	0	0	0	45	80	50	Critical	Poor	19	Yes	Significant - Evergreen	68	no	LDS Church Project
195	Pseudotsuga menziesii	Douglas fir	1	29	0	0	0	0	0	29	75	50	Fair	Fair	11	Yes	Significant - Evergreen	44	no	LDS Church Project
196	Pseudotsuga menziesii	Douglas fir	1	25	0	0	0	0	0	25	75	50	Fair	Fair	9	Yes	Significant - Evergreen	38	no	LDS Church Project
197	Pseudotsuga menziesii	Douglas fir	1	24	0	0	0	0	0	24	75	50	Fair	Poor	8	Yes	Significant - Evergreen	36	yes	LDS Church Project
198	Pseudotsuga menziesii	Douglas fir	1	29	0	0	0	0	0	29	70	40	Poor	Poor	11	Yes	Significant - Evergreen	44	yes	LDS Church Project
199	Pseudotsuga menziesii	Douglas fir	1	35	0	0	0	0	0	35	70	40	Poor	Poor	14	Yes	Significant - Evergreen	53	yes	LDS Church Project
200	Pseudotsuga menziesii	Douglas fir	1	16	0	0	0	0	0	16	45	20	Poor	Poor	4	Yes	Significant - Evergreen	20	yes	LDS Church Project
201	Prunus subhirtella	Winter flowering cherry	1	13	0	0	0	0	0	13	30	20	Fair	Fair	3	No	Significant - Deciduous	16	yes	LDS Church Project
202	Pseudotsuga menziesii	Douglas fir	1	29	-	-	-	-	-	29	70	50	Poor	Poor	11	Yes	Significant - Evergreen	44	yes	Bybee Road Realignment Project
203	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	70	45	Poor	Poor	9	Yes	Significant - Evergreen	38	yes	Bybee Road Realignment Project
204	Pseudotsuga menziesii	Douglas fir	1	16	-	-	-	-	-	16	50	30	Poor	Poor	4	Yes	Significant - Evergreen	20	yes	Bybee Road Realignment Project
205	Pseudotsuga menziesii	Douglas fir	1	46	-	-	-	-	-	46	50	30	Fair	Poor	19	Yes	Significant - Evergreen	69	yes	Bybee Road Realignment Project
206	Pseudotsuga menziesii	Douglas fir	1	30	-	-	-	-	-	30	70	40	Fair	Fair	11	Yes	Significant - Evergreen	45	yes	Bybee Road Realignment Project
207	Pseudotsuga menziesii	Douglas fir	2	30	24	-	-	-	-	54	70	40	Fair	Poor	23	Yes	Significant - Evergreen	81	yes	Bybee Road Realignment Project
208	Pseudotsuga menziesii	Douglas fir	1	37	-	-	-	-	-	37	60	40	Poor	Fair	15	Yes	Significant - Evergreen	56	yes	Bybee Road Realignment Project
209	Pyrus calleryana	Callery pear	1	12	-	-	-	-	-	12	25	15	Dead	Dead	2	No	Significant - Deciduous	12	yes	Bybee Road Realignment Project
210	Corylus avellana	European hazel	20	3	4	3	4	2	3	33	8	15	Fair	Poor	13	No	Significant - Deciduous	17	yes	Bybee Road Realignment Project
211	Cedrus deodara	Deodar cedar	1	10	-	-	-	-	-	10	25	15	Fair	Fair	2	Yes	Significant - Evergreen	10	yes	Bybee Road Realignment Project
212	Cedrus deodara	Deodar cedar	1	12	-	-	-	-	-	12	25	15	Fair	Fair	2	Yes	Significant - Evergreen	12	yes	Bybee Road Realignment Project
213	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	70	40	Fair	Poor	9	Yes	Significant - Evergreen	38	yes	Bybee Road Realignment Project
214	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	70	40	Fair	Poor	9	Yes	Significant - Evergreen	38	yes	Bybee Road Realignment Project
215	Pseudotsuga menziesii	Douglas fir	1	16	-	-	-	-	-	16	35	15	Critical	Poor	4	Yes	Significant - Evergreen	20	yes	Bybee Road Realignment Project
216	Pseudotsuga menziesii	Douglas fir	1	39	-	-	-	-	-	39	75	40	Fair	Fair	16	Yes	Significant - Evergreen	59	yes	Bybee Road Realignment Project
217	Pseudotsuga menziesii	Douglas fir	1	14	-	-	-	-	-	14	45	20	Fair	Fair	3	Yes	Significant - Evergreen	18	yes	Bybee Road Realignment Project
218	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	55	30	Poor	Poor	9	Yes	Significant - Evergreen	38	yes	Bybee Road Realignment Project
219	Pseudotsuga menziesii	Douglas fir	1	20	-	-	-	-	-	20	55	30	Poor	Poor	6	Yes	Significant - Evergreen	25	yes	Bybee Road Realignment Project
220	Pseudotsuga menziesii	Douglas fir	3	22	7	7	-	-	-	36	60	30	Poor	Poor	14	Yes	Significant - Evergreen	54	yes	Bybee Road Realignment Project
221	Pseudotsuga menziesii	Douglas fir	1	27	0	0	0	0	0	27	65	40	Fair	Poor	10	Yes	Significant - Evergreen	41	yes	LDS Church Project
222	Pyrus calleryana	Callery pear	1	14	-	-	-	-	-	14	35	20	Fair	Fair	3	No	Significant - Deciduous	14	yes	Bybee Road Realignment Project
223	Pseudotsuga menziesii	Douglas fir	1	18	-	-	-	-	-	18	65	40	Fair	Fair	5	Yes	Significant - Evergreen	23	yes	Bybee Road Realignment Project
224	Pseudotsuga menziesii	Douglas fir	1	22	-	-	-	-	-	22	65	40	Critical	Poor	7	Yes	Significant - Evergreen	33	yes	Bybee Road Realignment Project
225	Pseudotsuga menziesii	Douglas fir	1	22	-	-	-	-	-	22	65	40	Poor	Poor	7	Yes	Significant - Evergreen	33	yes	Bybee Road Realignment Project
226	Pseudotsuga menziesii	Douglas fir	1	21	-	-	-	-	-	21	65	40	Poor	Poor	7	Yes	Significant - Evergreen	32	yes	Bybee Road Realignment Project
227	Pseudotsuga menziesii	Douglas fir	1	18	-	-	-	-	-	18	65	40	Poor	Poor	5	Yes	Significant - Evergreen	23	yes	Bybee Road Realignment Project
228	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	65	40	Poor	Poor	9	Yes	Significant - Evergreen	38	yes	Bybee Road Realignment Project
229	Pseudotsuga menziesii	Douglas fir	1	21	-	-	-	-	-	21	65	40	Poor	Poor	7	Yes	Significant - Evergreen	32	yes	Bybee Road Realignment Project
230	Pseudotsuga menziesii	Douglas fir	1	22	-	-	-	-	-	22	65	40	Poor	Poor	7	Yes	Significant - Evergreen	33	yes	Bybee Road Realignment Project
231	Corylus avellana	European hazel	15	4	4	4	4	3	3	43	12	7	Fair	Fair	18	No	Significant - Deciduous	22	no	Bybee Road Realignment Project
232	Corylus avellana	European hazel	15	4	4	4	4	3	3	43	12	7	Fair	Fair	18	No	Significant - Deciduous	22	no	Bybee Road Realignment Project
233	Pseudotsuga menziesii	Douglas fir	1	27	-	-	-	-	-	27	70	40	Fair	Fair	10	Yes	Significant - Evergreen	41	yes	Bybee Road Realignment Project
234	Pseudotsuga menziesii	Douglas fir	1	33	-	-	-	-	-	33	70	40	Fair	Fair	13	Yes	Significant - Evergreen	50	no	Bybee Road Realignment Project
235	Pyrus calleryana	Callery pear	1	12	-	-	-	-	-	12	45	27	Fair	Fair	2	No	Significant - Deciduous	12	no	Bybee Road Realignment Project
236	Acer macrophyllum	Bigleaf maple	1	20	-	-	-	-	-	20	35	20	Critical	Critical	6	No	Significant - Deciduous	20	no	Bybee Road Realignment Project
237	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	65	40	Fair	Fair	9	Yes	Significant - Evergreen	38	no	Bybee Road Realignment Project
238	Pyrus calleryana	Callery pear	1	25	-	-	-	-	-	25	35	20	Critical	Critical	9	No	Significant - Deciduous	25	no	Bybee Road Realignment Project
239	Pseudotsuga menziesii	Douglas fir	1	36	-	-	-	-	-	36	65	40	Fair	Poor	14	Yes	Significant - Evergreen	54	no	Bybee Road Realignment Project
240	Pseudotsuga menziesii	Douglas fir	1	29	-	-	-	-	-	29	65	40	Poor	Poor	11	Yes	Significant - Evergreen	44	no	Bybee Road Realignment Project
241	Pseudotsuga menziesii	Douglas fir	1	34	-	-	-	-	-	34	65	40	Poor	Poor	13	Yes	Significant - Evergreen	51	no	Bybee Road Realignment Project
242	Fagus sylvatica	European beech	1	14	-	-	-	-	-	14	45	40	Critical	Poor	3	No	Significant - Deciduous	18	yes	Bybee Road Realignment Project
243	Pseudotsuga menziesii	Douglas fir	1	26	-	-	-	-	-	26	60	40	Poor	Poor	9	Yes	Significant - Evergreen	39	yes	Bybee Road Realignment Project
244	Pseudotsuga menziesii	Douglas fir	1	18	-	-	-	-	-	18	60	40	Fair	Poor	5	Yes	Significant - Evergreen	23	yes	Bybee Road Realignment Project
245	Pseudotsuga menziesii	Douglas fir	1	29	-	-	-	-	-	29	60	40	Fair	Poor	11	Yes	Significant - Evergreen	44	yes	Bybee Road Realignment Project
246	Fagus sylvatica	European beech	3	19	4	4	-	-	-	27	35	15	Fair	Poor	10	No	Significant - Deciduous	34	yes	Bybee Road Realignment Project
247	Pseudotsuga menziesii	Douglas fir	1	11	-	-	-	-	-	11	35	15	Fair	Poor	2	Yes	Significant - Evergreen	11	yes	Bybee Road Realignment Project
248	Pseudotsuga menziesii	Douglas fir	1	11	-	-	-	-	-	11	35	15	Fair	Poor	2	Yes	Significant - Evergreen	11	yes	Bybee Road Realignment Project
249	Acer macrophyllum	Bigleaf maple	1	13	-	-	-	-	-	13	40	15	Poor	Poor	3	No	Significant - Deciduous	13	yes	Bybee Road Realignment Project
250	Fagus sylvatica	European beech	1	13	-	-	-	-	-	13	40	15	Poor	Poor	3	No	Significant - Deciduous	16	yes	Bybee Road Realignment Project
251	Fagus sylvatica	European beech	2	13	10	-	-	-	-	23	40	15	Fair	Poor	8	No	Significant - Deciduous	29	yes	Bybee Road Realignment Project
252	Fagus sylvatica	European beech	1	14	-	-	-	-	-	14	35	15	Poor	Poor	3	No	Significant - Deciduous	18	yes	Bybee Road Realignment Project
253	Fagus sylvatica	European beech	2	12	12	-	-	-	-	24	35	15	Poor	Poor	8	No	Significant - Deciduous	30	yes	Bybee Road Realignment Project
254	Fagus sylvatica	European beech	1	15	-	-	-	-	-	15	40	20	Poor	Poor	4	No	Significant - Deciduous	19	yes	Bybee Road Realignment Project
255	Fagus sylvatica	European beech	2	12	5	-	-	-	-	17	35	15	Poor	Poor	5	No	Significant - Deciduous	21	no	Bybee Road Realignment Project
256	Fagus sylvatica	European beech	1	13	-	-	-	-	-	13	45	15	Poor	Poor	3	No	Significant - Deciduous	16	no	Bybee Road Realignment Project
257	Fagus sylvatica	European beech	1	14	-	-	-	-	-	14	45	15	Poor	Poor	3	No	Significant - Deciduous	18	no	Bybee Road Realignment Project
258	Acer macrophyllum	Bigleaf maple	1	14	-	-	-	-	-	14	45	15	Fair	Poor	3	No	Significant - Deciduous	14	no	Bybee Road Realignment Project
259	Acer macrophyllum	Bigleaf maple	2	18	6	-	-	-	-	24	45	15	Fair	Fair	8	No	Significant - Deciduous	24	no	Bybee Road Realignment Project
260	Acer macrophyllum	Bigleaf maple	3	15	14	15	-	-	-	44	40	15	Fair	Fair	18	No	Significant - Deciduous	44	no	Bybee Road Realignment Project
261	Acer macrophyllum	Bigleaf maple	2	15	20	-	-	-	-	35	40	15	Poor	Poor	14	No	Significant - Deciduous	35	no	Bybee Road Realignment Project
262	Corylus avellana	European hazel	20	4	4	4	4	3	3	40	15	15	Fair	Fair	16	No	Significant - Deciduous	20	no	Bybee Road Realignment Project
263	Pseudotsuga menziesii	Douglas fir	1	19	-	-	-	-	-	19	50	15	Poor	Fair	6	Yes	Significant - Evergreen	24	no	Bybee Road Realignment Project
264	Pseudotsuga menziesii	Douglas fir	1	8	-	-	-	-	-	8	30	10	Fair	Fair	2	Yes	Significant - Evergreen	8	no	Bybee Road Realignment Project
265	Pseudotsuga menziesii	Douglas fir	1	9	-	-	-	-	-	9	30	10	Fair	Fair	2	Yes	Significant - Evergreen	9	no	Bybee Road Realignment Project
266	Pseudotsuga menziesii	Douglas fir	1	12	-	-	-	-	-	12	30	10	Fair	Poor	2	Yes	Significant - Evergreen	15	no	Bybee Road Realignment Project
267	Fagus sylvatica	European beech	1	12	-	-	-	-	-	12	30	10	Poor	Poor	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
268	Fagus sylvatica	European beech	1	13	-	-	-	-	-	13	40	20	Poor	Poor	3	No	Significant - Deciduous	16	no	Bybee Road Realignment Project
269	Pseudotsuga menziesii	Douglas fir	1	32	-	-	-	-	-	32	70	40	Fair	Poor	12	Yes	Significant - Evergreen	48	yes	Bybee Road Realignment Project
270	Pseudotsuga menziesii	Douglas fir	1	13	-	-	-	-	-	13	55	40	Fair	Poor	3	Yes	Significant - Evergreen	16	yes	Bybee Road Realignment Project
271	Fagus sylvatica	European beech	1	16	-	-	-	-	-	16	55	40	Poor	Poor	4	No	Significant - Deciduous	20	yes	Bybee Road Realignment Project
272	Fagus sylvatica	European beech	1	13	-	-	-	-	-	13	50	30	Poor	Poor	3	No	Significant - Deciduous	16	yes	Bybee Road Realignment Project
273	Fagus sylvatica	European beech	3	10	10	4	-	-	-	24	35	20	Poor	Poor	8	No	Significant - Deciduous	24	yes	Bybee Road Realignment Project
274	Acer macrophyllum	Bigleaf maple	2	6	6	-	-	-	-	12	40	20	Fair	Poor	2	No	Significant - Deciduous	8	no	Bybee Road Realignment Project
275	Acer macrophyllum	Bigleaf maple	1	12	-	-	-	-	-	12	20	10	Critical	Critical	2	No	Significant - Deciduous	12	yes	Bybee Road Realignment Project
276	Malus fusca	Western crabapple	4	8	4	3	4	-	-	19	20	20	Poor	Poor	6	No	Significant - Deciduous	19	yes	Bybee Road Realignment Project
277	Magnolia grandiflora	Southern magnolia	1	12	-	-	-	-	-	12	20	30	Fair	Fair	2	Yes	Significant - Evergreen	12	yes	Bybee Road Realignment Project
278	Acer macrophyllum	Bigleaf maple	1	34	-	-	-	-	-	34	30	30	Critical	Critical	13	No	Significant - Deciduous	34	yes	Bybee Road Realignment Project
279	Picea pugens var glauca	Colorado blue spruce	1	12	0	0	0	0	0	12	30	10	Fair	Fair	2	Yes	Significant - Evergreen	12	no	LDS Church Project
280	Pseudotsuga menziesii	Douglas fir	1	16	0	0	0	0	0	16	50	20	Fair	Fair	4	Yes	Significant - Evergreen	20	no	LDS Church Project
281	Pseudotsuga menziesii	Douglas fir	1	20	-	-	-	-	-	20	50	40	Good	Good	6	Yes	Significant - Evergreen	25	no	Bybee Road Realignment Project
282	Pseudotsuga menziesii	Douglas fir	1	22	-	-	-	-	-	22	50	40	Good	Good	7	Yes	Significant - Evergreen	28	no	Bybee Road Realignment Project
283	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	40	35	Good	Good	9	Yes	Significant - Evergreen	31	no	Bybee Road Realignment Project
284	Fraxinus latifolia	Oregon ash	1	22	-	-	-	-	-	22	50	35	Fair	Fair	7	No	Significant - Deciduous	28	no	Bybee Road Realignment Project
285	Fraxinus latifolia	Oregon ash	1	26	-	-	-	-	-	26	50	35	Fair	Fair	9	No	Significant - Deciduous	32	no	Bybee Road Realignment Project
286	Pseudotsuga menziesii	Douglas fir	1	32	-	-	-	-	-	32	50	20	Fair	Fair	12	Yes	Significant - Evergreen	40	no	Bybee Road Realignment Project
287	Pseudotsuga menziesii	Douglas fir	2	20	30	-	-	-	-	50	50	20	Fair	Fair	21	Yes	Significant - Evergreen	62	no	Bybee Road Realignment Project
290	Pseudotsuga menziesii	Douglas fir	1	8	-	-	-	-	-	8	25	0	Good	Good	2	Yes	Significant - Evergreen	10	no	Bybee Road Realignment Project
291	Acer macrophyllum	Bigleaf maple	5	8	15	12	10	15	-	60	30	20	Fair	Fair	26	No	Significant - Deciduous	75	no	Bybee Road Realignment Project
292	Pseudotsuga menziesii	Douglas fir	1	8	-	-	-	-	-	8	20	8	Good	Good	2	Yes	Significant - Evergreen	10	no	Bybee Road Realignment Project
293	Corylus avellana	European hazel	17	4	4	3	3	2	2	36	10	5	Fair	Fair	14	No	Significant - Deciduous	45	no	Bybee Road Realignment Project
294	Corylus avellana	European hazel	22	4	3	3	2	2	1	39	10	5	Fair	Fair	16	No	Significant - Deciduous	49	no	Bybee Road Realignment Project
295	Dead tree	Dead tree	1	15	-	-	-	-	-	15	12	5	Dead	Dead	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
296	Corylus avellana	European hazel	25	2	2	2	2	1	1	36	10	0	Fair	Fair	14	No	Significant - Deciduous	45	no	Bybee Road Realignment Project
303	Acer macrophyllum	Bigleaf maple	10	15	3	3	3	2	2	38	25	15	Fair	Fair	15	No	Significant - Deciduous	48	no	Bybee Road Realignment Project
304	Acer macrophyllum	Bigleaf maple	5	6	6	7	4	4	-	27	25	10	Fair	Fair	10	No	Significant - Deciduous	34	no	Bybee Road Realignment Project
305	Corylus avellana	European hazel	30	2	2	2	1	1	1	38	15	10	Fair	Fair	15	No	Significant - Deciduous	48	no	Bybee Road Realignment Project
306	Thuja orientalis	Oriental arborvitae	1	14	-	-	-	-	-	14	35	15	Fair	Fair	3	Yes	Significant - Evergreen	18	no	Bybee Road Realignment Project
310	Fraxinus latifolia	Oregon ash	2	22	30	-	-	-	-	52	50	35	Fair	Fair	22	No	Significant - Deciduous	65	no	Bybee Road Realignment Project

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VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21

REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.:
L102
TREE RETENTION TABLE

Tree ID Number	Botanical Name	Common Name	No. of Stems	S1	S2	S3	S4	S5	S6	Combined Diameter	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Units	Evergreen	Protection Status	Tree Protection Zone (ft.)	Removed Due to Bybee Road	PROJECT
312	Acer macrophyllum	Bigleaf maple	5	15	20	15	19	14	-	83	40	20	Fair	Fair	38	No	Significant - Deciduous	104	no	Bybee Road Realignment Project
313	Thuja plicata	Western red cedar	1	9	-	-	-	-	-	9	25	15	Good	Good	2	Yes	Significant - Evergreen	11	no	Bybee Road Realignment Project
314	Juglans regia	English walnut	1	12	-	-	-	-	-	12	25	15	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
315	Corylus avellana	European hazel	25	2	2	2	1	1	1	36	10	5	Fair	Fair	14	No	Significant - Deciduous	45	no	Bybee Road Realignment Project
316	Pinus contorta	Lodgepole pine	1	18	-	-	-	-	-	18	50	20	Fair	Fair	5	Yes	Significant - Evergreen	22	no	Bybee Road Realignment Project
325	Alnus rubra	Red alder	1	13	-	-	-	-	-	13	40	20	Fair	Fair	3	No	Significant - Deciduous	16	no	Bybee Road Realignment Project
328	Alnus rubra	Red alder	1	13	-	-	-	-	-	13	40	20	Fair	Fair	3	No	Significant - Deciduous	16	no	Bybee Road Realignment Project
329	Pseudotsuga menziesii	Douglas fir	1	9	-	-	-	-	-	9	30	15	Fair	Fair	2	Yes	Significant - Evergreen	11	no	Bybee Road Realignment Project
330	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	15	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
331	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	15	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
334	Alnus rubra	Red alder	2	14	14	-	-	-	-	28	40	15	Fair	Fair	10	No	Significant - Deciduous	35	no	Bybee Road Realignment Project
335	Alnus rubra	Red alder	1	15	-	-	-	-	-	15	40	15	Fair	Fair	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
336	Corylus avellana	European hazel	15	4	4	3	2	2	2	32	15	7	Fair	Fair	12	No	Significant - Deciduous	40	no	Bybee Road Realignment Project
338	Tilia cordata	Small-leaved linden	1	6	-	-	-	-	-	6	20	10	Fair	Fair	2	No	Not protected	8	no	Bybee Road Realignment Project
339	Corylus avellana	European hazel	25	6	4	4	3	3	2	50	10	5	Poor	Poor	21	No	Significant - Deciduous	62	no	Bybee Road Realignment Project
340	Malus domestica	Apple	3	14	10	5	-	-	-	29	15	15	Poor	Poor	11	No	Significant - Deciduous	36	no	Bybee Road Realignment Project
341	Corylus americana	Common hazel	30	4	4	3	3	2	2	49	15	5	Poor	Poor	21	No	Significant - Deciduous	61	no	Bybee Road Realignment Project
342	Pseudotsuga menziesii	Douglas fir	1	25	-	-	-	-	-	25	60	40	Fair	Fair	9	Yes	Significant - Evergreen	31	no	Bybee Road Realignment Project
343	Acer platanoides	Norway maple	1	25	-	-	-	-	-	25	40	0	Fair	Fair	9	No	Significant - Deciduous	31	no	Bybee Road Realignment Project
345	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	0	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
346	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	0	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
347	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	0	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
348	Alnus rubra	Red alder	1	12	-	-	-	-	-	12	40	0	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
349	Alnus rubra	Red alder	2	8	6	-	-	-	-	14	40	0	Poor	Poor	3	No	Significant - Deciduous	18	no	Bybee Road Realignment Project
350	Acer platanoides	Norway maple	1	12	-	-	-	-	-	12	40	0	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
351	Acer platanoides	Norway maple	1	15	-	-	-	-	-	15	40	0	Fair	Fair	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
352	Cedrus deodara	Deodar cedar	1	32	-	-	-	-	-	32	45	25	Fair	Fair	12	Yes	Significant - Evergreen	40	no	Bybee Road Realignment Project
353	Corylus avellana	European hazel	25	3	3	2	2	2	1	41	10	5	Fair	Fair	17	No	Significant - Deciduous	51	no	Bybee Road Realignment Project
354	Acer platanoides	Norway maple	1	12	-	-	-	-	-	12	40	20	Fair	Fair	2	No	Significant - Deciduous	15	no	Bybee Road Realignment Project
355	Acer platanoides	Norway maple	1	14	-	-	-	-	-	14	40	20	Fair	Fair	3	No	Significant - Deciduous	18	no	Bybee Road Realignment Project
356	Dead tree	Dead tree	1	13	-	-	-	-	-	13	5	20	Dead	Dead	3	No	Significant - Deciduous	16	no	Bybee Road Realignment Project
357	Pseudotsuga menziesii	Douglas fir	1	18	-	-	-	-	-	18	60	25	Fair	Fair	5	Yes	Significant - Evergreen	22	no	Bybee Road Realignment Project
358	Dead tree	Dead tree	1	15	-	-	-	-	-	15	11	5	Dead	Dead	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
359	Dead tree	Dead tree	1	15	-	-	-	-	-	15	25	5	Dead	Dead	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
360	Acer macrophyllum	Bigleaf maple	1	28	-	-	-	-	-	28	35	20	Critical	Critical	10	No	Significant - Deciduous	35	no	Bybee Road Realignment Project
361	Alnus rubra	Red alder	1	22	-	-	-	-	-	22	40	20	Critical	Critical	7	No	Significant - Deciduous	28	no	Bybee Road Realignment Project
362	Dead tree	Dead tree	1	30	-	-	-	-	-	30	15	5	Dead	Dead	11	No	Significant - Deciduous	38	yes	Bybee Road Realignment Project
363	Corylus avellana	European hazel	15	4	4	3	2	2	2	32	10	5	Fair	Fair	12	No	Significant - Deciduous	40	no	Bybee Road Realignment Project
364	Corylus avellana	European hazel	25	5	4	3	2	2	2	46	10	5	Fair	Fair	19	No	Significant - Deciduous	58	no	Bybee Road Realignment Project
365	Alnus rubra	Red alder	1	16	-	-	-	-	-	16	35	15	Fair	Fair	4	No	Significant - Deciduous	20	no	Bybee Road Realignment Project
366	Acer macrophyllum	Bigleaf maple	4	16	18	9	11	-	-	54	45	15	Fair	Fair	23	No	Significant - Deciduous	68	no	Bybee Road Realignment Project
367	Pseudotsuga menziesii	Douglas fir	1	8	-	-	-	-	-	8	20	7	Poor	Poor	2	Yes	Significant - Evergreen	10	no	Bybee Road Realignment Project
368	Alnus rubra	Red alder	1	18	-	-	-	-	-	18	30	10	Fair	Fair	5	No	Significant - Deciduous	22	no	Bybee Road Realignment Project
369	Alnus rubra	Red alder	1	15	-	-	-	-	-	15	30	10	Fair	Fair	4	No	Significant - Deciduous	19	no	Bybee Road Realignment Project
370	Alnus rubra	Red alder	1	17	-	-	-	-	-	17	30	10	Fair	Fair	5	No	Significant - Deciduous	21	no	Bybee Road Realignment Project
371	Acer platanoides	Norway maple	1	6	-	-	-	-	-	6	30	15	Poor	Poor	2	No	Not protected	8	no	Bybee Road Realignment Project
372	Alnus rubra	Red alder	2	16	12	-	-	-	-	28	30	15	Fair	Fair	10	No	Significant - Deciduous	35	no	Bybee Road Realignment Project
373	Acer macrophyllum	Bigleaf maple	1	27	-	-	-	-	-	27	30	15	Fair	Fair	10	No	Significant - Deciduous	34	no	Bybee Road Realignment Project
374	Corylus avellana	European hazel	20	4	2	2	1	1	33	26	10	5	Fair	Fair	9	No	Significant - Deciduous	32	no	Bybee Road Realignment Project
375	Alnus rubra	Red alder	3	4	6	8	-	-	-	18	25	10	Fair	Fair	5	No	Significant - Deciduous	22	no	Bybee Road Realignment Project
376	Dead tree	Dead tree	1	25	-	-	-	-	-	25	20	0	Dead	Dead	9	No	Significant - Deciduous	31	no	Bybee Road Realignment Project
377	Prunus emarginata	Bitter cherry	12	6	4	5	3	2	2	30	12	4	Poor	Fair	11	No	Significant - Deciduous	38	no	Bybee Road Realignment Project
378	Acer macrophyllum	Bigleaf maple	1	17	-	-	-	-	-	17	35	15	Fair	Poor	5	No	Significant - Deciduous	21	no	Bybee Road Realignment Project
379	Corylus avellana	European hazel	20	3	3	2	2	2	1	35	15	12	Fair	Fair	14	No	Significant - Deciduous	44	no	Bybee Road Realignment Project
380	Corylus avellana	European hazel	20	3	3	3	2	1	1	32	15	12	Fair	Fair	12	No	Significant - Deciduous	40	no	Bybee Road Realignment Project
381	Acer platanoides	Norway maple	10	18	4	5	4	3	3	49	25	15	Critical	Critical	21	No	Significant - Deciduous	61	no	Bybee Road Realignment Project

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VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21

REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.

L103

TREE RETENTION TABLE

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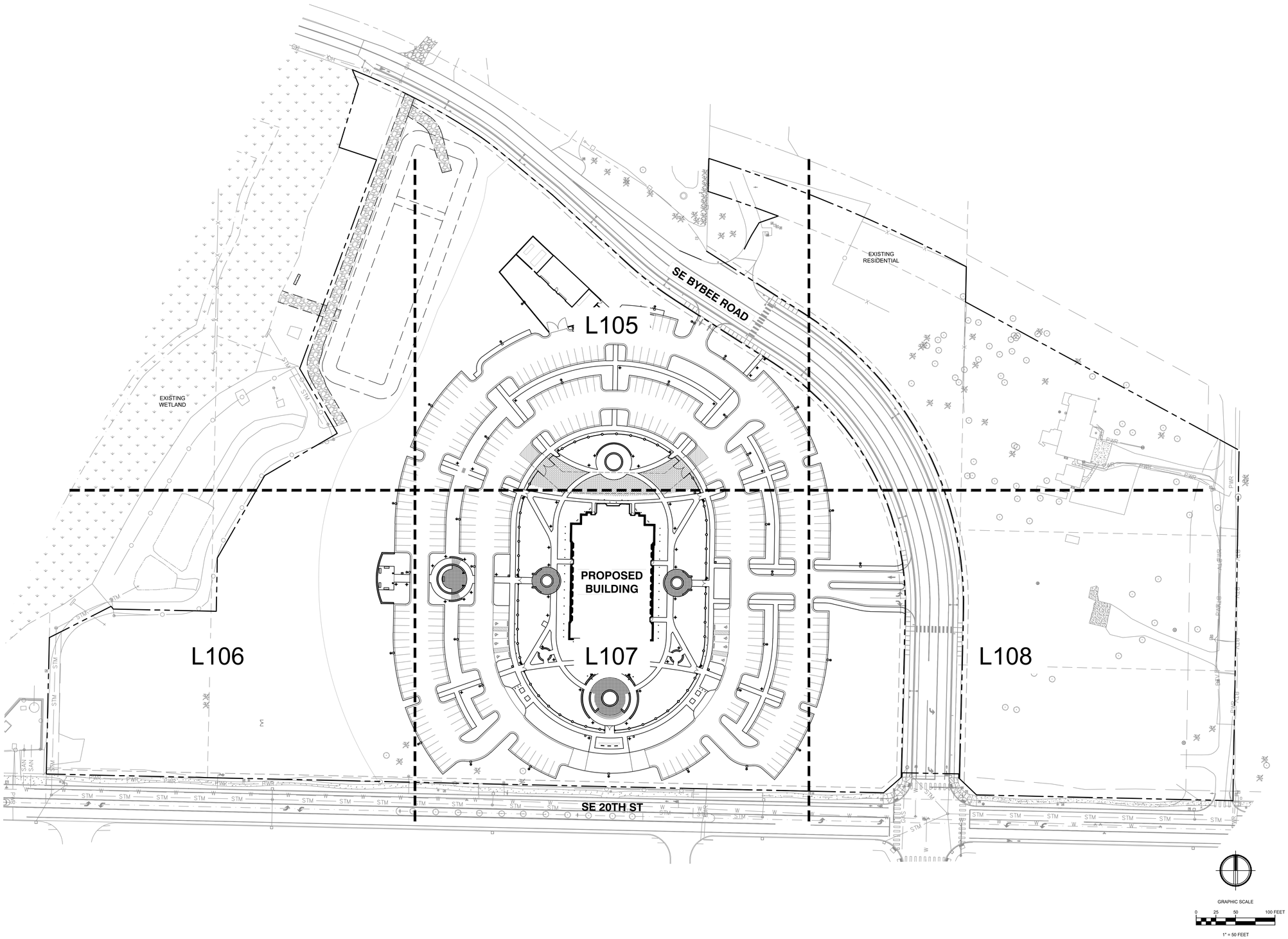
NOTES

1. SEE SHEETS L105 - L108 FOR MATERIALS
2. SEE SHEET L501 FOR MATERIALS DETAILS



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1819 SE BYBEE ROAD
CAMAS, WA 98607

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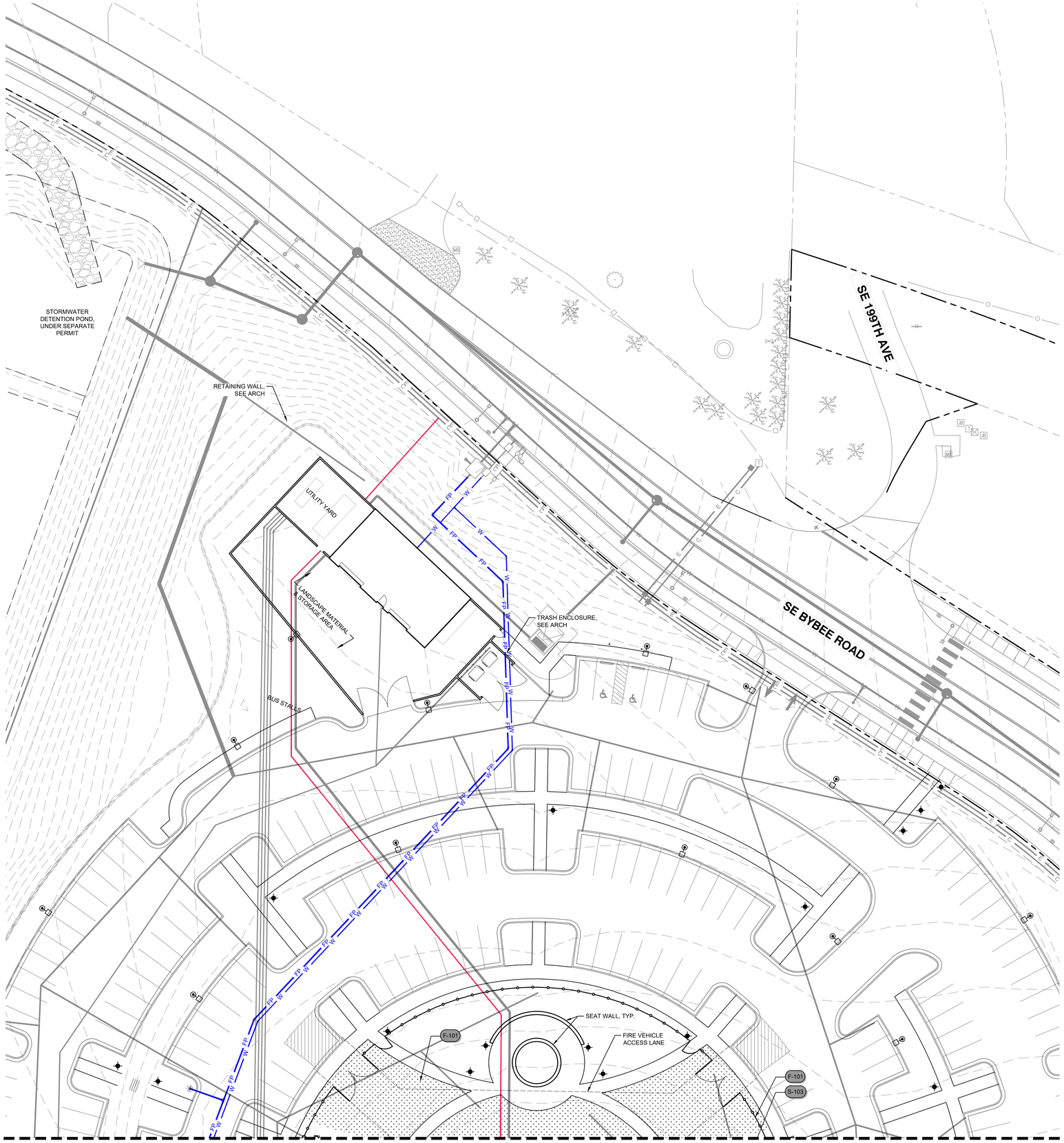
REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.
L104
OVERALL MATERIALS PLAN



SITE FURNISHING SCHEDULE

SYMBOL	FENCE DESCRIPTION	QTY	DETAIL
F-101	ORNAMENTAL FENCE	9,134 LF	

SYMBOL	GATE DESCRIPTION	QTY	DETAIL
G-101	ORNAMENTAL DOUBLE SWING GATE	9	

SYMBOL	PAVING DESCRIPTION	QTY	DETAIL
P-101	STONE PAVERS	1,393 SF	
P-102	PRECAST CONCRETE PAVERS	SF	
P-103	VEHICULAR GRASS PAVE PRODUCT	6,145 SF	

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
S-101	BENCH	5	
S-102	FLAGPOLE	1	
S-103	LITTER RECEPTACLE	10	
S-104	PLANTER	8	
S-105	BIKE RACK	6	

GRAPHIC SCALE
0 10 20 40 FEET
1" = 20 FEET

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1819 SE BYBEE ROAD
CAMAS, WA 98607

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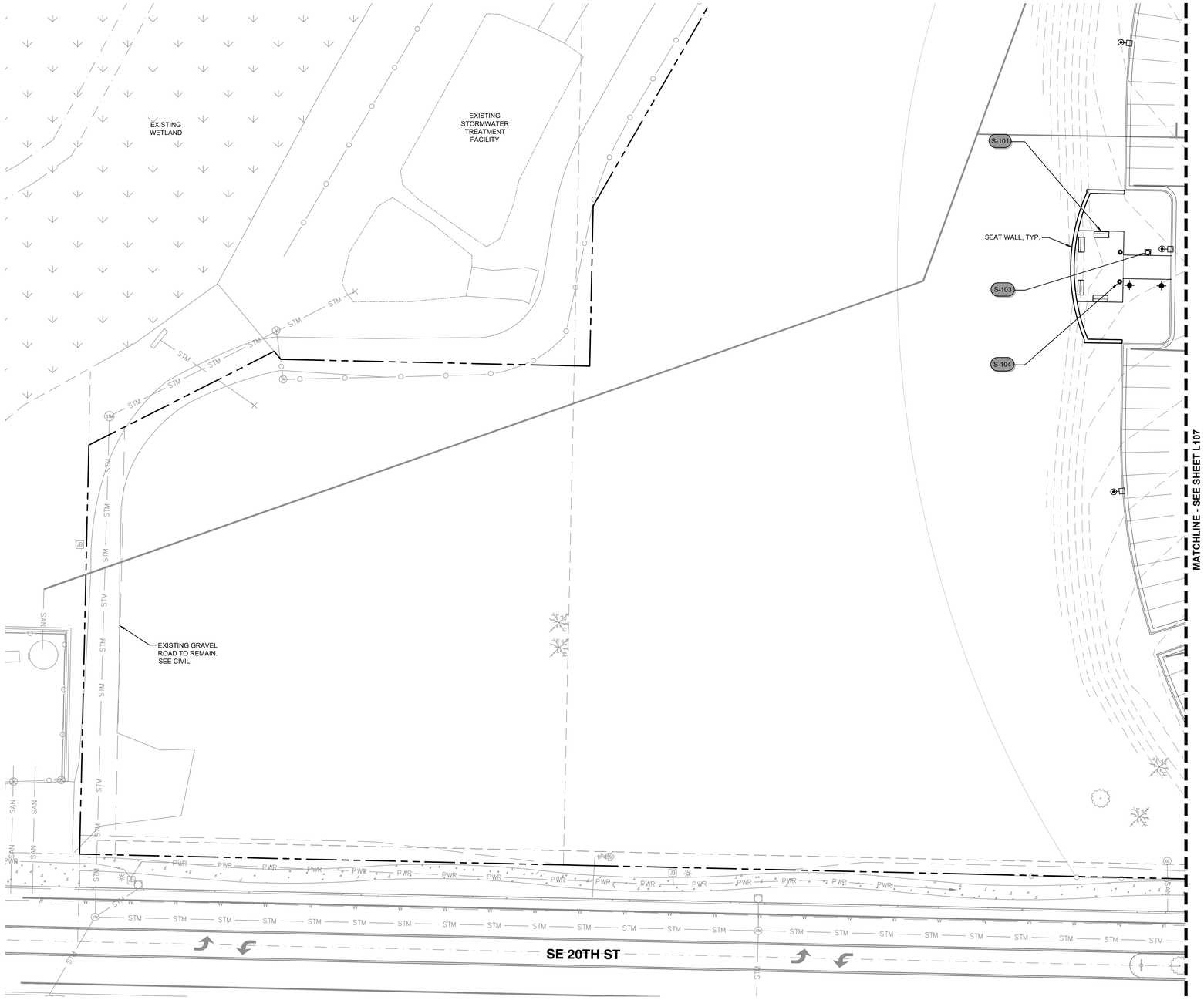
HALF SIZE REDUCTIONS = 15 x 21
REVISIONS:

DATE:
2024.08.09
LAND USE PERMIT
SHEET NO.
L105
MATERIALS PLAN



SITE FURNISHING SCHEDULE

SYMBOL	FENCE DESCRIPTION	QTY	DETAIL
F-101	ORNAMENTAL FENCE	9,134 LF	

SYMBOL	GATE DESCRIPTION	QTY	DETAIL
G-101	ORNAMENTAL DOUBLE SWING GATE	9	

SYMBOL	PAVING DESCRIPTION	QTY	DETAIL
P-101	STONE PAVERS	1,393 SF	
P-102	PRECAST CONCRETE PAVERS	SF	
P-103	VEHICULAR GRASS PAVE PRODUCT	6,145 SF	

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
S-101	BENCH	5	
S-102	FLAGPOLE	1	
S-103	LITTER RECEPTACLE	10	
S-104	PLANTER	8	
S-105	BIKE RACK	6	

GRAPHIC SCALE
0 10 20 40 FEET
1" = 20 FEET

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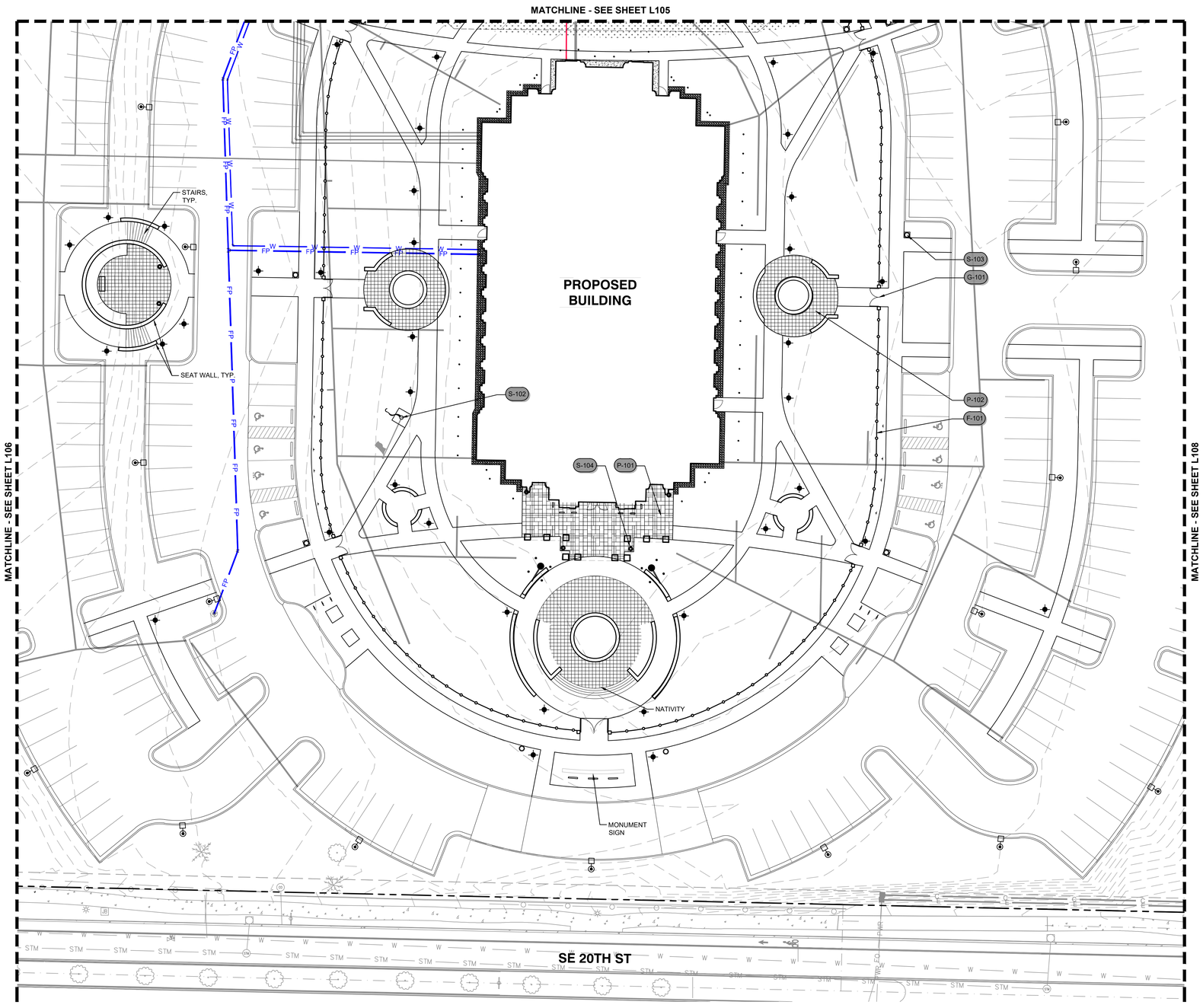
HALF SIZE REDUCTIONS = 15 x 21

REVISIONS:

DATE:
2024.08.09

LAND USE PERMIT

SHEET NO.
L106
MATERIALS PLAN



SITE FURNISHING SCHEDULE

SYMBOL	FENCE DESCRIPTION	QTY	DETAIL
F-101	ORNAMENTAL FENCE	9,134 LF	

SYMBOL	GATE DESCRIPTION	QTY	DETAIL
G-101	ORNAMENTAL DOUBLE SWING GATE	9	

SYMBOL	PAVING DESCRIPTION	QTY	DETAIL
P-101	STONE PAVERS	1,393 SF	
P-102	PRECAST CONCRETE PAVERS	SF	
P-103	VEHICULAR GRASS PAVE PRODUCT	6,145 SF	

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
S-101	BENCH	5	
S-102	FLAGPOLE	1	
S-103	LITTER RECEPTACLE	10	
S-104	PLANTER	8	
S-105	BIKE RACK	6	

GRAPHIC SCALE
0 10 20 40 FEET
1" = 20 FEET

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VANCOUVER WASHINGTON TEMPLE
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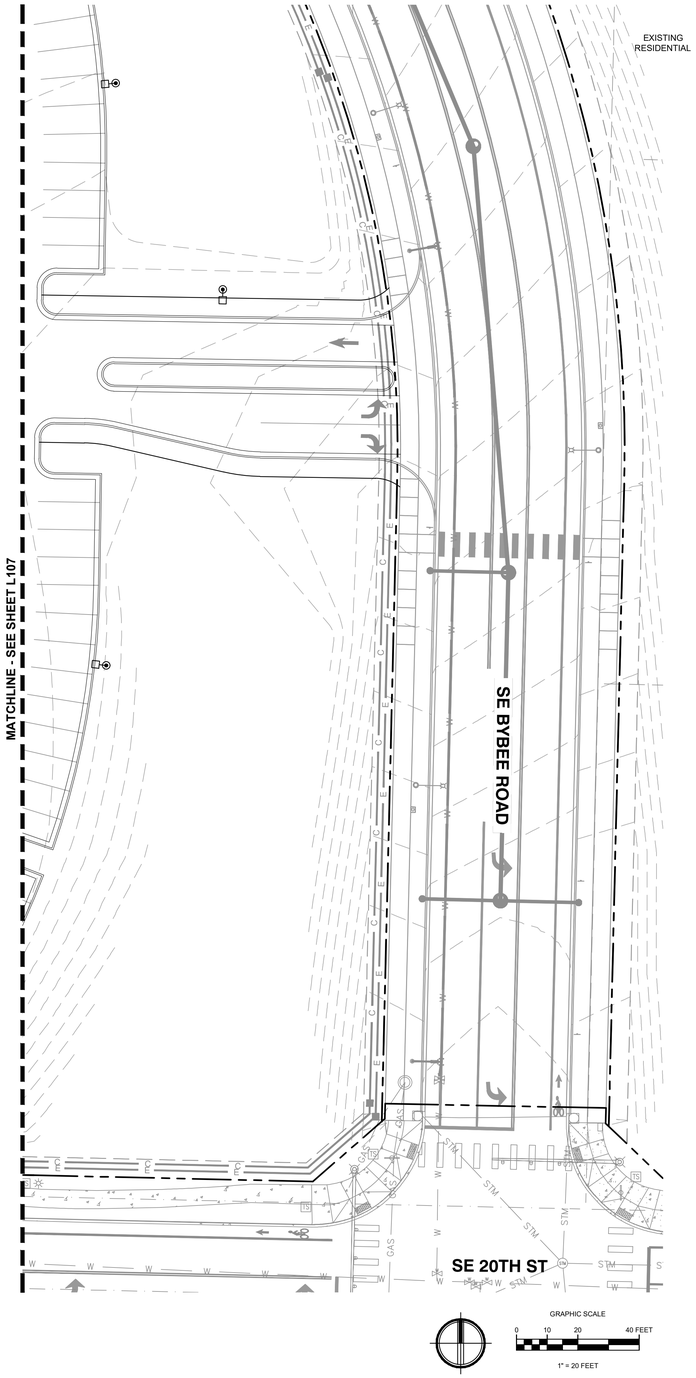
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21
REVISIONS:

DATE
2024.08.09
LAND USE PERMIT
SHEET NO.
L107
MATERIALS PLAN



SITE FURNISHING SCHEDULE

SYMBOL	FENCE DESCRIPTION	QTY	DETAIL
F-101	ORNAMENTAL FENCE	9,134 LF	

SYMBOL	GATE DESCRIPTION	QTY	DETAIL
G-101	ORNAMENTAL DOUBLE SWING GATE	9	

SYMBOL	PAVING DESCRIPTION	QTY	DETAIL
P-101	STONE PAVERS	1,393 SF	
P-102	PRECAST CONCRETE PAVERS	SF	
P-103	VEHICULAR GRASS PAVE PRODUCT	6,145 SF	

SYMBOL	SITE FURNISHINGS DESCRIPTION	QTY	DETAIL
S-101	BENCH	5	
S-102	FLAGPOLE	1	
S-103	LITTER RECEPTACLE	10	
S-104	PLANTER	8	
S-105	BIKE RACK	6	

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REVISIONS:

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LAND USE PERMIT

SHEET NO.
L108
MATERIALS PLAN

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PLANTING CODE SUMMARY TABLE

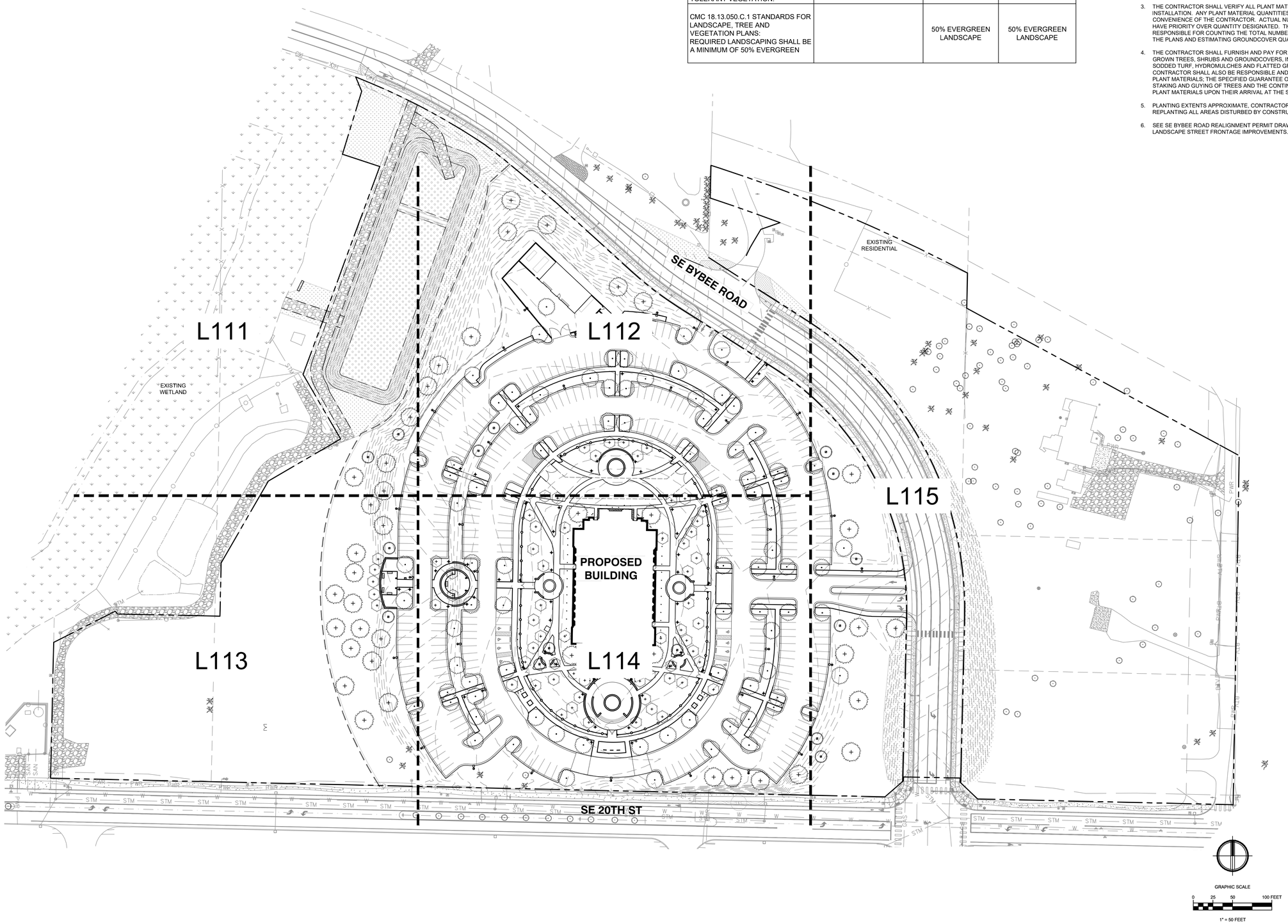
CAMAS MUNICIPAL CODE	CALCULATIONS	REQUIRED	PROVIDED
CMC 18.13.060.C PARKING AREAS: PARKING LOTS SHALL INCLUDE A MINIMUM RATIO OF ONE TREE PER SIX PARKING SPACES	306 TOTAL PARKING SPACES 306 / 6 = 51 PARKING TREES	51 TREES	87 TREES
CMC 18.13.050.C.1 STANDARDS FOR LANDSCAPE, TREE AND VEGETATION PLANS: REQUIRED LANDSCAPING SHALL BE A MINIMUM OF 60% NATIVE VEGETATION OR DROUGHT TOLERANT VEGETATION.		60% NATIVE/NORTHWEST ADAPTED VEGETATION	60% NATIVE/NORTHWEST ADAPTED VEGETATION
CMC 18.13.050.C.1 STANDARDS FOR LANDSCAPE, TREE AND VEGETATION PLANS: REQUIRED LANDSCAPING SHALL BE A MINIMUM OF 50% EVERGREEN		50% EVERGREEN LANDSCAPE	50% EVERGREEN LANDSCAPE

NOTES

1. SEE SHEETS L101 - L103 FOR TREE RETENTION INFORMATION.
2. SEE SHEETS L111 - L115 FOR PLANTING PLANS.
3. SEE SHEET L116 FOR PLANTING SCHEDULE.
4. SEE SHEET L117 FOR SOILS PLAN.
5. SEE SHEET L502 FOR PLANTING DETAILS.

