

# WILSONVILLE HIGH SCHOOL Site Design Review

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## APPLICATION SUMMARY

For Site Design Review, Type C Tree Removal Permit, Building Height Waiver, and Sign Waiver to construct a performing arts addition, additional parking, enhanced internal access, and softball field turf and lighting for Wilsonville High School.

## GENERAL INFORMATION

### Location

6800 SW Wilsonville Road (3S 1W, Section 13, Tax Lot 100). Its location is shown in Figure 1.

### Comprehensive Plan and Zoning Designation

The plan designation is Public, and the zoning is PF - Public Facilities.

### Applicant and Owner

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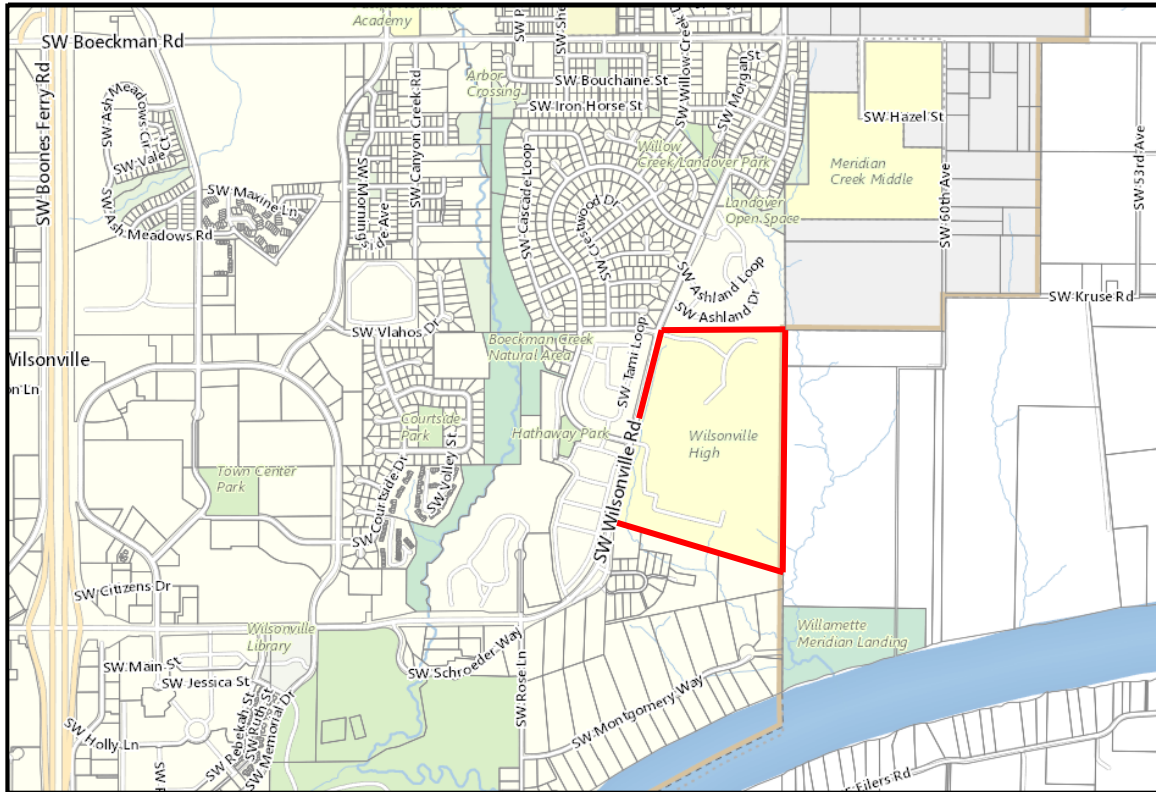
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## Plan Sheets

NUMBER	SHEET NAME	NUMBER	SHEET NAME
<b>General</b>			
CS1	Cover Sheet & Index	<b>Landscape</b>	
G002	3D Representations	L0.00	Site Plan
G003	Material Board	L0.01	Tree Protection Plan
G160	Existing Site Plan	L0.02	Tree Protection Plan
G161	Site Master Plan	L0.03	Tree Protection Plan
<b>Civil</b>		L0.04 Alt.	Tree Protection Plan
C102	Civil Code Analysis	L1.01	Materials Plan
C120	Existing Conditions Plan	L1.02	Materials Plan
C121	Existing Conditions Plan	L1.03	Materials Plan
C130	Key Plan	L1.04 Alt.	Materials Plan
C131	Overall Site Plan	L5.00	Planting Schedule
C300	Site Plan – Building Addition	L5.01	Planting Plan
C301	Site Plan – Building Addition	L5.02	Planting Plan
C320	Vehicle Movement – Fire Truck	L5.03	Planting Plan
C330	Vehicle Movement – Car & Delivery	L5.04 Alt.	Planting Plan
C340	Vehicle Movement - Bus	L7.01	Paving and Walls
C400	Overall Grading Plan	L7.02	Stairs - Handrails
C401	Grading Plan – Bldg. Addition	L7.03	Concrete Seatwall 1
C402	Grading Plan – Bldg. Addition	L7.04	Concrete Seatwall 2 & 4
C500	Overall Storm Drainage Plan	L7.05	Concrete Seatwall 3
C501	Drainage Plan – Bldg. Addition	L7.06	Custom Wood Bench 1
C502	Drainage Plan – Bldg. Addition	L7.07	Custom Wood Bench 2
C600	Overall Utility Plan	L7.08	Site Furnishings
C601	Utility Plan – Building Addition	L7.09	Planting Details
C602	Utility Plan – Building Addition	L7.11	Alt #2 Softball Field Details
C710	Site Plan – Parking Lot Addition	<b>Lighting</b>	
C711	Site Plan – Parking Lot Addition	EL160	Site Lighting Master Plan
C720	Grading Plan – Parking Lot Addition	<b>Architecture</b>	
C721	Grading Plan – Parking Lot Addition	A120A	Basement Floor Plan Sector A
C730	Drainage Plan – Parking Lot Addition	A121A	First Floor Plan Sector A
C830	Drainage Plan – Softball Field	A121B	First Floor Plan Sector B
C1030	Grading Erosion Control	A122A	Second Floor Plan Sector A
C1031	Grading Erosion Control	A122B	Second Floor Plan Sector B
C1032	Grading Erosion Control	A123A	Theater Tech Level Floor Plan Sector A
C1110	Site Plan Add Alternate #1	A125A	Roof Plan Sector A
C1120	Grading Plan Add Alternate #1	A201	Exterior Elevations
C1130	Drainage Plan Add Alternate #1	A202	Exterior Elevations
C1131	Drainage Plan Add Alternate #1	A801	Exterior Signage Plan & Elevations

Figure 1: Vicinity Map



Source: Metro

## BACKGROUND INFORMATION

### Site Description

Wilsonville High School (WHS) is located on a 60.52-acre property that is shared with Boeckman Creek Primary School (Sheet G160). WHS received a Zone Map Amendment, Stage I Master Plan, Stage II Site Development Review, and Variance approval in 1992 (Case File 92PC26). The high school was constructed in 1993-94 and expanded in 2004-05 (Case File 03DB33) to accommodate a total enrollment of 1,500 students in accordance with the original master plan approval (Case File 92PC26). WHS occupies the southern 40+ acres of the site. In 2009, the district received approval to construct two additional tennis courts on the southeast side of the school building and to provide a softball field (Case Files DB09-0040 and AR09-0046). In 2015, city approval was granted to construct a 4,277 square-foot addition to the performing arts facilities (AR15-0080 Class II Administrative Review and TR15-0147 Type B Tree Permit) creating a 228,240 square-foot building and supporting driveways, parking, and play fields.

### Surrounding Area Description

The plan and zoning designations and current land use of the surrounding area are summarized in Table 1.

**Table 1  
Land Use Summary**

PROPERTIES IN THE VICINITY	WITHIN CITY	PLAN DESIGNATION	ZONE DESIGNATION	LAND USE
<u>Subject Property</u> 3S 1W 13, TL 100 (60.52-acre school site owned by school district)	Yes	Public	PF – Public Facility	Wilsonville High and Boeckman Creek Primary Schools
<u>Surrounding Properties</u>				
North	Yes	Residential	PDR-4/PDR-5	Single and multi-family residences
East	No	Clackamas Co. - Agriculture	County EFU	Woodland and agriculture
South	Yes	Residential	RA-H	Single family residences
West	Yes	Residential	PDR-5	Multi-family residences

## HIGH SCHOOL BUILDING AND RELATED IMPROVEMENTS

### Improvement Summary

WHS has a 1,500-student capacity and a current enrollment of approximately 1,200 students. The performing arts section of the building has proven to be limited for supporting the school’s performing arts programs. Furthermore, they are not supported by the public space, dressing rooms, storage etc. that support community use and engagement, student learning, and safety. To enhance the school facilities and better accommodate performing arts program needs, the district proposes to make following improvements (Sheet C130 Key Plan):

- New performing arts auditorium addition and related support spaces (Architecture Sheets A120A – A801). A waiver is requested to allow a maximum height of 55.5 feet
- Signage for the performing arts theater and its productions (Sheet A801).
- Parking lot reconfiguration and expansion to better accommodate a variety of school functions (Sheet C102).
- Improved access, circulation and wayfinding (Sheets C131 – C340).
- Landscaping adjacent to the building and new parking lot along with water quality and restoration plantings (Sheets L0.01 – L5.04). This will include protection of the Heritage White Oak near the main driveway and removal of 32 landscaping trees.
- Site lighting (Sheet EL160).
- Stormwater treatment facilities to accept runoff from new impervious surfaces.
- Site grading and erosion control (Sheets C720, C721, C1030 – 1032, and C1120 – C1131).

The district is confident that school bond funding will be able to cover the cost of the building and major site improvements shown. In addition, there are five improvement alternates that are being considered. These are improvements the district would like to provide as part of this project, but final costs shall determine if it will be possible to construct them now or in the future as more funding becomes available. There is also one future parking lot improvement shown that will not be constructed at this time, but the district hopes to provide this additional parking in the future as funding permits. The alternates and future improvement are described more fully below (Sheet G161):

- **Alternate 1** – to provide 14 additional parking spaces and replace the existing walkway with a new sidewalk along the east side of the proposed new northern parking lot, which will connect the existing high school to the softball fields. This also includes associated new landscaping and Musco field lighting.
- **Alternate 2** – to replace the grass on an existing softball field with synthetic turf (Sheet L1.05-Alt.) and add field lighting (Sheet EL160).
- **Alternate 3** – to install LED pedestrian lighting along the south sidewalk from the Wilsonville Road entry to Boeckman Creek Primary School.
- **Alternate 4** – to replace the existing lighting optics in the southwestern and southern parking lots.
- **Alternate 5** – to install LED lighting optics in the existing pedestrian light fixtures surrounding the existing track and field on the east side of the building.
- **Future Phase** – to provide 23 additional parking spaces and associated landscaping and lighting.

## Performing Arts Auditorium Addition

### Program for the Addition

This project is a combination of new construction (+/- 29,300 gsf) and renovation (+/- 8,000 gsf). The new construction will house a 600-seat multi-use theater, a stage, a scene shop, and miscellaneous support spaces. The renovation will convert the existing theater space into a new CTE/Robotics Lab, the existing stage into a new seat Black Box Theater and the existing Arena Theater into general instructional space and storage. Also included in the scope is a new parking lot to the north, a new turf softball field and new connector roads to improve site circulation for pedestrians and cars. The building program includes:

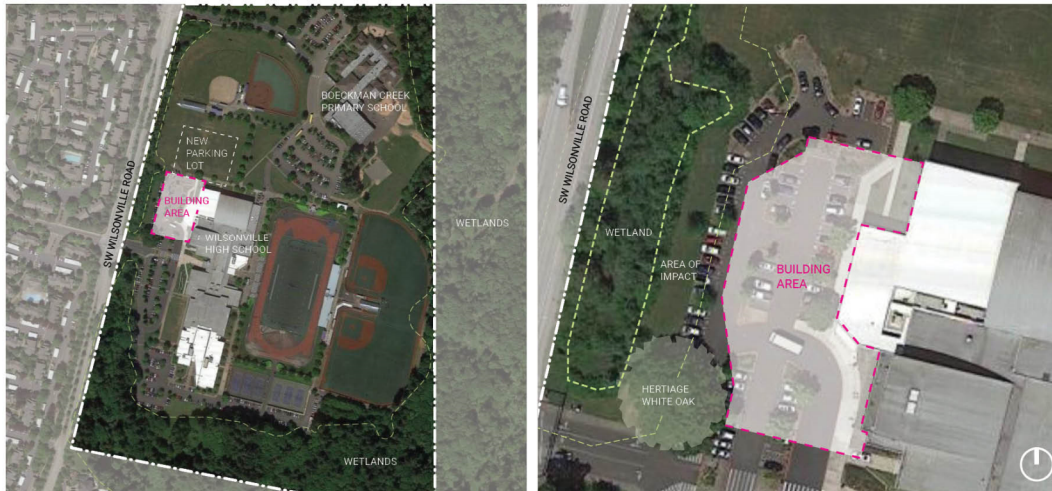
- Public Spaces 5,300 sf
- Auditorium 13,000 sf
- Back of House Support 4,000 sf
- Circulation/Support 7,000 sf
- Black Box Theater 2,200 sf(renovation)
- CTE Instructional Spaces 5,800 sf (renovation)

The existing theater and arena theater are undersized for the current population of the school. Furthermore, they are not supported by the public space, dressing rooms, storage, etc. that support community use and engagement, student learning and safety.

The site for this addition is located at the main vehicular and pedestrian entry to the Wilsonville High School Campus. It is currently used as a parking lot. The site is constrained by existing wetlands to the west and northwest and by a large Heritage White Oak to the southwest. The eastern boundary of the site is defined by a band room addition completed in 2016. The northern edge of the site is constrained by the footprint of a future parking lot (part of the project). While the site is level, it sits three feet below the elevation of the high school. Site circulation is need of improvement, with busses, parents, students, and staff all utilizing the same entry and drive lanes.

The proposed site was determined to be the only viable location for the addition because of the adjacency to the existing band, choral, and performance spaces. Students, instruments, scenery, and other equipment will be moved between new, existing, and renovated spaces within the performing arts program. The new lobbies at the north and south ends of the addition will also serve existing spaces such as the auxiliary gym and the smaller black box theater located in the renovated auditorium. The aerial photos on the following page show the proposed location for the auditorium improvements.

SITE | WILSONVILLE HIGH SCHOOL



## Architectural Design

The addition locates the new auditorium with a north/south orientation, parallel to and immediately west of the existing band room. The shape and height of an auditorium stage is highly prescriptive based on the function of the theater and the number of performers it accommodates. Similarly, the audience chamber size and shape are determined by the number of seats, sight lines, and the necessary volume to produce quality acoustics. These interior requirements have led to a portion of the building reaching a proposed exterior height of approximately 55.5 feet.

The proposed addition design process began by locating the auditorium because there was little flexibility as to where it could be situated. The constraints of the existing building, the heritage oak tree and the wetland to the west determined the auditorium location within a matter of feet. The available footprint was so small as to require the stacking of program vertically, with the dressing areas placed beneath the stage and some of the seating placed on a balcony. Because the addition

will be accessed both from parking to the north and the south, the addition will effectively have two fronts, both necessitating lobbies and building signage.

### Architectural Form, Materials and Character

The existing Wilsonville High School was originally constructed in 1993 with major additions in 1996, 2006, and the band room addition in 2016. The original design featured brick single- and two-story volumes and large vaulted spaces containing the gym, original auditorium, and commons. The west façade, facing Wilsonville Road currently includes the main entry to the school, a single-story lobby entrance flanked by taller vaulted volumes. These vaulted forms have lower flat roofed volumes in front of them. The 2006 addition at the south end of the building departed from the building's formal language and added silver metal panel and tall expanses of curtain wall to the material palette.

#### EXISTING BUILDING STUDY



#### EXISTING BUILDING STUDY | FORM





The proposed project aspires to be both an organic and harmonious addition to the school while creating a cultural asset that belongs to the larger Wilsonville community. The addition will pull from the school's existing material palette of dark brick with metal panel canopy fascia and trim.

The decision to not replicate the original building's vaulted forms was based on the conviction that the building's form should follow its authentic function. Vaulted roofs are problematic for music spaces for two primary reasons: 1) they do not easily facilitate the varying heights of the stage, house, and lobby; and 2) the stage requires flat structure for its rigging and a concave roof over the house creates problematic acoustical conditions. Both requirements would be very costly to overcome, effectively creating duplicative structure and finishes and a taller, more massive façade along Wilsonville Road. Like the 2006 addition on the south end, the performing arts addition will respect the original structure without duplicating it.

#### EXISTING BUILDING STUDY | MATERIALS



The performing arts addition features a distinctive character that serves to both create its own identity while being a harmonious neighbor to the existing school. The south facing, double height lobby that supports the auditorium and balcony levels will be shaded by a generous canopy that will also serve to shelter students and community members before and after functions.

The brick cladding of the building is intended to invoke a draped theatrical curtain, with vertically oriented patterning that shifts at horizontal datum to reduce the building's perceived scale. The surface immediately to the right of the entry will be available for temporary banners that would announce current or upcoming programming. The District hopes to place a digital display in this location at some time in the future.

## Signage

As the performing arts addition will be a destination for both families of students and the wider community, the north and south entries will feature permanent signage identifying the performing arts center along with changeable sign banners that relate to current and upcoming performances (Sheet A801). The proposed signs are summarized below:

**Table 2  
Proposed Signs**

SIGN LOCATION AND TYPE	NO.	DIMENSIONS AND AREA	MATERIAL AND INSTALLATION	ILLUMINATION
<b>South Façade/Main Entrance</b>				
“Performing Arts Center”	1	10” X 11’ 11” 9.3 sf	1” deep permanent stainless steel letters	Backlit
Sign Banners	4	4’ X 8’ each 32 sf each 128 sf total	Changeable fabric or similar attached to wall fasteners	Wall wash lighting
<b>North Façade</b>				
“Performing Arts Center”	1	8” X 9’ 6” 6.3 sf	1” deep permanent stainless steel letters	Backlit
Sign Banners	3	3’ X 6’ each 18 sf each 54 sf total	Changeable fabric or similar attached to wall fasteners	Wall wash lighting

Because the north and south elevations are perpendicular to Wilsonville Road, and a considerable distance, they will not be visible from the public way. In addition, the proposed signs would be over 500 feet from the nearest properties to the north and south. The simulations below demonstrate how these signs will not be visible beyond the property boundary.





PROPOSED SIGNAGE



PROPOSED SIGNAGE

Development Code Section 4.156.08 contains the requirements for signs in the PF Zone. The allowed sign area for signs on building façades is based upon the length of the façade. The length of the southern and northern building façades is 214 feet 362 feet, respectively. Based upon the formula in Section 4.158.08(.02) a maximum sign area of 107 square feet is permitted on the southern façade and 181 square feet is permissible on the north façade. The southern façade signs would exceed the maximum standard by approximately 31 square feet, and the total sign area on

the northern façade would comply with the maximum sign area standard. A sign waiver is requested as provided in Section 4.156.02(.08) to exceed the maximum wall sign area on the south facade and to allow changeable wall banners.

## **Parking, Circulation, and Loading**

### **Parking**

The WHS expansion to increase the school's enrollment capacity to 1,500 students was approved in 2004 with 390 parking spaces for the high school and 148 for Boeckman Creek Primary School for a total of 538 spaces (Case File 03DB33). Currently, the site WHS/Boeckman site has 520 spaces, of which 15 are accessible spaces (Sheet C102). As of December 2019 (spring 2019 enrollment was interrupted due to Covid-19 and September 2020 data is not yet available), WHS had an enrollment of 1,199 students and 103 staff, and Boeckman Creek Primary School had 539 students and 65 staff. The primary school was initially approved with a stated enrollment capacity of 574 students.

To make way for the auditorium and better accommodate primary and high school activities, the following parking changes are proposed:

- Retain the Boeckman Creek Primary School parking and shared parking as it is today with a total of 188 spaces (including 7 accessible spaces).
- Reduce the parking spaces of the south WHS parking lot from 332 (including 8 accessible spaces) to 255 (including 4 accessible spaces) to accommodate the new auditorium.
- Construct a new 103-space parking lot, including 14 spaces associated with Alternate #1, to the north of the high school. This parking lot is proposed to potentially be 23 spaces larger with a future phase to construct a future parking aisle between the proposed northern lot and the SROZ area along Wilsonville Road (Sheets C102 and C710).
- In total, the number of parking spaces available to both schools is proposed to increase from 520 to 546 (including Alternate #1). The proposed future 23-space addition would yield a total of 569 spaces on the entire WHS/Boeckman Creek site.

The proposed increase in parking spaces is intended to meet the increasing demand for parking and to also satisfy the city's code requirements, which are a minimum/maximum of 0.2/0.3 spaces per student and staff. Based upon the approved capacities of the two schools plus staff, the minimum/maximum number of parking spaces is 448/673. The existing and proposed number of spaces fall within the allowable range defined by the code. Finally, the existing bicycle parking will not be modified, and will continue to satisfy city requirements.

### **Circulation**

The on-site vehicular and pedestrian circulation will functionally remain the same with the following changes:

- The parking lot to the west of the existing performing arts portion of the building will be eliminated.
- The existing north-south driveway and sidewalk to the north of the main driveway will be re-aligned to the west of the new auditorium.
- The school bus and parent pick-up and drop-off areas would now be segregated as shown in Exhibit C.

- A new parking lot will be provided to the north of the new auditorium.
- The existing driveway connection with Boeckman Creek Primary School will be retained but re-aligned to accommodate the new parking lot.
- Access to the solid waste and recycling area on the north side of the building will be retained.
- A new paved walkway traversing the new northern parking lot will provide an additional pedestrian connection to the softball fields and Boeckman Creek Primary School.

The potential traffic impact of expanding the existing 520-space capacity was analyzed by the city's traffic engineer, DKS Associates (Exhibit C). The study determined that the number of additional vehicle trips during the PM peak hour would have a "negligible" impact on the adjacent roadway network. The DKS report indicates the existing and proposed parking exceeds the code maximum for a high school, but it does not acknowledge that Boeckman Creek Primary School also relies upon this total number of spaces on the site. When both schools are considered, the existing and proposed parking are in compliance with city standards as noted above.

DKS also determined that the modified school bus and auto circulation would enhance safety and reduce potential queueing problems on Wilsonville Road for inbound vehicles. The report recommended a raised crosswalk for the driveway crossing that will serve the proposed northern parking lot. This recommendation is reflected in the proposed parking lot and driveway design.

### **Loading**

The auditorium addition is proposed to have two loading pathways across pedestrian plaza spaces to enable transport of necessary performing arts and school club equipment and materials. One is located on the south side of the addition and maintains an existing loading pathway into the newly renovated Multi-Purpose space and Blackbox Theater. The other is on the north side to provide direct loading into the new Scene Shop and Auditorium Stage (Sheet L1.02).

The south side loading will be accessed 1-2 times during the school year to support school performances. Outside community groups will have access to the Blackbox during the summer when school is not in session. The south side loading will also serve the Multi-purpose (Robotics) space and the Robotics club will require access 1-2 times a year for material deliveries and once per year will host a Robotics competition that will require access. In addition to this infrequent use, pedestrian safety will be provided by:

- Removable lockable bollards to prohibit unauthorized vehicular use,
- Generous widths and unobstructed visibility in the immediate vicinity, and
- Supervision by school administration or designated staff of all loading and unloading in these areas.

The existing solid waste and recycling area on the north side of the building will remain. The proposed driveway will change the access to this area slightly. Republic Services has reviewed the proposed improvement plans and is satisfied with the adequacy of the waste/recycling area and the access to it (Exhibit D).

## **Landscape**

### **Tree Removal and Protection**

The historic White Oak tree on the north side of the driveway entry will be retained and fully protected during construction (Sheet L0.01). The district had the tree assessed in 2017 and again in summer 2020 by Greg Doering, Certified Arborist. He found the tree to be in good condition, and only in need of maintenance pruning and some vegetation clean-up under the tree canopy. The recommended maintenance was completed in 2020 (Exhibit A).

The auditorium and site improvements will require the removal of 32 trees, generally with a diameter of 6 to 13 inches, which were previously planted to satisfy city landscaping standards. Their removal is necessary to site the proposed auditorium, and new parking lot, and realigned driveways. The remaining trees on the site shall be protected (Sheets L0.01 – L0.04 ALT). A Type C Tree Removal Permit is requested to remove these trees.

### **Significant Resource Overlay Zone**

A significant resource is located between the project site and Wilsonville Road. A significant resource impact report (SRIR) was prepared by Pacific Habitat Services, Inc., and it is presented in Exhibit E. The report provides the information and analysis required by the Wilsonville Development Code Section 4.139 Significant Resource Overlay Zone (SROZ). The report finds that the proposed improvement project will not result in any adverse impacts within the SROZ (Westland A in the report) with proper delineation of the construction site and erosion control.

The report does acknowledge that approximately 14,665 square feet of the Area of Limited Conflicting Use onsite will be impacted to construct new parking areas and roadway. However, much of this area has been previously affected by existing parking areas. Of the total Area of Conflicting Use on the property, the total impact related to this project is less than 5%.

### **Landscaping and Plantings**

The site landscape plantings are provided in the following areas: plantings adjacent to the building, water quality plantings, restoration planting, and parking lot planting. The plants are native or climate-adaptive to aide in their resiliency. Plant materials are selected and located with emphasis on durability and minimal maintenance requirements (Sheet L5.00).

- Plantings adjacent to the building include trees, shrubs and groundcover plantings. Plants are sized and spaced appropriately to provide direct visual access throughout the school grounds.
- Water quality plantings meet the City's criteria and consist of trees, shrubs, and rushes that will help to clean roof and impervious surface runoff.
- A mix of deciduous tree varieties is located at the parking lot and around the auditorium addition to provide shade and comfort. Trees selected throughout are drought-tolerant, specific to Wilsonville's climate, and provide ease of maintenance. Small trees are located to provide seasonal interest at the main gathering spaces. A total of 37 trees are proposed to satisfy city standards and to compensate for the necessary tree removal noted above (Sheet L5.00).

- Buffer enhancement plantings are located within and outside of the wetland buffer and area of impact. They consist of native trees, shrubs and groundcovers all of which are on the City's approved list.
- Parking lot landscaping calculations are provided on Sheet L5.00.

Plant areas consist of 18-inch depth amended soil (existing or imported based on soil composition testing, geotechnical recommendations) at shrub areas, tree pits have a minimum 36" depth of amended soil. Where existing trees are scheduled to be protected, tree protection fencing will remain for the entirety of construction.

Irrigation consists of a permanent, below grade and fully automatic system operated by weather-based controller with a combination of spray heads, rotors, and drip irrigation. Water efficient equipment will be used to reduce water consumption.

### **Hardscape and Plaza Spaces**

A new, fully accessible auditorium plaza is located on the south side of the building and visually linked to the school's main entrance plaza. Seat walls and benches are strategically located in the plaza to provide spaces for students and audience members to gather. Portions of the existing vehicular access to the existing building will be re-built to maintain periodic loading in support of the school's new multi-purpose space and Blackbox theater. A smaller plaza space located at the north side of the building provides additional access to the auditorium, with a direct pedestrian connection to the new parking area and bus drop off zone. Seat walls and benches are provided for user comfort. This plaza also provides a controlled means of vehicle loading to the scene shop and auditorium on a periodic basis. Curbs and bollards will be located at both plazas to separate vehicles and pedestrians. Removable lockable bollards are included along loading routes within the plaza spaces, and where necessary, can be removed during administration approved and supervised use of the loading areas.

### **Synthetic Turf Softball Field**

The existing softball field north of the auditorium is proposed to receive new synthetic turf (Sheet L1.04 Alt.) and field lighting (Sheet EL161) to extend its usability (Alternate #2). The field size/footprint will not be changed. All field fencing, including the backstop and adjacent to the dugouts, will be removed and replaced.

## **Utilities**

### **Stormwater**

The existing site currently has stormwater treatment and detention facilities that were constructed for storm water runoff from impervious surfaces. These facilities were constructed in in conformity with city requirements at the time of installation.

Additional stormwater coming from the new impervious areas including the building addition, paved areas, and turf softball field will be conveyed and treated using multiple stormwater facilities. Stormwater management for the project area will be provided using the *2015 City of*

*Wilsonville Stormwater & Surface Design & Construction Standards*. The site is delineated into 13 basins, each draining to specific stormwater surface facilities. The proposed facilities are described in the *Preliminary Stormwater Report Wilsonville High School – Auditorium Addition* (Exhibit B).

## **Water**

The proposed new addition and site circulation impact an existing water line easement that runs along the front of the school. It is proposed to be relocated as shown on Sheet C600.

## **Site Lighting**

Site lighting will be provided for the auditorium addition and the proposed northern parking lot (Sheet EL160). If funding allows, the district also proposes to improve the lighting across much of the remainder of the site as shown for Alternates # 3, 4, and 5. Cut sheet information for the fixtures and exterior lighting compliance certificate are provided in Exhibit F.

## **Community Engagement**

COVID-19 has shaped the design process in ways few could have imagined a year ago. The WLWV School District has been committed to including a wide range of community voices, from students to the theater, music, and visual arts communities in the design process. The facility was always conceived as a resource and venue for local performing and visual arts groups not necessarily affiliated with the school. Community members have taken part in regular digital stakeholder meetings as well as focus groups on such topics as theater technology.



## COMPLIANCE WITH THE WILSONVILLE DEVELOPMENT CODE

The city planning staff determined that because the original master plan for the high school was approved, the modifications proposed in this application are subject to a Site Design Review process before the Development Review Board (DRB). Site Design Review process must be followed, and the relevant criteria of the Wilsonville Development Code (WDC) must be addressed as part of this review. These criteria are listed followed by findings, which demonstrate that the application is consistent with the code.

### 4.136 PF – Public Facility Zone

**(.02) K. Uses Permitted Outright.** Public schools are listed as a permitted use in the PF Zone.

**(.04) Dimensional Standards.** The proposed school meets the applicable standards in this section because:

- The property is over 60 acres, exceeding the minimum 1-acre lot size.
- The existing front, rear, and side yard setbacks greatly exceed the city's minimum standards (front and rear of 30 feet / side of 10 feet). The auditorium will reduce the front yard setback to approximately 130 feet. All other building setbacks are significantly greater than the front yard setback.
- The minimum street frontage is over 1,700 feet, exceeding the 75-foot minimum standard.
- The maximum building height for the auditorium addition is approximately 55.5 feet. This will exceed the maximum 35-foot height standard, and therefore a waiver is required as provided by WDC 4.118(.03).

Requirements pertaining to off-street parking, signs, landscaping, corner vision, and special regulations for site design review are addressed later in this section of the application narrative.

### 4.118 Standards Applying to All Planned Development Zones

**(.03) A. Waiver of development standards.** This section allows the DRB to grant waivers to typical development standards including building height, in order to implement the purposes and objectives of WDC 4.140. As noted above, a waiver to the maximum 35-foot building height standard is requested to allow a maximum height of approximately 55.5 feet for a portion of the auditorium addition. Consistency of this request with WDC 4.140 is addressed in the following section. In order to minimize this waiver, the design of the tallest portion of the auditorium was adjusted to change the performance lighting and rigging access. This adjustment reduced the building height by approximately ten feet. Additionally, the main floor elevation was lowered two feet from the level of the existing building, allowing a lower building height relative to the site and other properties.

### 4.139 Significant Resource Overlay Zone (SROZ)

The relevant criteria in WDC sections 4.139.00 through 4.139.11 are addressed in the SRIR presented in Exhibit E.

## 4.140 Planned Development Regulations

**(.01) A. Overall purpose of planned development regulations.** The school property has proven to be a significant community asset. The design of the building and site improvements were previously approved by the city, and the proposed improvements are complementary to the existing design and previous city approval. The requested building height waiver to allow a 55.5-foot maximum height for a portion of the auditorium will continue to allow for a harmonious relationship between WHS and the surrounding properties and neighborhoods. As demonstrated in this application, great care has been given to create a building design that complements the existing building architecture while maximizing the functionality of the auditorium for instruction and performances.

**(.01) B. A number of specific purpose statements are made in this section.** These are addressed below:

- 1. Functional design.** The building height for the auditorium is necessary for the proper function of the theater stage, its lighting, stage sets, and acoustics.
- 2. Population density, distribution and circulation.** The proposed building height waiver is not relevant to this portion of the purpose statement.
- 3. Development that is equal or better.** Given the scale of the existing WHS building and its significant distance from surrounding properties the additional building height for the auditorium will provide an architectural design that is equivalent to one that meets the 35-foot maximum.
- 4. Permit design flexibility for efficient site utilization.** The proposed building height waiver will allow for a more functional auditorium and stage capable of hosting a wide range of performances and events.
- 5. Building height flexibility that enables appropriate open space and buffering.** As noted above, the WHS building and auditorium addition will have setbacks well in excess of 100 feet.
- 6. Adequate facilities and services are available.** Adequate facilities and services are currently available for the existing school. The auditorium will not increase the enrollment capacity of WHS, and the existing facilities and services will continue to be adequate.
- 7. Mix of uses.** WHS and Boeckman Creek Primary School currently serve the surrounding community. The building height waiver will enhance the district's ability to provide a high-quality education to its students as well as public events and entertainment.
- 8. Allow flexibility and innovation.** The proposed building height waiver will enable the auditorium to employ current and innovative techniques to increase the quality and enjoyment of performances for students and the general public.

**(.09) J. 2 b. Essential government service.** As an essential government service (defined in Section 4.001(256)), schools are exempt from meeting the Level of Service D requirement. In addition, the

traffic impact study (Exhibit C) concluded that the proposed improvements will have a negligible impact on traffic volumes generated by the high school.

#### **4.154 General Regulations – On-site Pedestrian Access and Circulation**

**(.01) On-site Pedestrian Access and Circulation.** This section contains a number of standards in Subsection B, which are satisfied by the proposed school facility expansion because:

1. The existing pedestrian pathway system will continue to provide the same level of connectivity and convenience because it will be retained along the frontage of the auditorium addition.
2. The connections will continue to be as safe and direct as found on the site presently.
3. Vehicles and pedestrians will continue to be separated.
4. The district proposes to provide improved school and vehicular separation to enhance safety.
5. Crosswalks will be retained and enhanced to allow safe and convenient locations for pedestrians to cross the internal driveway system.
6. The walkways will continue to be paved.
7. Wayfinding will continue to be clear and obvious.

#### **4.155 General Regulations – Parking, Loading and Bicycle Parking**

**(.02) General provisions.** This section contains a number of provisions, which are satisfied by the proposed school facility expansion as noted:

- A. Parking will continue to be maintained for the school use, and the proposal will increase the number of on-site parking spaces in a manner that will not degrade the existing attractive and safe pedestrian environment.
- B. The number of spaces and the basic layout will be amended by eliminating parking in front to make way for the auditorium addition and providing a new, larger lot to the north. As shown in the plan sheets, appropriate access shall be provided for the new parking spaces.
- C. While the addition will expand the building footprint, it will not increase the enrollment capacity of the school or related parking requirements. The total number of spaces will be increased, but within the prescribed minimum and maximum requirements of the WDC. As illustrated in the landscaping plans, the on-site parking will have the appropriate landscaping and screening.
- D. Not applicable, only one use.
- E. Not applicable, only one owner.
- F. Existing parking spaces will be maintained, and because enrollment capacity will not increase, additional parking spaces are not necessary, but will be increased to better support uses and activities for both schools while continuing to satisfy WDC requirements.
- G. Not applicable, no off-site parking is proposed.

- H. Parking spaces shall not be used for other activities.
- I. All existing and proposed parking lots will continue to be buffered with landscaped areas in a manner that meets or exceeds WDC requirements.
- J. Curbs will continue to be utilized to keep cars out of landscaping and walkways.
- K. Parking and driveway areas will all continue to be paved.
- L. Lighting will continue to be provided, and it will be directed in a manner that will not shine onto adjoining properties.
- M. Not applicable because the WDC does have specific parking requirements for schools, and these standards will continue to be satisfied.
- N. Not applicable, only standard parking spaces are proposed.
- O. The new parking spaces will have curb stops to ensure that the 10-foot wide landscaped areas and pedestrian walkway will not be encroached upon by parked vehicles.

**(.03) Minimum and Maximum Off-Street Parking Requirements.** This code section contains a number of standards, which apply to the application. These requirements are met as described below:

- A. Existing loading and waste/recycling areas will continue to be in their presently approved locations. New loading areas related to performing arts are proposed to accommodate periodic needs for delivery and pick-up of equipment and materials. As described above and illustrated in the plans, vehicles and pedestrians will be kept separate on distinct routes.
- B. The parking area perimeter landscaped areas will be retained, and any disturbed areas will be re-landscaped in accordance with city standards as shown. The new parking lot is proposed to have 28 trees for 103 spaces (including Add Alternate #1). The trees will be spaced and within landscaped areas of sufficient size to satisfy WDC standards. The existing landscaping and SROZ area along Wilsonville Road provide suitable buffering as required.
- C. The parking and circulation facilities were designed to satisfy ADA and other applicable standards. The 4 existing ADA parking spaces at the front of the high school near the main entrance will be replaced by 4 new spaces in the north parking lot. All other ADA spaces on the property, including 4 relocated spaces in the south lot, will be retained for a total of 15 accessible spaces. This satisfies the requirement for a minimum of 1 ADA space per 50 spaces.
- D. As described earlier, the parking for the two schools is shared. Convenient driveway and sidewalk connections are provided between the schools.
- E. Not applicable, applies only to multi-family development.

- F. Not applicable, no on-street parking along Wilsonville Road.
- G. As indicated above, the required number of parking has been determined.
- H. No electrical charging stations are on the site or proposed as part of this project.
- I. There is no existing or proposed motorcycle parking on the site.

**(.04) Bicycle Parking.** This code section contains a number of standards for bicycle parking. This application will not impact the existing parking in any way. Because the addition will not increase parking demand, the existing bicycle parking satisfies city standards.

**(.05) Minimum Off-Street Loading.** This code section contains a number of standards for off-street loading. This application will not impact the existing loading facilities, which are located on the north side of the building. The proposed loading areas associated with the auditorium are only intended to accommodate special needs of the performing arts programs and performances.

#### **4.156 Sign Regulations**

Permanent wall signs are proposed near the north and south auditorium entrances. These signs will be less than 20 square feet. Temporary banner signs are also proposed adjacent to the auditorium entrances, and these signs would change to publicize current and upcoming performances and events. The remaining signage proposed is for directing traffic on the site, including identification of fire lanes and bus loading areas.

A sign waiver is required to: 1) allow a total wall sign area at the main auditorium entrance of approximately 138 square feet where a maximum of 107 square feet is required; and 2) to allow use of temporary wall banner signs on the north and south building facades near the entrances to the auditorium. Section 4.156.02(.08)A. contains four sign waiver approval criteria, which are addressed below:

- 1. Improved sign design.** The proposed banners represent a creative way to add to the visual appeal of the auditorium building by adding additional color and graphics that change to support performing arts center events. Signs of this type are commonly associated with theaters featuring plays and other live performances.
- 2. Compatible and complementary with overall design and surrounding area.** While they may be somewhat visible from beyond the property boundaries, the proposed signs will be over 200 feet from Wilsonville Road and partially buffered by existing and proposed landscaping. Adjoining properties to the north and south are over 600 feet away and the signs will be barely visible, if at all, from that distance.
- 3. Improve or do not negatively impact public and traffic safety.** The proposed signs are sufficiently removed from streets to have any potential to adversely impact traffic or general public safety.