GENERAL LANDSCAPE NOTES

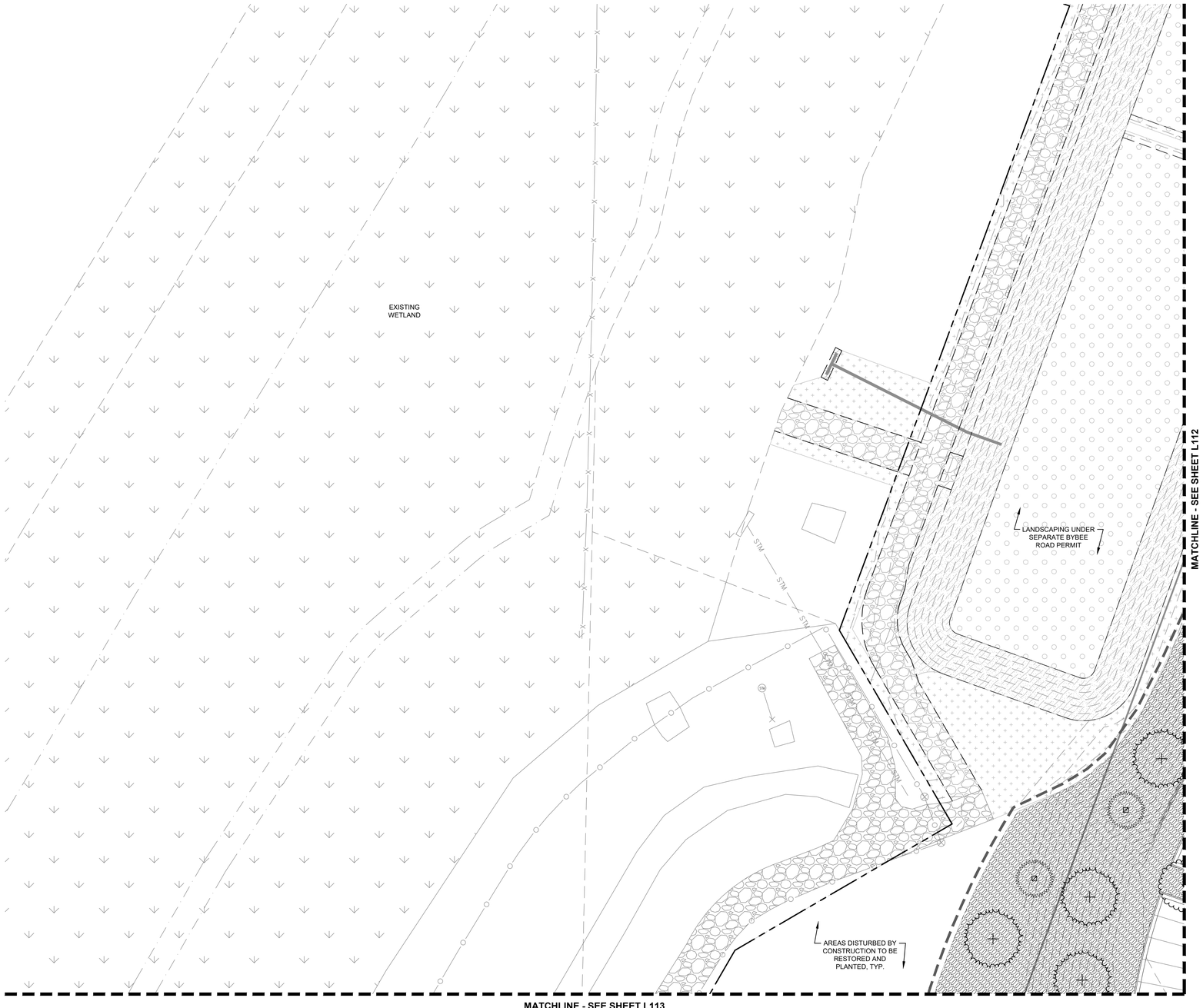
1. PLANTING SHALL CONFORM TO ALL CLARK COUNTY CODE REQUIREMENTS, INCLUDING PRESERVATION OF ADEQUATE INTERSECTION SIGHT DISTANCE LINES/ TRIANGULAR AREAS.
2. INSTALL AUTOMATIC UNDERGROUND IRRIGATION SYSTEM AS SPECIFIED IN ALL NEW AND RENOVATED LANDSCAPE AREAS.
3. THE CONTRACTOR SHALL VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO INSTALLATION. ANY PLANT MATERIAL QUANTITIES LISTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR. ACTUAL NUMBER OF SYMBOLS SHALL HAVE PRIORITY OVER QUANTITY DESIGNATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COUNTING THE TOTAL NUMBER OF PLANTS INDICATED ON THE PLANS AND ESTIMATING GROUNDCOVER QUANTITIES.
4. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL CONTAINER OR FIELD GROWN TREES, SHRUBS AND GROUNDCOVERS, INCLUDING SEEDED AND SODDED TURF, HYDROMULCHES AND FLATTED GROUNDCOVERS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE AND PAY FOR: PLANTING OF ALL PLANT MATERIALS; THE SPECIFIED GUARANTEE OF ALL PLANT MATERIALS; THE STAKING AND GUYING OF TREES AND THE CONTINUOUS PROTECTION OF ALL PLANT MATERIALS UPON THEIR ARRIVAL AT THE SITE.
5. PLANTING EXTENTS APPROXIMATE. CONTRACTOR RESPONSIBLE FOR REPLANTING ALL AREAS DISTURBED BY CONSTRUCTION.
6. SEE SE BYBEE ROAD REALIGNMENT PERMIT DRAWINGS DATED JULY 2024 FOR LANDSCAPE STREET FRONTAGE IMPROVEMENTS.



VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21
REVISIONS:

DATE:
2024.08.09
LAND USE PERMIT
SHEET NO.
L110
OVERALL PLANTING PLAN



LEGEND

- PROPERTY LINE
- LIMITS OF WORK
- EDGING
- PROPOSED GRADING CONTOUR, SEE CIVIL
- EXISTING TREE TO REMAIN

GRAPHIC SCALE
0 10 20 40 FEET
1" = 20 FEET

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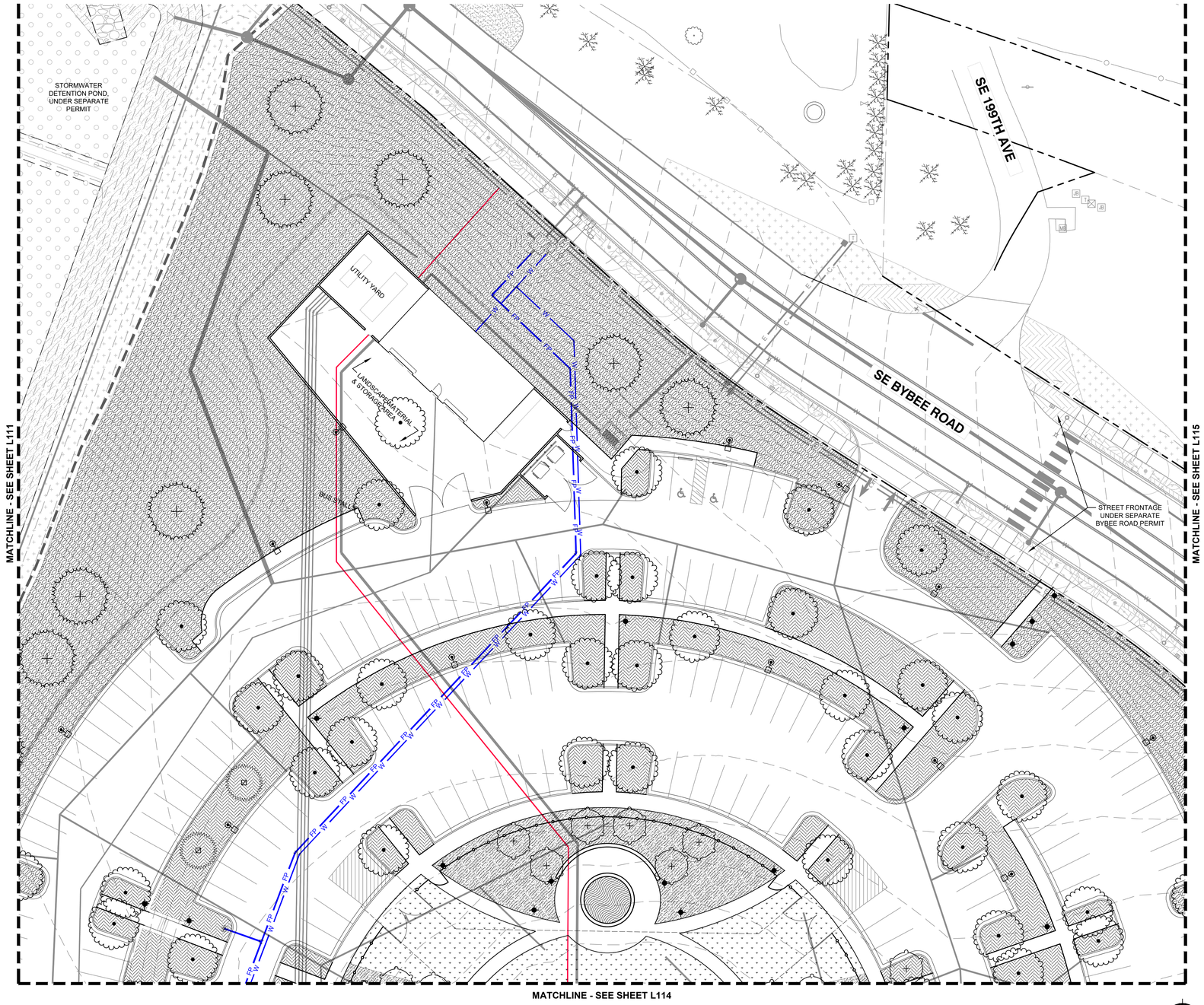
SHEET NO.
L111
PLANTING PLAN



LEGEND

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- EXISTING TREE TO REMAIN

GRAPHIC SCALE
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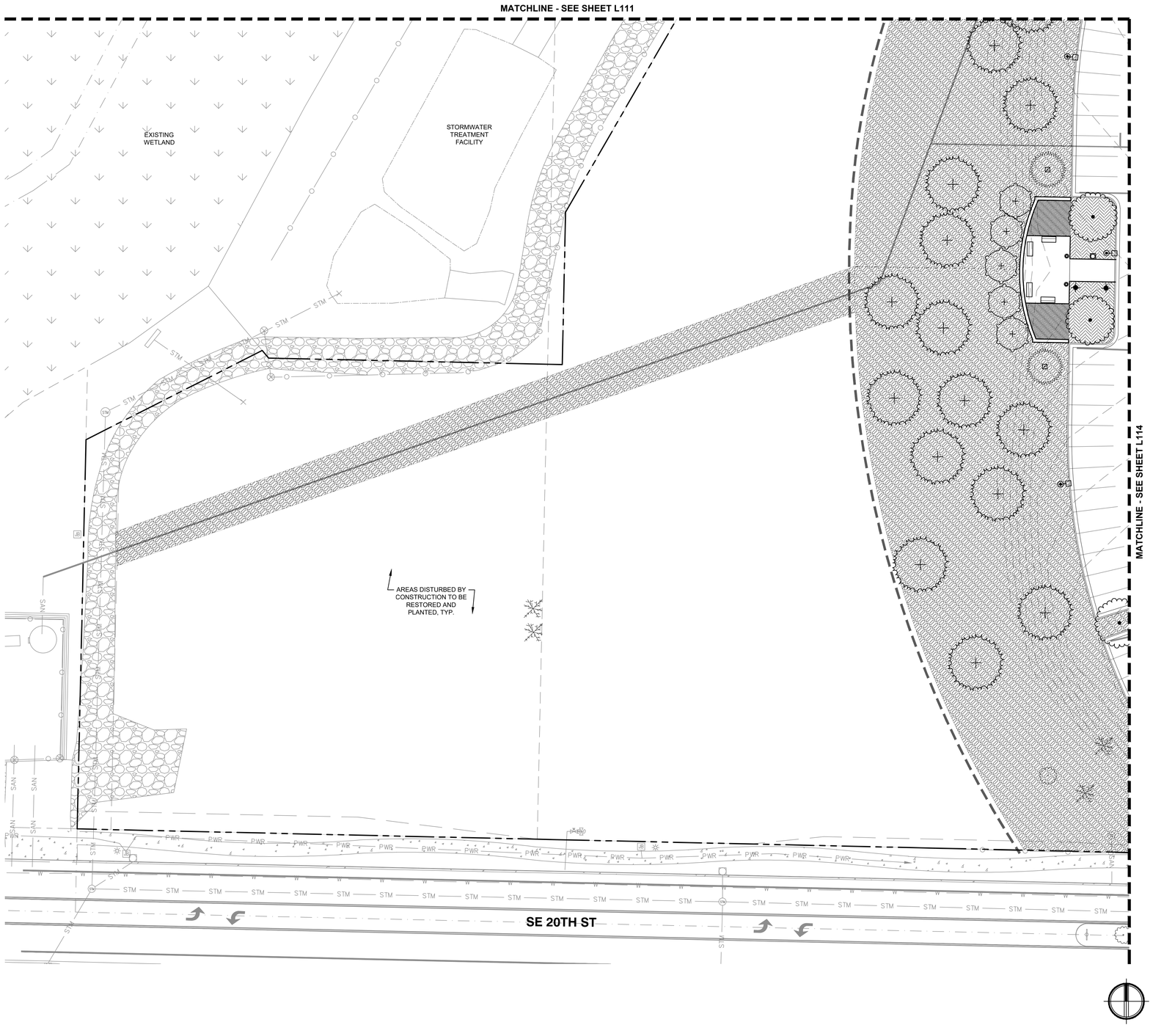
LAND USE PERMIT

SHEET NO.
L112
PLANTING PLAN



LEGEND

- PROPERTY LINE
- LIMITS OF WORK
- EDGING
- PROPOSED GRADING CONTOUR, SEE CIVIL
- EXISTING TREE TO REMAIN

GRAPHIC SCALE
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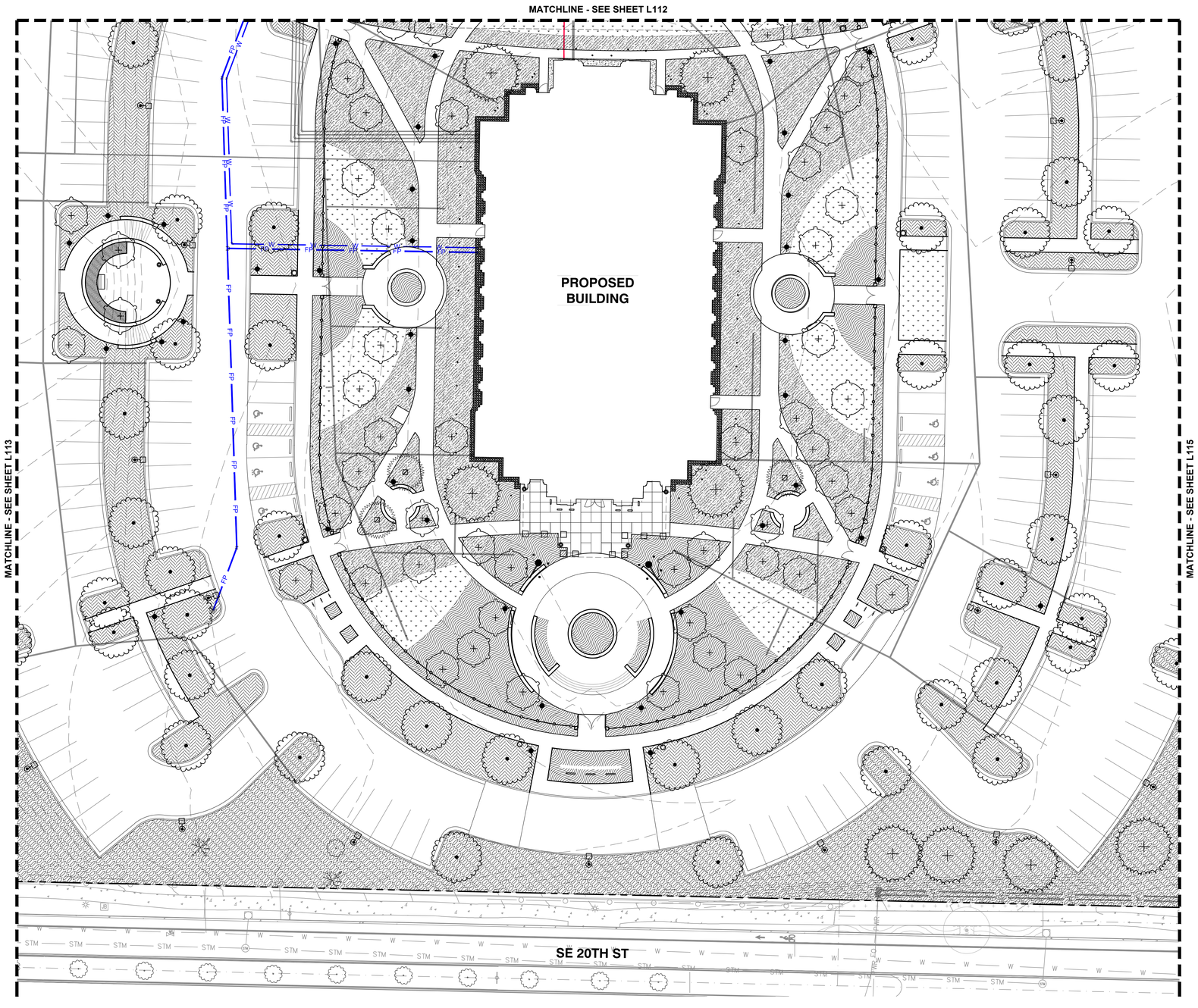
SHEET NO.
L113
PLANTING PLAN



LEGEND

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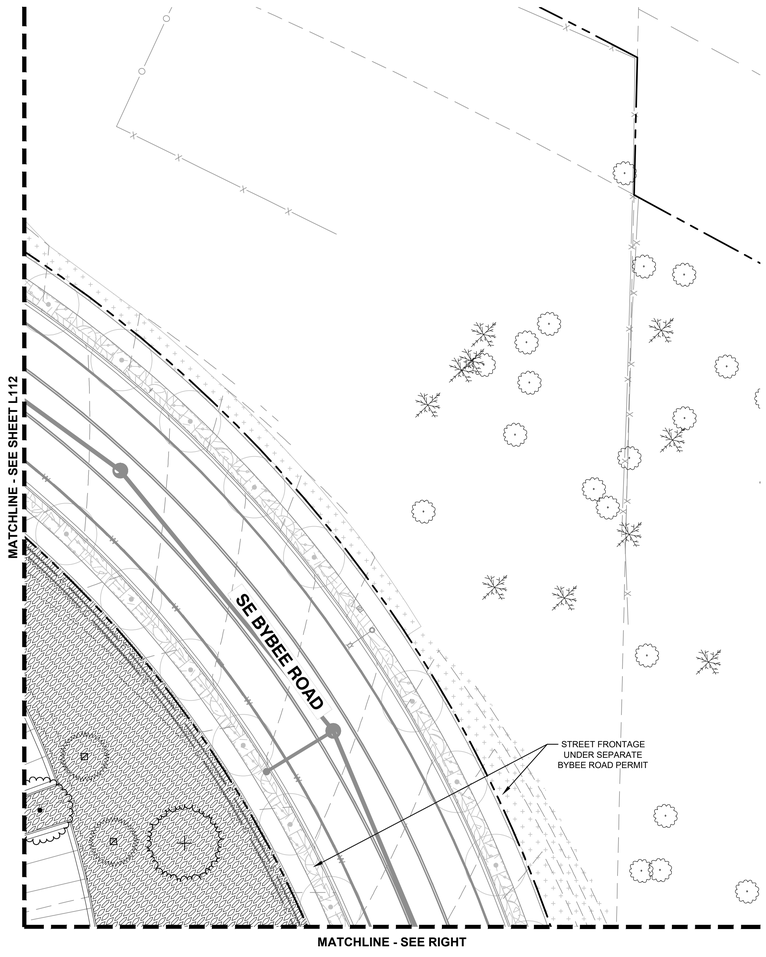
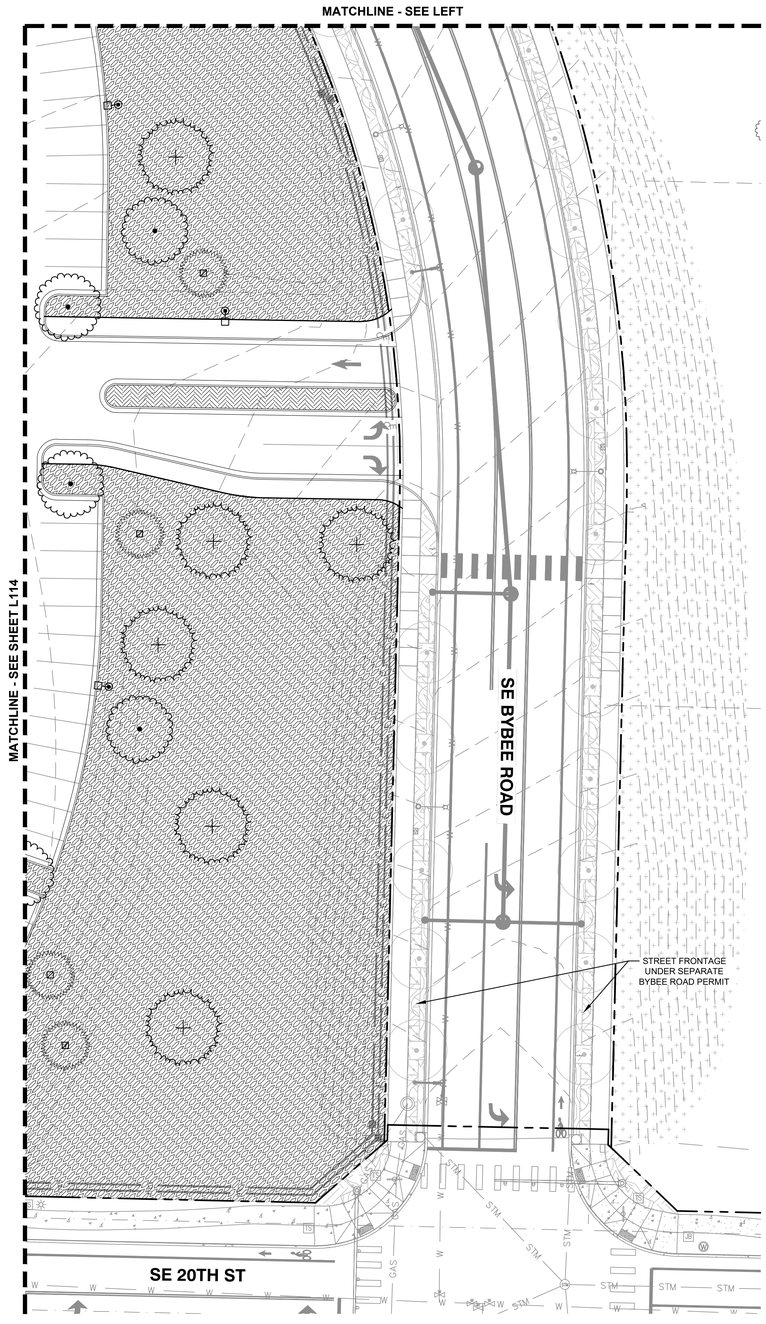
SHEET NO.
L114
PLANTING PLAN





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2024.08.09
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SHEET NO.
L115
PLANTING PLAN

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	CALIPER/HEIGHT	QTY
TREES					
		PARKING LOT TREE			87
	AX	ACER TRUNCATUM X PLATANOIDES 'WARRENRED'	PACIFIC SUNSET® MAPLE	1.5" CAL MIN.	
	UP	ULMUS X 'MORTON GLOSSY'	TRIUMPH™ ELM	1.5" CAL MIN.	
	ZS	ZELKOVA SERRATA	JAPANESE ZELKOVA	1.5" CAL MIN.	
		WOODLAND REPLACEMENT TREE			41
	AM	ARBUTUS MENZIESII	PACIFIC MADRONE	1.5" CAL MIN.	
	PD	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5' HT MIN	
		ORNAMENTAL COURTYARD TREE			65
	MS	MAGNOLIA STELLATA	STAR MAGNOLIA	1 GAL	
	ME	MAGNOLIA X 'GENIE'	GENIE MAGNOLIA	1 GAL	
	SM	STEWARTIA MONADELPHA	TALL STEWARTIA	1 GAL	
		ORNAMENTAL EVEGREEN			15
	CD2	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT MIN.	
	CN	CHAMAECYPARIS OBTUSA 'NANA'	DWARF HINOKI FALSE CYPRESS	1 GAL	
	JK	JUNIPERUS CHINENSIS 'KAIZUKA'	HOLLYWOOD JUNIPER	1 GAL	
	PO	PICEA OMORIKA	SERBIAN SPRUCE	1 GAL	

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	PLANT SIZE	SPACING	QTY
GROUND COVERS						
		LAWN				13,297 SF
		PARKING LOT PLANTING				34,458 SF
	CA	CALAMAGROSTIS X ACUTIFLORA 'AVALANCHE'	AVALANCHE FEATHER REED GRASS	1 GAL	20% @ 24" o.c.	1,789
	CW	CISTUS X HYBRIDUS	WHITE ROCKROSE	3 GAL	20% @ 48" o.c.	446
	ES	ERICA CARNEA 'SPRINGWOOD WHITE'	WHITE SPRING WINTER HEATH	1 GAL	20% @ 36" o.c.	797
	LB	LONICERA NITIDA 'BAGGESEN'S GOLD'	BOXLEAF HONEYSUCKLE	2 GAL	20% @ 36" o.c.	797
	VC	VINCA MINOR `BOWLES`	BOWLES` COMMON PERIWINKLE	1 GAL	20% @ 36" o.c.	797
		OUTER WOODLAND PLANTING				137,075 SF
	CL	CAMASSIA LEICHTLINII	GREAT CAMAS	1 GAL	8% @ 36" o.c.	1,266
	CO	CAREX OBNUPTA	SLOUGH SEDGE	1 GAL	7% @ 16" o.c.	5,608
	DC	DESCHAMPSIA CESPITOSA `NORTHERN LIGHTS`	NORTHERN LIGHTS HAIR GRASS	1 GAL	7% @ 24" o.c.	2,492
	DW	DICENTRA FORMOSA	WESTERN BLEEDING-HEART	1 GAL	8% @ 36" o.c.	1,266
	FV	FRAGARIA VIRGINIANA	WILD STRAWBERRY	1 GAL	8% @ 18" o.c.	5,065
	HD2	HOLODISCUS DISCOLOR	OCEANSPRAY	5 GAL	7% @ 48" o.c.	622
	MC3	MAHONIA AQUIFOLIUM `COMPACTA`	COMPACT OREGON GRAPE	1 GAL	7% @ 36" o.c.	1,108
	MR2	MAHONIA REPENS	CREEPING MAHONIA	1 GAL	8% @ 18" o.c.	5,065
	OR	OXALIS OREGANA	REDWOOD SORREL	1 GAL	8% @ 24" o.c.	2,848
	PM4	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GAL	8% @ 18" o.c.	5,065
	RM	RHODODENDRON MACROPHYLLUM	PACIFIC RHODODENDRON	5 GAL	8% @ 48" o.c.	713
	RS	RIBES SANGUINEUM	RED FLOWERING CURRANT	3 GAL	8% @ 48" o.c.	713
	SH	SALIX HOOKERIANA	DUNE WILLOW	2 GAL	8% @ 48" o.c.	713
		ENTRANCE/PLAZA PLANTING				9,991 SF
	AM2	ARBUTUS UNEDO 'COMPACTA'	COMPACT STRAWBERRY TREE	2.5" PLUG		9,991 SF
	CQ	CAMASSIA QUAMASH	SMALL CAMAS	2.5" PLUG		9,991 SF
	CS	CAMELLIA SASANQUA 'SETSUGEKKA'	SETSUGEKKA CAMELLIA	2.5" PLUG		9,991 SF
	CY	CAMELLIA SASANQUA 'YULETIDE'	YULETIDE CAMELLIA	2.5" PLUG		9,991 SF
	DA	DAPHNE ODORA 'AUREOMARGINATA'	GOLD-EDGED WINTER DAPHNE	2.5" PLUG		9,991 SF
	EW	ERICA X DARLEYENSIS 'WHITE PERFECTION'	WHITE PERFECTION DARLEY HEATH	1 GAL	5% @ 24" o.c.	130
	GK	GERANIUM X CANTABRIGIENSE 'KARMINA'	BIOKOVO CRANESBILL	2.5" PLUG		9,991 SF
	HD	HAMAMELIS X INTERMEDIA 'DIANE'	DIANE WITCH HAZEL	2.5" PLUG		9,991 SF
	HA	HELLEBORUS ARGUTIFOLIUS	CORSICAN HELLEBORE	2.5" PLUG		9,991 SF
	HI	HYDRANGEA INTEGRIFOLIA	EVERGREEN CLIMBING HYDRANGEA	2.5" PLUG		9,991 SF
	HO	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2.5" PLUG		9,991 SF
	II	IRIS DOUGLASIANA	DOUGLAS IRIS	2.5" PLUG		9,991 SF
	LC	LONICERA CILIOSA	ORANGE HONEYSUCKLE	2.5" PLUG		9,991 SF
	PT	PITTOSPORUM TENUIFOLIUM 'TASMAN RUFFLES'	TASMAN RUFFLES TAWHIWHI	2.5" PLUG		9,991 SF
	PC	PROSTANTHERA CUNEATA	ALPINE MINT BUSH	2 GAL	5% @ 36" o.c.	59
	RN	ROSA X 'NOARE'	FLOWER CARPET RED GROUNDCOVER ROSE	2.5" PLUG		9,991 SF
	SH2	SARCOCOCCA HOOKERIANA HUMILIS	TRAILING SWEETBOX	2.5" PLUG		9,991 SF
	VP	VERONICA PEDUNCULARIS 'GEORGIA BLUE'	GEORGIA BLUE SPEEDWELL	2.5" PLUG		9,991 SF
		CENTRAL CIRCLE PLANTING				24,195 SF
	AM2	ARBUTUS UNEDO 'COMPACTA'	COMPACT STRAWBERRY TREE	2.5" PLUG		24,195 SF
	CQ	CAMASSIA QUAMASH	SMALL CAMAS	2.5" PLUG		24,195 SF
	CS	CAMELLIA SASANQUA 'SETSUGEKKA'	SETSUGEKKA CAMELLIA	2.5" PLUG		24,195 SF
	CC	CYRTOMIUM CARYOTIDEUM	HOLLY FERN	2.5" PLUG		24,195 SF
	DB	DRYOPTERIS ERYTHROSORA 'BRILLIANCE'	BRILLIANCE AUTUMN FERN	2.5" PLUG		24,195 SF
	EW	ERICA X DARLEYENSIS 'WHITE PERFECTION'	WHITE PERFECTION DARLEY HEATH	1 GAL	8% @ 24" o.c.	500
	IC	IRIS SIBIRICA 'CAESAR'S BROTHER'	CAESAR'S BROTHER SIBERIAN IRIS	2.5" PLUG		24,195 SF
	OR2	OXALIS OREGANA	REDWOOD SORREL	1 GAL	8% @ 24" o.c.	500
	PE	PHLOX SUBULATA 'EMERALD BLUE'	EMERALD BLUE CREEPING PHLOX	2.5" PLUG		24,195 SF
	PC	PROSTANTHERA CUNEATA	ALPINE MINT BUSH	2 GAL	8% @ 36" o.c.	225
	RN	ROSA X 'NOARE'	FLOWER CARPET RED GROUNDCOVER ROSE	2.5" PLUG		24,195 SF
	SJ	STYRAX JAPONICUS	JAPANESE SNOWBELL	2.5" PLUG		24,195 SF

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LAND USE PERMIT

SHEET NO.
L116
PLANT SCHEDULE

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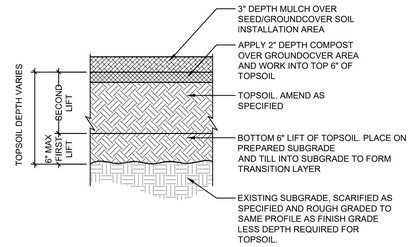
SOIL NOTES

1. SOIL INSTALLATION SHALL CONFORM TO ALL CITY OF CAMAS REQUIREMENTS.
2. SOIL EXTENTS APPROXIMATE, CONTRACTOR RESPONSIBLE FOR REPLANTING ALL AREAS DISTURBED BY CONSTRUCTION.
3. SEE L502 FOR PLANTING DETAILS.

SOIL PREPARATION SCHEDULE

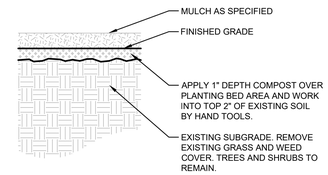
SYMBOL	DESCRIPTION	QTY
	8" DEPTH SOIL, SEED AREAS	11,607 SF
	12" DEPTH SOIL, SHRUB AND GROUNDCOVERS	202,270 SF



1 SOIL PREPARATION BMP T5.13

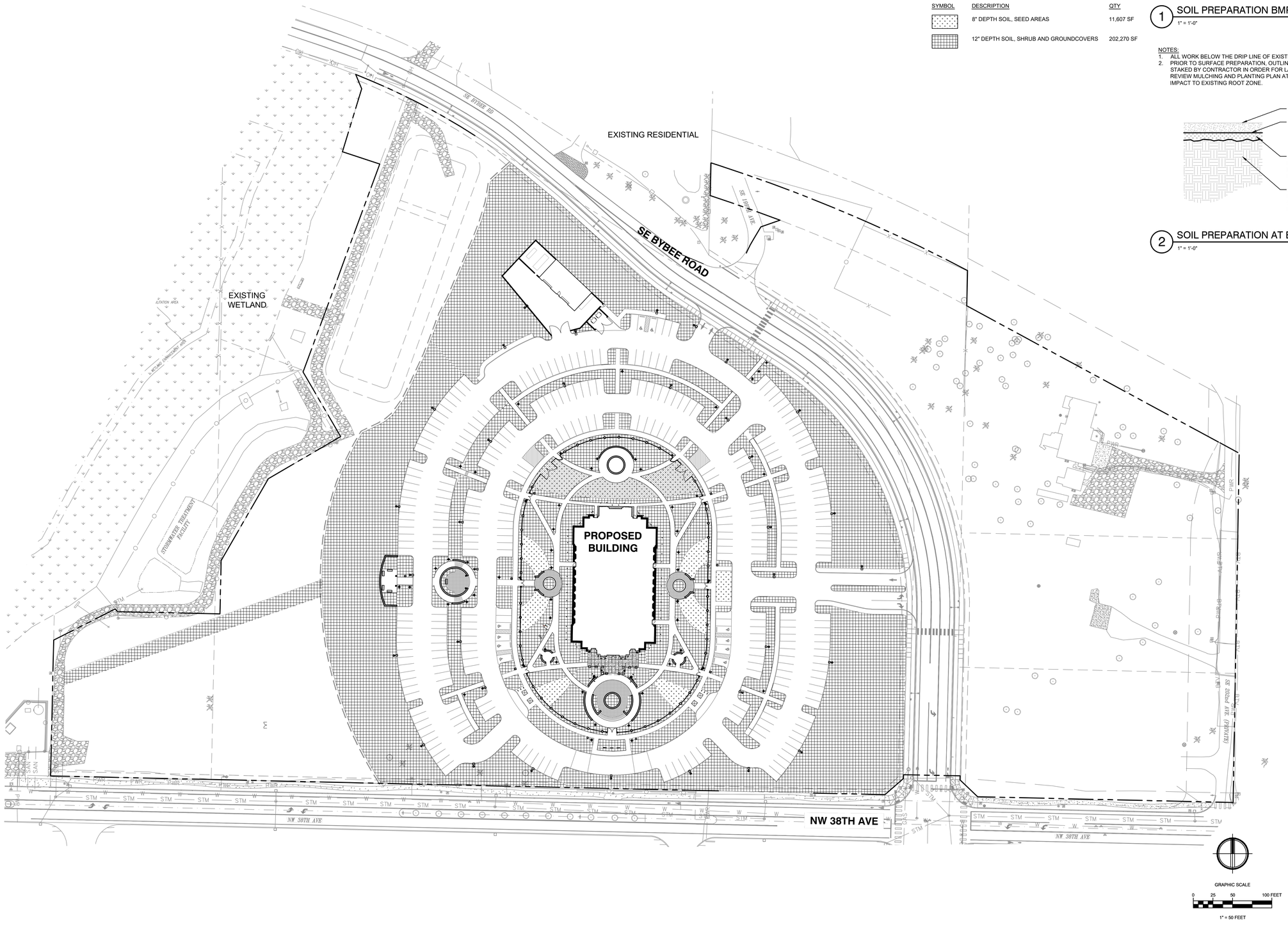
1" = 1'-0" P-2023-LDS-28

NOTES:
1. ALL WORK BELOW THE DRIP LINE OF EXISTING TREES SHALL BE BY HAND.
2. PRIOR TO SURFACE PREPARATION, OUTLINE OF EACH BED SHALL BE STAKED BY CONTRACTOR IN ORDER FOR LANDSCAPE ARCHITECT TO REVIEW MULCHING AND PLANTING PLAN AT START OF WORK, TO MINIMIZE IMPACT TO EXISTING ROOT ZONE.



2 SOIL PREPARATION AT EXISTING TREES

1" = 1'-0" P-2023-LDS-04



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SOILS PLAN

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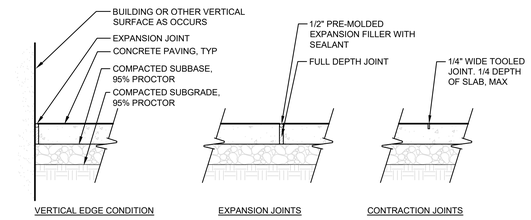
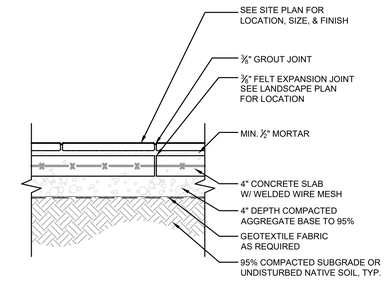
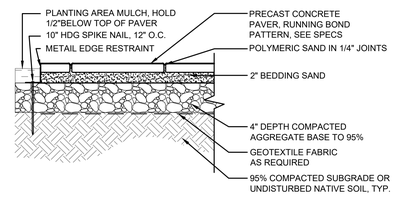


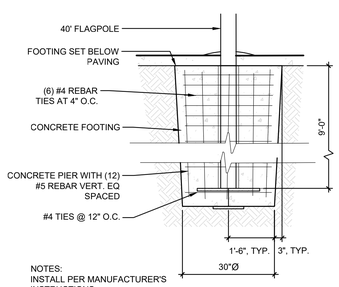
1 CONCRETE PAVING
1" = 1'-0" P-2023-LDS-67



2 STONE PAVER ON 4" CONCRETE SLAB
1" = 1'-0" P-2023-LDS-10



3 SAND SET PRECAST PAVER
1" = 1'-0" P-2023-LDS-91



NOTES:
INSTALL PER MANUFACTURER'S INSTRUCTIONS.

4 FLAGPOLE
1/2" = 1'-0"

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LAND USE PERMIT

SHEET NO.
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MATERIALS DETAILS

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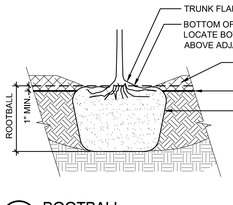
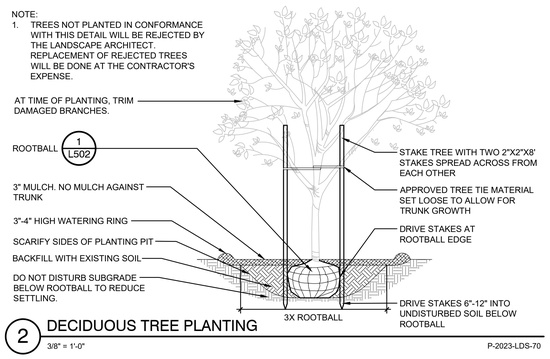
NOTES:
1. TREES PLANTED TOO DEEP WITHOUT EXPOSING ROOT FLARE WILL BE REJECTED AND SHALL BE REMOVED AND REPLANTED AT PROPER DEPTH.
2. REPLACEMENT OR REPLANTING OF REJECTED TREES WILL BE DONE AT THE CONTRACTOR'S EXPENSE.
3. REMOVE EXCESS SOIL THAT MAY HAVE ACCUMULATED ABOVE THE TRUNK FLARE PRIOR TO DIGGING AT NURSERY. EXPOSE AND LOCATE TRUNK FLARE PRIOR TO PLANTING.
4. PRUNE ANY GIRDLING OR ADVENTITIOUS ROOTS PRIOR TO BACKFILLING.



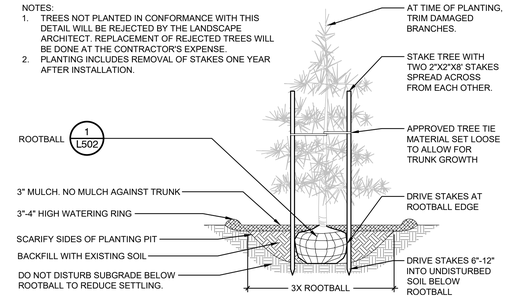
1 ROOTBALL
1" = 1'-0" P-2023-LDS-02

NOTE:
1. TREES NOT PLANTED IN CONFORMANCE WITH THIS DETAIL WILL BE REJECTED BY THE LANDSCAPE ARCHITECT. REPLACEMENT OF REJECTED TREES WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

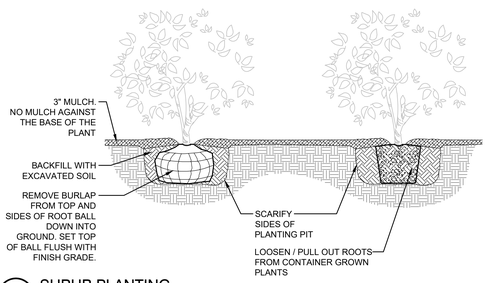


2 DECIDUOUS TREE PLANTING
3/8" = 1'-0" P-2023-LDS-70

NOTES:
1. TREES NOT PLANTED IN CONFORMANCE WITH THIS DETAIL WILL BE REJECTED BY THE LANDSCAPE ARCHITECT. REPLACEMENT OF REJECTED TREES WILL BE DONE AT THE CONTRACTOR'S EXPENSE.
2. PLANTING INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.

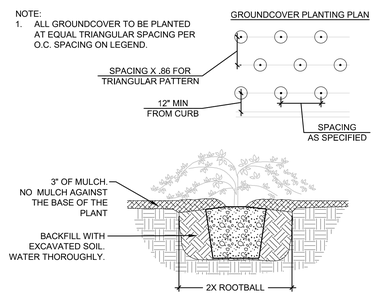


3 CONIFEROUS TREE PLANTING
3/8" = 1'-0"

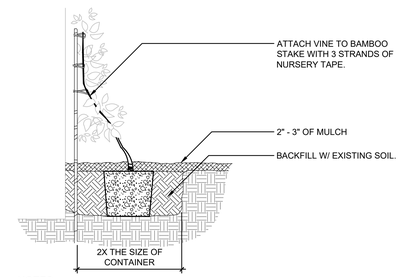


4 SHRUB PLANTING
NTS P-2023-LDS-01

NOTE:
1. ALL GROUNDCOVER TO BE PLANTED AT EQUAL TRIANGULAR SPACING PER O.C. SPACING ON LEGEND.



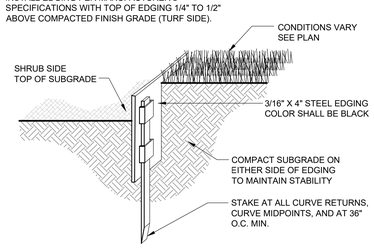
5 GROUNDCOVER PLANTING
1/2" = 1'-0" P-2023-LDS-66



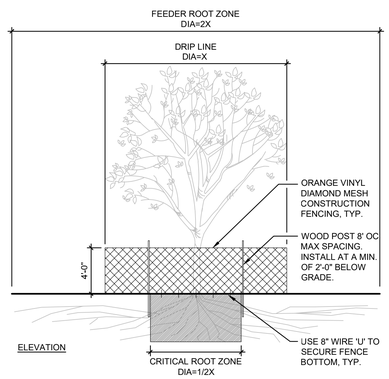
NOTES:
1. REFER TO SPECS FOR ADD'L INFORMATION.
2. BAMBOO STAKES SHALL BE REMOVED AFTER 1 YEAR.

6 VINE PLANTING
3/4" = 1'-0" P-2023-LDS-60

NOTE:
INSTALL EDGING PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING 1/4" TO 1/2" ABOVE COMPACTED FINISH GRADE (TURF SIDE).



7 STEEL LANDSCAPE EDGING
1" = 1'-0" DETAIL-FILE



FENCING/ROOT PROTECTION
1. FENCING TO BE PROVIDED AND MAINTAINED AT CANOPY DRIP LINE.
2. TREE PROTECTION FENCE SHOULD BE MAINTAINED THROUGHOUT GRADING AND CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL FINAL ACCEPTANCE.
3. ALL BRUSH CLEANUP WITHIN DRIP LINE SHOULD BE COMPLETED BY HAND TO PREVENT DISTURBANCE OF NATIVE GROUND COVERS.
4. NO WIRES, CABLES, OR OTHER DEVICES SHALL BE ATTACHED TO PROTECTED TREES DURING CONSTRUCTION.
5. CONTRACTOR SHALL REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

TRENCHING/EXCAVATION

CRITICAL ROOT ZONE
1. NO DISTURBANCE ALLOWED WITHOUT SITE-SPECIFIC INSPECTION AND APPROVAL OF METHODS TO MINIMIZE ROOT DAMAGE.

DRIP LINE
1. LANDSCAPE ARCHITECT'S APPROVAL REQUIRED FOR USE/ACCESS WITHIN DRIP LINE.
2. NO SOIL DISTURBANCE OR ACTIVITY ALLOWED WITHIN FENCED AREAS, SUCH AS MATERIAL STORAGE/STOCKPILING, PARKING, EXCAVATION, DUMPING OR WASHING.
3. ANY TRENCHING SUBJECT TO FIELD INSPECTION AND APPROVAL BY LANDSCAPE ARCHITECT.

FEEDER ROOT ZONE
1. OPERATION OF HEAVY EQUIPMENT AND/OR STOCKPILING OF MATERIALS SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL.
2. MINIMIZE TRENCH WIDTH WHEN USING HEAVY EQUIPMENT. SURFACE PROTECTION* MEASURES MAY BE REQUIRED.
3. LIMIT ANY DISTURBANCE TO MAXIMUM 1/3 OF FEEDER ROOT ZONE.
4. IF ROOTS GREATER THAN 2 INCH FOUND OUTSIDE OF FENCING, PROTECT BY HAND EXCAVATION AND, IF NECESSARY, CUT CLEANLY AND KEEP MOIST.
5. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS.

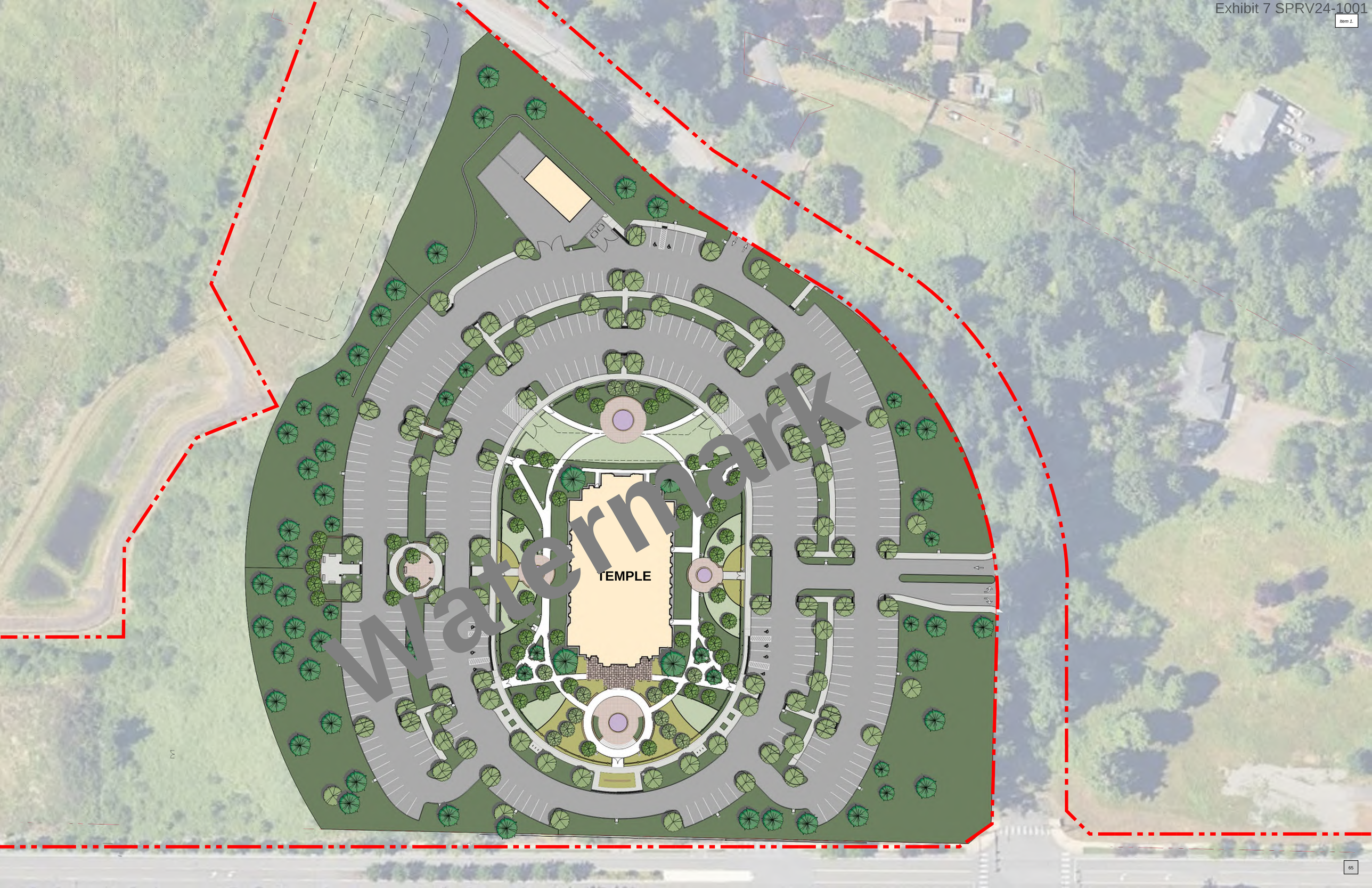
*SURFACE PROTECTION MEASURES
6-8" MULCH LAYER, 3/4"PLYWOOD, OR STEEL PLATES

8 TREE PROTECTION DETAIL
3/16" = 1'-0" DETAIL-FILE

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 x 42
HALF SIZE REDUCTIONS = 15 x 21
REVISIONS:

DATE:
2024.08.09
LAND USE PERMIT
SHEET NO.
L502
PLANTING DETAILS



Watermark

Item 1.

VICINITY MAP

MAP FROM: GOOGLE MAPS ©

SCALE: NTS

SHEET NOTES

1. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION.
2. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
3. GENERAL DEMOLITION PERMIT SHALL BE SECURED BY THE CONTRACTOR.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. DARK LINEWORK DEPICTS ITEMS WITHIN THE DEMOLITION / WORK LIMITS TO BE DEMOLISHED.
11. REFERENCE LANDSCAPE PLANS FOR TREE DEMOLITION.

SHEET LEGEND

- PROPERTY LINE
- EASEMENT LINE
- DEMOLITION/WORK LIMITS (SHOWN OFFSET FOR CLARITY)
- SAWCUT LINE
- DEMOLITION TO OCCUR AS PART OF BYBEE ROAD REALIGNMENT

DEMOLITION KEY NOTES

*20 REMOVE GRAVEL DRIVEWAY
21 REMOVE FENCE
22 REMOVE CONCRETE PAD
23 REMOVE ASPHALT PAVEMENT
24 REMOVE WALL
25 REMOVE SHED
26 REMOVE UTILITY POLE AND GUY WIRES
27 REMOVE MAILBOXES
28 REMOVE OVERHEAD UTILITY LINE
29 REMOVE EXISTING SIGN
30 REMOVE STORM CULVERT
31 DECOMMISSION WELL AND REMOVE ASSOCIATED INFRASTRUCTURE
32 DECOMMISSION SEPTIC TANK AND REMOVE ASSOCIATED INFRASTRUCTURE
33 REMOVE EXISTING JUNCTION BOX

PROTECTION KEY NOTES

*40 PROTECT EXISTING MONUMENT
41 PROTECT EXISTING CULVERT

SCALE 1 INCH = 40 FEET
40 0 40 80

KMB architects
906 Columbia Street SW, Suite 400
Olympia, Washington 98501
811 First Ave, Suite 500
Seattle, Washington 98104
www.KMB-architects.com
360.352.8883
KMB Project # 23069

kpff
111 SW Fifth Ave., Suite 2600
Portland, OR 97204
O: 503.542.3860
F: 503.274.4681
www.kpff.com

PRELIMINARY NOT FOR CONSTRUCTION

VANCOUVER WASHINGTON TEMPLE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
1819 SE BYBEE ROAD
CAMAS, WA 98607

ORIGINAL SHEET SIZE = 30 X 42
HALF SIZE REDUCTIONS = 15 X 21

DATE: AUGUST 2024
SITE PLAN REVIEW
DRAWING: C1.0

DESIGN REVIEW CHECKLIST

SPRV24-1001 LDS Temple Development

The purpose of this sheet is to provide a simplified and expedited review of the design review principles and guidelines using objective review standards. The standards are intended as tool for the decision-maker in making findings that the proposal either achieves compliance with the intent of the principles or reasonably mitigates any conflict. When reviewing the check sheet, the proposal should as a whole "comply" with the standards and thus be generally consistent with the overriding principles. [Yes = In Compliance; No = Not In Compliance; NA = Not Applicable]

Standard Principles and Guidelines

ARCHITECTURE				
Yes	No	NA	Principles and Guidelines	Comments
			Corrugated materials, standing seam, T-1 11, or similar siding materials are avoided unless it produces a high visual (or aesthetic) quality.	
			Buildings walls or fences visible from roadways are articulated in order to avoid a blank look.	
			The use of bold colors has been avoided unless used as minor accents.	
			Higher density/larger structures abutting lower density residential structures have been designed to mitigate size and scale differences.	
LANDSCAPING AND SCREENING				
Yes	No	NA	Principles and Guidelines	Comments
			Vegetation for landscaping includes native, low maintenance plantings. Significant trees are retained if feasible.	
			Trees planted along streetscapes with overhead power lines include only those trees identified on the City's Tree list.	
			Landscaping, including trees, shrubs, and vegetative groundcover, is provided to visually screen and buffer the use from adjoining less intense uses including parking.	
			Proposed fencing is incorporated into the landscaping so as to have little or no visual impact.	
			Signs located on buildings or incorporated into the landscaping	

			are unobtrusive and vandal resistant. If illuminated they are front lit.	
			Landscape lighting - low voltage, non-glare, indirect lighting is directed, hooded or shielded away from neighboring properties.	
			Street lighting (poles, lamps) is substantially similar or architecturally more significant than other street lighting existing on the same street and do not conflict with any City approved street lighting plans for the street.	
			Parking and building lighting is directed away from surrounding properties through the use of hooding, shielding, siting and/or landscaping.	
			Outdoor furniture samples are consistent with the overall project design.	
			Existing trees over 6” dbh that are not required to be removed to accommodate the proposed development are retained and incorporated into the landscape plan.	
			Rock outcropping’s, forested areas and water bodies are retained.	
HISTORIC AND HERITAGE PRESERVATION				
Yes	No	NA	Principles and Guidelines	Comments
			The use of Historic Markers, information kiosks, project names, architectural features, or other elements of the project promote the historic heritage of the site or surrounding area.	

Specific Principles and Guidelines

GATEWAYS AND CORRIDORS				
SIGNAGE				
Yes	No	NA	Principles and Guidelines	Comments
			Gateways are devoid of free-standing signs. Preexisting freestanding signs are proposed for removal at the time of development, redevelopment, or major rehabilitation on the site.	
			Permanent signage within a gateway are standardized to create a consistent look in terms of size, color, and materials.	

STREETSCAPE				
Yes	No	NA	Principles and Guidelines	Comments
			The main public entrance is oriented toward the public right-of-way.	
			Pedestrian walkways connect each building's front entry with the sidewalk.	
			Bike lanes are provided and link public areas with neighborhoods and other local and regional bicycle corridors.	
			Alternative transportation, such as attractive bus stop shelters, bicycle parking, etc. are provided.	
			Trees, planting strips or bioswales are used for separating vehicles and pedestrian movements.	
			Street trees no less than two inches in diameter are planted within planter strips or tree wells at a spacing that creates the appearance of a continuous canopy at tree maturation.	
			The surface of pedestrian walkways within intersections are accentuated with a unique character (i.e. pattern stone, exposed aggregate, stamped concrete, etc.)	
			Buildings are placed as close to streets and roads as the zoning code allows.	
			On-site parking is located to the rear or the side of the building.	
			A consistent iconic streetscape lighting scheme is used that portrays the primary development period, architecture characteristics, or predetermined theme as identified in a concept plan, sub-area plan, or master plan recognized by the City.	
LANDSCAPING				
Yes	No	NA	Principles and Guidelines	Comments
			Landscaping adjacent to the public right of way provides multiple layers of plantings, including canopy trees, understory trees, shrubs and groundcover.	
			Hanging baskets provided along building frontages add visual interest and the bottom of the basket is a minimum of 80 inches above the finished grade of the sidewalk.	
			Median planting design/plant selection create a unique and cohesive streetscape design.	

COMMERCIAL				
ARCHITECTURE				
Yes	No	NA	Principles and Guidelines	Comments
			Office and retail buildings provide a minimum solid to void ratio of 60%/40%	
			The development is built with a residential feel (i.e. size, scale, and materials compatible with neighboring buildings) if surrounded by residential areas or adjacent to residentially zone properties.	
			Buildings over two stories have the third story and above offset from the first two stories, if surrounding developments are less than three stories or land use designations on adjacent sites do not allow more than three story development.	
LANDSCAPING & SCREENING				
Yes	No	NA	Principles and Guidelines	Comments
			Intersections are illuminated, but not dominated by lighting. Lighting is incorporated into the landscape and illuminates the quality of the natural environment. Street light poles and lamps are compatible with other nearby lighting on the same street.	
			Parking spaces are clustered in small groupings and separated by landscaping to create a pedestrian friendly, park like environment.	
STREETSCAPE				
Yes	No	NA	Principles and Guidelines	Comments
			On-site parking areas are located to the interior of the development unless site development proved prohibitive. Otherwise, parking areas are screened with landscaping.	
			Buildings are placed close to streets and roads unless site constraints made it impossible or characteristics of the surrounding properties already developed made it incompatible. Otherwise, retail frontage setbacks do not exceed 25 feet from back of curb.	
			Window and door placement provides a high degree of transparency at the lower levels of the building and maximize visibility of pedestrian active uses.	
			Each use/activity in a development containing multiple uses/activities is integrated in a manner that achieves a	

			seamless appearance or creates a cohesive development.	
			New streets intersecting commercial properties are designed to create a safe environment. “Coving” techniques and “round-a-bouts” were considered for traffic calming when appropriate.	

STAFF REPORT

8th Avenue Apartments
Major Design Review (DR23-07)
Related File: SPRV23-04

TO	Design Review Committee
FROM	Yvette Sennewald, Senior Planner
LOCATION	1805 SE 8th Avenue Parcel Number: 88135000
APPLICANT	Paul Williams, Engineering Northwest (360) 931-3122 paulwilliamspe@gmail.com

APPLICABLE LAW: This land use application submitted October 31, 2023, and the applicable codes are the codes that were in effect at the date of application. Camas Municipal Code (CMC) chapters include Title 17 Land Development and Title 18, specifically (but not limited to): Chapter 18.11 - Parking, Chapter 18.13 - Landscaping, Chapter 18.18 - Site Plan Review, Chapter 18.19 Design Review, and Chapter 18.55 Administrative Procedures.

Background

The applicant is seeking design review approval for the construction of an 8-unit, approximately 4,780 square-foot, 2-story apartment building on an approximately 18,971 square-foot foot lot, currently developed with a single-family residence and detached accessory structures, situated in the MF-18 – Multi-Family Residential Zone. Each unit is proposed to be approximately 900 square-feet in size with approximately 90 square-feet of private open space. The site plan also shows required parking and landscaping to be provided for.

The project area includes a mix of multi-family and single-family residential homes.

Purpose

Design Review is required under CMC Chapter 18.19. Design review is not intended to determine the appropriate use on a parcel but rather review a proposed development for compliance with City codes and plans related to landscaping, architectural elevations, and other elements relative to required improvements. The recommendations from the Design Review Committee (DRC) must consider the design review standards from the Design Review Manual and the Camas Municipal Code (CMC). The enclosed checklist is to help guide your review but refer to the manual for specific details regarding the standards.

Standard and Multi-Family Design Principles and Guidelines

The standard and multi-family principles and guidelines are required and must be demonstrated to have been satisfied in the overall intent for design review approval. The design guidelines are developed to assist a project in meeting the established principles and each guideline should be adequately addressed. If the proposal cannot meet a specific guideline, then an explanation should be provided by the applicant as to why and how it will be mitigated to satisfy the intent of the design principles. The development guidelines include five major categories: 1) Landscaping and Screening, 2) Architecture, 3) Massing and Setbacks, 4) Historic & Heritage Preservation, and 5) Circulation and Connections.

The Design Review Checklist is enclosed to help guide the DRC in reviewing the standard applicable specific design review principles and guidelines.

Recommendation

That the Design Review Committee reviews the submitted materials, deliberates, and forwards a recommendation to staff for a final decision.

8th Avenue Apartment Complex
Muit-family Project

Site Plan Application – Narrative

Existing Use / Site Conditions:

The proposed development site is located north side of SE 8th Ave and between SE Polk Street and SE Russell Street in the City of Camas, Washington. The parcel number is 88135-000. The site is approximately 0.44 acres in size. There are several existing buildings onsite that will be demolished. The site has approximately 97 feet of frontage along SE 8th Ave. The site is zoned MF-18. The neighboring two properties to the North are zoned MFH and to the East is zoned MFH and the west is zone MFH.

Proposal:

We are proposing a Type II site plan with a site plan in a one-phased residential project that will consist of 8 apartment unts on a 0.44-acre parcel

The project proposes to construct a private driveway with sidewalks on one side.

Chapter 17.01 - GENERAL PROVISIONS
Sections:

17.01.010 - Title.

This code shall be known as the "City of Camas Land Development Code."
(Ord. 2483 § 1 (Exh. A (part)), 2007: Ord. 2443 § 2 (Exh. A (part)), 2006)

17.01.020 - Purpose.

The purpose of this code is to provide rules, regulations, requirements, and standards for development of land in the city, insuring that the public health, safety, general welfare, and design standards of the city are promoted and protected; that planned growth, development, and the conservation, protection and proper use of land are ensured; that proper provisions for all public facilities including circulation, utilities, open space, and services comply with adopted manuals and standards; and that the goals and policies of the City of Camas comprehensive plans are furthered through the development of land.
(Ord. 2483 § 1 (Exh. A (part)), 2007: Ord. 2443 § 2 (Exh. A (part)), 2006)

6168 NE WHY 99, Suite 103 Vancouver, WA 98665
PHONE: (360) 931-3122
WWW.ENGNW.COM

17.01.040 - Dedications.
No public right-of-way is required.
17.01.050 - Survey content.
See submitted plans for the existing condition plan of the project site.

Chapter 17.11 - SUBDIVISIONS*
Not Applicable. No Short Subdivisions are proposed.

(Ord. 2483 § 1 (Exh. A (part)), 2007)

(Ord. No. 2612, § I(Exh. A), 2-7-2011)

17.11.040 - Phasing.

The subdivider may develop and record the subdivision in phases. Any phasing proposal shall be submitted for review at preliminary plat. In addition to meeting criteria in CMC Chapter 18.23, approval of the phasing plan shall be based upon making the following findings:

The project doesn't propose phasing

Chapter 17.15 - BINDING SITE PLAN (BSP)

Not Applicable.

Chapter 17.19 - DESIGN AND IMPROVEMENT STANDARDS

A. Preapplication.

See PA 23-15

B. Application. In addition to those items listed in CMC 18.55.110, the following items are required, in quantities specified by community development department, for a complete application for preliminary subdivision approval. Items may be waived if, in the judgment of the community development director or designee, the items are not applicable to the particular proposal:

1. Completed general application form as prescribed by the community development director, with the applicable application fees;

   Included in Submittal Packet.

2. A complete and signed SEPA checklist. The SEPA submittal should also include a legal description of the parcel(s) from deed(s);

   Included in Submittal Packet.

3. Complete applications for other required land use approvals applicable to the proposal;

   Preliminary plat approval

   Preliminary Site Plan approval

   Grading Permit

   Engineering plan approval

   Individual Building permit(s)

   Please advise us of any other permits necessary for project approval.

4. A vicinity map showing location of the site;

   Included in Submittal Packet.

5. A survey of existing significant trees as required under CMC Section 18.31.080;

   Included in Submittal Packet.

6. All existing conditions shall be delineated. Site and development plans shall provide the following information:

   a. A plat map meeting the standards identified in CMC Section 17.01.050,

   b. Owners of adjacent land and the names of any adjacent subdivisions,

   c. Lines marking the boundaries of the existing lot(s) (any existing lot to be eliminated should be a dashed line and so noted),

   d. Names, locations, widths and dimensions of existing and proposed public street rights-of-way and easements and private access easements, parks and other open spaces, reservations and utilities,

   e. Location of sidewalks, street lighting and street trees,

   f. Location, footprint and setbacks of all existing structures on the site,

g. Lot area and dimensions for each lot,

h. Location of proposed new property lines and numbering of each lot,

i. Location of the proposed building envelopes and sewer tanks,

j. Location, dimension and purpose of existing and proposed easements. Provide recorded documents that identify the nature and extent of existing easements,

k. Location of any proposed dedications,

l. Existing and proposed topography at two-foot contour intervals extending to five feet beyond project boundaries,

m. Location of any critical areas and critical area buffers to indicate compliance with all applicable provisions of the critical areas legislation,

n. Description, location and size of existing and proposed utilities, storm drainage facilities and roads to service the lots,

o. Location of all existing fire hydrants within five hundred feet of the proposal;

p. Show location and height of proposed retaining walls. Provide cross sections for retaining wall over four-feet in height.

Included in Submittal Packet.

7. For properties with slopes of ten percent or greater a preliminary grading plan will be required with the development application that shows:

The site is moderately sloped with an overall average slope of 8%.

a. Two-foot contours,

b. The proposed lots and existing topography,

c. The proposed lots with proposed topography, and

d. Total quantities of cut and fill;

8. Preliminary stormwater plan and report;

Included in Submittal Packet.

9. For properties with development proposed on slopes of ten percent or greater a preliminary geotechnical report will be consistent with CMC Chapter 16.59;

The site is moderately sloped with an overall slope are less than 8%, However the site does small area that have slopes less than 12%. ***A preliminary geotechnical report has been included within the Submittal Packet.***

10. Clark County assessor's maps which show the location of each property within three hundred feet of the subdivision;

    Included in Submittal Packet.

11. Applicant shall furnish one set of mailing labels for all property owners as provided in CMC Section 18.55.110;

    Included in Submittal Packet.

12. Complete and submit a transportation impact study to determine the adequacy of the transportation system to serve a proposed development and to mitigate impacts of the proposal on the surrounding transportation system; and

    The project proposes less than 200 ADT, thus not required by code to submit a traffic study, however the project will submit a traffic profile. Included in Submittal Packet.

13. A narrative addressing ownership and maintenance of open spaces, stormwater facilities, public trails and critical areas, and the applicable approval criteria and standards of the Camas Municipal Code. It should also address any proposed building conditions or restrictions.

    Included in Submittal Packet.

C. Review Procedures.

1. Referral to Other Departments. Upon receipt of a complete preliminary plat application, the community development department shall transmit one copy of the preliminary plat to any department or agency deemed necessary to review the proposal.
2. The review process shall follow the guidelines of CMC Chapter 18.55 for a Type III application.
3. Public Notice and Public Hearing. The process for public notice, hearings, decisions and appeals shall be as provided for Type III decisions as identified in CMC Chapter 18.55.

D. Criteria for Preliminary Plat Approval. The hearings examiner decision on an application for preliminary plat approval shall be based on the following criteria:

1. The proposed subdivision is in conformance with the Camas comprehensive plan, parks and open space comprehensive plan, neighborhood traffic management plan, and any other city adopted plans;

   The proposed development is in conformance.

2. Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the subdivision that are consistent with current standards and plans as adopted in the Camas Design Standard Manual;

   See the proposed plans Included in Submittal Packet.

3. Provisions have been made for road, utilities, street lighting, street trees and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans;

   See the proposed plans Included in Submittal Packet.

4. Provisions have been made for dedications, easements and reservations;

   See the proposed plans Included in Submittal Packet.

5. The design, shape and orientation of the proposed lots are appropriate to the proposed use;

   See the proposed plans Included in Submittal Packet.

6. The subdivision complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations;

   See the proposed plans Included in Submittal Packet.

7. Appropriate provisions are made to address all impacts identified by the transportation impact study;

   See the proposed plans Included in Submittal Packet.

8. Appropriate provisions for maintenance of commonly owned private facilities have been made;

   See the proposed plans Included in Submittal Packet.

9. Appropriate provisions, in accordance with RCW 58.17.110, are made for:

   a. The public health, safety, and general welfare and for such open spaces, drainage ways, streets, or roads, alleys or other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds and all other relevant facts, including sidewalks and other planning features that assure safe conditions at schools bus shelter/stops, and for students who walk to and from school, and

b. The public use and interest will be served by the platting of such subdivision and dedication;

See the proposed plans Included in Submittal Packet.

10. The application and plans shall be consistent with the applicable regulations of the adopted comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW 36.70B.030.

See the proposed plans and SEPA Checklist Included in Submittal Packet.

17.19.030 - Tract, block and lot standards.

A. Environmental Considerations.

1. Critical Areas. Land that contains a critical area or its buffer as defined in Title 16 of this code, or is subject to the flood hazard regulations, shall be platted to show the standards and requirements of the critical areas.

Not Applicable.

2. Vegetation. In addition to meeting the requirements of CMC Chapter 18.31, Tree Regulations, every reasonable effort shall be made to preserve existing significant trees and vegetation, and integrate them into the land use design.

24" white oak tree will be preserved and identified at time of final engineering design.

3. Density transfers may be applicable if developer preserves critical areas. See Chapter 18.09 of this code.

Not Applicable.

B. Blocks. Blocks shall be wide enough to allow two tiers of lots, except where abutting a major street or prevented by topographical conditions or size of the property, in which case the approval authority may approve a single tier.

The proposed plat allows for two tiers where possible.

C. Compatibility with Existing Land Use and Plans.

1. Buffer Between Uses. Where single-family residential lots are to be adjacent to multiple-family, commercial or industrial land use districts, and where natural separation does not exist, adequate landscape buffer strips and/or solid fences for purposes of buffering sound, restricting access, pedestrian safety and privacy shall be provided.

The proposed development provides adequate separation and landscaping for safety and privacy while maintaining a sense of community. See Submitted plans for landscape buffers.

2. Conformity with Existing Plans. The location of all streets shall conform to any adopted plans for streets in the city. The proposed land use shall respond to and complement city ordinances, resolutions and comprehensive plans.

The proposed development conforms to the City's adopted street circulation plans. The City's adopted street circulation plan doesn't include these parcels.

3. Other City Regulations. All land use shall comply with all adopted city regulations. In the event of a conflict, the more restrictive regulation shall apply.

4. Accessory Structures. If land development would result in an accessory structure remaining alone on a lot, the structure must be demolished before final plat approval.

No existing structures will remain.

D. Lots. The lot size, width, shape and orientation shall conform to zoning provisions and the following:

1. Each lot must have frontage and access onto a public street, except as may otherwise be provided (e.g., approved private roads, access tracts);

The proposed apartment units will access a private driveway.

2. Side Lot Lines. The side lines of lots shall run at right angles to the street upon which the lots face as far as practical, or on curved streets they shall be radial to the curve;

3. Building Envelopes. No lot shall be created without a building envelope of a size and configuration suitable for the type of development anticipated:

   a. For single-family detached housing, a suitable size and configuration generally includes a building envelope capable of siting a forty-foot by forty-foot square dwelling within the building envelope,

The proposed development provides adequate building envelopes per City Code, see the proposed site plan.

   b. Other factors in considering the suitability of the size and configuration of any residential lot include the presence of, or proximity to critical areas, adjoining uses or zones, egress and ingress, and necessary cuts and fills;

The proposed development provides adequate building envelopes per City Code, see the proposed site plan.

4. Where property is zoned and planned for commercial or industrial use, in conformance to the intent of the comprehensive plan, other lot dimensions and areas may be permitted at the discretion of the approval authority;

Not Applicable.

5. Flag lots, access tracts, and private roads may be permitted only when the community development director or designee finds the applicant meets the criteria listed hereinafter:

No Flag Lots are proposed for the development. Private Streets are proposed with a 30' easement and 20.5' wide paved roadway and sidewalk on on one side.

   a. The pole of a flag lot must be a minimum of twenty feet wide with a minimum of twelve feet of pavement and shall serve no more than one lot;

   b. The structure(s) accessed by a flag lot, access tract, or private road will be required to furnish a minimum of two off-street parking spaces per residential unit. Under no circumstances will required parking be allowed along the flag pole lot;

The proposed houses will have a minimum 1 car garage as well as an 18'Lx20'W driveway apron for parking as well. No parking within the private streets are proposed.

   c. Primary structures accessed by flag lots, access tracts, or private roads are required to have automatic fire sprinklers;

All units may have automatic fire sprinklers.

   d. An approved address sign, in accordance with the Camas Municipal Code, must be posted for each residence where the flag lot leaves the public road or access tract; and

All units within the proposed development will have adequate address signage per City of Camas Code.

   e. To protect the character of the immediate neighborhood, the city may impose special conditions, where feasible, including access configuration and separation, setbacks, fencing and landscaping;

Perimeter fencing and landscaping is proposed with this development.

6. Double Frontage Lots. Residential lots which have street frontage along two opposite lot lines shall be avoided, except for lots which provide separation of a residential development from a traffic arterial or collector, in which case additional lot depth of at least twenty feet will be provided to act as a buffer strip, or ten-foot landscape tract with ten-foot additional lot depth, or a combination of both to achieve twenty-foot additional depth between the lot and the traffic arterial;

The only frontage arterial street is SE 8th Avenue.

7. Corner Lots. Corner lots may be required to be platted with additional width to allow for the additional side yard requirements;

The site is not a corner lot.

8. Restricted Corner Lots. Corner lots restricted from access on side yard flanking street shall be treated as interior lots and conform to front, side and rear yard interior setbacks of CMC Chapter 18.09; and

All interior corner lots conform to the setbacks within Chapter 18.09 Table 1.

9. Redivision. In dividing tracts into large lots which at some future time are likely to be redivided, the location of lot lines and other details of the layout shall be such that redivision may readily take place without violating the requirements of these regulations and without interfering with the orderly development of streets. Restriction of building locations in relationship to future street right-of-way shall be made a matter of record if the approval authority considers it necessary.

No large lots are proposed therefore redivision is not applicable.

A. Tracts and Trails.

The private street will be within a tract.

1. If land division is located in the area of an officially designated trail, in accordance with the parks and recreation comprehensive plan, provisions shall be made for reservation of the right-of-way or for easements to the city for trail purposes. A minimum fifteen-foot width shall be provided for the proposed trail.
2. Trails shall be shown as a separate layer on computer disk submitted with "as-builts" prior to final acceptance.
3. Trails, which are dedicated to the city and part of the regional trail system, shall be surveyed and dedicated by the developer prior to final acceptance.
4. Tracts and trails that are not dedicated to the city and are located within the subdivision, short plat or planned development are the responsibility of the homeowners to maintain. Provisions must be in writing informing the homeowners of the responsibility and outlining the maintenance procedures in accordance with city standards.

F. Landscaping.

1. Each dwelling unit within a new development shall be landscaped with at least one tree in the planting strip of the right-of-way, or similar location in the front yard of each dwelling unit, with the exception of flag lots and lots accessed by tracts. Required trees shall be a minimum two-inch diameter at breast height (dbh) to create a uniform streetscape (dbh is four and one-half feet above the ground as measured from upside of tree).

A final landscape plan will be prepared at time of final engineering review per City of Camas Code.

2. The city council finds that the existing mature landscaping of trees, and shrubs provide oxygen, filter the air, contribute to soil conservation and control erosion, as well as provide the residents with aesthetic and historic benefits. For these

reasons, the city encourages the retention of existing trees that are not already protected as significant trees under the Camas Municipal Code. Generally, the city may allow the tree requirements under subsection (F)(1) of this section to be reduced at the request of the developer, by a ratio of two new trees in favor of one existing tree, provided such trees have been identified on approved construction plans.

Some trees will be preserved and identified at time of final engineering design.

3. Tree planting, when required as a vegetative buffer, shall be of a species as approved by the city.

A final landscape plan will be prepared at time of final engineering review per City of Camas Code.

4. The tree planting shall be the responsibility of the land developer and shall be installed or bonded for prior to final plat approval, or as specified in the land use decision.

A final landscape plan will be prepared at time of final engineering review per City of Camas Code.

5. Landscaping shall conform to plant criteria in the Camas Design Standard Manual. Any planting of trees or shrubs within the right-of-way or vision clearance area must be shown on the construction drawings for approval.

A final landscape plan will be prepared at time of final engineering review per City of Camas Code.

6. Storm drainage facilities, pump stations and other visible facilities shall be setback a minimum of thirty feet from any street or accessory structure and be landscaped in accordance with criteria in the Camas Design Standard Manual.

G. Non-City Utility Easements. Easements for electric lines or other public utilities may be required. Easements for utilities shall be a minimum of six feet in width and centered on front or side lot lines.

Easements will be provided where needed.

H. Watercourse Easements. Where a development is traversed by a watercourse, drainageway, channel or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines of such watercourse and such further width as will be adequate for the purpose. Streets parallel to major watercourses may be required.

Not Applicable.

I. Street Signs. The developer shall be responsible for the initial cost of any street name or number signs, or street markings, including installation thereof, that public works finds necessary for the development.

A signage and striping plan will be done at final engineering review.

J. Lighting. Street lighting shall conform to the Clark public utility standards and approved by the city. The developer shall bear the cost of the design and installation of the lighting system.

The street lighting and primary power design will be done at final engineering design.

A. Private Street: Private street(s) may be authorized when all of the following occur:

1. Allowing private streets in the area being developed will not adversely affect future circulation in neighboring lots of property or conflict with an existing adopted street plan;

The proposed private streets do not adversely affect future circulation in neighboring lots or property nor do they conflict with any existing street plan.

2. Adequate and reasonable provisions are made for the ownership, maintenance, and repair of all utilities and the proposed private streets;

The proposed private streets will be maintained by their respective lot owners. Easements will be provided to the City for access, inspection and repair of any public utilities.

3. The proposed private streets can accommodate potential full (future) development on the lots or area being developed;

The proposed private streets will accommodate the potential full development.

4. Connect to no more than one public street, unless it is an alley;

The proposed private streets will only connect to one public street.

5. Conform to the Camas Design Standard Manual;

The proposed private streets will not conform to the City of Camas Std. Detail PVT1 within the design manual. The project is requesting a road modification to the private street standards. Table 17.19.040-1 requires 48' tract width and 28' width pavement with a sidewalk on both sides. The project is proposing 424 linear feet of a private road. If the project will dedicate a 48' wide tract at 424 linear feet would result in 20,352 square feet or 0.47 acres. This would result in 38% of the project area being dedicated to access. The project proposes to dedicate 9,570 sq. ft or 0.21 acres for the access tract. The difference between code requirements and the proposed project tract area is (20,352 sq ft – 9,570 sq ft) = 10,782 sq ft.

6. Alleys shall be privately owned and maintained;

There is no alley proposed.

7. Homes constructed to access from private roads shall have automatic fire sprinklers installed per NFPA 13D or 13R;

All residences will have automatic fire sprinklers.

8. Access requirements for recycle service, garbage service, and emergency vehicles are provided;

All services will have adequate access.

9. Provisions for adequate parking enforcement are recorded within a private covenant to ensure emergency vehicle access. These provisions shall be noted on the final plat, e.g. Towing service.

To be established at Final Plat.

B. Streets.

1. Half Width Improvement. Half width improvements, when determined appropriate by the City Engineer, shall include utility easements, pedestrian pathway, storm water drainage, street lighting and signage, environmental permits, provisions for mitigation improvements and mitigation areas as necessary, bike lanes, and improvements to the centerline of the right-of-way as necessary to provide the minimum structural street section per the Camas Design Standard Manual.
2. Streets abutting the perimeter of a development shall be provided in accordance with CMC 17.19.040(B)(1) above, and the Design Standard Manual. Additional paving may be required to ensure safe and efficient roads to exist to serve the land development and provide bike lanes.
3. The city engineer may approve a delay of frontage street improvements for development proposals under any of the following conditions:
   a. If the future grade or alignment of the adjacent public street is unknown and it is not feasible to establish the grade in a reasonable period;
   b. The immediate improvement of the street would result in a short, isolated segment of improved street;
   c. The frontage is part of an impending or eminent city street improvement project;
   d. Street improvements in the vicinity are unlikely to occur within six years.
4. In the event the frontage improvement is delayed, the owner must provide an approved form or financial surety in lieu of said improvements.
5. Dedication of additional right-of-way may be required for a development when it is necessary to meet the minimum street width standards or when lack of such dedication would cause or contribute to an unsafe road or intersection.
6. Extension. Proposed street systems shall extend existing streets at the same or greater width unless otherwise approved by the public works department and authorized by city council in approval of the plat.

a. Where appropriate, streets shall be extended to the boundaries of the plat to ensure access to neighboring properties. The city's goal is to have an integrated system of local streets whenever practical. Where platted streets touch, they shall connect and show extension to adjoining streets.

b. Grading of steep topography may be necessary to achieve this objective.

7. Names. All street names, street numbers, and building numbers shall be assigned in accordance with CMC 12.24

8. Right-of-way, tract and pavement widths for streets shall be based on Table 17.19.040-1 and Table 17.19.040-2.

Table 17.19.040-1 Minimum Private Street Standards

Private Road/Street	Tract Width	Pavement Width	Sidewalk
A. Access to four or less dwelling units[2]	20′	12′	Sidewalk optional, no parking on both sides.
B. Access to five or more dwelling units less than or equal to 100′ in length[3]	30′	20′	Five-foot detached sidewalk on one side, with planter strip, no parking on both sides.
C. Access to five or more dwelling units greater than 100′ and not over 300′ in length[3]	42′ 26′	28′ 21′	Five-foot detached sidewalk on one side, with planter strip, no parking on one side. Sidewalk on one side
D. Access to five or more dwelling units, greater than 300 feet in length[3]	48′	28′	Five-foot detached sidewalks required on both sides of the street, with planter strip. No parking on one side.
E. Alley	18′	16′	No parking on both sides.
F. Commercial/Industrial[2]	40′	24′	Five-foot detached sidewalk on one side, with planter strip, no parking both sides.

Table 17.19.040-2 Minimum Public Street Standards

Public Street	Right-of-Way	Pavement Width	Sidewalk

A. Street (by approval of City Engineer)[1]	52′	28′	Five foot detached sidewalk on both sides, with planter strip, no parking on one side.
B. Street (two lane)	60′	36′	Five foot detached sidewalks required on both sides of the street, with planter strip. Bike lanes required on collectors and arterials, no on-street parking.
C. Street (three lane)	74′	46′ to include 12′ median	Six foot detached sidewalks required on both sides of the street, with planter strip, bike lanes, no on-street parking.
D. Street (five lane)/Arterial	100′	74′ to include 14′ median	Six foot detached sidewalks required on both sides of the street, with planter strip, bike lanes, no on-street parking.

10. Street Layout. Street layout shall provide for the most advantageous development of the land development, adjoining area, and the entire neighborhood. Evaluation of street layout shall take into consideration potential circulation solutions for vehicle, bicycle and pedestrian traffic, and, where feasible, street segments shall be interconnected.

The proposed street layout is the most efficient and practical for the development and neighboring properties. See also the associated exception request submitted with this application package. The project is providing a sidewalk connection to SE 8th Avenue.

C. Utilities.

1. Generally. All utilities designed to serve the development shall be placed underground and, if located within a critical area, shall be designed to meet the standards of the critical areas ordinance.

All utilities shall be installed underground. Any utilities outside of the public right of way shall have easements dedicated to the City for access and maintenance.

   a. Those utilities to be located beneath paved surfaces shall be installed, including all service connections, as approved by the public works department; such installation shall be completed and approved prior to application of any surface materials.

   b. Easements may be required for the maintenance and operation of utilities as specified by the public works department.

2. Sanitary sewers shall be provided to each lot at no cost to the city and designed in accordance with city standards.

Sanitary Sewer will be connected to the apartment building

3. Storm Drainage. The storm drainage collection system shall meet the requirements of the city's officially adopted storm water standards.

A stormwater catch basin filtration is proposed to treat the dirty stormwater from the site. The storm filter will be located along privte street and within an easement. After treatment the stormwater will be discharged into an infiltration trench and the overflow will discharge to the storm line in SE 8th Avenue to the south. A separate collection and conveyance system is proposed to collect the clean stormwater from the landscaping, roofs and crawlspaces. The clean water will be discharged directly to the storage tank under the private street. Any utilities outside of the public right of way shall have easements dedicated to the City for access and maintenance.

Commented [AG1]: Ask about stormwater

4. Water System.

The Water System will connect to the existing lines within SE 8th avenue, and be extended throughout the development. Each dwelling unit will have one water service per Camas Design Standards. Any utilities outside of the public right of way shall have easements dedicated to the City for access and maintenance.

18.05.020 - DISTRICTS DESIGNATED.

For the purposes of the Code, the city is divided into zoning districts designated as follows:

District	Symbol	Comprehensive Plan Designation
Residential 20,000	R-20	Single-family Low
Residential 15,000	R-15	Single-family Low
Residential 12,000	R-12	Single-family Medium
Residential 10,000	R-10	Single-family Medium
Residential 7,500	R-7.5	Single-family Medium
Residential 6,000	R-6	Single-family High
Residential 5,000	R-5	Single-family High
Multifamily-10	MF-10	Multifamily Low

Multifamily-18	MF-18	Multifamily High
Multifamily-24	MF-24	Multifamily High
Multifamily Cottage	MF-C	Overlay
Neighborhood Commercial	NC	Commercial
Community Commercial	CC	Commercial
Regional Commercial	RC	Commercial
Mixed Use	MX	Commercial
Downtown Commercial	DC	Commercial
Light Industrial	LI	Industrial
Heavy Industrial	HI	Industrial
Business Park	BP	Industrial
Light Industrial/Business Park	LI/BP	Light Industrial/Business Park
Neighborhood Park	NP	Park
Special Use Park	SU	Park
Open space/Green space	OS	Open space I Green space

18.05.040 - RESIDENTIAL AND MULTIFAMILY ZONES.

I. MF-18 and MF-24 Multifamily Residential. These zones are intended to provide for dwellings such as rowhouses and apartment complexes. It is desirable for these zones to be adjacent to parks and multi-modal transportation systems. These zones also serve as a transition between commercial and residential zones.

) This project proposes 8 apartment units.

CHAPTER 18.09 - DENSITY AND DIMENSIONS

The project area is 0.44. The density calculation is 0.44 * 18 = 7.92 units thus 8 units

18.09.020 - INTERPRETATION OF TABLES.

A. The Camas Municipal Code Sections 18.09.030 through 18.09.050 (Tables) contain general density and dimension standards of the particular zone districts. Additional rules and exceptions are stated in Sections 18.09.060 through 18.09.180.

B. The density and dimension tables are arranged in a matrix format on three separate tables, and are delineated into three general land use categories:

1. Commercial and industrial;
2. Single-family residential; and
3. Multifamily residential.

C. Development standards are listed down the left side of the tables, and the zones are listed across the top. Each cell contains the minimum or maximum requirement of the zone. Footnote numbers identify specific requirements found in the notes immediately following the table. Additional dimensional and density exceptions are included in Sections 18.09.060 through 18.09.180 of this chapter following the tables.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

18.09.050 - Table 3—Density and dimensions for multifamily residential zones.

	MF-10	MF-18	MF-24	MF-C Overlay
Density				
Maximum density (dwelling units per gross acre)	10	18	24	18
Minimum density (dwelling units per gross acre)	6.0	6.0	6.0	6.0

Standard lots				
Minimum lot area (square feet)	3,000	2,100	1,800	None
Minimum lot width (feet)	30	20	20	0
Minimum lot depth (feet)	70	60	60	0
Maximum gross floor area (GFA) per dwelling unit (square feet)	No max	No max	No max	1,000 Note 4
Setbacks				
Minimum front yard/at garage front (feet)	15/18	10/18	10/18	0/18
Minimum side yard (feet)	3 Note 1	3 Note 1	3 Note 1	0
Minimum side yard, flanking a street (feet)	15	15	15	15
Minimum rear yard	10	10	10	0
Lot coverage				
Maximum building lot coverage	55%	65%	75%	Building coverage is limited by a minimum of 200 sq. ft. of useable yard adjacent to each dwelling unit.
Building height				
Maximum building height (feet)	35 Note 2	45 Note 2	45 Note 2	18 Note 3

18.11.090 - LANDSCAPING.

Landscaping requirements for parking areas shall be provided under Chapter 18.13 "Landscaping."

18.11.100 - RESIDENTIAL PARKING.

The project proposes 14 parking stalls .

18.11.110 - PARKING FOR THE HANDICAPPED.

The project proposes to provide one ADA parking stall.

18.11.130 - STANDARDS.

The minimum number of off-street parking spaces for the listed uses shall be shown in Table 18.11-1, Off-Street Parking Standards. The city shall have the authority to request a parking study when deemed necessary.

Use	Required Number of Off-Street Parking Spaces
Residential	
Single-family dwelling, duplex, row-house	2 per unit
Studio apartment	1
Apartment 1 bedroom/ 2+ bedrooms	1.5/2
Housing for elderly (apartment/unassisted)	.33 per unit
Retirement dwellings	2 per unit
Residential care facility/assisted living	1 per 2 beds + 1 per day shift employee
Lodging	
Hotel or motel	1 space per unit plus additional for bars, restaurants, assembly rooms

Bed and breakfast	1 space per room
Recreation	
Marina	1 space per 2 slips
Miniature golf	1 per hole
Golf course	6 spaces per hole and 1 per employee
Golf driving range	1 space per 15 feet of driving line
Theater, auditorium	1 space per 4 seats maximum occupancy
Stadium, sports arena	1 space per 4 seats, or 1 for each 8 feet of benches, plus 1 space per 2 employees
Tennis, racquetball, handball, courts/club	3 spaces per court or lane, 1 space per 260 square feet of gross floor area (GFA) of related uses, and 1 space per employee
Basketball, volleyball court	9 spaces per court
Bowling, bocce ball center, billiard hall	5 spaces per alley/lane, and/or table
Dance hall, bingo hall, electronic game rooms, and assembly halls without fixed seats	1 space per 75 square feet of gross floor area (GFA)
Sports club, health, spa, karate club	1 space per 260 square feet of gross floor area, plus 1 space per employee
Roller rink, ice-skating rink	1 space per 100 square feet of gross floor area
Swimming club	1 space per 40 square feet of gross floor area
Private club, lodge hall	1 space per 75 square feet of gross floor area

Institutional	
Church/chapel/ synagogue/temple	1 space per 3 seats or 6 feet of pews
Elementary/middle/ junior high school	1 space per employee, teacher, staff, and 1 space per 15 students
Senior high school	1 space per employee, teacher, staff, and 1 space per 10 students
Technical college, trade school, business school	1 space per every 2 employees, staff, and 1 space per every full-time student, or 3 part-time students
University, college, seminary	1 per every 2 employees and staff members, and either 1 per every 3 full-time students not on campus, or 1 for every 3 part-time students, whichever is greater
Multi-use community centers	1 per 4 seats maximum occupancy
Museum, art gallery	1 space per 500 square feet of gross floor area
Library	1 per employee and 1 per 500 square feet of gross floor area
Post office	1 per 500 square feet of gross floor area, plus 1 space per each 2 employees
Medical care facilities	
Hospitals	1 per 2 beds
Veterinary clinic/hospital	1 space per 250 square feet of gross floor area
Medical/dental clinic/office	1 per employee plus 1 per 300 square feet of gross floor area
Office	

General offices	1 per employee, plus 1 per 400 square feet of gross floor area
General office (no customer service)	1 per 250 square feet of gross floor area
Office park	1 space per 400 square feet of gross floor area
Meeting rooms	1 per 4 person occupancy load, and 1 per 2 employees
Commercial/service	
Automobile sales new/used	1 per 400 square feet of gross floor area
Auto repair accessory to auto sales	2 spaces per auto service stall
Automobile repair shop, automobile service station, automobile specialty store, automobile body shop	4 per bay
Gas station	1 per 2 fuel pumps
Gas station with mini-market	1 per nozzle plus 1 per 250 square feet of gross floor area
Car wash or quick service lubrication facilities	2 spaces per stall, and 1 space per 2 employees
Beauty parlor, barber shop	1 per 300 square feet of gross floor area
Massage parlor	1 per 300 square feet of gross floor area
Exhibition halls, showrooms, contractor's shop	1 space per 900 square feet of gross floor area
Photographic studio	1 space per 800 square feet of gross floor area
Convenience market, supermarket	1 space per 250 square feet of gross floor area

Multi-use retail center	1 per 250 square feet of gross floor area
Finance, insurance, real estate office	1 per employee plus 1 per 400 square feet of gross floor area
Bank	1 per employee, plus 1 per 400 square feet of gross floor area
Drug store	First 5,000 square feet = 17 spaces plus 1 per additional 1,500 square feet
Furniture/appliance store	1 per 500 square feet of gross floor area
Clothing store	1 per 400 square feet of gross floor area
Lumber yard, building material center	1 space per 275 square feet of indoor sales area, plus 1 space per 5,000 square feet of warehouse/storage
Hardware/paint store	1 per 400 square feet of gross floor area
Restaurant	1 per 100 square feet of gross floor area
Restaurant, carry-out	1 space per 225 square feet of gross floor area
Fast food restaurant/coffee kiosk	1 space per 110 square feet of gross floor area, plus 6 stacking spaces for drive-through lane
Repair shop	1 per 400 square feet of gross floor area
Laundromats, coin-operated dry cleaners	1 space per every 3 washing or cleaning machines
Mortuary	1 space per 150 square feet of gross floor area
Express delivery service	1 space per 500 square feet of gross floor area, plus 1 space per employee

Retail stores in general	Less than 5,000 square feet: 1 per 300 square feet. Greater than 5,000 square feet: 17 plus 1 per 1,500 square feet
Industrial	
Industrial, manufacturing	1 per 500 square feet of gross floor area
Warehousing, storage	1 per 1,000 square feet of gross floor area
Public or private utility building	1 per 1,000 square feet of gross floor area
Wholesaling	2 plus 1 per 1,000 square feet of gross floor area
Research and development	1 per 500 square feet of gross floor area
LI/BP general office	1 per employee peak plus 15%
LI/BP research	1 per employee peak + 10%

CHAPTER 18.13 - LANDSCAPING

18.13.050 - LANDSCAPING STANDARDS.

A. The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.

B. Landscaping shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.

C. Plants that minimize upkeep and maintenance shall be selected.

D. Plants shall complement or supplement surrounding natural vegetation.

E. Plants chosen shall be in scale with building development.

F. Minimum landscaping as a percent of gross site area shall be as follows:

Zone	Percent of Landscaping Required
HI	20%
RC, LI	15%
CC	10%
MX	10%
NC, MF	5% on lots less than 10,000 square feet; 10% on lots greater than 10,000 square feet
BP	(see Section 18.37.040 "Landscaping standards")
LI/BP	(see Section 18.21.070 "Landscaping standards")
Parking lots	(see Section 18.13.060 of this chapter)

18.17.030 - VISION CLEARANCE AREA.

No vision clearance is required.

18.17.060 - RETAINING WALLS.

No proposed retaining walls.

CHAPTER 18.18 - SITE PLAN REVIEW

The project has submitted site plans meeting City of Camas standards

18.18.040 - SUBMITTAL AND CONTENTS OF A COMPLETE APPLICATION.

The below information has been submitted with the site plan review application

A. A written description addressing the scope of the project, the nature and size in gross floor area of each use, and the total amount of square feet to be covered by impervious surfaces;

B. A vicinity map showing site boundaries, and existing roads and accesses within and bounding the site;

C. A topographic map based upon a site survey delineating contours, existing and proposed, at no less than five-foot intervals, and which locates existing streams, marshes, and other natural features;

D. Site plans drawn to a scale no smaller than one inch equals fifty feet showing location and size of uses, buffer areas, proposed areas of disturbance or construction outside of the building footprint, yards, open spaces and landscaped areas, and any existing structures, easements and utilities;

E. A circulation plan drawn to a scale acceptable to the community development director illustrating all access points for the site, the size and location of all driveways, streets, and roads, with proposed width and outside turning radius, the location, size, and design of parking and loading areas, and existing and proposed pedestrian circulation system. If a project would generate more than one hundred average daily trips either based on the latest edition of the International Transportation Engineer's (ITE) Trip Generation Manual or evidence substantiated by a professional engineer licensed in the state of Washington with expertise in traffic engineering, a traffic impact study shall be submitted;

F. A preliminary drainage and stormwater runoff plan;

G. A utility plan;

H. A plot plan of all proposed landscaping including the treatment and materials used for open spaces, and the types of plants and screening to be used;

I. Typical building elevation and architectural style; and

J. An engineer estimate of costs for site improvements, both public and private.

18.19.030 - DESIGN REVIEW MANUAL ADOPTED.

The city's design standards are primarily contained in the design review manual, which was adopted by the city. The project proposes to submit building plans and the time of civil plan review.