4. ***Sign content may not be considered.*** The “Performing Arts Center” signs will be permanent, and the content of the banners will naturally change with the performances being publicized.

#### **4.167 General Regulations – Access, Ingress and Egress**

This is satisfied because the existing, approved driveway entry on Wilsonville Road will not be modified in any way. The proposed internal circulation modifications will not have any discernable impact on traffic generated by the school.

#### **4.171 Protection of Natural Features**

This section provides approval criteria for a variety of situations including steep slopes, soil hazard areas, earth movement, and flooding. Only the two following subsections are applicable to this application.

***(.02) General Terrain Preparation.*** The site is relatively flat with the most notable natural features in the vicinity of the improvements being the SROZ area along the Wilsonville Road frontage and the heritage White Oak tree. As demonstrated in the plan sheets, the design of the improvements will succeed in avoiding the SROZ area (more detail once report is available) and protecting the White Oak. As noted, 35 trees must be removed. These trees were previously installed to satisfy city landscaping requirements, and they will be replaced. Suitable stormwater facilities and treatment is proposed to avoid any detrimental environmental impact.

***(.09) Historic Protection.*** This subsection is intended to “preserve structures, sites, objects, and areas ... having historic, cultural, or archaeological significance.” This could be interpreted to include the heritage White Oak tree. As indicated in this application, the tree will continue to be protected and properly maintained.

#### **4.175 Public Safety and Crime Prevention**

The provisions of this section call for appropriate design and lighting to deter crime. The existing high school was designed in a manner consistent with these criteria. The additions continue to retain the same design and basic site layout, which offers safe outdoor public spaces that are easily viewed from a variety of vantage points. The exterior lighting will continue the present exterior lighting theme. Finally, the on-site circulation will functionally remain the same, and easy access is available to all portions of the site.

#### **4.176 Landscaping, Screening and Buffering**

***(.02) Landscaping and Screening Standards.*** Because the improvements are well within the 60+ acre site, the general landscaping standards are required. The standards in this section will continue to be satisfied because a small percentage amount of the existing landscaping will be disturbed by the proposed construction, and replacement landscaped areas will be planted with new trees, shrubs, and ground cover as shown in the landscaping plans.

**(.03) Landscaped Area.** The school site continues to have well over a minimum of 15% of the area devoted to landscaping.

**(.04) Buffering and screening.** The school is well screened from surrounding properties by virtue of distance, landscaping around the existing parking lot, and natural vegetation to the east, south and west sides of the site. The proposed improvements will have a minimal impact on the existing landscaping, and new/replacement landscaping is proposed for areas affected. WHS will continue to be well screened from view beyond the property boundary.

**(.05) Sight-Obscuring Fence or Planting.** This section is not relevant because this type of screening is not necessary or required.

**(.06) Plant Materials.** This section specifies the minimum sizes and coverage for new landscaping. These standards are met or exceeded as shown on the landscaping plan sheets.

**(.07) Installation and Maintenance.** The installation requirements will be followed, and an irrigation system is currently available.

**(.08) Landscaping on Corner Lots.** No applicable because this is not on a corner lot.

**(.09) Landscape Plans.** This section requires landscape plans. The landscaping plan sheets provided in this application comply with the requirements of this section.

**(.10) Completion of Landscaping.** The district shall install and maintain landscaping as required by this section.

**(.11) Street Trees Not Typically Part of Site Landscaping.** This section segregates street trees from other landscaping requirements. Because no street trees will be affected, this section is not relevant.

**(.12) Mitigation and restoration plantings.** These plantings shall be provided to compensate landscape materials removed to accommodate the building addition and parking lot modifications as illustrated on the plan sheets.

#### **4.179 Mixed Solid Waste and Recycling**

This section is not applicable because access to and the design of the existing solid waste and recycling facilities on the site will not be changed in any way.

#### **4.199 Outdoor Lighting**

The property is within Lighting Overlay Zone 2. The exterior lighting plan complies with the prescriptive standards in 4.199(.01)B. by:

- Having a maximum of 100 watts and fully shielded fixtures as required in Table 7;
- Fixtures that comply with the *Oregon Energy Efficiency Specialty Code, Exterior Lighting*;
- A maximum pole height of 20 feet for new parking lot areas and driveways where Table 8 allows a maximum of 40 feet;

- Replacement of existing fixtures on light poles previously approved by the city; and
- Light pole setbacks, of at least 100 feet, which exceed three times their height.

Regarding the softball field lighting, Section 4.199.20 (.02) Q. indicates that lighting that qualifies as an “Exception” in the “Exterior Lighting Power Allowance” provisions of the *Oregon Energy Efficiency Specialty Code* are exempt from the requirements. Section 505.6.2.5 of this code allows an exception for “athletic playing areas” when “equipped with a control device independent of the control of the nonexempt lighting.” As noted, the field lights will be separately controlled, and events will be scheduled to conclude by 10:00 pm.

### **4.300 – 4.320 Underground Utilities**

These WDC sections generally require underground utilities. The site is currently developed with underground utilities, and this practice will continue with the proposed site improvements.

### **4.400 Purpose – Site Design Review**

**(.01) Discourage excessive uniformity and poor design.** The school property has proven to be a significant community asset. The design of the building and site improvements were previously approved by the city, and the proposed improvements are complementary to the existing design and previous city approval. The brick cladding of the building is intended to invoke a draped theatrical curtain, with vertically oriented patterning that shifts at horizontal datum to discourage excessive uniformity and reduce the perceived height of the building.

**(.02) A number of objectives are noted in the purpose section.** These are addressed below:

- A. Proper function.** As noted above, the current site plan was approved by the city because of its appropriate and functional design. The proposed improvements simply build upon this design, retaining all of its current functionality.
- B. Encourage originality, flexibility, and innovation.** The design of the school and these facility enhancements demonstrate the district’s commitment to innovation, continuing to improve the building’s value to its students, and providing opportunities for high-quality education.
- C. Discourage drab, inharmonious developments.** The existing facility was approved by the city, and it has proven to be an excellent design, which now will be further improved with the proposed addition of the auditorium and additional parking.
- D. Conserve the city’s beauty.** The architectural integrity of the facility will be complimented by this addition, and the integrity of the landscaped areas and open space on the site will be retained, with special attention paid to the heritage White Oak tree.
- E. Promote businesses and industry.** A quality education program is the cornerstone for attracting business and industry to a community. These improvements demonstrate the district’s continued commitment to a well-rounded education.



- F. *Property values.*** The proposed improvements will be well within the property and should not have any negative impact on surrounding properties or their value. In fact, having improved auditorium facility and performing arts program serving the neighborhood should enhance values.
- G. *Adequate public facilities.*** Facilities are currently provided, and these improvements will essentially have no impact on public facilities and services because the enrollment capacity will not increase.
- H. *Pleasant environments.*** The existing landscaping open space on the site will be retained or replaced, maintaining the visual appeal for the neighborhood.
- I. *Foster civic pride.*** In addition to education, the school serves as a community center, fostering civic pride. In particular, these performing arts enhancements as well as interior visual art display opportunities will provide improved educational and cultural opportunities for the community.
- J. *Sustain comfort, health, tranquility and contentment of residents.*** Quality educational facilities are certainly a contributing factor to achieving this objective.

#### **4.421 Criteria and Application of Design Standards**

**(.01) *Evaluation Standards.*** The standards of this section are addressed below:

- A. *Preservation of landscape.*** The general appearance of the landscape will be retained, and the modified areas will be re-landscaped according to city requirements. In addition, the heritage White Oak tree will be protected during construction and preserved.
- B. *Relation of proposed building to the environment.*** This standard is satisfied because the proposed improvements and plantings will enhance the SROZ and will not cause any environmental degradation of significant environmental resources on the site as verified by the SRIR presented in Exhibit D.
- C. *Drives, parking and circulation.*** Pedestrian, bicycle, vehicle, bus, and emergency access have been successfully accommodated by retaining separate and convenient routes for pedestrians and bicyclists on site. The proposed reconfiguration of the driveways, walkways, pedestrian spaces, and parking lots will retain the essential elements of this circulation system.
- D. *Surface water drainage.*** This criterion is satisfied as described above. The storm drainage system is designed to accommodate the additional impervious surface of the building addition, driveways, parking and other new impervious surfaces. New LID facilities, such as vegetated storm water planters, have been integrated into the design meet the stormwater management requirements for water quality treatment and flow control.
- E. *Utility service.*** All on-site utilities will continue to be placed underground.

- F. Advertising features.** No advertising features are proposed that would be visible along the perimeter of the site.
- G. Special features.** As noted above, the only storage, loading, and solid waste/recycling area will remain in their present locations. They were approved previously by the city, and they not be changed by the proposal.

**(.03) Guidance by the purpose statement.** The purpose statement in Section 4.400 is also used to evaluate development proposals. The purpose statement and related objectives are addressed above.

#### **4.430 Mixed Solid Waste and Recycling Areas**

This section is not applicable because access to and the design of the existing solid waste and recycling facilities on the site will not be changed in any way.

#### **4.600 Tree Preservation and Protection (through 4.640.2)**

**Section 4.610.10(.01) contains the standards for tree removal.** The proposed removal of 32 trees satisfies the applicable criteria in this section because:

- A. SROZ.** Not applicable because the proposed improvements do not include any work or tree removal in the SROZ.
- B. Preservation and Conservation.** This section indicates that no application shall be denied due to tree removal. In this case, the current location of the building and parking lot necessitated removal and replacement of 35 trees.
- C. Developmental Alternatives.** With the existing performing arts facilities located on the front of the building, there is really no other feasible direction to construct an addition to them. This requires the removal of 32 trees adjacent to the building to the west and north.
- D. Land Clearing.** The district proposes to keep land clearing to an absolute minimum as shown in the plan sheets.
- E. Residential Development.** Not applicable.
- F. Compliance with Statutes and Ordinances.** The proposed tree removal and replacement meets city requirements and is not in conflict with any other regulations.
- G. Relocation or Replacement.** Relocating the trees will not be feasible, but they will be replaced at a ratio greater than 1:1. The trees to remain, with special attention paid to the heritage White Oak, will be protected as shown in the landscaping plans. Section 4.620.10 contains the city requirements for tree protection during construction. As indicated on the landscaping plans, appropriate protection will be provided for trees and other landscaping that is to be retained.

**H. Limitation.** The removal and replacement of existing trees is necessary to accommodate construction, as noted above.

## **CONCLUSION**

The proposed improvements satisfy all of the relevant criteria for Site Design Review, Type C Tree Removal, sign waiver, and building height waiver approval as demonstrated above.

**EXHIBIT A**  
Arborist Assessment of Heritage White Oak



*Professional tree, shrub and lawn care since 1924*

2/16/2017

Pat McGough  
Jeff Chambers  
West Linn-Wilsonville School District  
2755 Borland Road  
Tualatin, OR 97062

**Background:**

Wilsonville High School opened in 1994. A beautiful Oregon White Oak, *Quercus garryana* was preserved at the entry to the school. The tree is now in large basin that appears to have good drainage. There are several feet of grade change over the roots. To help compensate, multiple aeration pipes were installed extending into the parking. The basin around the tree has volunteer trees that have grown back from stumps, grass, blackberries and other vegetation. The tree has been pruned in the past and 5 cables installed. Recently a construction truck hit and broke off a portion of a lower limb. There were indications of some decay. Others felt that the tree was leaning more over the driveway.

**Assignment:**

General Tree Service was contacted by Pat McGough and Jeff chambers of West Linn-Wilsonville School to give an opinion on the health and safety of this historic tree. This 62” DBH Oregon white Oak is listed as a historical tree. The school district wanted to save if possible.

**Limitations to Assignment:**

- It is unreasonable and impossible to deem any tree safe.
- The tree can be examined by professionals, who based on their experience can evaluate the overall health of the tree.
- Utilizing modern technology such as sonic tomography, strength loss at the root crown, trunk and scaffold limbs can be measured.

**Observations and Data collection:**

- Initially General Tree Service, Certified arborist and tree risk assessor Greg Doering met with Pat McGough and Jeff Chambers from the school district on site to visually examine the tree on 1/25/2017. It was determined that the tree appeared in good condition for a tree of that age and there were no alarming signs that the tree would fail soon. It was agreed to do some sonic tomography testing on the tree.
- On February 9<sup>th</sup> Jeff and Garrett of New Day Arborists took 4 readings. Their reports are included. On site day too were Greg Doering, Pat McGough and Jeff Chambers.
- February 13<sup>th</sup> Greg Doering and General Tree Service owner, Clint Landon again inspected the tree knowing the primary tomography analysis.



*Professional tree, shrub and lawn care since 1924*

**Discussion:**

This is a magnificent tree and should be preserved if hazards can be minimized to an acceptable level. Based on the acceptable 29% strength loss at the root crown, we would advise root crown excavation and examination of 3 or 4 buttress roots. If roots look sound and have minimal disease, then move ahead with recommend care.

**Recommendations:**

- Clean up and cut back vegetation in the basin.
- Buttress root excavation and inspection of 3-4 roots.
- Pruning
  - Crown clean dead and weakened limbs 2" and greater
  - Reduce end weight over drive way
- Cabling
  - Inspect old cabling
  - Replace broken cable
  - Install 5 additional cables in upper canopy
- Deep root fertilization and mycorrhizae treatments
- Application of wood chip mulch
- Installation of a plumb bob

**Conclusion:**

I feel that many future generations will be able to enjoy this tree if the above recommendations are followed and the tree continues to have good growth and health and is monitored by a certified arborist.

Sincerely,  
*Greg Doering*

Greg Doering  
Certified Arborist PN-0676A  
ISA Tree Risk Assessment Qualified  
503-705-2878  
g.doering@generaltree.com



CCB #63604  
LCB #5814

# Proposal for Service

Professional tree, shrub and lawn care since 1924.  
Thursday, July 30, 2020

6795 SW 111th Avenue  
Beaverton, OR 97008  
www.generaltree.com

Portland 503-656-2656  
Toll Free 1-888-656-5401  
FAX 503-656-3219

**Job: WILSONVILLE HIGH SCHOOL 20200730-gtc-lan Customer: 56730**

**Billing Address:**

WILSONVILLE HIGH SCHOOL  
JEFF CHAMBERS  
WEST LINN WILSONVILLE SCHOOL  
DISTRIC  
2755 BORLAND RD  
TUALATIN, OR 97070

**Estimate bid by:** Greg Doering  
g.doering@generaltree.com

**Worksite:** 6800 SW WILSONVILLE RD  
WILSONVILLE, OR 97070

**Mobile:** 503-710-5838

**Proposal Notes** I am happy with the historic oak health. It has minimal die back and a healthy canopy. I suggest pruning and cable inspection. Ideally that vegetation under the canopy would be managed and new chips installed.

#	Item	Description	Qty	Cost
1	Oak (White)	<b>Prune</b> 62" historic oak at the entry is looking good. I suggest some maintenance pruning, using our lift. Should be done this fall with canopy.  <ul style="list-style-type: none"> <li>Crown clean dead 1 1/2" and greater</li> <li>Lightly lift</li> <li>Reduce end weight</li> <li>Inspect 5 cables</li> </ul> We will provide a complete clean-up of any debris generated.	1	\$2,520.00
2	Oak (White)	<b>Specialty Landscape Service</b> Landscape enhancement project. Cleanup and haul vegetation in tree well. May want to do in house.	0	\$1,190.00
3	Oak (White)	<b>Specialty Landscape Service</b> Landscape enhancement project. Spread 3-4" of tree chips in well after cleanup.	0	\$750.00
			Subtotal:	\$4,460.00
			Tax:	\$0.00
			Section Total:	\$4,460.00



**Subtotal:** \$4,460.00

**Discount:**

**Total:** \$4,460.00

Signature

Date



07/30/2020

Date

Estimator Signature for Greg Doering

Pruning shall be done in accordance with ANSI A 300 (Part 1) Pruning

Acceptance of Proposal: I have read and understand the proposal above. The prices specifications and conditions for the work you propose are satisfactory, and I accept the proposal. I agree to pay the price above upon receipt of your invoice unless other terms are agreed to as set out above, plus all applicable sales, local or other taxes. I also agree to obtain and provide copies to General Tree Service of all necessary pruning or removal permits or approvals. In case of non payment of sums owed. I promise to pay any expenses and reasonable attorney fees, including attorney fees in any appeal. Plant Health Care services are offered on a continuous, year-round basis and are automatically renewed in each successive year. Cancellations can be made by either party in writing. A notice will be sent in late Winter outlining scheduled services and any price changes for the coming year.

Signature acknowledges receipt of Oregon Information Notice to homeowners on back side. **DISCLAIMER:** I represent that all the trees, and landscape described above are solely on my property and agree to indemnify and hold harmless General Tree Service for any claim which may arise if they are not on my property. I also agree to indemnify and hold harmless General Tree Service from liability for any damages to driveways, patios, sidewalks, fences, structures, or utilities caused by General Tree Service's trucks or equipment. Any additional work or equipment required to complete the work in the Proposal, caused by the Customer's failure to make known conditions or caused by previously unknown conditions such as unseen decay in trunk or limbs, foreign material in the trunk, underground sprinklers, or any other condition not apparent in estimating the work specified, shall be paid for by the Customer on a time and material basis. General Tree Service is not responsible for damages to underground sprinklers, drain lines, invisible fences, or underground cables. This proposal and agreement does not include any work or services relating to conditions that are unknown, unexpected or unforeseen as of the date above. General Tree Service is not responsible for damages resulting from any delay in performance due to causes beyond its control. The Customer agrees not to enter the work area during arboricultural operations unless authorized by the crew leader on-site. The Customer further agrees to keep the work area free and clear from employees, family members, children, and pets.



## Steps That Consumers Can Take to Protect Themselves

- **Contact the Construction Contractors Board (CCB) and confirm that your contractor is licensed.** The law requires all construction contractors to be licensed with the CCB. Check a contractor's license online at the CCB consumer website: [www.oregon.gov/ccb](http://www.oregon.gov/ccb), or you can call 503-378-4621.
- **Review the Consumer Protection Notice (ORS 701.330(1)),** which your contractor must provide to you at the time of contract on a residential structure.
- **Consider using the services of an escrow agent** to protect your interests. Consult your attorney to find out whether your escrow agent will protect you against liens when making payments.
- **Contact a title company about obtaining a title policy** that will protect you from construction lien claims.
- **Find out what precautions, if any, will be taken** by your contractor, lending institution, and architect to protect your project from construction liens.
- **Ask the contractor to get lien waivers or lien releases** from every subcontractor, materials provider, equipment provider, and anyone else the contractor is responsible for paying. Do this before you give your contractor a progress payment.
- **Have a written contract with your contractor.** A written contract is **required** for projects greater than \$2,000. An original contractor that fails to provide a written contract as required by law, may not place a construction lien against the owner's property.
- **If you receive a Notice of Right to Lien, ask for a statement of the reasonable value of the materials, labor, equipment, or services** provided to your project from everyone who sends you a Notice of Right to Lien. If the information is not provided in a timely manner, the sender of the Notice of Right to Lien may still be able to file a construction lien, but will not be entitled to attorney fees.
- **When you pay your contractor, write checks made jointly payable to the contractor, subcontractors, materials, equipment, or services providers.** The checks name both the contractor and the subcontractor, materials or equipment provider. The checks can only be cashed if both the contractor and the subcontractor, materials or equipment provider endorses it. Be aware that many banks will not accept checks made payable to multiple parties unless each party appears at the bank with government-issued identification at the time of deposit. Your contractor may wish to check with its bank and advise whether this is an option.
- **Should you have a dispute with your contractor,** you may be able to file a complaint with the CCB and be reimbursed in whole or in part from the contractor's bond. For more details about help available through the agency, write to the CCB at PO Box 14140, Salem, OR 97309-5052 or call 503-378-4621.
- **Consult an attorney.** If you do not have an attorney, consider contacting the Oregon State Bar Referral Service at 503-684-3763 or 1-800-452-7636.

Signing this Information Notice verifies only that you have received it. Your signature does not give your contractor or those who provide material, labor, equipment, or services, any additional rights to place a lien on your property.

Job Site Address: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_ CCB#: \_\_\_\_\_ PROPERTY OWNER: \_\_\_\_\_

Print Name (as it appears on contract) \_\_\_\_\_ Print Name (as it appears on contract) \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_



## Information Notice To Owner About Construction Liens

(ORS 87.093)

This is not a lien. Your contractor is required by law to provide this notice to inform you about construction lien laws. This notice explains the construction lien law, and gives steps you can take to protect your property from a valid lien. As an owner, you should read this information notice carefully. This information notice is required to be given if you contract for residential construction or remodeling, if you are buying a new home, or at any time the contract price exceeds \$2,000.

- Under Oregon law, your contractor and others who provide labor, materials, equipment, or services to your project may be able to claim payment from your property if they have not been paid. That claim is called a Construction Lien.
- If your contractor does not pay subcontractors, employees, rental equipment dealers, materials suppliers, or does not make other legally required payments, those who are owed money may place a lien against your property for payment. **It is in your best interest to verify that all bills related to your contract are paid, even if you have paid your contractor in full.**
- If you occupy or will occupy your home, persons who supply materials, labor, equipment, or services ordered by your contractor are permitted by law to file a lien against your property only if they have sent you a timely Notice of Right to Lien (which is different from this Information Notice), before or during construction. If you enter into a contract to buy a newly-built, partially-built, or newly-remodeled home, a lien may be claimed even though you have not received a Notice of Right to a Lien. If you do not occupy the building, a Notice of Right to Lien is not required prior to filing a lien.

**This notice is not intended to be a complete analysis of the law. You should consult an attorney for more information.**

### Common Questions and Answers About Construction Liens

**Can someone record a construction lien even if I pay my contractor?** Yes. Anyone who has not been paid for labor, material, equipment, or services on your project and has provided you with a valid Notice of Right to Lien has the right to record a construction lien.

**What is a Notice of Right to Lien?** A Notice of a Right to Lien is sent to you by persons who have provided labor, materials, or equipment to your construction project. It protects their construction lien rights against your property.

**What should I do when I receive a Notice of Right to Lien?** Don't ignore it. Find out what arrangements your contractor has made to pay the sender of the Notice of Right to Lien.

**When do construction liens need to be recorded?** In Oregon, construction liens generally need to be recorded within 75 days from the date the project was substantially completed, or 75 days from the date that the lien claimant stopped providing labor, material, equipment, or services, whichever happened first. To enforce a lien, the lien holder must file a lawsuit in a proper court within 120 days of the date the lien was filed.

**Note to Contractor:** This notice must be delivered personally, or mailed by registered mail, certified mail, or by first-class mail with a certificate of mailing. Ask the signing parties to provide you with an original or copy to retain in your files. You should retain proof of delivery of this notice for at least two years.

**EXHIBIT B**  
Preliminary Stormwater Report

# Preliminary Stormwater Report

## Wilsonville High School – Auditorium Addition

Prepared for: West Linn-Wilsonville School District

Prepared by: Nic Cota, EIT

Project Engineer: Nalini Chandran, PE

March 2021 | KPFF Project #2000078

#### KPFF'S COMMITMENT TO SUSTAINABILITY

As a member of the US Green Building Council, KPFF is committed to the practice of sustainable design and the use of sustainable materials in our work.

When hardcopy reports are provided by KPFF, they are prepared using recycled and recyclable materials, reflecting KPFF's commitment to using sustainable practices and methods in all of our products.

## Designer's Certification and Statement

"I hereby certify that this Stormwater Report for the Wilsonville High School – Auditorium Addition project has been prepared by me or under my supervision and meets minimum standards of the City of Wilsonville and normal standards of engineering practice. I hereby acknowledge and agree that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me."

Nalini Chandran, PE



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Existing Impervious Area

### Appendix B

Proposed Impervious Area

### Appendix C

Basins

### Appendix D

WES BMP Sizing Tool

# Project Overview

## *Existing Conditions*

The project is located at the existing Wilsonville High School at 6800 SW Wilsonville Road. The area to be developed is approximately 205,650 SF within the existing school property. The existing site consists of an asphalt parking lot and adjacent sidewalks that access the northwest side of the high school, a natural grass multi-use field, and a natural turf softball field. The project site is bordered on the east by the existing high school building and parking lot, SW Wilsonville Road to the west, Boeckman Creek Primary School to the north, and an existing parking lot to the south. An overview of the existing impervious area of the project site is outlined in Table 1 and Appendix A.

Currently, runoff in the limits of work is conveyed and treated using multiple stormwater facilities. The parking lot runoff adjacent to the band room addition project (completed in 2016) is conveyed to planters where the runoff is detained and treated prior to discharge. The runoff from the band room is treated in a rain garden near the high school entrance or planters in the parking lot. The existing high school roof is conveyed to two underground stormwater detention facilities. One is located west of the proposed auditorium addition and in the new private access road. The facility is deep enough to remain in place and will not be removed, since removal will require impacting the existing wetland buffer and vegetation. The system consists of CMP detention pipe and it is currently in the parking lot and takes H2O loading. The other underground detention system is located in the future north parking lot and detains runoff from the joint Boeckman Creek/high school parking lot and high school roof. This facility will not be impacted by the new parking lot in the base bid as shown on the civil site plan. However, there is a plan in the future to extend the parking lot. If this future phase is done, then the existing detention system will need to be removed and replaced with new LID facilities. These are further discussed in the methodology section. For this drainage report, it is assumed that the future phase and add alternate #1 (to construct 14 stalls in the northern parking lot) will be developed.

## *Proposed Conditions*

The proposed improvements include the addition of an auditorium to the main Wilsonville High School building. This addition will include new entrances and a new parking lot with 84 standard parking stalls, including five ADA stalls. An add alternate design would add 14 additional stalls to the northern parking lot, and a separate future parking addition will add 23 stalls. An access lane will be constructed west of the auditorium addition to provide a connection from the existing high school parking lot to an existing parking lot northeast of the site that serves both Boeckman Creek Primary School and the high school. This access road will also include a new bus lane on the north side of the high school and will provide emergency vehicle access around multiple sides of the existing high school facility. The existing JV softball field north of the new parking lot is dirt, and the project will convert this to synthetic turf. The existing high school and support structures on the campus will remain and are not part of this project or stormwater analysis except as identified above. See Appendix B for proposed impervious areas.

Table 1: Impervious Areas

Impervious Areas (Sq. Ft.)	
Existing	53,315
Proposed (Base)	168,465
Proposed (Future)	181,205

## Methodology

Stormwater management for the project area will be provided using the 2015 City of Wilsonville Stormwater & Surface Design & Construction Standards. This includes providing treatment and flow control of stormwater prior to discharging the site using Low Impact Development (LID) facilities. To meet the City of Wilsonville stormwater requirements, the WES BMP Sizing Tool is used to determine the minimum facility size for each discharge management area (basin).

The BMP Sizing Tool indicates that a sizing factor can be used to size all rain garden and planter facilities. This sizing ratio has been determined to meet WES requirements for both treatment and flow control. Specifically, the facility sizing factors ensures treatment of 80 percent of the average annual runoff, as well as peak flow duration matching for flows ranging from 42 percent of the 2-year peak flow to the 10-year peak flow.

Infiltration results are based on the Report of Geotechnical Engineering Services, dated October 12, 2020 by Geodesign, Inc. The report indicates final infiltration rates for the site between 1.9 and 3.8 inches per hour at depths 4 to 4.25 feet below ground surface. With a minimum factor of safety of 2, each facility was sized conservatively with minimal applied infiltration rates of the existing soil type.

The site is delineated into 12 basins, each draining to a specific stormwater surface facility. See Appendix C and Table 2 below. The areas include new impervious site areas, new roof drainage, and portions of the existing roof drainage that will be tied to the new system. This is the roof downspouts from the band room addition that currently discharge to the water quality facilities in the parking lot. A preliminary sizing report from the WES BMP Sizing Tool is provided as Appendix D.

Table 2: Summary of Basins and Facilities : Base Bid

*Sizing ratio assumes existing cover and soil type as Grass D and facilities to be used for treatment and flow control per BMP Sizing Tool (Oregon City and Wilsonville, Oregon)					
Facility	Type	Sizing Ratio*	Treatment Area (SF)	Minimum Facility Area (SF)	Facility Area (SF)
S1	Rain Garden	4%	43,610	1745	1750
P1	Rain Garden	4%	12,360	495	1205
P2	Rain Garden	4%	30,760	1230	1290
P3	Rain Garden	4%	22,760	910	1290
A1	Rain Garden	4%	4,960	200	245
A2	Rain Garden	4%	13,560	540	640
A3	Planter	3%	9,315	280	280
A4	Rain Garden	4%	12,640	505	505
A5	Planter	3%	8,200	245	310
A6	Rain Garden	4%	5,300	215	215
A7	Planter	3%	2,100	65	125
A8	Planter	3%	2,900	90	180
<b>Total</b>			<b>168,465</b>		<b>8,035</b>



### *Softball Field (Basin S1)*

The junior varsity field will be installed with a synthetic turf drainage system as shown in the landscape plans. To meet City requirements, this area will need to be managed as impervious area, including flow control and treatment. Perforated drainpipes located along the perimeter of the synthetic field will be installed in a drain rock gallery and filtration fabric. The perimeter pipes ultimately convey to a new manhole that discharges to a new rain garden facility (Facility S1) to be graded into the existing landscape area. The overflow of this facility will be installed on top of an existing storm drain outfall to minimize work within the wetland or buffer zone.

### *Parking Lot (Basins P1-P3)*

The existing 12-inch storm main running along the north face of the building will be retained and protected, including the underground detention system in the north field as part of the base bid and design. This existing system treats roof drainage from all existing northern roof drain connections, including two catch basins in the northeast parking lot. There is an add alternate in the design (and included in the land use submittal) that extends the northern parking lot to this area. See the Add Alternative section below. If this add alternate is chosen, the water quality swale (P1) will be used to treat this added area and is sized large enough to manage the additional impervious area.

The new parking lot north of the main building will be managed by three rain garden facilities (Facilities P1, P2, P3) located in the vegetated medians of the drive aisles. The parking lot drainage will sheet flow to the facilities and no curb will be installed in these areas. Wheel stops will be used for the parking stalls. The overflow drains from P1-P3 will tie directly to a new 12-inch main in the new access road running along the north face of the building. This pipe will connect to the existing storm drain outlet flowing west to the wetland adjacent to Wilsonville Road.

### *Building Addition (Basins A1-A8)*

A portion of the new roof drainage from the auditorium addition will be conveyed to a rain garden facility (Facility A1) located in the landscaped area west of the new access road. Site drainage from the north plaza will be conveyed to a rain garden facility (Facility A2) located within the north plaza. Rain garden A2 will also treat and detain runoff from the northern half of the auditorium roof and from a portion of the access road. Due to the new addition, existing roof drainage of the high school building will be routed with a portion of new roof drainage. These areas are conveyed to a planter facility (Facility A3) located east of the north plaza. The overflows of all three of these facilities will convey to a new 12-inch storm main along the north side of the building in the new access road. This new main will run parallel to the existing 12-inch main and will connect downstream of the existing detention facility prior to the outfall to the wetland. This is the same storm drain line the new parking lot facilities connect to. The existing storm drain outfall to the wetland will be reused to minimize work within the wetland or buffer zone.

Similar to the north plaza strategy, site runoff and roof runoff will be treated by a system of LIDA facilities in the south plaza. Runoff from the access road will be conveyed by a trench drain to a rain garden facility (Facility A4) in the south plaza. This facility will also treat, and detail runoff from the rest of the south plaza that is being conveyed to an adjacent slot drain. Runoff from the southern portion of the new roof areas will be routed internally and discharge to a planter facility in the southern plaza (Facility A5). This facility is split by a walkway, but will be hydraulically connected by the below-grade perforated pipe, as well as a flat outfall pipe on both sides at the soil elevation. The overflow of all facilities in the south plaza will tie into a

new storm main that discharges to the wetlands area at the west side of the site. The existing storm drain outfall to the wetland will be reused to minimize work within the wetland or buffer zone.

South of the south plaza, the modified parking areas will be conveyed to three small facilities located at the vegetated islands between the drive aisles. Facility A6 will be a rain garden while facilities A7 and A8 will be planters due to geometric constraints and minimum bottom width requirements.

### *Future Parking Lot Expansion (Basins FUT1-FUT3)*

A future parking lot addition is proposed in the design for an expanded new parking lot with an extra drive aisle and two extra rows of parking to the west. The future addition will provide an additional 24 stalls to the lot. To accommodate the new parking lot, an existing detention system located beneath this area will need to be removed. New water quality facilities will be constructed to provide flow control and treatment for the areas that this detention system managed and to bring them up to current code. The areas include a portion of the existing high school roof drains and an existing site drainage from the joint parking lot northeast of the high school. All these facilities will tie into the existing 12-inch storm main running along the north face of the building and flow west to the existing outfall in the wetland adjacent to Wilsonville Road. See Table 3 for approximate basin areas and facilities for the entire site with the add alternate.

The first additional facility (FUT1) will be a rain garden located immediately north of the existing gymnasium in the landscaped area. This will be used to treat the existing roof areas previously managed by the removed detention system in the north parking alternate. The existing roof down spouts will be reconnected to convey to this facility. The overflow will convey to the existing 12-inch main as mentioned above.

The second facility (FUT2) will be a planter located further east, near the northeast corner of the existing building. This facility similarly treats existing roof drainage previously managed by the removed detention system. The overflow of this facility conveys to the existing 12-inch main running along the north side of the building.

The third facility (FUT3) will be a rain garden located in the existing landscaped area south of the joint parking lot. FUT2 is located at the upstream end of the existing 12-inch main. Two existing catch basins in this parking lot that convey runoff to the removed detention system will be rerouted to this rain garden for treatment and flow control. The overflow of the facility will be conveyed to the existing 12-inch main.

Table 3: Summary of Basins and Facilities : Add Alternate

Facility	Type	Sizing Ratio*	Treatment Area (SF)	Minimum Facility Area (SF)	Facility Area (SF)
FUT1	Rain Garden	4%	7,540	305	460
FUT2	Planter	3%	6,325	190	225
FUT3	Rain Garden	4%	19,910	795	805
<b>Total</b>			<b>33,375</b>		<b>1,490</b>

\*Sizing ratio assumes existing cover and soil type as Grass D and facilities to be used for treatment and flow control per BMP Sizing Tool (Oregon City and Wilsonville, Oregon)

### Bypass area

A portion of the existing driveway entrance at Wilsonville Road that will be replaced to accommodate the new grading and pedestrian pathway at this location will not be treated or detained prior to discharge. This area currently sheet flows in a southerly and westerly direction. Due to the existing oak tree and wetland area north of the driveway entrance, it is not feasible to move the sidewalk away from the curb and create a planter in a landscape strip here. It is also not feasible to locate a water quality facility either south or north of the driveway entrance since this is part of the wetland buffer and wetland. The area that is not being detained or treated is shown below with the red hatch. See Figure 1. This area is currently pavement and not receiving stormwater treatment or detention and the proposed layout will not alter this drainage pattern. The approximate area not receiving treatment is 4,430 sf.