8th Avenue Apartments

Preliminary Civil Construction Plans

Parcel # 88135000

Situate in a portion of the SW $\frac{1}{4}$ of Section 12,
Township 1 North, Range 3 East,
of the WIllamette Meridian
City of Camas
County of Clark
State of Washington

C000

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 1 of 17

Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:

Sheet List

1	C000	Cover Sheet
2	C010	General Construction Notes & Details
3	C020	Existing Conditions Plan
4	C030	Preliminary Site Plan
5	C100	Grading & Erosion Control Plan
6	C110	Grading & Erosion Control Details
7	C120	Grading & Erosion Control Details
8	C200	Street & Storm Plan
9	C210	Street & Storm Details
10	C220	Street & Storm Details
11	C230	Street & Storm Details
12	C300	Utility Plan
13	C310	Utility Details
14	L100	Landscape Plan
15	L110	Landscape Details
16	L110	Landscape Details
17	L110	Landscape Details

Contact

Owner — Pavlo Zhurbytskyy & Inna Bogoley
7605 NE 59th Cir
Vancouver, WA 98662
Phone:
Email:

Engineer/ Applicant/ Contact — Engineering Northwest, PLLC
Paul Williams, P.E.
6168 NE Hwy 99 #103
Vancouver, WA 98665
Phone: 360-931-3122
Email: PaulWilliamsPE@Gmail.com

Utility Contacts

Sewer: City of Camas
616 NE 4th Ave
Camas, WA 98607
360-817-1563
publicworks@cityofcamas.us

Water: City of Camas
616 NE 4th Ave
Camas, WA 98607
360-817-1563
publicworks@cityofcamas.us

Power: Clark Public Utilities (CPU)
8600 NE 117th Avenue
Vancouver, WA 98668
(360) 992-8808

Gas: NW Natural
220 NW 2nd Avenue
Portland, OR 97209
(503) 220-2427

Cable: Comcast
3075 NE Sandy Boulevard
Portland, OR 97232
(888) 632-2253

Telephone: Century Link / Lumen
Larry McDonald
Larry.McDonald@Lumen.com
(360) 946-2869

General Notes

1. The contractor shall visit the site and verify all existing conditions and elevations to his or her satisfaction.
2. The contractor shall review the site soil and make his or her determination of existing conditions. The contractor shall be responsible for all conditions encountered.
3. Contractor shall locate and mark all existing property monuments prior to construction. Any monuments disturbed during construction of this project shall be replaced by a registered land surveyor at the contractor's expense. A survey shall be recorded for any re-set monuments.
4. The contractor shall protect and maintain all existing utilities on this site and within the development area. Any damage to existing utilities, whether shown or not shown on these plans, shall be repaired or replaced at the contractor's expense. Existing surface features and fencing shall be replaced in kind.
5. Final cleanup; prior to final acceptance and payment, the contractor shall clean the work site and adjacent areas of any debris, discarded asphalt concrete material or other items deposited by the contractor's personnel, to include subcontractors, during the performance of this contract.
6. The contractor shall take no advantage of any errors, omissions, or discrepancies in the plans. Where encountered, the engineer shall be notified prior to construction of relevant or associated features. Work performed by the contractor as a result of an error, omission, or discrepancy in the plan shall be at the contractor's risk and expense when such errors, omissions, or discrepancies have not been brought to the attention of the engineer.
7. All excavators must comply with all provisions of RCW 19.722, including contacting Northwest Utility Notification Center at 1-800-553-4344 at two (2) business days, but not more than ten (10) business days, prior to excavation activity.

Typical Legend

- Grading Contour - Major (5')
- Grading Contour - Minor (1')
- Contour - Major (5')
- Contour - Minor (1')
- Project Boundary
- Right-of-Way Boundary
- Right-of-Way Centerline
- Easement Line
- Building Setback Line
- (SA) Sanitary Pipe (Existing)
- SA Sanitary Pipe
- Storm Pipe
- Water (Existing)
- W Water
- OHP OHP Overhead Utility Line (Existing)
- Sanitary Manhole
- Sanitary Cleanout
- Storm Manhole
- Storm Catchbasin
- Storm Cleanout
- Water Meter Box
- Water Valve
- Fire Hydrant
- Utility Pole
- Sign
- Mail Box
- Deciduous Tree
- Coniferous Tree
- Existing Asphalt
- Existing Concrete
- Proposed Asphalt
- Proposed Concrete
- RL Pavement Restoration Limits

Site Information

Address	1805 SE 8th Ave Camas, WA 98607
Abbrev. Desc.	Oak Park Addition to Washougal, Lot 8, Block 4
S-T-R	SW $\frac{1}{4}$ S12 T1N R3E W.M.
Parcel	88135000
Area	1.00 AC (43,557± SF)
Zone	R-18 (MFH)

Fire Note

a. Minimum 2" water supply line required from meter into house or sized per fire sprinkler contractor.
b. Address monument provisions required where access drive leaves the public street.

Contact CWFMO (360-834-6191) for more information.

Vicinity Map
Not to scale

Boundary & Topography

Property boundaries shown hereon are taken from 1999 Oak Park Addition to Washougal filed in Book C, Page 24, of Plats with the Clark County auditor's office. Adjacent property boundaries are shown approximate only. Topographic survey by Engineering Northwest PLLC in 2023.

Project Record Drawings

Contractor shall provide the project engineer with a redlined copy of these construction plans showing as-built elevations, locations, and plan deviations. Redlined as-built drawings shall be submitted to the project engineer one week prior to requesting walk-through and/or acceptance of substantial completion. As built information for sewer systems shall be surveyed for accuracy.

Archeological Note

Should archeological materials (e.g. bones, shell, stone tools, beads, ceramics, old bottles, hearths, etc.) be observed during project activities, all work in the immediate area should stop and contact the State Department of Archaeology and Historic Preservation (360-586-3065.) If human remains are observed, all work should cease and the immediate area be secured. Contact local law enforcement, the County Medical Examiner (360-397-8405,) State Anthropologist, and the Department of Archaeology and Historic Preservation. Compliance with all applicable laws pertaining to archaeological resources (RCW 27.53, 27.44 and WAC 25-48) and human remains (RCW 68.50) is required. Failure to comply with this requirement could constitute a Class C Felony.

Engineer's Disclaimer

The existence and location of any underground utilities or structures shown on these plans are obtained by a search of available records or as provided by survey and locate services. The contractor is required to take precautionary measures to protect the utility lines shown on these drawings and verify existing conditions. The contractor further assumes all liability and responsibility for the utility pipes, conduits, or structures shown or not shown on these drawings.

The contractor agrees that he or she shall assume sole and complete responsibility for the job site conditions during the course of construction of this project, including safety of all persons and property; that this shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the owner or the engineer.

Contractor shall verify all conditions and dimensions and shall report all discrepancies to the engineer prior to the commencement of work.

Typical Abbreviations

AC	Asphalt Concrete
ACP	Asphalt Concrete Pavement
AD	Area Drain
ADA	Americans with Disability Act
AP	Angle Point
APPROX	Approximately
AVE	Average
B	Backflow
BO	Blowoff
BL	Baseline
BLDG	Building
BLVD	Boulevard
BM	Benchmark
BMP	Best Management Practice
BRG	Bearing
BVCE	Beginning of Vertical Curve Elevation
BVCS	Beginning of Vertical Curve Station
CB	Catch Basin
CL	Class
CL	Centerline
CLR	Clear
CJ	Construction Joint
CO	Cleanout
CMP	Corrugated Metal Pipe
COMPT	Compacted
CONC	Concrete
CONST	Construction
CPE	Corrugated Polyethylene Pipe
CSBC	Crushed Surfacing Base Course
CSTC	Crushed Surfacing Top Course
CU	Cubic
D	Drainpipe (Storm)
DIAM	Diameter
DIST	Distance
DWG	Drawing
DWY	Driveway
EA	Each
EJ	Expansion Joint
EL	Elevation
ELEC	Electrical
EMB	Embankment
EP	Edge of Pavement
EST	Estimate
EVCE	End of Vertical Curve Elevation
EVCS	End of Vertical Curve Station
EXIST	Existing
FH	Fire Hydrant
FL	Flow-line of Curb (Gutter Line)
G	Gas Line, Green
GB	Grade Break
GL	Gutter Line (Flow-line of Curb)
GRD	Ground, Grade
HDPE	High Density Polyethylene
HMAC	Hot Mix Asphalt Concrete
IE	Invert Elevation
INV	Invert
IRR	Irrigation
JB	Junction Box
JTS, JT	Joints, Joint
L	Length, Length of Arc
MH	Manhole
MMIN	Minimum
MISC	Miscellaneous
MON	Monument
MUTCD	Manual on Uniform Traffic Control Devices
N	North
NO	Number
NST	Not Steeper Than
NTS	Not to Scale
O-XING	Overhead Crossing
OC	On Center
OD	Outside Diameter
OP	Overhead Power
OT	Overhead Telephone
P	Power Pole
PAVT	Pavement
PC	Point of Curvature (Tangent Curve Start)
PCC	Point of Compound Curvature
PED	Pedestrian
PI	Point of Intersection
PL	Property Line
POC	Point on Curve
POL	Point on Line
PP	Power Pole
PRC	Point of Reverse Curvature
PSI	Pounds per Square Inch
PT	Point of Tangent (Tangent Curve End)
PVC	Polyvinyl Chloride
PVCC	Point of Vertical Compound Curvature
PVI	Point of Vertical Intersection
PVRC	Point of Vertical Reverse Curvature
QTY	Quantity
R	Radius
ROW, RW	Right of Way
S	South, Slope
SAN	Sanitary
SCHED	Schedule
SD	Storm Drain
SF	Square Foot
SHLD	Shoulder
SHT	Sheet
SS	Sanitary Sewer
ST	Street
STA	Station
STD	Standard
SWK	Sidewalk
TC	Top of Curb (Face)
TBC	Top Back of Curb
TEL	Telephone
TEMP	Temporary
TP	Top of Pavement
TYP	Typical
W	Water
WM	Water Meter, Water Main
WV	Water Valve
WSE	Water Surface Elevation
WDOT	Washington State Department of Transportation

City of Camas Detail Note

All materials and methods of construction and installation for storm water facilities, erosion control measures, water, and sewer, shall conform to City of Camas Engineering Standards. Construction shall be to the most current standard details.

CITY OF CAMAS

CITY ENGINEER — DATE

REVISION NO.	SHEETS AFFECTED	INITIAL APPROVAL	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED PROFESSIONAL ENGINEER

Cover Sheet

8th Ave Apartments

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

C010

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 2 of 17

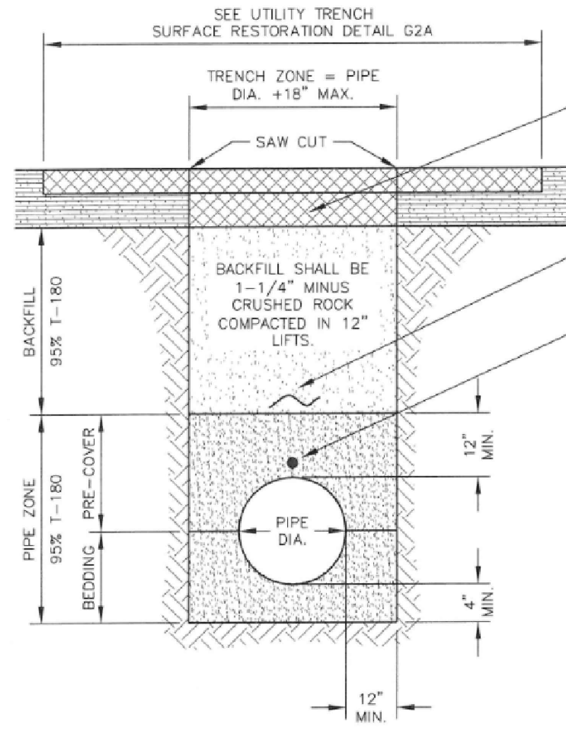
Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:

GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE WSDOT/APWA "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" AND STANDARD DETAIL SHEETS ATTACHED HEREWITH.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES, INCLUDING THE INVERT AND TOP ELEVATIONS AT CROSSING LOCATIONS, PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE CITY ENGINEER OF ANY POTENTIAL CONFLICTS.
3. CONTRACTOR SHALL CONTACT CLARK COUNTY'S 24-HOUR UTILITY NOTIFICATION CENTER AT CALLBEFOREYOUDIG.ORG OR CALL (800) 424-5555 (OR 811) TO SUBMIT A REQUEST FOR UTILITY LOCATES, A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. ALL EXISTING MONUMENTS, PROPERTY CORNERS AND SURVEY MARKERS SHALL BE PROTECTED. REPLACEMENT OF LOST, DESTROYED OR DAMAGED MARKERS SHALL BE DONE BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH RCW 58.09 AT THE CONTRACTORS EXPENSE.
5. THE CONTRACTOR SHALL NOT EXCAVATE OVER FOUR FEET IN DEPTH WITHOUT USING ADEQUATE SAFETY MEASURES. THE CONTRACTOR IS REFERRED TO TITLE 296 WAC, PART N FOR EXCAVATION, TRENCHING AND SHORING REQUIREMENTS.
6. ALL UTILITY TRENCHES SHALL HAVE BEDDING, PRE-COVER AND BACKFILL MATERIAL AS REQUIRED IN GENERAL DETAILS G2 WITHIN PAVED AREAS & G3 WITHIN UNPAVED AREAS.
   - WATER SETTLEMENT OF UTILITY TRENCHES IS NOT ALLOWED.
   - TRENCH LINES LOCATED WITHIN AN EXISTING ROADWAY SHALL BE PLATED OR TOPPED WITH COLD MIX.
   - CRUSHED ROCK BACKFILL OVERNIGHT IS NOT ALLOWED.
   - PLATES SHALL HAVE COLD MIX AROUND ALL EDGES.
7. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE EROSION/SEDIMENT CONTROL PLAN AND CITY OF CAMAS EROSION/SEDIMENT CONTROL DETAILS PRIOR TO ANY CLEARING OR THE START OF ANY CONSTRUCTION.
8. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
9. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CAMAS ENGINEERING DEPARTMENT. APPROVAL SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
10. THE DEVELOPER/CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE CITY OF CAMAS ENGINEERING DEPARTMENT PRIOR TO COMMENCING ANY WORK.
11. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS WILL REQUIRE A SUBMITTAL FROM THE APPLICANT'S ENGINEER AND APPROVAL FROM THE CITY OF CAMAS ENGINEERING DEPARTMENT.
12. AN EROSION/SEDIMENT CONTROL BOND MAY BE REQUIRED BY THE CITY OF CAMAS PRIOR TO WORK COMMENCING.

City of Camas WASHINGTON — GENERAL DETAIL — CONSTRUCTION NOTES — DETAIL APPROVED BY / DATE 8-12-22 — NOT TO SCALE — DETAIL NO. G1 — REVISION: 6 — DATE: 8/12/2022 — GEN-NOTES.DWG



NOTES:
1. SAWCUT ALL EDGES FOR TRENCH EXCAVATION.
2. ALL TRENCH COMPACTION SHALL MEET OR EXCEED 95% OF AASHTO T-180.
3. BEDDING AND PRE-COVER (PIPE ZONE) TO BE 5/8" MINUS CRUSHED AGGREGATE.
4. CDF BACKFILL REQUIRED ABOVE PIPE ZONE, FOR ALL TRANSVERSE TRENCHLINE AND UTILITY CROSSINGS, TO A MAXIMUM DEPTH OF 3 FEET, ON ALL DESIGNATED COLLECTOR AND ARTERIAL STREETS. CDF SHALL BE DESIGNED TO HAVE A MINIMUM 28-DAY STRENGTH OF 50 PSI AND A MAXIMUM 28-DAY STRENGTH NOT TO EXCEED 300 PSI.
5. TRENCH ZONE PATCH SHALL CONSIST OF MIN. 3" COMPACTED DEPTH OF CLASS 1/2" PG 64-22 HMA PAVEMENT OVER 12" OF 1 1/4" MINUS CRUSHED AGGREGATE. CONTRACTOR TO MATCH EXISTING ASPHALT DEPTH IF >3".

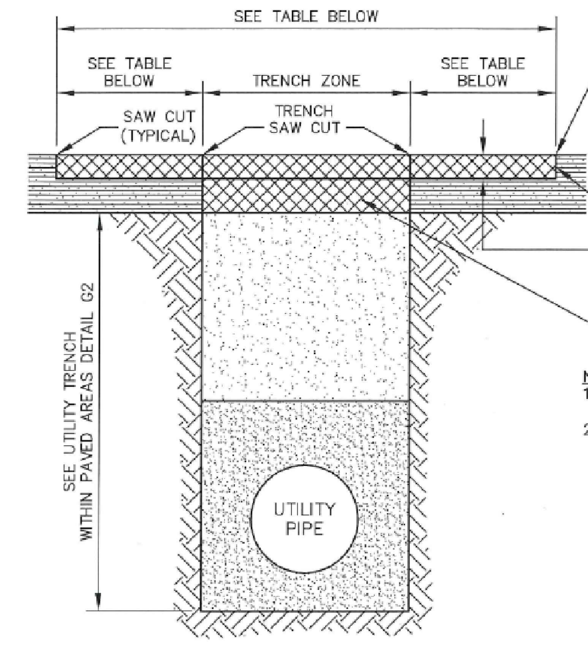
UTILITY TRENCH WITHIN PAVED AREAS

MINIMUM PIPE COVER TABLE

UTILITY TYPE	MAIN TYPE	MIN. PIPE (MAIN) COVER	MIN. LATERAL OR SERVICE COVER
WATER	DISTRIBUTION (C)	2.5'	2' (C)
	TRANSMISSION (A)	3'	2' (B)
STORM	MAIN	5'	PER PLAN (MIN. 2')
SEWER:	STEP (C)	5'	1.5' (C)
	STEF (C)	6'	4.5' (C)
	GRAVITY	6'	4.5' (C)

(NOTES)
A. TONING WIRE REQUIRED FOR MAINS 12" DIA. AND LARGER
B. SERVICES ONLY ALLOWED WHERE APPROVED
C. TONING WIRE REQUIRED

City of Camas WASHINGTON — GENERAL DETAIL — UTILITY TRENCH WITHIN PAVED AREAS — DETAIL APPROVED BY / DATE 9-26-23 — NOT TO SCALE — DETAIL NO. G2 — REVISION: 8 — DATE: 09/26/2023 — GEN-TRENCH.DWG



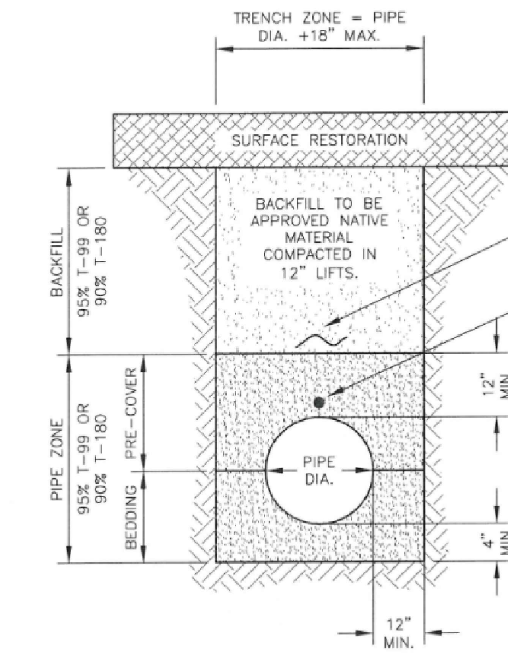
NOTES:
1. SAWCUT ALL EDGES FOR SURFACE RESTORATION, INCLUDING GRIND AND INLAY EDGES.
2. TRENCH ZONE PATCH SHALL CONSIST OF MIN. 3" COMPACTED DEPTH OF CLASS 1/2" PG 64-22 HMA PAVEMENT OVER 12" OF 1 1/4" MINUS CRUSHED AGGREGATE. CONTRACTOR TO MATCH EXISTING ASPHALT DEPTH IF >3".

UTILITY TRENCH SURFACE RESTORATION TABLE

STREET CLASSIFICATION	TRANSVERSE TRENCH REQUIREMENTS	LONGITUDINAL TRENCH REQUIREMENTS
LOCAL INCLUDING CUL-DE-SACS & DEAD ENDS (A)	3' MINIMUM EACH SIDE OF TRENCH; 10 FT MINIMUM TOTAL (B)(C)	FULL LANE WIDTH GRIND & INLAY (B)
LOCAL THROUGH STREETS (A)	12 FT GRIND & INLAY EACH SIDE OF TRENCH (C)	FULL LANE WIDTH GRIND & INLAY
COLLECTOR	12 FT GRIND & INLAY EACH SIDE OF TRENCH	FULL LANE WIDTH GRIND & INLAY
ARTERIAL	12 FT GRIND & INLAY EACH SIDE OF TRENCH	FULL LANE WIDTH GRIND & INLAY

(NOTES)
A. MINIMUM REQUIREMENTS FOR PUBLIC AND PRIVATE STREETS
B. OPTIONAL FULL DEPTH PATCH, OR GRIND AND INLAY
C. SURFACE RESTORATION LESS THAN MIN. SHOWN REQUIRES PRIOR APPROVAL

City of Camas WASHINGTON — GENERAL DETAIL — UTILITY TRENCH SURFACE RESTORATION — DETAIL APPROVED BY / DATE 4/19/19 — NOT TO SCALE — DETAIL NO. G2A — REVISION: 1 — DATE: 4/18/2019



NOTES:
1. ALL TRENCH COMPACTION SHALL MEET OR EXCEED 95% OF AASHTO T-99
2. BEDDING AND PRE-COVER (PIPE ZONE) TO BE 5/8" MINUS CRUSHED AGGREGATE.
3. SURFACE RESTORATION SHALL CONSIST OF NATIVE BACKFILL MATERIAL AND VEGETATION RESTORATION AS REQUIRED.

UTILITY TRENCH SECTION FOR UNPAVED AREAS

MINIMUM PIPE COVER TABLE

UTILITY TYPE	MAIN TYPE	MIN. PIPE (MAIN) COVER	MIN. LATERAL OR SERVICE COVER
WATER	DISTRIBUTION (C)	2.5'	2' (C)
	TRANSMISSION (A)	3'	2' (B)
STORM	MAIN	5'	PER PLAN (MIN. 2')
SEWER:	STEP (C)	5'	1.5' (C)
	STEF (C)	6'	4.5' (C)
	GRAVITY	6'	4.5' (C)

(NOTES)
A. TONING WIRE REQUIRED FOR MAINS 12" DIA. AND LARGER
B. SERVICES ONLY ALLOWED WHERE APPROVED
C. TONING WIRE REQUIRED

City of Camas WASHINGTON — GENERAL DETAIL — UTILITY TRENCH FOR UNPAVED AREAS — DETAIL APPROVED BY / DATE 9-26-23 — NOT TO SCALE — DETAIL NO. G3 — REVISION: 7 — DATE: 09/26/2023 — GEN-TRENCH.DWG

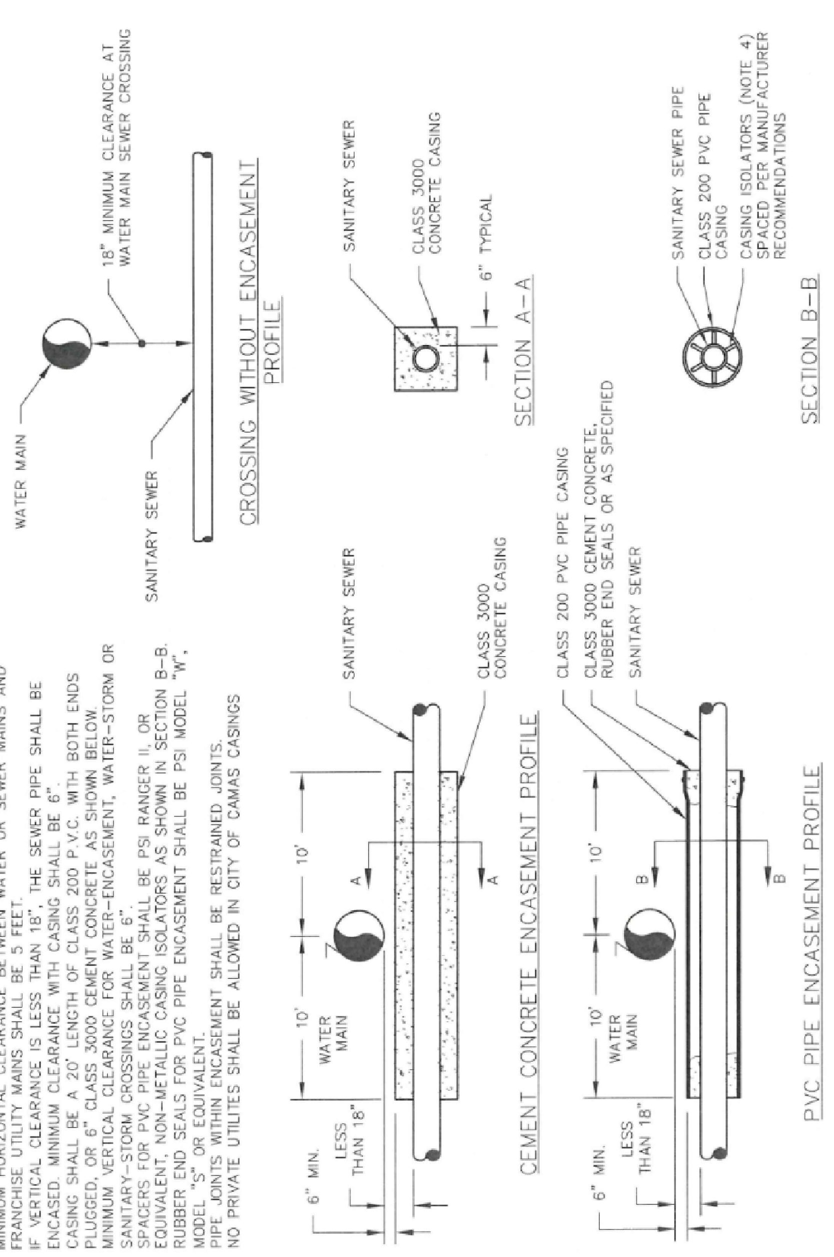
CATEGORY	TEST	STANDARD	FREQUENCY	TESTING AGENCY	TIMING	TEST REQUIREMENTS
LOT	LOT AREA COMPACTION	AASHTO T-99 OR AASHTO T-180	MIN. 1 PER EVERY 3' DEPTH, EACH LOT	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
STREET/SUB	SUBGRADE CUT SECTION COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO BASE ROCK	LOADED 10 CY TRUCK – PROOF ROLL
STREET/SUB	SUBGRADE FILL COMPACTION	AASHTO T-180	EVERY 2500 CY, MIN. 2; AND 1 PER 3 FT. OF DEPTH	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
STREET/SUB	SUBGRADE FILL COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO BASE ROCK	LOADED 10 CY TRUCK – PROOF ROLL
STREET/SUB	SUBGRADE GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO BASE ROCK	+0.04' TOLERANCE
STREET/ROCK	BASE ROCK GRADATION	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/ROCK	BASE ROCK COMPACTION	AASHTO T-180	EVERY 1000 LF	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
STREET/ROCK	BASE ROCK GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO TOP ROCK	MINIMUM SECTION REQUIRED
STREET/ROCK	TOP ROCK GRADATION	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/ROCK	TOP ROCK COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO PAVEMENT	LOADED 10 CY TRUCK – PROOF ROLL
STREET/ROCK	TOP ROCK GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO PAVEMENT	+0.02' TOLERANCE
STREET/AC	STORM SYSTEM INSPECTION	CITY OF CAMAS	AS REQUIRED	CITY OF CAMAS	PRIOR TO PLACEMENT	SYSTEM TO BE 100% FUNCTIONAL
STREET/AC	AC GRADE & OIL CONTENT	WSDOT 9-03.8	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/AC	AC COMPACTION	AASHTO T-209	ONE EVERY 1000 TONS	CERTIFIED LAB	DURING PLACEMENT	91% MIN. COMPACTION
TRENCH	UTILITY BACKFILL COMPACTION (IN RIGHT OF WAY)	AASHTO T-180	EVERY 500 FT, MIN 1/LINE; 2 AT 100 FT FOR FAILED TESTS	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
TRENCH	UTILITY BACKFILL COMPACTION (OUT OF RIGHT OF WAY)	AASHTO T-99 OR AASHTO T-180	EVERY 500 FT, MIN 1/LINE; 2 AT 100 FT FOR FAILED TESTS	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
TRENCH	UTILITY BACKFILL COMPACTION (OVER 6 FT. IN DEPTH)	AASHTO T-99 OR AASHTO T-180	EVERY 5 FT. OF DEPTH & SAME AS ABOVE	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180

City of Camas WASHINGTON — GENERAL DETAIL — STANDARD TESTING REQUIREMENTS – PAGE 1 OF 2 — DETAIL APPROVED BY / DATE 6-28-23 — NOT TO SCALE — DETAIL NO. G4A — REVISION: 6 — DATE: 06/27/2023 — GEN-TESTING.DWG

CATEGORY	TEST	STANDARD	FREQUENCY	TESTING AGENCY	TIMING	TEST REQUIREMENTS
LOT	LOT AREA COMPACTION	AASHTO T-99 OR AASHTO T-180	MIN. 1 PER EVERY 3' DEPTH, EACH LOT	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
STORM	STORM SEWER MANDREL TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	EFFECTIVE LENGTH > D, MANDREL DIA > 0.95D
STORM	STORM SEWER TV TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	CONVENTIONAL SEWER – AIR TEST	WSDOT 7-17.3	MAINS, LATERALS	CONTRACTOR	PRIOR TO BASE ROCK	4 PSI FOR 1 MINUTE PER 100 LF OF MAIN
SEWER	STEF & CONVENTIONAL SEWER – MANDREL TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	EFFECTIVE LENGTH > D, MANDREL DIA > 0.95D
SEWER	STEF & CONVENTIONAL SEWER – TV TEST	WSDOT 7-17.3	REQUIRED ON MAINS	CONTRACTOR	PRIOR TO BASE ROCK	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	CONVENTIONAL SEWER TV TEST	WSDOT 7-17.3	REQUIRED ON MAINS AND LATERALS	CONTRACTOR	PRIOR TO FINAL ACCEPTANCE	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	STEF & CONVENTIONAL SEWER – MANHOLE VACUUM TEST	CITY OF CAMAS	1:4 MH MINIMUM; ADD 1 MH PER FAILURE	CERTIFIED LAB	AFTER PAVEMENT INSTALLED, PRIOR TO MANHOLE COATING	–10 IN. Hg VACUUM FOR 60 SECONDS
SEWER	STEF & CONVENTIONAL SEWER – MANHOLE COATING ADHESION TEST	ASTM D-4541 AND ASTM D-7234	ALL MANHOLES	CONTRACTOR	PRIOR TO FINAL ACCEPTANCE	COATING MANUFACTURERS RECOMMENDED TEST PROCEDURE
SEWER	STEF SEWER – AIR TEST	WSDOT 7-17.3	MAINS, LATERALS	CONTRACTOR	PRIOR TO BASE ROCK	5 PSI FOR 1 MINUTER PER 100 FT.
SEWER	STEF SEWER – TONE TEST	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO BASE ROCK	CONTINUOUS TONE
SEWER	STEP SEWER – TONE TEST	CITY OF CAMAS	MAINS, SERVICES	CONTRACTOR	PRIOR TO BASE ROCK	CONTINUOUS TONE
SEWER	STEP SEWER – HYDROSTATIC TEST	CITY OF CAMAS	MAINS, AIR/VAC	CITY OF CAMAS	PRIOR TO BASE ROCK	15 MIN. AT 150 PSI (MIN.) OR WORKING PRESSURE (HIGHER OF 2), < 200 PSI
SEWER	STEP SEWER – SERVICE	CITY OF CAMAS	ALL SERVICES	CONTRACTOR	PRIOR TO BASE ROCK	PIPE MANUFACTURER RECOMMENDED HYDROSTATIC TEST PROCEDURE
SEWER	ALL SEWER – OPERATIONS INSPECTION	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO PAVING	OPERATIONS TO INSPECT PRIOR TO FINAL PAVE
WATER	CHLORINATE WATER MAINS	WSDOT 7-09.3 (24)	ALL	CONTRACTOR	PRIOR TO BACTERIA SAMPLE	50mg/l AT INSERTION, 25 mg/l AFTER 24 HRS. AVAILABLE CHLORINE, WATER DEPT. TO FILL LINES
WATER	BACTERIA WATER SAMPLE	AWWA	MIN. 1 PER BLOWOFF	CITY OF CAMAS	PRIOR TO PRESSURE TEST AND BASE ROCK	E. COLI & COLIFORM ABSENT
WATER	WATER LINE PRESSURE TEST	WSDOT 7-09.3(23)	MAIN, SERVICE, F.H., AIR/VAC DUCTILE/HDPE	CONTRACTOR	PRIOR TO BASE ROCK	15 MIN. AT 200 PSI (MIN.) AT HIGH POINT. NOT TO EXCEED 250 PSI AT LOW POINT.
WATER	ALL WATER – OPERATIONS INSPECTION	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO PAVING	OPERATIONS TO INSPECT PRIOR TO FINAL PAVE

City of Camas WASHINGTON — GENERAL DETAIL — STANDARD TESTING REQUIREMENTS – PAGE 2 OF 2 — DETAIL APPROVED BY / DATE 9-26-23 — NOT TO SCALE — DETAIL NO. G4B — REVISION: 7 — DATE: 09/26/2023

NOTES:
1. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATER AND SEWER MAINS SHALL BE 10 FEET.
2. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATER OR SEWER MAINS AND FRANCHISE UTILITY MAINS SHALL BE 5 FEET.
3. IF VERTICAL CLEARANCE IS LESS THAN 18", THE SEWER PIPE SHALL BE ENCASED. MINIMUM CLEARANCE WITH CASING SHALL BE 6".
4. CASING SHALL BE A 20' LENGTH OF CLASS 200 P.V.C. WITH BOTH ENDS PLUGGED, OR 6" CLASS 3000 CEMENT CONCRETE AS SHOWN BELOW.
5. MINIMUM VERTICAL CLEARANCE FOR WATER-ENCASEMENT, WATER-STORM OR SANITARY-STORM CROSSINGS SHALL BE 6".
6. SPACERS FOR PVC PIPE ENCASEMENT SHALL BE PSI RANGER II, OR EQUIVALENT, NON-METALLIC CASING ISOLATORS AS SHOWN IN SECTION B-B.
7. RUBBER END SEALS FOR PVC PIPE ENCASEMENT SHALL BE PSI MODEL "W", MODEL "S" OR EQUIVALENT.
8. PIPE JOINTS WITHIN ENCASEMENT SHALL BE RESTRAINED JOINTS.
9. NO PRIVATE UTILITES SHALL BE ALLOWED IN CITY OF CAMAS CASINGS



City of Camas WASHINGTON — GENERAL DETAIL — MINIMUM SEPARATION FOR UTILITY CROSSINGS — DETAIL APPROVED BY / DATE 7-17-23 — NOT TO SCALE — DETAIL NO. G5 — REVISION: 4 — DATE: 07/17/2023

PRELIMINARY
NOT FOR CONSTRUCTION

General Notes & Details
8th Ave Apartments

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(3 6 0) 9 3 1 - 3 1 2 2

C020

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 3 of 17

Northwest Utilities
1-800-424-5555
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Call 48 hours before you dig.

Revisions:

Site Information

Address	1805 SE 8th Ave Camas, WA 98607
Abbrev. Desc.	Oak Park Addition to Washougal, Lot 8, Block 4
S-T-R	SW¼ S12 T1N R3E W.M.
Parcel	88135000
Area	1.00 AC (43,557± SF)
Zone	R-18 (MFH)

Boundary & Topography

Property boundaries shown hereon are taken from 1999 Oak Park Addition to Washougal filed in Book C, Page 24, of Plats with the Clark County auditor's office. Adjacent property boundaries are shown approximate only. Topographic survey by Engineering Northwest PLLC in 2023. This is not a boundary survey.

Notes

On or within 100 feet of the site, there are:

1) No known water courses.
2) No known water bodies, areas prone to flooding, or wetlands. A 500-yr floodplain fronts the site on SE 8th Ave, but does not impact the development area.
3) No designated shoreline areas.
4) No known or mapped wetlands
5) No unstable slopes or landslide areas.
6) No significant wildlife habitat or vegetation, other than as shown hereon.
7) No significant historic sites.
8) No existing pedestrian facilities.
9) No existing bicycle facilities.
10) CTRAN route 41 passes within 600' of the site, but no stops are nearby.
11) No streets providing access to the site in excess of 15% grade.

Site Information and Environmental Constraints

As available from Clark County GIS

Administrative Data Info...	
Jurisdiction	Camas
Land Use Planning	
Comprehensive Plan Designation	MFH
Comprehensive Plan Overlay(s)	none
Urban Growth Area	Camas
Zoning Designation - Codes	Multifamily Residential-18 (R-18)
Zoning Overlay(s)	Gateway Corridor
Miscellaneous	
Census Tract	415.00
Drainage District	n/a
Neighborhood	n/a
Park District	n/a
Public Safety	
Burning Allowed	No
EMS Response Area	Camas Washougal Fire
Fire District	Camas
Increased Wildfire Danger Area	No
Police Jurisdiction	Camas Police Dept
Schools	
School District Name	Camas
Elementary School Attendance Area	Woodburn
Middle School Attendance Area	Liberty
High School Attendance Area	Camas
Transportation	
C-TRAN Public Transportation Benefit Area	Yes
Traffic Impact Fee (TIF) District	Camas
Transportation Analysis Zone	394

Wetlands and Soil Types

Critical Aquifer Recharge Area:	Category 1 Recharge Areas Category 2 Recharge Areas
FEMA Map / FIRM Panel: Info...	53011C0534E FEMA Flood Map Service Center
Flood Hazard Area: Info...	Outside Flood Area
Shoreline Designation:	none
Soil Types / Class:	Non-Hydric / HoA
Water Resource Inventory Area:	Name: SALMON-WASHOUGAL Sub-Basin: Washougal
Watershed:	Washougal River
Sub Watershed:	Washougal (Lower)
Wetland Class:	No Mapping Indicators
Wetland Inventory: Info...	No Mapping Indicators

Septic Document Details

none

Water Well Details

none

Cultural Resources

Archaeological Probability:	High
Archaeological Site Buffer:	Yes
Historic Site:	No Mapping Indicators

Forest Practice Moratorium Info...

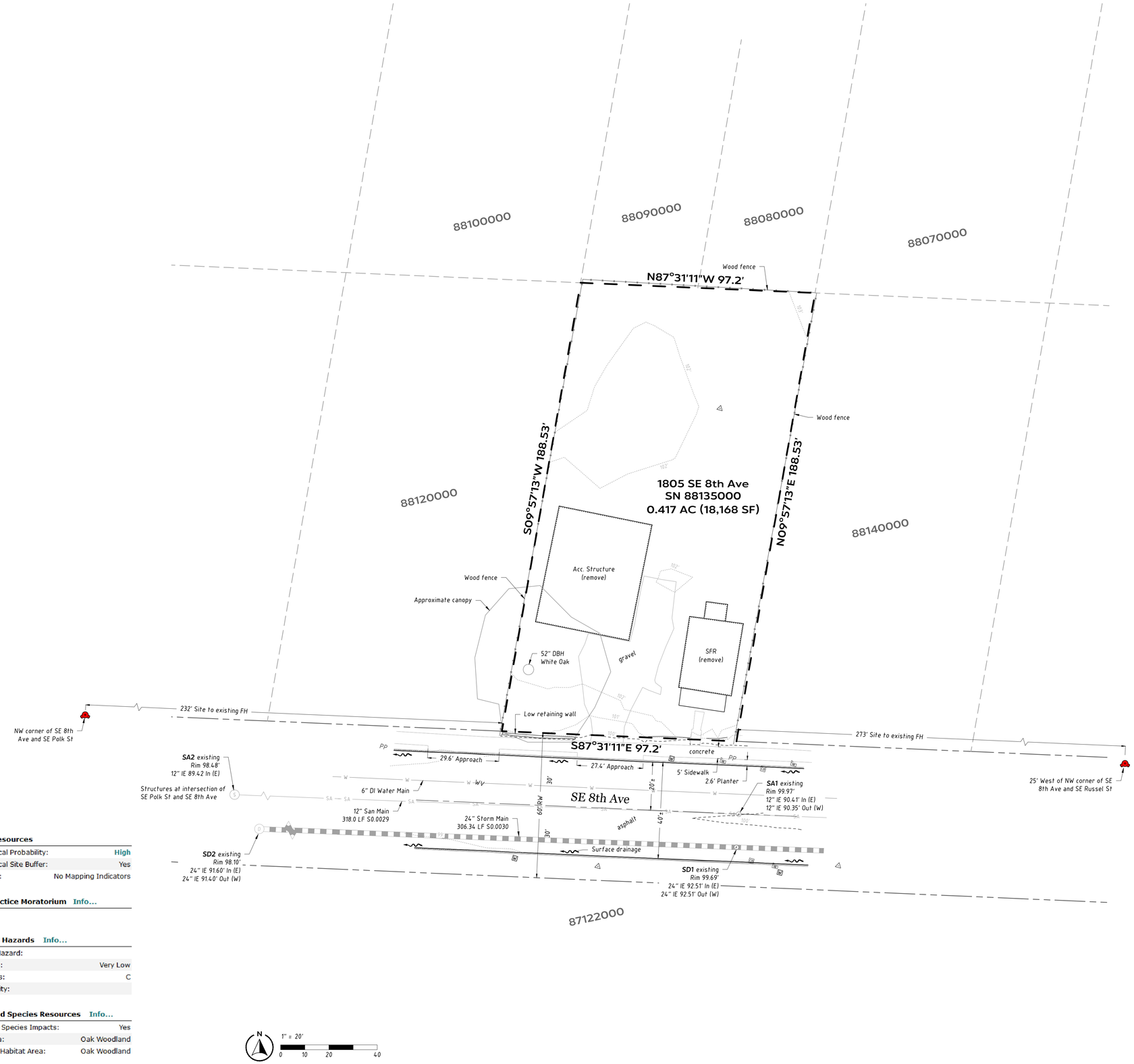
none

Geological Hazards Info...

Geological Hazard:	
Liquefaction:	Very Low
NEHRP Class:	C
Slope Stability:	

Habitat and Species Resources Info...

Habitat and Species Impacts:	Yes
Habitat Area:	Oak Woodland
Adjacent to Habitat Area:	Oak Woodland



Existing Conditions Plan

8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED PROFESSIONAL ENGINEER

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
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(360) 931-3122

C030

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 4 of 17

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Revisions:

Site Information

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Development Standards (MF-18)

CMC 18.09.030 Table 1	Requirement	Proposed
Max density	18 DU/AC	16.8 DU/AC
Min lot area	2,100 SF	18,168 SF
Min lot width	26'	97'
Min lot depth	60'	188'
Max GFA	none	-
Setbacks:		
Front	10'	26'
Garage	20'	N/A
Side	3'	5'
Rear	10'	10'
Lot Coverage	65%	< 20%
Building Height	50'	< 50'

CMC 18.13.020 Landscaping Regulations
A 5ft L1 buffer is required on the east, west, and north.
A 10ft L3 buffer is required on the south.
Perimeter of the proposed parking areas will be landscaped including a min ratio of one tree per six parking spaces, or at least 3 trees.
A min tree density of 20 tree-units per acre are required and may be incorporated with the proposed landscaping. Tree density is calculated on net acreage, excluding open space, critical areas and their buffers.
The oak tree on site is not proposed for removal; It will be retained.

Landscaped areas:
For detailed information, see landscape plan
There is no percentage of site coverage standard required for this project, other than as provided for by buffers and parking lot trees.

CMC 18.11 Parking
Use: Residential, Apartments 1 bed/2+ bed = 1.5 / 2 stalls
If all 7 units are 2-bed, min 14 stalls required.
15 stalls are proposed, including:
Compact: 0 (0%)
Standard: 15
ADA:1
Van Accessible: 1

Engineering
18.17.030 - Corner lot vision clearance
No impact to the corner lot vision clearance area is proposed.
Utilities; all utilities are proposed underground.
To comply with CDSM Table 1
Aisle widths are min 18' where no parking is adjacent,
Aisle widths are min 24' where adjacent to parking.

Stormwater
See storm plan and Preliminary TIR.

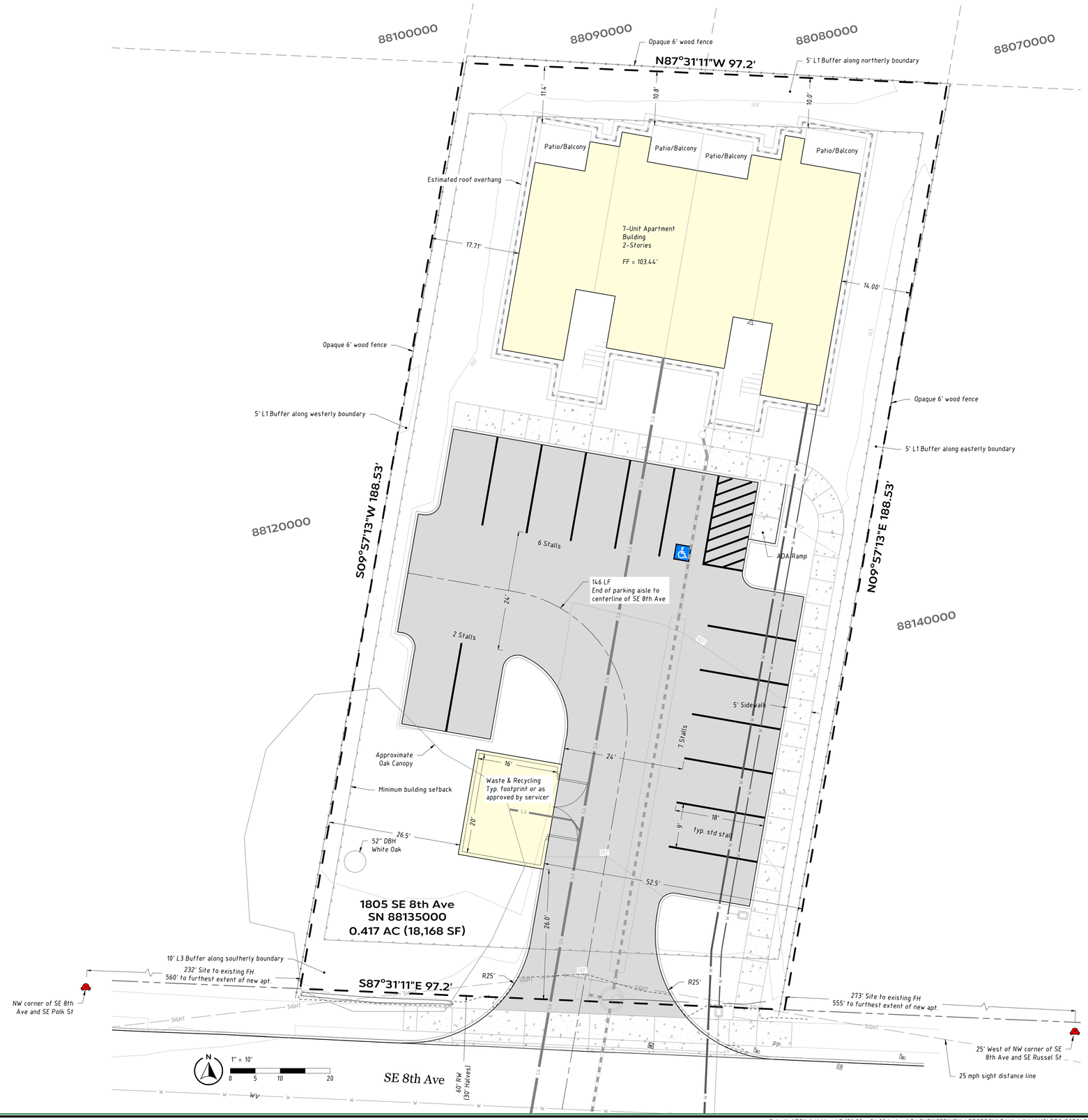
Erosion
See grading & erosion control plan

Water & Sewer
See water & sewer plan

Garbage & Recycling
Collection is proposed on site at screened enclosure points as shown hereon.
Proposed movement is to back onto the site so that the collection truck does not back into the public roadway.

Critical Areas
No critical areas are known to exist, except the Oregon White Oak tree shown hereon.

Design Review Manual (Gateway)
- New construction SHALL be placed as close to streets and roads as the zoning code allows. Main entrances to the buildings must be oriented to the street.
  -- This standard cannot be met due to the restriction of the existing Oregon White Oak tree which must be preserved.
- On-site parking SHALL be located to the rear of the building.
  -- Due to the lot width and depth, parking is not feasible to be placed behind the building.



Preliminary Site Plan

8th Ave Apartments

PRELIMINARY NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
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C100

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 5 of 17

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Revisions:

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Grade Change Legend

Max	Color
-2.4	
-2.0	
-1.0	
+1.0	
+1.8	

Approximate Earthwork Volumes

Disclaimer: These figures represent approximate earthwork quantities calculated from the existing surface to a design surface at 1:1 volume. No adjustments for pavement or base sections, assumed foundations, storage facilities, trench spoils, over excavation, shrinkage, swell, deleterious materials removal, etc have been factored. Contractors are solely responsible for quantity estimates for bidding purposes. The design surface is typically top of final pavement, finish floor elevations, final grading, etc.

Cut: 240 CY
Fill: 0 CY
Disturbed Area: 0.36 AC

Environmental Constraints

As provided by Clark County GIS, no environmental constraints exist on or within 100 feet of the subject site. No critical areas are known to exist on site other than the existing Oregon White Oak shown hereon.

Compaction Specification

See CDSM sewer standard testing requirements, Details G4A&B. Proof rolls with fully loaded dump truck required prior to fill.

Records shall be kept for all compaction testing and these records shall be made available to the engineer and review authority upon request.

Weather Variation

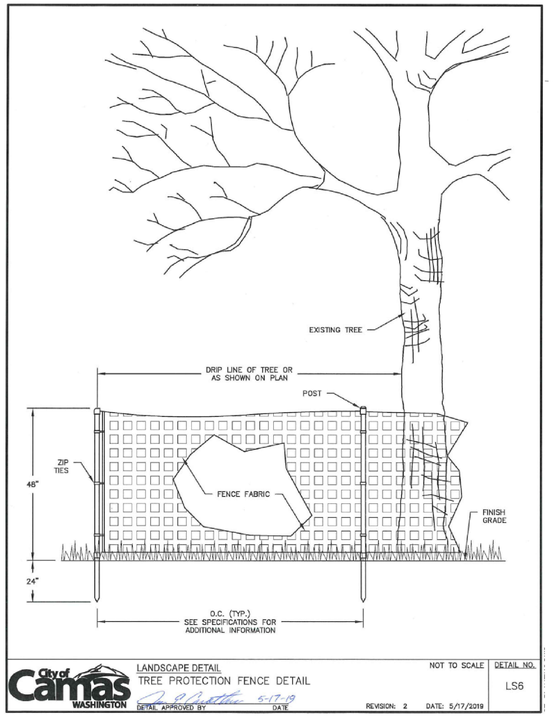
Significant variation and degree of erosion control effort will be dictated by weather conditions. The developer and contractor should be prepared to provide extra erosion control provisions and efforts during winter and wet weather conditions beyond that normally required during summer and dry weather conditions. Fine grained and unconsolidated soils on sloping site may become unstable when subject to excessive moisture.,

Archaeological Note

In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease, and the applicant shall notify the City and Department of Archaeology and Historic Preservation (DAHP).

General Grading & Erosion Control Notes

a. See General Grading and Erosion Notes, std details EC1, EC2, EC3, SHT C110.
b. Site must have Certified Erosion and Sediment Control Lead (CESCL) to comply with BMP C160.
c. All material handling on site must comply with BMP C150, BMP C151, and BMP C154.
d. Place plastic covering complying with BMP C123 over all soil piles or straw complying with BMP C121.
e. Sequence construction to comply with BMP C162.
f. Permanently stabilize site, re-establish vegetation or landscaping prior to removal of erosion control measures.
g. Contractor is responsible for meeting post-construction soil quality and depth (BMP T5.13) per current edition of the Stormwater Management Manual for Western Washington Stormwater Manual (SWMMWW) for all disturbed areas.
h. Preserve existing vegetation where feasible per BMP C101.
i. Use seeding throughout the project on disturbed areas that have reached final grade or that will remain unworked for more than 30 days per BMP C120.
j. A wheel wash may be required if the construction entrance is not sufficient in preventing sediment from being tracked onto public roads. Wheel wash per std detail EC7, SHT C110, and the current edition of the SWMMWW. If required, wheel wash to be located in the field by contractor.
k. All excavation and grading shall be performed in compliance with CMC 15.50.
l. The faces of cut and fill slopes shall be prepared and maintained to control erosion. This control shall generally consist of effective planting. Erosion control for the slopes shall be installed as soon as practicable and prior to calling for final inspection.
m. Contractor shall notify engineer immediately and prior to grading activity upon discovery of a bust in existing grade survey. Continuing grading activity upon discovery of a grade bust shall be at contractor's own risk.
n. Exposed soil is to be stabilized in accordance with CMC 15.50.090.I
From October 1st through July 5th, no unworked soils shall remain exposed for more than two (2) days. From July 6th through September 30th, no unworked soils shall remain exposed for more than seven (7) days.