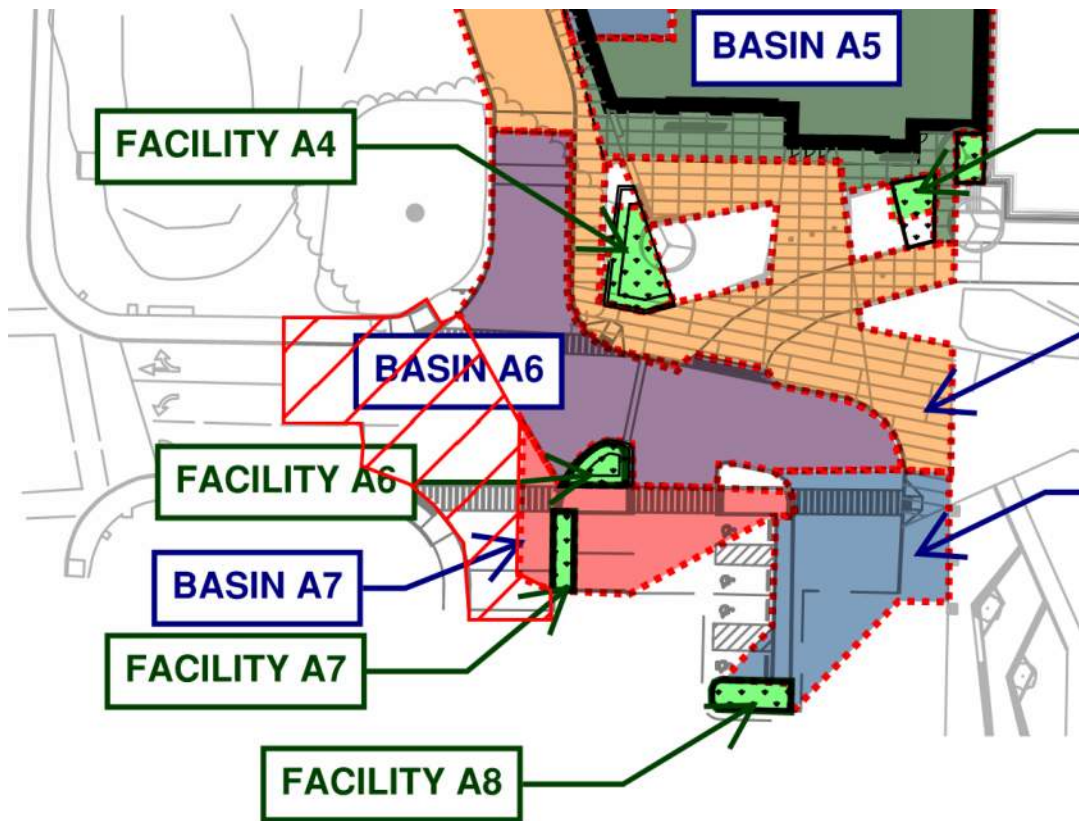


Figure 1: Bypass Area

10102000078- pm

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# Appendix A

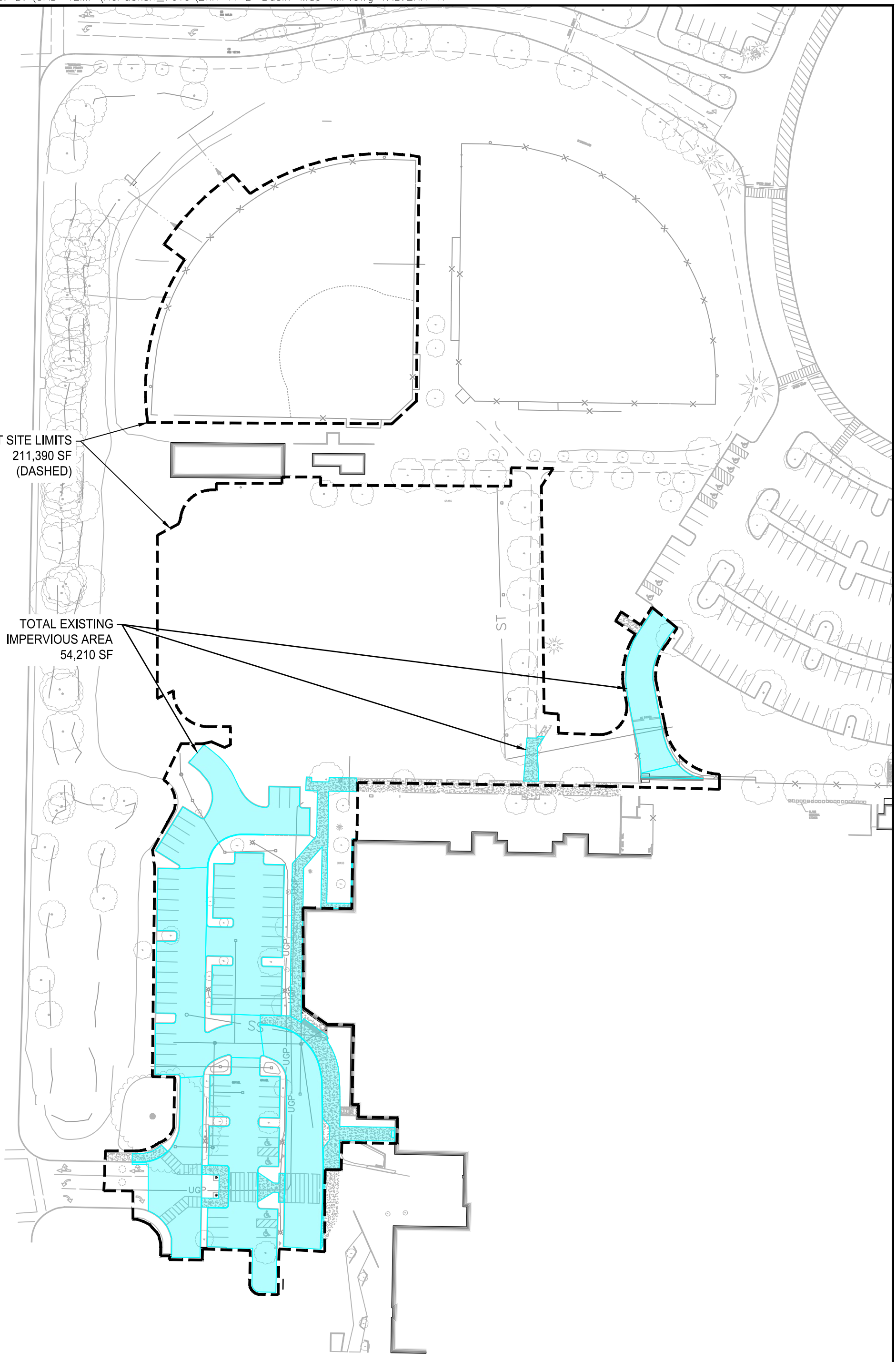
## Existing Impervious Area

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Plotted: 3/10/21 at 4:53pm By: NCoto

PROJECT SITE LIMITS  
211,390 SF  
(DASHED)

TOTAL EXISTING  
IMPERVIOUS AREA  
54,210 SF



# WHS - AUDITORIUM ADDITION EXISTING IMPERVIOUS AREA

SCALE: 1"=80'

0 80' 160'



SHEET NO.  
**EXH-A**

# Appendix B

Proposed Impervious Area



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Plotted: 3/12/21 at 5:20pm By: NCoto

PROJECT SITE LIMITS  
211,390 SF  
(DASHED)

FUTURE PARKING LOT AREA  
12,740 SF

TOTAL NEW IMPERVIOUS AREA  
168,465 SF (BASE)  
181,205 SF (WITH FUTURE PARKING)

# WHS - AUDITORIUM ADDITION PROPOSED IMPERVIOUS AREA

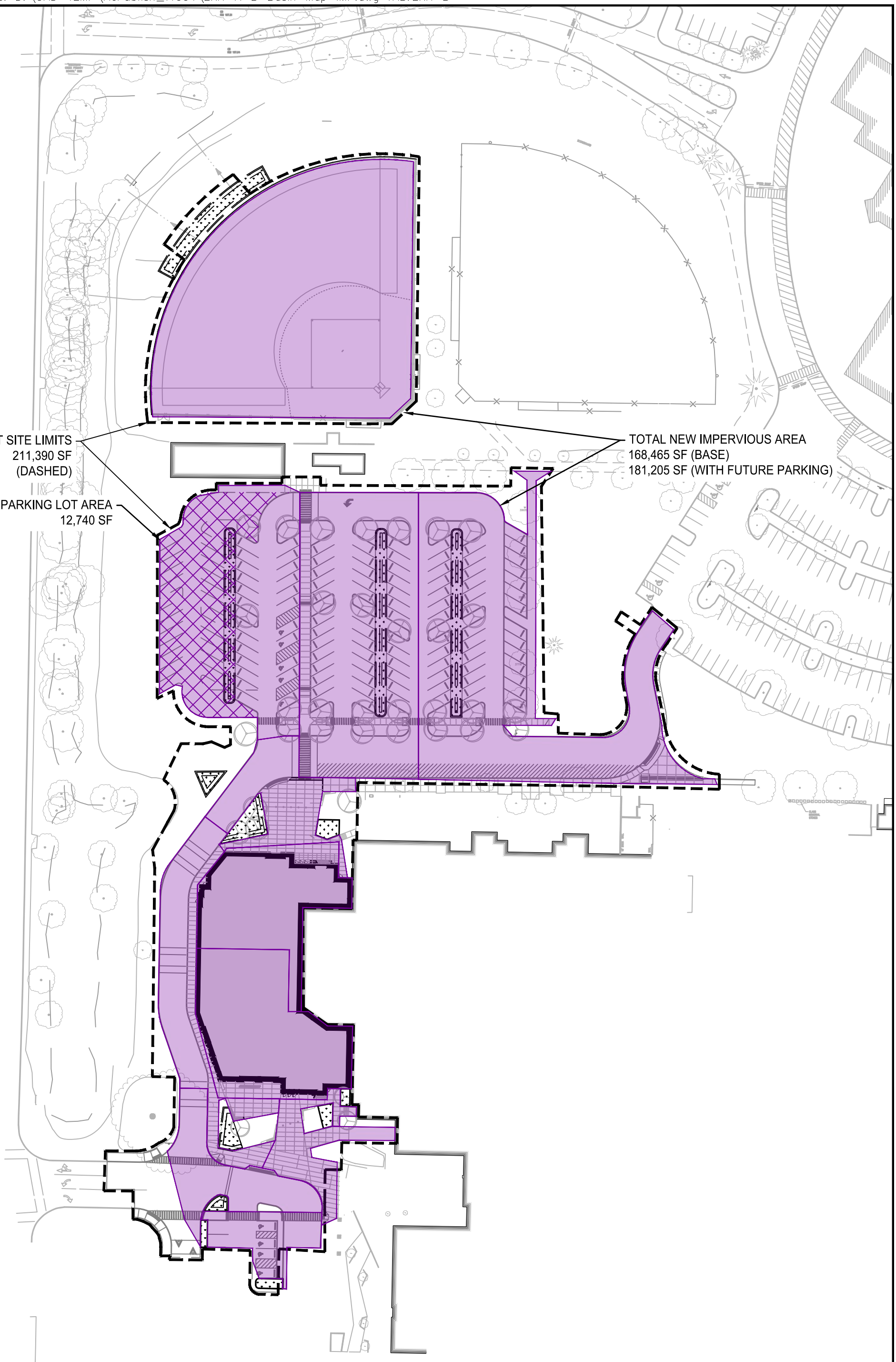
SCALE: 1"=80'

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SHEET NO.

EXH-B



# Appendix C

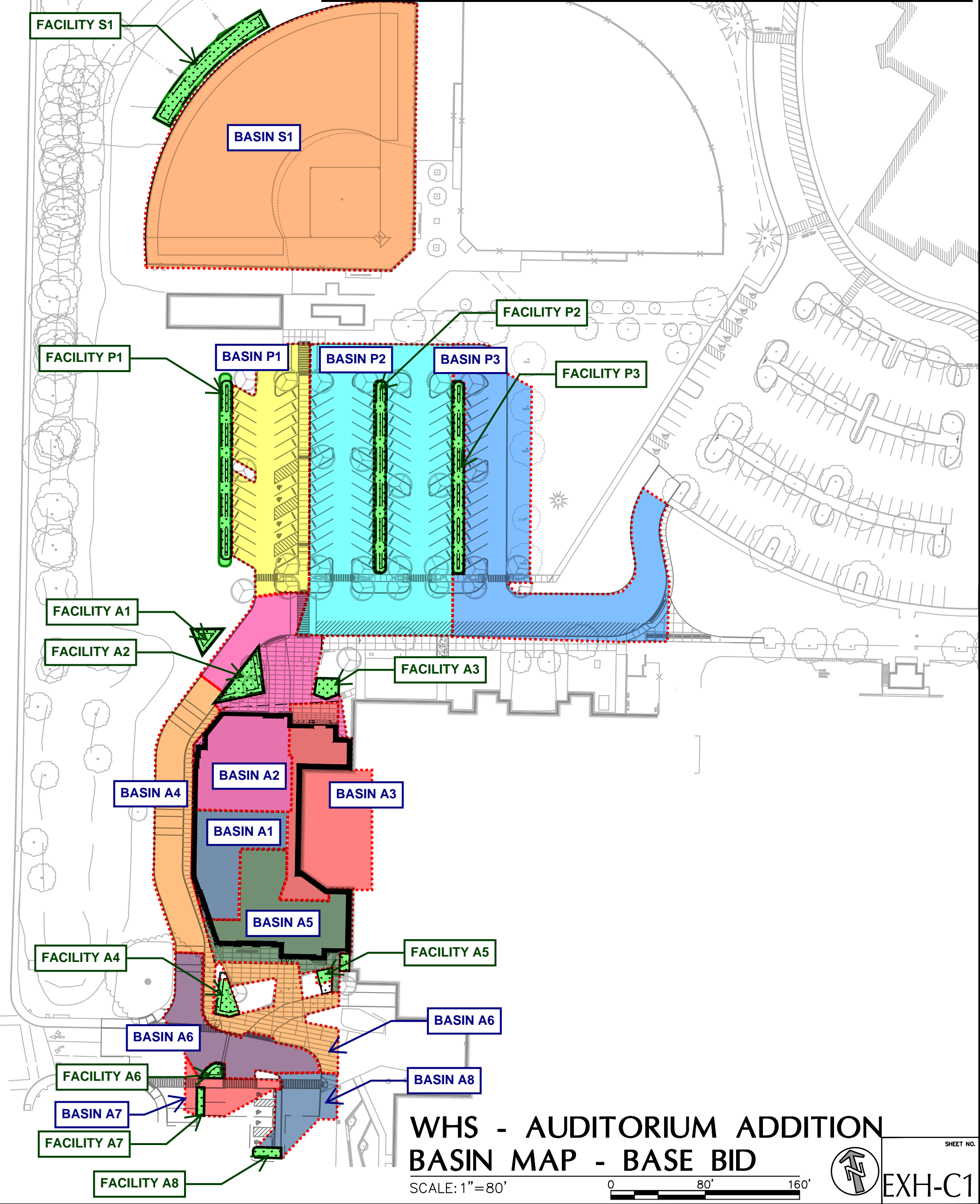
## Basins

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Plotted: 3/12/21 at 2:53pm By: NCoto

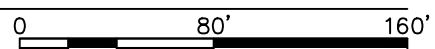
FACILITY	TYPE	SIZING RATIO*	CURRENT TREATMENT AREA (SF)	MIN FACILITY AREA (SF)	FACILITY AREA (SF)
S1	RAIN GARDEN	4%	43610	1745	1750
P1	RAIN GARDEN	4%	12360	495	1,205
P2	RAIN GARDEN	4%	30760	1230	1290
P3	RAIN GARDEN	4%	22760	910	1290
A1	RAIN GARDEN	4%	4960	200	245
A2	RAIN GARDEN	4%	13560	540	640
A3	PLANTER	3%	9315	280	280
A4	RAIN GARDEN	4%	12640	505	505
A5	PLANTER	3%	8200	245	310
A6	RAIN GARDEN	4%	5300	215	215
A7	PLANTER	3%	2100	65	125
A8	PLANTER	3%	2900	90	180

\*SIZING RATIO ASSUMES EXISTING COVER AND SOIL TYPE AS FOREST D AND FACILITIES TO BE USED FOR TREATMENT AND FLOW CONTROL PER BMP SIZING TOOL (OREGON CITY AND WILSONVILLE, OREGON)



# WHS - AUDITORIUM ADDITION BASIN MAP - BASE BID

SCALE: 1" = 80'

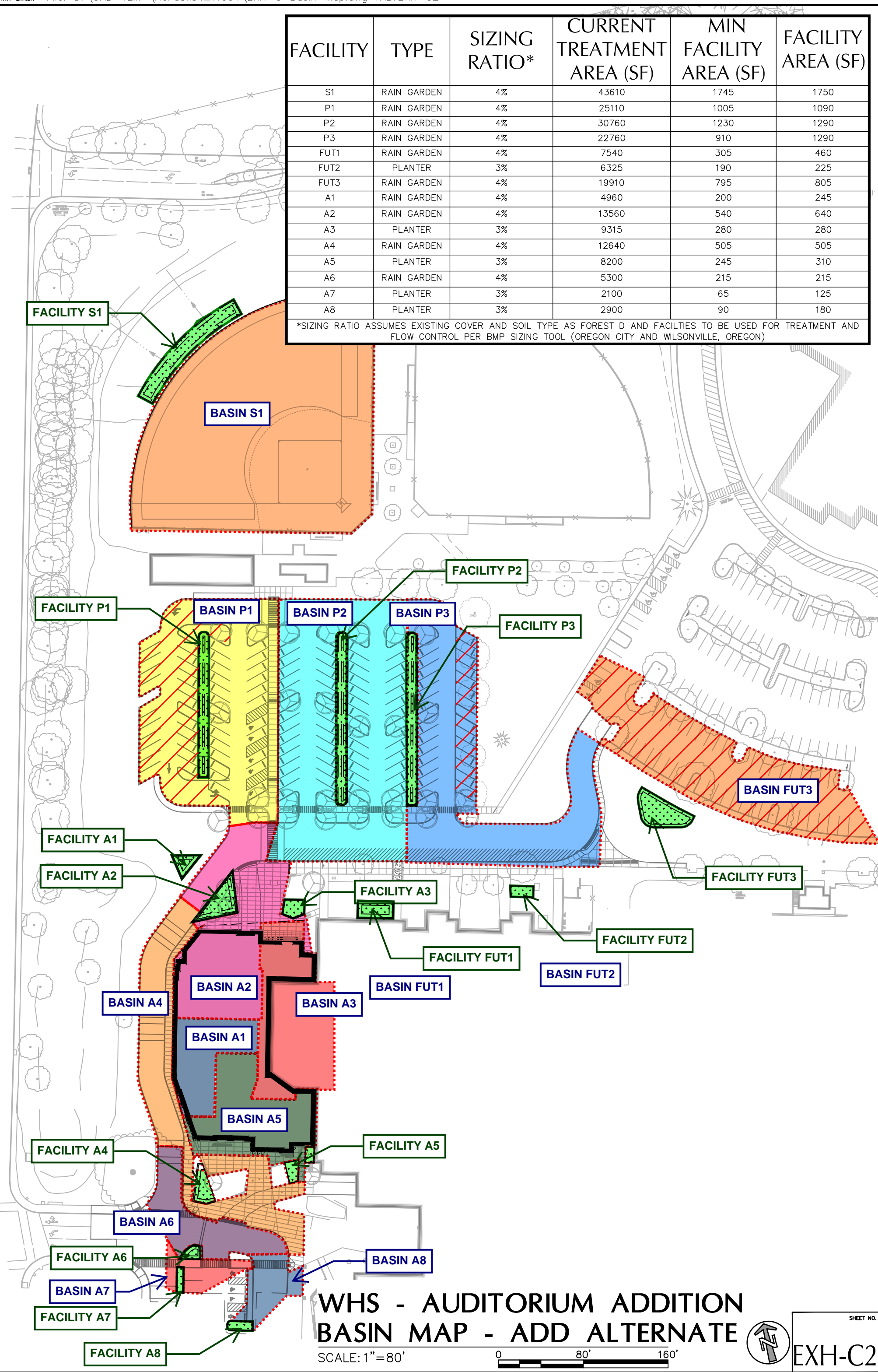


SHEET NO. **EXH-C1**

Plotted: 3/12/21 at 2:53pm By: NCoto

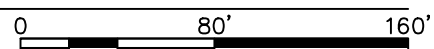
FACILITY	TYPE	SIZING RATIO*	CURRENT TREATMENT AREA (SF)	MIN FACILITY AREA (SF)	FACILITY AREA (SF)
S1	RAIN GARDEN	4%	43610	1745	1750
P1	RAIN GARDEN	4%	25110	1005	1090
P2	RAIN GARDEN	4%	30760	1230	1290
P3	RAIN GARDEN	4%	22760	910	1290
FUT1	RAIN GARDEN	4%	7540	305	460
FUT2	PLANTER	3%	6325	190	225
FUT3	RAIN GARDEN	4%	19910	795	805
A1	RAIN GARDEN	4%	4960	200	245
A2	RAIN GARDEN	4%	13560	540	640
A3	PLANTER	3%	9315	280	280
A4	RAIN GARDEN	4%	12640	505	505
A5	PLANTER	3%	8200	245	310
A6	RAIN GARDEN	4%	5300	215	215
A7	PLANTER	3%	2100	65	125
A8	PLANTER	3%	2900	90	180

\*SIZING RATIO ASSUMES EXISTING COVER AND SOIL TYPE AS FOREST D AND FACILITIES TO BE USED FOR TREATMENT AND FLOW CONTROL PER BMP SIZING TOOL (OREGON CITY AND WILSONVILLE, OREGON)



# WHS - AUDITORIUM ADDITION BASIN MAP - ADD ALTERNATE

SCALE: 1"=80'



# Appendix D

## WES BMP Sizing Tool

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## WES BMP Sizing Report

## Project Information

Project Name	Wilsonville HS: Auditorium Addition
Project Type	Addition
Location	
Stormwater Management Area	10162
Project Applicant	
Jurisdiction	OutofDistrict

## Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
BASIN-S1	43,610	Grass	ConventionalConcrete	D	S1
BASIN-P1	25,110	Grass	ConventionalConcrete	D	P1
BASIN-P2	30,760	Grass	ConventionalConcrete	D	P2
BASIN-P3	22,760	Grass	ConventionalConcrete	D	P3
BASIN-FUT1	7,540	Grass	ConventionalConcrete	D	FUT1
BASIN-FUT2	6,325	Grass	ConventionalConcrete	D	FUT2
BASIN-FUT3	19,910	Grass	ConventionalConcrete	D	FUT3
BASIN-A1	4,960	Grass	ConventionalConcrete	D	A1
BASIN-A2	13,560	Grass	ConventionalConcrete	D	A2
BASIN-A3	9,315	Grass	ConventionalConcrete	D	A3
BASIN-A4	12,640	Grass	ConventionalConcrete	D	A4
BASIN-A5	8,200	Grass	ConventionalConcrete	D	A5
BASIN-A6	5,300	Grass	ConventionalConcrete	D	A6
BASIN-A7	2,100	Grass	ConventionalConcrete	D	A7

BASIN-A8	2,900	Grass	Conventional Concrete	D	A8
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### LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
S1	FlowControlAndTreatment	Rain Garden - Filtration	D1	1,744.4	1,750.0	2.1
P1	FlowControlAndTreatment	Rain Garden - Filtration	D1	1,004.4	1,090.0	1.6
P2	FlowControlAndTreatment	Rain Garden - Filtration	D1	1,230.4	1,290.0	1.8
P3	FlowControlAndTreatment	Rain Garden - Filtration	D1	910.4	1,290.0	1.5
FUT1	FlowControlAndTreatment	Rain Garden - Filtration	D1	301.6	460.0	0.9
FUT3	FlowControlAndTreatment	Rain Garden - Filtration	D1	796.4	805.0	1.4
A1	FlowControlAndTreatment	Rain Garden - Filtration	D1	198.4	245.0	0.7
A2	FlowControlAndTreatment	Rain Garden - Filtration	D1	542.4	640.0	1.2
A6	FlowControlAndTreatment	Rain Garden - Filtration	D1	212.0	215.0	0.7
A4	FlowControlAndTreatment	Rain Garden - Filtration	D1	505.6	506.0	1.1
A8	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	87.0	180.0	0.6
FUT2	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	189.8	225.0	0.9
A7	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	63.0	125.0	0.5
A3	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	279.5	280.0	1.1
A5	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	246.0	310.0	1.0

### Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only
2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation

layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.



**EXHIBIT C**  
Traffic Analysis – Wilsonville High School

## MEMORANDUM

DATE: January 8, 2021

TO: Khoi Le, P.E. | City of Wilsonville

FROM: Scott Mansur, P.E., PTOE | DKS Associates  
 Jenna Bogert, E.I. | DKS Associates



SUBJECT: Wilsonville High School – Auditorium and Parking Lot Expansion      Project #20033-002  
 Traffic Analysis

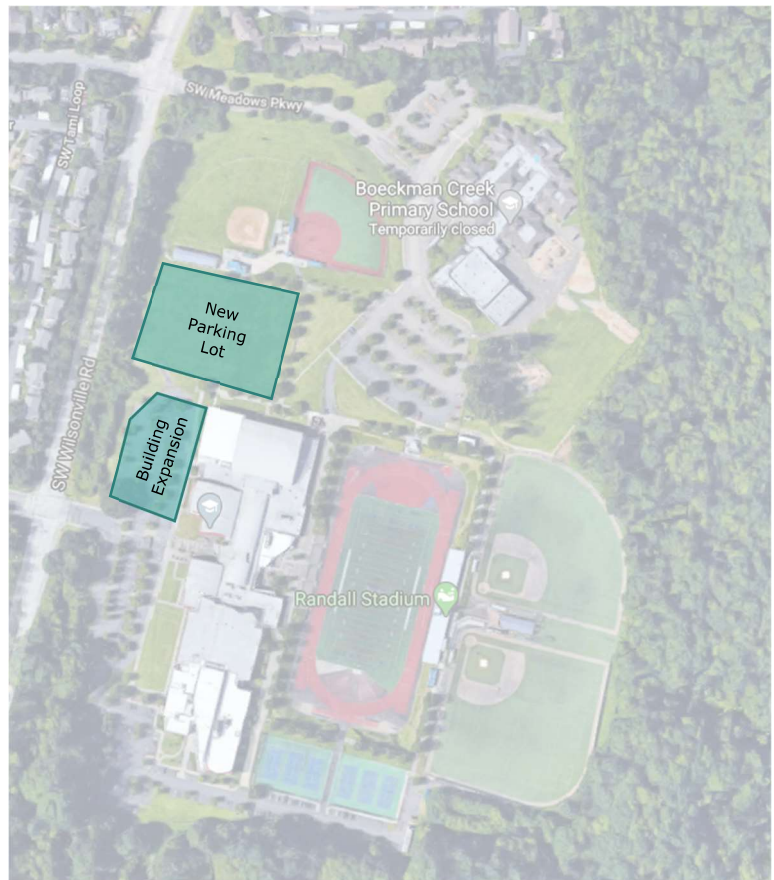
### INTRODUCTION

This memorandum contains a site evaluation and parking study for the proposed auditorium expansion at Wilsonville High School in Wilsonville, Oregon. The West Linn-Wilsonville School District desires to expand the current auditorium and add an additional 26 parking stalls to the site.<sup>1</sup> Figure 1 shows the study area and approximate location of the proposed changes.

The goal of this study is to estimate the p.m. peak hour project trips, evaluate the new site layout and additional parking, and identify any gaps in pedestrian and bicycle safety on site.

### TRIP GENERATION

Trip generation is the method used to estimate the number of vehicles that are added to the roadway network by the proposed project during a specified period. For this analysis, the p.m. peak



**FIGURE 1: STUDY AREA**

<sup>1</sup> A future parking lot expansion is shown on the attached site plan but is not part of this project. That future expansion would include an additional 23 parking stalls in the north lot.

hour was evaluated. The p.m. peak hour is one hour between 4 p.m. and 6 p.m.

It should be noted that although the student capacity of the school will not increase due to the project, the trip generation is expected to increase due to the additional on-site parking that is included in the proposed plan.

To estimate the trip generation for the p.m. peak hour, the quantities of existing and future parking stalls were used to calculate a ratio. That ratio was then applied to the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>2</sup> rate for high schools for the p.m. peak hour (0.14 trips/student). The calculated ratio of future number of parking stalls (546) to existing number of parking stalls (520) is 1.05. This results in an adjusted trip generation rate of 0.15 trips/student for the site after the auditorium expansion.

The increase in trip generation for the site after the project is shown in Table 1. The current number of high school students at Wilsonville High School is 1,199 students. Therefore, the expected increase in trips for the site for the p.m. peak hour is 12 trips (6 in, 6 out).

**TABLE 1: TRIP GENERATION – P.M. PEAK HOUR**

SCENARIO	NUMBER OF STUDENTS	P.M. TRIP RATE	IN	OUT	TOTAL
EXISTING	1,199	0.14	81	87	168
FUTURE		0.15	87	93	180
<b>NET TRIPS</b>			<b>6</b>	<b>6</b>	<b>12</b>

This increase of 12 trips can be attributed to the increased activity at after-school clubs or sporting events and the additional parking supply that is proposed. Because the expected net new trip generation is 12 p.m. peak hour trips, the impacts to the adjacent transportation roadway network would be negligible and based on DKS’ understanding of the current operations on Wilsonville Road, we do not see the need for further transportation evaluation.

## SITE PLAN REVIEW

The proposed site plan was provided by the project sponsor and can be found as an attachment to this memo. The site plan shows a new access road that will connect Wilsonville High School to Boeckman Creek Primary School, which is located adjacent to the north. The new access road also provides access to a new 103-stall parking lot. A future parking lot expansion is shown on the attached site plan but is not part of this project. That future expansion would include an additional 23 parking stalls in the north lot.

<sup>2</sup> Trip Generation Manual, 10th Edition, Institute of Transportation Engineers, 2017.

## BUS AND PARENT LOADING

The proposed site plan shows both the school bus and parent drop-off circulation routes for the high school. The new school bus circulation route is shown to enter off Wilsonville Road in front of the high school's main entrance, turn to the north, and use the new access road to load/unload students along the curb north of the existing high school building. Then the bus will continue to the north to the adjacent Boeckman Creek Primary School and will exit onto Wilsonville Road via the Boeckman Creek Primary School driveway.

Previously, the designated bus drop-off curb was located just north of the parent drop-off curb, where both school buses and parent vehicles circulated the site via the same route. After the auditorium expansion, the parent drop-off and school bus circulation routes will be separated on-site and will load students on separate curbs. Additionally, the school buses are expected to exit at a different driveway than parents, which reduces conflicts between the two, creating a safer environment for students.

The new parent drop-off route is shown to enter the site at the high school's main entrance, turn to the south, and circulate the existing southern parking lot counterclockwise and load/unload students along the high school's current drop-off curb. This is very similar to how it currently operates. One change that is shown on the figure to the right is the addition of a stop sign for parent vehicles exiting the site. This gives priority to inbound vehicles and will reduce the risk of queuing backing up onto Wilsonville Road.

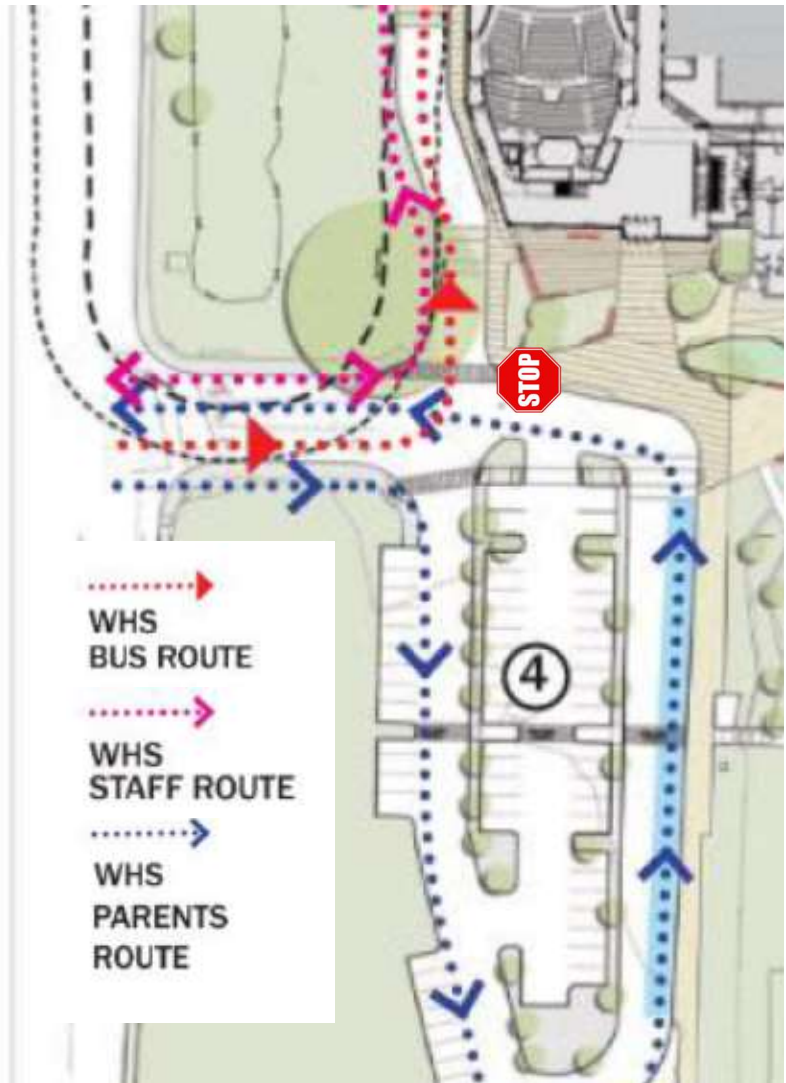


FIGURE 2: SITE DRIVEWAY

## PEDESTRIAN AND BICYCLE FACILITIES

At the new northern parking lot, the proposed site plan shows a north-south pedestrian crosswalk and an east-west crosswalk within the parking lot, providing a safe route for students and staff to navigate between the parking lot and the school buildings. Both crosswalks converge at a



crosswalk on the new access road. It is recommended that this crosswalk on the new access road be raised so as to improve pedestrian visibility and safety.

At the high school site driveway on Wilsonville Road, there are sufficient crosswalks shown connecting the sidewalk on Wilsonville Road to the school’s new plaza.

## PARKING IMPACTS

The City of Wilsonville Planning and Land Development code contains the required number of vehicular parking stalls and bicycle parking spaces that are to be provided.<sup>3</sup> The code states that a minimum of 0.2 parking stalls per student and staff are to be provided. The maximum number of parking stalls is 0.3 parking stalls per student and staff. The required number of bicycle parking stalls is 4 per classroom. Table 2 lists the vehicular and bicycle parking requirements for the high school.

**TABLE 2: CITY CODE PARKING REQUIREMENTS**

LAND USE	NUMBER OF STUDENTS AND STAFF	MINIMUM PARKING STALLS	MAXIMUM PARKING STALLS	BICYCLE PARKING
High School	1,199 students + 90 staff	258	387	212

The site plan shows a new 103-stall parking lot to the north of the high school buildings. The expansion of the auditorium, however, causes the existing south parking lot to lose 77 stalls. Overall, the site will have a net increase of 26 parking stalls and a total count of 546 parking spaces after this project is complete. A future parking lot expansion is shown on the attached site plan but is not part of this project. That future expansion would include an additional 23 parking stalls in the north lot.

Both the current amount of parking (520 stalls) and proposed amount of parking (546 stalls) exceed the maximum value listed in the City’s development code for the high school. However, because the high school often hosts large athletic competitions and the parking is utilized on a regular basis, providing additional parking spaces minimizes the chance of overflow into the surrounding neighborhoods.

## SUMMARY

The following list provides a summary of key findings from this memo:

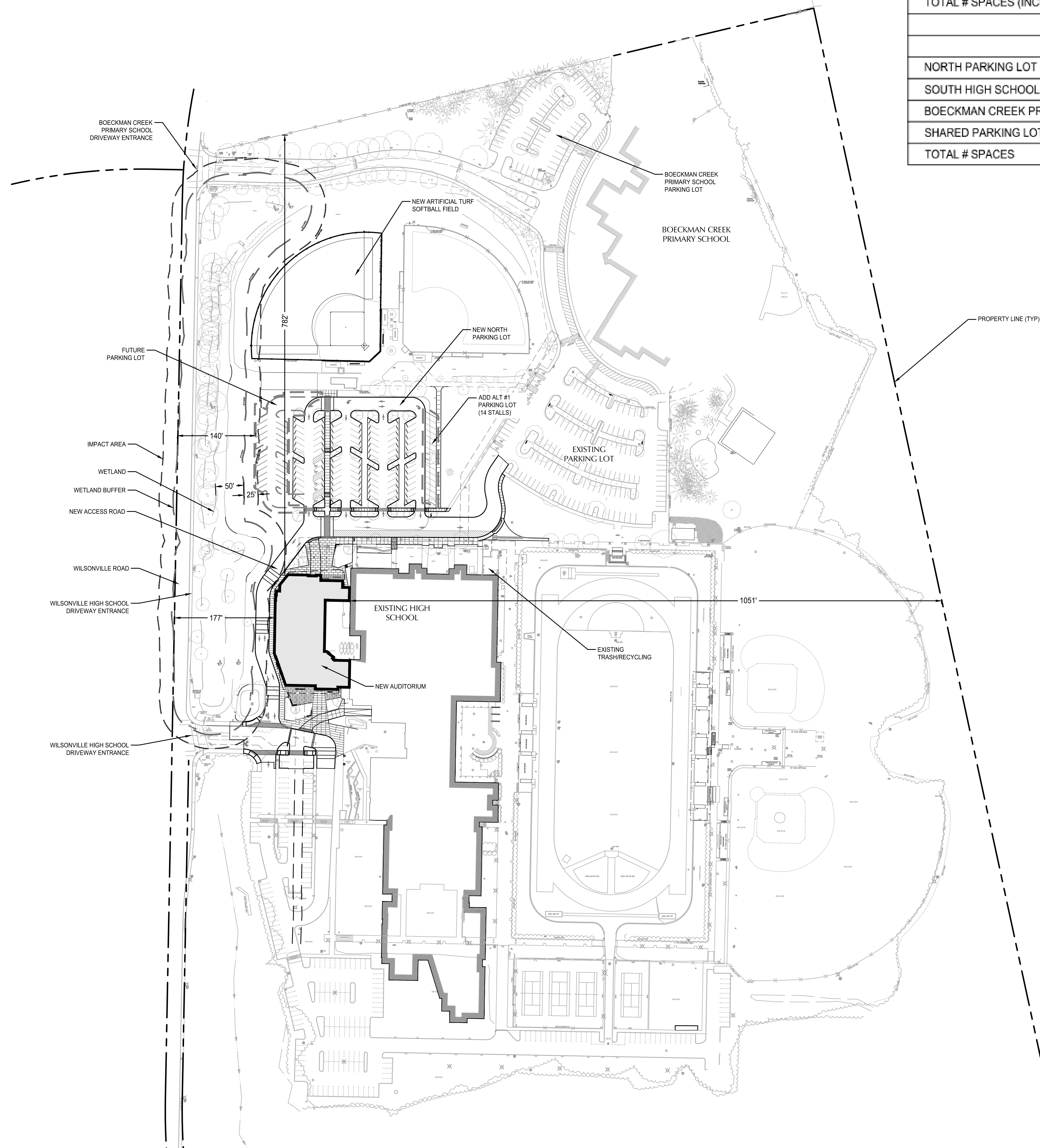
- The proposed auditorium expansion is expected to generate an additional 12 p.m. peak hour trips due to the parking expansion on site. This trip generation increase will have negligible impacts on the surrounding roadways.

<sup>3</sup> City of Wilsonville, Planning and Land Development Ordinance, Sections 4.154-4.198, Updated Feb. 2004.

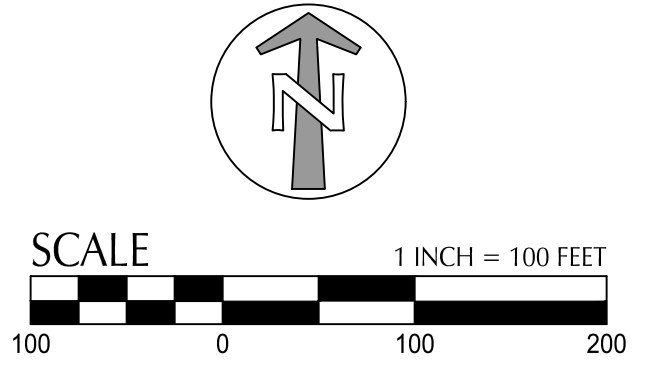
- Overall, the site will have a net increase of 26 parking stalls and a total count of 546 parking spaces after the project is complete.
- After the auditorium expansion, the parent drop-off route and school bus route will be separated on-site and will load students on separate curbs, reducing conflicts between the two and creating a safer environment for students.
- It is recommended that the crosswalk on the new access road be raised so as to improve pedestrian visibility and safety.