Erosion Control Keynotes

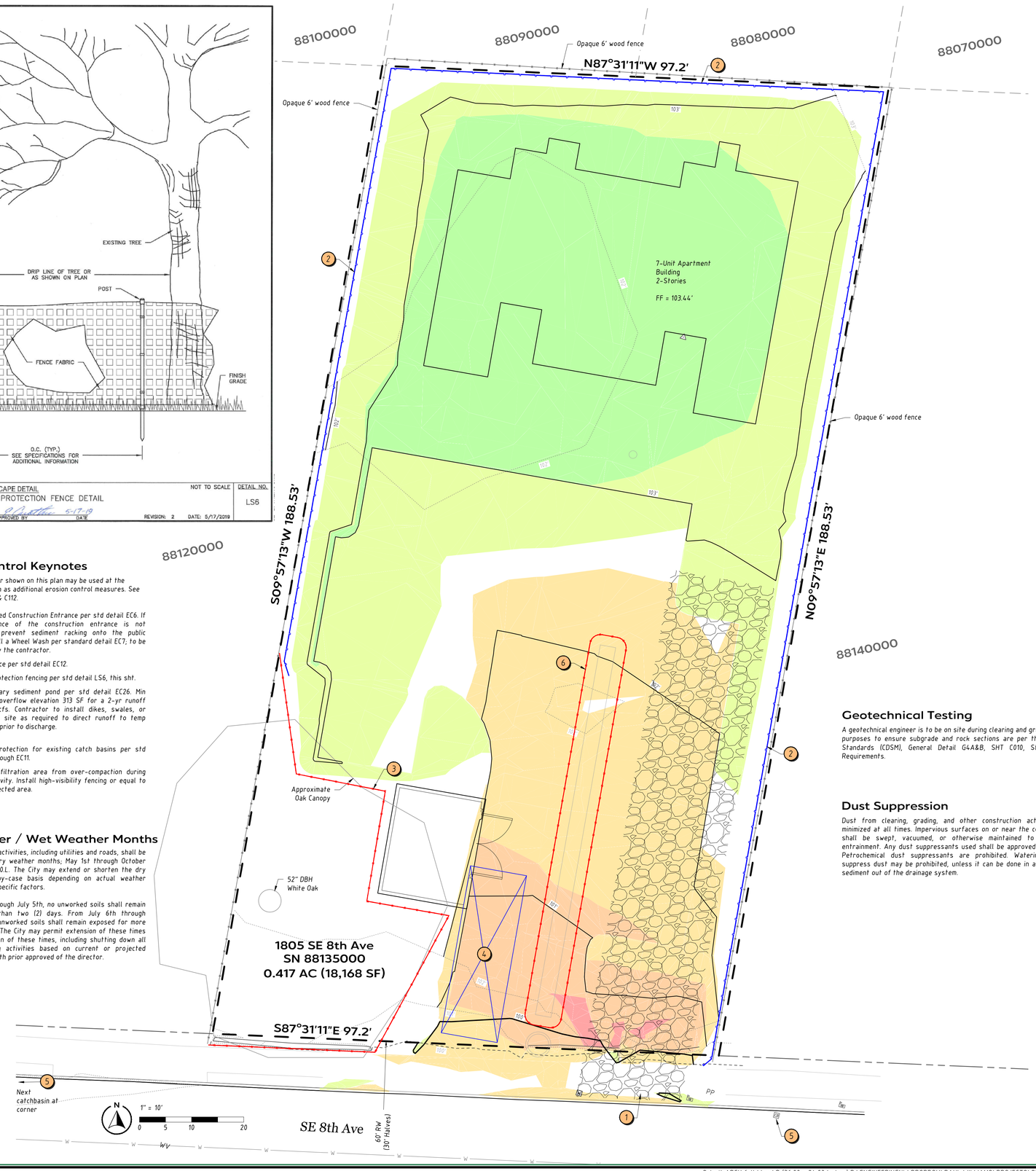
BMPs not called out or shown on this plan may be used at the developer's discretion as additional erosion control measures. See std details SHT C110 & C112.

1. Install Stabilized Construction Entrance per std detail EC6. If the performance of the construction entrance is not sufficient to prevent sediment tracking onto the public roadway, install a Wheel Wash per standard detail EC7; to be field located by the contractor.
2. Install Silt Fence per std detail EC12.
3. Install tree protection fencing per std detail LS6, this sht.
4. Install temporary sediment pond per std detail EC26. Min pond area at overflow elevation 313 SF for a 2-yr runoff rate of 0.15 cfs. Contractor to install dikes, swales, or drain-pipes on site as required to direct runoff to temp sediment pond prior to discharge.
5. Install inlet protection for existing catch basins per std details EC8 through EC11.
6. Protect LID infiltration area from over-compaction during earthwork activity. Install high-visibility fencing or equal to delineate protected area.

Dry Weather / Wet Weather Months

Clearing and grading activities, including utilities and roads, shall be allowed during the dry weather months; May 1st through October 1st, per CMC 15.50.090.L. The City may extend or shorten the dry season on a case-by-case basis depending on actual weather conditions and site-specific factors.

From October 1st through July 5th, no unworked soils shall remain exposed for more than two (2) days. From July 6th through September 30th, no unworked soils shall remain exposed for more than seven (7) days. The City may permit extension of these times or require a reduction of these times, including shutting down all clearing and grading activities based on current or projected weather conditions with prior approved of the director.



Geotechnical Testing

A geotechnical engineer is to be on site during clearing and grading for testing purposes to ensure subgrade and rock sections are per the Camas Design Standards (CDSM), General Detail G4A&B, SHT C010, Standard Testing Requirements.

Dust Suppression

Dust from clearing, grading, and other construction activities shall be minimized at all times. Impervious surfaces on or near the construction area shall be swept, vacuumed, or otherwise maintained to suppress dust entrainment. Any dust suppressants used shall be approved by the director. Petrochemical dust suppressants are prohibited. Watering the site to suppress dust may be prohibited, unless it can be done in a way that keeps sediment out of the drainage system.

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED PROFESSIONAL ENGINEER

Grading & Erosion Control Plan

8th Ave Apartments

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
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(360) 931-3122

C110

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 6 of 17

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Revisions:

GRADING NOTES:

1. ALL GRADING SHALL CONFORM TO THE CITY OF CAMAS DESIGN STANDARDS MANUAL AND THE MOST RECENTLY ADOPTED EDITION OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
2. THE LIMITS OF CLEARING SHALL BE FLAGGED WITH HIGH-VISIBILITY FENCING PRIOR TO CLEARING AND GRUBBING OF THE SITE.
3. ANY EXISTING TREES TO REMAIN WITHIN THE CLEARING LIMITS SHALL BE MARKED AND PROTECTED FROM DAMAGE WITH HIGH VISIBILITY FENCING.
4. PRIOR TO ANY FILL PLACEMENT, ALL AREAS WHICH WILL RECEIVE STRUCTURAL FILL SHALL BE EXCAVATED TO FIRM, NON-ORGANIC, UNDISTURBED NATIVE GROUND. THE STRIPPED AREAS SHALL BE OBSERVED AND ACCEPTED BY THE GEOTECHNICAL ENGINEER AND THE CITY OF CAMAS INSPECTOR.
5. ALL LOT FILLS SHALL MEET 95% OF AASHTO T-99 COMPACTION.
6. ALL RIGHT-OF-WAY FILLS SHALL MEET 95% OF AASHTO T-180 COMPACTION.
7. FILLS SHALL BE INSTALLED IN VERTICAL LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND SHALL BE COMPACTED AS PREVIOUSLY NOTED.
8. FILLS PLACED ON SLOPES EXCEEDING 5H:IV SHALL BE KEYED AND BENCHED, GEOTECHNICAL APPROVAL REQUIRED PRIOR TO ANY FILL PLACEMENT.
9. ALL SURFACES SHALL BE GRADED SMOOTH AND BE FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.
10. ALL CUT AND FILL SLOPES SHALL NOT EXCEED 2:1 SLOPES.
11. ANY EXCESS MATERIAL NOT REQUIRED TO MEET THE GRADES SHOWN ON THE PLANS SHALL BE HAULED FROM THE SITE TO A CONTRACTOR PROVIDED WASTE SITE. IF WASTE SITE IS WITHIN CITY LIMITS, A SEPARATE GRADING PERMIT MAY BE REQUIRED.
12. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF EROSION CONTROL BMP'S.
13. ALL SURFACES REQUIRING VEGETATION SHALL BE ROUGHENED PRIOR TO SEEDING (I.E. WHEEL TRACKED PERPENDICULAR TO SURFACE FLOW TO REDUCE EROSION AND HELP VEGETATION).
14. FINAL GEOTECHNICAL SUMMARY REPORT, INCLUDING ALL COMPACTION TESTING RESULTS, SHALL BE SUBMITTED UPON COMPLETION OF SITE GRADING WORK.

City of Camas WASHINGTON — EROSION CONTROL DETAIL — GRADING NOTES — DETAIL APPROVED BY [signature] DATE 8-12-22 — NOT TO SCALE — REVISION: 3 — DATE: 8/12/2022 — DETAIL NO. EC1

EROSION/SEDIEMENT CONTROL NOTES:

1. THE EROSION/SEDIMENT CONTROL (ESC) PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS TO BE UTILIZED AS A GUIDE TO CONTROL THE TRANSPORT OF LOOSE SOILS TO THE PROPERTY OUTSIDE OF THE CONSTRUCTION AREA AND AROUND THE CONSTRUCTION SITE. THE ESC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE ESC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND PERMANENT VEGETATION/LANDSCAPING IS ESTABLISHED.
3. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
4. THE CONTRACTORS SHALL BE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE MOST RECENTLY ADOPTED EDITION OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOL. II AND THE CITY OF CAMAS MUNICIPAL CODE 14.06 (2011).
5. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES (I.E. CONSTRUCTION ENTRANCES, FILTER FABRIC SEDIMENT BARRIERS, AND SEDIMENTATION TRAPS) AND MAINTAINED FOR THE DURATION OF THE PROJECT. TRAPPED SEDIMENT IN EXCESS OF 1 FOOT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM VEGETATION REMOVAL SHALL BE PERMANENTLY STABILIZED. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. TO MINIMIZE EROSION AND SEDIMENTATION TRANSPORTATION, EARTHWORK SHALL NOT BE PERFORMED WHILE SOILS ARE IN AN UNSTABLE STATE DUE TO PRECIPITATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE CLEARING LIMITS AND/OR ANY EASEMENTS, SENSITIVE OR CRITICAL AREAS, AND THEIR BUFFERS, TREES, AND DRAINAGE COURSES FLAGGED PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. FLAGGING LIMITS ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
8. REMOVE ONLY THOSE TREES AND SHRUBS THAT NEED TO BE REMOVED FOR THE CONSTRUCTION OF ROADS, SIDEWALKS, UTILITIES, AND STORMWATER FACILITIES.
9. ALL EXISTING AND NEWLY CONSTRUCTED ROAD CATCH BASINS AND CURB INLETS AFFECTED BY CONSTRUCTION SHALL BE PROTECTED AGAINST SEDIMENT DEPOSITS. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. 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.
10. ALL POLLUTANTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER SYSTEM.
11. ALL DISTURBED SOIL SURFACES ARE TO BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES" (BMP'S). DURING THE PERIOD OF OCTOBER 1 THROUGH JULY 5 DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO TWO DAYS WHEN NOT BEING WORKED. FROM JULY 5 THROUGH OCTOBER 1, DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO 7 DAYS WHEN NOT BEING WORKED. STABILIZATION OF DISTURBED SOIL AREAS MAY CONSIST OF HYDROSEEDING, HAND-SEEDING AND MULCHING, PLACEMENT OF EROSION CONTROL BLANKETS OR PLASTIC. ALL SEEDED AREAS ARE TO BE FERTILIZED, WATERED, AND MAINTAINED TO ENSURE THAT THE GROWTH OF VEGETATION OCCURS AS SOON AS POSSIBLE.
12. ALL TEMPORARY SEDIMENT AND EROSION CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS ~ EROSION CONTROL DETAIL — EROSION/SEDIMENT CONTROL NOTES — DETAIL APPROVED BY [signature] DATE 1-4-11 — NOT TO SCALE — DETAIL NO. EC2

EROSION/SEDIMENT CONTROL NOTES (CONTINUED):

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POLICING THE JOB SITE DAILY AND MAINTAINING THE EROSION/SEDIMENT CONTROL MEASURES THROUGHOUT ALL PHASES OF CONSTRUCTION. AN INSPECTION LOG SHALL BE KEPT AND MADE AVAILABLE TO THE CITY OF CAMAS. THE POLICING AND MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
    - VERIFYING THAT ALL AREAS ARE GRADED SUCH THAT ALL RUNOFF IS DIRECTED TO A SEDIMENTATION DEVICE BEFORE DISCHARGE TO SURFACE.
    - REMOVAL OF TRAPPED SILT AT SILT BARRIERS, SILT TRAPS, OR POINTS OF ACCUMULATION.
    - ADDITIONAL PROTECTIVE MEASURES DUE TO JOB SITE OR WEATHER CONDITIONS AS REQUIRED BY THE CITY OF CAMAS.
    - MONITORING OF VEHICLES LEAVING THE SITE TO MINIMIZE TRANSMISSION OF LOOSE SOILS TO THE PUBLIC ROADWAYS.
    - VERIFY THAT ALL PROPERTIES ADJACENT TO THE PROJECT SITE ARE PROTECTED FROM SEDIMENTATION DEPOSITION. THIS MAY BE ACCOMPLISHED BY INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENTATION BARRIERS, FILTERS OR DIKES, SEDIMENTATION BASINS/TRAPS, OR BY A COMBINATION OF SUCH MEASURES.
14. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH EROSION/SEDIMENT CONTROL NOTE 11. SLOPES FOUND TO BE ERODING EXCESSIVELY WITHIN TWO YEARS OF CONSTRUCTION MUST BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES. THESE MEASURES MAY CONSIST OF ROUGHENED SOIL SURFACES, INTERCEPTORS, DIVERSIONS OR TERRACES, TEMPORARY OR PERMANENT CHANNELS, ADDITIONAL VEGETATION, OR PIPE SLOPE DRAINS AS REQUIRED BY THE CITY OF CAMAS UNTIL THE PROBLEM IS CORRECTED.
15. THE ESC MEASURES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING ANY STORM EVENT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING UNDERGROUND UTILITIES AS SPECIFIED BELOW:
    - WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME.
    - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    - TRENCH DE-WATER DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
17. PRIOR TO CONSTRUCTION, THE CITY OF CAMAS REQUIRES AN APPROVED FORM OF SECURITY IN THE AMOUNT OF 200% OF THE ENGINEER'S ESTIMATED COST OF THE ESC MEASURES, INCLUDING ASSOCIATED LABOR, AS SHOWN IN THE APPROVED ESC PLAN AND SWPPP.
18. SUGGESTED STANDARD SEED MIXTURE FOR THOSE AREAS WHERE A TEMPORARY VEGETATIVE COVER IS REQUIRED:

TEMPORARY EROSION CONTROL MIX*

SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
CHEWINGS OR ANNUAL BLUE GRASS *(FESTUCA RUBRA VAR. COMMUTATA OR POA ANNA)*	40	98	90
PERENNIAL RYE *(LOLIUM PERENNE)*	50	98	90
REDTOP OR COLONIAL BENTGRASS *(AGROSTIS ALBA OR AGROSTIS TENUIS)*	5	92	85
WHITE DUTCH CLOVER *(TRIFOLIUM REPENS)*	5	98	90

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH

19. SUGGESTED TURF SEED MIXTURE FOR DRY SITUATIONS WHERE THERE IS NO NEED FOR MUCH WATER:

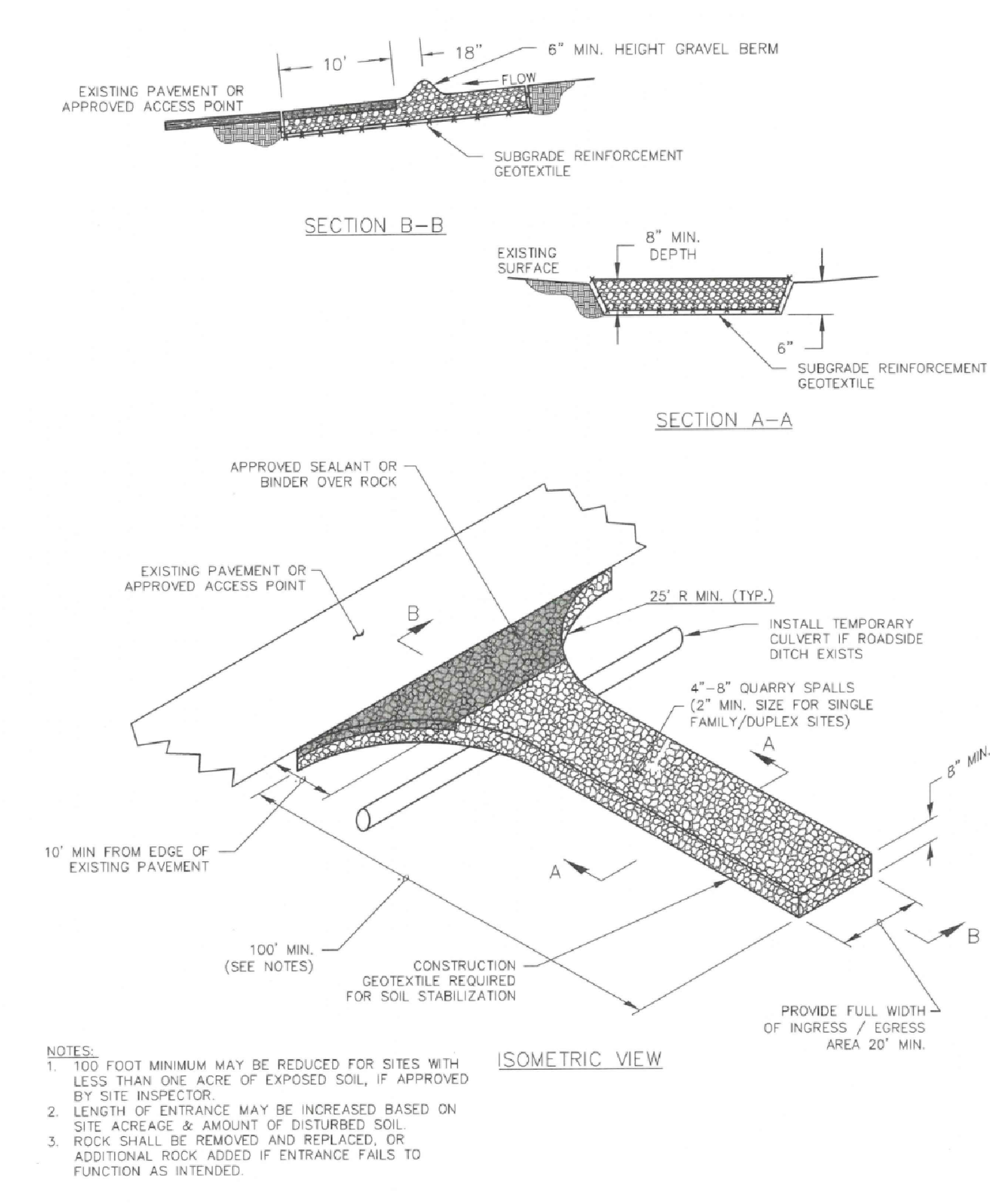
LOW-GROWING TURF SEED MIX*

SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
DWARF TALL FESCUE (SEVERAL VARIETIES) *(FESTUCA ARUNDINACEA VAR.)*	45	98	90
DWARF PERENNIAL RYE *(LOLIUM PERENNE VAR. BARCLAY)*	30	98	90
RED FESCUE *(FESTUCA RUBRA)*	20	98	90
COLONIAL BENTGRASS *(AGROSTIS TENUIS)*	5	98	90

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH

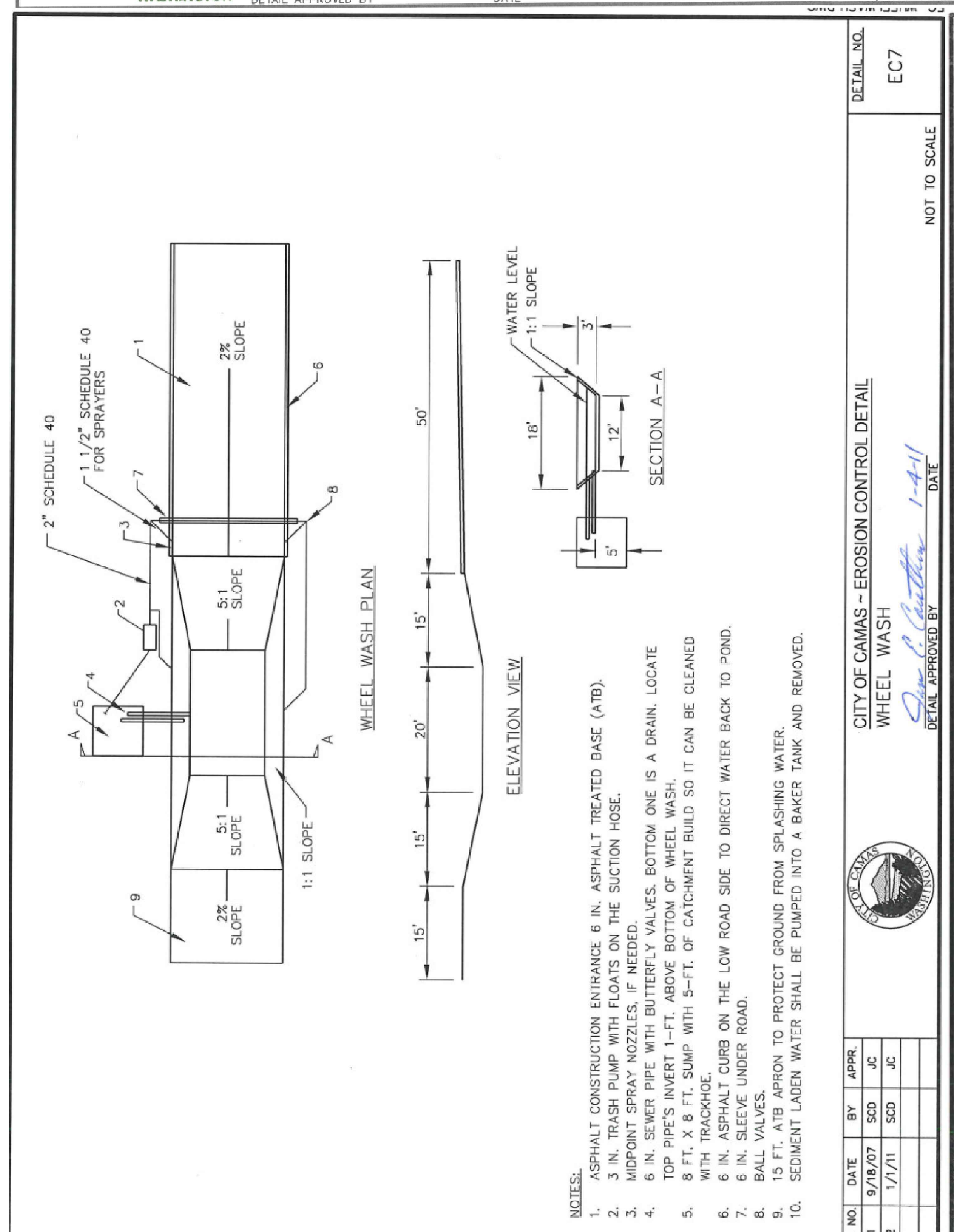
REV. NO.	DATE	BY	APPR.
1	9/18/07	SD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS ~ EROSION CONTROL DETAIL — EROSION/SEDIMENT CONTROL NOTES — DETAIL APPROVED BY [signature] DATE 1-4-11 — NOT TO SCALE — DETAIL NO. EC3

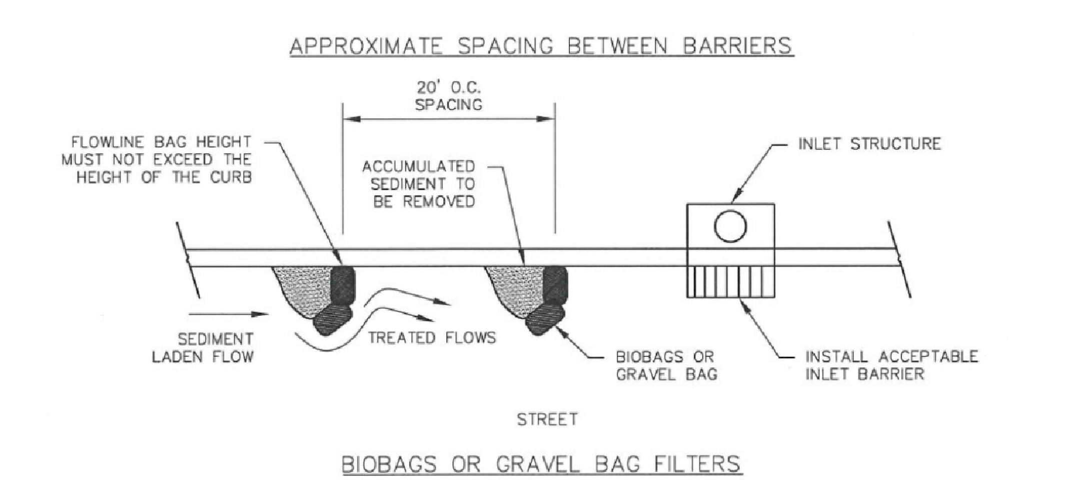


NOTES:
1. 100 FOOT MINIMUM MAY BE REDUCED FOR SITES WITH LESS THAN ONE ACRE OF EXPOSED SOIL, IF APPROVED BY SITE INSPECTOR.
2. LENGTH OF ENTRANCE MAY BE INCREASED BASED ON SITE ACREAGE & AMOUNT OF DISTURBED SOIL.
3. ROCK SHALL BE REMOVED AND REPLACED, OR ADDITIONAL ROCK ADDED IF ENTRANCE FAILS TO FUNCTION AS INTENDED.

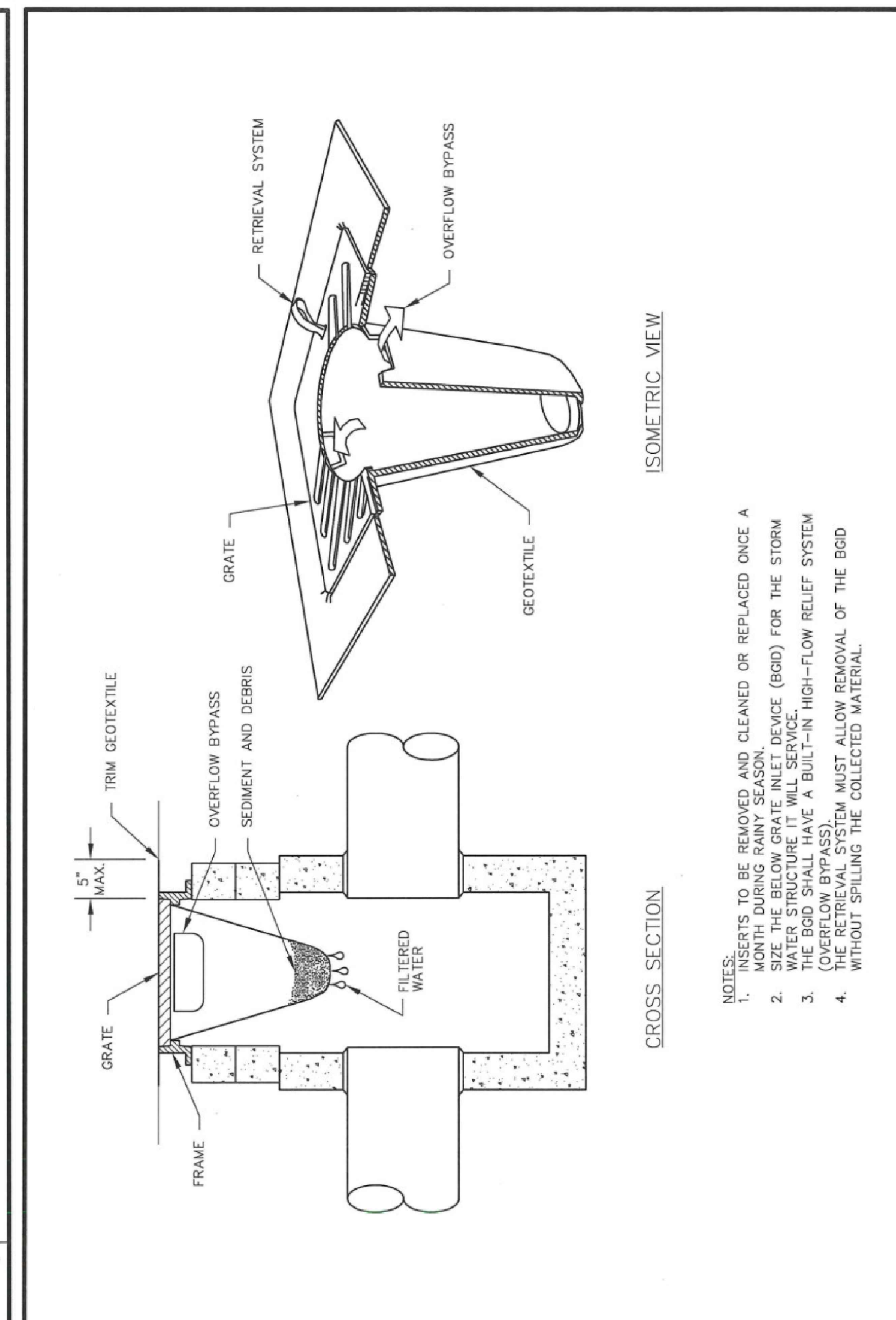
City of Camas WASHINGTON — EROSION CONTROL DETAIL — STABILIZED CONSTRUCTION ENTRANCE — DETAIL APPROVED BY [signature] DATE 8-17-22 — NOT TO SCALE — REVISION: 4 — DATE: 8/17/2022 — DETAIL NO. EC6



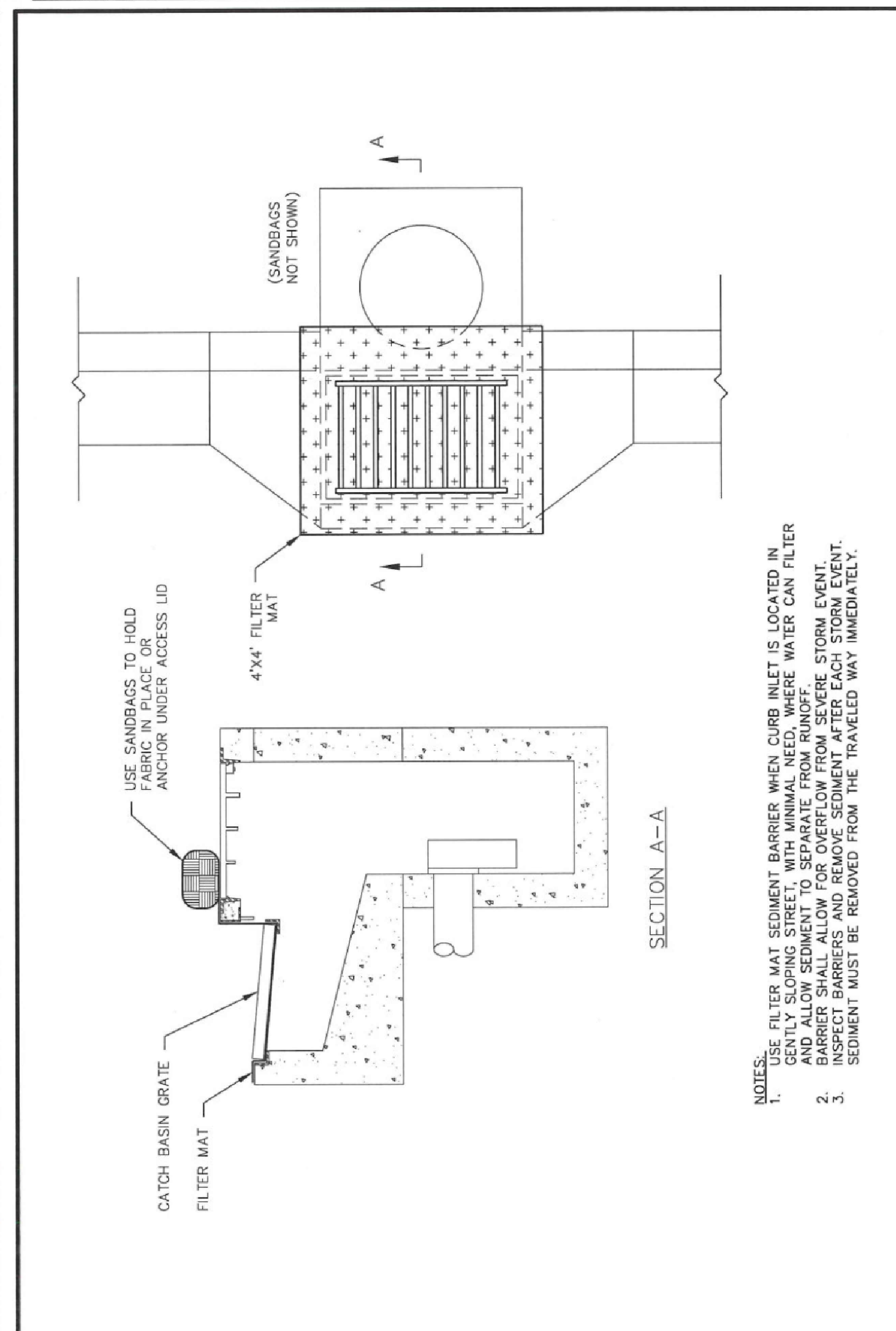
CITY OF CAMAS ~ EROSION CONTROL DETAIL — WHEEL WASH — NOT TO SCALE — DETAIL NO. EC7



CITY OF CAMAS ~ EROSION CONTROL DETAIL — INLET PROTECTION – CURB SEDIMENT TRAPS — DETAIL APPROVED BY [signature] DATE 1-4-11 — NOT TO SCALE — DETAIL NO. EC8



CITY OF CAMAS ~ EROSION CONTROL DETAIL — INLET PROTECTION – CATCH BASIN INSERT — NOT TO SCALE — DETAIL NO. EC9



CITY OF CAMAS ~ EROSION CONTROL DETAIL — INLET PROTECTION – COMBINATION INLET — NOT TO SCALE — DETAIL NO. EC10

Grading & Erosion Control Details
8th Ave Apartments

PRELIMINARY NOT FOR CONSTRUCTION

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

C112

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 7 of 17

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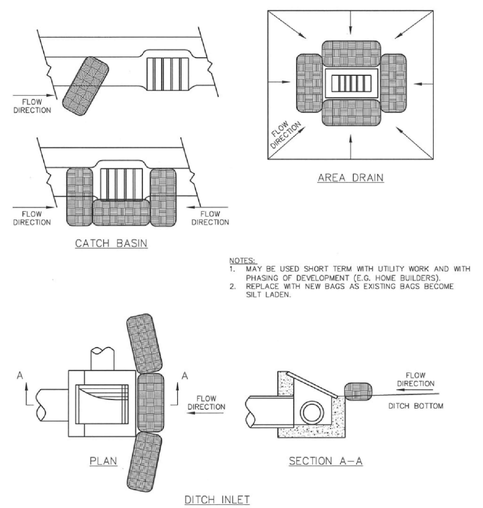
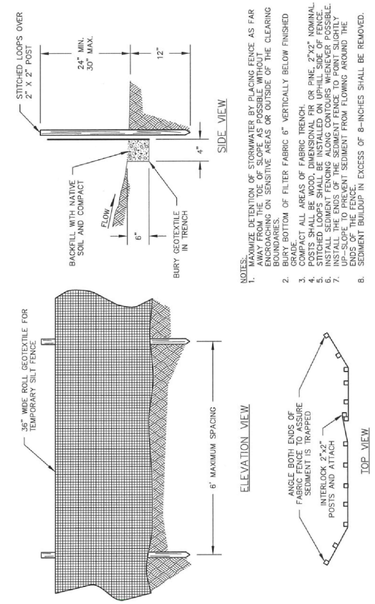
Revisions:



NOTES:
1. MAY BE USED SHORT TERM WITH UTILITY WORK AND WITH PHASING OF DEVELOPMENT (E.G. HOME BUILDERS).
2. REPLACE WITH NEW BAGS AS EXISTING BAGS BECOME SILT LADEN.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

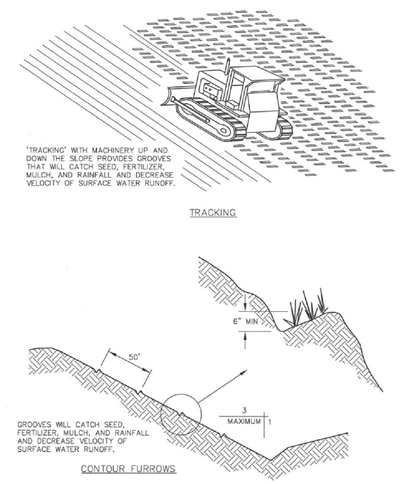
CITY OF CAMAS ~ EROSION CONTROL DETAIL
INLET PROTECTION – BIOBAGS
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC11



NOTES:
1. MAXIMIZE DETENTION OF STORMWATER BY PLACING FENCE AS FAR AWAY FROM THE TOE OF SLOPE AS POSSIBLE WITHOUT ENCROACHING ON SENSITIVE AREAS OR OUTSIDE OF THE CLEARING BOUNDARIES.
2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
3. COMPACT ALL AREAS OF FABRIC TRENCH.
4. STITCHED LOOPS SHALL BE SPACED NO MORE THAN 24" HORIZONTAL.
5. STITCHED LOOPS SHALL BE INSTALLED ON UPHILL SIDE OF FENCE.
6. INSTALL SEDIMENT FENCING ALONG CONTOURS WHENEVER POSSIBLE.
7. INSTALL TWO ROWS OF SEDIMENT FENCING WHERE FENCE IS PARALLEL UP-SLOPE, TO PREVENT SEDIMENT FROM FLOWING AROUND THE END OF THE FENCE.
8. SEDIMENT BUILDUP IN EXCESS OF 8-INCHES SHALL BE REMOVED.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC
3	3/1/12	SCD	JC

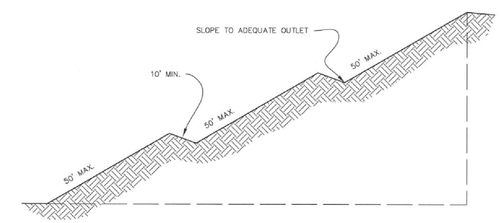
CITY OF CAMAS ~ EROSION CONTROL DETAIL
SILT FENCE
DETAIL APPROVED BY — DATE 8-1-12
NOT TO SCALE
DETAIL NO. EC12



NOTES:
1. TRACKING IS DONE BY OPERATING EQUIPMENT UP AND DOWN THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL.
2. TRACKED SURFACES SHALL BE SEEDED IMMEDIATELY AFTER TRACKING.
3. SLOPES WHERE MOWING IS PLANNED SHOULD NOT BE EXCESSIVELY ROUGHENED.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

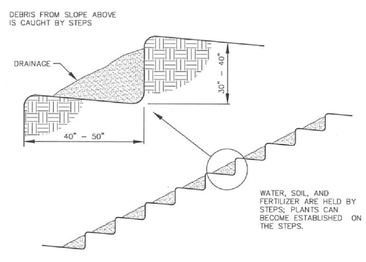
CITY OF CAMAS ~ EROSION CONTROL DETAIL
SURFACE ROUGHENING – TRACKING & FURROWS
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC17



NOTES:
1. ALL GRADIENT TERRACES SHOULD HAVE ADEQUATE OUTLETS. SUCH AN OUTLET MAY BE A GRASSED WATERWAY, VEGETATED AREA, OR TILE OUTLET. IN ALL CASES THE OUTLET MUST CONVEY RUNOFF FROM THE TERRACE OR TERRACE SYSTEM TO A POINT WHERE THE OUTFLOW WILL NOT CAUSE DAMAGE. VEGETATIVE COVER SHOULD BE USED IN THE OUTLET CHANNEL.

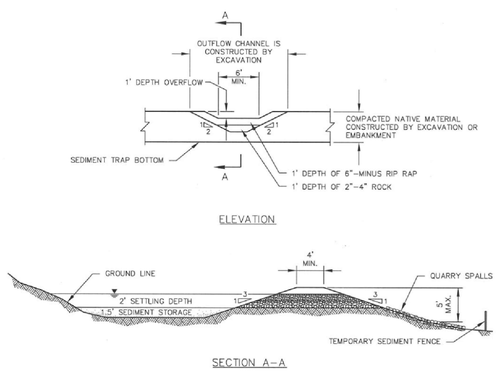
REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS ~ EROSION CONTROL DETAIL
SURFACE ROUGHENING – GRADIENT TERRACES
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC18



REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

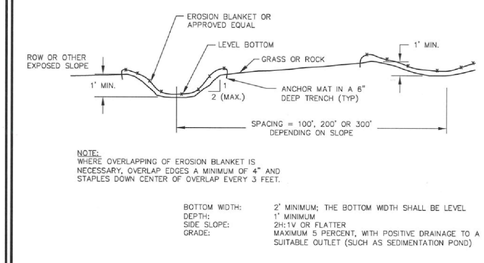
CITY OF CAMAS ~ EROSION CONTROL DETAIL
SURFACE ROUGHENING – STAIR STEPS & GROOVES
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC19



NOTES:
1. ENGINEER TO PROVIDE CONTRACTOR WITH REQUIRED SEDIMENT STORAGE VOLUME (RSSV) IN CUBIC FEET (TONS X 0.5 TONS/CE).
   FOOTPRINT = RSSV (1.5' MAX) + 2' SETTLING VOLUME
   DEPTH WITH 3:1 MAX SIDE SLOPES
   A 3:1 RATIO OF TRAP LENGTH TO WIDTH IS DESIREABLE.
2. A FILTER SYSTEM MUST BE CONSTRUCTED TO FILTER RUNOFF FROM THE SEDIMENT TRAP PRIOR TO DISCHARGE FROM THE CONSTRUCTION SITE.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

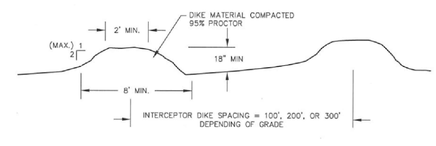
CITY OF CAMAS ~ EROSION CONTROL DETAIL
TEMPORARY SEDIMENT TRAP
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC22



NOTE:
WHERE OVERLAPPING OF EROSION BLANKET IS NECESSARY, OVERLAP EDGES A MINIMUM OF 4" AND STAPLES DOWN CENTER OF OVERLAP EVERY 3 FEET.

BOTTOM WIDTH:	2' MINIMUM; THE BOTTOM WIDTH SHALL BE LEVEL
DEPTH:	1' MINIMUM
SIDE SLOPE:	2H:1V OR FLATTER
GRADE:	MAXIMUM 5 PERCENT, WITH POSITIVE DRAINAGE TO A SUITABLE OUTLET (SUCH AS SEDIMENTATION POND)

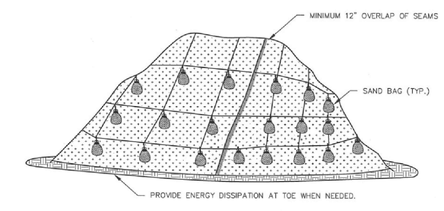
INTERCEPTOR SWALE



TEMPORARY INTERCEPTOR DIKES

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS ~ EROSION CONTROL DETAIL
INTERCEPTOR SWALE AND DIKE
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC24



NOTES:
1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES.
2. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
3. WHEN POSSIBLE, INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC.
4. TOE–IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
5. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
6. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
7. OVERLAP SEAMS 1'–2', TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
8. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

REV. NO.	DATE	BY	APPR.
1	1/1/11	SCD	JC

CITY OF CAMAS ~ EROSION CONTROL DETAIL
STOCKPILE PROTECTION
DETAIL APPROVED BY — DATE 1-4-11
NOT TO SCALE
DETAIL NO. EC27

Grading & Erosion Control Details

8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(3 6 0) 9 3 1 - 3 1 2 2

C200

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 8 of 17

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Revisions:

Site Information

Address	1805 SE 8th Ave Camas, WA 98607
Abbrev. Desc.	Oak Park Addition to Washougal, Lot 8, Block 4
S-T-R	SW¼ S12 T1N R3E W.M.
Parcel	88135000
Area	1.00 AC (43,557± SF)
Zone	R-18 (MFH)

Boundary & Topography

Property boundaries shown hereon are taken from 1999 Oak Park Addition to Washougal filed in Book C, Page 24, of Plats with the Clark County auditor's office. Adjacent property boundaries are shown approximate only. Topographic survey by Engineering Northwest PLLC in 2023. This is not a boundary survey.

Street Callout Notes

See City of Camas std details sht C230.

1. Install Commercial Driveway Approach per detail sht C210.
2. Install Traffic Curb per std detail ST12.
3. Install pavement section; Typ. 3" HMA over 2" CSTC and 9" CSBC. Material shall meet all requirements of Section 9-03.9(3) of the standard specifications.
4. Install 5' private sidewalks per std detail ST18. Direct cross slope toward parking lot.
5. Install sidewalk ADA ramp per detail sht C230.

Stormwater Callout Notes

See City of Camas std details sht C220.

10. Install **SD3** 48" Storm Sewer Manhole per std detail SD9. Design information per plan.
11. Install **SD4** flow splitter manhole per detail sht C210.
12. Install proprietary filter structure. Design information per plan and detail sht C210.
13. Install 72 LF BMP R5.11 Infiltration Trench per typical section this sheet.
14. Install Storm Drain Sump per detail sht C210 for downspout collection.
15. Install downspout collection; minimum 4" PVC or approved equal with min. 1% fallout from downspouts. Provide cleanouts at maximum 100' intervals and for each aggregate horizontal change in direction exceeding 135° to comply with plumbing code.
16. Install maintenance & inspection sump per detail sht C210.

BMP R5.11 Infiltration Trench Construction Criteria

Trench preparation: Place excavated materials away from the trench sides to enhance trench wall stability. Take care to keep this material away from slopes, neighboring property, sidewalks, and streets.

Drain rock placement: Place stone aggregate (material per gravel backfill note this sheet) in lifts and compact using plate compactors. Generally, max loose lift thickness of 12 inches. The compaction process ensures geotextile conformity to the excavation sides, reducing potential piping and geotextile clogging, as well as settlement issues.

Voids behind fabric: Voids between the geotextile and excavation sides must be avoided. Remove boulders or other obstacles from the trench walls. This remedial process will reduce potential piping, geotextile clogging, and possible surface subsidence.

Unstable excavation: Vertically excavated walls may be difficult to maintain where soil moisture is high or where soft or cohesionless soil is predominate. Trapezoidal, rather than rectangular, cross-sections may be required. In this case, the base width of the trapezoidal section shall be at minimum the design width of the rectangular section specified hereon and depths shall not be reduced.

Setbacks: A geotechnical memorandum is included in the Final TIR addressing reduced setbacks as follows:

Geotextile Filter Fabric Specification

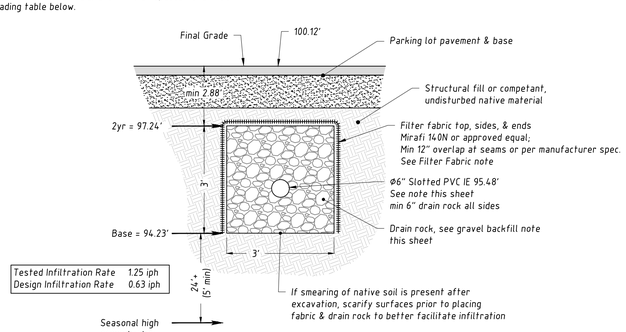
Required geotextile properties for underground drainage. All geotextile properties are minimum average roll values. The test result for any sampled roll in a lot shall meet or exceed the values shown in the table below.

Property	Test Method	Woven/Nonwoven
Grab tensile strength, in machine and x-machine direction.	ASTM D4632	min 250/160 lbs
Grab failure strain, in machine and x-machine direction.	ASTM D4632	<50% / >=50%
Seam breaking strength (if present) with seam located in the center of 8-in long specimen oriented parallel to grip faces.	ASTM D4632	min 220/140 lbs
Puncture resistance.	ASTM D6241	min 495/310 lbs
Tear strength, in machine and x-machine direction.	ASTM D4533	min 80/50 lbs
Ultraviolet (UV) ray stability.	ASTM D4355	min 50% strength retained after 500 hrs in a xenon arc device.

Drain Rock Specification

The aggregate material for the drain rock sections shall meet WSDOT Specification 9-03.12(5) that ranges from 3/4" to 1-1/2" diameter. Void spaces shall be approximately 40 percent. See grading table below.