# SITE PLAN AND SCHOOL BUS TURN TEMPLATE

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6/12/2020 12:22:26 PM



PARKING ANALYSIS		
DESCRIPTION	EXISTING STALLS	PROPOSED STALLS
BOECKMAN CREEK PRIMARY SCHOOL	56	56
SHARED PARKING LOT	132	132
NORTH PARKING LOT (PROPOSED) - INCLUDING ADD ALT #1 (14 STALLS)		103
SOUTH HIGH SCHOOL PARKING	332	255
FUTURE PHASE - NORTH PARKING LOT		23
<b>TOTAL # SPACES (INCLUDING ADA STALLS)</b>	<b>520</b>	<b>569</b>
<b>ACCESSIBLE STALLS</b>		
NORTH PARKING LOT (PROPOSED)		5
SOUTH HIGH SCHOOL LOT	8	4
BOECKMAN CREEK PRIMARY SCHOOL	0	0
SHARED PARKING LOT	7	7
<b>TOTAL # SPACES</b>	<b>15</b>	<b>16</b>



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503.226.1575

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## kpff

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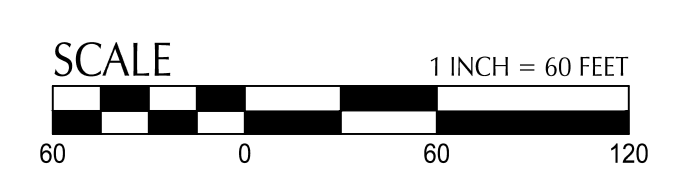
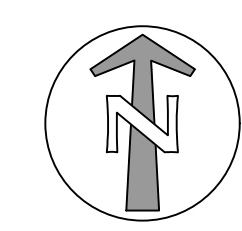
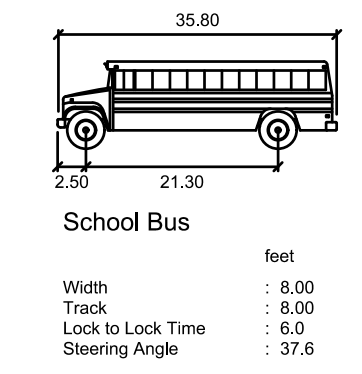
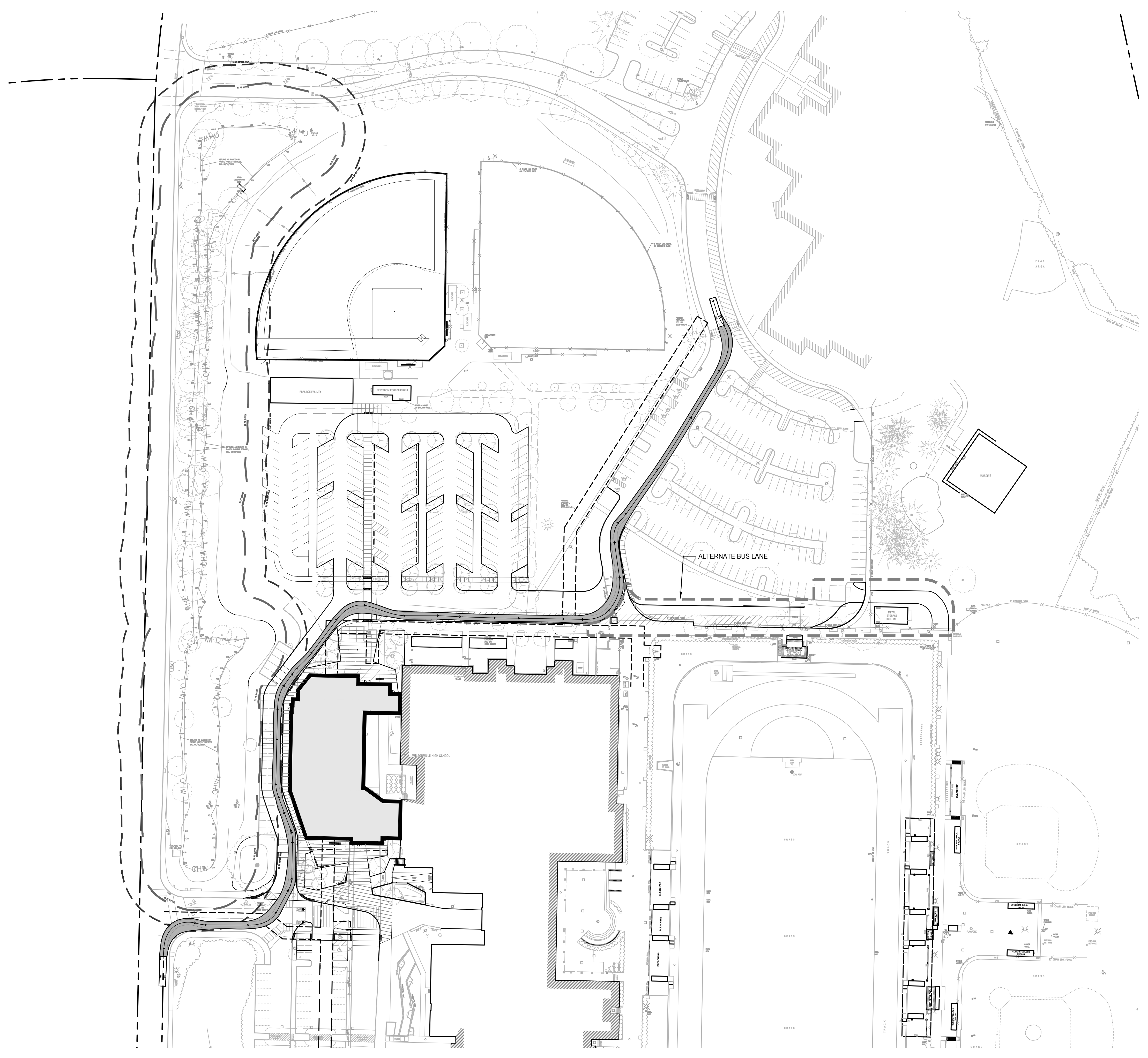
NOT FOR  
CONSTRUCTION

**Wilsonville High School  
Auditorium Addition**  
6800 SW Wilsonville Road, Wilsonville, OR 97070

MARK	DATE	DESCRIPTION
Issued:	11/20/2020	
Scale:		AS NOTED

Copyright \_\_\_\_\_ Project Number \_\_\_\_\_  
**SITE DESIGN REVIEW  
APPLICATION**  
**OVERALL SITE PLAN**

# C131



# BORA

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ISSUED FOR  
 INFORMATIONAL  
 PURPOSES ONLY

NOT FOR  
 CONSTRUCTION

## Wilsonville High School Auditorium Addition 6800 SW Wilsonville Road, Wilsonville, OR 97070

MARK	DATE	DESCRIPTION
Issued:	07/17/2020	
Scale:		1" = 50'-0"

Copyright Project Number  
 100% SCHEMATIC DESIGN

VEHICLE MOVEMENT -  
 BUS

# C340

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**EXHIBIT D**  
Republic Services Provider Letter



10295 Southwest Ridder Road Wilsonville, OR 97070  
o 503.570.0626 f 503.582.9307 republicservices.com

December 26, 2020

Keith Liden

Re: Wilsonville High School  
6800 SW Wilsonville Rd.  
Wilsonville, OR 97070

Dear Keith,

Thank you, for sending us the preliminary site plans for this proposed development in Wilsonville.

My Company: Republic Services of Clackamas and Washington Counties has the franchise agreement to service this area with the City of Wilsonville. We will provide complete commercial waste removal and recycling services as needed on a weekly basis for this location

After review of your facility improvement design plans sent 12/10/2020 and 12/21/2020 we have concluded that the truck traffic patterns and easement from Boeckman Creek Primary Scholl onto the Wilsonville High School service road is sufficient to allow our trucks to access the high school to service the trash and recycling.

Thanks Keith, for your help and concerns for our services prior to this project being developed.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kelly Herrod". The signature is stylized and somewhat cursive, with a long horizontal stroke extending to the left.

Kelly Herrod  
Operations Supervisor  
Republic Services Inc.

**EXHIBIT E**  
Significant Resource Impact Report  
for the Wilsonville High School



**Significant Resource Impact Report**  
**for the Wilsonville High School**  
**Wilsonville, Clackamas County, Oregon**  
(Section 13, Township 3 South, Range 1 West, Tax lot (TL) 100)

**Prepared for**

West Linn-Wilsonville School District  
c/o Remo Douglas, Capital Construction Program Manager  
2755 SW Borland Road  
Tualatin, OR 97062

**Prepared by**

Mike See  
John van Staveren  
**Pacific Habitat Services, Inc.**  
Wilsonville, Oregon 97070  
(503) 570-0800  
(503) 570-0855 FAX

PHS Project Number: 6967

**October 22, 2020**



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**ATTACHMENT A: Figures**

Figure 1: Vicinity Map (USGS)

Figure 2: Tax Lot Map

Figure 3: Soil Survey Map

Figure 4: Existing Conditions with SROZ Buffers, SR Impact Area and Wetland Delineation boundaries

Figure 5: Proposed Site plan

Figure 5A: Tree Removal

Figure 6: Aerial Photo with Title 3 Metro boundaries

Figure 7: Local Wetland Inventory Map

Figure 8: Aerial Photo with Title 13 Metro boundaries

**ATTACHMENT B: OFWAM Summary Sheets**

**ATTACHMENT C: Wetland Delineation Report**

## 1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) has prepared this Significant Resource Impact Report (SRIR) for the construction of a new auditorium, associated parking, and access roads for The Wilsonville High School. A resource is mapped on the City of Wilsonville's Significant Resources Overlay Zone (SROZ) for Wilsonville High School; therefore, a Significant Resource Impact Report is required. The format follows the pertinent sections of the City of Wilsonville's Planning and Land Development Ordinance for a Standard SRIR (Section 4.139.05-06). For ease of review by the City, key portions of the ordinance language are included (*italicized*), followed by specific responses to the requirements.

Figures 1, 2, and 3 show the general topography, tax lot map, and soils for the site, respectively. Figure 4 shows the existing site conditions. Figure 5 shows the site development plan, while 5A shows the tree removal plan. Figure 6 shows the Metro Title 3 boundaries on the site, Figure 7 is the Local Wetland Inventory Map, and Figure 8 shows the Metro Title 13 boundaries. All Figures are in Attachment A.

## 2.0 CITY DEVELOPMENT CODE

### SECTION 4.139.06 SIGNIFICANT RESOURCE IMPACT REPORT (SRIR) AND REVIEW CRITERIA

*(.02) Application Requirements for a Standard SRIR. The following requirements must be prepared and submitted as part of the SRIR evaluation for any development not included in paragraph A above:*

*A. A Site Development Permit Application must be submitted in compliance with the Planning and Land Development Ordinance.*

A Site Development Permit Application is being submitted for this project in compliance with the Planning and Land Development Ordinance.

*B. The SRIR shall be conducted and prepared by a natural resource professional knowledgeable and qualified to complete such a report.*

The SRIR was prepared by Pacific Habitat Services, Inc. (PHS). PHS provides a wide range of services to the public and private sector, ranging from natural resource assessments, to environmental design and construction. PHS offers professional expertise in the disciplines of wetland science, wildlife biology, hydrology, soil science, environmental toxicology, botany, and environmental planning.

*C. The qualifications of the person or persons preparing each element of the analysis shall be included with the SRIR.*

Michael See is a Natural Resource Specialist with Pacific Habitat Services, Inc. and has been a permanent member of the staff since 2019. Michael has over 10 years of experience on a variety of wetland related areas, including: delineation, permitting, qualitative and quantitative assessment, research, policy, and compensatory mitigation.

**D. The SRIR shall include the following:**

**1. Physical Analysis. The analysis shall include, at a minimum:**

**a. Soil types;**

The Natural Resources Conservation Services (NRCS) mapped soils within the tax lot include: Aloha silt loam 0-3% slopes, Dayton silt loam, and Xerochrepts and Haploxerolls, very steep. The Dayton Soil series is considered a hydric soil based on the Clackamas County hydric soils list, and the Aloha silt loam 0-3% is considered partially hydric with inclusions. Figure 3 summarizes mapped locations of the soils within the site.

**b. Geology;**

The site is located approximately 1 mile east of Interstate 5 (I-5), and approximately 0.5 miles north of the Willamette River. Mapped outcrops of surface deposits include mostly fine grain Missoula Flood deposits (Qff<sub>2</sub>), which are described by USGS as:

*“Stratified silt and clay with minor sand. Many sections show rhythmic bedding, with up to 40 individual beds between 0.1 and 1.0 meter thick. Encloses sparse pebbles to boulders of types exotic to Willamette Basin. Forms undulating to planar topography in lowlands; mantles foothills below altitudes of 120 meters. Mapped where thickness is sufficient to obscure previous topography. Commonly capped by up to two meters of late Pleistocene and Holocene alluvium, colluvium, and loess.”*

Elevations in the site range from approximately 204 feet National Geodetic Vertical Datum (NGVD) in the eastern portion, to approximately 187 feet NGVD in the southwestern portion.

**c. Hydrology of the site;**

One wetland, Wetland A, is present on the site Figure 4. The primary source of hydrology within Wetland A is from stormwater discharges and runoff from the school campus. Additional hydrology comes from seasonal direct precipitation. A seasonal water table may be present, but groundwater is not likely a significant source of hydrologic inputs. Surface water, and saturation was present within Wetland A during site visits. Hydrogen sulfide odor was observed within wetland A, which suggests that the wetland experiences nearly permanent saturation. Platy soil structures were also observed which indicate significant compaction has occurred during construction. This soil structure retards infiltration within the wetland, causing surface water expression and run-off during rain events. Wetland A flows into an unnamed tributary to Meridian Creek immediately south of the study area via a culvert under the campus’s entrance. This tributary flows through a heavily forested area until it reaches the Willamette River approximately 0.5 miles to the south.

According to Oregon Explorer interactive web mapping service, and the local FEMA flood insurance rate mapping (FIRM), no 100-year floodplain is mapped within the study area.

**d. Outline of any existing features including, but not limited to, structures, decks, areas previously disturbed, and existing utility locations;**

The site is currently developed as a school campus for Wilsonville High School and Boeckman Creek Primary School, with associated roads, parking lots, utilities, athletic fields and open spaces (Figure 4). Wetland A was constructed as a compensatory mitigation wetland, as such, the entirety of the study area has been previously disturbed. The study area is bordered by development on all sides.

Only Wetland A and its adjacent buffers remain undeveloped. Several stormwater inputs are located throughout the perimeter of Wetland A. A wildlife observation deck has also been constructed within the northern portion of the wetland.

- e. Location of any wetlands or water bodies on the site and the location of the stream centerline and top-of-bank.*

As stated previously, one wetland is within the site. Figure 4 depicts the location of Wetland A within the proposed project area. The adjacent slopes are less than 25% (Figure 5). PHS has submitted a wetland delineation report to the Oregon Department of State Lands (DSL); but has yet to receive concurrence due to the recent date of submittal.

- f. Within the area proposed to be disturbed, the location, size and species of all trees that are more than six (6) inches DBH. Trees outside the area proposed to be disturbed may be individually shown or shown as drip line with an indication of species type or types;*

Figure 5A shows the existing trees which will be impacted by the new development. All of these trees are located within existing landscaping. No trees are proposed to be impacted within the SROZ. A tree removal permit will be prepared as part of the Site Development Permit Application.

- g. A property survey together with topography shown by contour lines prepared at two-foot vertical intervals. Five-foot vertical intervals may be allowed for steep sloped areas. An Oregon Registered Land Surveyor or Civil Engineer shall prepare the survey.*

Figures 4 and 5 shows current topography with 1-foot contour lines as surveyed by Compass Land Surveying. Slopes measurements were calculated at several areas adjacent to the wetland to display slope variation and gradients below 25% (Figure 5).

- h. The location of the SROZ and Impact Area boundaries;*

Figure 5 shows the location of the City applied SROZ and Impact Area boundaries within the project area. The refined boundary is based upon a wetland delineation conducted by PHS and in review with DSL, which differs somewhat from the City's existing SROZ boundary. While the existing boundaries were based on a wetland determination drawn onto aerial photographs with limited ground truthing in 1998, the new boundaries are based on field documented, flagged and surveyed wetland boundaries conducted in 2020. This is the reason for the submittal of this SRIR and request for map verification.

The delineation methodology followed the 1987 Corps of Engineers *Wetlands Delineation Manual, Technical Report Y-87-1*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* which is recognized by both the DSL and the US Army Corps of Engineers.

- i. A minimum of three slope cross-section measurements transecting the site, equally spaced at no more than 100-foot increments. The measurements should be made perpendicular to the stream;*

Slope measurements calculations adjacent to Wetland A are shown on Figure 5 which includes more than three measurements less than 100-foot increments. The measurements were made perpendicular to the wetland boundary.

*j. A map that delineates the Metro UGMFP Title 3 Water Quality Resource Area boundary (using Metro Title 3 field observed standards);*

Figure 6 depicts the UGMFP Title 3 land mapped based on drainage areas upslope and riparian corridors. As described in section (.02)(h) above, however, field investigations (including a formal wetland delineation) have refined these boundaries. Title 3 applies to: (1) Development in Water Quality Resource and Flood Management Areas and (2) Development which may cause temporary or permanent erosion on any property within the Metro Boundary. Metros Water Quality performance standards will be met by: (A) Providing a vegetated corridor to separate Protected Water Features from development; (B) Maintaining or reducing stream temperatures; (C) Maintaining natural stream corridors; (D) Minimizing erosion, nutrient and pollutant loading into water; (E) Filtering, infiltration and natural water purification; and (F) Stabilizing slopes to prevent erosion and contributing to sedimentation of water features.

*k. A map that delineates the Goal 5 safe harbor boundary (using the standards found within the Oregon Administrative Rule OAR 660-23(1996));*

A Goal 5 safe harbor boundary of 50 feet has been applied to Wetland A, this boundary is the same as the SROZ boundary (Figure 5). According to OAR 660-23-0090(5), safe harbor buffers are applied to the following criteria: (a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank. (b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank. (c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland. (d) In areas where the top of each bank is not clearly defined, or where the predominant terrain consists of steep cliffs, local governments shall apply OAR 660-023-0030 rather than apply the safe harbor provisions of this section.

*l. The existing site significant resource conditions shall be determined and identified by a natural resource professional; and*

A resource assessment was conducted by Fishman Environmental Services (FES) at the site in 1998, which confirmed that the project area includes a locally significant wetland (LSW), designated as 2.18 d or feature MC-NT (North Tributary to Meridian Creek in the City of Wilsonville's Local Wetland Inventory (LWI) (Figure 6). PHS concurs with the previous assessment that Wetland A is a locally significant wetland.

The on-site wetland is currently delineated within the existing SROZ boundary. The SROZ boundary is already impacted along the western boundary of Wetland A. A 50-foot buffer will remain along the eastern side of Wetland A.

The LWI for Wilsonville assessed these wetland groups for the following significance criteria:

- 1) Wetlands that score the highest rank for any of the four ecological functions addressed by the Oregon Freshwater Wetland Assessment Methodology (OFWAM) or equivalent: Diverse wildlife habitat, intact fish habitat, intact water quality, or intact hydrologic control.

- 2) Wetlands that are rated in the second highest functional category for water quality, and that occur within ¼ mile of a water quality-limited stream listed by DEQ.
- 3) Contain one or more rare/uncommon wetland plant communities in Oregon.
- 4) Inhabited by any species listed by the federal or state government as a sensitive, threatened, or endangered species in Oregon.
- 5) Wetland rates in the second highest functional category for fish habitat and has a surface water connection to a stream segment that is mapped by ODFW as habitat for “indigenous anadromous salmonids”.
- 6) Optional criterion: Wetland represents a locally unique plant community.
- 7) Optional criterion: Wetland rates in highest category for education potential and there is documented use for educational purposes by a school or organization.

### **Summary of overall significance findings by FES in 1998:**

#### **Wetland A:** (LWI: 2.18d, MC-NT)

“Provides wildlife habitat for some species; fish habitat, water quality functions, and hydrologic control functions are degraded. [Wetland A] Has educational uses and the potential to provide recreational opportunities.” OFWAM sheets are provide in Attachment B

PHS concurs with the previous assessment that Wetland A is a locally significant wetland. Habitat and wetland functions within Wetland A have improved since the original assessment completed in 1998 through maturation of woody species, and development of soils and hydrology.

*m. Current photos of site conditions shall be provided to supplement the above information.*

Current photos of the resource areas are provided in the Wetland Delineation Report (Attachment C), which includes photo documentation of wetlands and sample points taken at the site during the delineation field work in April 2020.

2. *The analysis shall include development recommendations including grading procedures, soil erosion control measures, slope stabilization measures, and methods of mitigating hydrologic impacts. For projects that affect possible wetlands, a copy of the Local Wetland Inventory (LWI) map pertaining to the site shall be provided. Notice of the proposal shall be given to the Oregon Division of State Lands and the Army Corps of Engineers.*

The development will not result in hydrologic impacts to Wetland A. Grading procedures will follow proper erosion control measures, including the placement of sediment fencing around wetland boundaries, inlet protection around all stormwater inlets, and a construction entrance to reduce dust and tracking within and outside of the work area (See the development plan application for erosion control details). Inlet protection will include a polypropylene filter sack (woven) to reduce the transport of sediment into storm pipes, the construction entrance will include subgrade reinforcement geotextile fabric to prevent infiltration or transport of sediment, and sediment fencing will consist of filter fabric material mounted to 2-foot posts around wetlands to mitigate the potential for sedimentation from the construction areas.

Figure 7 displays the LWI map pertaining to the site.

No impacts to state or federally jurisdictional waters are proposed (Figure 5), therefore no notification will be sent to DSL or the Army Corps of Engineers. A copy of the wetland delineation report has been submitted to DSL for concurrence.

3. ***Ecological Analysis. The Ecological Analysis shall include a map, using the Physical Analysis map as a base, showing the delineated boundaries and coverage of wetlands, riparian corridors, and wildlife habitat resources identified on the site.***

Figure 5 shows the delineated boundaries and coverage of wetland resources within the project area as well as the SROZ boundary, slope measurements calculations adjacent to Wetland A, and the SR Impact Area. Figure 8 shows Metro's map of Regionally Significant Habitat (under Title 13), the site includes Upland Wildlife Habitat Class C - areas with secondary riparian value that have low value for wildlife habitat, and Riparian Corridors / Wildlife Habitat Class II - areas supporting 1 or 2 primary riparian functions.

Wetland A is within Class 1 Wildlife Habitat, while the buffers around Wetland A are considered Class II Wildlife Habitat, the adjacent fields east of Wetland A are considered Class C Upland Wildlife Habitat.

- a. ***Wetland boundaries shall be delineated using the method currently accepted by the Oregon Division of State Lands and the US Army Corps of Engineers. Riparian boundaries shall be delineated using the riparian corridor descriptions in this ordinance. Boundaries of mapped Goal 5 wildlife habitat shall be verified by field observation.***

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. A copy of the delineation report is in Attachment C.

Riparian boundaries were also verified during the delineation field visit, using the descriptions in this ordinance. Please refer to question 3 above for the riparian habitat classification for the site.

- b. ***The analysis shall include an inventory that lists and describes the native and ornamental dominant and sub-dominant groundcover, shrub and tree species occurring on the site and wildlife observed during at least one site visit (specify date). The report shall also include recommended measures for minimizing the adverse impacts of the proposed development on unique and/or significant features of the ecosystem. The analysis shall include a report that discusses the ecological functions and values of the SROZ area, discussing each parameter listed below. The discussion shall be based on actual field observations and data obtained by a natural resource professional.***

### **Vegetation and Wildlife Species**

The following tables summarize vegetation and wildlife species occurring on the site during the delineation field work on May 28 and June 10, 2020. A narrow scrub-shrub plant community is located immediately adjacent to Wetland A, lawn areas and athletic fields extend beyond this area and consist of facultative grasses and weedy forbs that are regularly mowed.



**Table 1. Non-Comprehensive List of Vegetation Observed within the Project Area**

Scientific Name	Common Name	Non-Native or Ornamental
<b>TREES</b>		
<i>Acer macrophyllum</i>	bigleaf maple	
<i>Alnus rubra</i>	Red alder	
<i>Betula pendula</i>	Silver birch	X
<i>Fraxinus latifolia</i>	Oregon ash	
<i>Populus balsamifera</i>	Balsam poplar	
<i>Quercus garryana</i>	Oregon white oak	
<i>Salix sp.</i>	Willow	
<b>SHRUBS</b>		
<i>Crataegus douglasii</i>	Black hawthorn	
<i>Cornus alba</i>	redosier dogwood	
<i>Rosa sp.</i>	wild rose	
<i>Rubus armeniacus</i>	Himalayan blackberry	
<b>WOODY VINES</b>		
<i>Hedera helix</i>	English ivy	X
<b>HERBS</b>		
<i>Epilobium ciliatum</i>	slender willow herb	
<i>Geranium molle</i>	Dove's-foot Crane's-bill	X
<i>Holcus lanatus</i>	common velvet grass	X
<i>Hypochaeris radicata</i>	spotted cat's ear	X
<i>Lemna minor</i>	duckweed	
<i>Poa sp.</i>	bluegrass	X
<i>Ranunculus repens</i>	creeping buttercup	X
<i>Schedonorus arundinaceus</i>	Tall fescue	
<i>Trifolium repens</i>	white clover	X
<i>Tellima grandiflora</i>	fringe cup	

**Table 2. Non-Comprehensive List of Wildlife Species Potentially within the Project Area\***

Common Name	Scientific Name
<b>MAMMALS</b>	
Black-tailed deer	<i>Odocoileus hemionis columbianus</i>
Chickeree	<i>Tamiasciurus douglasii</i>
Coyote	<i>Canis latrans</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Eastern fox squirrel	<i>Sciurus niger</i>

<b>Common Name</b>	<b>Scientific Name</b>
Nutria	<i>Myocastor coypus</i>
Raccoon	<i>Procyon lotor</i>
Red fox	<i>Vulpes fulva</i>
Western gray squirrel	<i>Sciurus griseus</i>
<b>BIRDS</b>	
American crow	<i>Corvus brachyrhynchos</i>
American kestrel	<i>Falco sparverius</i>
American goldfinch	<i>Carduelis tristis</i>
American robin	<i>Turdus migratorius</i>
American wigeon	<i>Anas americana</i>
Barn swallow	<i>Hirundo rustica</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Black-headed grosbeak	<i>Pheucitus melanocephalus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown creeper	<i>Certhia americana</i>
Bushtit	<i>Psaliparus minimus</i>
California quail	<i>Callipepla californica</i>
Canada goose	<i>Branta canadensis</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Chestnut-backed chickadee	<i>Parus rufescens</i>
Cinnamon teal	<i>Anus cyanoptera</i>
Common snipe	<i>Gallinago</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Downy woodpecker	<i>Picoides pubescens</i>
European starling*	<i>Sturnus vulgaris</i>
Flycatcher	<i>Empidonax sp.</i>
Fox sparrow	<i>Passerella iliaca</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
Great blue heron	<i>Ardea herodias</i>
Great-horned owl	<i>Bubo virginianus</i>

<b>Common Name</b>	<b>Scientific Name</b>
Hairy woodpecker	<i>Picoides villosus</i>
Hermit thrush	<i>Catharus guttatus</i>
House finch	<i>Carpodacus mexicanus</i>
House sparrow	<i>Passer domesticus</i>
House wren	<i>Troglodytes aedon</i>
Killdeer	<i>Charadrius vociferus</i>
Lazuli bunting	<i>Plectrophenax nivalis</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
Marsh wren	<i>Cistothorus palustris</i>
Mourning dove	<i>Zenaida macroura</i>
Northern flicker	<i>Colaptes auratus</i>
Northern harrier	<i>Circus cyaneus</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Red tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Rufous hummingbird	<i>Selasphorus rufus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Song sparrow	<i>Melospiza melodia</i>
Spotted towhee	<i>Pipilo erythrophthalmus</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Swainson's thrush	<i>Catharus ustulatus</i>
Tree swallow	<i>Tachycineta bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
Varied thrush	<i>Ixoreus naevius</i>
Violet green swallow	<i>Tachycineta thalassina</i>
Western bluebird	<i>Sialia mexicana</i>
Western meadowlark	<i>Sturnella neglecta</i>
Western screech owl	<i>Otus kennicottii</i>

<b>Common Name</b>	<b>Scientific Name</b>
Western scrub jay	<i>Aphelocoma coerulescens</i>
Western tanager	<i>Piranga ludoviciana</i>
Western wood pewee	<i>Contopus sordidulus</i>
White crowned sparrow	<i>Zonotricha leucophrys</i>
Winter wren	<i>Troglodytes</i>
<b>AMPHIBIANS</b>	
Bullfrog	<i>Rana catesbeiana</i>
Long-toed salamander	<i>Ambystoma macrodactylum</i>
Northwestern salamander	<i>Ambystoma gracile</i>
Pacific treefrog	<i>Hyla regilla</i>
Red-legged frog	<i>Rana aurora</i>
Roughskin newt	<i>Taricha granulosa</i>
<b>REPTILES</b>	
Common garter snake	<i>Thamnophis sirtalis</i>
<b>FISH</b>	
Mosquitofish	<i>Gambusia affinis</i>

\*none of these species were observed on the day of the delineation.

### **Impacts to unique or significant features of the ecosystem**

Impacts proposed to existing development on site are not anticipated to affect any significant or unique features of the ecosystem present at this site. No locally jurisdictional buffers or special habitat areas are proposed for impact.

### **Ecological Functions and Values** of the resources are discussed below.

- c. ***Wetlands (based on evaluation criteria in the Oregon Freshwater Wetlands Assessment Methodology (OFWAM), Oregon Division (sic) of State Lands)***
  - i. ***wildlife habitat diversity***
  - ii. ***fish habitat***
  - iii. ***water quality protection***
  - iv. ***hydrologic control***

Wetland A came in as significant through an OFWAM assessment conducted by FES in 1998. Per that assessment Wetland A provides wildlife habitat for some species; though fish habitat, water quality functions, and hydrologic control functions are degraded. As there is a large culvert separating Wetland A from downstream tributaries. Wetland A has educational uses and the potential to provide recreational opportunities.

- d. *Wildlife Habitat (includes riparian corridors and upland forested areas)*
  - i. *wildlife habitat diversity*
  - ii. *water quality protection*
  - iii. *ecological integrity*
  - iv. *connectivity*
  - v. *uniqueness*

The wildlife habitat which is present within Wetland A, and adjacent riparian buffers is of moderate quality. The plant community is comprised of a mix of native and non-native species, although native species are dominant. Trees within these areas are immature, but healthy and can support a variety of transient avian species, small mammals, and amphibians. Wetland A actively treats runoff from the school campus to improve downstream water quality. The wildlife habitat present is largely disconnected from other patches of wildlife habitat and is not unique to the region (FES, 1998).

- e. *Riparian Corridors*
  - Stream-riparian ecosystems:*
    - i. *Presence and abundance of Large Woody Debris (LWD) in and adjacent to stream*
    - ii. *Tree/shrub canopy stream shade production (water temperature and aquatic plant growth control)*
    - iii. *Erosion and sediment control by riparian vegetation*
    - iv. *Water quality protection by riparian vegetation*
    - v. *River-floodplain ecosystem (Willamette River)*
    - vi. *Presence of functional floodplain (inundated annually)*
    - vii. *Type and condition of functional floodplain vegetation*
    - viii. *Use of river-floodplain by ESA-listed species*
    - ix. *Role as wildlife corridor connecting significant wildlife habitat areas*

There is no large woody debris in the riparian corridor within the study area. There is moderate shade provided by adjacent woody vegetation within Wetland A, and within adjacent buffers. The dense vegetation and prolonged residence time of the water in Wetland A allows sediment to be assimilated prior to flowing into downstream waters.

The applicant is proposing to maintain the existing buffers around Wetland A due to locally applied significance. The Wetland A habitat contributes to overall uplift in water quality within Meridian Creek, which eventually contributes to an improvement in the overall water quality of the river-floodplain ecosystem tied to the Willamette River. There are no known listed ESA species at this site, and none were observed at the time of the delineation. This habitat is degraded as a connecting wildlife corridor, due to the existing roadways within the school campus. The overall riparian corridor quality is moderate.

- 4. ***Mitigation and Enhancement Proposal. The applicant must propose a Significant Resource mitigation and enhancement plan as part of the SRIR. The mitigation and enhancement shall increase the natural values and quality of the remaining Significant Resource lands located on the site or other location as approved by the City. The mitigation and enhancement proposal shall conform to the mitigation standards identified in this Section.***

The applicant believes that mitigation and enhancement is not necessary for the impacts proposed. Impacts to SROZ will not occur as a result of the project. The areas proposed for impacts consist of existing parking areas, and athletic fields which provide minimal protection to the onsite significant resources.

5. ***Waiver of Documentation: The Planning Director may waive the requirement that an SRIR be prepared where the required information has already been made available to the City, or may waive certain provisions where the Director determines that the information is not necessary to review the application. Such waivers may be appropriate for small-scale developments and shall be processed under Administrative Review. Where such waivers are granted by the Planning Director, the Director shall clearly indicate the reasons for doing so in the record, citing the relevant information relied upon in reaching the decision.***

Not applicable. An SRIR is required by the City.

- (.03) ***SRIR Review Criteria. In addition to the normal Site Development Permit Application requirements as stated in the Planning and Land Development Ordinance, the following standards shall apply to the issuance of permits requiring an SRIR. The SRIR must demonstrate how these standards are met in a manner that meets the purposes of this Section.***

- A. ***Except as specifically authorized by this code, development shall be permitted only within the Area of Limited Conflicting Use (see definition) found within the SROZ;***

No protected buffers adjacent to significant resources are proposed for impact within the SROZ. Development is proposed within the Area of Limited Conflicting Use. These areas currently consist of parking areas and athletic fields (Figures 4 and 5).

- B. ***Except as specifically authorized by this code, no development is permitted within Metro's Urban Growth Management Functional Plan Title 3 Water Quality Resource Areas boundary;***

There are no proposed impacts to existing UGMFP Title 3 Water Quality Resource Area boundaries (Figure 5).

- C. ***No more than five (5) percent of the Area of Limited Conflicting Use (see definition) located on a property may be impacted by a development proposal. On properties that are large enough to include Areas of Limited Conflicting Use on both sides of a waterway, no more than five (5) percent of the Area of Limited Conflicting Use on each side of the riparian corridor may be impacted by a development proposal. This condition is cumulative to any successive development proposals on the subject property such that the total impact on the property shall not exceed five (5) percent;***

Approximately 14,665 square feet of the Area of Limited Conflicting Use onsite will be impacted to construct new parking areas and roadway. Much of this area has been previously impacted by existing parking areas. The roadway is needed to provide continuous traffic flow around the campus and to allow for emergency vehicle access. The impact area amounts to approximately 42% of the Area of Conflicting Uses associated with Wetland A; however, the property contains approximately 2.6 acres of additional Areas of Limited Conflicting Use within the southeastern portion of the property. These areas will not be impacted; therefore, the total impact area does not exceed 5 percent of existing Areas of Conflicting Use on the entire property.

- D. ***Mitigation of the area to be impacted shall be consistent with Section 4.139.06 of this code and shall occur in accordance with the provisions of this Section;***

Not applicable. There is no proposed impact within the SROZ, on to the Area of Limited Conflicting Use.

- E. The impact on the Significant Resource is minimized by limiting the degree or magnitude of the action, by using appropriate technology or by taking affirmative steps to avoid, reduce or mitigate impacts;*

This section does not apply, as no impacts to Significant Resources are proposed for this project. By utilizing appropriate erosion and sediment controls, indirect impacts are minimal and not anticipated to have any detrimental effects to significant resources on site.

- F. The impacts to the Significant Resources will be rectified by restoring, rehabilitating, or creating enhanced resource values within the “replacement area” (see definitions) on the site or, where mitigation is not practical on-site, mitigation may occur in another location approved by the City;*

This section does not apply, as no impacts to Significant Resources are proposed for this project.

- G. Non-structural fill used within the SROZ area shall primarily consist of natural materials similar to the soil types found on the site;*

This section does not apply, as no impacts to SROZ are proposed for this project.

- H. The amount of fill used shall be the minimum required to practically achieve the project purpose;*

This section does not apply, as no impacts to Significant Resources are proposed for this project.

- I. Other than measures taken to minimize turbidity during construction, stream turbidity shall not be significantly increased by any proposed development or alteration of the site;*

Stormwater will be treated prior to leaving the construction site, and is not anticipated to increase turbidity during construction due to appropriate erosion and sediment control measures, including silt fencing. Wetland A naturally attenuates turbidity prior to flowing into tributaries downstream, therefore stream turbidity is not anticipated to increase as a result of the project.

- J. Appropriate federal and state permits shall be obtained prior to the initiation of any activities regulated by the U.S. Army Corps of Engineers and the Oregon Division of State Lands in any jurisdictional wetlands or water of the United States or State of Oregon, respectively.*

This section does not apply, as no impacts to Wetlands are proposed; however, a wetland delineation report has been prepared and submitted to DSL for concurrence (Appendix D). Concurrence will be received prior to initiation of the project.

## SECTION 4.139.07 MITIGATION STANDARDS

*The following mitigation standards apply to significant wildlife habitat resource areas for encroachments within the Area of Limited Conflicting uses and shall be followed by those proposing such encroachments. Wetland mitigation shall be conducted as per permit conditions from the U.S. Army Corps of Engineers and the Oregon Division of State Lands [emphasis ours]. While impacts are generally not allowed in the riparian corridor resource area, permitted impacts shall be mitigated by: using these mitigation standards if the impacts are to wildlife habitat values, and using state and federal processes if the impacts are to wetland resources in the riparian corridor...*

No fill will be placed within waters and no state or federal permits for discharges of fill are required; therefore, wetland mitigation is not required nor proposed. Similarly, no impacts to significant wildlife habitat resource areas are proposed.

## **SECTION 4.139.10 Development Review Board (DRB) Process**

*(.01) Exceptions. The following exceptions may be authorized through a Development Review Board quasi-judicial review procedure.*

*D Map Refinement process. The applicant may propose to amend the SROZ boundary through a Development Review Board quasi-judicial zone change where more detailed information is provided, such as a state approved wetland delineation. The criteria for amending the SROZ are as follows:*

Adjustments to the SROZ are proposed based on the locations of delineated wetland, and its associated 50-foot buffer. Verification (concurrence from the DSL) of the onsite wetland is still pending.

*(.03) Development of structures, additions and improvements that relate to uses other than single family residential.*

This SRIR addresses the development of additions and improvements to a structure other than single family residential and thus requires DRB process.

## **SECTION 4.139.11 Special Provisions**

*(.03) Alteration of constructed drainageways. Alteration of constructed drainageways may be allowed provided that such alterations do not adversely impact stream flows, flood storage capacity and in stream water quality and provide more efficient use of the land as well as provide improved habitat value through mitigation, enhancement and/or restoration. Such alterations must be evaluated through an SRIR and approved by the City Engineer and Development Review Board.*

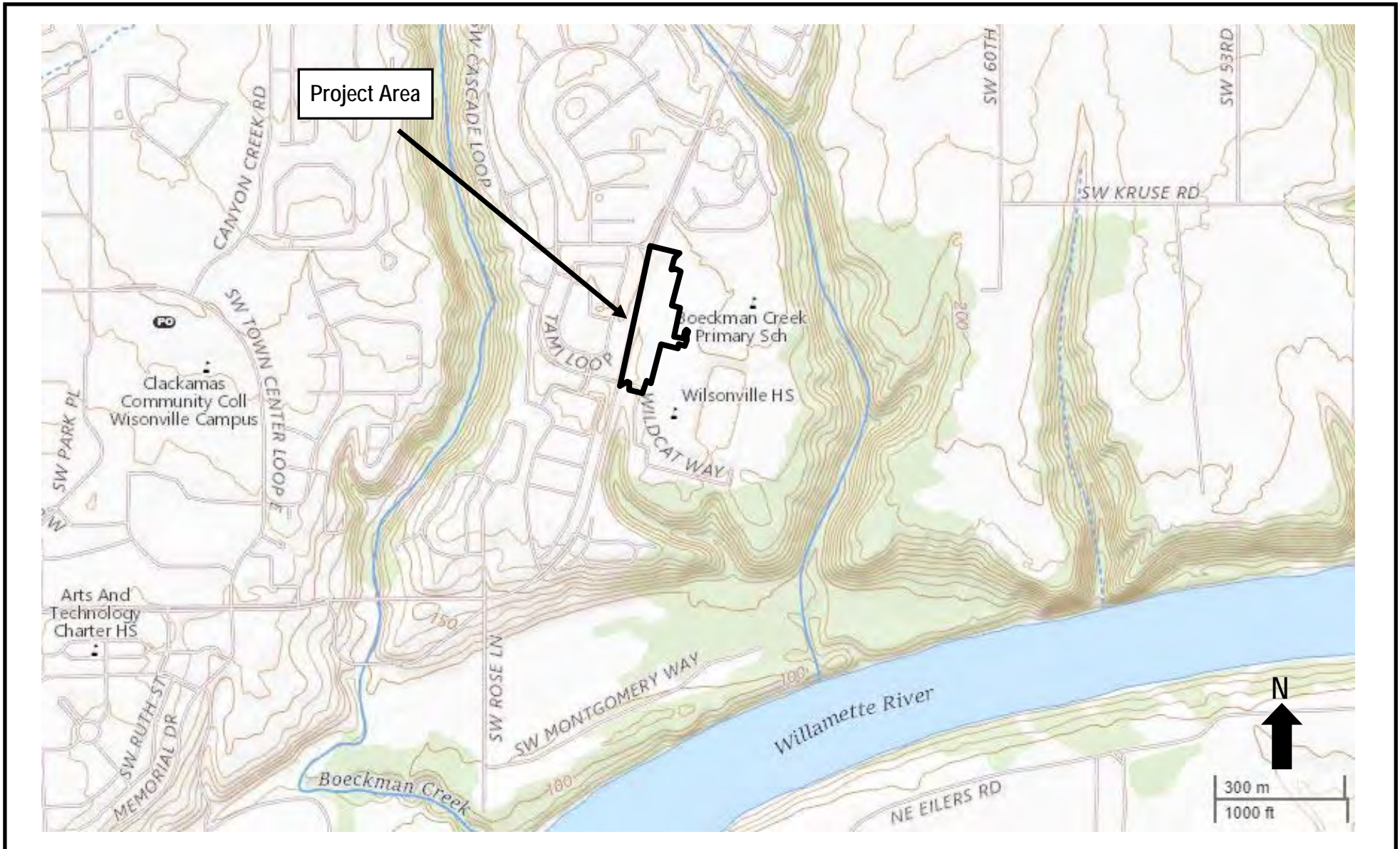
Not applicable. No alterations of constructed drainageways are proposed. No adverse impact to downstream water quantity or quality is anticipated.



# Attachment A

## Figures





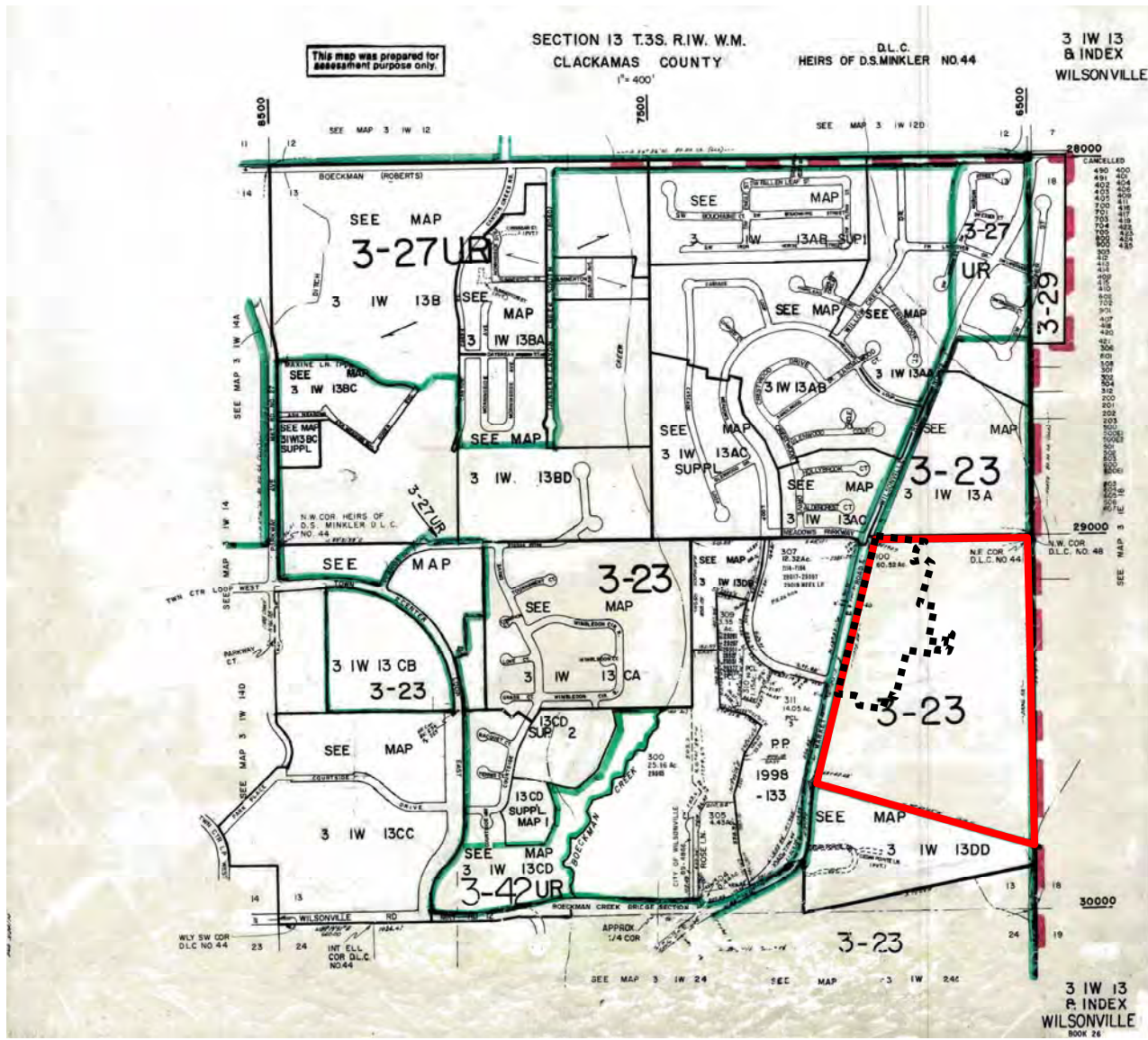
Project #6967  
9/8/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

General Location and Topography  
Wilsonville High School - Wilsonville, Oregon  
United States Geological Survey (USGS) Canby, Oregon 7.5 quadrangle, 2020  
(viewer.nationalmap.gov/basic)

FIGURE  
1



..... - Project Area  
 ——— - Tax Lot

Project #6967  
 9/8/2020



Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180  
 Wilsonville, OR 97070

Tax Lot Map  
 Wilsonville High School - Wilsonville, Oregon  
 The Oregon Map (ormap.net)

FIGURE  
 2



Project Area

Soils Legend

- 1A - Aloha silt loam, 0-3% slopes
- 29 - Dayton silt loam (Hydric)
- 92F - Xerochrepts and Haploxerolls, very steep

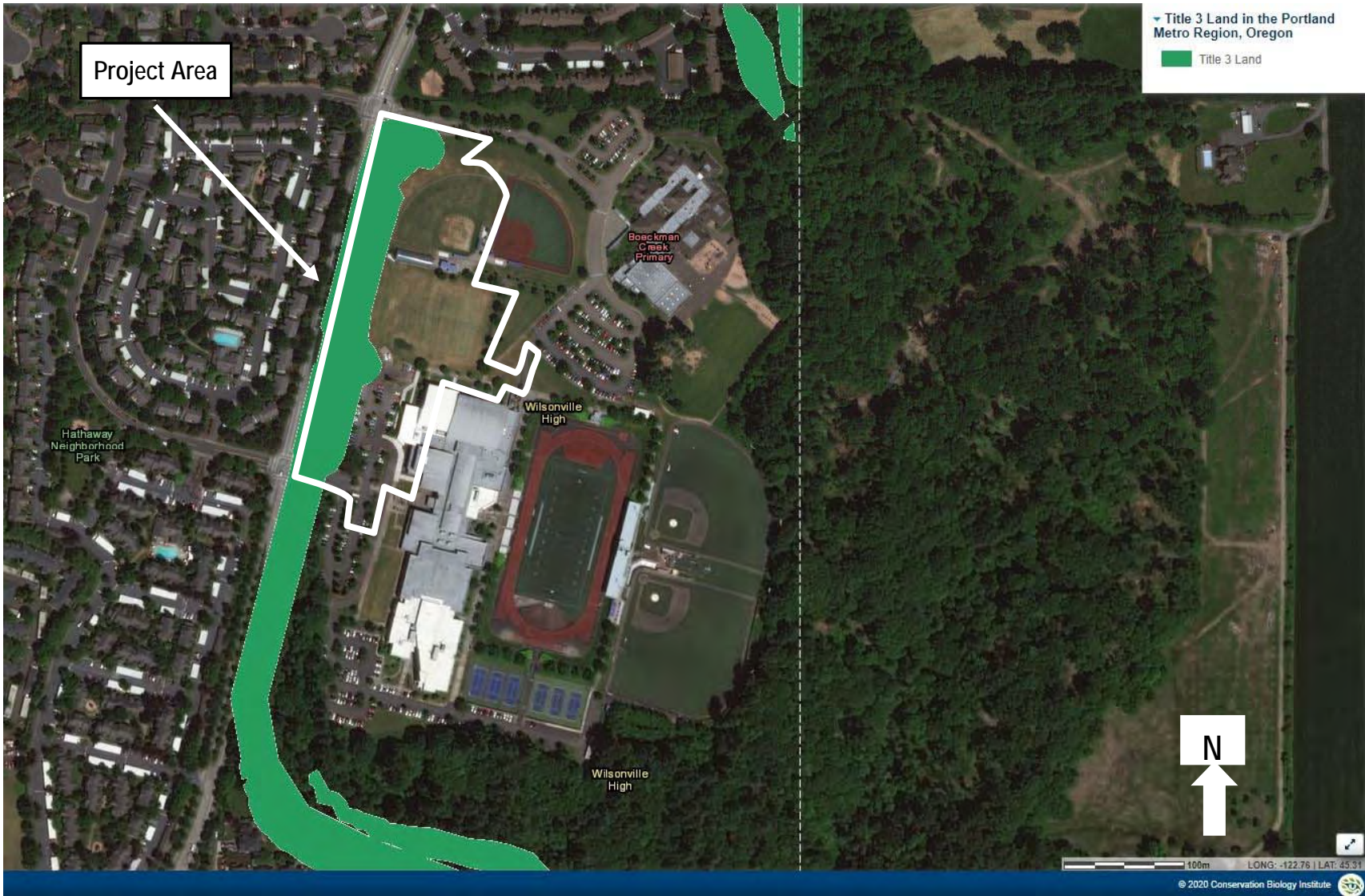
Project #6967  
9/8/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Soils  
Wilsonville High School - Wilsonville, Oregon  
Natural Resources Conservation Services, Web Soil Survey, 2019  
(websoilsurvey.sc.egov.usda.gov)

FIGURE  
3



Project #6967  
9/8/2020

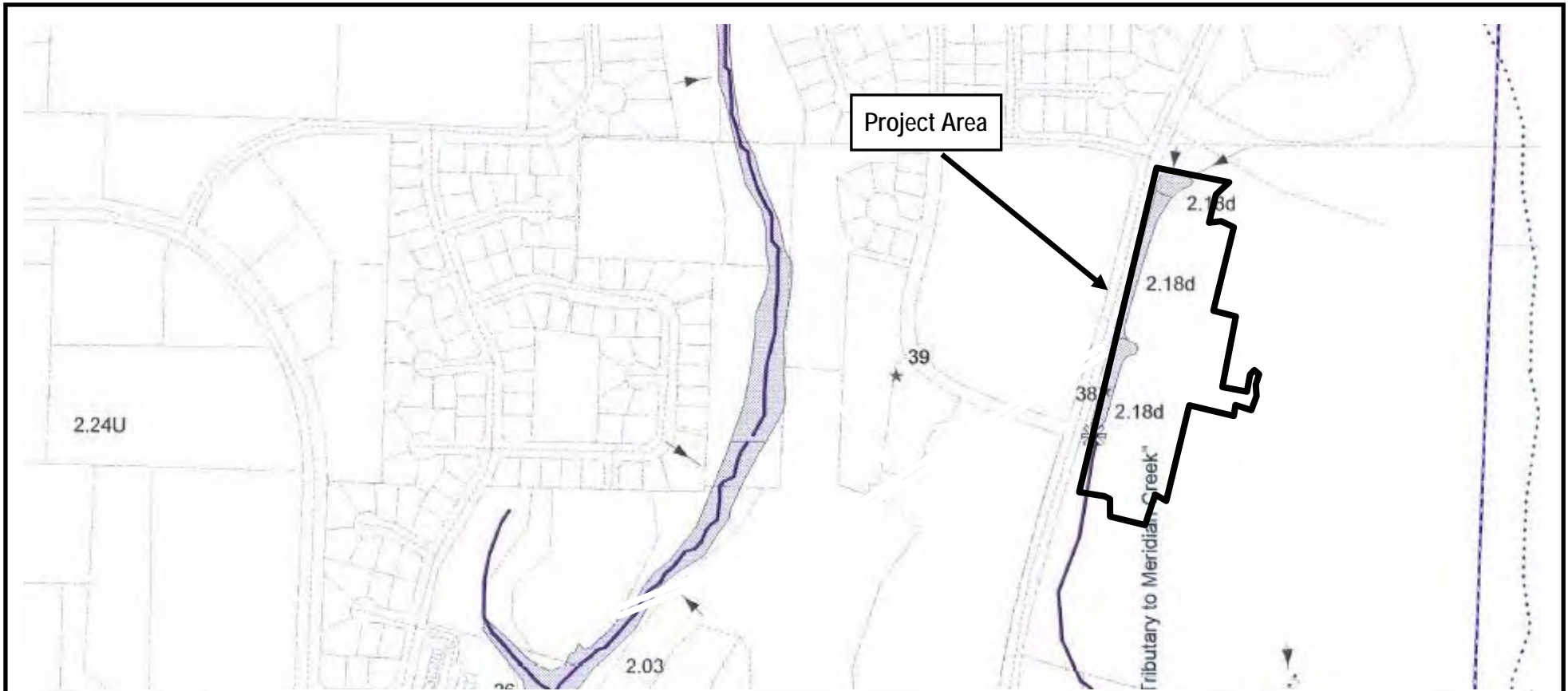


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Title 3 Land in the Portland Metro Region  
Wilsonville High School - Wilsonville, Oregon  
[www.oregonmetro.gov/rhis](http://www.oregonmetro.gov/rhis), 2012

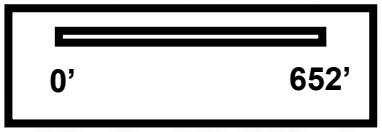
FIGURE

6



**LEGEND**

- WETLANDS
  - TAX LOTS
  - UGB
  - STREAMS
  - INTERMITTENT
  - PERENNIAL
  - RAILROAD
  - CULVERT LOCATIONS
  - STREETS
  - CLACKAMAS/WASHINGTON COUNTY LINE
  - WETLANDS MAPPED OFF-SITE
  - SAMPLE PLOT LOCATIONS
  - VIEWPOINTS
- 1.01 - WETLAND SITE ID
  - 6.03d - DELINEATED WETLAND SITE ID
  - 4.15R - RIPARIAN SITE ID
  - 1.04U - UPLAND SITE ID
  - \* 95 - SAMPLE PLOT ID



Fishman Environmental Services  
 (Transfer of liability only - not a warranty or assumption)  
 434 NW Sixth Avenue, Suite 304  
 Portland, OR 97209  
 (503) 224-6333

CITY OF WILSONVILLE  
 IN OREGON

30600 SW Town Center Loop E  
 Wilsonville, OR 97070  
 (503) 682-4860

CITY OF WILSONVILLE  
 LOCAL WETLANDS  
 AND  
 RIPARIAN CORRIDOR INVENTORY  
 SOUTHEAST

Draft Map prepared 4/01, revised 12/07  
 Aerial Photography, July 6, 1996  
 Data Sources: Digital Orthophotography,  
 Spentair II Lines, Roads, Topography, Rail, Streets,  
 USB - Metro 9118 Database

Map Projection: Oregon State Plane North Zone  
 Datum: NAD 83, Units: International Feet

Project #6967  
 9/8/2020



Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180  
 Wilsonville, OR 97070

Local Wetland Inventory  
 Wilsonville High School - Wilsonville, Oregon  
 Fishman Environmental Services, 2004

FIGURE  
 7



Project #6967  
9/8/2020

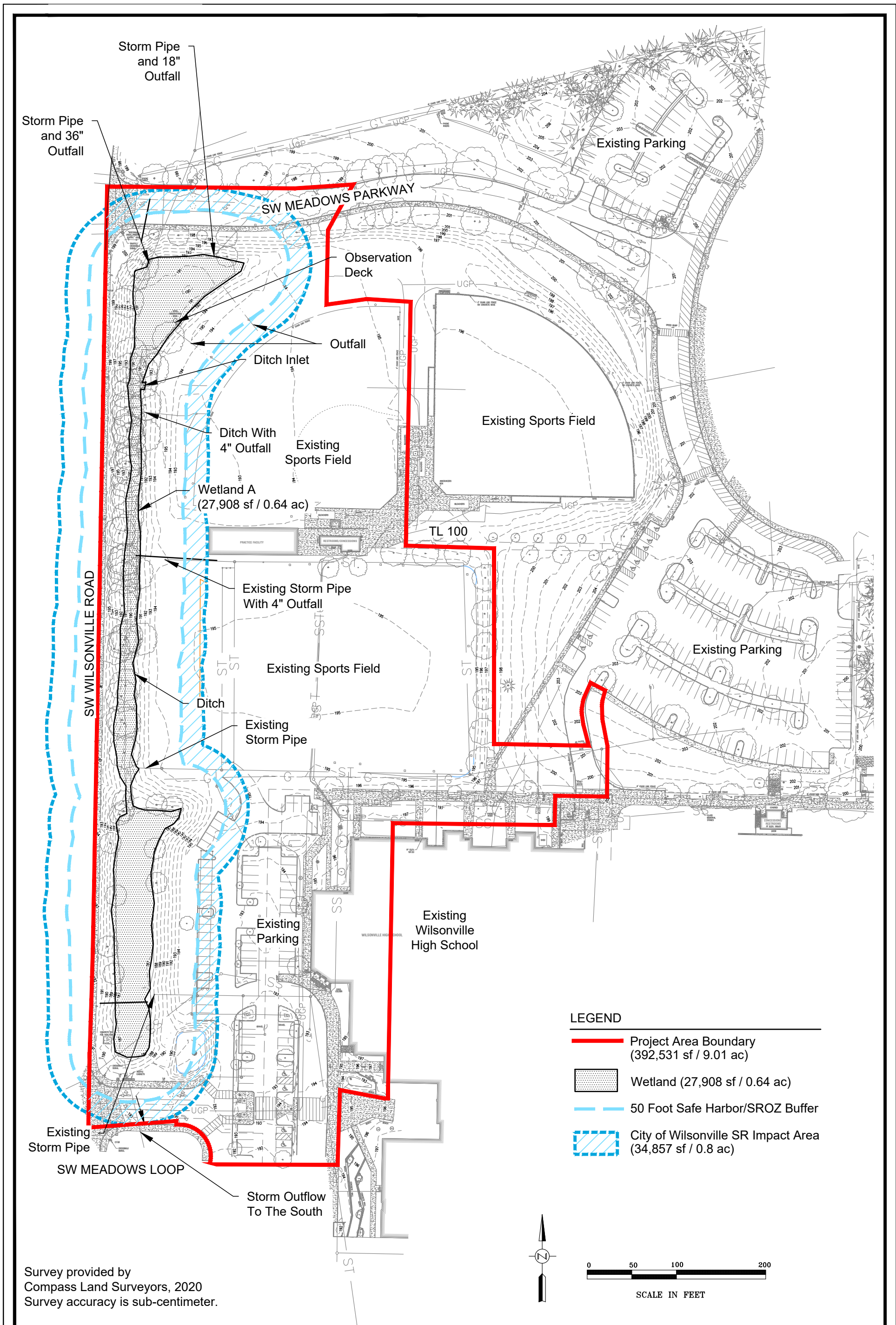


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Title 13 Land in the Portland Metro Region  
Wilsonville High School - Wilsonville, Oregon  
[www.oregonmetro.gov/rlls](http://www.oregonmetro.gov/rlls), 2012

FIGURE

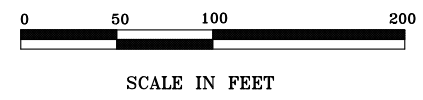
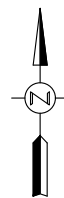
8



Survey provided by  
Compass Land Surveyors, 2020  
Survey accuracy is sub-centimeter.

**LEGEND**

- Project Area Boundary (392,531 sf / 9.01 ac)
- Wetland (27,908 sf / 0.64 ac)
- 50 Foot Safe Harbor/SROZ Buffer
- City of Wilsonville SR Impact Area (34,857 sf / 0.8 ac)

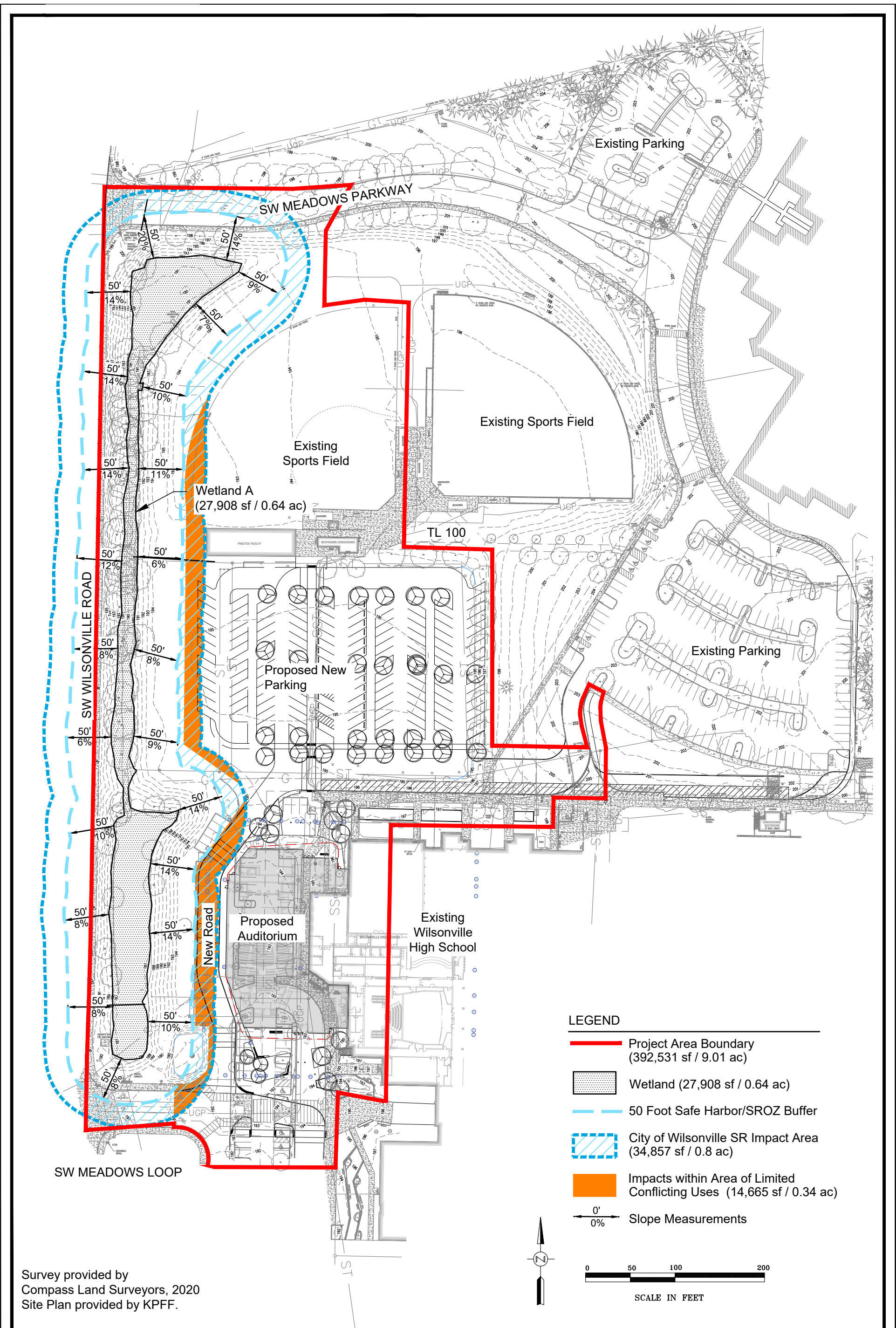


Existing Conditions  
Wilsonville High School - Wilsonville, Oregon

**FIGURE 4**

10-23-2020

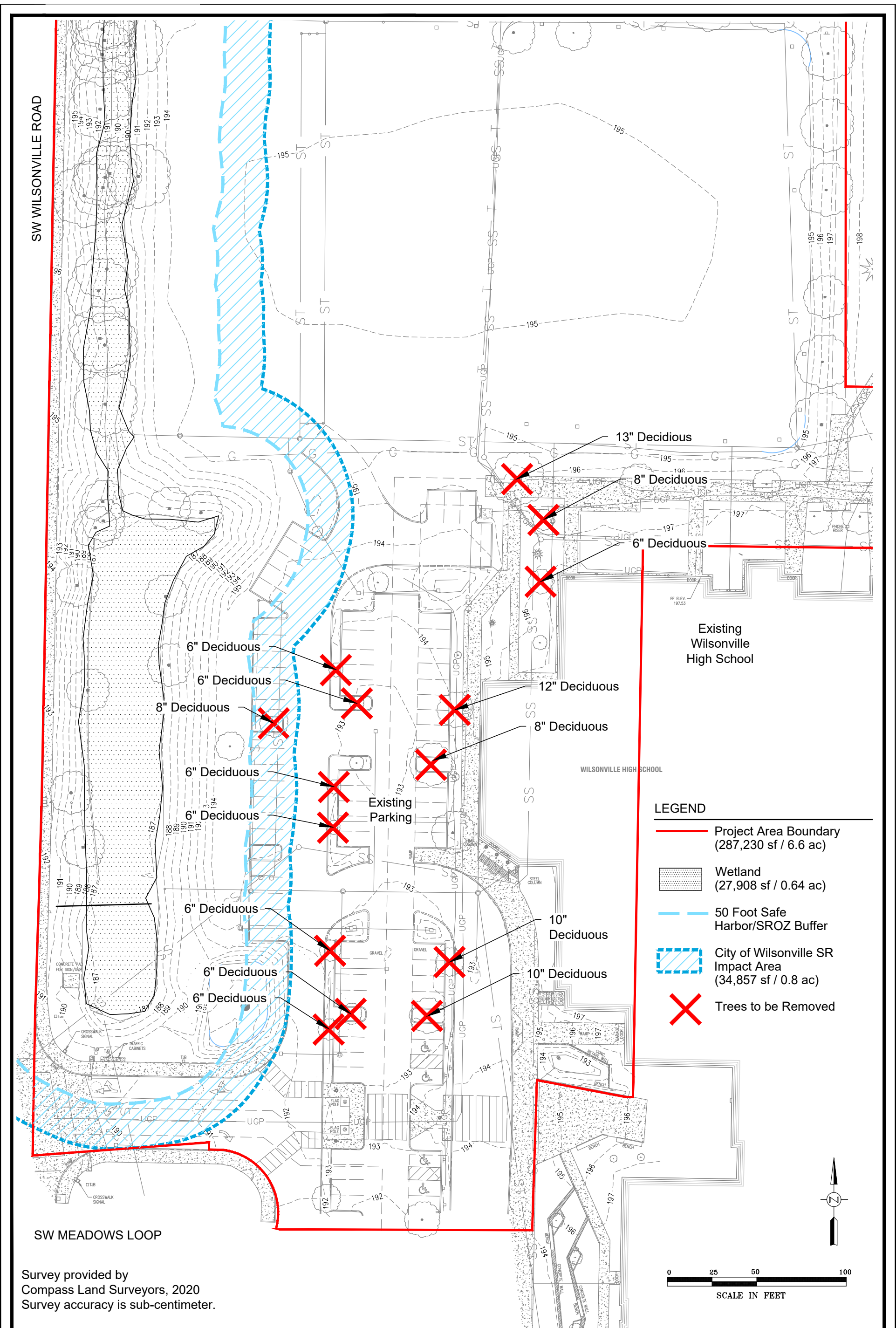




Proposed Site Development Plan  
Wilsonville High School - Wilsonville, Oregon

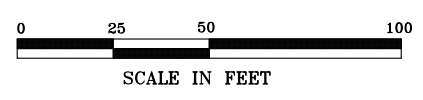
FIGURE  
**5**

10-23-2020



- LEGEND**
- Project Area Boundary (287,230 sf / 6.6 ac)
  - Wetland (27,908 sf / 0.64 ac)
  - 50 Foot Safe Harbor/SROZ Buffer
  - City of Wilsonville SR Impact Area (34,857 sf / 0.8 ac)
  - X Trees to be Removed

Survey provided by  
Compass Land Surveyors, 2020  
Survey accuracy is sub-centimeter.



Tree Removal Plan  
Wilsonville High School - Wilsonville, Oregon

FIGURE  
**5A**

10-23-2020

# Attachment B

## OFWAM Summary Sheets



## City of Wilsonville

### Oregon Freshwater Wetland Assessment Method Summary Sheet

Unit MC-NT North Tributary to "Meridian Creek"  
(2.18, 2.19R)

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	Provides Some	Not much buffer present, adjacent to mowed lawn, parking lot, and Wilsonville Road
Fish Habitat	Degraded	No fish present
Water Quality (pollutant removal)	Degraded	(2.18 acts as stormwater pond with stormwater inputs)
Hydrologic Control (flood control & water supply)	Degraded	Fairly small, although some flood storage possible
Sensitivity to Future Impacts	Potentially Sensitive	All wetlands in Wilsonville potentially sensitive to future impacts. **
Enhancement Potential*	High	Improve buffers
Education	Has	Adjacent to Boeckman Creek Elementary School and Wilsonville High School
Recreation	Potential	Trails to south in forest.
Aesthetic Quality	Pleasing	(can see more of small wetland = large viewshed, scores higher)
<b>Narrative Description of Overall Wetland Functions and Conditions</b>		
Mitigation site, emergent wetland has been enhanced and enlarged. Perennial stream starts at wetland unit and flows south through bigleaf maple and western red cedar upland forest in a deep, steep-sided canyon.		

\*Skip Enhancement Potential if Wildlife Habitat is diverse.

\*\*No wetlands in Wilsonville are "sensitive" to future impacts because no upstream reaches are listed as water quality limited and no non-point sources are identified.

City of Wilsonville Local Wetlands and Riparian Inventory  
 Oregon Freshwater Wetland Assessment Questions - Answer Sheet  
 (4/96 edition with 7/97 addendum)

MC-NT

WETLAND N. Trib. Meridian Creek (2.18, 2.19R)

Wildlife Habitat		
1	a	21
2	b	23
3	b	24
4	c	28
5	a	18
6	b	27
7	a	7+8 (usually a)
8	c	15 (some a)
9b	c	26

SOME

Sensitivity to Future Impacts		
1	a	27+40
2	a	5+27 (5=b)
3	c	=WQ6 (always c)
4	a	=WQ5
5	a	20
6	c	23

POTENTIAL - close to IS

Fish Habitat		
Streams and Rivers		
1	a	31
2	a	30
3	b?	32
4	a	=WH7
5	c	=WH8
6	c	29
Lakes and Ponds		
1	0	33
2	0	35
3	0	34
4		=WH7
5		=WH8
6	c	29

DEGRADED

Enhancement Potential*		
1	a	WH-FH-WQ-HC
2	a+b	36
3	a	39
4	b	17
5b	c	26
6	b	=SI

HIGH

\*skip if WH provides diverse

Education		
1	a	41
2	b	42
3	b	WH-FH
4	b a	44
5	a	46
6	a	45

HAS

Water Quality (pollutant removal)		
1	a+c	36 (check)
2	c	37
3	a	21
4	b	17+27
5	a	15 (WH8 c=a, a=c, b=b)
6	c	7+8 (WH7 c=a, a=c, b=b)

DEGRADED

Recreation		
1	a	46
2	c	47
3	b	48
4	b	WH
5	b	49
6	b	50 (always b - no hunting)

POTENTIAL

Hydrologic Control (flood control & water supply)		
1	b	19
2	c	37
3	b	17
4	b	38
5	b	23 (check)
6	c	16
7	a	6 (usually a)

DEGRADED

Aesthetic Quality		
1	b	58
2	a	57 (viewshed)
3	b	53+54
4	b	52
5	a	55
6	a	56

pleasing

**Wetland Structure and Landscape**

15 What percentage of area within 500 feet of the wetland edge is dedicated to these land uses?

(MC-NT)  
 Observers \_\_\_\_\_  
 Field Date \_\_\_\_\_  
 Revised 12/2/97

	a. <20%	b. bet. 20% & 50%	c. >50%
1. Open Space			49% School -
2. Agriculture			parking + lawns
3. Exclusive Forest Use			
4. Developed uses			51% Hwy, Res
5. Other			

16 What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?

	a. <20%	b. bet. 20% & 50%	c. >50%
1. Open Space			100
2. Agriculture			
3. Exclusive Forest Use			
4. Developed uses			
5. Other			

17 What is the (entire) wetland acreage?

	a. >5 acres	b. bet. 0.5 & 5 acres	c. < 0.5 acres
<u>a b</u>			0.86 ac

18 How is wetland connected to a stream, lake, or pond? (see Figure, p. 35)

	a. connected by surface water (culv., ditch, int./per. stream)	b. not connected to water body within 1 mile	c. not connected, no water bodies within 1 mile
<u>a</u>			

19 Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?

	a. yes	b. no
<u>b</u>		

20 What is zoned percentage of land use within 500 feet of the wetland edge?

	a. <20%	b. bet. 20% & 50%	c. >50%
1. Open Space			
2. Agriculture			
3. Exclusive Forest Use			
4. Developed uses			RES
5. Other			

**Wetland Habitat**

21 What is percentage wetland area by Cowardin class (10% or more)?

	a. bet. 70% & 100%	b. bet. 50% & <70%	c. bet. 20% & <50%	d. bet. 10% & <20%
Open water (OW >6.6ft)				
Emergent (EM)		59% EM		
Scrub-shrub (SS)			41% SS	
Forested (FO)				

22 How many wetland plant species are present (urban areas)?

	a. >5	b. bet. 2 & 5	c. 1 (monotypic)
<u>a</u>			

23 What is the dominant wetland vegetation cover?

	a. woody (FO & SS)	b. emergent and ponding, or open water only (EM w/ water or OW)	c. emergent vegetation only or wet meadow (EM)
<u>b</u>			

24 How interspersed are the Cowardin classes (and upland inclusions)? (see Figure p. 37)

	a. high	b. moderate	c. low
<u>b</u>			

25 SKIP (for rural areas) what percentage of the wetland edge is bordered by upland wildlife habitat at least 150 feet wide?

	a. >40%	b. bet. 10% & 40%	c. <10%

26 For urban areas, what percentage of the wetland edge is bordered by a vegetative buffer at least 25 feet wide?

	a. >40%	b. bet. 10% & 40%	c. <10%
<u>c</u>			

How is the wetland connected to other wetlands?

	a. connected within 3 miles by surface water	b. not connected; wetlands present within 3 miles	c. not connected, no other wetlands within 3 miles
<u>b</u>			

mowed lawn, Wils. Road, parking lot

28 Estimate area of unvegetated, open water within the wetland.

	a. >3 acres	b. >1 to 3 acres	c. bet. 0.5 & 1 acre	d. <0.5 acre
<u>a</u>				

**Fisheries Habitat**

Wetland 2.18, 2.19R

29 Are fish present in a stream, lake or pond connected to the wetland?

<u>c</u>	a. salmon, trout or sensitive species are present at some time during the year	b. other fish species are present at some time during the year	c. no species are present at any time during the year
----------	--------------------------------------------------------------------------------	----------------------------------------------------------------	-------------------------------------------------------

**Streams connected to the wetland**

30 What is the physical character of the stream channel?

<u>a</u>	a. natural channel, or modified portions are returning to a natural channel	b. only portions of stream modified	c. extensively modified or confined in a non-vegetated channel or pipe
----------	-----------------------------------------------------------------------------	-------------------------------------	------------------------------------------------------------------------

31 What percentage of the stream is shaded by riparian vegetation?

<u>a</u>	a. >75%	b. bet. 50% & 75%	c. bet. 25% & <50%	d. <25%
----------	---------	-------------------	--------------------	---------

32 What percentage of the stream contains instream structures such as large woody debris, floating/submerged vegetation, large rocks or boulders?

<u>b (?)</u>	a. >25%	b. bet. 10% & 25%	c. <10%
--------------	---------	-------------------	---------

**Lakes or ponds (entire lake or pond and wetland complex)**

33 Does the lake or pond contain areas of deep and shallow water?

	a. yes	b. cannot be determine	c. no
--	--------	------------------------	-------

34 What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?

	a. 60% or more	b. bet. 20% & <60%	c. <20%
--	----------------	--------------------	---------

35 What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?

	a. >25%	b. bet. 10% & 25%	c. <10%
--	---------	-------------------	---------

**Wetland Hydrology**

36 What is the wetland's primary source of water? (emphasis on primary)

<u>a + c</u>	a. surface flow, including streams and ditches	b. precipitation or sheet flow	c. groundwater, including springs or seeps
--------------	------------------------------------------------	--------------------------------	--------------------------------------------

Is there evidence of flooding or ponding during a portion of the growing season?

<u>c</u>	a. yes (describe)	b. unable to determine or not applicable	c. no
----------	-------------------	------------------------------------------	-------

38 Is the water flow out of the wetland restricted (beaver dam, concrete structure, undersized culvert)?

<u>b</u>	a. yes, restricted or no outlet	b. minor restrictions slow down the water	c. no, outlet has unrestricted flow
----------	---------------------------------	-------------------------------------------	-------------------------------------

39 If the primary source of water is surface flow, is the inflow restricted?

<u>a</u>	a. not restricted or if blocked, can be removed	b. permanent blockage exists, but may be breached (create new flow channel)	c. flow is restricted and cannot be restored
----------	-------------------------------------------------	-----------------------------------------------------------------------------	----------------------------------------------

40 Has the stream flow or stream bank been modified by human activities (dams, levees, channelization, confinement of stream in a pipe) < 1 mile above the wetland?