Sieve Size	% Passing
1-1/2"	99 - 100
1"	50 - 100
3/4"	0 - 20
3/8"	0 - 2
#200	0 - 1.5

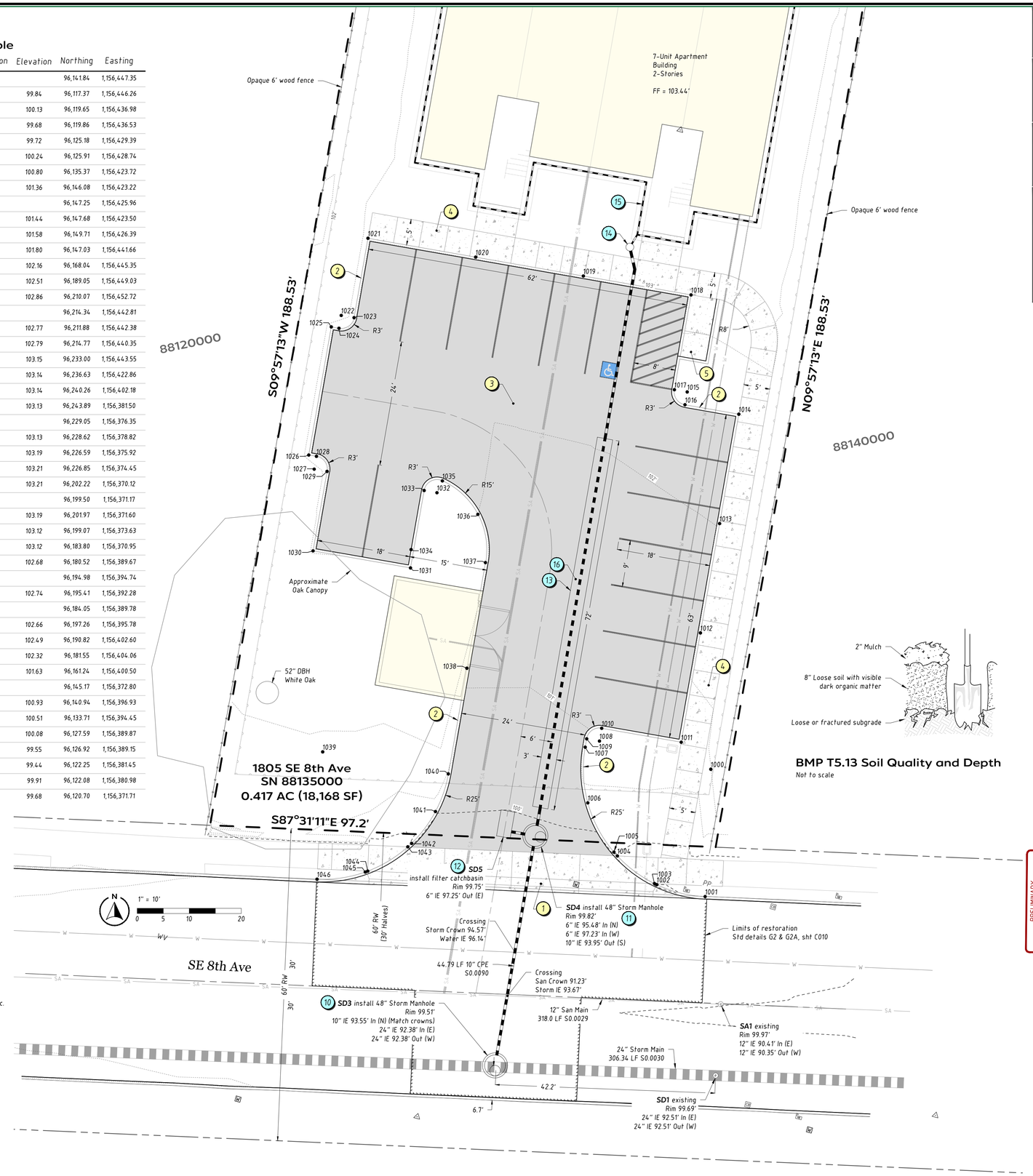


Typical Infiltration Trench Detail

Not to scale; Privately owned & maintained; See infiltration construction criteria

Curb Point Table

Point #	Raw Description	Elevation	Northing	Easting
1000	24.5RP TBC		96,141.84	1,156,447.35
1001	TBC BEG/PC	99.84	96,117.37	1,156,446.26
1002	TBC GB	100.13	96,119.65	1,156,436.98
1003	TBC GB	99.68	96,119.86	1,156,436.53
1004	TBC GB	99.72	96,125.18	1,156,429.39
1005	TBC GB	100.24	96,125.91	1,156,428.74
1006	TBC MC	100.80	96,135.37	1,156,423.72
1007	TBC PT	101.36	96,146.08	1,156,423.22
1008	2.5RP TBC		96,147.25	1,156,425.96
1009	TBC PC	101.44	96,147.68	1,156,423.50
1010	TBC PT	101.58	96,149.71	1,156,426.39
1011	TBC AP	101.80	96,147.03	1,156,441.66
1012	TBC POL	102.16	96,168.04	1,156,445.35
1013	TBC POL	102.51	96,189.05	1,156,449.03
1014	TBC AP	102.86	96,210.07	1,156,452.72
1015	2.5RP TBC		96,214.34	1,156,442.81
1016	TBC PC	102.77	96,211.88	1,156,442.38
1017	TBC PT	102.79	96,214.77	1,156,440.35
1018	TBC AP	103.15	96,233.00	1,156,443.55
1019	TBC POL	103.14	96,236.63	1,156,422.86
1020	TBC POL	103.14	96,240.26	1,156,402.18
1021	TBC AP	103.13	96,243.89	1,156,381.50
1022	2.5RP TBC		96,229.05	1,156,376.35
1023	TBC PC	103.13	96,228.62	1,156,378.82
1024	TBC PT	103.19	96,226.59	1,156,375.92
1025	TBC AP	103.21	96,226.85	1,156,374.45
1026	TBC AP	103.21	96,202.22	1,156,370.12
1027	2.5RP TBC		96,199.50	1,156,371.17
1028	TBC PC	103.19	96,201.97	1,156,371.60
1029	TBC PT	103.12	96,199.07	1,156,373.63
1030	TBC AP	103.12	96,183.80	1,156,370.95
1031	TBC AP	102.68	96,180.52	1,156,389.67
1032	2.5RP TBC		96,194.98	1,156,394.74
1033	TBC PC	102.74	96,195.41	1,156,392.28
1034	14.5RP TBC		96,184.05	1,156,389.78
1035	TBC AP	102.66	96,197.26	1,156,395.78
1036	TBC MC	102.49	96,190.82	1,156,402.60
1037	TBC PT	102.32	96,181.55	1,156,404.06
1038	TBC POL	101.63	96,161.24	1,156,400.50
1039	24.5RP TBC		96,145.17	1,156,372.80
1040	TBC PC	100.93	96,140.94	1,156,396.93
1041	TBC MC	100.51	96,133.71	1,156,394.45
1042	TBC GB	100.08	96,127.59	1,156,389.87
1043	TBC GB	99.55	96,126.92	1,156,389.15
1044	TBC GB	99.44	96,122.25	1,156,381.45
1045	TBC GB	99.91	96,122.08	1,156,380.98
1046	TBC END/PT	99.68	96,120.70	1,156,371.71



BMP T5.13 Soil Quality and Depth

Not to scale

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED PROFESSIONAL ENGINEER

Street & Storm Plan

8th Ave Apartments

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

C210

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 9 of 17

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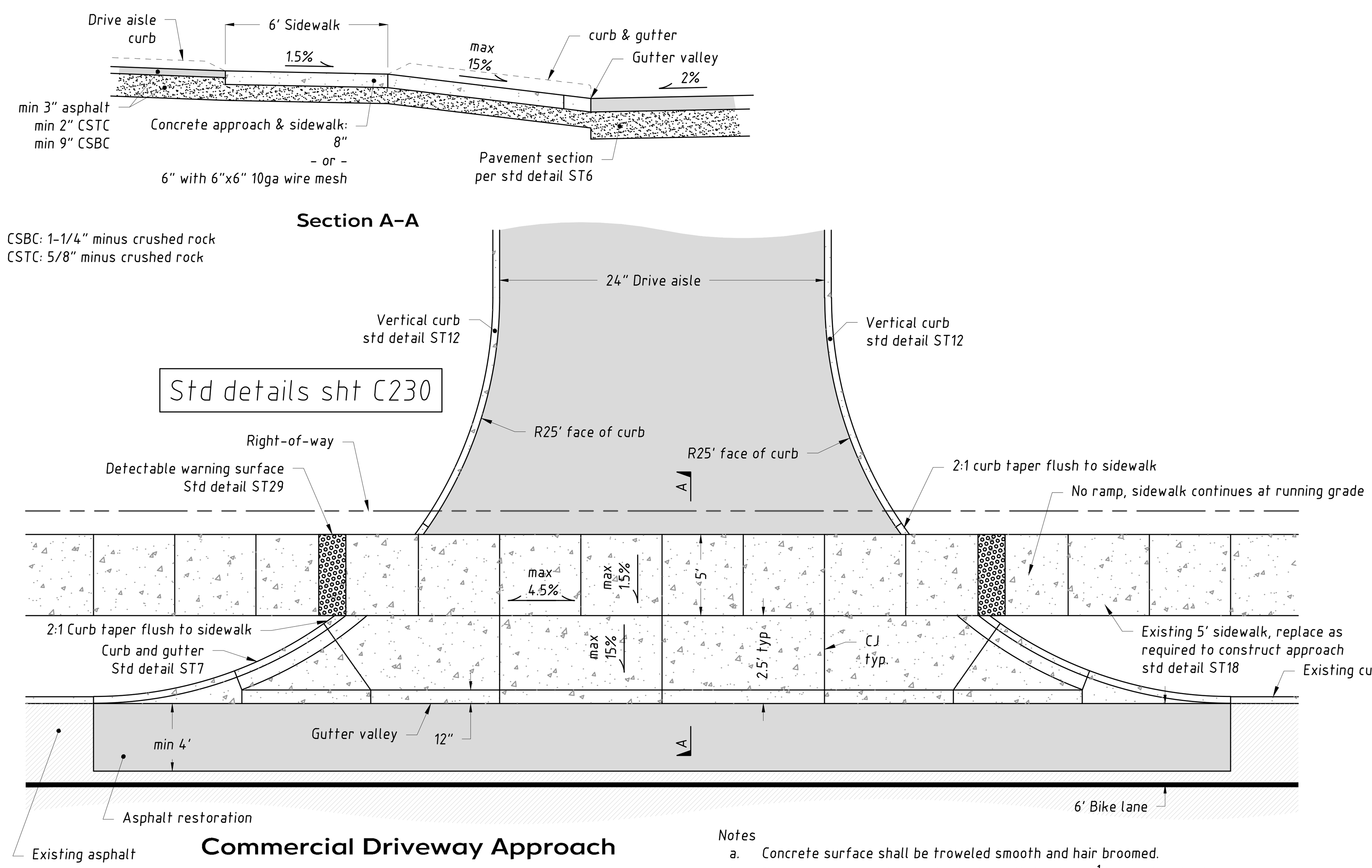
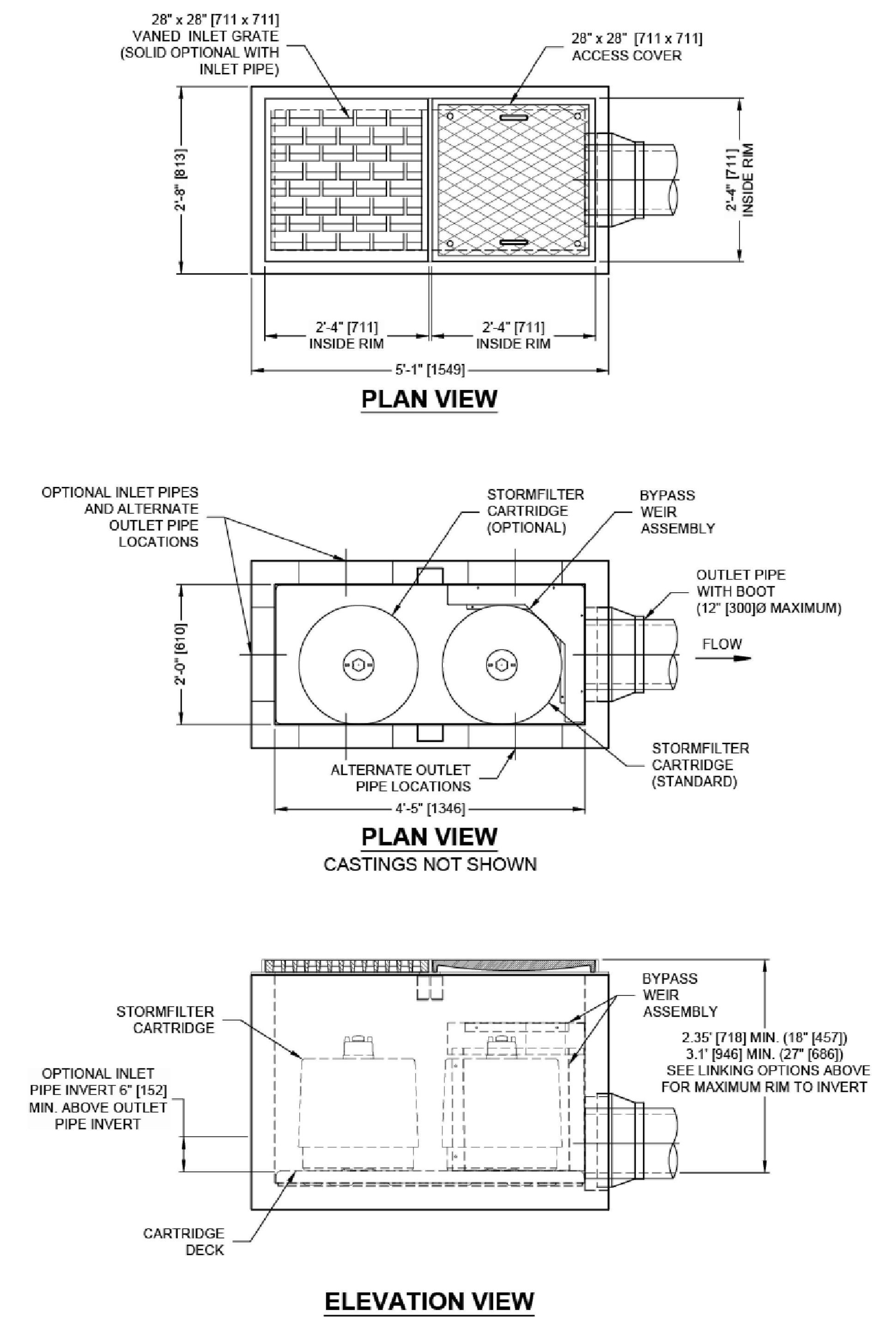
Revisions:

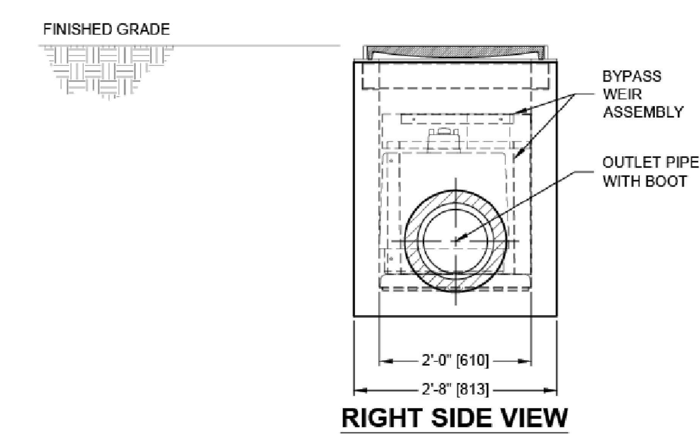


Commercial Driveway Approach

Not to scale

Notes
- a. Concrete surface shall be troweled smooth and hair broomed.
- b. Provide a weakened plane joint of min 2" depth and ⅛" max width in the middle of the driveway approach and gutter.
- c. Provide additional weakened plane joints at max 15' spacing as req'd.
- d. Cement concrete shall be air-entrained concrete class 3000.
- e. Approach may be poured integral with curb.





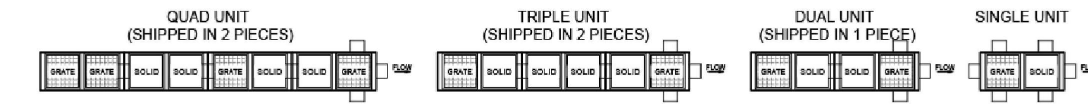
STORMFILTER DESIGN NOTES

- CONCRETE CATCHBASIN STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCAL APPROVALS
- PEAK CONVEYANCE CAPACITY IS 1.3 CFS
- CONCRETE CATCHBASIN STORMFILTER IS AVAILABLE WITH UP TO TWO (2), 18" [457] OR 27" [686] TALL CARTRIDGES
- UP TO 4 INDIVIDUAL UNITS MAY BE LINKED FOR AN ULTIMATE CAPACITY OF EIGHT (8) CARTRIDGES

CARTRIDGE SIZE (in. [mm])	27 [686]			18 [457]		
RECOMMENDED HYDRAULIC DROP (ft. [mm])	3.05 [930]			2.3 [701]		
SPECIFIC FLOW RATE (gpm/sf [L/s/m²])	2 [1.36]	1.67* [1.13]*	1 [0.68]	2 [1.36]	1.67* [1.13]*	1 [0.68]
CARTRIDGE FLOW RATE (gpm [L/s])	22.5 [1.4]	18.79 [1.19]	11.25 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.47]

* 1.67 gpm/sf [1.13 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

LINKING OPTIONS SHOWN BELOW. FLEXIBLE INLET PIPE, GRATED AND SOLID COVER PLACEMENT.
CONTACT YOUR CONTECH REPRESENTATIVE FOR MORE INFORMATION



MAXIMUM RIM TO OUTLET PIPE INVERT HEIGHT IS 6.05' [1844].

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. ALTERNATE DIMENSIONS ARE MILLIMETERS [mm] UNLESS NOTED OTHERWISE.
4. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
5. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM [L/S]) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF [m²]).
8. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 0'-2" [51] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
3. CONTRACTOR TO PROVIDE AND INSTALL PIPES. MATCH PIPE INVERTS SHOWN ON PROJECT SPECIFIC DRAWINGS.
4. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			SD5
WATER QUALITY FLOW RATE (cfs [L/s])			0.014
PEAK FLOW RATE (cfs [L/s])			0.176
RETURN PERIOD OF PEAK FLOW (yrs)			100
CARTRIDGE SIZE (27, 18)			18
CARTRIDGE FLOW RATE			
MEDIA TYPE (PERLITE, ZPG, PSORB)			
NUMBER OF CARTRIDGES REQUIRED			
RIM ELEVATION			99.75
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	-	-	-
INLET PIPE 2	-	-	-
OUTLET PIPE	97.25	PVC	6"
NOTES/SPECIAL REQUIREMENTS:			

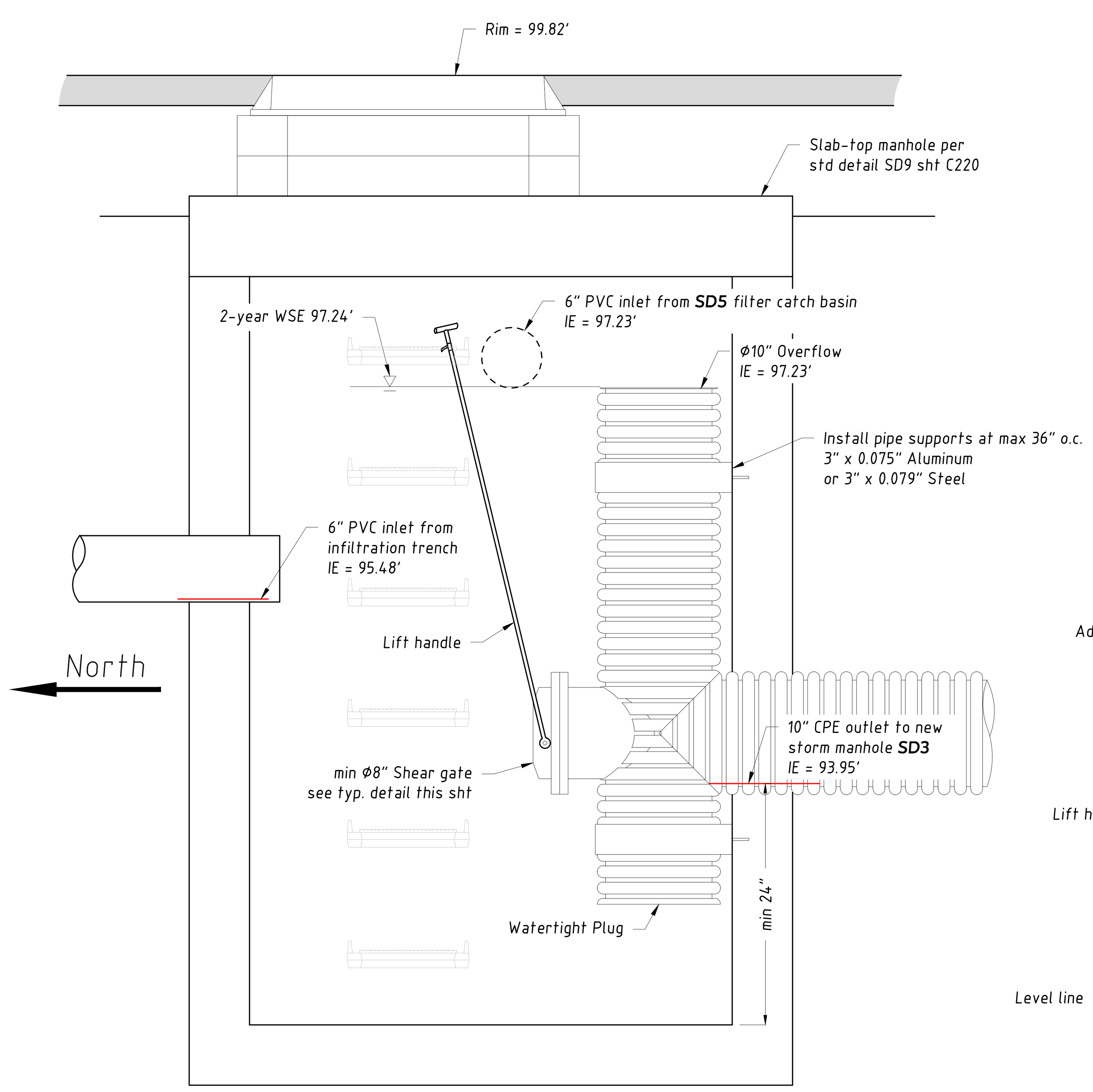
The Stormwater Management StormFilter®

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
11815 NE Glenn Widing Drive, Portland, OR 97220
800-548-4667 503-240-3393 800-561-1271 FAX

CONCRETE CATCHBASIN STORMFILTER STANDARD DETAIL

Proprietary Filter Catch Basin

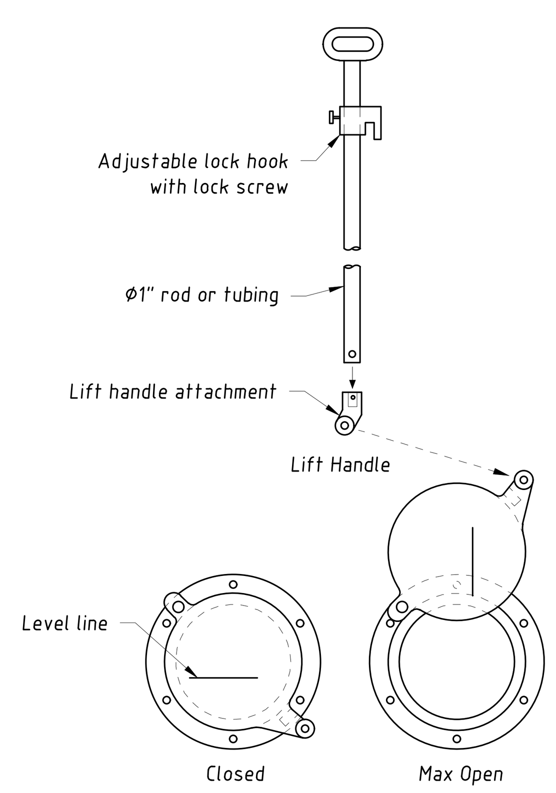
Not to scale
Or equivalent WA GULD certified structure



Notes
1. Shear gate must be visible from the top.
2. Climb-down space must be clear of riser and shear gate.

Flow Splitter Manhole SD4 - Section

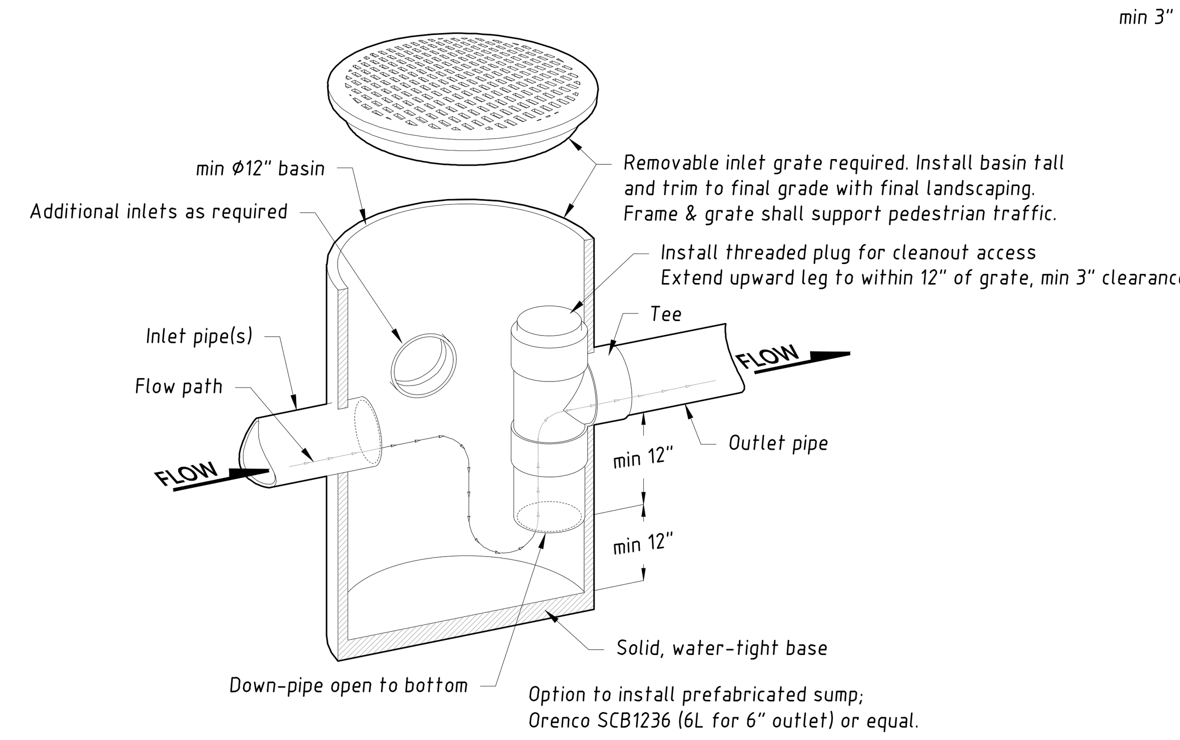
Not to scale



Notes
1. Shear gate shall be made of aluminum alloy in accordance with ASTM B 26 and ASTM B 275, designation ZG32A; or cast iron in accordance with ASTM A 48, Class 30B.
2. The lift handle shall be made of similar metal to the shear gate to prevent galvanic corrosion. It may be of solid rod or hollow tubing with an adjustable hook.
3. A neoprene rubber gasket is required between the riser mounting flange and the gate flange.
4. Install the gate so that the level-line mark is level with the gate fully closed.
5. Mating surfaces of the lid and body shall be machined for proper fit.
6. All shear gate bolts shall be stainless steel.
7. Max opening shall be controlled by limited hinge movement, a stop tab, or similar device.
8. Equivalent alternative shear gate designs are acceptable.

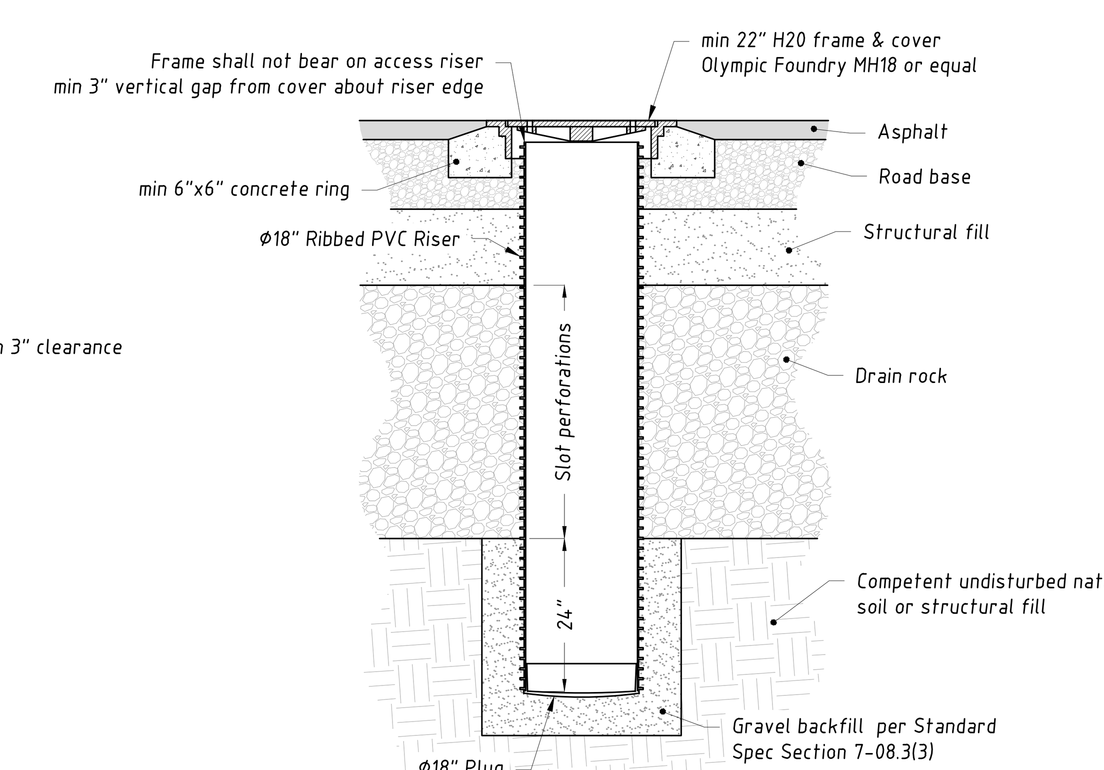
Typical Shear Gate

Not to scale



Typical Storm Drain Sump

Not to scale



Inspection and Maintenance Sump

Not to scale

Street & Storm Details
8th Ave Apartments

PRELIMINARY NOT FOR CONSTRUCTION

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
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C220

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 10 of 17

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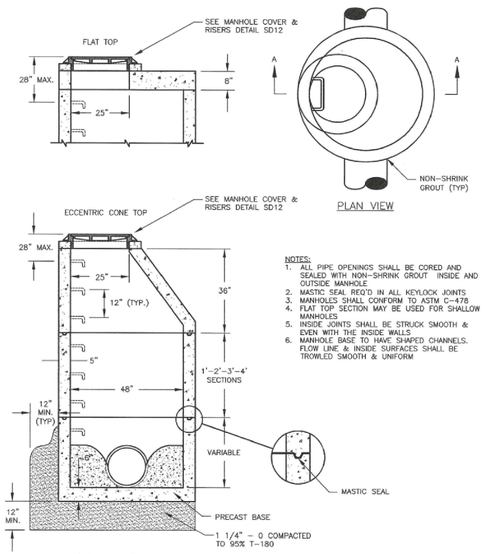
Revisions:

STORM CONSTRUCTION NOTES:

1. ALL TRENCH EXCAVATION AND PIPE INSTALLATION SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(1) AND SECTION 7-08.3(2). ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE DISPOSED OF ON AN APPROVED SITE.
2. PIPE BEDDING AND PRE-COVER (PIPE ZONE) MATERIAL SHALL BE 5/8 INCH MINUS CRUSHED ROCK.
3. TRENCH BACKFILL MATERIAL SHALL BE 1-1/4 INCH MINUS CRUSHED ROCK.
4. TRENCH COMPACTION SHALL BE PER THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(3). CONTRACTOR TO DETERMINE THE TYPE OF EQUIPMENT AND METHOD TO USE TO ACHIEVE THE REQUIRED COMPACTION. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE A.A.S.H.T.O. T-180 TEST METHOD.
5. SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY.
6. ALL STORM MAIN PIPE SHALL BE A MINIMUM 12 INCHES DIAMETER.
7. ALL STORM PIPE LATERALS SHALL BE A MINIMUM 10 INCHES DIAMETER.
8. STORM PIPE MATERIALS SHALL BE AS INDICATED IN TABLE 7-1 IN THE CAMAS STORMWATER DESIGN STANDARDS MANUAL (CSDSM).
9. STORM PIPE MINIMUM SLOPE SHALL BE AS INDICATED IN TABLE 7-2, AND MAXIMUM SLOPE SHALL BE AS INDICATED IN TABLE 7-3 IN THE CSDSM.
10. ALL MANHOLES LOCATED IN UNIMPROVED EASEMENTS AND RIGHT OF WAYS SHALL BE PROVIDED WITH TAMPER PROOF LIDS AND SHALL BE SET 6 INCHES ABOVE FINISHED GRADE.
11. VIDEO INSPECTION TAPES AND REPORTS MAY BE REQUIRED AT THE CITY'S DISCRETION. MANDREL TESTING MAY BE REQUIRED AT THE CITY'S DISCRETION.
12. INSTALL STORMWATER MEDALLION ON CURB AT EACH CATCH BASIN OR CURB INLET.

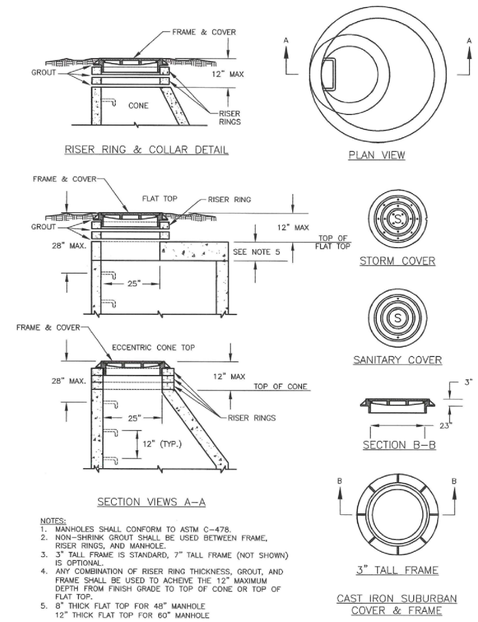
City of Camas WASHINGTON — STORM SEWER DETAIL — STORM CONSTRUCTION NOTES — NOT TO SCALE — DETAIL NO. SD1
DETAIL APPROVED BY: 7-20-18 DATE — REVISION: 4 — DATE: 7/17/2018



NOTES:
1. ALL PIPE OPENINGS SHALL BE CORED AND SEALED WITH NON-SHRINK GROUT INSIDE AND OUTSIDE MANHOLE
2. MASTIC SEAL REQ'D IN ALL KEYLOCK JOINTS
3. MANHOLES SHALL CONFORM TO ASTM C-478
4. FLAT TOP SECTION MAY BE USED FOR SHALLOW MANHOLES
5. INSIDE JOINTS SHALL BE STRUCK SMOOTH & EVEN WITH THE INSIDE WALLS
6. MANHOLE BASE TO HAVE SHAPED CHANNELS. FLOW LINE & INSIDE SURFACES SHALL BE TROWLED SMOOTH & UNIFORM

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC
3	8/11/21	ECD	JC

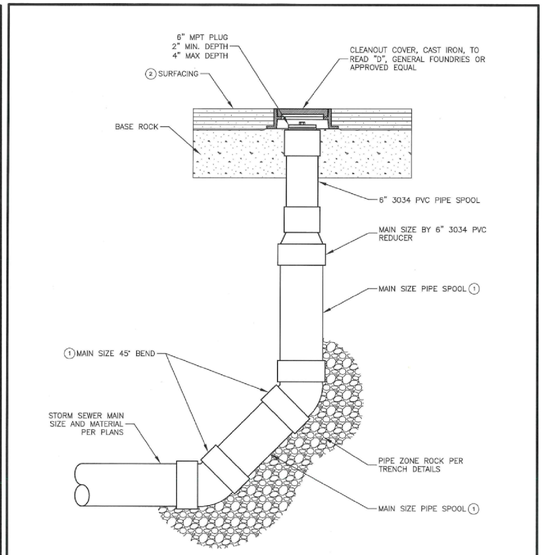
CITY OF CAMAS ~ STORM DETAIL — 48" STORM SEWER MANHOLE — DETAIL NO. SD9
DETAIL APPROVED BY: 8-12-21 DATE — NOT TO SCALE



NOTES:
1. MANHOLES SHALL CONFORM TO ASTM C-478.
2. NON-SHRINK GROUT SHALL BE USED BETWEEN FRAME, RISER RINGS, AND MANHOLE.
3. 3" TALL FRAME IS STANDARD, 7" TALL FRAME (NOT SHOWN) IS OPTIONAL.
4. ANY COMBINATION OF RISER RING THICKNESS, GROUT, AND FRAME SHALL BE USED TO ACHIEVE THE 12" MAXIMUM DEPTH FROM FINISH GRADE TO TOP OF CONE OR TOP OF FLAT TOP.
5. 8" THICK FLAT TOP FOR 48" MANHOLE
12" THICK FLAT TOP FOR 60" MANHOLE

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC
3	8/11/21	ECD	JC

CITY OF CAMAS ~ STORM DETAIL — MANHOLE COVER & RISERS — DETAIL NO. SD12
DETAIL APPROVED BY: 8-12-21 DATE — NOT TO SCALE



NOTES:
1. CLEAN OUT PIPE AND FITTINGS MAY BE THE SAME AS THE MAIN PIPE, OR MAY BE ADAPTED TO CONNECT THE MAIN PIPE TO GASKETED 3034 SDR26 PVC FOR THE CLEAN OUT.
2. PROVIDE 3" SQ. x 6" DEEP CONCRETE COLLAR AROUND VALVE BOX FOR CLEANOUTS WHEN LOCATED OUT OF ROADWAY.
3. SEE TRENCH DETAIL FOR BACKFILL/BEDDING AND SEWER UTILITY MARKING TAPE REQUIREMENTS.

City of Camas WASHINGTON — STORM SEWER DETAIL — STORM SEWER CLEAN OUT — NOT TO SCALE — DETAIL NO. SD20
DETAIL APPROVED BY: 5-17-19 DATE — REVISION: 1 — DATE: 5/16/2019

Street & Storm Details

8th Ave Apartments

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ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(3 6 0) 9 3 1 - 3 1 2 2

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Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 11 of 17

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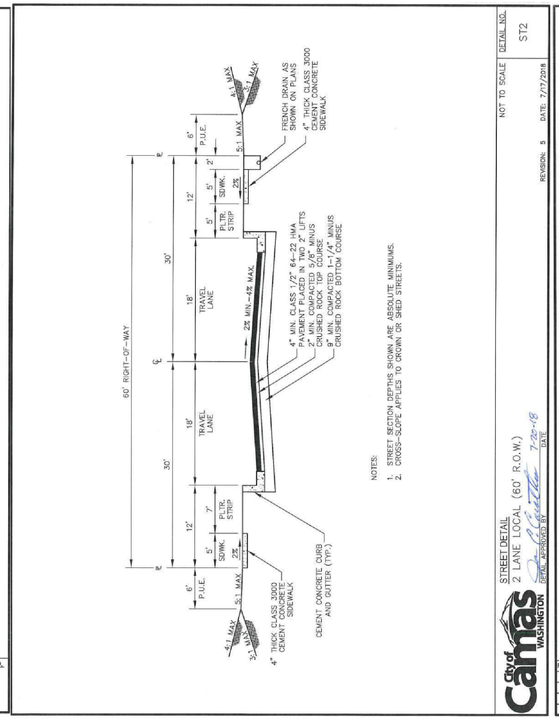
Revisions:

STREET CONSTRUCTION NOTES:

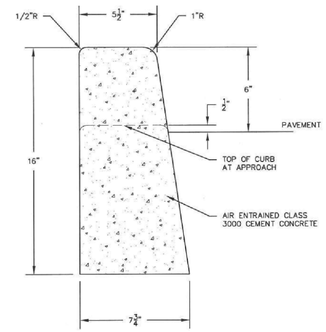
1. ENGINEERED FILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T STANDARD SPECIFICATIONS SECTION 2-03.3(14). FOR FILL AREAS WITHIN ROADWAYS, METHOD C OF (14)C SHALL BE USED. FOR FILL AREAS OUTSIDE OF ROADWAYS METHOD B SHALL BE USED. ALL FILL PLACED SHALL BE VERIFIED BY GEOTECHNICAL TESTING. TEST RESULTS SHALL BE FORWARDED TO THE CITY OF CAMAS PROJECT ENGINEER.
2. MATERIALS IN SOFT SPOTS WITHIN THE ROADWAY SHALL BE REMOVED TO THE DEPTH REQUIRED TO PROVIDE A FIRM FOUNDATION AND SHALL BE BACKFILLED WITH 1-1/2 INCH MINUS CRUSHED ROCK.
3. ALL SUBGRADE TO BE PROOF ROLLED AND APPROVED BY THE CITY INSPECTOR AND/OR BY A GEOTECHNICAL ENGINEER WITH THE CONSENT OF THE CITY ENGINEER. SUBGRADE FILLS ARE TO BE TESTED USING THE A.A.S.H.T.O. T-180 TEST METHOD.
4. ALL TRENCH LINES, FILL AREAS AND BASE COURSE LOCATED IN THE RIGHT-OF-WAY SHALL BE PER TRENCH DETAIL G2 AND THE STREET SECTION DETAILS AND SHALL MEET 95% OF A.A.S.H.T.O. T-180 COMPACTION. TRENCH LINES LOCATED WITHIN AN EXISTING ROADWAY SHALL BE PLATED OR TOPPED WITH COLD MIX. GRANULAR BACKFILL OVERNIGHT IS NOT ALLOWED. PLATES SHALL HAVE COLD MIX AROUND ALL EDGES.
5. THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO SUBGRADE PROOF ROLL OR GRADE CHECK INSPECTIONS.
6. THE AGGREGATE ROAD BASE SHALL BE COMPACTED IN ACCORDANCE WITH THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 4-04.3. THE CONTRACTOR SHALL SUBMIT TEST RESULTS TO THE ENGINEER AND CITY INSPECTOR. MAXIMUM DENSITY (95%) AS DETERMINED BY A.A.S.H.T.O. T-180 TEST METHOD.
7. ASPHALT CONCRETE PAVEMENT MIX SHALL BE DESIGNED FROM A MIX FORMULA APPROVED BY W.S.D.O.T. FOR MATERIAL USED. CONTRACTOR TO PROVIDE THE CITY WITH CERTIFICATE OF COMPLIANCE FROM THE ASPHALT PAVEMENT PLANT, UNLESS OTHERWISE INDICATED.
8. THE ASPHALT CONCRETE PAVEMENT MIX SHALL BE COMPACTED IN ACCORDANCE WITH THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T STANDARD SPECIFICATIONS SECTION 5-04.3(10). CONTRACTOR SHALL SUBMIT TEST RESULTS TO THE ENGINEER AND THE CITY INSPECTOR.
9. ALL STORM SYSTEM IMPROVEMENTS AND STORMWATER DETENTION AND TREATMENT FACILITIES SHALL BE COMPLETED AND PROPERLY FUNCTIONING PRIOR TO ANY PAVING.
10. HALF STREET IMPROVEMENTS SHALL INCLUDE AN ANALYSIS OF THE EXISTING STRUCTURAL SECTION OUT TO CENTERLINE. IF FOUND TO BE SUBSTANDARD, THE DEVELOPER SHALL BE REQUIRED TO PROVIDE AN ADEQUATE STRUCTURAL SECTION TO CENTERLINE. THIS MAY CONSIST OF A STRUCTURAL OVERLAY OR A COMPLETE STREET RECONSTRUCTION AS DETERMINED BY A GEOTECHNICAL ANALYSIS AND AS APPROVED BY THE CITY ENGINEER.
11. ALL SIDEWALK AND CURB RAMPS SHALL COMPLY WITH THE MOST RECENT EDITION OF THE W.S.D.O.T. FIELD GUIDE FOR CESSIBLE PUBLIC RIGHTS OF WAY.

City of Camas WASHINGTON — STREET DETAIL: STREET CONSTRUCTION NOTES — NOT TO SCALE — DETAIL NO. ST1
DETAIL APPROVED BY 7-23-18 DATE — REVISION: 3 — DATE: 7/17/2018



NOTES:
1. STREET SECTION DEPTHS SHOWN ARE ABSOLUTE MINIMUMS.
2. CROSS-SLOPE APPLIES TO CROWN OR SINGLE STREETS.

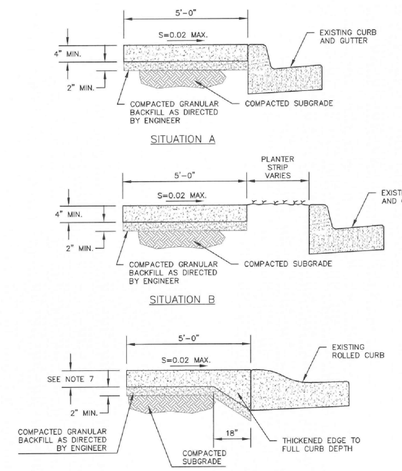
City of Camas WASHINGTON — STREET DETAIL: 2 LANE LOCAL (60' R.O.W.) — NOT TO SCALE — DETAIL NO. ST2
DETAIL APPROVED BY 7-20-18 DATE — REVISION: 5 — DATE: 7/17/2018



NOTES:
1. THERE SHALL BE EXPANSION JOINTS EVERY 45' & FALSE JOINTS EVERY 15'
2. STAMP A "W" OR "S" IN FACE OF CURB AT WATER AND SEWER SERVICE LOCATIONS.
3. SEE CURB TRANSITION DETAIL FOR TRANSITION TO TRAFFIC CURB & GUTTER

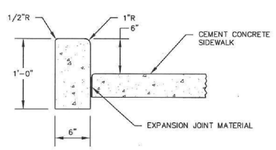
REV. NO.	DATE	BY	APPR.
1	5/1/07	SCD	JC
2	9/18/07	SCD	JC
3	1/1/11	SCD	JC

CITY OF CAMAS ~ STREET DETAIL: TRAFFIC CURB — DETAIL NO. ST12
DETAIL APPROVED BY 1-4-11 DATE — NOT TO SCALE

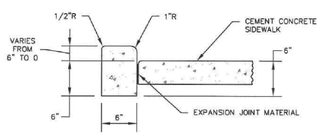


NOTES:
1. NOTIFY CITY INSPECTOR 24 HOURS PRIOR TO CONCRETE POUR FOR APPROVAL OF FORMS.
2. SUBGRADE SHALL BE SHAPED AND COMPACTED TO A FIRM EVEN SURFACE.
3. ALL SOFT AND YIELDING MATERIAL SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.
4. CONCRETE FOR SIDEWALKS SHALL BE AIR ENTRAINED CONCRETE CLASS 3000.
5. PROVIDE EXPANSION JOINTS EVERY 15 FEET AND DUMMY JOINTS EVERY 5 FEET.
6. CONCRETE SURFACE SHALL BE TROWELED SMOOTH AND HAIR BROOMED.
7. DRIVEWAY APPROACHES AND SIDEWALKS = 6"
8. WEEP HOLES NOT PERMITTED ON ROLLED CURB

City of Camas WASHINGTON — STREET DETAIL: SIDEWALKS — NOT TO SCALE — DETAIL NO. ST18
DETAIL APPROVED BY 3-24-22 DATE — REVISION: 5 — DATE: 03/22/2022



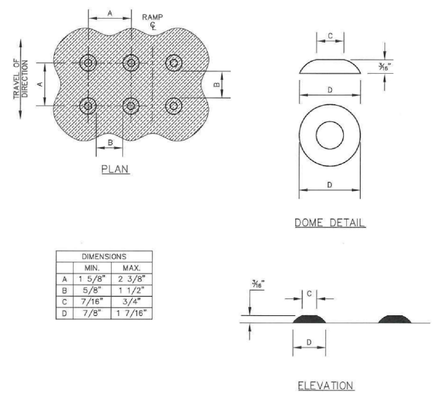
CEMENT CONCRETE PEDESTRIAN CURB



CEMENT CONCRETE PEDESTRIAN CURB
AT SIDEWALKS RAMPS & LANDINGS

REV. NO.	DATE	BY	APPR.
1	1/1/11	SCD	JC

CITY OF CAMAS ~ STREET DETAIL: PEDESTRIAN CURB — DETAIL NO. ST19
DETAIL APPROVED BY 1-4-11 DATE — NOT TO SCALE

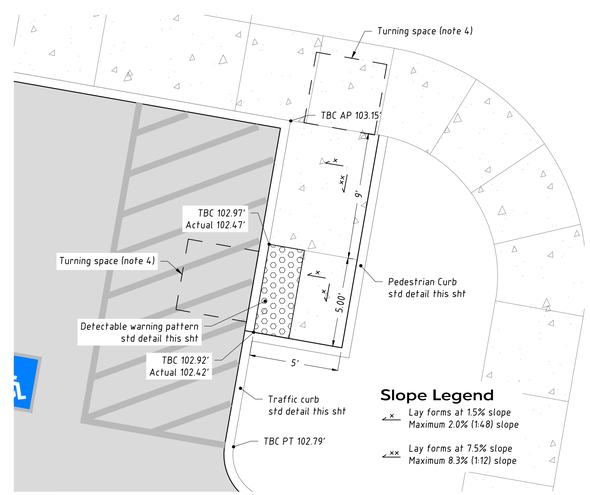


DIMENSIONS	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

NOTES:
1. TRUNCATED DOMES SHALL BE IN COMPLIANCE WITH WSDOT STANDARD PLAN F-45.10.
2. DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW, IN COMPLIANCE WITH WASHINGTON STATE STD. SPEC. 8-14.3(5).

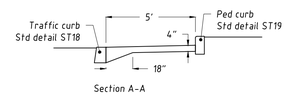
REV. NO.	DATE	BY	APPR.
1	5/1/07	SCD	JC
2	1/1/11	SCD	JC
3	10/21/14	SCD	JC

CITY OF CAMAS ~ STREET DETAIL: DETECTABLE WARNING PATTERN — DETAIL NO. ST29
DETAIL APPROVED BY 10-21-14 DATE — NOT TO SCALE



ADA Ramp
Not to scale

Slope Legend
x — Lay forms at 1.5% slope, Maximum 2.0% (1:48) slope
xx — Lay forms at 7.5% slope, Maximum 8.3% (1:12) slope



Notes
1. Truncated domes shall be in compliance with WSDOT standard plan F-45.10. Se std detail ST29 this sht.
2. All sidewalk, turning spaces, ramps, wings, and curbs shall be CL3000 cement concrete.
3. Ramp grade shall not exceed 1:12 (8.3%) and not exceed 1:48 (2%) cross slope. Recommend laying out forms at 7.5% and 1.5% respectively.
4. Turning space shall be min 4'x4' and not exceed 1:48 (2%) slope in any direction.
5. Ramps to be constructed separately from sidewalks and isolated by expansion joint material.

Street & Storm Details

8th Ave Apartments

PRELIMINARY NOT FOR CONSTRUCTION

PAUL C. WILLIAMS — STATE OF WASHINGTON — 43138 — REGISTERED PROFESSIONAL ENGINEER

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

C300

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 12 of 17

Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:

Site Information

Address	1805 SE 8th Ave Camas, WA 98607
Abbrev. Desc.	Oak Park Addition to Washougal, Lot 8, Block 4
S-T-R	SW¼ S12 T1N R3E W.M.
Parcel	88135000
Area	1.00 AC (43,557± SF)
Zone	R-18 (MFH)

Boundary & Topography

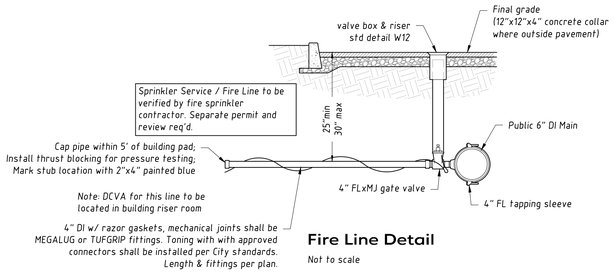
Property boundaries shown hereon are taken from 1999 Oak Park Addition to Washougal filed in Book C, Page 24, of Plats with the Clark County auditor's office. Adjacent property boundaries are shown approximate only. Topographic survey by Engineering Northwest PLLC in 2023. This is not a boundary survey.

Water Callout Notes

Details shts C010, C310

- See City of Camas Water Construction Notes, std detail W1.
- See trench backfill sections per std details G2 and G3.
- All materials and methods of construction and installation for water shall conform to the City of Camas "Design Standards Manual". Construction shall be as per the most current standard details contained therein.
- Maintain min 10" horizontal separation between sewer and water main lines. Maintain min 18" vertical separation for sanitary sewer and 6" for other utilities.
- Private water lines shall be CTS Municipe Blue ASTM F876 SDR9 unless otherwise noted (or approved equal).
- All components of the onsite private water system and fire line(s) shall be privately owned and maintained by the property owner(s) with right-of-entry granted to the City for inspection purposes.
- Coordinate tie-in activities with the City of Camas 48-hrs min prior to construction.

1. (1 locations) Install 4" fire line per detail this sheet.
2. (1 location) Install 1" service with 1" meter per std detail W2, and 1" RPBA per std detail W24.
3. (1 location) 3/4" DCVA IRR supply; Std detail IR13 (Irrigation network not shown; design build by others)
4. Install building-mounted FDC. Location and design by sprinkler contract.



Fire Line Detail

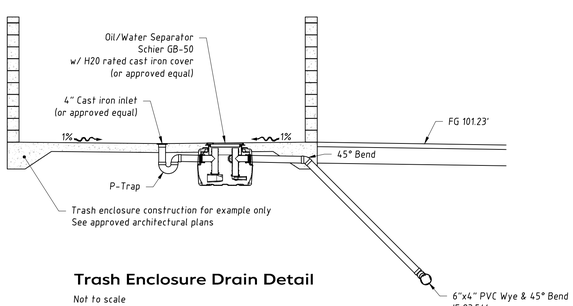
Not to scale

Sanitary Callout Notes

Details shts C010, C310

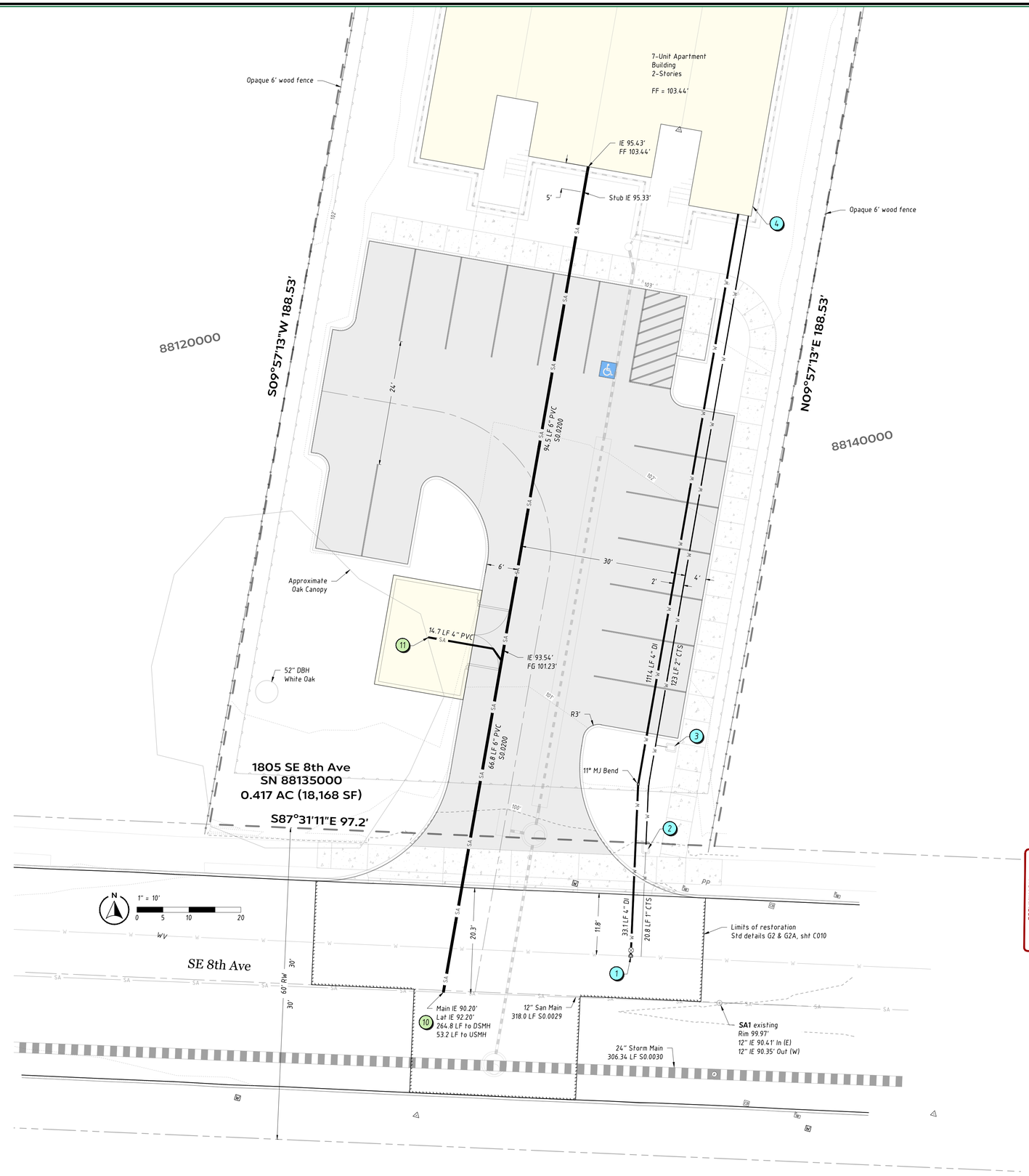
- See City of Camas Gravity Sewer Construction Notes per std detail SG1.
- All components of the onsite private sanitary sewer system shall be privately owned and maintained by the property owner(s) with a right-of-entry granted to the City for inspection purposes.
- Coordinate tie-in activites with the City of Camas 48-hrs min prior to construction.

10. Install 6" 3034 PVC gravity sewer service per std detail SG2. Extend stub to within 5' of building. Building sewers shall comply with City of Camas plumbing code.
11. Install trash enclosure sewer drain per detail this sht. Maintenance agreement, operation and maintenance manual, required. Service frequency must be specified.



Trash Enclosure Drain Detail

Not to scale



Utility Plan

8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED PROFESSIONAL ENGINEER

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

C310

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 13 of 17

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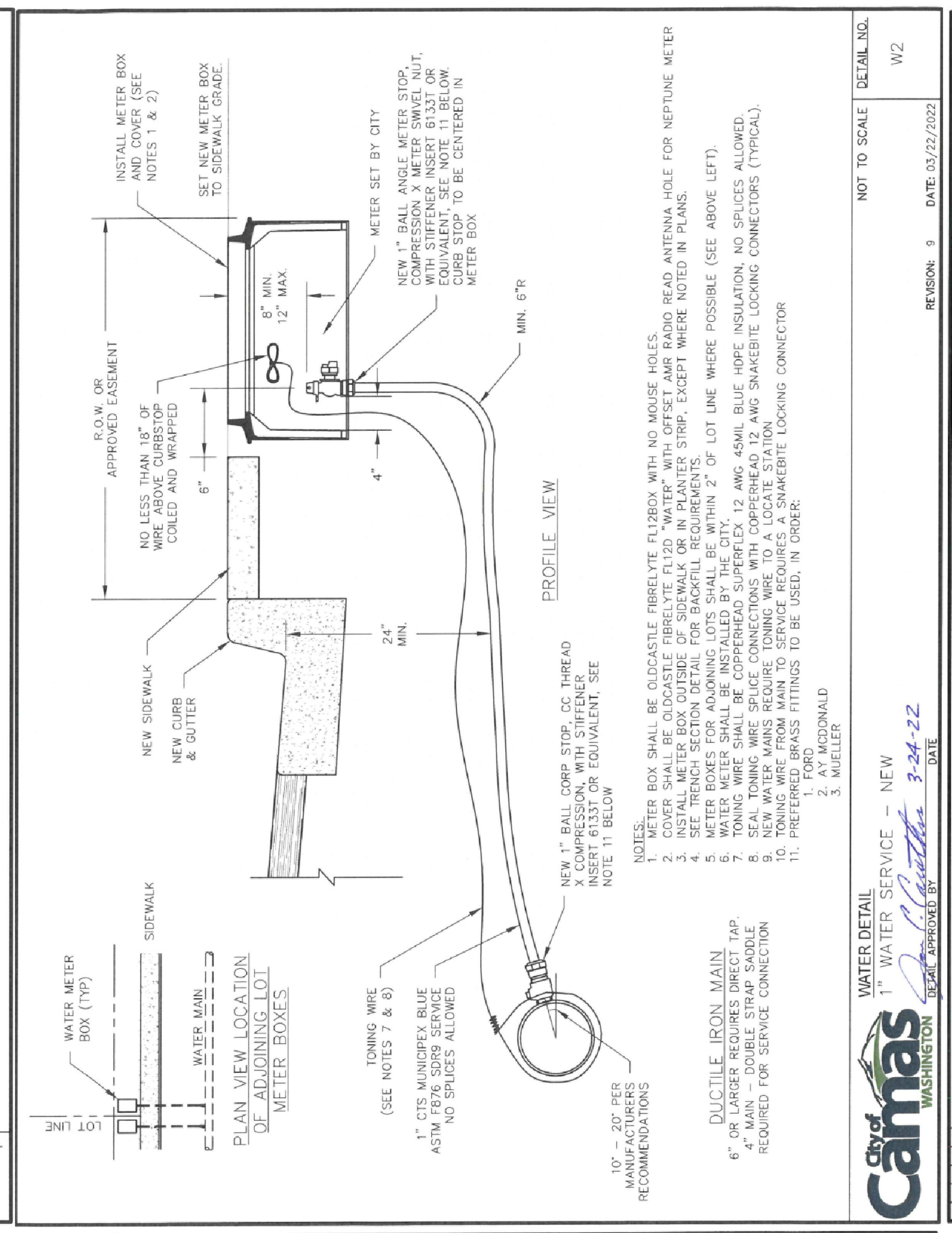
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

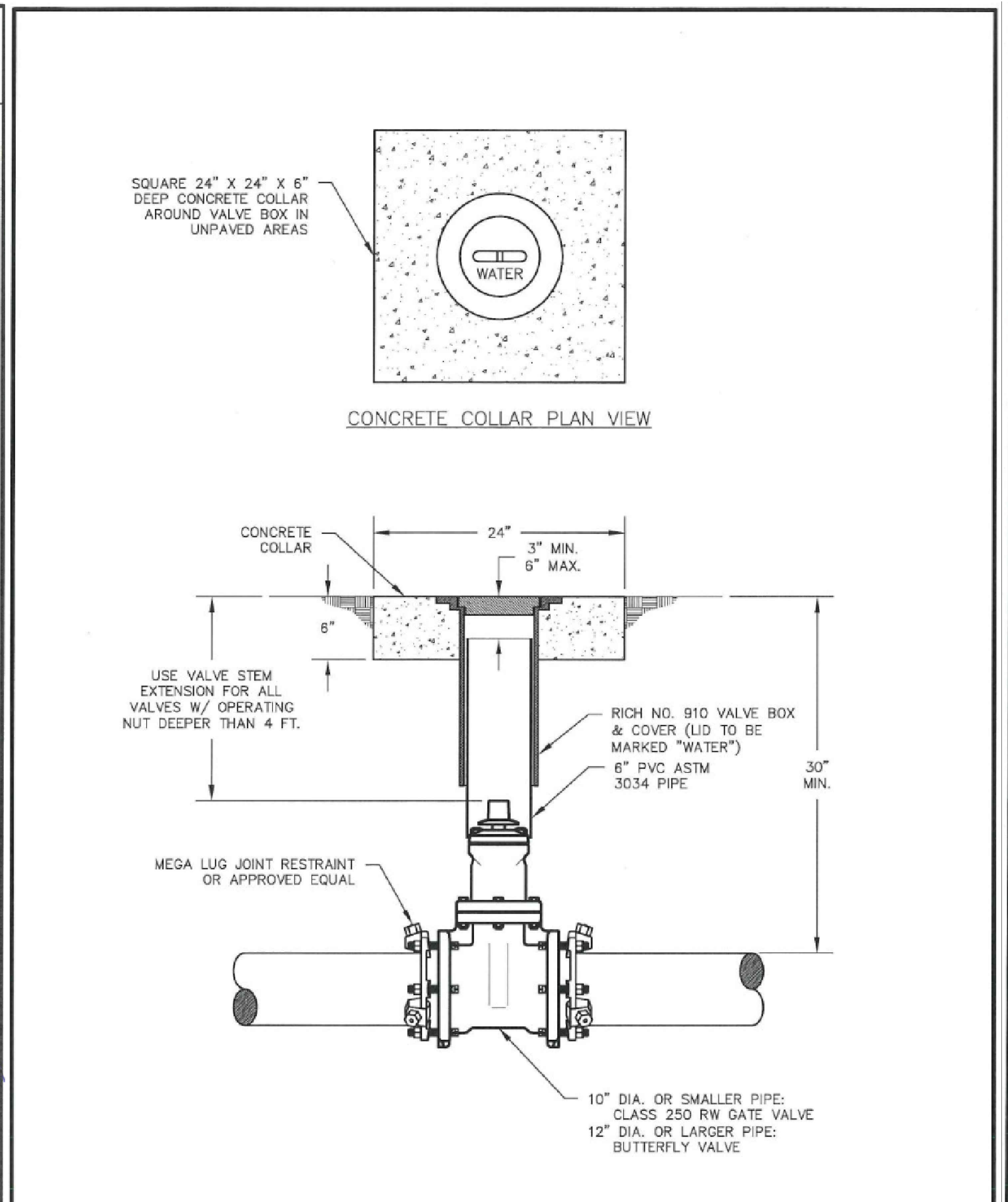
Revisions:

WATER CONSTRUCTION NOTES:

1. ALL TRENCH EXCAVATION AND PIPE INSTALLATION SHALL CONFORM TO THE MOST CURRENT A.W.W.A. STANDARDS, AND THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(1) AND SECTION 7-08.3(2). ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE LOADED DIRECTLY INTO A DUMP TRUCK AND DISPOSED OF AT AN APPROVED SITE.
2. PIPE BEDDING AND PRE-COVER (PIPE ZONE) MATERIAL SHALL BE 5/8 INCH MINUS CRUSHED ROCK.
3. TRENCH BACKFILL MATERIAL SHALL BE 1-1/4 INCH MINUS CRUSHED ROCK.
4. TRENCH COMPACTION SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(3). CONTRACTOR TO DETERMINE THE TYPE OF EQUIPMENT AND METHOD USED TO ACHIEVE THE REQUIRED COMPACTION AND BE APPROVED BY THE CITY OF CAMAS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE A.A.S.H.T.O. T-180 TEST METHOD.
5. SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY.
6. ALL VALVES 10 INCHES OR LESS IN DIAMETER SHALL BE A.W.W.A. APPROVED RESILIENT WEDGE GATE VALVES, BUBBLE TIGHT AT 200PSI, HAVE NON RISING STEMS, AND OPEN BY TURNING TO THE LEFT. PROVIDE A 2 INCH SQUARE NUT TO CONFORM TO A.W.W.A. C-504. ALL VALVES 12 INCHES OR LARGER IN DIAMETER SHALL BE A.W.W.A. APPROVED BUTTERFLY VALVES.
7. ALL WATER PIPE 12 INCHES OR LESS IN DIAMETER SHALL BE DUCTILE IRON CLASS 52 PIPE. ALL WATER PIPE 14 INCHES IN DIAMETER AND LARGER SHALL BE DUCTILE IRON CLASS 51 PIPE. RUBBER GASKET TYPE SHALL BE U.S. PIPE, TYTON OR APPROVED EQUAL. ALL FITTINGS SHALL BE DUCTILE IRON AND SHALL CONFORM TO THE A.W.W.A. STANDARD C-110.
8. ALL TEES, FLANGES, CAPS, BENDS AND OFFSETS, AS WELL AS ALL OTHER APPURTENANCES WHICH ARE SUBJECT TO UNBALANCED THRUST, SHALL BE PROPERLY BRACED BY ONE OF THE FOLLOWING METHODS:
   A. PRIMARY METHOD IS MECHANICAL JOINT RESTRAINT, AS SHOWN IN DETAIL W14 – USE "EBBA IRON SERIES 1100 MEGA LUG" MECHANICAL JOINT THRUST RESTRAINT OR APPROVED EQUAL. CONTRACTOR TO RESTRAIN THE MINIMUM REQUIRED PIPE LENGTH WITH "FIELD-LOK" GASKETS OR APPROVED EQUAL.
   B. ALTERNATE METHOD IS CONCRETE THRUST BLOCKING, AS SHOWN IN DETAIL W15 – BLOCKING SHALL BE 3000 PSI CONCRETE POURED IN PLACE. THRUST BLOCKING SHALL ONLY BE USED WHEN OTHER MEANS OF RESTRAINT CANNOT BE USED, OR EXISTING PIPE BEING CONNECTED IS NOT RESTRAINED.
9. ALL WATER MAINS SHALL BE TESTED AT 200PSI IN ACCORDANCE WITH SECTION 7-09.3(23) OF THE STANDARD SPECIFICATIONS. THE CITY SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ACCEPTANCE TESTING. MAXIMUM LENGTH OF PIPE TO BE TESTED AT ONE TIME IS 1000 FT.
10. CHLORINATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 7-09.3(24) OF THE STANDARD SPECIFICATIONS. CITY INSPECTOR WILL TAKE SAMPLES AND DELIVER TO LABORATORY FOR BACTERIA TESTING, NEGATIVE SAMPLE RESULTS SHALL BE CONFIRMED, PRIOR TO PRESSURE TESTING. DECHLORINATION OR DISPOSAL TO SANITARY MAIN MAY BE REQUIRED.
11. APPROPRIATE DISPOSAL AND OR DECHLORINATION OF FLUSHED WATER DURING BLOWOFF IS THE RESPONSIBILITY OF THE CONTRACTOR. METHOD USED SHALL BE APPROVED BY CITY AND OTHER REGULATING AUTHORITIES.
12. WATER MAIN TO HAVE A MINIMUM COVER OF 30 INCHES. WATER SERVICES TO HAVE A MINIMUM 24" OF COVER.
13. ALL EXISTING VALVES TO BE OPERATED BY CITY OF CAMAS WATER/SEWER DEPARTMENT PERSONNEL ONLY.
14. NO CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE PRIOR TO SATISFACTORY PRESSURE TESTING, DISINFECTION, AND THE CONFIRMATION OF A NEGATIVE BACTERIA TEST.
15. WATER MAINS SHALL BE LOOPED WHEREVER POSSIBLE.
16. WATER MAINS SHALL BE 8" DIAMETER MINIMUM LINE SIZE. LARGER LINE SIZES MAY BE REQUIRED.
17. SEE IRRIGATION CONSTRUCTION NOTES, DETAIL IR1, FOR APPROVED BACKFLOW PREVENTION DEVICES.

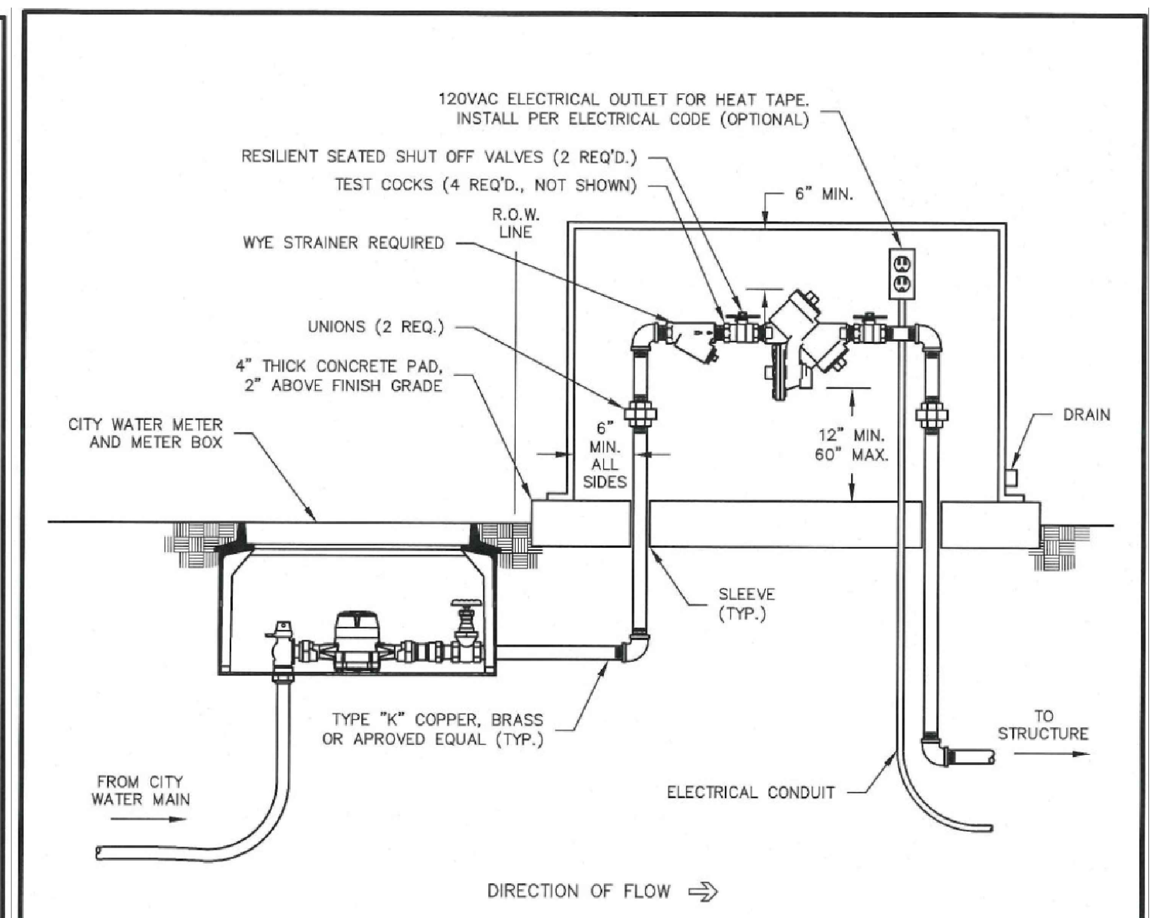
City of Camas WASHINGTON
WATER DETAIL
WATER CONSTRUCTION NOTES
DETAIL APPROVED BY — DATE 3-2-22
NOT TO SCALE — DETAIL NO. W1
REVISION: 7 — DATE: 03/02/2022





REV. NO.	DATE	BY	APPR.
1	7/17/06	SCD	RES1076
2	5/1/07	SCD	JC
3	1/1/11	SCD	JC
4	10/21/14	SCD	JC

CITY OF CAMAS – WATER DETAIL
VALVE BOX AND RISER
DETAIL APPROVED BY — DATE 10-21-14
NOT TO SCALE — DETAIL NO. W12



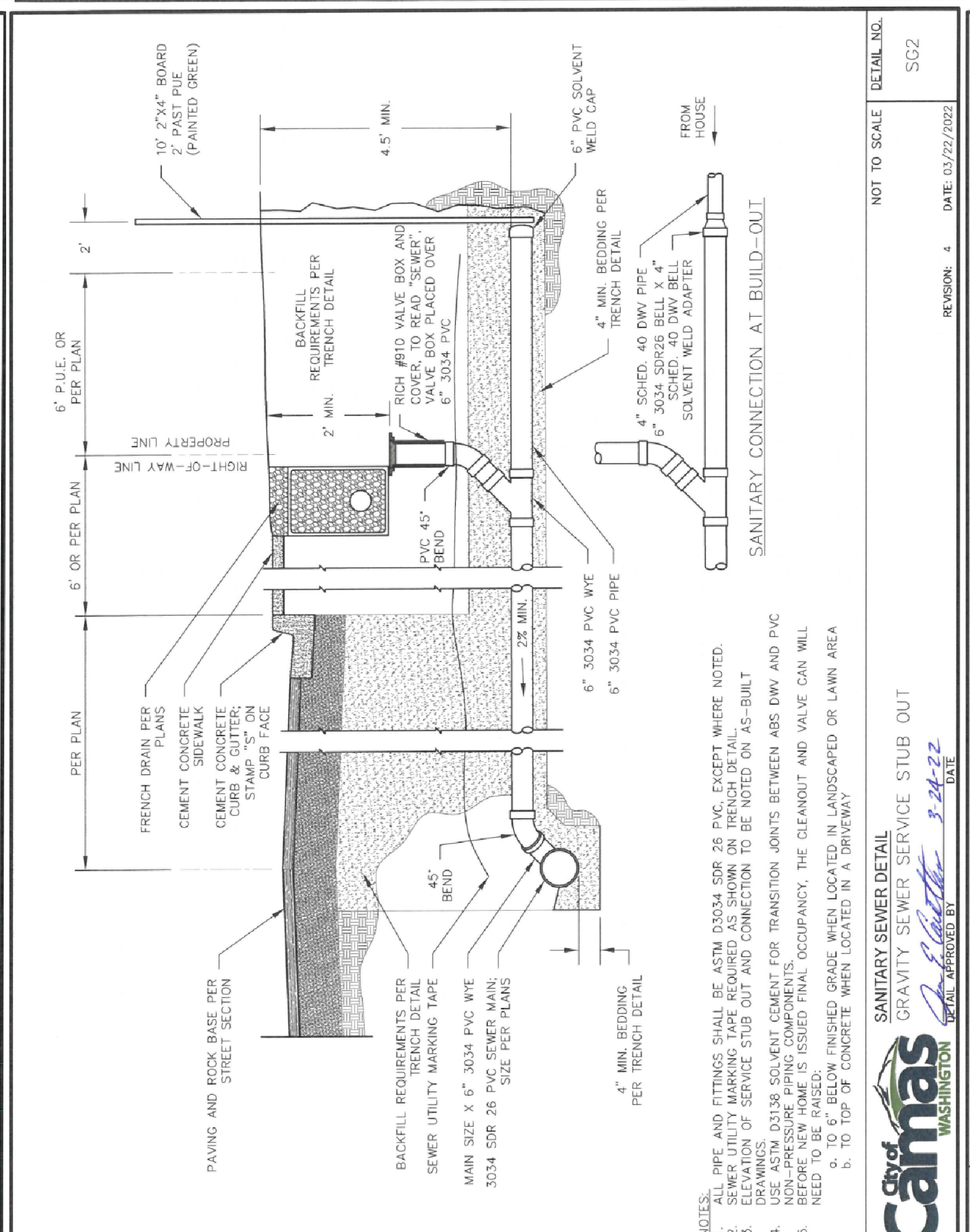
NOTES:
1. REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) SHALL BE DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE, AND APPROVED BY THE STATE OF WASHINGTON DEPARTMENT OF HEALTH.
2. THE RPBA SHALL LAY HORIZONTAL ONLY (VERTICAL IF APPROVED BY DEPT. OF HEALTH). DO NOT INSTALL IN A PIT, TRENCH OR AN AREA SUBJECT TO FLOODING.
3. THE RPBA MUST BE ACCESSIBLE TO ALLOW FOR ANNUAL TESTING.
4. THE DRAIN SHALL BE SIZED PER THE AWWA CROSS CONTAMINATION CONTROL MANUAL.
5. PLUMBING PERMIT IS REQUIRED – CONTACT THE APPROPRIATE JURISDICTION FOR PERMIT.
6. THE WATER LINE SHALL BE DISINFECTED, FLUSHED AND PRESSURE TESTED PRIOR TO INSTALLING THE RPBA. THE RPBA SHALL BE PROTECTED FROM FREEZING AND FLOODING.
7. THE RPBA SHALL BE INSTALLED ON OWNER'S PROPERTY AT PROPERTY LINE OR EASEMENT LINE, OR AT A LOCATION APPROVED BY CITY OF CAMAS WATER DEPARTMENT.
8. ALL ENCLOSURES SHALL BE PRE-APPROVED BY THE CITY OF CAMAS WATER DEPARTMENT PRIOR TO INSTALLATION
9. THE RPBA SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE, ALSO YEARLY THEREAFTER BY A WASHINGTON STATE DEPARTMENT OF HEALTH CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY OF CAMAS WATER DEPARTMENT.
10. HEAT AND/OR INSULATION SHALL BE PROVIDED TO PREVENT FREEZING.
11. RPBA SHALL BE RETESTED IF MOVED OR REPAIRED.
12. ALL NEWLY INSTALLED FITTINGS IN CONTACT WITH WATER SHALL BE IN COMPLIANCE WITH THE REVISED SECTION 1417 OF THE EPA SAFE WATER DRINKING ACT AND CERTIFIED LEAD FREE USING NSF 372 STANDARDS.

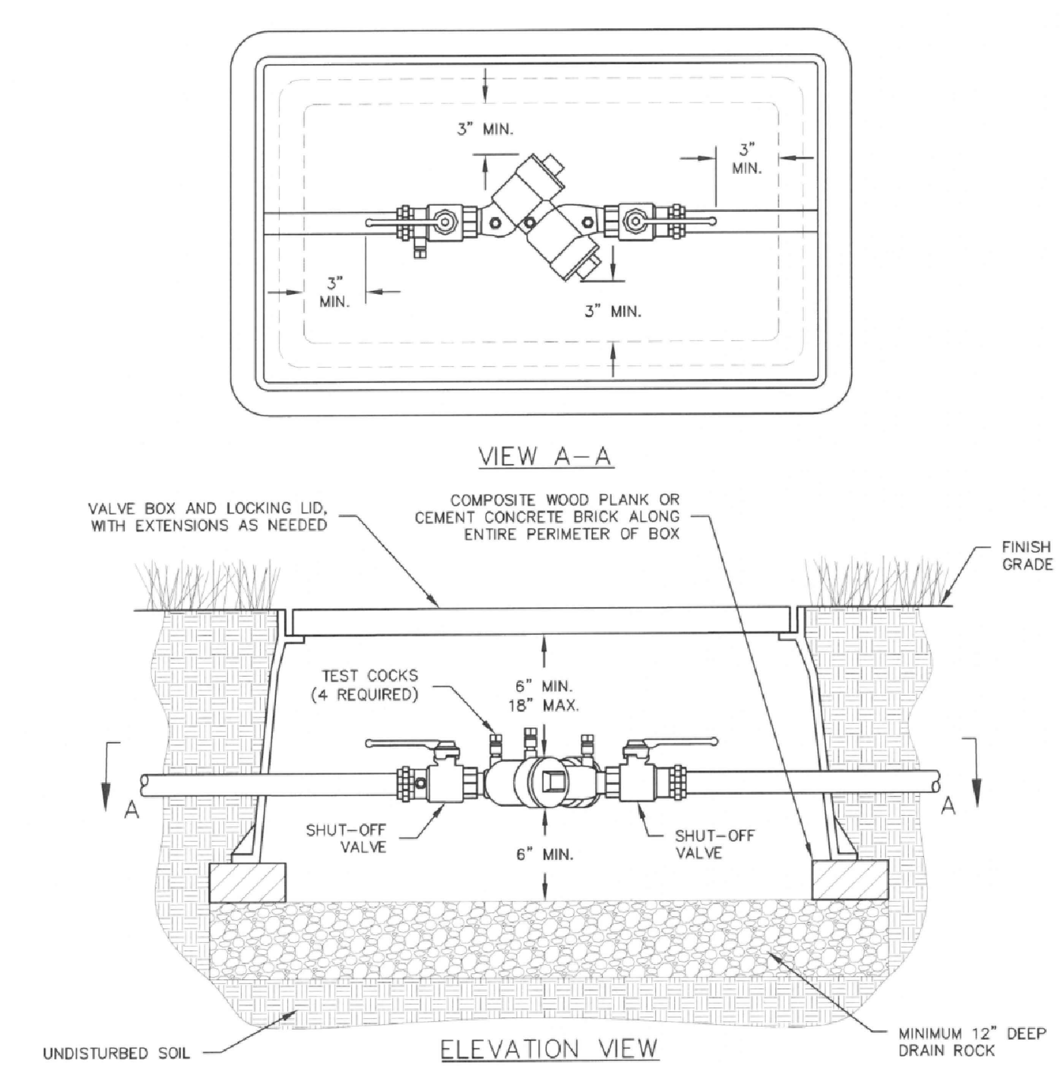
City of Camas WASHINGTON
WATER DETAIL
REDUCED PRESSURE BACKFLOW ASSEMBLY, 1" AND 2"
DETAIL APPROVED BY — DATE 9-28-17
NOT TO SCALE — DETAIL NO. W24
REVISION: 1 — DATE: 09/2017

CONVENTIONAL GRAVITY SEWER CONSTRUCTION NOTES:

1. ALL TRENCH EXCAVATION AND PIPE INSTALLATION SHALL CONFORM TO THE MOST RECENTLY ADOPTED VERSION OF W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(1) AND SECTION 7-08.3(2). ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE DISPOSED OF ON AN APPROVED SITE.
2. PIPE BEDDING & PRE-COVER (PIPE ZONE) MATERIAL SHALL BE 5/8 INCH MINUS CRUSHED ROCK.
3. TRENCH BACKFILL MATERIAL SHALL BE 1-1/4 INCH MINUS CRUSHED ROCK.
4. TRENCH COMPACTION SHALL BE PER CITY OF CAMAS STANDARD TEST REQUIREMENTS DETAIL G4. CONTRACTOR TO DETERMINE THE TYPE OF EQUIPMENT AND METHOD TO USE TO ACHIEVE THE REQUIRED COMPACTION. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE A.A.S.H.T.O. T-180 TEST METHOD.
5. SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY.
6. ALL PIPE AND FITTINGS SHALL CONFORM TO THE MOST RECENTLY ADOPTED VERSION OF W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-17.2. PIPE SIZES UP TO 15 INCHES SHALL CONFORM TO ASTM D3034 SDR26. PIPE SIZES FROM 18 TO 48 INCHES SHALL CONFORM TO ASTM F679 PS115.
7. ALL PIPE CONNECTIONS AT MANHOLES SHALL BE CORED AND RUBBER BOOTED.
8. VACUUM TESTING OF MANHOLES IS REQUIRED PRIOR TO APPLICATION OF AN APPROVED HYDROGEN SULFIDE RESISTANT LINER.
9. ALL MANHOLES SHALL BE COATED WITH A HYDROGEN SULFIDE RESISTANT LINING, MATERIAL SUBMITTAL REQUIRED. LINING SHALL ALSO BE APPLIED TO EXISTING MANHOLES WHEN A NEW LINE ENTRY IS TIED-IN TO THE MANHOLE.
10. ALL PIPE AND FITTINGS SHALL BE AIR TESTED AT FOUR P.S.I. FOR ONE MINUTE PER EVERY 100 FEET OF MAINLINE.
11. SANITARY SERVICE LATERAL SHALL BE 6 INCHES IN DIAMETER AND THE ENDS SHALL EXTEND 8 FEET PAST THE STREET RIGHT-OF-WAY LINE OR AS SHOWN ON THE PLANS AND MARKED WITH A 10 FOOT LONG 2" X 4".
12. ALL SANITARY LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 6 FEET AND A MINIMUM GRADE OF 0.4% UNLESS OTHERWISE SHOWN ON THE PLANS.

City of Camas WASHINGTON
SANITARY SEWER DETAIL
GRAVITY SEWER CONSTRUCTION NOTES
DETAIL APPROVED BY — DATE 7-23-18
NOT TO SCALE — DETAIL NO. SG1
REVISION: 4 — DATE: 7/17/2018





NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
3. DESIGNED FOR BACK SIPHONING AND BACK PRESSURE.
4. THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5. THE DCVA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET.
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING. MUST BE ACCESSIBLE AND PROTECTED FROM FREEZING CONDITIONS.
7. THE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY SHALL BE ASSE LISTED 1015 APPROVED AND INCLUDE FULL PORT BALL VALVES WITH RESILIENT SEATS AND UNION CONNECTIONS.
8. A PLUMBING PERMIT IS REQUIRED. PLEASE CONTACT THE CITY OF CAMAS BUILDING DEPARTMENT.
9. MUST BE TESTED AFTER INSTALLATION BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY OF CAMAS WATER DEPARTMENT.
10. SEE IRRIGATION CONSTRUCTION NOTES, DETAIL IR1, FOR APPROVED BACKFLOW PREVENTION DEVICES

City of Camas WASHINGTON
LANDSCAPE DETAIL
IRRIGATION DOUBLE CHECK VALVE ASSY.
DETAIL APPROVED BY — DATE 3-2-22
NOT TO SCALE — DETAIL NO. IR13
REVISION: 3 — DATE: 03/02/2022

8th Ave Apartments
Utility Details

PRELIMINARY NOT FOR CONSTRUCTION

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(3 6 0) 9 3 1 - 3 1 2 2

L100

Project: 23005SP
Date: 10/26/2023
Drafted:
Designed: PCW
Page: 14 of 17

Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:

Site Information

Address	1805 SE 8th Ave Camas, WA 98607
Abbrev. Desc.	Oak Park Addition to Washougal, Lot 8, Block 4
S-T-R	SW¼ S12 T1N R3E W.M.
Parcel	88135000
Area	1.00 AC (43,557± SF)
Zone	R-18 (MFH)

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Landscape Notes

See std landscape details sht L110.

a) Lot owners shall be responsible for damage to a street, curb, or sidewalk caused by landscaping.
b) Landscaping and trees shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.
c) Street trees shall be compliant with the CDSM. Unless otherwise specified, trees must generally be spaced 30 feet apart. Substitute varieties are subject to approval by the City of Camas.
d) Proposed vegetation cannot be an invasive species as listed with the most current edition of the Clark County Noxious Weed List (for example, English Ivy cultivars.)
e) Appropriate measures shall be taken, such as installation of irrigation systems, to assure landscaping success for a minimum of three (3) years after issuance of certificate of occupancy. If plantings fail to survive, it is the responsibility of the property owner to replace them within the warranty period.
f) Required trees, as they grow, shall be pruned in accordance with the international society of arborculture. The pruned tree will provide at least eight feet of clearance above sidewalks and fourteen feet above street roadway surfaces.
g) Street trees and other required landscaping which dies or is removed must be replaced within one year of death or removal. Replacement street trees may be an alternative species from the City's approved list, and may be in a different location, as specifically approved by the City.
h) Landscape, parking, and building lighting shall be low voltage, non-glare, and indirect lighting if directed, hooded, or shielded away from neighboring properties.
i) Irrigation to be design/build by landscape or irrigation contractor. Irrigation supply identified hereon. Sleeve locations to be identified prior to pouring curbs. See std irrigation details shts L120, L130.
j) Applicant is required to maintain all vegetation at a height not to exceed 42 inches within the sight distance traignels as shown on the site plans and landscape plans.

Landscape Schedule (OR APPROVED EQUALS)

Symbol	Common Name	Species	Height x Width	Container	Qty
	Engelmann Spruce (Native Evergreen)	*Picea engelmannii*	100 x 30	2" cal.	5
	Fastigiate White Pine (Native Evergreen)	*Pinus strobus 'Fastigiata'*	40 x 10	2" cal.	11
	Autumn Flame Red Maple	*Acer Rubrum 'Autumn Flame'*	50 x 40	2" cal.	3
	Inkberry Holly (Evergreen, Non-native)	*Ilex glabra*	3' x 3'	3gal	33
	Oregon Grape (Evergreen, Native)	*Mahonia aquifolium*	5' x 5'	3gal	12

Remaining landscaping area shall be groundcover grass mix.

Final species selection shall consist of min 60% native vegetation and min 50% evergreen.
Evergreen calculation: 16 / 19 = 84%
Native calculation: 16 / 19 = 84%

Deciduous trees shall have straight trunks, be fully branched, and have a min caliper of 2 inches with an equivalent 5-gallon container size and be adequately staked for planting.
Evergreen trees shall be a min 5 ft height, fully branched, and adequately staked for planting.

Tree Density

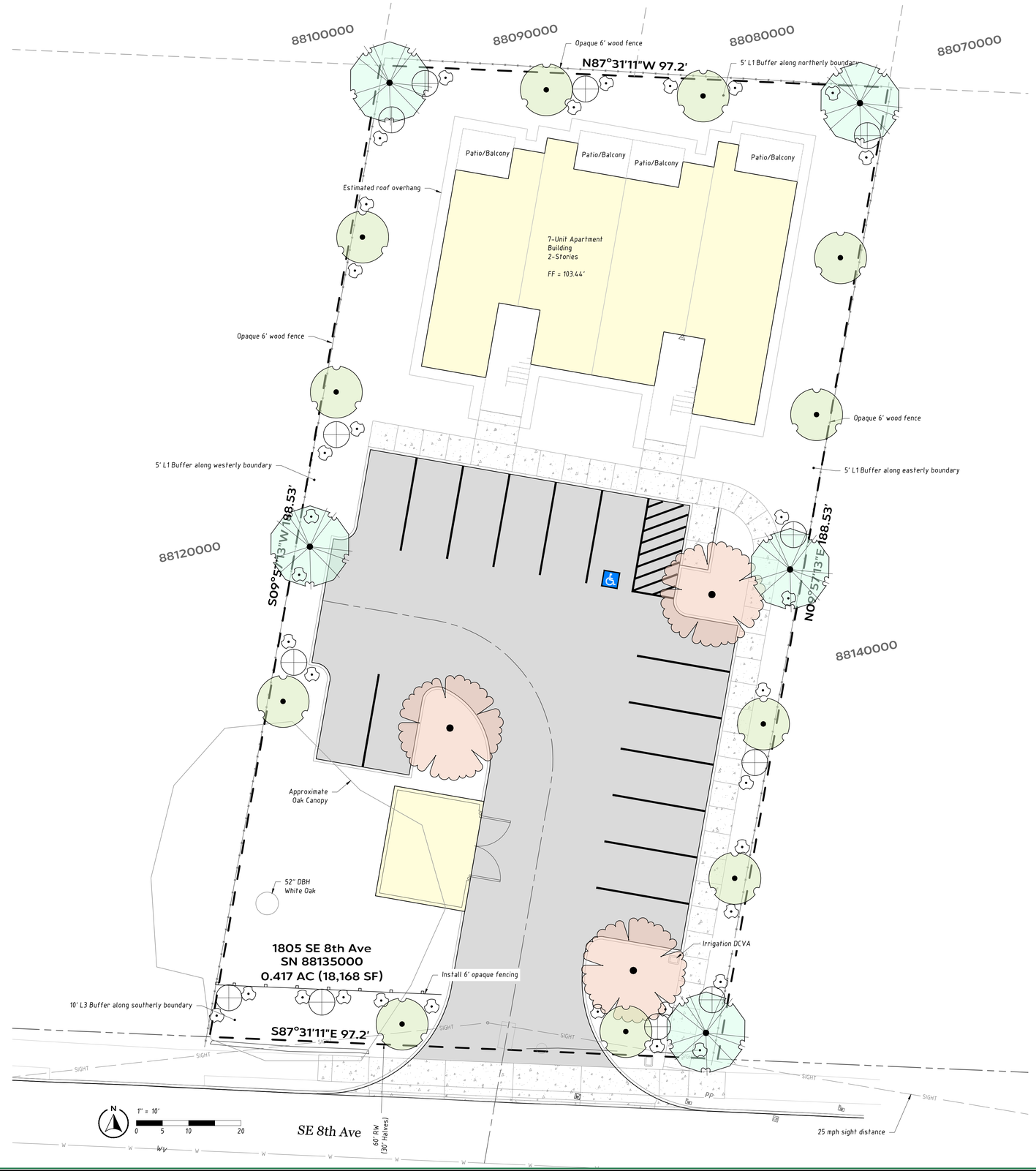
min 20 tree units per acre are required for new development.

Net acreage (excluding open space or critical areas and their buffers)
0.417 AC

Required tree units
0.417 AC x 20 TU/AC = 9 tree units

Retained tree units = 22 tree units (1x 52" DBH)
Proposed tree units = 19 tree units
Total = 41 tree units

Tree density is met.



Landscape Plan

8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

PAUL C. WILLIAMS
STATE OF WASHINGTON
43138
REGISTERED
PROFESSIONAL ENGINEER

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
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L110

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 15 of 17

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Revisions:

LANDSCAPING GENERAL NOTES:

1. DEVELOPER SHALL SUBMIT A LANDSCAPE PLAN SHOWING PLANT TYPE, LOCATION, AND QUANTITY OF PLANTS, THAT IS DESIGNED BY A QUALIFIED LANDSCAPE DESIGNER.
2. SHOW THE LOCATION OF SIDEWALK, LIGHT POLES, MAIL BOXES, DRIVEWAYS, FIRE HYDRANTS, INTERSECTIONS, AND ANY OTHER APPURTENANCE THAT MAY INFLUENCE THE PLACEMENT OF PLANTS.
3. LANDSCAPING SHALL BE SELECTED AND LOCATED TO DETER SOUND, FILTER AIR CONTAMINANTS, CURTAIL EROSION, MINIMIZE STORM WATER RUN-OFF, CONTRIBUTE TO LIVING PRIVACY, REDUCE THE VISUAL IMPACTS OF BUILDINGS/EQUIPMENT AND PAVED AREAS, SCREEN, REDUCE GLARE, AND EMPHASIZE OR SEPARATE OUTDOOR SPACES OF DIFFERENT USES OR CHARACTER.
4. LANDSCAPING SHALL BE DESIGNED TO BE HARMONIOUS WITH THE LOCAL SETTING AND WITH NEIGHBORING DEVELOPMENTS.
5. PLANTS AND TREES SHALL COMPLEMENT OR SUPPLEMENT SURROUNDING NATURAL VEGETATION.
6. PLANTS AND TREES CHOSEN SHALL BE IN SCALE WITH THE STRUCTURES AND EQUIPMENT DEVELOPMENT, KEEPING IN MIND THE MATURE SIZE OF PLANTINGS.
7. MINIMUM LANDSCAPING AS A PERCENT OF GROSS SITE AREA SHALL BE 15%.
8. DEVELOPER SHALL PROVIDE AN IRRIGATION PLAN.
   - 8.1 APPROPRIATE IRRIGATION SYSTEMS SHALL BE INSTALLED WHERE NEEDED TO ASSURE LANDSCAPING SUCCESS.
   - 8.2 DESIGN OF LANDSCAPING THAT INCLUDES XERISCAPE PRINCIPLES IS ENCOURAGED TO REDUCE LONG-TERM MAINTENANCE DEMANDS AND TO CONSERVE WATER.
   - 8.3 XERISCAPE IS DEFINED AS LANDSCAPE DESIGN, WHICH WOULD INCORPORATE PLANT MATERIALS THAT REQUIRE LITTLE OR NO IRRIGATION AND RELY ON NATURAL MOISTURE AND RAINFALL FOR SURVIVAL ONCE ESTABLISHED.
9. LANDSCAPE SHALL BE DESIGNED WITH MAINTENANCE IN MIND:
   - 9.1 DEVELOPER SHALL PROVIDE A MAINTENANCE PLAN DESCRIBING FUNDING, RESPONSIBILITY, AND FREQUENCY OF MAINTENANCE.
   - 9.2 PLANTS AND TREES THAT MINIMIZE UPKEEP AND MAINTENANCE SHALL BE SELECTED.
   - 9.3 TREES, AS THEY GROW, SHALL BE PRUNED TO THEIR NATURAL FORM TO PROVIDE AT LEAST 10 FEET OF CLEARANCE ABOVE SIDEWALKS AND 12 FEET ABOVE STREET ROADWAY SURFACES.
   - 9.4 SHRUBS SHALL BE MAINTAINED TO A MAXIMUM HEIGHT OF 42 INCHES FROM TOP OF CURB TO TOP OF PLANT. ENSURE THAT SHRUBS ARE TRIMMED BACK FROM FACE OF CURB.
10. WHERE THERE ARE OVERHEAD UTILITY LINES, TREE SPECIES THAT WILL NOT INTERFERE WITH THOSE LINES SHALL BE CHOSEN. DEVELOPER IS TO VERIFY WITH UTILITY ON SPECIES SELECTION.
11. TREES SHALL NOT BE PLANTED WITHIN 2 FEET OF ANY PERMANENT HARD SURFACE PAVING OR WALKWAY.
12. PARKING AND LOADING AREAS SHALL BE SCREENED FROM HORIZONTAL VIEW WITH THE USE OF DENSE LANDSCAPING, MOUNDS OR BERMS.
13. PERIMETER AND SECURITY FENCING SHALL BE CONSTRUCTED TO MINIMIZE VISUAL IMPACT. WALLS OR FENCES SEPARATING ADJOINING PARCELS MAY BE LOCATED AT THE PROPERTY LINE. SECURITY FENCING SHALL BLEND INTO AND BE COMPATIBLE WITH LANDSCAPING AND SURROUNDING ENVIRONMENT. FENCING SHALL HAVE EARTH TONE COLORS OF BROWN, TAN GRAY, OR GREEN. WALLS SHALL BE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE BUILDING ACRHITECTURE, LANDSCAPING, AND SURROUNDING ENVIRONMENT.
14. SITE AND BUILDING LIGHTING SHALL BE DESIGNED TO MINIMIZE GLARE OR OBJECTIONABLE EFFECTS TO THE ADJACENT PROPERTIES. SITE LIGHTING POLES SHALL NOT EXCEED 20 FEET IN HEIGHT AND SHALL DIRECT THE LIGHT DOWNWARD. LIGHTING SOURCES VIEWED FROM ABOVE OR BELOW ON ADJACENT PROPERTY SHALL BE SHIELDED. BUILDING LIGHTING IS TO BE CONCEALED AND INDIRECT. SITE LIGHTING IS TO BE DESIGNED TO PROVIDE UNIFORM DISTRIBUTION AND THE LIGHT LEVELS SHALL BE ADEQUATE FOR REASONABLE SECURITY AND SAFETY ON THE PREMISES.
15. EARTH BERMS MAY BE USED TO PROVIDE VARIATION IN THE GROUND PLANE AND FOR SCREENING INTERIOR PROTIONS OF THE SITE. CARE MUST BE TAKEN IN THEIR DESIGN TO AVOID CREATING AN ARTIFICIAL APPEARING LANDSCAPE. THE BERMED AREAS SHALL BE AS LONG, AS GRADUAL, AND AS GRACEFUL AS SPACE WILL ALLOW, AND SHOULD HAVE A MINIMUM HEIGHT ABOVE SURROUNDING GRADE OF THREE FEET. MAXIMUM SLOPES FOR BERMED AREAS SHALL BE 3:1 FOR TURF AREAS AND 2:1 FOR GROUNDCOVER AREAS.

LANDSCAPING W/IN R.O.W. NOTES:

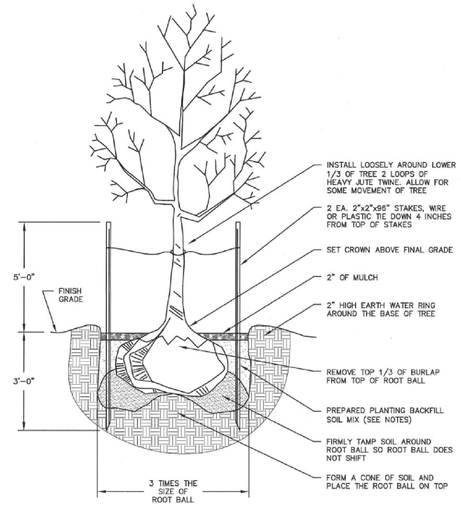
1. TREES SHALL NOT BE PLANTED CLOSER THAN 25 FEET FROM THE CURB LINE OF THE INTERSECTIONS OF STREETS OR ALLEYS, AND NOT CLOSER THAN 10 FEET FROM DRIVEWAYS, FIRE HYDRANTS, OR UTILITY POLES.
2. STREET TREES SHALL NOT BE PLANTED CLOSER THAN 20 FEET TO LIGHT STANDARDS. EXCEPT FOR PUBLIC SAFETY, NO NEW LIGHT STANDARD SHOULD BE POSITIONED CLOSER THAN 10 FEET TO ANY EXISTING STREET TREE, AND PREFERABLY SUCH LOCATIONS WILL BE AT LEAST 20 FEED DISTANCE.
3. TREES SHALL NOT BE PLANTED CLOSER THAN 2-1/2 FEET FROM THE FACE OF THE CURB EXCEPT AT INTERSECTIONS, WHERE IT SHOULD BE 25 FEET FROM THE CURB IN A CURB RETURN AREA.
4. EXISTING TREES MAY BE USED AS STREET TREES IF THERE WILL BE NO DAMAGE FROM THE DEVELOPMENT WHICH WILL KILL OR WEAKEN THE TREE.
5. VISION CLEARANCE HAZARDS SHALL BE AVOIDED AND VISION CLEARANCE STANDARDS SHALL BE ADHERED TO.