<u>b (na)</u>	a. yes	b. no
---------------	--------	-------

**Public Access to Wetland Site**

41 Is the wetland open to the public for direct access or observation?

<u>a</u>	a. yes	b. yes, but only by permission	c. no, access not allow
----------	--------	--------------------------------	-------------------------

42 Are there visible hazards to the public at the wetland site? (busy road with no buffer or sidewalk, steep embankment, contaminated water)

<u><del>b</del> a</u>	a. no	b. one or two visible safety hazards exist (describe)	c. more than two visible safety hazards exist (describe)
-----------------------	-------	-------------------------------------------------------	----------------------------------------------------------

*but access avail from school parking lot*

43 Are other natural landscape features (stream, lake, pond, forest, agricultural land) contiguous or adjacent to the wetland? (list type and extent)

<u>a</u>	a. yes	b. no
----------	--------	-------

44 Is there existing physical public access to features listed in question 43?

Wetland 2.18, 2.19R

b @	a. public access to other habitats exists or can be created easily	b. public access doesn't exist and can't be created easily, but observation of other features can be made from the site	c. public access doesn't exist, can't be created easily, and observation of other features can't be made from the site
-----	--------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------

45 Is access to a viewing spot or wetland edge available for individuals with limited mobility? (does not have to meet ADA)

a	a. yes	b. no	(list physical barriers)
---	--------	-------	--------------------------

46 Is there a public access point within 250 feet of the wetland's edge? (parking lots, transit stops, bike lanes, trails, water courses; maintained means designated car or transit area; unmaintained means road pull-off, etc. - describe)

a	a. yes, maintained access point exists	b. yes, unmaintained access point exists	c. no access point exists, or the access point is hazardous
---	----------------------------------------	------------------------------------------	-------------------------------------------------------------

**Recreation**

47 Is the wetland accessible by boat?

c	a. boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water	b. potential to develop launching areas or access points exists, or are >1/2 mile but <1 mile from wetland	c. no boat launching areas exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.
---	----------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------

48 Are there trails, viewing areas or other structures that guide user movement to particular areas in or around the wetland?

b	a. yes, developed or maintained trails or viewing areas exist	b. yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat	c. no trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.
---	---------------------------------------------------------------	-------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------

49 Is fishing allowed at the wetland or adjacent water body? (answer "c" if 18="b or c", unless 21=OW>10%)

b	a. yes (all or part of year)	b. no	c. not applicable
---	------------------------------	-------	-------------------

Is hunting allowed at the wetland? (If wetland is within city limits, answer is no)

b	a. yes (all or part of year)	b. no
---	------------------------------	-------

**Aesthetics**

51 SKIP (for rural areas) what is the extent of visual contrast with the surrounding landscape? (see Figure p. 45)

	a. significant contrast	b. limited contrast	c. little or no contrast
--	-------------------------	---------------------	--------------------------

52 For urban areas, what is the visual character of the surrounding area? (see Figure p. 46)

b	a. open space or naturally landscaped	b. landscaped or manipulated by people	c. developed with no landscaping
---	---------------------------------------	----------------------------------------	----------------------------------

53 Are there visual detractors at the site (abandoned cars, litter, shopping carts, etc.) that distract the viewer from the wetland?

b	a. yes	b. no
---	--------	-------

54 If the site contains visual detractors, can they be easily removed?

	a. yes	b. no
--	--------	-------

**Locate the primary viewing area(s) for the following 4 questions (and mark on map)**

55 What odors are present at the primary viewing location(s)?

a	a. natural, pleasant odors only	b. unpleasant odors (auto exhaust, sewage) present at certain times	c. unpleasant odors are distinct and continuously present
---	---------------------------------	---------------------------------------------------------------------	-----------------------------------------------------------

56 What noises are audible at the primary viewing location(s)?

b	a. bird and wildlife noises and other naturally occurring sounds	b. some traffic and other similar background sounds are audible in addition to naturally occurring sounds	c. continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds	d. continuous traffic or other intrusive noise is audible, but no naturally occurring audible sounds are
---	------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------

57 How much of the wetland is visible from the viewing area(s)? Describe the view.

a	a. >50%	b. bet. 25% & 50%	c. <25%
---	---------	-------------------	---------

58 How many Cowardin classes are visible from the primary viewing area(s)? (question 21)

b	a. > two	b. two	c. one
---	----------	--------	--------



# Attachment C

## Wetland Delineation Report



# **Wetland Delineation for Wilsonville High School, Wilsonville Oregon**

**Prepared for**

West Linn-Wilsonville School District  
c/o Remo Douglas, Capital Construction Program Manager  
2755 SW Borland Road  
Tualatin, OR 97062

**Prepared by**

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John van Staveren  
**Pacific Habitat Services, Inc.**  
9450 SW Commerce Circle, Suite 180  
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(503) 570-0800

PHS Project Number: 6967

**October 14, 2020**



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## **I. INTRODUCTION**

Pacific Habitat Services, Inc. (PHS) conducted a wetland/waters delineation at Wilsonville High School at 6800 Wilsonville Road, Wilsonville Oregon. The study area is an approximately 2.13-acre area, which includes the wooded areas between Wilsonville Road and the western portion of the Wilsonville High School and Boeckman Creek Elementary School Campuses (Section 13, Township 3 South, Range 1 West, Tax lot (TL) 100).

This report presents the results of PHS's delineation within the study area. Figures, including maps depicting the locations of wetlands/waters within the study area, are in Appendix A. Data sheets documenting study area conditions are provided in Appendix B. Ground-level photos are included in Appendix C. A discussion of the wetland/waters delineation methodology (for the client) is provided in Appendix D.

## **II. RESULTS AND DISCUSSION**

### **A. Landscape Setting and Land Use**

The approximately 2.13-acre study area is located east of SW Wilsonville Road, south of SW Meadows Parkway, and north of Meadows Loop Road. It is a portion of a larger tax lot (TL 100) that contains Wilsonville High School and Boeckman Creek Primary School, associated parking lots, athletic fields and open spaces. Land use in the vicinity of the study area is primarily residential and commercial. The study area is generally flat with slopes between 0-3%.

The Natural Resources Conservation Services (NRCS) mapped soils within the study area include Aloha silt loam 0-3% slopes, Dayton silt loam, and Xerochrepts and Haploxerolls, very steep. The Dayton Soil series is considered a hydric soil based on the Clackamas County hydric soils list, and the Aloha silt loam 0-3% is considered partially hydric with inclusions.

### **B. Site Alterations**

The site was used for agriculture from at least the 1950s until the school campus was constructed in the early 1990s. Associated utilities, roadways, parking, stormwater retention, green spaces, athletic fields, and other appurtenant features were also constructed at that time. No recent alterations have occurred on the property.

### **C. Precipitation Data and Analysis**

PHS conducted the wetland/waters delineation and data collection on May 28, 2020, and June 10, 2020. Table 1 compares the average monthly precipitation at the Aurora State Airport WETS station (approximately 4.25 mile south of the study area) to the observed monthly precipitation for the three months prior to the May 28, and June 10 field work.

**Table 1: Comparison of average precipitation from 1999 to 2019 recorded at the Aurora State Airport WETS station, to observed precipitation prior to the delineation field work.**

Month	Average Precipitation <sup>1</sup>	30% Chance Will Have		Observed Precipitation <sup>1</sup>	Percent of Normal
		Less Than Average <sup>1</sup>	More Than Average <sup>1</sup>		
February	3.94	2.51	4.75	1.64	42%
March	4.56	3.37	5.35	2.53	55%
April	3.15	3.15	2.46	1.32	71%
May	2.33	1.57	2.79	2.82	42%

<sup>1</sup> WETS Table for the Aurora State Airport WETS station

As shown in Table 1, observed precipitation was below normal range for the three months prior to the field investigation. Observed precipitation was 1.33 inches in the two weeks prior to the May 28 field investigation, and 1.12 in the two weeks prior to June 10. No precipitation was recorded on either May 28, or June 10. A total accumulation of 22.78 inches was recorded prior to May 28, and 24.17 inches was recorded prior to June 10. This is approximately 62 % and 64% of normal. PHS considered hydrological conditions to be below normal for the purposes of the delineation field work, and thus extra care was taken to evaluate hydrologic conditions within the study area boundary.

## D. Methods

As stated above, PHS conducted a wetland/waters delineation and data collection on May 28 and June 10, 2020. PHS delineated the study area in accordance with the routine onsite determination method (which is based on the presence of hydrology, hydric soils, and hydrophytic vegetation), as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y 87 1* (“The 1987 Manual”) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. At the time of the delineation, due to recent precipitation levels, climatic conditions were not considered typical and best professional judgment was utilized to evaluate hydrology and vegetation throughout the site.

## E. Description of all Wetlands

PHS identified the potentially jurisdictional limits of one wetland within the study area. Descriptions of the delineated areas are provided below.

### Wetland A

Wetland A (0.64 acres/ 27,908 square feet) is a palustrine forested, persistent, seasonally inundated, (PFO1C) wetland with a hydrogeomorphic (HGM) classification of depressional outflow (DO). Wetland A receives hydrology through direct precipitation and stormwater from the adjacent school campus. Wetland A is dominated by willows (*Salix lasiandra*, *Salix lasiolepis*, both FACW) and red alder (*Alnus rubra*); Oregon ash (*Fraxinus latifolia*) was common along the wetland margins and within the understory. Curlytop knotweed (*Polygonum lapathifolium*, FACW), and soft rush (*Juncus effusus*, FACW) were common herbaceous plants within the wetland. The observed primary wetland

hydrology indicators included: saturation, inundation, high water table, and oxidized rhizospheres on living roots. The observed hydric soil indicators include depleted matrix, hydrogen sulfide odor, and depleted dark surface. Sample points 1, 3 and 5 characterize Wetland A, and Sample points 2, 4, and 6 characterize the adjacent non-wetland/upland.

## **F. Deviation from the National or Local Wetland Inventories**

This area is shown on the local wetland inventory (LWI) for Wilsonville. Wetland A roughly corresponds to Wetland 2.18 as described in the LWI. The LWI also indicates that this wetland is a mitigation wetland and that it is locally significant.

## **G. Mapping Method**

PHS flagged the limits of the wetlands within the study area with blue flagging and the sample points with green flagging. Compass Land Surveying then surveyed the delineated boundaries and sample points, both have an accuracy of sub-centimeter.

## **H. Additional Information**

None

## **I. Results and Conclusions**

PHS delineated Wetland A within the study area. Table 2 provides a summary of the resource by Cowardin and HGM classification, as well as acreage within the study area.

**Table 2: Summary of Water Resources within the Study Area**

<b>Feature</b>	<b>Area (square feet / acre)</b>	<b>Cowardin Class</b>	<b>HGM Class</b>
Wetland A	27,908 / 0.64	PFO1C	Depressional outflow (DO)

## **J. Required Disclaimer**

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

### III. REFERENCES

- Adamus, P.R. and D. Field. 2001 *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites. Willamette Valley Ecoregion, Riverine Impounding and Slopes/Flats Subclasses*. Oregon Department of State Lands, Salem, OR.
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# Appendix A

## Figures





# Appendix B

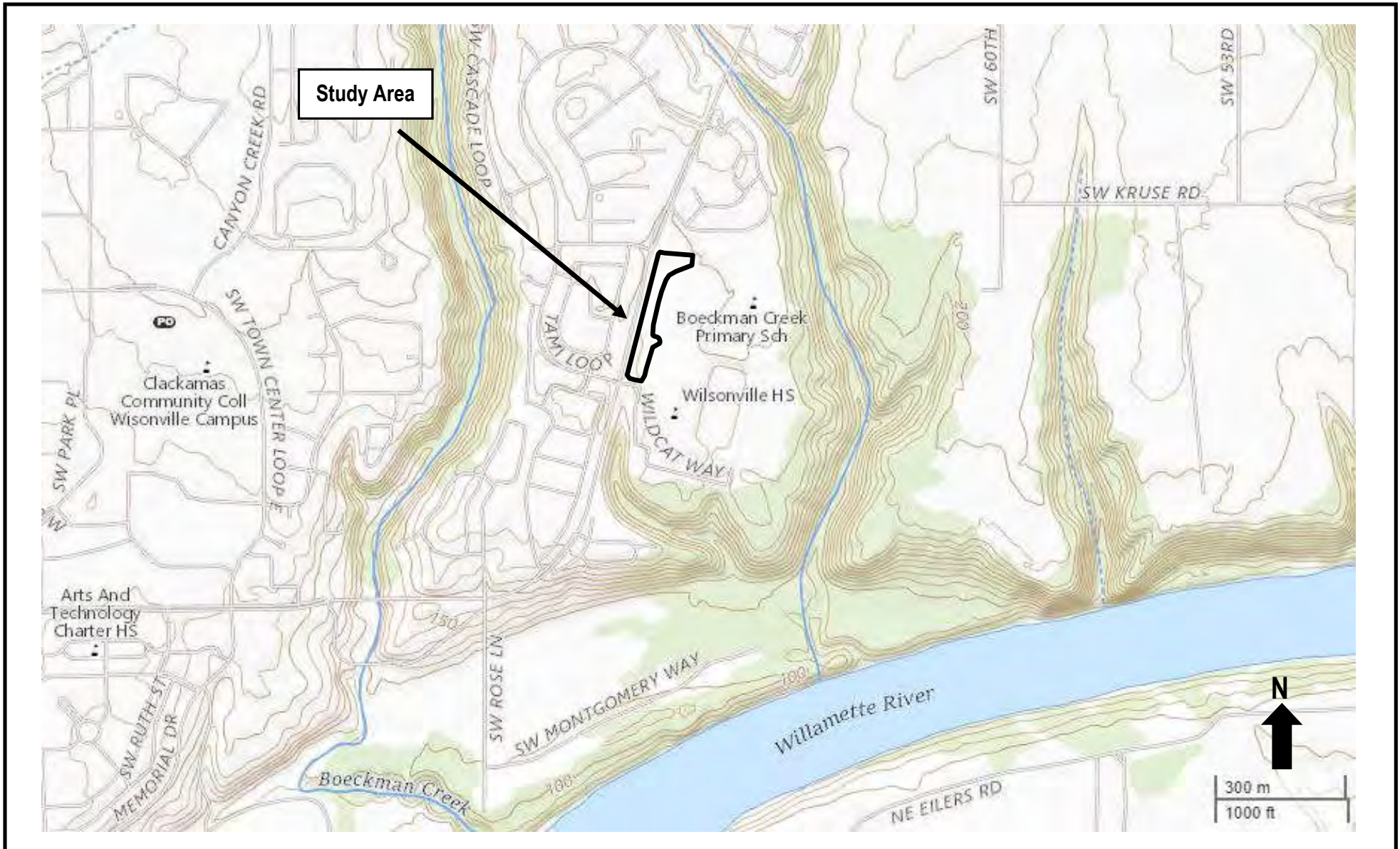
## Wetland Delineation Data Sheets



# Appendix C

## Study Area Photographs (ground level)





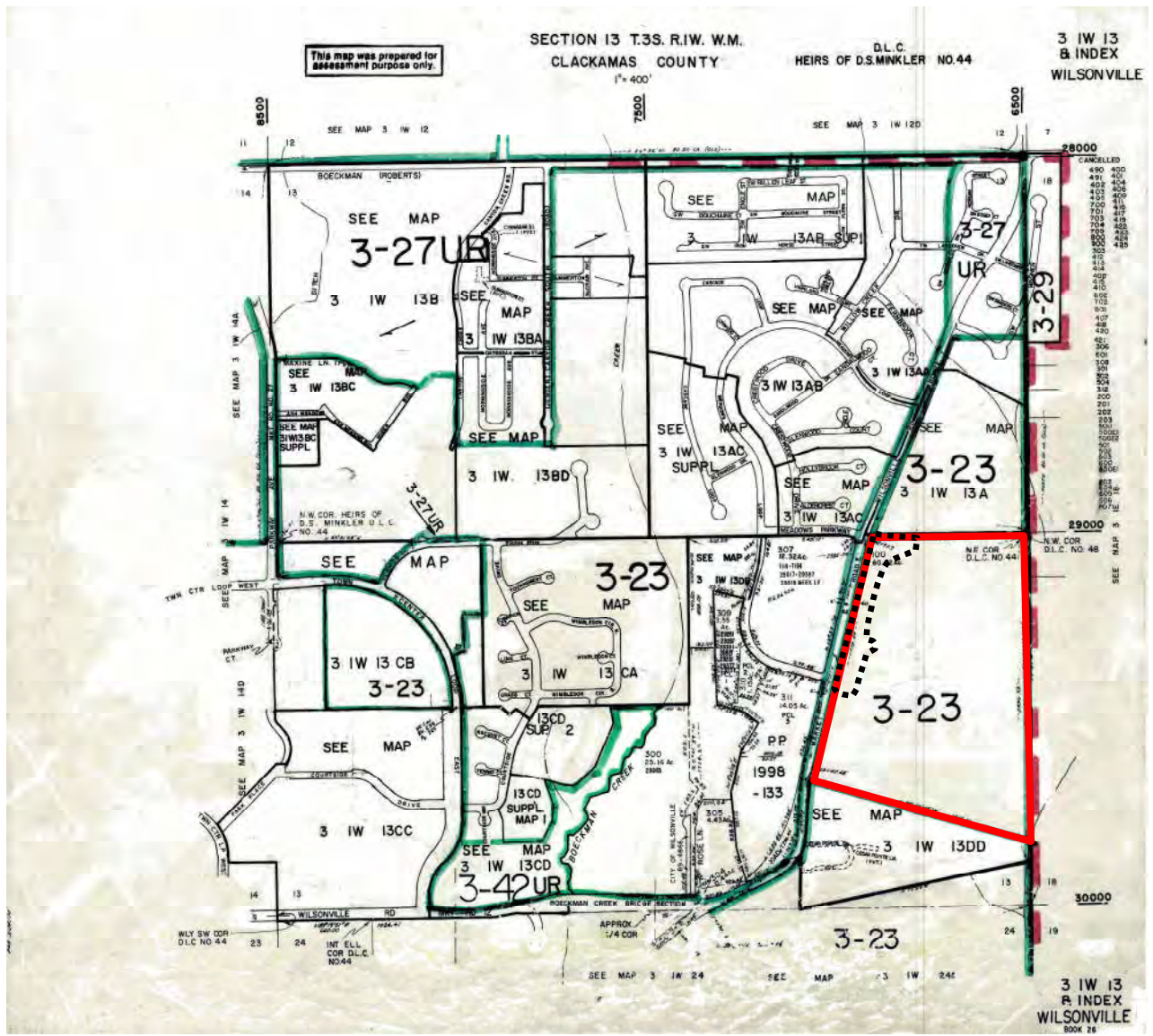
Project #6967  
9/8/2020



Pacific Habitat Services, Inc.  
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General Location and Topography  
Wilsonville High School - Wilsonville, Oregon  
United States Geological Survey (USGS) Canby, Oregon 7.5 quadrangle, 2020  
(viewer.nationalmap.gov/basic)

FIGURE  
1



..... - Study Area  
 ——— - Tax Lot

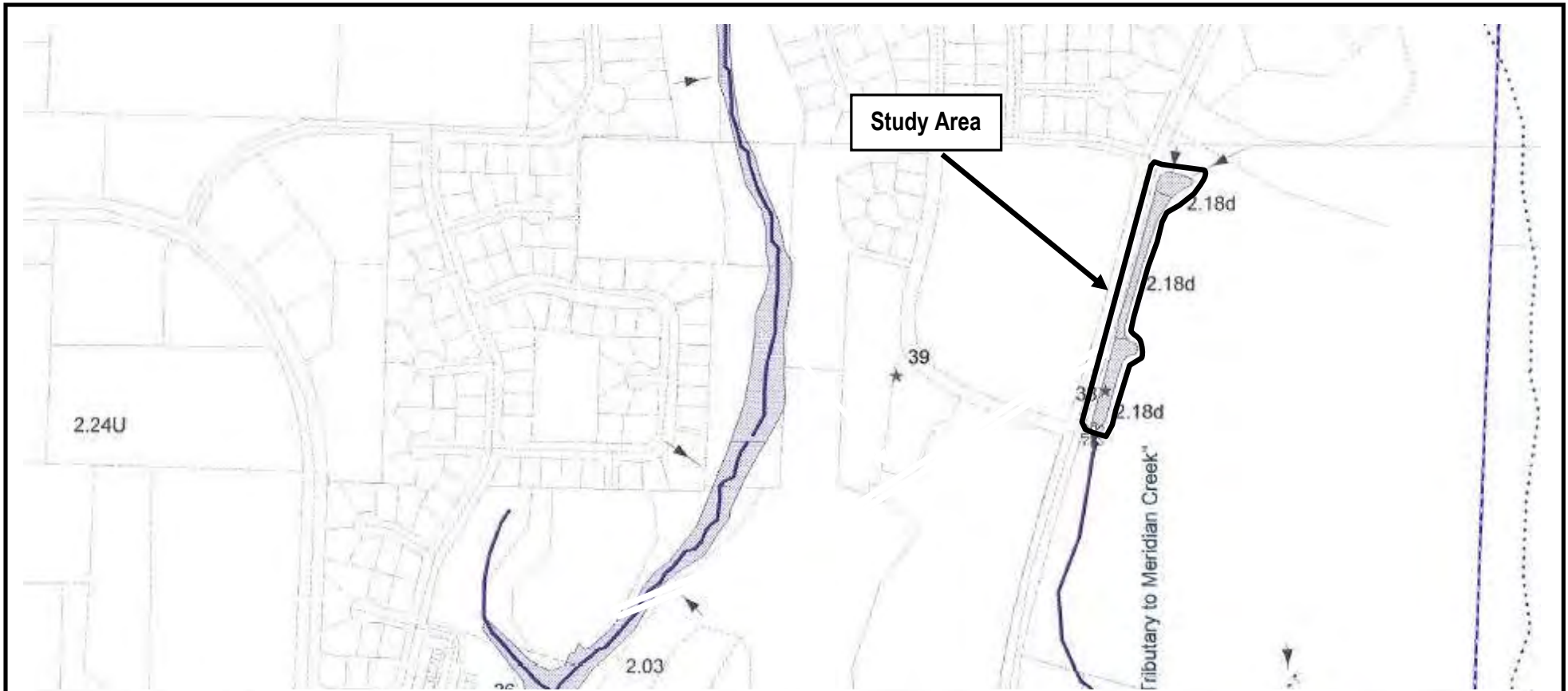
Project #6967  
 9/8/2020



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 Wilsonville, OR 97070

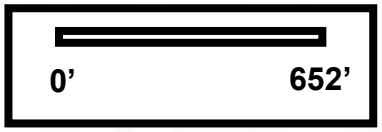
Tax Lot Map  
 Wilsonville High School - Wilsonville, Oregon  
 The Oregon Map (ormap.net)

FIGURE  
 2



**LEGEND**

- WETLANDS
  - TAX LOTS
  - UGB
  - STREAMS
  - INTERMITTENT
  - PERENNIAL
  - RAILROAD
  - CULVERT LOCATIONS
  - STREETS
  - CLACKAMAS-WASHINGTON COUNTY LINE
  - WETLANDS MAPPED OFF-SITE
  - SAMPLE PLOT LOCATIONS
  - VIEWPOINTS
- 1.01 - WETLAND SITE ID
  - 6.03d - DELINEATED WETLAND SITE ID
  - 4.15R - RIPARIAN SITE ID
  - 1.04U - UPLAND SITE ID
  - \* 95 - SAMPLE PLOT ID



Information shown on this map is for planning purposes only and is not intended to be used for legal purposes. In all cases, actual local conditions determine regulatory requirements. This is not a completed wetland project in regulation within the study area.

Fishman Environmental Services  
 434 NW Sixth Avenue, Suite 304  
 Portland, OR 97209  
 (503) 274-4331

City of WILSONVILLE  
 in OREGON

30800 SW Town Center Loop E  
 Wilsonville, OR 97070  
 (503) 682-4960

**CITY OF WILSONVILLE  
 LOCAL WETLANDS  
 AND  
 RIPARIAN CORRIDOR INVENTORY  
 SOUTHEAST**

Soil Map (pre-1997) A10, revised 12/97  
 Aerial Photography, July 9, 1998  
 Data Sources: Digital Orthophotography  
 Spencer II Geospatial, Topographic, Soil, Streets,  
 UGB - MetroPLIS Database

Map Projection: Oregon State Plane North Zone  
 Datum: NAD 83, UTM = Transverse Mercator

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 Wilsonville, OR 97070

Local Wetland Inventory  
 Wilsonville High School - Wilsonville, Oregon  
 Fishman Environmental Services, 2004

**FIGURE  
 3**



Study Area

**Soils Legend**

- 1A - Aloha silt loam, 0-3% slopes
- 29 - Dayton silt loam (Hydric)
- 92F - Xerochrepts and Haploxerolls, very steep

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Soils  
Wilsonville High School - Wilsonville, Oregon  
Natural Resources Conservation Services, Web Soil Survey, 2019  
(websoilsurvey.sc.egov.usda.gov)

FIGURE  
4



Project #6967  
9/8/2020

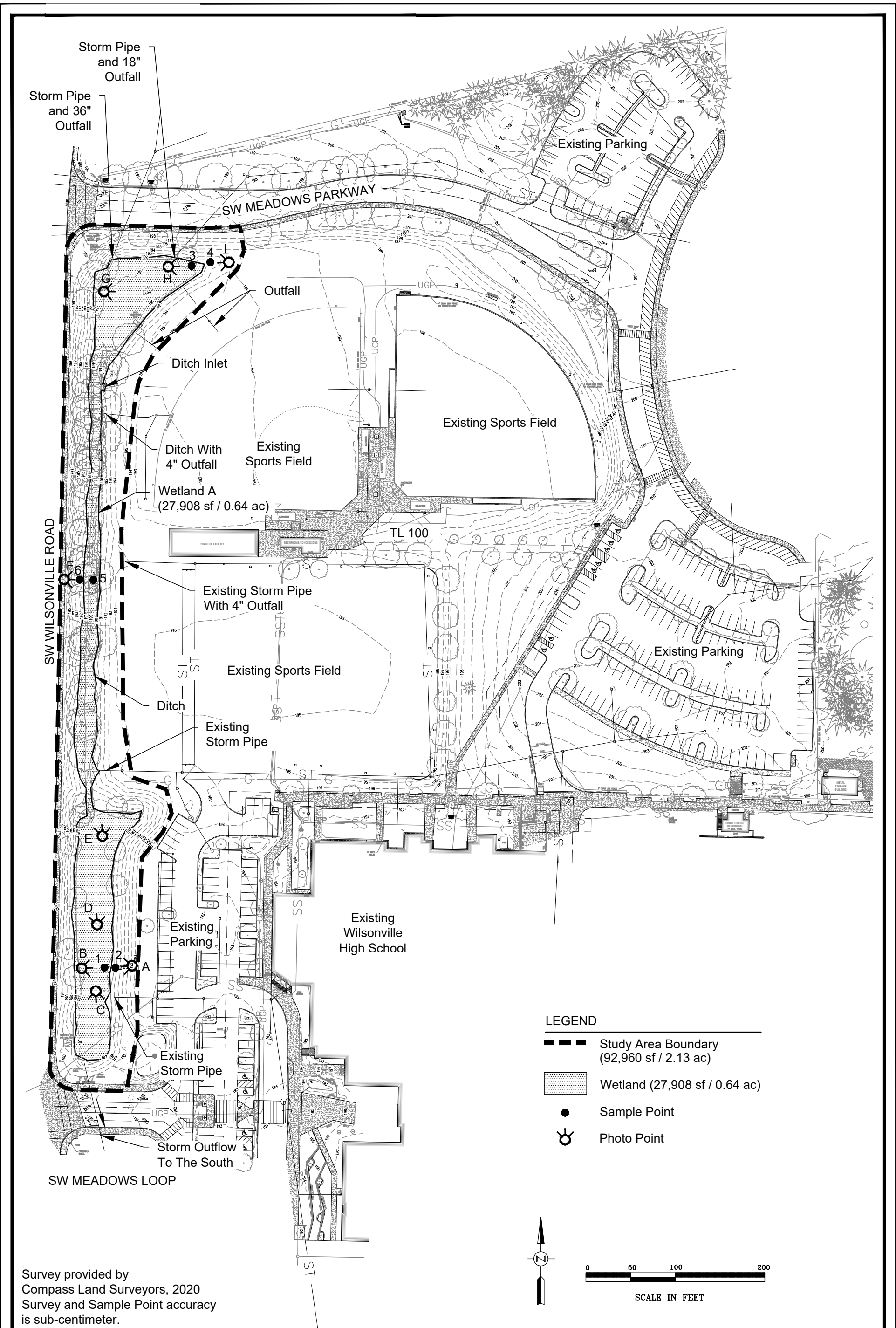


Pacific Habitat Services, Inc.  
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Aerial Photo  
Wilsonville High School - Wilsonville, Oregon  
GoogleEarth, 2020

FIGURE

5



Wetland Delineation  
Wilsonville High School - Wilsonville, Oregon

FIGURE  
**6**

9-30-2020



# Appendix B

## Wetland Delineation Data Sheets



**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 5/28/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 1  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR A Lat: 45.3080 Long: -122.7490 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Salix lasiandra</u>	<u>75</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>4</u> (A)	
2 _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species	
4 _____				That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
	<u>75</u>	= Total Cover		<b>Prevalence Index Worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				Total % Cover of _____ Multiply by: _____	
1 <u>Salix lasiandra</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	OBL Species _____ x 1 = <u>0</u>	
2 <u>Rubus armeniacus</u>	<u>10</u>		<u>FAC</u>	FACW species _____ x 2 = <u>0</u>	
3 _____				FAC Species _____ x 3 = <u>0</u>	
4 _____				FACU Species _____ x 4 = <u>0</u>	
5 _____				UPL Species _____ x 5 = <u>0</u>	
	<u>70</u>	= Total Cover		Column Totals <u>0</u> (A) <u>0</u> (B)	
<b>Herb Stratum</b> (plot size: <u>5</u> )				Prevalence Index =B/A = <u>#DIV/0!</u>	
1 <u>Polygonum lapathifolium</u>	<u>50</u>	<u>X</u>	<u>(FAC)</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2 <u>Juncus effusus</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
3 _____				_____ 2- Dominance Test is >50%	
4 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
5 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
6 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
7 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	<u>70</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes _____ No _____	
<b>Woody Vine Stratum</b> (plot size: _____)					
1 _____					
2 _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>30</u>					

Remarks:

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-3</b>	<b>2.5Y 2.5/1</b>	<b>100</b>					<b>Silt</b>	<b>0-Horizon (not quite mucky yet)</b>
<b>3-9</b>	<b>2.5Y 2.5/1</b>	<b>100</b>					<b>Silt</b>	
<b>9-13</b>	<b>10Y3/1</b>	<b>90</b>	<b>10YR 4/6</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Gley matrix, Med-Lge concentrations</b>
<b>13-15</b>	<b>10YR 5/6</b>	<b>90</b>	<b>5GY5/1</b>	<b>10</b>	<b>D</b>	<b>M</b>	<b>Silty Clay Loam</b>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydic Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: compacted soil

Depth (inches): 13

Hydic Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 1

Water Table Present? Yes  No  Depth (inches): 0

Saturation Present? Yes  No  Depth (inches): 0  
(includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 5/28/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 2  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): LRR A Lat: 45.3076 Long: -122.7486 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: <u>3</u> (A)	
2	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3	_____	_____	_____	Percent of Dominant Species	
4	_____	_____	_____	That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
5	<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				Total % Cover of _____ Multiply by: _____	
1	<u>40</u>	<u>X</u>	<u>FAC</u>	OBL Species _____ x 1 = <u>0</u>	
2	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
3	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
4	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
5	<u>40</u>	= Total Cover		UPL Species _____ x 5 = <u>0</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				Column Totals <u>0</u> (A) <u>0</u> (B)	
1	<u>30</u>	<u>X</u>	<u>(FAC)</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
2	<u>25</u>	<u>X</u>	<u>(FAC)</u>	<b>Hydrophytic Vegetation Indicators:</b>	
3	<u>15</u>	_____	<u>(FAC)</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
4	<u>15</u>	_____	<u>FACU</u>	_____ <u>X</u> 2- Dominance Test is >50%	
5	<u>10</u>	_____	<u>FAC</u>	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
6	<u>5</u>	_____	<u>FACU</u>	_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
7	_____	_____	_____	_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
8	<u>100</u>	= Total Cover		_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Woody Vine Stratum</b> (plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b>	
2	_____	_____	_____	Yes <u>X</u> No _____	
% Bare Ground in Herb Stratum _____					

Remarks:  
**Mowed lawn with typical grasses and forbs.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-7</b>	<b>10YR 4/4</b>	<b>100</b>					<b>Silt Loam</b>	
<b>7-14</b>	<b>10YR 5/1</b>	<b>85</b>	<b>10YR 5/6</b>	<b>15</b>	<b>C</b>	<b>M</b>	<b>Silt Loam</b>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? Yes  No  Depth (inches): >14  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 6/10/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 3  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR A Lat: 45.3102 Long: -122.7474 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Salix lasiandra</u>	<u>40</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>9</u> (A)	
2 <u>Alnus rubra</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>9</u> (B)	
3 <u>Salix sitchensis</u>	<u>20</u>		<u>FACW</u>	Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4 <u>Fraxinus latifolia</u>	<u>20</u>		<u>FACW</u>	<b>Prevalence Index Worksheet:</b>	
	<u>110</u>	= Total Cover		Total % Cover of	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				Multiply by:	
1 <u>Salix sitchensis</u>	<u>40</u>	<u>X</u>	<u>FACW</u>	OBL Species	x 1 = <u>0</u>
2 <u>Rubus armeniacus</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	FACW species	x 2 = <u>0</u>
3 <u>Fraxinus latifolia</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	FAC Species	x 3 = <u>0</u>
4 <u>Salix lasiandra</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	FACU Species	x 4 = <u>0</u>
5 _____				UPL Species	x 5 = <u>0</u>
	<u>100</u>	= Total Cover		Column Totals	<u>0</u> (A) <u>0</u> (B)
<b>Herb Stratum</b> (plot size: <u>5</u> )				Prevalence Index =B/A = <u>#DIV/0!</u>	
1 <u>Polygonum lapathifolium</u>	<u>30</u>	<u>X</u>	<u>(FAC)</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2 <u>Juncus effusus</u>	<u>30</u>	<u>X</u>	<u>FACW</u>	1- Rapid Test for Hydrophytic Vegetation	
3 <u>Glyceria occidentalis</u>	<u>20</u>	<u>X</u>	<u>OBL</u>	<u>X</u> 2- Dominance Test is >50%	
4 <u>Poa palustris</u>	<u>10</u>		<u>FAC</u>	3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
5 _____				4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
6 _____				5- Wetland Non-Vascular Plants <sup>1</sup>	
7 _____				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	<u>90</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
<b>Woody Vine Stratum</b> (plot size: _____)					
1 _____					
2 _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>10</u>					

Remarks:

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-8</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silt</b>	<b>30% roots 2 organics</b>
<b>8-16</b>	<b>5Y 5/1</b>	<b>90</b>	<b>10YR 4/6</b>	<b>10</b>	<b>D</b>	<b>M</b>	<b>Silty Clay</b>	<b>Medium</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 1  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 6/10/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 4  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 3-5  
 Subregion (LRR): LRR A Lat: 45.3100 Long: -122.7473 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: <u>3</u> (A)	
2	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3	_____	_____	_____	Percent of Dominant Species	
4	_____	_____	_____	That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
5	_____	_____	_____	<b>Prevalence Index Worksheet:</b>	
			<u>0</u> = Total Cover	Total % Cover of _____ Multiply by: _____	
<b>Sapling/Shrub Stratum</b> (plot size: _____)				OBL Species _____ x 1 = <u>0</u>	
1	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
2	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
3	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
4	_____	_____	_____	UPL Species _____ x 5 = <u>0</u>	
5	_____	_____	_____	Column Totals <u>0</u> (A) <u>0</u> (B)	
			<u>0</u> = Total Cover	Prevalence Index =B/A = <u>#DIV/0!</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	<u>40</u>	<u>X</u>	<u>FAC</u>	1- Rapid Test for Hydrophytic Vegetation	
2	<u>40</u>	<u>X</u>	<u>FAC</u>	<u>X</u> 2- Dominance Test is >50%	
3	<u>20</u>	<u>X</u>	<u>(FAC)</u>	3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4	_____	_____	_____	4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5	_____	_____	_____	5- Wetland Non-Vascular Plants <sup>1</sup>	
6	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7	_____	_____	_____		
8	_____	_____	_____		
			<u>100</u> = Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Woody Vine Stratum</b> (plot size: _____)				<b>Hydrophytic Vegetation Present?</b>	
1	_____	_____	_____	Yes <u>X</u> No _____	
2	_____	_____	_____		
			<u>0</u> = Total Cover		
% Bare Ground in Herb Stratum _____					

Remarks:  
**Mowed lawn with typical grasses and forbs.**



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-4</b>	<b>10YR 4/2</b>	<b>100</b>					<b>Silt Loam</b>	
<b>4-9</b>	<b>10YR 4/2</b>	<b>95</b>	<b>7.5YR 5/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silt Loam</b>	<b>Fine</b>
<b>9-13+</b>	<b>10YR 5/1</b>	<b>80</b>	<b>10YR 4/4</b>	<b>20</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Medium</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >13+  
 Saturation Present? Yes  No  Depth (inches): >13+  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 6/10/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 5  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR A Lat: 45.3091 Long: -122.7485 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Salix lasiandra</u>	<u>50</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>5</u> (A)	
2 <u>Populus balsamifera</u>	<u>40</u>	<u>X</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>6</u> (B)	
3 <u>Alnus rubra</u>	<u>20</u>		<u>FAC</u>	Percent of Dominant Species That are OBL, FACW, or FAC: <u>83%</u> (A/B)	
4 _____				<b>Prevalence Index Worksheet:</b>	
	<u>110</u>	= Total Cover		Total % Cover of _____ Multiply by: _____	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				OBL Species _____ x 1 = <u>0</u>	
1 <u>Salix lasiandra</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	FACW species _____ x 2 = <u>0</u>	
2 <u>Populus balsamifera</u>	<u>10</u>		<u>FAC</u>	FAC Species _____ x 3 = <u>0</u>	
3 <u>Rubus armeniacus</u>	<u>5</u>		<u>FAC</u>	FACU Species _____ x 4 = <u>0</u>	
4 _____				UPL Species _____ x 5 = <u>0</u>	
5 _____				Column Totals <u>0</u> (A) <u>0</u> (B)	
	<u>75</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1 <u>Poa palustris</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
2 <u>Epilobium ciliatum</u>	<u>20</u>	<u>X</u>	<u>FACW</u>	<u>X</u> 2- Dominance Test is >50%	
3 <u>Lemna minor</u>	<u>10</u>		<u>OBL</u>	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
6 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
	<u>60</u>	= Total Cover			
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )					
1 <u>Rubus ursinus</u>	<u>5</u>	<u>X</u>	<u>FACU</u>		
2 _____					
	<u>5</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>40</u>					

Remarks:  
**Approximately 95% tree canopy.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-8</b>	<b>10YR 2/2</b>	<b>100</b>					<b>Silt Loam</b>	<b>30% roots/organics</b>
<b>8-16</b>	<b>5Y 4/1</b>	<b>80</b>	<b>10YR 4/6</b>	<b>20</b>	<b>D</b>	<b>M</b>	<b>Silty Clay</b>	<b>Medium</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 1  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Wilsonville High School City/County: Wilsonville/Clackamas Sampling Date: 6/10/2020  
 Applicant/Owner: West Linn - Wilsonville School District State: OR Sampling Point: 6  
 Investigator(s): MS/CR Section, Township, Range: Section 13, Township 3 South, Range 1 West  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): LRR A Lat: 45.3091 Long: -122.7485 Datum: WGS85  
 Soil Map Unit Name: Xerochrepts and Haploxerolls NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status
<b>Tree Stratum</b> (plot size: <u>30</u> )			
1 <u>Poa trivialis</u>	<u>20</u>	<u>X</u>	<u>FAC</u>
2 <u>Acer macrophyllum</u>	<u>20</u>	<u>X</u>	<u>FACU</u>
3 <u>Betula pendula</u>	<u>5</u>		<u>FACU</u>
4 _____			
	<u>45</u>	= Total Cover	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )			
1 <u>Quercus garryana</u>	<u>50</u>	<u>X</u>	<u>FACU</u>
2 <u>Rubus armeniacus</u>	<u>5</u>		<u>FAC</u>
3 <u>Crataegus douglasii</u>	<u>5</u>		<u>FAC</u>
4 <u>Acer macrophyllum</u>	<u>2</u>		<u>FACU</u>
5 _____			
	<u>62</u>	= Total Cover	
<b>Herb Stratum</b> (plot size: <u>5</u> )			
1 <u>Bromus sp</u>	<u>30</u>	<u>X</u>	<u>(FAC)</u>
2 <u>Hypericum perforatum</u>	<u>10</u>	<u>X</u>	<u>FACU</u>
3 _____			
4 _____			
5 _____			
6 _____			
7 _____			
8 _____			
	<u>40</u>	= Total Cover	
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )			
1 <u>Rubus ursinus</u>	<u>80</u>	<u>X</u>	<u>FACU</u>
2 _____			
	<u>80</u>	= Total Cover	
% Bare Ground in Herb Stratum <u>60</u>			

**Dominance Test worksheet:**

Number of Dominant Species  
 That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species  
 That are OBL, FACW, or FAC: 33% (A/B)

**Prevalence Index Worksheet:**

Total % Cover of	Multiply by:	
OBL Species	x 1 =	<u>0</u>
FACW species	x 2 =	<u>0</u>
FAC Species	x 3 =	<u>180</u>
FACU Species	x 4 =	<u>348</u>
UPL Species	x 5 =	<u>0</u>
Column Totals		<u>147</u> (A) <u>528</u> (B)

Prevalence Index =B/A = 3.59

**Hydrophytic Vegetation Indicators:**

\_\_\_\_\_ 1- Rapid Test for Hydrophytic Vegetation  
 \_\_\_\_\_ 2- Dominance Test is >50%  
 \_\_\_\_\_ 3-Prevalence Index is ≤ 3.0<sup>1</sup>  
 \_\_\_\_\_ 4-Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ 5- Wetland Non-Vascular Plants<sup>1</sup>  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

Remarks:

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-12</b>	<b>10YR 3/3</b>	<b>100</b>					<b>Silt Loam</b>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**Tree roots caused refusal and prevented observation below 12 inches.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): >12  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): >12  
 (includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# Appendix C

## Study Area Photographs (ground level)





**Photo A:**

Looking west at Sample Point 2 and upland habitat along eastern edge of Wetland A.