City of Camas WASHINGTON — LANDSCAPE DETAIL: LANDSCAPING NOTES — NOT TO SCALE — DETAIL NO. LS1
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 3 — DATE: 5/17/2019

PLANTING NOTES:

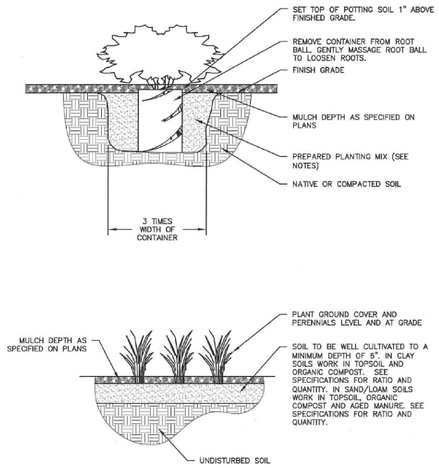
1. ALL PLANTING TO BE OF NURSERY STOCK GRADE NO. 1 OR BETTER AND MUST BE APPROVED PRIOR TO PLANTING.
2. ALL PLANTING HOLES SHALL BE EXCAVATED THREE TIMES THE DIAMETER OF THE TREE ROOT BALL OR ROOT SYSTEM.
3. DECIDUOUS TREES SHALL HAVE STRAIGHT TRUNKS, BE FULL BRANCHED, HAVE A MINIMUM CALIPER OF 2 INCHES AND BE ADEQUATELY STAKED FOR PLANTING. CALIPER OF TREES SHALL BE LARGER WHEN REQUIRED BY OTHER CITY STANDARDS OR PLANS.
4. EVERGREEN TREES SHALL BE A MINIMUM OF THREE FEET IN HEIGHT, FULLY BRANCHED AND ADEQUATELY STAKED FOR PLANTING.
5. DECIDUOUS TREES SHALL BE A MINIMUM 2" CALIPER UNLESS APPROVED BY THE CITY.
6. POTTED OR B&B PLANTS SHALL BE A MINIMUM SIZE OF 3 GALLONS UNLESS APPROVED BY THE CITY.
7. SHRUBS SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, HEALTH OF THE PLANTS, AND OVERALL AESTHETICS.
8. PLANT UPRIGHT AND FACE TO GIVE BEST APPEARANCE OR RELATIONSHIP TO OTHER PLANTS AND STRUCTURES.
   - 8.1. LOOSEN AND REMOVE TWINE BINDING AND BURLAP FROM AROUND THE TOP OF EACH ROOT BALL.
   - 8.2. SET TREES AN INCH ABOVE FINISH GRADE.
   - 8.3. STAKE OR GUY TREES IMMEDIATELY AFTER PLANTING (SEE DETAIL PL3, PL4, & PL5)
   - 8.4. REMOVE STAKES OR GUY WIRES ONE YEAR AFTER INSTALLATION.
9. PLACE AND COMPACT BACKFILL SOIL MIXTURE CAREFULLY TO AVOID INJURY TO ROOTS, AND TO FILL ALL VOIDS. BACKFILL MIX SHALL CONSIST OF 1/4 APPROVED HUMUS MATERIAL TO 3/4 TOPSOIL, PLUS SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED PRIOR TO PLANTING TREES).
10. WHEN HOLE IS NEARLY FILLED, COMPLETELY SOAK AND ALLOW WATER TO DRAIN AWAY. FILL HOLE TO FINISH GRADE. PROVIDE 2 INCH HIGH BERM WATER RING AT THE BASE OF EACH TREE. REMOVE BERM AT THE END OF CONTRACT MAINTENANCE PERIOD.
11. GROUND COVER, SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, OVERALL AESTHETICS, AND HEALTH OF THE PLANTS.
12. TREES, AS THEY GROW, SHALL BE PRUNED TO THEIR NATURAL FORM TO PROVIDE AT LEAST 10 FEET OF CLEARANCE ABOVE SIDEWALKS AND 14 FEET ABOVE STREET ROADWAY SURFACES.
13. TREE MAINTENANCE – IN ORDER TO INSURE ESTABLISHMENT, SURVIVAL AND GROWTH, TREES SHALL BE MULCHED WITH 4" DEEP COMPOST AND WATERED AS NECESSARY DURING THE FIRST TWO GROWING SEASONS. PRUNING TO BE AS FOLLOWS:
   - 13.1. YEAR 1 – ONLY DEAD, BROKEN, OR CROSSING BRANCHES SHALL BE PRUNED.
   - 13.2. YEAR 2 – A CLASS 1 PRUNE, PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO ESTABLISH PROPER SCAFFOLD BRANCHING, RAISE THE CROWN FOR ROAD/SIDEWALK CLEARANCE, AND REMOVE ANY DEAD, DYING OR CROSSING BRANCHES.
   - 13.3. YEAR 3 – A CLASS 1 PRUNE, PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO CONTINUE TO ESTABLISH THE PROPER SCAFFOLD BRANCHING, CONTINUE TO RAISE THE CROSSING FOR ROAD/SIDEWALK CLEARANCE, AND TO REMOVE ANY DEAD, DYING, OR CROSSING BRANCHES.
14. DEFINITIONS:
   - 14.1. BALLED AND BURLAPPED (B&B) – TREES AND SHRUBS WITH A LARGE BALL OF SOIL AROUND THE ROOTS WRAPPED IN BURLAP.
   - 14.2. BARE-ROOT – OFFERED BY NURSERIES IN WINTER AND EARLY SPRING WITH ALL THE SOIL REMOVED FROM THEIR ROOTS.
   - 14.3. CALIPER – THE DIAMETER OF THE TRUNK MEASURED AT 4-FEET FROM THE GROUND.
   - 14.4. GROUND COVER – LIVING MATERIAL THAT DOES NOT INCLUDE BARK CHIPS OR OTHER MULCH.

City of Camas WASHINGTON — LANDSCAPE DETAIL: PLANTING NOTES — NOT TO SCALE — DETAIL NO. LS2
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 3 — DATE: 5/17/2019



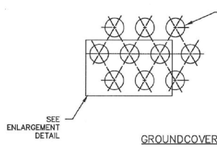
NOTES:
1. A ROOT BARRIER SHOULD BE INSTALLED AT THE EDGE OF PAVEMENT OR 4 FEET WIDE AND 6 FEET WIDE RECTANGLE AROUND THE TREE. SEE DETAILS PL7, PL8 & PL9
2. BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING TREES).

City of Camas WASHINGTON — LANDSCAPE DETAIL: DECIDUOUS BALLED/BURLAP TREE PLANTING — NOT TO SCALE — DETAIL NO. LS4
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019

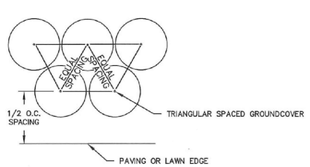


NOTES:
1. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
2. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
3. BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING).

City of Camas WASHINGTON — LANDSCAPE DETAIL: SHRUB CONTAINER PLANTING — NOT TO SCALE — DETAIL NO. LS5
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019

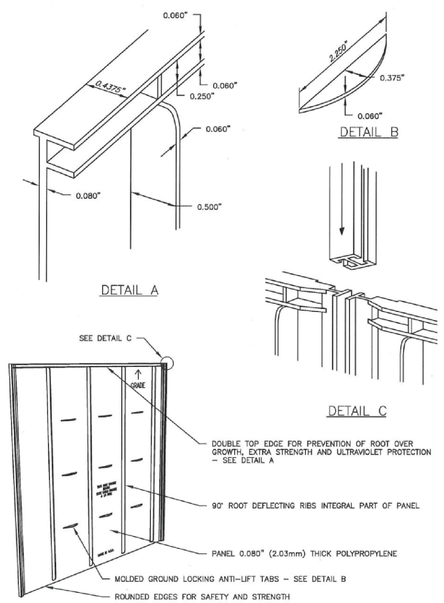


GROUNDCOVER PLANTING DETAIL



ENLARGEMENT DETAIL: TRIANGULAR SPACING

City of Camas WASHINGTON — LANDSCAPE DETAIL: GROUNDCOVER PLANTING DETAIL — NOT TO SCALE — DETAIL NO. LS7
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019



NOTES:
1. SEE GENERAL NOTES AND INSTALLATION NOTES ON DETAIL PL8 AND PL9

City of Camas WASHINGTON — LANDSCAPE DETAIL: ROOT BARRIER DETAIL — NOT TO SCALE — DETAIL NO. LS8
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019

ROOT BARRIER GENERAL NOTES:

1. SPECIFIED TREE ROOT BARRIERS ARE A MECHANICAL BARRIER AND ROOT DEFLECTOR TO PREVENT TREE ROOTS FROM DAMAGING HARDSCAPES AND LANDSCAPES. ASSEMBLED IN 2' LONG MODULES WITH RIGID JOINER STRIPS TO CREATE VARYING SIZES OF CYLINDERS FOR SURROUNDING ROOT BALLS (SURROUND PLANTING STYLE) OR FOR LINEAR APPLICATIONS DIRECTLY BESIDE A HARDSCAPE ADJACENT TO ONE SIDE OF THE TREES (LINEAR PLANTING STYLE).
2. DIMENSIONS ARE APPROXIMATE, SUBMIT SAMPLE FOR ENGINEERS APPROVAL PRIOR TO INSTALLATION.

A. MATERIALS

1. THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIERS AS SPECIFIED. THE TREE ROOT BARRIERS SHALL BE BLACK, INJECTION MOLDED PANELS, OF MINIMUM 0.080" WALL THICKNESS IN MODULES 24" LONG BY 18" DEEP; MANUFACTURED WITH A MINIMUM 50% POST CONSUMER RECYCLED POLYPROPYLENE PLASTIC WITH ADDED ULTRAVIOLET INHIBITORS; RECYCLABLE. EACH PANEL SHALL HAVE: NOT LESS THAN 4 MOLDED INTEGRAL VERTICAL ROOT DEFLECTING RIBS OF AT LEAST 0.06" THICKNESS PROTRUDING 1/2" AT 90° FROM INTERIOR OF THE BARRIER PANEL, SPACED 8" APART. (SEE PANEL DRAWING BELOW) A DOUBLE TOP EDGE CONSISTING OF TWO PARALLEL, INTEGRAL, HORIZONTAL RIBS AT THE TOP OF THE PANEL OF A MINIMUM 0.06" THICKNESS, 7/16" WIDE AND 1/4" APART WITH THE LOWER RIB ATTACHED TO THE VERTICAL ROOT DEFLECTING RIBS. (SEE DETAIL "A") A MINIMUM OF 9 ANTI-LIFT GROUND LOCK TABS CONSISTING OF INTEGRAL HORIZONTAL RIDGES OF A MINIMUM 0.06" THICKNESS IN THE SHAPE OF A SEGMENT OF A CIRCLE, THE 2 1/4" CHORD OF THE SEGMENT JOINING THE PANEL WALL AND THE SEGMENT, PROTRUDING 3/8" FROM THE PANEL. THE NINE GROUND LOCKS ON EACH PANEL SHALL BE ABOUT EQUALLY SPACED BETWEEN EACH OF THE VERTICAL ROOT DEFLECTING RIBS (3 BETWEEN EACH SET OF RIBS, SEE DETAIL "B"). A SELF LOCKING RIGID JOINER STRIP TO CONNECT ONE PANEL TO ANOTHER WITH A SEPARATION STRESS TEST OF 1000 POUNDS AT THE MOMENT OF SEPARATION. (SEE DETAIL "C"). TREE ROOT BARRIERS SHALL BE BY DEEPROOT OR APPROVED EQUAL.
2. THE BASIC PROPERTIES OF THE MATERIAL SHALL BE:

TEST	ASTM TEST METHOD	VALUE COPOLYMER POLYPROPYLENE
TENSILE STRESS AT YIELD	D638	3800 PSI
ELONGATION AT YIELD	D638	6.3%
FLEXURAL MODULUS	D790B	155,000 PSI
NOTCHED IZOD IMPACT	D256A	7.1
ROCKWELL HARDNESS R. SCALE	D785A	68

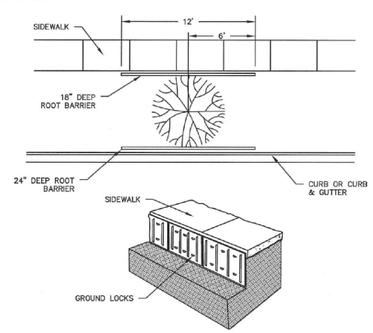
B. CONSTRUCTION AND INSTALLATION

1. THE CONTRACTOR SHALL INSTALL THE TREE ROOT BARRIERS WITH THE NUMBER OF PANELS AND IN THE MANNER SHOWN ON THE DRAWINGS. THE VERTICAL ROOT DEFLECTING RIBS SHALL BE FACING INWARDS TO THE ROOT BALL AND THE TOP OF THE DOUBLE EDGE SHALL BE 1/2" ABOVE GRADE. EACH OF THE REQUIRED NUMBER OF PANELS SHALL BE CONNECTED WITH THE RIGID JOINER STRIPS TO FORM A CIRCLE AROUND THE ROOT BALL OR WHERE SPECIFIED JOINED IN A LINEAR FASHION AND PLACED ALONG THE ADJACENT HARDSCAPE.
2. EXCAVATION AND SOIL PREPARATION SHALL CONFORM TO THE DRAWINGS.
3. THE TREE ROOT BARRIERS SHALL BE BACKFILLED ON THE OUTSIDE WITH 3/4" TO 1 1/2" GRAVEL OR CRUSHED ROCK AS SHOWN ON THE DRAWINGS. NO GRAVEL BACKFILL IS REQUIRED FOR A LINEAR PLANTING.

City of Camas WASHINGTON — LANDSCAPE DETAIL: ROOT BARRIER GENERAL NOTES — NOT TO SCALE — DETAIL NO. LS9
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019

NOTES:

1. DETERMINE THE CORRECT NUMBER OF PANELS TO BE USED. DEPENDING UPON THE ACTUAL PLANTING PLAN AND THE NUMBER OF TREES INVOLVED THE LENGTH OF LINEAR BARRIER WILL VARY, BUT AS A GENERAL RULE OF THUMB TAKE THE ANTICIPATED MATURE CANOPY DIAMETER OF THE TREE AND ADD 2 FEET (61CM). THIS WILL BE THE NUMBER OF FEET NECESSARY FOR A LINEAR STYLE PLANTING APPLICATION. (SEE CHART BELOW.)
2. CHOOSE THE BARRIER THAT BEST SUITS THE APPLICATION. GENERALLY IF A SIDEWALK, PATIO OR DRIVEWAY IS TO BE PROTECTED, 18" IS SUFFICIENT DEPTH, WITH 12" AS AN ALTERNATE CHOICE FOR NON-AGGRESSIVE, DEEPER ROOTING TREES. HOWEVER FOR CURB AND GUTTER PROTECTION OR MORE AGGRESSIVE ROOTS 24" IS GENERALLY THE BETTER CHOICE.
3. DIG THE TRENCH TO THE DEPTH BASED UPON THE PARTICULAR BARRIER CHOSEN.
4. INSTALL THE BARRIER. WHEN USING DEEP ROOT LINEAR BARRIERS SIMPLY PULL THE APPROPRIATE NUMBER OF PANELS OUT OF THE BOX (THEY COME PRE-ASSEMBLED) AND SEPARATE THE JOINER AT THE CORRECT LENGTH. WHEN INSTALLING DEEP ROOT UNIVERSAL BARRIERS IN A LINEAR FASHION YOU WILL NEED TO JOIN THE APPROPRIATE NUMBER OF PANELS TOGETHER.
5. NEXT PLACE THE BARRIER IN THE TRENCH WITH THE VERTICAL RIBS FACING TOWARD THE TREE AND ALIGN IN A STRAIGHT FASHION. IT IS HELPFUL TO PLACE THE BARRIER AGAINST THE HARDSCAPE. USE THE HARDSCAPE AS A GUIDE AND BACKFILL AGAINST THE BARRIERS TO PROMOTE A CLEAN SMOOTH FIT TO THE HARDSCAPE. BE SURE TO KEEP THE BARRIER'S DOUBLE TOP EDGE AT LEAST 1/2" ABOVE GRADE TO ENSURE ROOTS DO NOT GROW OVER THE TOP.
6. PLANT THE TREE(S). THE LINEAR STYLE OFFERS A MORE EXPANSIVE ROOTING GROWTH AREA, HOWEVER ADVERSE SOIL AND DRAINAGE CONDITIONS MAY EXIST IN THE ACTUAL PLANTING AREA. TAKE STEPS TO ENSURE HEALTHY GROWTH OF THE TREE AT PLANTING. CONSULT WITH A LOCAL ARBORIST FOR PLANTING TIPS AND RECOMMENDATIONS.



City of Camas WASHINGTON — LANDSCAPE DETAIL: ROOT BARRIER INSTALLATION — NOT TO SCALE — DETAIL NO. LS10
DETAIL APPROVED BY — DATE 5-17-19 — REVISION: 2 — DATE: 5/17/2019

PRELIMINARY NOT FOR CONSTRUCTION

Landscape Details

8th Ave Apartments

ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

L120

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 16 of 17

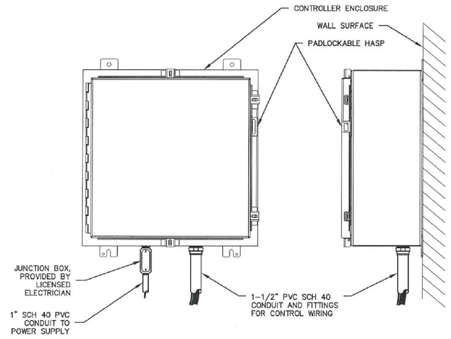
Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:

IRRIGATION CONSTRUCTION NOTES:

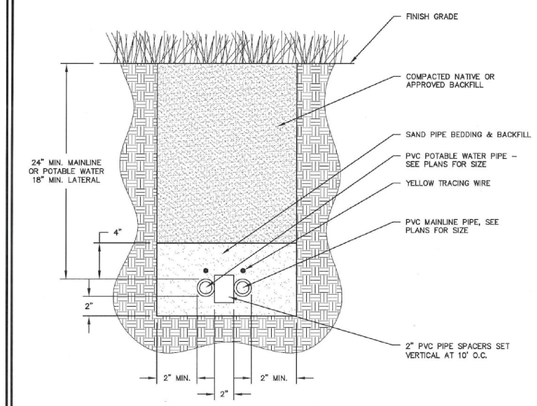
1. THE CONTRACTOR SHALL INSPECT THE SITE AND VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
2. IRRIGATION PLANS ARE SCHEMATIC REPRESENTATIONS ONLY. PLACE LINES IN A COMMON TRENCH WHENEVER POSSIBLE. FIELD ADJUST LINES TO AVOID CONFLICT WITH UTILITIES.
3. IRRIGATION IS COORDINATED WITH THE PLANTING PLAN AND SITE IMPROVEMENTS AND IS DESIGNED WITH TRIANGULAR SPACING GIVING HEAD TO HEAD COVERAGE. COORDINATE IRRIGATION HEAD LAYOUT WITH NEW PLANT MATERIALS. LOCATE SPRAY HEADS 30" FROM BASE OF TREE. DO NOT ALTER HEAD LOCATION, PIPE LAYOUT, OR VALVE LOCATION WITHOUT WRITTEN APPROVAL FROM THE CITY ENGINEER. NOTIFY THE CITY ENGINEER IF DISCREPANCIES OCCUR BETWEEN THE PLANS AND FIELD CONDITIONS.
4. ALL COMPONENTS OF IRRIGATION SYSTEM SHALL BE INSTALLED AND PROPERLY ADJUSTED TO PROVIDE ADEQUATE COVERAGE AND MINIMIZATION OF OVER SPRAY ONTO WALKS, BUILDINGS, PARKING AREAS, ETC.
5. ALL PIPE SIZES INDICATED ARE MINIMUMS. CONTRACTOR MAY NOT DECREASE PIPE SIZE. LARGER PIPE SIZES MAY BE USED AT NO ADDITIONAL COST TO OWNER. IRRIGATION LATERALS ARE SIZED BEGINNING AT THE AUTOMATIC VALVE AND CONTINUING IN DIRECTION OF FLOW. REDUCTIONS IN PIPE SIZE ARE LABELED BEGINNING DOWNSTREAM OF NEAREST FITTING. ALL LATERALS NOT SIZED ARE MINIMUM 3/4".
6. INSTALL ALL IRRIGATION PIPE AND CONTROL WIRES IN MINIMUM 4" PVC SLEEVE BELOW ALL PAVED SURFACES UNLESS OTHERWISE INDICATED ON THE PLANS. INSTALL SLEEVES PRIOR TO PLACEMENT OF PAVEMENTS AND PAVEMENT SUB-BASE. SEE PIPE SLEEVING DETAIL FOR FURTHER REQUIREMENTS.
7. COORDINATE IRRIGATION POINTS OF CONNECTION AND LOCATION OF AUTOMATIC CONTROL VALVES WITH THE ENGINEER. COORDINATE ALL WORK WITH OTHER TRADES, I.E. ELECTRICAL, MASONRY, ETC.
8. CONTRACTOR TO PROGRAM AUTOMATIC CONTROLLER TO ALLOW FOR THE EQUIVALENT OF 1" OF WATER PER WEEK.
9. ALL PIPES SHALL BE TRENCHED. PROVIDE POSITIVE DRAINAGE OF MAINLINE. PLACE MANUAL DRAIN AT LOW POINTS IN MAINLINE. IDENTIFY LOCATIONS ON AS-BUILTS.
10. USE 45° ELBOWS INSTEAD OF 90° ELBOWS ON ALL MAINLINES 2-1/2" AND LARGER. INSTALL CONCRETE THRUST BLOCKS AT ALL MAINLINE CHANGES IN DIRECTION. POUR MINIMUM OF 1 CUBIC FOOT OF CONCRETE ON UNDISTURBED SOIL. WRAP PIPE IN PLASTIC PRIOR TO COVERING WITH CONCRETE.
11. CONTRACTOR TO INSTALL CONTROLLER, CPU ELECTRICAL, PHONE AND ACCESSORIES AS REQUIRED. CONTRACTOR TO FURNISH CONTROL WIRES FROM VALVES TO CONTROLLER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING 110 VOLT SERVICE FROM BUILDING TO EXISTING JUNCTION BOX IN CONTROLLER HOUSING AND CONNECT CONTROLLER SERVICE.
12. ALL TONING WIRE, WHERE REQUIRED, SHALL BE 14 GAUGE COPPER CLAD STEEL WITH HDPE DIRECT BURY INSULATION. SEAL SPLICE CONNECTIONS WITH 3M DBY OR KING GEL CAPS.
13. ALL DIRECT BURY CONTROL WIRING AND CABLING SHALL HAVE SPLICE CONNECTIONS SEALED WITH 3M DBY OR RAIN BIRD DB SERIES WIRE CONNECTORS IN A SPLICE BOX.
14. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
15. WATER METER SHALL BE INSTALLED BY THE CITY. CONTRACTOR RESPONSIBLE FOR CONNECTIONS DOWNSTREAM OF WATER METER.
16. CONTRACTOR TO VERIFY WATER PRESSURE TO ENSURE THAT PRESSURE MATCHES THE SYSTEM DESIGN PRESSURE.
17. WHERE REQUIRED, CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
18. ALL IRRIGATION METERS REQUIRE INSTALLATION OF A STATE-APPROVED BACKFLOW PREVENTION DEVICE, WHICH ARE TO BE INSTALLED AFTER THE IRRIGATION METER.
19. FAILURE TO MEET TESTING REQUIREMENTS FOR THE BACKFLOW PREVENTION DEVICE ARE GROUNDS FOR TERMINATION OF WATER SERVICE FOR IRRIGATION. THE FOLLOWING ARE THE STATE-APPROVED BACKFLOW PREVENTION DEVICES:
    a. DOUBLE CHECK VALVE ASSEMBLIES (DCVA);
    b. PRESSURE VACUUM BREAKER ASSEMBLIES (PVBA); OR
    c. REDUCED PRESSURE BACKFLOW ASSEMBLIES (RPBA).
    d. ATMOSPHERIC VACUUM BREAKERS (AVB) ARE NOT PERMITTED.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION CONSTRUCTION NOTES — NOT TO SCALE — DETAIL NO. IR1
DETAIL APPROVED BY: 3-2-22 DATE — REVISION: 3 — DATE: 03/02/2022



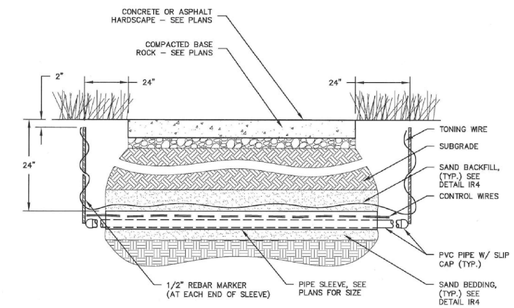
NOTES:
1. IRRIGATION CONTROLLER SHALL BE A RAINBIRD ESP-LXME PROGRAMMABLE CONTROLLER, OR APPROVED EQUAL.
2. INTERIOR INSTALLATIONS DO NOT REQUIRE AN ENCLOSURE WHEN MOUNTED WITHIN THE UTILITY ROOM OF A RESTROOM OR OTHER FACILITY WHERE THE PUBLIC HAS NO ACCESS. SEE DETAIL IR2.
3. EXTERIOR WALL MOUNTED ENCLOSURE SHALL BE STAINLESS STEEL, NEMA 4X RATED, 20"H x 20"W x 8"D SIZE, WITH BUILT-IN PADLOCKABLE HASP AND PLASTIC DATA POCKET. HOFFMAN, HAMMOND, WIEGMANN OR APPROVED EQUAL MANUFACTURER.
4. MOUNTING HARDWARE SHALL BE AS RECOMMENDED BY THE ENCLOSURE MANUFACTURER.
5. FOR INSTALLATIONS WITHIN THE RIGHT-OF-WAY WHERE THERE IS NO WALL MOUNTING SURFACE, THE ENCLOSURE MAY BE PIPE MOUNTED TO A 3 INCH DIAMETER GALVANIZED POST, OR OTHER PERMANENT INSTALLATION, AT A HEIGHT NOT TO EXCEED 3 FEET TO TOP OF ENCLOSURE AND SHALL BE HIDDEN BY VEGETATION.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION CONTROLLER – EXTERIOR MOUNT — NOT TO SCALE — DETAIL NO. IR3
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



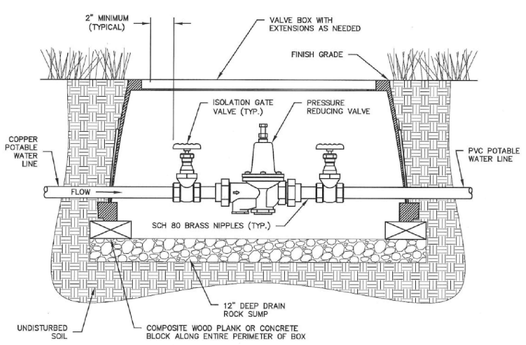
NOTES:
1. ALL TONING WIRE SHALL BE 14 GAUGE YELLOW HDPE INSULATED COPPER CLAD STEEL. SEAL SPLICE CONNECTIONS WITH 3M DBY OR KING GEL CAPS.
2. PROVIDE A 48 INCH COIL OF TONING WIRE IN EACH VALVE BOX.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION TRENCH — NOT TO SCALE — DETAIL NO. IR4
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



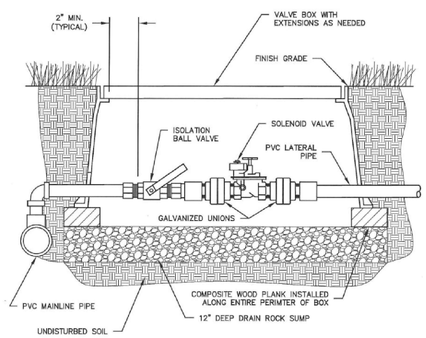
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED IRRIGATION POLYMER VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. PROVIDE TONING WIRE ALONG ALL PIPE SLEEVING.
3. ALL TONING WIRE SHALL BE 14 GAUGE YELLOW HDPE INSULATED COPPER CLAD STEEL. SEAL SPLICE CONNECTIONS WITH 3M DBY OR KING GEL CAPS.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION PIPE SLEEVE — NOT TO SCALE — DETAIL NO. IR5
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



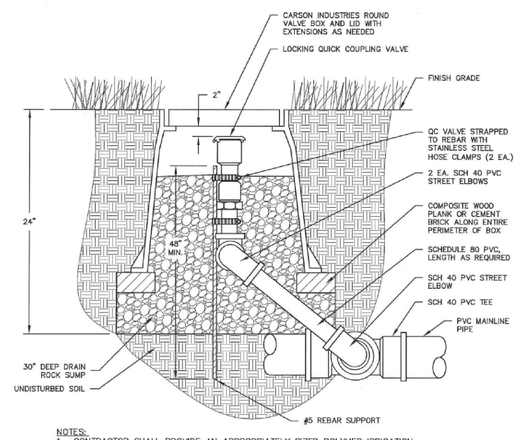
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
3. PRESSURE REDUCING VALVE SHALL BE A WATTS M/N 25AUB-Z3 WITH DOUBLE UNION END CONNECTIONS, OR APPROVED EQUAL.
4. FOR APPLICATIONS WHERE DRINKING FOUNTAINS ARE SUPPLIED, ALL COMPONENTS SHALL BE SUITABLE FOR POTABLE WATER.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION PRESSURE REGULATOR — NOT TO SCALE — DETAIL NO. IR6
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



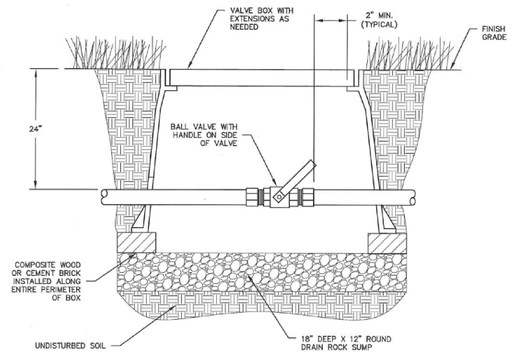
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION SOLENOID VALVE — NOT TO SCALE — DETAIL NO. IR7
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
3. SWING JOINT SIZE SHALL BE SAME SIZE AS VALVE BOTTOM INLET.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION QUICK COUPLING VALVE — NOT TO SCALE — DETAIL NO. IR9
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019



NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION ISOLATION BALL VALVE — NOT TO SCALE — DETAIL NO. IR10
DETAIL APPROVED BY: 6-19-19 DATE — REVISION: 2 — DATE: 6/19/2019

Landscape Details

8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

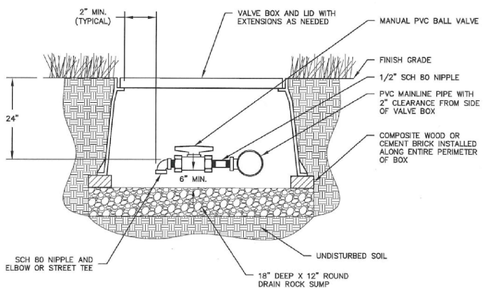
ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(360) 931-3122

L130

Project: 23005SP
Date: 10/26/2023
Drafted: NVS
Designed: PCW
Page: 17 of 17

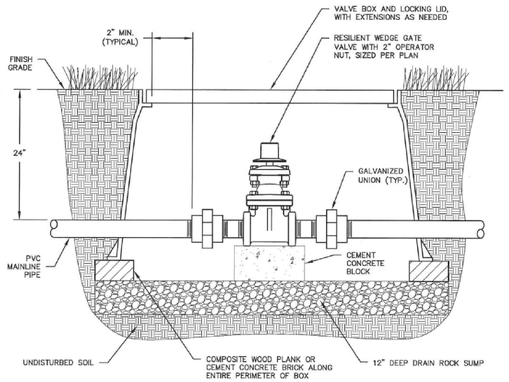
Northwest Utilities
1-800-424-5555
"It's the law"
Call 48 hours before you dig.

Revisions:



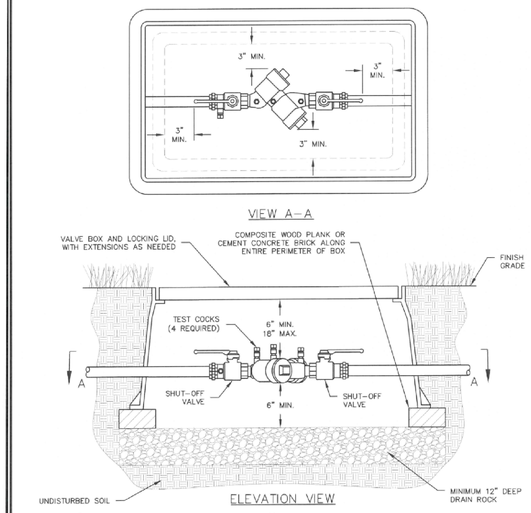
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
3. CONTRACTOR RESPONSIBLE FOR LOCATING DRAIN VALVE AT LOWEST POINT OF MAINLINE TO ENSURE POSITIVE DRAINAGE.
4. ALLOW FOR 1" CLEARANCE FROM HOLE IN BOX TO TOP OF PIPE.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION MANUAL DRAIN VALVE — NOT TO SCALE — DETAIL NO. IR11
DETAIL APPROVED BY: R. Matthew 6-19-19 — DATE — REVISION: 2 — DATE: 6/19/2019



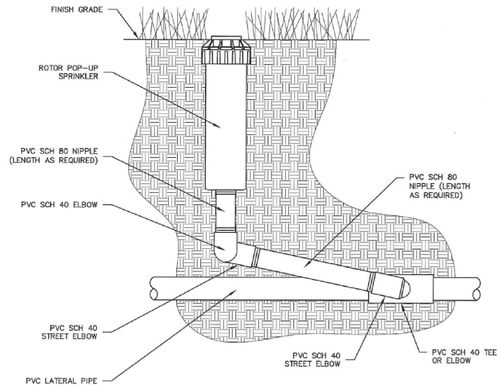
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION MANUAL GATE VALVE — NOT TO SCALE — DETAIL NO. IR12
DETAIL APPROVED BY: R. Matthew 6-19-19 — DATE — REVISION: 2 — DATE: 6/19/2019



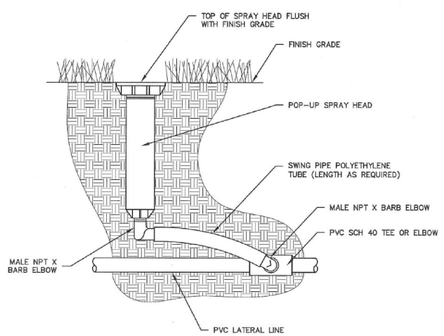
NOTES:
1. CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED POLYMER IRRIGATION VALVE BOX LARGE ENOUGH TO CONTAIN THE SPECIFIED COMPONENTS. VALVE BOXES SHALL BE RAINBIRD VB SERIES, CARSON, OR APPROVED EQUIVALENT.
2. APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
3. DESIGNED FOR BACK SIPHONING AND BACK PRESSURE.
4. THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5. THE DCVA MAY BE INSTALLED ABOVE OR BELOW THE GROUND PROVIDED ALL CLEARANCES ARE MET.
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING. MUST BE ACCESSIBLE AND PROTECTED FROM FREEZING CONDITIONS.
7. THE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY SHALL BE ASSE LISTED 1015 APPROVED AND INCLUDE FULL PORT BALL VALVES WITH RESILIENT SEATS AND UNION CONNECTIONS.
8. A PLUMBING PERMIT IS REQUIRED. PLEASE CONTACT THE CITY OF CAMAS BUILDING DEPARTMENT.
9. MUST BE TESTED AFTER INSTALLATION BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY OF CAMAS WATER DEPARTMENT.
10. SEE IRRIGATION CONSTRUCTION NOTES, DETAIL IR1, FOR APPROVED BACKFLOW PREVENTION DEVICES

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION DOUBLE CHECK VALVE ASSY. — NOT TO SCALE — DETAIL NO. IR13
DETAIL APPROVED BY: R. Matthew 3-2-22 — DATE — REVISION: 3 — DATE: 03/02/2022



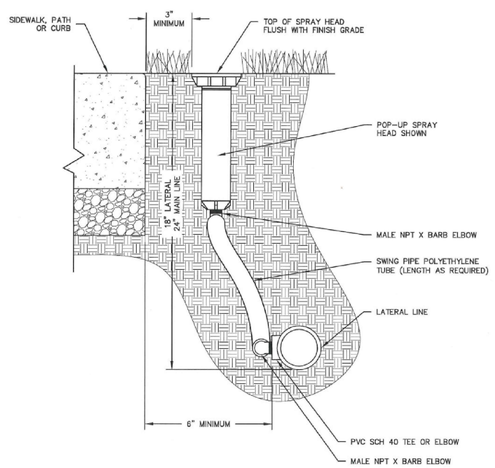
NOTES:
1. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
2. SWING JOINT SIZE SHALL NOT BE LESS THAN HEAD INLET SIZE.
3. ROTARY SPRAY HEADS SHALL BE HUNTER I-40, I-25, OR APPROVED EQUAL, SUBMITTAL REQUIRED.
4. WHEN SPRAY HEADS ARE LOCATED ALONG SIDEWALK OR CURBING THE HEADS SHALL BE MINIMUM 3" FROM HARDSCAPE AND PIPES MINIMUM 6" FROM HARDSCAPE.
5. PRE-FABRICATED SWING JOINT ASSEMBLY WITH O-RINGS MAY BE USED INSTEAD OF INDIVIDUAL PARTS AS SHOWN.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION ROTARY SPRAY HEAD — NOT TO SCALE — DETAIL NO. IR14
DETAIL APPROVED BY: R. Matthew 6-19-19 — DATE — REVISION: 2 — DATE: 6/19/2019



NOTES:
1. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
2. SWING PIPE SHALL BE POLYEHTYLENE AND SIZE SHALL NOT BE LESS THAN HEAD INLET SIZE.
3. POP-UP SPRAY HEADS SHALL BE RAIN BIRD 1800 OR APPROVED EQUAL, SUBMITTAL REQUIRED.
4. WHEN SPRAY HEADS ARE LOCATED ALONG SIDEWALK OR CURBING THE HEADS SHALL BE MINIMUM 3" FROM HARDSCAPE AND PIPES MINIMUM 6" FROM HARDSCAPE.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION POP-UP SPRAY HEAD — NOT TO SCALE — DETAIL NO. IR15
DETAIL APPROVED BY: R. Matthew 6-19-19 — DATE — REVISION: 2 — DATE: 6/19/2019



NOTES:
1. ALL THREADED FITTINGS SHALL BE WRAPPED WITH TEFLON TAPE.
2. SWING PIPE SHALL BE POLYEHTYLENE AND SIZE SHALL NOT BE LESS THAN HEAD INLET SIZE.
3. WHEN SPRAY HEADS ARE LOCATED ALONG SIDEWALK OR CURBING THE HEADS SHALL BE MINIMUM 3" FROM HARDSCAPE AND PIPES MINIMUM 6" FROM HARDSCAPE.

City of Camas WASHINGTON — LANDSCAPE DETAIL — IRRIGATION HEAD PLACEMENT ALONG HARDSCAPE — NOT TO SCALE — DETAIL NO. IR16
DETAIL APPROVED BY: R. Matthew 6-19-19 — DATE — REVISION: 2 — DATE: 6/19/2019

Landscape Details

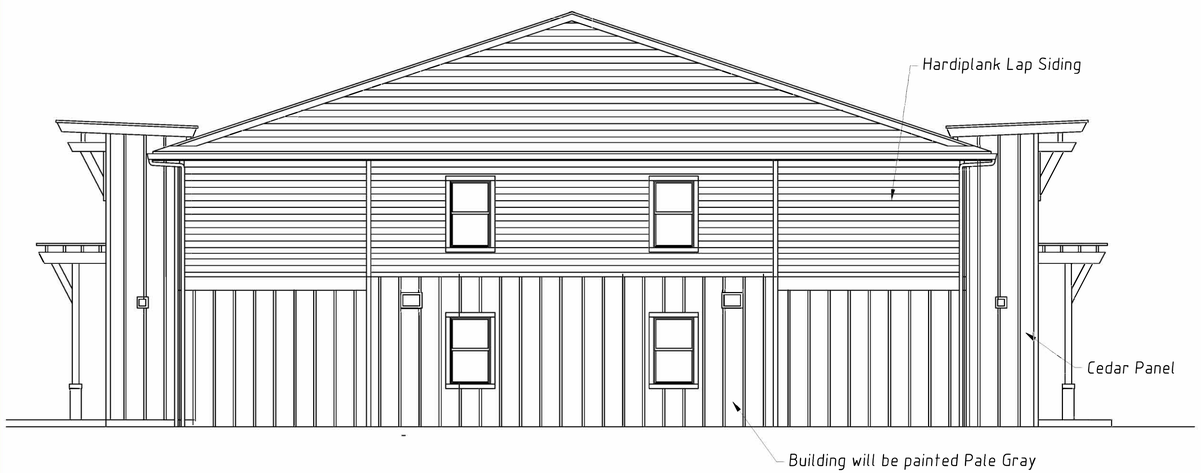
8th Ave Apartments

PRELIMINARY
NOT FOR CONSTRUCTION

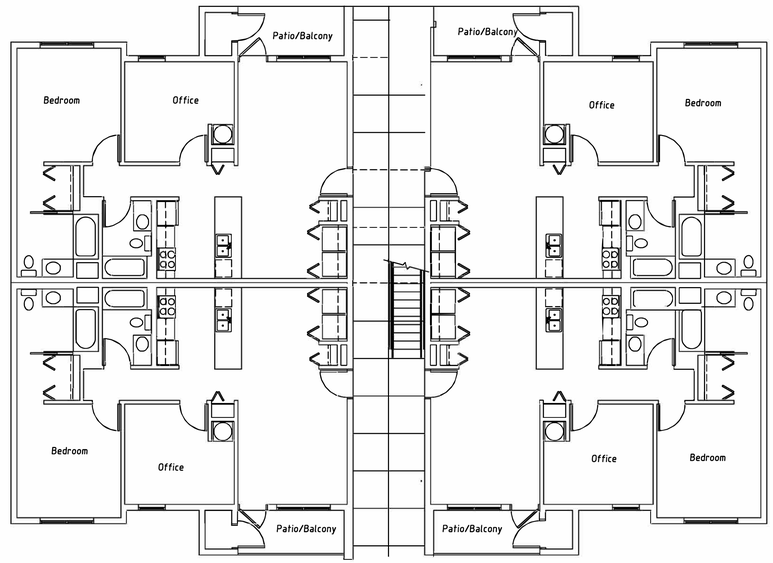
ENGINEERING NORTHWEST
CONSULTING ENGINEERS & PLANNERS
6168 NE HWY 99 STE 103, VANCOUVER 98665
(3 6 0) 9 3 1 - 3 1 2 2

Front View

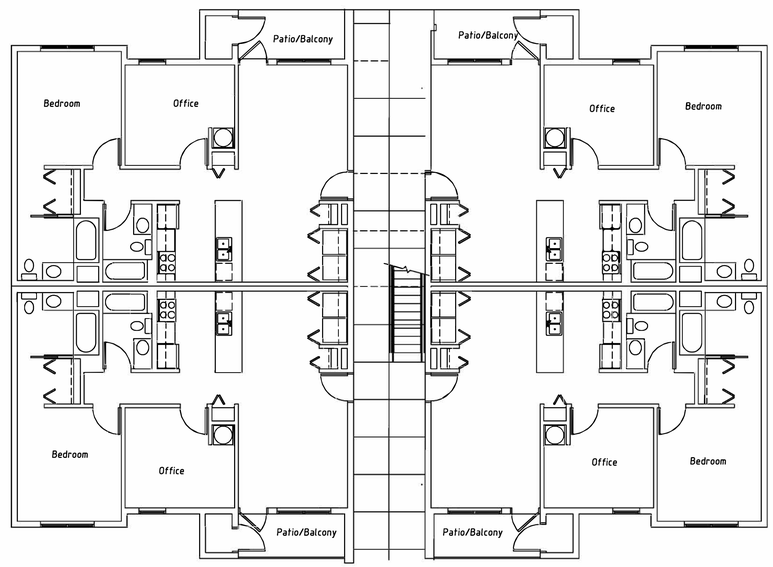
Rear View



Side View



First Floor Plan



Secound Floor Plan

DESIGN REVIEW CHECKLIST

SPRV23-04 8th Ave Apartments

The purpose of this sheet is to provide a simplified and expedited review of the design review principles and guidelines using objective review standards. The standards are intended as tool for the decision-maker in making findings that the proposal either achieves compliance with the intent of the principles or reasonably mitigates any conflict. When reviewing the check sheet, the proposal should as a whole "comply" with the standards and thus be generally consistent with the overriding principles. [Yes = In Compliance; No = Not In Compliance; NA = Not Applicable]

Standard Principles and Guidelines

ARCHITECTURE				
Yes	No	NA	Principles and Guidelines	Comments
			Corrugated materials, standing seam, T-1 11, or similar siding materials are avoided unless it produces a high visual (or aesthetic) quality.	
			Buildings walls or fences visible from roadways are articulated in order to avoid a blank look.	
			The use of bold colors has been avoided unless used as minor accents.	
			Higher density/larger structures abutting lower density residential structures have been designed to mitigate size and scale differences.	
LANDSCAPING AND SCREENING				
Yes	No	NA	Principles and Guidelines	Comments
			Vegetation for landscaping includes native, low maintenance plantings. Significant trees are retained if feasible.	
			Trees planted along streetscapes with overhead power lines include only those trees identified on the City's Tree list.	
			Landscaping, including trees, shrubs, and vegetative groundcover, is provided to visually screen and buffer the use from adjoining less intense uses including parking.	
			Proposed fencing is incorporated into the landscaping so as to have little or no visual impact.	
			Signs located on buildings or incorporated into the landscaping	

			are unobtrusive and vandal resistant. If illuminated they are front lit.	
			Landscape lighting - low voltage, non-glare, indirect lighting is directed, hooded or shielded away from neighboring properties.	
			Street lighting (poles, lamps) is substantially similar or architecturally more significant than other street lighting existing on the same street and do not conflict with any City approved street lighting plans for the street.	
			Parking and building lighting is directed away from surrounding properties through the use of hooding, shielding, siting and/or landscaping.	
			Outdoor furniture samples are consistent with the overall project design.	
			Existing trees over 6” dbh that are not required to be removed to accommodate the proposed development are retained and incorporated into the landscape plan.	
			Rock outcropping’s, forested areas and water bodies are retained.	
HISTORIC AND HERITAGE PRESERVATION				
Yes	No	NA	Principles and Guidelines	Comments
			The use of Historic Markers, information kiosks, project names, architectural features, or other elements of the project promote the historic heritage of the site or surrounding area.	

Specific Principles and Guidelines

GATEWAYS AND CORRIDORS				
SIGNAGE				
Yes	No	NA	Principles and Guidelines	Comments
			Gateways are devoid of free-standing signs. Preexisting freestanding signs are proposed for removal at the time of development, redevelopment, or major rehabilitation on the site.	
			Permanent signage within a gateway are standardized to create a consistent look in terms of size, color, and materials.	

STREETSCAPE				
Yes	No	NA	Principles and Guidelines	Comments
			The main public entrance is oriented toward the public right-of-way.	
			Pedestrian walkways connect each building's front entry with the sidewalk.	
			Bike lanes are provided and link public areas with neighborhoods and other local and regional bicycle corridors.	
			Alternative transportation, such as attractive bus stop shelters, bicycle parking, etc. are provided.	
			Trees, planting strips or bioswales are used for separating vehicles and pedestrian movements.	
			Street trees no less than two inches in diameter are planted within planter strips or tree wells at a spacing that creates the appearance of a continuous canopy at tree maturation.	
			The surface of pedestrian walkways within intersections are accentuated with a unique character (i.e. pattern stone, exposed aggregate, stamped concrete, etc.)	
			Buildings are placed as close to streets and roads as the zoning code allows.	
			On-site parking is located to the rear or the side of the building.	
			A consistent iconic streetscape lighting scheme is used that portrays the primary development period, architecture characteristics, or predetermined theme as identified in a concept plan, sub-area plan, or master plan recognized by the City.	
LANDSCAPING				
Yes	No	NA	Principles and Guidelines	Comments
			Landscaping adjacent to the public right of way provides multiple layers of plantings, including canopy trees, understory trees, shrubs and groundcover.	
			Hanging baskets provided along building frontages add visual interest and the bottom of the basket is a minimum of 80 inches above the finished grade of the sidewalk.	
			Median planting design/plant selection create a unique and cohesive streetscape design.	

COMMERCIAL				
ARCHITECTURE				
Yes	No	NA	Principles and Guidelines	Comments
			Office and retail buildings provide a minimum solid to void ratio of 60%/40%	
			The development is built with a residential feel (i.e. size, scale, and materials compatible with neighboring buildings) if surrounded by residential areas or adjacent to residentially zone properties.	
			Buildings over two stories have the third story and above offset from the first two stories, if surrounding developments are less than three stories or land use designations on adjacent sites do not allow more than three story development.	
LANDSCAPING & SCREENING				
Yes	No	NA	Principles and Guidelines	Comments
			Intersections are illuminated, but not dominated by lighting. Lighting is incorporated into the landscape and illuminates the quality of the natural environment. Street light poles and lamps are compatible with other nearby lighting on the same street.	
			Parking spaces are clustered in small groupings and separated by landscaping to create a pedestrian friendly, park like environment.	
STREETSCAPE				
Yes	No	NA	Principles and Guidelines	Comments
			On-site parking areas are located to the interior of the development unless site development proved prohibitive. Otherwise, parking areas are screened with landscaping.	
			Buildings are placed close to streets and roads unless site constraints made it impossible or characteristics of the surrounding properties already developed made it incompatible. Otherwise, retail frontage setbacks do not exceed 25 feet from back of curb.	
			Window and door placement provides a high degree of transparency at the lower levels of the building and maximize visibility of pedestrian active uses.	
			Each use/activity in a development containing multiple uses/activities is integrated in a manner that achieves a	

			seamless appearance or creates a cohesive development.	
			New streets intersecting commercial properties are designed to create a safe environment. “Coving” techniques and “round-a-bouts” were considered for traffic calming when appropriate.	
MULTI-FAMILY				
Yes	No	NA	Principles and Guidelines	Comments
1. STACKED HOUSING (APARTMENTS)				
Landscaping & Screening				
			All on-site parking areas are screened with landscaping. Parking spaces are clustered in small groups of no more than 6-10 spaces and separated by landscaping to create a pedestrian friendly park-like environment.	
			Green belts are used to separate different uses whenever possible.	
			Vertical intensity of landscaping increases as the height of the structure increases.	
			Stacked housing abutting or located in single-family residentially zoned areas is designed to mitigate size and scale differences.	
Architecture & Streetscape				
			Buildings are brought up to the road to help define traffic/pedestrian movements.	
			Principal pedestrian entrances of buildings are along a street, open space or mid-block passage with the exceptions of visible entrances off a courtyard.	
			Walls are articulated in order to avoid a blank look and provide a sense of scale including a minimum solid to void ratio of 70%/30%.	
			Detachable garages are located to the rear of stacked unit(s) so as not to be directly viewable from a public street.	
			Attached garages account for less than 50% of the front face of the structure. Garages visible from the street are articulated by architectural features, such as windows, to avoid a blank look.	
			Stoops, porches and direct individual entries are included in the ground-floor units.	
			Street lighting poles and lamps are compatible with other nearby lighting on the same street, unless other lighting is	

			expected to be replaced in the foreseeable future or a nostalgic theme compatible with the proposed development is desired. Surrounding sites are screened from parking and building lighting.	
2. TOWNHOMES AND ROWHOUSES				
			All on-site parking areas (excluding driveways & garages) are screened with landscaping.	
			Buildings are brought up to the road to help define traffic/pedestrian movements.	
			Structures abutting or located in single family residentially zoned areas are designed to mitigate size and scale differences when appropriate.	
			Walls are articulated in order to avoid a blank look and provide a sense of scale including a minimum solid to void ratio of 70%/30%.	
			Detachable garages are located to the rear of the townhouse or rowhouse unit(s) so as not to be directly viewable from a public street.	
			Attached garages account for less than 50% of the front face of the structure. Garages visible from the street are articulated by architectural features, such as windows, to avoid a blank look.	
			Green belts are used to separate different uses whenever possible.	
			Vertical intensity of landscaping increases as the height of the structure increases.	
3. DUPLEX, TRIPLEX & FOUR-PLEX				
			Attached garages account for less than 50% of the front face of the structure. Garages visible from the street are articulated by architectural features, such as windows, to avoid a blank look.	
			Buildings provide a complementary façade that faces the public right of way, and is the primary entrance to a unit or multiple units, unless impracticable.	