**Photo B:**

Looking east at Sample Point 1.



Project # 6967  
Date 9/24/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation

Wilsonville High School—Wilsonville, Oregon

Photos taken May 28, 2020



**Photo C:**

General view of south end of Wetland A looking south.

**Photo D:**

General view of south end of Wetland A looking north.



Project # 6967  
Date 9/24/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Wilsonville High School—Wilsonville, Oregon

Photos taken May 28, 2020





**Photo E:**

General view of wetland A, and adjacent upland habitat facing north.

**Photo F:**

Looking east at Sample Points 5 and 6.



Project # 6967  
Date 9/24/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation

Wilsonville High School—Wilsonville, Oregon

Photo E taken May 28, 2020, Photo F taken June 10, 2020



**Photo G:**

General view of the northern portion of Wetland A looking east.

**Photo H:**

View of Sample Point 3 looking east.



Project # 6967  
Date 9/24/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation

Wilsonville High School—Wilsonville, Oregon

Photos taken June 10, 2020



**Photo I:**

View of Sample point 4, and the northeastern boundary of Wetland A looking west.

Project # 6967  
Date 9/24/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation

Wilsonville High School—Wilsonville, Oregon

Photo taken June 10, 2020

# Appendix D

## Wetland Definitions, Methodology



# **WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA**

## **Regulatory Jurisdiction**

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

## **Waters of This State and Wetland Definition**

Waters of This State are defined as “all natural waterways, all tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore ...” (DSL, 2009).

Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (DSL 2009).

## **Wetland Criteria**

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

### **Wetland Hydrology**

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost-free days, based on air temperature. The growing season for any given study area or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

### Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a “problem soil” in the Regional Supplement.

### Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

**Table 1. Description of Wetland Plant Indicator Status Codes**

Indicator Code	Status
OBL	Obligate wetland. Plants that always occur in standing water or in saturated soils.
FACW	Facultative wetland. Plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands.
FAC	Facultative. Plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils.
FACU	Facultative upland. Plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils.
UPL	Obligate upland. Plants that rarely occur in water or saturated soils.

Observations of hydrology, soils, and vegetation were made using the "Routine On-study area" delineation method as defined in the 1987 manual and the Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated up to 24 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5-foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to three, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets, which contain the information specified in the 1987 Corps Manual and the Regional Supplement.

**EXHIBIT F**  
Exterior Lighting Information



# LUMA

## **WLWSD WHS Auditorium**

**Land Use Permit**

March 22, 2021

[lumald.com](http://lumald.com)



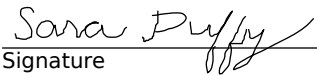
A	B	C	D	E
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamps/ Fixture	# of Fixture	Fixture Watt.	(C X D)
LED: S10: Gotham: Other:	1	7	25	173
LED: S10B: Gotham: Other:	1	4	25	99
<b>Pedestrian plaza (Plaza area, 13624 ft2): Tradable Wattage</b>				
LED: S8: Landscape Forms: Other:	1	12	22	264
LED: S7: Kelvix: Other:	1	50	3	160
Total Tradable Proposed Watts =				28215

**Exterior Lighting PASSES: Design 78% better than code**

**Exterior Lighting Compliance Statement**

*Compliance Statement:* The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2019) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Sara Duffy - Lighting Designer



03.19.21

Name - Title

Signature

Date

## WLWSD WHS Auditorium

### Luminaire Cut Sheets

<b>Fixture Tag</b>	<b>Fixture Name</b>	<b>Manufacturer</b>
S1	The Archetype Small PicoPrism LED	Kim Lighting
S2-5	The Archetype Large PicoEmitter LED	Kim Lighting
S2A	The Archetype Upgrade Kit	Kim Lighting
S6	lumenfacade nano logn	lumenpulse
S7	Performance 300	Kelvix
S8	Arne	LandscapeForms
S9	Evo 4" Cylinder	Gotham
S10	Evo 6" Cylinder	Gotham

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

# S1

**KIM LIGHTING**

**SAR**  
The Archetype® Small PicoPrism LED  
kl\_sarpled\_spec.pdf

JOB \_\_\_\_\_ TYPE \_\_\_\_\_  
NOTES \_\_\_\_\_ APPROVALS \_\_\_\_\_

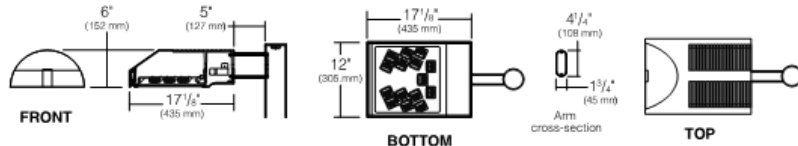
**FEATURES**

- PicoPrism® technology†
- Full upright cutoff
- Available in 580nm 3000K, 4000K and 5000K standard CCT
- Type 1, 2, 3, 4, 5, R, L standard distributions
- 0-10V dimming drivers standard
- IP66 certified

**Certifications**



**SPECIFICATIONS**



Approx. Weight = 30 lbs. EPA .070 for 15A.  
See configuration for Additional EPAs.

**ORDERING CODE**

Configuration	EPA	Fixture	Electrical Module	Fixture Finish	Photocell Options
15A	1 Arm Side Mt.	Distribution	Source	BL Black	A25-7 7-pin Photocell Receptacle
25B	2 Arm Side Mt.	SAR1 Type I	40 LEDs	DB Dark Bronze	A30 120V Button Photocell
25L	2 Arm Side Mt.	SAR2 Type II	40L 46W for 350mA	GT Graphite	A31 208V Button Photocell
35T	3 Arm Side Mt.	SAR3 Type III	93W for 700mA	LG Light Gray	A32 240V Button Photocell
35Y*	3 Arm Side Mt.	SAR4 Type IV	Color Temperature <sup>2</sup>	PS Platinum Silver	A33 277V Button Photocell
45C	4 Arm Side Mt.	SAR5 Type V	2K 580nm <sup>3</sup>	TT Titanium	A34 480V Button Photocell
1W	Single Wall Mt.	SARR Type R, Right	4K 4000K	WH White	CC Custom Color*
HSF	Horz. Slipfitter	SARL Type L, Left	5K 5000K		A35 347V Button Photocell
			240 240V		
			277 277V		
			347 347V <sup>4</sup>		
			480 480V <sup>4</sup>		

\*Available round poles only. EPA is for Fixture only

Fuse Options	NFO Option	Controls	Mounting Options
SF 120, 277, 347 Line Volts	NFO Neighbor Friendly Optic*	Wireless	VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.)
DF 208, 240, 480 Line Volts	*Photometry available for Type III/IV. All others, consult factory.	WIR-RMI-IO 120-480V 1000' range, w/SCAPE RF control system with on/off/dim, alerts, monitoring and metering capabilities	SVSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)
		SCH-R Round Pole Mounted Occupancy Sensor up to 30'	Side Arm Mount 3 3" O.D. Pole
		SCH-S Square Pole Mounted Occupancy Sensor up to 30'	3.5 3.5" O.D. Pole
			4 4" O.D. Pole
			5 5" O.D. Pole
			6 6" O.D. Pole
			SQ Square Pole

**Control Accessories**

- SW7PR<sup>†</sup> Site Sync with 7 pin PCR
- SWUSB<sup>†</sup> SiteSync Software on USB
- SWTAB<sup>†</sup> SiteSync Windows® Tablet
- SWBRG<sup>†</sup> SiteSync Wireless Bridge Node
- WIR-RME-L w/SCAPE 7-pin Module
- NXOFM-1R1D-UNV NX 7-pin Module

† When ordering with SiteSync, one of the following interface options must be chosen and ordered separately. Each option contains the SiteSync License, GUI and Bridge Node.

Microsoft, Encarta, MSN, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Kim Lighting reserves the right to change specifications without notice.

For Pole Spec Select: [http://www.kimlighting.com/products/arms\\_and\\_poles/](http://www.kimlighting.com/products/arms_and_poles/)  
For Control Spec Select: <http://trpsol.com/index.html>

<sup>1</sup> US Patent No. D674,965 S. Other patents pending.  
<sup>2</sup> For custom optics and color temperature configurations, contact factory.  
<sup>3</sup> Turtle friendly. Maximum 500mA drive current for 2K Amber option.  
<sup>4</sup> 347V & 480V currents may be supplied with step-down transformer.  
<sup>5</sup> 350mA only.  
<sup>6</sup> Not available with other sensor or wireless control options.  
<sup>7</sup> Specify group and zone at time of order. See [www.hubbellighting.com/sitesync](http://www.hubbellighting.com/sitesync) for more details. Order at least one SiteSync interface accessory SWUSB or SWTAB. Each option contains SiteSync License, GUI, and Bridge Node.

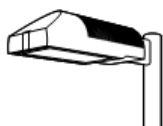
Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets



**SAR**  
The Archetype® Small PicoPrism LED  
kl\_sarpled\_spec.pdf



## Lumen Data

Spectroradiometric			
	3000K Average	4000K Average	5000K Average
Color Rendering Index (CRI)	≥75	≥70	≥65
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance*		
mA	50,000 hrs	100,000 hrs
350 mA	96.67%	94.48%
700 mA	92.51%	87.87%

\*Still awaiting independent third party verification

Electrical Drive Current					
350mA			700mA		
Volts - AC	Amps - AC	System Watts	Volts - AC	Amps - AC	System Watts
120	0.38	46	120	0.78	93
208	0.22	46	208	0.45	93
240	0.19	46	240	0.39	93
277	0.17	46	277	0.34	93
347	0.13	46	347	0.27	93
480	0.10	46	480	0.19	93

B.U.G. Rating for 350mA (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare								
Temperature	Type I	Type II	Type III	Type III NFO	Type IV	Type IV NFO	Type V	Type L/R
3000K	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G2	B0 U0 G2	B0 U0 G2	B3 U0 G3	B2 U0 G2
4000K	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G2	B0 U0 G2	B0 U0 G2	B3 U0 G3	B2 U0 G2
5000K	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G2	B0 U0 G2	B0 U0 G2	B3 U0 G3	B2 U0 G2

Absolute Lumens for 350mA								
Temperature	Type I	Type II	Type III	Type III NFO	Type IV	Type IV NFO	Type V	Type L/R
3000K	5228	5085	5070	4524	5200	4723	5218	5104
4000K	5362	5215	5200	4640	5333	4844	5352	5234
5000K	5423	5275	5259	4693	5394	4899	5413	5294

B.U.G. Rating for 700mA (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare								
Temperature	Type I	Type II	Type III	Type III NFO	Type IV	Type IV NFO	Type V	Type L/R
3000K	B3 U0 G3	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B0 U0 G2	B3 U0 G3	B3 U0 G3
4000K	B3 U0 G3	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B0 U0 G3	B3 U0 G3	B3 U0 G3
5000K	B3 U0 G3	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B0 U0 G3	B3 U0 G3	B3 U0 G3

Absolute Lumens for 700mA								
Temperature	Type I	Type II	Type III	Type III NFO	Type IV	Type IV NFO	Type V	Type L/R
3000K	8716	8670	8640	7664	8705	7945	8957	8554
4000K	8940	8892	8862	7860	8928	8148	9187	8773
5000K	9042	8994	8963	7950	9030	8241	9292	8874

LED performance and lumen output continues to improve at a rapid pace. Log onto [www.kimlighting.com](http://www.kimlighting.com) to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.

Kim Lighting reserves the right to change specifications without notice.

© 2017 KIM LIGHTING | 17760 Rowland Street | City of Industry | CA 91748  
P 626.968.5666 | F 626.369.2695 | [www.kimlighting.com](http://www.kimlighting.com) | Rev. Sep 15, 2020



| 2 |

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets



**SAR**  
**The Archetype® Small PicoPrism LED**  
 kl\_sarpled\_spec.pdf

#### SPECIFICATIONS

##### Housing:

- Extruded low copper aluminum main body.
- Die-cast low copper aluminum electrical gear compartment.
- Stainless steel hardware.
- Die cast wall separates the optical and electrical compartment acting as thermal barrier.
- Electrical gear compartment doors are fastened with two hinges and a latch made of stainless steel.
- Silicone gaskets seal the compartments at the barrier surface.

##### Optical Module:

- PicoPrism® refractors (enclosed LED PCBs for IP66 rating) aimed toward the task and spreads horizontally to produce great uniformity.
- Type I, II, III, IV, V, L (left), and R (right) standard distributions. Custom available.
- 3000K, 4000K, 5000K standard CCT. Amber and custom available.
- IP66 certified.
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level.
- Anodized aluminum carrier plate and heat sink modules.

##### Lens Frame:

- One-piece low copper aluminum alloy die-cast is secured to housing with two toolless latches.

##### Neighbor Friendly Optic

- Optional integrated Neighbor Friendly Optic on each LED module to completely control unwanted backlight. Most effective with Type III and IV distributions.

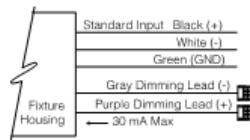
##### Electrical Characteristics:

- Pre-assembled, aluminum gear tray.
- 120V through 480V @ 50/60Hz.
- Class 2, 350mA or 700mA
- Power Factor = >.90
- National Electrical Code, ANSI/NFPA 70.
- 10kV surge suppression.
- Thermal shield thermal control.

- 30c starting driver.
- 0-10V dimming interface.
- All electronic components are IP66 rated.
- Electronic components are UL and/or CSA recognized.
- Standard programmable driver for variable drive current settings from 350mA to 700mA.

##### Dimming:

- 10% to 100% dimming by the use of standard 0-10V interface driver.
- To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the thermal shield protection system. This port allows the 0-10V interface to bypass the thermal shield and control the driver.
- The thermal shield works in conjunction with the control system to assure that overheating will not harm the LEDs.
- The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).



##### Support Arm:

- Speed Mount and a reinforcing plate are provided with wire strain relief.
- Speed Mount is square or circular cut for specified pole size and shape.
- Die-cast, low copper aluminum support arm for direct pole mount.
- Die-cast aluminum tool-less entry splice access cover.
- Terminal block is mounted in the arm cavity and accepts #14 to #8 wire sizes.
- Prewired to electrical module with quick-disconnect plugs located inside the electrical compartment.
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 1-1/4" to 2" IPS pipe size arms.
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the

junction box. Luminaire attaches to the wall plate with a square cut Speed Mount.

##### Finish:

- Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat.
- Standard colors include (BL) Black, (DB) Dark Bronze, (GT) Graphite, (WH) White, (PS) Platinum Silver, (LG) Light Gray, (TT) Titanium, and (CC) Custom Color (Include RAL#).

##### Fusing:

- SF for 120, 277 and 347 Line Volts
- DF for 208, 240 and 480 Line Volts.
- High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

##### Certifications and Listings:

- UL 1598 Standard for wet locations for Luminaires.
- UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products.
- IP66 certified.
- CSA C22.2#250.0 Luminaires.
- ANSI C136.31-2010 3G Vibration tested and compliant.
- IDA compliant.
- RoHS compliant.
- Meets Buy American provisions within ARRA.
- IDA approved, 3000K and warmer CCTs only.
- This product qualifies as a "designated country construction material" per FAR52.225-11 Buy American Construction Materials under Trade Agreements effective 6/06/2020. [See Buy American Solutions.](#)

##### CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

##### WARRANTY:

- For full warranty see <http://www.hubbellighting.com/resources/warranty>

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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets



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#### CONTROLS

##### PhotoCell Receptacle

###### A25-7

Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:

1. Traditional on/off photoelectric control.
2. 5-pin wireless photoelectric control for added dimming feature.
3. 7-pin wireless photoelectric control for dimming and additional I/O connections for customer use.



##### Button Photocell

**A30** for 120V, **A31** for 208V, **A32** for 240V, **A33** for 277V, **A35** for 347V, **A34** for 480V,

Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.

##### Wireless Controls

###### wISCAPE™

Hubbell Control Solution's wISCAPE™ wireless control modules allow an individual fixture to be managed, monitored and measured. The modules communicate securely over a robust certified meshed radio signal. The wISCAPE modules provide on/off/dim control, external device input, alerts and metering.

###### WIR-RMI-IO

wISCAPE Internal Module, 120-480V, 1000ft range (LOS), 3 Digital Inputs/1 Analog Input, 2 Outputs.

###### WIR-RME-L

wISCAPE External Module, 120-480V, 1000ft range (LOS), Internal Photocell, 1 Digital Input, Compatible with the A-25-7H option

##### SiteSync™<sup>1</sup>

SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit [www.hubbellighting.com/products/sitesync](http://www.hubbellighting.com/products/sitesync) for more details.

##### Pole Mounted

###### Round Pole-Mounted Occupancy Sensor up to 30'

###### SCH-R

Round Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-R4<sup>2</sup>/277<sup>3</sup>/BL<sup>3</sup>

###### Square Pole-Mounted Occupancy Sensor up to 30'

###### SCH-S

Square Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-S/277<sup>3</sup>/BL<sup>3</sup>

##### SCP

The SCP is a photo-control with motion sensing accessory that mounts to the side of any new or existing 3"-5" round or square straight pole. The SCP enables any pole mounted luminaire in excess of 75 watts, to meet California Title 24 requirements with integral 20KV/10KA surge protection for added reliability and serviceability.

For more detail:

[http://www.aal.net/products/sensor\\_control\\_programmable](http://www.aal.net/products/sensor_control_programmable)

**\*PRECOMMISSIONED SITESYNC ORDERING INFORMATION:** When ordering a fixture with the SiteSync lighting control option, additional information will be required to complete the order. The SiteSync Commissioning Form or alternate schedule information must be completed. This form includes Project location, Group information, and Operating schedules. For more detailed information please visit [www.HubbellLighting.com/products/sitesync](http://www.HubbellLighting.com/products/sitesync) or contact Hubbell Lighting tech support at (800) 345-4928.

SiteSync fixtures with occupancy sensor (SWPM) require the mounting height of the fixture for selection of the lens.

Examples:

SiteSync only : ALT3/P70/60L/3KUV/PS/US/SWP

SiteSync with Motion Control: ALT3/P70/60L/3KUV/PS/US/SWPM-Z0F

**MOB ORDERING INFORMATION:** When ordering a fixture with a dimming occupancy sensor option (MOB), please specify the appropriate information. These settings are specified in the ordering as shown in the example below:

ALT3/P70/60L/3KUV/PS/US/MOB - 1 to 30 min - 33% or 50% - ?? / DBT

High to Dim Delay      Low Level      Mounting Height (ft.)

<sup>2</sup>Voltage, <sup>3</sup>Color, <sup>4</sup>Pole Diameter

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## WLWSD WHS Auditorium

### Luminaire Cut Sheets



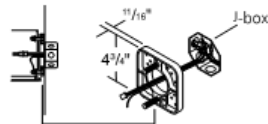
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#### OPTIONS

##### Wall Mounting:

- Fixtures mount to 3" or 4" junction boxes by a cast aluminum adapter plate with fixture mounting bolts.

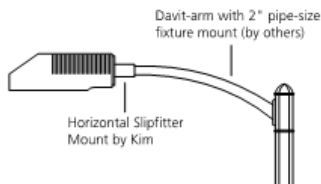
**NOTE:** Junction box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16. Quick-disconnect plug and wiring are provided to allow field connections prior to fixture mounting.



Wall mount using adapter plate 3" or 4" J-box in wall (by others)

##### Horizontal Slipfitter Mount:

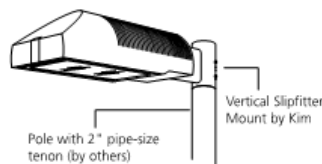
- Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2 3/8" O.D.). Cast aluminum slipfitter with set screw for an up or down 5° adjustment lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.



Horizontal Slipfitter Mount by Kim

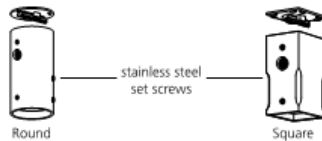
##### Vertical Slipfitter Mount:

- Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1SA, 2SB, 2SL, 3ST, 3SY, 4SC). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.



Vertical Slipfitter Mount by Kim

**NOTE:** 3SY only available on round slipfitter.



Cat. No.	Mounting Configuration	Cat. No.
VSF-1SA	1SA - single arm mount	SVSF-1SA
VSF-2SB	2SB - 2 at 180°	SVSF-2SB
VSF-2SL	2SL - 2 at 90°	SVSF-2SL
VSF-3ST	3ST - 2 at 90°	SVSF-3ST
VSF-3SY	3SY - 2 at 120°	SVSF-4SC
VSF-4SC	4SC - 2 at 90°	

##### Neighbor Friendly Optic

- Integrated Neighbor Friendly Optic on each PicoEmitter™ module to completely control unwanted backlight. Most effective with Type III and IV distributions.

##### Tamper-Resistant Latch

- Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

## S2-5

Luminaire Cut Sheets

**KIM LIGHTING**

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JOB \_\_\_\_\_ TYPE \_\_\_\_\_  
NOTES \_\_\_\_\_ APPROVALS \_\_\_\_\_

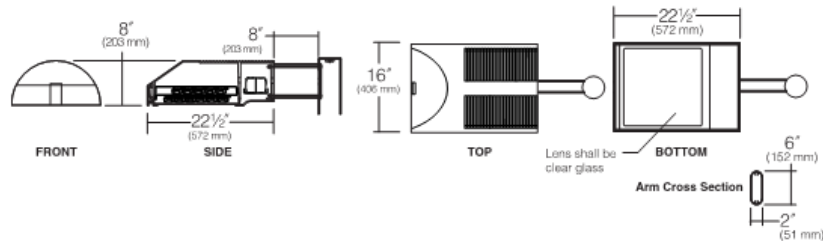
**FEATURES**

- PicoEmitter® technology
- Full upright cutoff
- Available in 580nm 3000K, 4000K and 5000K standard CCT
- Type 1, 2, 3, 4, 5, R, L standard distributions
- 0-10V dimming drivers standard
- IP66 certified

**Certifications**



**SPECIFICATIONS**



Approx. Weight = 50 lbs. EPA 1.20 for 1A.  
See Configuration for Additional EPAs.

**ORDERING CODE**

Configuration	EPA	Fixture	Electrical Module	Fixture Finish	Photocell Options
1A	1 Arm Side Mt.	1.20			
2B	2 Arm Side Mt.	2.40			
2L	2 Arm Side Mt.	2.00			
3T	3 Arm Side Mt.	3.20			
3Y*	3 Arm Side Mt.	3.20			
4C	4 Arm Side Mt.	3.90			
1W	Single Wall Mt.	n/a			
HSF	Horz. Slipfitter	n/a			

\*Available round poles only. EPA is for Fixture only

Fuse Options	Lens Options	NFO Option	Other Options	Controls
SF 120, 277, 347 Line Volts DF 208, 240, 480 Line Volts	LS Polycarbonate Lens <sup>5</sup>	NFO Neighbor Friendly Optic <sup>4</sup>	TL Tamper Resistant Latch	Wireless WIR-RMI-IO 120-480V, 1000' range, wiSCAPE RF control system with on/off/dim, alerts, monitoring and metering capabilities Motion SCH-R Round Pole Mounted Occupancy Sensor up to 30' SCH-S Square Pole Mounted Occupancy Sensor up to 30'

Mounting Options	Control Accessories
VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.) VSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)	SW7PR <sup>1,2</sup> Site Sync with 7 pin PCR SWUSB <sup>3</sup> SiteSync Software on USB SWTAB <sup>4</sup> SiteSync Windows <sup>®</sup> Tablet SWBRG <sup>5</sup> SiteSync Wireless Bridge Node WIR-RME-L wiSCAPE 7-pin Module NXOFM-1R1D-UNV NX 7-pin Module
Side Arm Mount 3 3" O.D. Pole 3.5 3.5" O.D. Pole 4 4" O.D. Pole 5 5" O.D. Pole 6 6" O.D. Pole SQ Square Pole	

For Pole Spec Select: [http://www.kimlighting.com/products/arms\\_and\\_poles/](http://www.kimlighting.com/products/arms_and_poles/)  
For Control Spec Select: <http://trpsll.com/index.html>

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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

## S2-5

### Luminaire Cut Sheets



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### Lumen Data

Spectroradiometric			
	3000K Average	4000K Average	5000K Average
Color Rendering Index (CRI)	>80	>80	>70
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	100,000 hrs	(Calculated L70)
350	93.17%	579,000 hrs

Wattage to be reduced to 100W at factory.

Electrical Drive Current		
Volts - AC	Amps - AC	System Watts
120	1.08	129
208	0.62	129
240	0.54	129
277	0.47	129
347	0.37	129
480	0.27	129

B.U.G. Rating (TM15) in Lumens when B = Backlight, U = Uplight, G = Glare								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B1 U0 G2	B3 U0 G2	TBD
4000K	TBD	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B1 U0 G2	B3 U0 G2	TBD
5000K	TBD	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G3	B1 U0 G2	B3 U0 G2	TBD

Absolute Lumens								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	11111	11025	9399	11685	9760	12395	TBD
4000K	TBD	11396	11307	9640	11984	10010	12713	TBD
5000K	TBD	11526	11437	9750	12121	10124	12858	TBD

LED performance and lumen output continues to improve at a rapid pace. Log onto [www.kimlighting.com](http://www.kimlighting.com) to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.

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## WLWSD WHS Auditorium

### Luminaire Cut Sheets



**AR**  
**The Archetype® Large PicoEmitter LED**  
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#### SPECIFICATIONS

##### Housing:

- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment.
- Solid barrier wall separates optical and electrical compartments.
- Double-thick wall with gussets on the support-arm mounting end.
- Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail.
- All hardware is stainless steel or electro-zinc plated steel.

##### Lens Frame:

- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy lens frame with 1" minimum depth around the gasket flange.
- Integral hinges with stainless steel pins provide no-tool mounting and removal from housing.
- Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one-piece extruded and vulcanized silicone gasket to provide an IP66 rating for the optical module.
- Clear 3/8" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

##### Optical Module:

- Precision, replaceable PicoEmitters are positioned to achieve directional control toward desired task.
- The entire EmitterDeck fastens to the housing as a one-piece module.
- Type I, II, III, IV, V, L (left), and R (right) standard distributions. Custom available.
- 3000K, 4000K, 5000K standard CCT. Amber and custom available.
- IP66 certified
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level.
- Anodized aluminum carrier plate and heat sink modules.

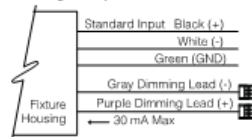
##### Electrical Characteristics:

- 120V through 480V @ 50/60Hz.
- Class 1, 350mA.
- Power Factor = >.90

- National Electrical Code, ANSI/NFPA 70.
- 10kV surge suppression.
- Thermalshield thermal control.
- 40c starting driver.
- 0-10V dimming interface.
- All electronic components are IP66 rated.
- Electronic components are UL and/or CSA recognized.

##### Dimming:

- 10% to 100% dimming by the use of standard 0-10V interface driver.
- To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the thermal shield protection system. This port allows the 0-10V Interface to bypass the thermal shield and control the driver.
- The thermal shield works in conjunction with the control system to assure that overheating will not harm the LEDs.
- The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).



##### Support Arm:

- One-piece extruded aluminum with internal bolt guides and fully radiused top and bottom.
- Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief.
- Arm is circular cut for specified round pole.
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 2" IPS pipe size arms.
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the junction box. Luminaire attaches to the wall plate.

##### Finish:

- Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TGIC) polyester powdercoat.

- Standard colors include (BL) Black, (DB) Dark Bronze, (GT) Graphite, (WH) White, (PS) Platinum Silver, (LG) Light Gray, (TT) Titanium, and (CC) Custom Color (Include RAL#).

##### Fusing:

- SF for 120, 277 and 347 Line Volts
- DF for 208, 240 and 480 Line Volts.
- High temperature fuse holders installed inside the fixture housing. Fuse is included.

##### Certifications and Listings:

- UL 1598 Standard for wet locations for Luminaires.
- UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products.
- IP66 certified.
- CSA C22.2#250.0 Luminaires.
- ANSI C136.31-2010 3G Vibration tested and compliant.
- IDA compliant.
- RoHS compliant.
- Meets Buy American provisions within ARRA.
- IDA approved, 3000K and warmer CCTs only.
- This product qualifies as a "designated country construction material" per FAR52.225-11 Buy American Construction Materials under Trade Agreements effective 6/06/2020. [See Buy American Solutions.](#)

##### CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

##### WARRANTY:

- For full warranty see <http://www.hubbellighting.com/resources/warranty>

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## WLWSD WHS Auditorium

## S2-5

### Luminaire Cut Sheets



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#### CONTROLS

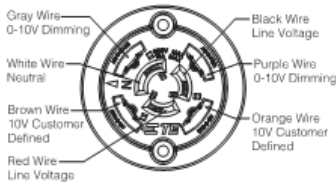
##### PhotoCell Receptacle

###### A25-7

Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

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2. 5-pin wireless photoelectric control for added dimming feature.
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##### Button Photocell

**A30** for 120V, **A31** for 208V, **A32** for 240V, **A33** for 277V, **A35** for 347V, **A34** for 480V,

Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.

##### Wireless Controls

###### wISCAPE™

Hubbell Control Solution's wISCAPE™ wireless control modules allow an individual fixture to be managed, monitored and measured. The modules communicate securely over a robust certified meshed radio signal. The wISCAPE modules provide on/off/dim control, external device input, alerts and metering.

###### WIR-RMI-O

wISCAPE Internal Module, 120-480V, 1000ft range (LOS), 3 Digital Inputs/1 Analog Input, 2 Outputs.

###### WIR-RME-L

wISCAPE External Module, 120-480V, 1000ft range (LOS), Internal Photocell, 1 Digital Input, Compatible with the A-25-7H option

##### SiteSync™<sup>1</sup>

SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit [www.hubbellighting.com/products/sitesync](http://www.hubbellighting.com/products/sitesync) for more details.

##### Pole Mounted

###### Round Pole-Mounted Occupancy Sensor up to 30'

###### SCH-R

Round Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-R4<sup>1</sup>/277<sup>2</sup>/BL<sup>3</sup>

###### Square Pole-Mounted Occupancy Sensor up to 30'

###### SCH-S

Square Pole-Mounted Occupancy Sensor: up to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-S/277<sup>2</sup>/BL<sup>3</sup>

##### SCP

The SCP is a photo-control with motion sensing accessory that mounts to the side of any new or existing 3"-5" round or square straight pole. The SCP enables any pole mounted luminaire in excess of 75 watts, to meet California Title 24 requirements with integral 20KV/10KA surge protection for added reliability and serviceability.

For more detail:

[http://www.aal.net/products/sensor\\_control\\_programmable](http://www.aal.net/products/sensor_control_programmable)

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SiteSync fixtures with occupancy sensor (SWPM) require the mounting height of the fixture for selection of the lens.

Examples:

SiteSync only : ALT3/P70/60L/3KUV/PS/US/SWP

SiteSync with Motion Control: ALT3/P70/60L/3KUV/PS/US/SWPM-Z0F

<sup>2</sup>MOB ORDERING INFORMATION: When ordering a fixture with a dimming occupancy sensor option (MOB), please specify the appropriate information. These settings are specified in the ordering as shown in the example below.

ALT3/P70/60L/3KUV/PS/US/MOB - 1 to 30 min - 33% or 50% - ?? / DBT

High to Dim Delay      Low Level      Mounting Height (ft.)

<sup>2</sup>Voltage, <sup>3</sup>Color, <sup>4</sup>Pole Diameter

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## WLWSD WHS Auditorium

## S2-5

### Luminaire Cut Sheets

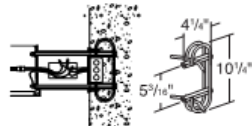


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#### OPTIONS

##### Wall Mounting:

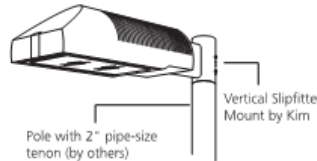
- Fixtures mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (WEB) is provided to accept draw bolts, and a trim plate covers the wall-embedded junction box. All wall mount components are finished to match the fixture.



Wall mount using wall embedment bracket - J-box in wall (by others)

##### Vertical Slipfitter Mount:

- Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.



##### Polycarbonate Lens:

- Fixture supplied with a one-piece flat, clear, UV stabilized polycarbonate, fully gasketed, replacing the standard tempered glass lens.

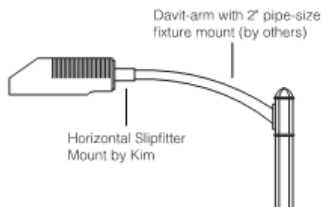
**CAUTION: Use only when vandalism is anticipated to be high.**



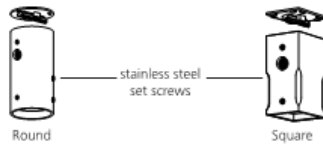
Flat Glass

##### Horizontal Slipfitter Mount:

- Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2 3/8" O.D.). Cast aluminum slipfitter with set screw for an up or down 5° adjustment lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.



**NOTE:** 3Y only available on round slipfitter.



Cat. No.	Mounting Configuration	Cat. No.
VSF-1A	1A - single arm mount	SVSF-1A
VSF-2B	2B - 2 at 180°	SVSF-2B
VSF-2L	2L - 2 at 90°	SVSF-2L
VSF-3T	3T - 2 at 90°	SVSF-3T
VSF-3Y	3Y - 2 at 120°	SVSF-4C
VSF-4C	4C - 2 at 90°	

##### Neighbor Friendly Optic

- Integrated Neighbor Friendly Optic on each PicoPrism™ module to completely control unwanted backlight. Most effective with Type III and IV distributions.

##### Tamper-Resistant Latch

- Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

S2A



### AR-LED-KIT The Archetype® Large, PicoEmitter™ LED Upgrade Kit

10/13/16 • kl\_areledkit\_spec.pdf

Type:  
Job:  
Catalog number:



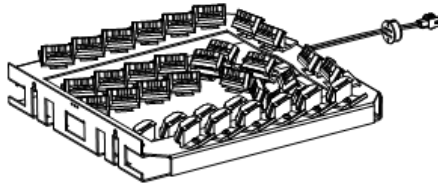
Approvals:

LED Kit      /      /  
Electrical Module      Option

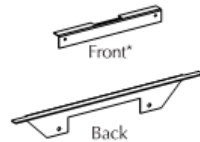
Date:  
Page: 1 of 4

### Specifications

**AR-LED-KIT**  
120 Light Emitting Diodes  
Total Max System Watts = 129W  
Maximum Weight = 50 lbs.  
when installed in Archetype LED



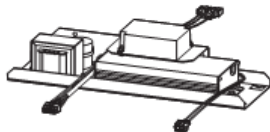
LED EmitterDeck®



Front\*

Back

Drilling  
Templates



Electronic Module

**Electronic Module:** All electrical components are UL recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, LifeShield® temperature control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Each precision, replaceable PicoEmitter™ is positioned to achieve directional control toward desired task. The entire EmitterDeck® fastens to the housing as a one-piece module.

**Listed To:** UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires.

**NOTE:** Existing product conditions are taken as the base point. Participation rules apply. See complete warranty provisions for further details.

**IMPORTANT:** Disable all power to the luminaire before conducting any maintenance or upgrade activity. Failure to do so will create a hazardous working environment.

**CAUTION:** Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

**Suggested Tools:**

- 3/8" Socket Wrench
- 5/16" Wrench
- Hammer
- Drill Motor
- .626" (#20) Drill Bit
- Center Punch
- 1/4" Drill Bit



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### AR-LED-KIT

The Archetype® Large, PicoEmitter™ LED Upgrade Kit

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Type:

Job:

Page: 2 of 4



### Standard Features

<p><b>Fixture</b> Cat. No. designates fixture and distribution</p>	<p>AR-LED-KIT</p> <p><b>Upgrade Kit:</b> AR-LED-KIT</p> <p><b>Distribution:</b></p> <p><input type="checkbox"/> 2 = Type II Full Cutoff  <input type="checkbox"/> 3 = Type III Full Cutoff  <input type="checkbox"/> 4 = Type IV Full Cutoff  <input type="checkbox"/> 5 = Type V Square Full Cutoff  <input type="checkbox"/> L = Type L Left Full Cutoff  <input type="checkbox"/> R = Type R Right Full Cutoff</p> <p><b>Light Distribution:</b></p> <p> <b>TYPE II</b>      <b>TYPE III</b>      <b>TYPE IV</b>      <b>TYPE V</b></p> <p> <b>TYPE R</b> One-Way Right      <b>TYPE L</b> One-Way Left</p> <p><b>Optic:</b> E = PicoEmitter™</p> <p><b>Current:</b> 35 = 350 mA</p>
<p><b>Electrical Module</b></p>	<p>Cat. Nos. for Electrical Modules available:</p> <p>120L     xK     x</p> <p><b>Source:</b> 120L = 120 LED's</p> <p><b>Color Temperature:</b></p> <p><input type="checkbox"/> 3K = 3000K  <input type="checkbox"/> 4K = 4200K  <input type="checkbox"/> 5K = 5100K  <input type="checkbox"/> 2K = 580nm - Amber</p> <p><b>Voltage:</b></p> <p><input type="checkbox"/> 120 = 120V  <input type="checkbox"/> 208 = 208V  <input type="checkbox"/> 240 = 240V  <input type="checkbox"/> 277 = 277V  <input type="checkbox"/> 347 = 347V*  <input type="checkbox"/> 480 = 480V*</p> <p>*Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer.</p>



## WLWSD WHS Auditorium

S2A

Luminaire Cut Sheets



### AR-LED-KIT The Archetype® Large, PicoEmitter™ LED Upgrade Kit

10/13/16 • kl\_areledkit\_spec.pdf

Type:

Job:

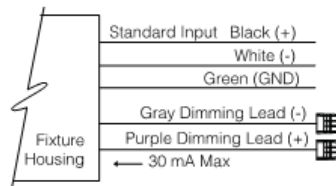
Page: 3 of 4



### Standard Features

#### 0-10V Dimming Interface

Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hubbell Building Automation w/HUBB™. Approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead.



### Optional Features

#### Neighbor Friendly Optic:

Cat. No.  NFO  
 No Option

Integrated Neighbor Friendly Optic on each PicoEmitter™ module to completely control unwanted backlight. Most effective with Type III and IV distributions.

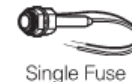


#### Fusing

Cat. No. (see right)  
 No Option

High temperature fuse holders factory installed inside the fixture housing. Fuse included.

Line Volts: 120V 208V 240V 277V 347V 480V  
Cat. No.:  SF  DF  DF  SF  SF  DF



Single Fuse



### AR-LED-KIT

The Archetype® Large, PicoEmitter™ LED Upgrade Kit

10/13/16 • kl\_areledkit\_spec.pdf

Type:

Job:

Page: 4 of 4



### Lumen Data

Spectroradiometric			
	3000K Average	4200K Average	5100K Average
Correlated Color Temp. CCT (K)	2800K-3175K	3800K-4600K	4600K-5600K
Color Rendering Index (CRI)	≥80	≥80	≥70
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	100,000 hrs	(Calculated L70)
350	93.17%	579,000 hrs

Wattage to be reduced to 100W at factory.

Electrical Drive Current		
Volts - AC	Amps - AC	System Watts
120	1.08	129
208	0.62	129
240	0.54	129
277	0.47	129
347	0.37	129
480	0.27	129

B.U.G. Rating (TM15) in Lumens when B = Backlight, U = Uplight, G = Glare								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G1	TBD
4200K	TBD	B2 U0 G2	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G2	TBD
5100K	TBD	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G2	TBD

Absolute Lumens								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	7555	7496	6391	7945	6636	8428	TBD
4200K	TBD	9773	9697	8267	10277	8584	10902	TBD
5100K	TBD	10478	10397	8864	11019	9204	11689	TBD

LED performance and lumen output continues to improve at a rapid pace. Log onto [www.kimlighting.com](http://www.kimlighting.com) to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.

For warranty see <http://www.hubbellighting.com/resources/warranty>

## WLWSD WHS Auditorium

### Luminaire Cut Sheets

#### Specification Sheet

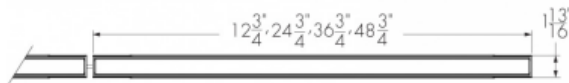
#### lumenfacade nano

LOGN

COLOR CHANGING

Project Name \_\_\_\_\_ Qty \_\_\_\_\_

Type \_\_\_\_\_ Catalog / Part Number \_\_\_\_\_



Top view



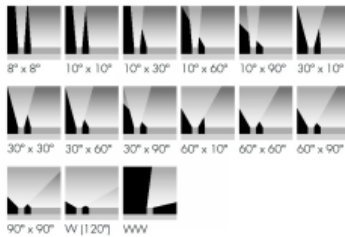
Front and side views

#### Photometric Summary

4ft, RGBW full output, DMX/RDM	Delivered output (lm)*	Intensity (peak cd)*
8°x8°	868	23,462
10°x10°	826	18,305
10°x30°	814	5,178
10°x60°	810	2,761
10°x90°	808	1,447
30°x10°	816	5,162
30°x30°	802	1,851
30°x60°	778	1,172
30°x90°	783	847
60°x10°	809	3,204
60°x60°	785	581
60°x90°	780	699
90°x90°	767	474
W (120°)	490	N/A
WW	865	4,195

Photometric performance is measured in compliance with IESNA LM 79.08.  
\*Estimated. Consult website for the latest IES and LDT files.

#### Optics



#### Description

The Lumenfacade Nano Color Changing is a high-efficiency linear LED luminaire that goes where no facade lighting has gone before. Available in 12 in, 24 in, 36 in or 48 in sections, the Lumenfacade Nano Color Changing packs all the bells and whistles of the larger members of the Lumenfacade family and can be configured with a wide number of options, including: optics for grazing, floodlighting, or wall washing; RGB, RGBW or RGBA color mixing; various mounting options, finishes and controls. The Lumenfacade Nano Color Changing is also available with a unique asymmetric distribution, providing exceptional uniformity and brightness for walls and signage.

#### Features

<b>Color and Color Temperature</b>	Additive RGB, Additive RGB + white 4000K, Additive RGB + amber
<b>Optics</b>	8° x 8°, 10° x 10°, 10° x 30°, 10° x 60°, 10° x 90°, 30° x 10°, 30° x 30°, 30° x 60°, 30° x 90°, 60° x 10°, 60° x 60°, 60° x 90°, 90° x 90°, Wide 120°, Asymmetric Wallwash
<b>Options</b>	Corrosion-resistant coating for hostile environments
<b>Power Consumption</b>	4 W/ft
<b>Warranty</b>	5-year limited warranty

#### Performance

<b>Delivered Output</b>	724 lm (48 in fixture, RGB full output, 8° x 8°, UCTL), 868 lm (48 in fixture, RGBW full output, 8° x 8°, UCTL), 748 lm (48 in fixture, RGBA full output, 8° x 8°, UCTL)
<b>Delivered Intensity</b>	19,566 cd at nadir (48 in fixture, RGB full output, 8° x 8°, UCTL), 23,462 cd at nadir (48 in fixture, RGBW full output, 8° x 8°, UCTL), 20,211 cd at nadir (48 in fixture, RGBA full output, 8° x 8°, UCTL)
<b>Illuminance at Distance</b>	Minimum 1 fc at 153 ft (48 in fixture, RGB full output, 8° x 8°, UCTL), Minimum 1 fc at 168 ft (48 in fixture, RGBW full output, 8° x 8°, UCTL), Minimum 1 fc at 156 ft (48 in fixture, RGBA full output, 8° x 8°, UCTL)

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## WLWSD WHS Auditorium

Luminaire Cut Sheets

S6

### Specification Sheet

### lumenfacade nano

LOGN

COLOR CHANGING

#### Colors and Color Temperatures



#### Controls

UCTL

#### Ratings

IP66 IK08

#### Certifications



Lumen Maintenance	L70 >90,000 hrs
-------------------	-----------------

#### Physical

Housing Material	Low copper content extruded aluminum
------------------	--------------------------------------

Lens Material	Clear tempered glass
---------------	----------------------

Hardware Material	Stainless steel
-------------------	-----------------

End Cap Material	Machined aluminum
------------------	-------------------

Gasket Material	Silicone
-----------------	----------

Surface Finish	Electrostatically applied polyester powder coat
----------------	-------------------------------------------------

Weight	1.4 lbs (12 in), 2.9 lbs (24 in), 4.4 lbs (36 in), 6 lbs (48 in)
--------	------------------------------------------------------------------

#### Electrical and control

Voltage	48 VDC
---------	--------

Resolution (DMX/RDM)	Per foot or per fixture (configured with LumenID V3 software), 8-bit or 16-bit, 3 channels (RGB) or 4 channels (RGBW, RGBA)
----------------------	-----------------------------------------------------------------------------------------------------------------------------

RGB Color Mixing	12 LEDs per 12 in (4x Red, 4x Green, 4x Blue)
------------------	-----------------------------------------------

RGBW Color Mixing	12 LEDs per 12 in (3x Red, 3x Green, 3x Blue, 3x White)
-------------------	---------------------------------------------------------

RGBA Color Mixing	12 LEDs per 12 in (3x Red, 3x Green, 3x Blue, 3x Amber)
-------------------	---------------------------------------------------------

Control	Universal control (compatible with DMX/RDM or DALI-2 Type 8 systems)
---------	----------------------------------------------------------------------

#### Environmental

Storage Temperature	-40 °F to 185 °F (device must reach start-up temperature value before operating)
---------------------	----------------------------------------------------------------------------------

Start-up Temperature	-13 °F to 122 °F
----------------------	------------------

Operating Temperature	-40 °F to 122 °F
-----------------------	------------------

Ingress Protection Rating	IP66
---------------------------	------

Impact Resistance Rating	IK08 (IK09 for 48 in fixtures)
--------------------------	--------------------------------

#### Accessories (order separately)

Cables	Lumenfacade Nano Jumper Cable, Trunk Power Cable, Trunk Data Cable, Joiner for Lumenfacade Nano Jumper Cable
--------	--------------------------------------------------------------------------------------------------------------

Control Boxes	Low-Voltage Control Box, Low-Voltage Splitter Box
---------------	---------------------------------------------------

Optical Accessories	Lumenfacade Nano Visor
---------------------	------------------------

Control Systems	Lumentone™ 2, Pharos® kit
-----------------	---------------------------

Diagnostic and Addressing Tools	LumenID
---------------------------------	---------

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## WLWSD WHS Auditorium

S6

### Luminaire Cut Sheets

#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

#### Optical option installation details

##### HFR - Half-frosted lens



- Always position frosted side toward the wall.
- Applicable for 8° x 8°, 10° x 10° or asymmetric wallwash optics only.

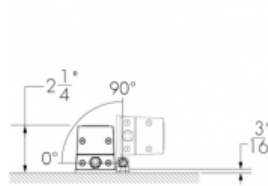
##### WW - Asymmetric wallwash

Recommended setback from wall is 1/10 of the wall height.  
Example: 2 ft setback for a 20 ft wall.

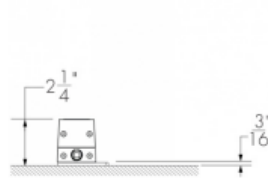
#### Mounting options

One mounting bracket provided for 12 in fixtures. Two mounting brackets provided for 24 in, 36 in and 48 in fixtures. See installation instructions for details.

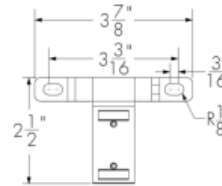
##### SAMN - Slim Adjustable Mounting Nano



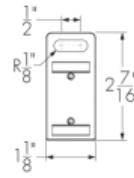
##### UMPN - Fixed Mounting Nano



##### SAMN - Mounting hole pattern



##### UMPN - Mounting hole pattern



## WLWSD WHS Auditorium

Luminaire Cut Sheets

# S6

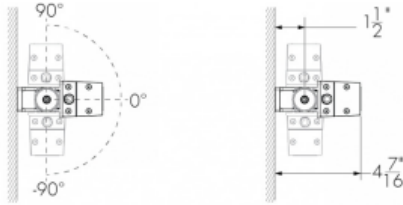
### Specification Sheet

### lumenfacade nano

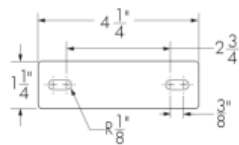
LOGN

COLOR CHANGING

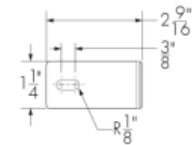
UMASN - Universal Adjustable Mounting Nano



UMASN - Mounting hole pattern

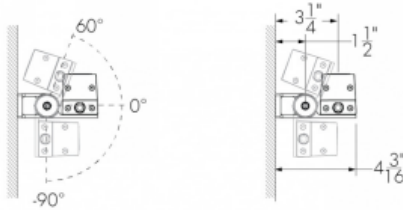


For 1 ft fixtures

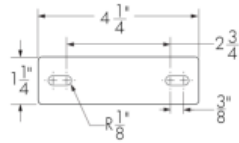


For 2 ft, 3 ft and 4 ft fixtures

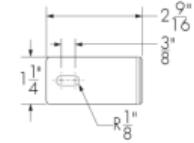
WAMN2 - Adjustable Extended Arm Mounting Nano 2 in



WAMN2 - Mounting hole pattern

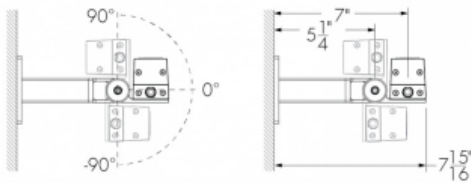


For 1 ft fixtures

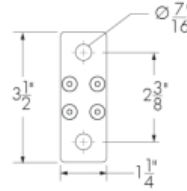


For 2 ft, 3 ft and 4 ft fixtures

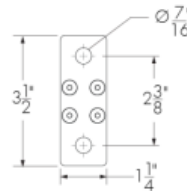
WAMN6 - Adjustable Extended Arm Mounting Nano 6 in



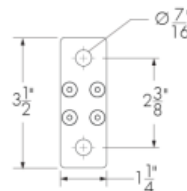
WAMN6 - Mounting hole pattern



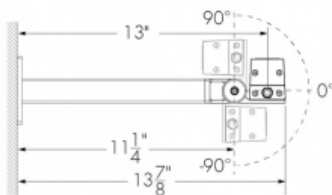
WAMN12 - Mounting hole pattern



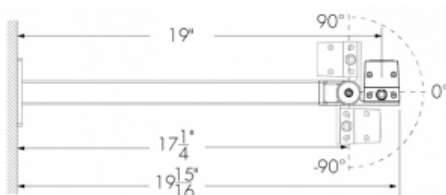
WAMN18 - Mounting hole pattern



WAMN12 - Adjustable Extended Arm Mounting Nano 12 in



WAMN18 - Adjustable Extended Arm Mounting Nano 18 in



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## WLWSD WHS Auditorium

### Luminaire Cut Sheets

S6

#### Specification Sheet

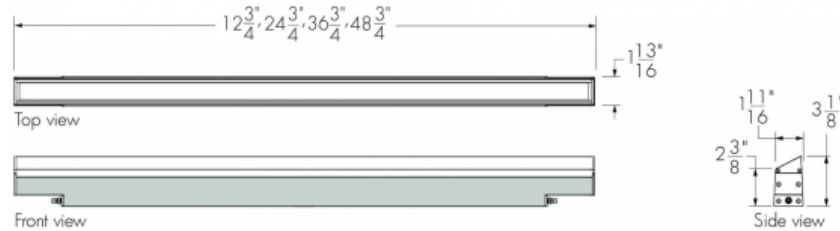
#### lumenfacade nano

LOGN

COLOR CHANGING

#### Optical accessories (order separately)

##### LOGNVS - Visor for Lumenfacade Nano



##### LOGNVS LENGTH FINISH OPTIONS

Please specify:

**LENGTH:** 12 in, 24 in, 36 in or 48 in; **FINISH:** BK - Black Sandtex®, BRZ - Bronze Sandtex®, SI - Silver Sandtex®, WH - Smooth white or CC - custom color and finish (please specify RAL color); **OPTIONS:** CRC - Corrosion-resistant coating for hostile environments

- The addition of a visor will affect beam distribution. Consult factory for application support.
- Not suitable for wide 120° optic.
- Maximum one accessory per fixture. Visors are field installable.

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## WLWSD WHS Auditorium

### Luminaire Cut Sheets

# S6

#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

#### Cables (order separately)

##### LOGNJC - Jumper cable for lumenfacade Nano



Front view

For minimal spacing between fixtures, use a 1 ft jumper cable.

##### LOGNJC-CERTIFICATION-LENGTH-CABLE COLOR

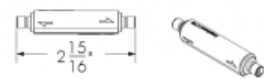
Please specify:

**CERTIFICATION:** UL or CE; **LENGTH:** 1 ft to 30 ft (available in 1 ft increments) or 50 ft; **CABLE COLOR:** black or white (connectors are the same color as the specified cable color).

- Suitable for dimming/data and non-dimming applications.
- Consult Lumenfacade Nano jumper cable specification sheet for all available cable lengths and additional information.

#### Joiner (order separately)

##### LOGNJC-JOINER - Joiner for Lumenfacade Nano Jumper Cable



- Use joiners to connect and lengthen jumper cables.
- Joiners add voltage drops. Consult factory to confirm impact on run length.
- Available in black.

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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.



## WLWSD WHS Auditorium

S6

Luminaire Cut Sheets

### Specification Sheet

**lumenfacade nano**

LOGN

COLOR CHANGING

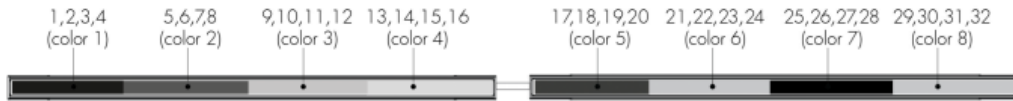
#### Resolution details

**DMX/RDM control, resolution per foot: each 12 in section is addressed independently**

**DMX addresses:**



UCTL control option, RGB color mixing option.



UCTL control option, RGBW and RGBA color mixing options.

**DMX/RDM control, resolution per fixture: each fixture is addressed independently**

**DMX addresses:**



UCTL control option, RGB color mixing option.



UCTL control option, RGBW, RGBA color mixing options.

- 48 in fixtures shown.
- Fixture resolution can be configured on-site within the LumenID V3 software. A DMX/RDM enabled LCBX or DMX/RDM LSBX is required for DMX/RDM control.

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

S6

### Specification Sheet

### lumenfacade nano

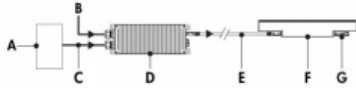
LOGN

COLOR CHANGING

#### Typical wiring diagrams

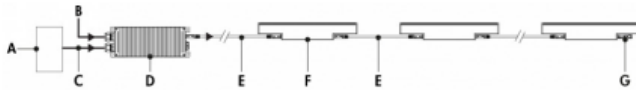
##### UCTL - Universal control

##### Single unit - LCBX 60W



- A - Controller (order separately from Lumenpulse, or by others)
- B - Power input (120-277V, wiring by others)
- C - Data input (wiring by others)
- D - LCBX (60W)
- E - Jumper cable (LOGNJC)
- F - Lumenfacade Nano
- G - Terminator cap

##### Continuous run - LCBX 60W or 120W



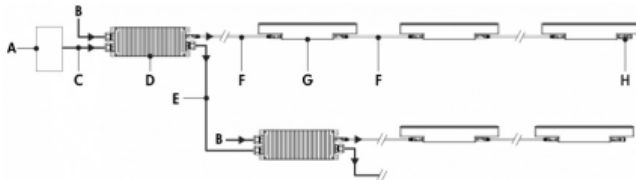
- A - Controller (order separately from Lumenpulse, or by others)
- B - Power input (120-277V, wiring by others)
- C - Data input (wiring by others)
- D - LCBX (60W or 120W)
- E - Jumper cable (LOGNJC)
- F - Lumenfacade Nano
- G - Terminator cap

##### Continuous run - LCBX 200W



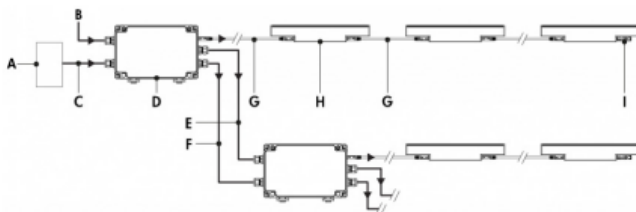
- A - Controller (order separately from Lumenpulse, or by others)
- B - Power input (120-277V, wiring by others)
- C - Data input (wiring by others)
- D - LCBX (200W)
- E - Jumper cable (LOGNJC)
- F - Lumenfacade Nano
- G - Terminator cap

##### Continuous run - Daisy chain LCBX 60W or 120W



- A - Controller (order separately from Lumenpulse, or by others)
- B - Power input (120-277V, wiring by others)
- C - Data input (wiring by others)
- D - LCBX (60W or 120W)
- E - Data output to next LCBX (wiring by others)
- F - Jumper cable (LOGNJC)
- G - Lumenfacade Nano
- H - Terminator cap

##### Continuous run - Daisy chain LCBX 200W



- A - Controller (order separately from Lumenpulse, or by others)
- B - Power input (120-277V, wiring by others)
- C - Data input (wiring by others)
- D - LCBX (200W)
- E - Power output to next LCBX (120-277V, wiring by others)
- F - Data output to next LCBX (wiring by others)
- G - Jumper cable (LOGNJC)
- H - Lumenfacade Nano
- I - Terminator cap

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## WLWSD WHS Auditorium

### Luminaire Cut Sheets

#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

Maximum run length per LCBX (Based on a 50 ft master jumper cable)	
Configuration	4 W/ft
LCBX 60W	12 ft
LCBX 120W	24 ft
LCBX 200W	40 ft

- Consult factory for specific applications and maximum fixture count/run length recommendations.
- For installations of 600W or more, consult factory to select the optimal system: either a daisy chain continuous run system with LCBXs or a trunk system with LSBXs.
- A maximum of 128 UCTL devices on the output port of the LCBX.
- Maximum of 1 output to fixture, or fixture run, per LCBX.
- Consult the LCBX specification sheet for more information.
- RGB color mixture option requires 3 DMX channels. RGBW color mixture option requires 4 DMX channels. RGBA color mixture option requires 4 DMX channels.
- Fixtures can be controlled via a DMX/RDM or DALI controller.
- For DALI-2 Type 8 applications:
  - The LCBX responds to RGBWAF control.
  - 4 W/ft.

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## WLWSD WHS Auditorium

### Luminaire Cut Sheets

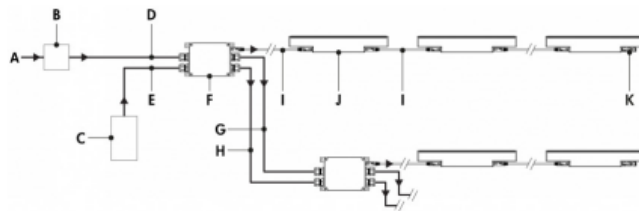
#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

#### Trunk system - LSBX



- A - Power input (120-277V, wiring by others)
- B - Power supply (48V, by others)
- C - Controller (order separately from Lumenpulse, or by others)
- D - Power input (48V, order separately from Lumenpulse - Trunk Power Cable (TKPWR), or equivalent by others)
- E - Data input (order separately from Lumenpulse - Trunk Data Cable (TKDMX), or equivalent by others)
- F - LSBX
- G - Power output to next LSBX (48V, order separately from Lumenpulse - Trunk Power Cable (TKPWR), or equivalent by others)
- H - Data output to next LSBX (order separately from Lumenpulse - Trunk Data Cable (TKDMX), or equivalent by others)
- I - Jumper cable (LOGNJC)
- J - Lumenfacade Nano
- K - Terminator cap

- Consult factory for specific applications and maximum fixture count/run length recommendations.
- For installations of 600W or more, consult factory to select the optimal system: either a daisy chain continuous run system with LCBXs or a trunk system with LSBXs.
- A maximum of 128 UCTL devices on the output port of the LSBX.
- Maximum of 1 output to fixture run per LSBX.
- Consult the LSBX specification sheet for more information.
- Consult factory for power supply recommendations.
- RGB color mixture option requires 3 DMX channels. RGBW color mixture option requires 4 DMX channels. RGBA color mixture option requires 4 DMX channels.
- 4 W/ft.

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## WLWSD WHS Auditorium

Luminaire Cut Sheets

S6

### Specification Sheet

**lumenfacade nano**

LOGN

COLOR CHANGING

#### Accessories (order separately)

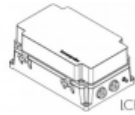
##### Control Boxes

###### LCBX-Low-Voltage Control Box



LCBX 60W & 120W

Low-voltage control and power box. One power and data output to fixture, or fixture run. Refer to LCBX specification sheet for details.



LCBX 200W

###### LSBX-Low-Voltage Splitter Box



Low-voltage control and power splitter box. One power and data output to fixture run. Refer to LSBX specification sheet for details.

##### Control Systems

###### LTN2-Lumentone™ 2



Lumentone 2 is a simple pre-programmed DMX 512 controller with a push button rotary dial and live feedback.

###### PHAROS-Pharos® kit



The Pharos kit, available for 1 or 2 DMX universes, allows for complete control of large lighting installations. 2 DMX universes kit shown.

##### Diagnostic and Addressing Tools

###### LID-LumenID



LumenID is a diagnostic and addressing DMX/RDM tool. It must be specified on all DMX applications. Refer to LID specification sheet for details.

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## WLWSD WHS Auditorium

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### Luminaire Cut Sheets

#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

#### How to order

Housing	Wattage	Voltage	Length	Color and Color Temperature	Optics
LOGN Lumenfacade™ Nano	4W 4 W/ft	48V 48 VDC	12 12 3/4 in (1.4 lbs)	<b>RGB</b> Additive RGB  <b>RGBW</b> Additive RGB + white 4000K standards: 2700K, 3000K and 3500K available, consult factory. <sup>(1)</sup>  <b>RGBA</b> Additive RGB + amber	<b>8x8</b> 8° x 8°  <b>10x10</b> 10° x 10°  <b>10x30</b> 10° x 30°  <b>10x60</b> 10° x 60°  <b>10x90</b> 10° x 90°  <b>30x10</b> 30° x 10°  <b>30x30</b> 30° x 30°  <b>30x60</b> 30° x 60°  <b>30x90</b> 30° x 90°  <b>60x10</b> 60° x 10°  <b>60x60</b> 60° x 60°  <b>60x90</b> 60° x 90°  <b>90x90</b> 90° x 90°  <b>W</b> Wide 120°  <b>WW</b> Asymmetric Wallwash
			24 24 3/4 in (2.9 lbs)		
			36 36 3/4 in (4.4 lbs)		
			48 48 3/4 in (6 lbs)		

**Notes:**

<sup>1</sup> Longer lead times apply for RoyalBlue, 2700K, 3000K and 3500K white color temperature mixes.

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets

#### Specification Sheet

#### lumenfacade nano

LOGN

COLOR CHANGING

How to order					
Lens	Mounting Options <sup>(1)</sup>	Finish	Control <sup>(1)</sup>	Options	Certification
<b>CL</b> Clear lens <sup>(2)</sup> <b>FR</b> Frosted lens <sup>(3)</sup> <b>HFR</b> Half-frosted lens <sup>(4)</sup>	<b>SAMN</b> Slim Adjustable Mounting Nano <b>LMPN</b> Fixed Mounting Nano <b>UMASN</b> Universal Adjustable Mounting Nano <b>WAMN2</b> Adjustable Wall Mounting Nano 2 in <b>WAMN6</b> Adjustable Extended Arm Mounting Nano 6 in <b>WAMN12</b> Adjustable Extended Arm Mounting Nano 12 in <b>WAMN18</b> Adjustable Extended Arm Mounting Nano 18 in	<b>BK</b> Black Sandtex® <b>BRZ</b> Bronze Sandtex® <b>SI</b> Silver Sandtex® <b>WH</b> Smooth white <b>CC</b> Custom color and finish (please specify RAL color) <sup>(5)</sup>	<b>UCTL</b> Universal control (compatible with DMX/RDM or DALI-2 Type 8 systems)	<b>CRC</b> Corrosion-resistant coating for hostile environments <sup>(10)</sup>	<b>UL</b> UL compliant <b>CE</b> CE compliant

**Notes:**

- 2. Not available for Bx8, 10x10, W or WW optics.
- 3. Not available for WW optic.
- 4. Available for Bx8, 10x10 or WW optics only.
- 5. One mounting bracket provided for 12 in fixtures. Two mounting brackets provided for 24 in, 36 in and 48 in fixtures.
- 6. Lumenpulse offers a wide selection of RAL CLASSIC (K7) colors with a smooth texture and high-gloss finish. Please consult factory for a list of available K7 colors, other RAL textures and glosses, or to match alternate color charts. Final color matching results may vary.
- 7. Charges apply for RAL colors. Consult factory for details.
- 8. Longer lead times can be expected for custom RAL color finishes.
- 9. A Low-Voltage Control Box (L2CB) or Low-Voltage Splitter Box (L2SB) and LumenD (L2D) must be specified.
- 10. Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure.

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

S7

Luminaire Cut Sheets



### PERFORMANCE 300 (OUTDOOR)

PH SERIES | RUBBER COATED | LINEAR LED LIGHTING

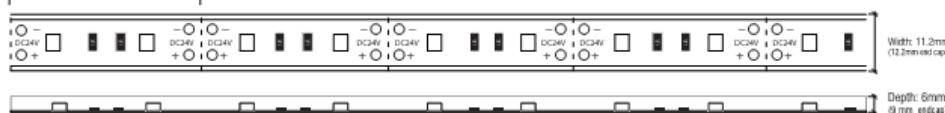
Fixture Type: \_\_\_\_\_

Project: \_\_\_\_\_

Location: \_\_\_\_\_



Cut Intervals: 33.3mm (1-5/16")



MODEL:	PH27K-WR-24V	PH30K-WR-24V	PH35K-WR-24V	PH40K-WR-24V	PH50K-WR-24V
<b>Kelvin</b>	2700K	3000K	3500K	4000K	5000K
<b>Lumens</b>	322 lm/ft	330 lm/ft	340 lm/ft	347 lm/ft	356 lm/ft
<b>Rating</b>	IP67	IP67	IP67	IP67	IP67

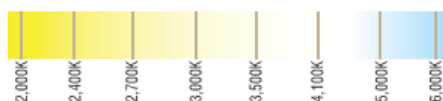
#### PRODUCT FEATURES

- 90+ CRI
- Dimmable
- 50,000 hour life
- 5-year warranty
- UL-listed for indoor and outdoor use
- 3M™ Industrial adhesive backing
- For use with 24V power supplies

#### SPECIFICATIONS

Series	PH - Performance 300 (Outdoor)
Input Voltage	24V DC / Constant Voltage
Watts per Foot	3.2W/ft @ Maximum Run Length
Beam Spread	120°
Max Run Length	Unlimited, power every 30ft
Production Intervals	1-5/16" (33.3mm)
End Cap Dimensions	1/2" (12.2mm) x 3/8" (9mm)
Tape Dimensions	7/16" (11.2mm) x 1/4" (6mm)
CRI	90+
Diode	2835
Dimming Options	PWM, Triac, 0-10V, DMX, Hi-lume
Temp Range	-40°F (-40°C) to 149°F (65°C)

#### KELVIN COLOR TEMPERATURE SCALE



#### TOTAL WATTAGE USED AT EACH LENGTH

1ft	2ft	3ft	4ft	5ft	6ft	7ft	8ft	9ft	10ft	11ft	12ft	13ft	14ft	15ft
4.2	8.5	12.7	16.8	21	25.4	29.2	32.9	36.9	40.5	44.2	48	51.4	54.6	57.7
16ft	17ft	18ft	19ft	20ft	21ft	22ft	23ft	24ft	25ft	26ft	27ft	28ft	29ft	30ft
60.7	64.3	67	70.4	71.8	75.2	77.7	80	83	85.1	86.6	88.7	91.2	93.7	94.6

Conforms to ANSI/UL Standard 2108  
Certified to CAN/CSA Standard C22.2 No. 250.0



Questions/Support | 800-789-3810 | quotes@kelvix.com

042219DM

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.



## WLWSD WHS Auditorium

S7

### Luminaire Cut Sheets



### CH-607

#### EXTRUDED ALUMINUM MOUNTING CHANNEL

Fixture Type: \_\_\_\_\_

Project: \_\_\_\_\_

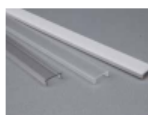
Location: \_\_\_\_\_

#### PRODUCT FEATURES

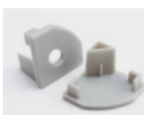
- Available in 2 meter sections
- Extruded aluminum construction
- Anodized matte finish
- Consult factory for custom lengths & finishes

#### SPECIFICATIONS

Model	CH-607
Length	2 meters
External Width	18.3mm (3/4")
Internal Width	14.1mm (9/16")
Height	18.3mm (3/4")



Clear lens (CL)  
Frosted lens (FR)  
White lens (WH)



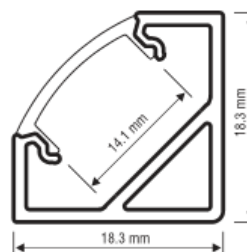
End cap with hole  
End cap without hole



Mounting clip (CP)

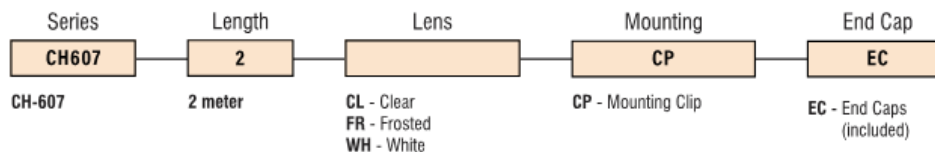


Applications



#### ORDERING INFORMATION

Example: **CH607-2-WH-CP-EC**



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0117187NH

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## WLWSD WHS Auditorium

Luminaire Cut Sheets

S7



### HLV192

192 WATT (2 X 96W)—24 VOLT | CLASS 2 SUPPLY

Fixture Type: \_\_\_\_\_

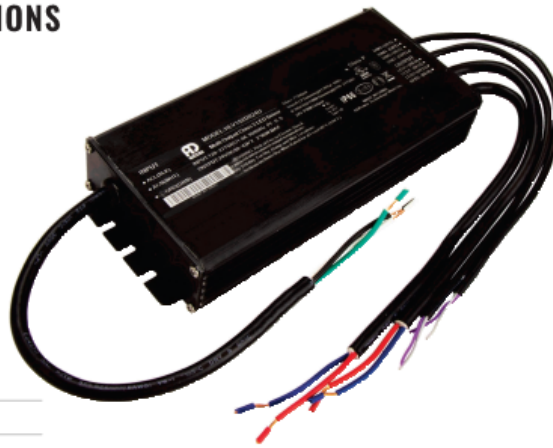
Project: \_\_\_\_\_

Location: \_\_\_\_\_

### UL-LISTED FOR WET LOCATIONS

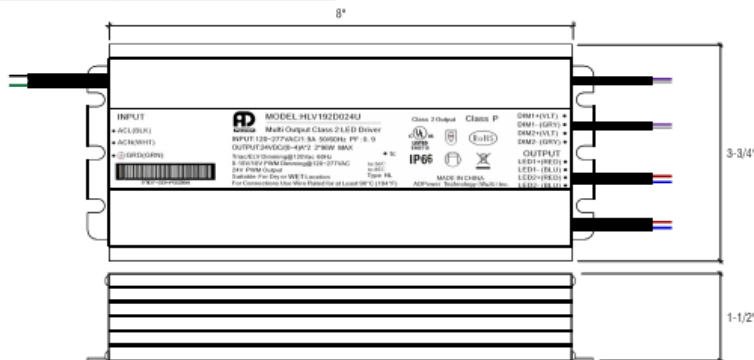
#### PRODUCT FEATURES

- 431 Hz/Flicker-free Dimming Down to 5%
- Incandescent, ELV, MLV, or 0-10V Dimming
- Two Independent 0-10V Inputs
- Protections: Short Circuit/Over Current/Over Voltage
- Free Air Convection Cooling
- UL-listed Class 2 for Indoor/Outdoor Use



#### SPECIFICATIONS

Model	HLV192
Input Voltage	100–277 VAC
Output Voltage	24VDC/Constant Voltage
Max. Wattage	192W (2 × 96W)
Temp Range	-20°F–158°F
Dimensions W × H × D	8" × 3-3/4" × 1-1/2"
Classification	Class 2
Enclosure	IP66



Conforms to ANSI/UL Standard 2108  
 Certified to CAN/CSA Standard C22.2 No. 250.0



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## WLWSD WHS Auditorium

Luminaire Cut Sheets

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### HLV192

192 WATT (2 X 96W)—24 VOLT | CLASS 2 SUPPLY



### MODEL LIST

Model Name	Rated Input Voltage	Rated Output Power	Rated Output Voltage	Output Current	Note
HLV192	120–277 VAC	96W x 2	24 VDC x 2	0-4000 mA x 2	2 Channel Output

### SPECIFICATION

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
<b>INPUT</b>						
Input Voltage	$V_{IN}$		108		305	VAC
Rated Input Voltage	$V_{IN \text{ RATED}}$	No Phase Cut Dimming	120		277	VAC
		Phase Cut Dimming		120		VAC
Input Frequency	$f_{line}$		47	50/60	63	Hz
Input Current	$I_{IN}$	Full Load, $V_{IN} = 120 \text{ VAC}$			1.9	A
		Full Load, $V_{IN} = 230 \text{ VAC}$			1	A
		Full Load, $V_{IN} = 277 \text{ VAC}$			0.9	A
Inrush Current	$I_{INRUSH}$	Cold Start, $V_{IN} = 277 \text{ VAC}$			60	A
<b>GENERAL CHARACTERISTICS</b>						
Power Factor	PF	30% – 100% Load, $V_{IN} = 120 \text{ VAC}$	0.95			PF
		50% – 100% Load, $V_{IN} = 230 \text{ VAC}$	0.9			PF
		60% – 100% Load, $V_{IN} = 277 \text{ VAC}$	0.9			PF
Total Harmonic Distortion	THD	30% – 100% Load, $V_{IN} = 120 \text{ VAC}$			20	%
		50% – 100% Load, $V_{IN} = 230 \text{ VAC}$			20	%
		Full Load, $V_{IN} = 277 \text{ VAC}$			20	%
Efficiency	$\eta$	Full Load, $V_{IN} = 120 \text{ VAC}$	88	90		%
		Full Load, $V_{IN} = 230 \text{ VAC}$		92		%
		Full Load, $V_{IN} = 277 \text{ VAC}$	90	92		%
Turn On Delay Time	$T_{on \text{ delay}}$	Cold Start, $V_{IN} = 230 \text{ VAC}$		0.3	0.5	S
<b>OUTPUT</b>						
Output Voltage	$V_{OUT}$		23.5	24	24.5	V
Output Current	$I_{OUT}$	Per Channel	0		4000	mA
Line Regulation	$V_{OUT-LINE}$				1	%
Load Regulation	$V_{OUT-LOAD}$	$I_{OUT}$ from MIN. to MAX			2	%
Ripple Voltage	$V_{OUT-RIPPLE}$	Full Load, $(pk-to-pk)/2 \times \text{Average}$			3	%
Output Voltage Overshoot	$V_{OVERSHOOT}$	Turning Power ON			2	%
<b>0-10V OR RESISTOR DIMMING</b>						
The 0-10V or resistor dimming is a dimming manner that can be used to dim the output voltage via a standard commercial wall dimmer (0-10VDC) or an external control voltage source (0-10VDC) or external resistor.						
The dimming range is 100% $V_{OUT}$ to 5% $V_{OUT}$ . When $V_{DIM}$ is 8-10VDC, the output voltage maintains 100% $V_{OUT}$ , and when $V_{DIM}$ is below 0.6V, the output voltage is 5% $V_{OUT}$ .						
Absolute Maximum Voltage on 0-10V Pin	$V_{DIM}$		-2		15	V
Source Current on 0-10V Dimming Pin	$I_{DIM}$			100		uA
$V_{DIM}$ Voltage for Full Bright	$V_{DIM-MAX}$		8			V
Output Duty Cycle	$V_{0-10}$	PWM Output	5		100	%
External Resistor Value at Full Bright	$R_{External-MAX}$			90		k $\Omega$

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## WLWSD WHS Auditorium

Luminaire Cut Sheets

S7



### HLV192

192 WATT (2 X 96W)—24 VOLT | CLASS 2 SUPPLY



### SPECIFICATION (CONT.)

Parameters	Symbols	Test Conditions/Comment	Min	Typ	Max	Units
<b>PWM DIMMING</b>						
The PWM dimming is a dimming manner that can be used to dim the output voltage via the duty cycle of PWM signal.						
The dimming range is 100% $V_{OUT}$ to 5% $V_{OUT}$ . When the duty cycle is 80% to 100%, the output voltage reaches 100% $V_{OUT}$ , and the output voltage maintains 5% $V_{OUT}$ when the duty cycle below 6%.						
PWM Frequency	$f_{PWM}$		0.1		1	KHz
High Level Voltage of PWM Signal	$V_{PWM-High}$	$V_{PWM-High}$ Affect Output Voltage	8	10	12	V
Lower Level Voltage of PWM Signal	$V_{PWM-Low}$	$V_{PWM-Low}$ Affect Output Voltage	0		1	V
Output Duty Cycle	$D_{PWM}$	PWM Output	5		100	%
<b>PHASE CUT DIMMING</b>						
The unit is compatible with leading-edge and trailing-edge dimmer.						
Input Voltage	$V_{IN-TRIAC DIM}$			120		VAC
Output Duty Cycle	$D_{TRIAC}$	PWM Output	0	-	100	%
Suggest Load Range	$P_{Suggest}$	$V_{IN} = 120VAC$ , Total Load	19.2		192	W
<b>PROTECTION</b>						
Over Voltage Protection	$V_{OVP}$	Latch Off Mode			30	V
Over Current Protection	$I_{OCP}$	It will recover automatically after fault condition is removed.	4.0		4.5	A
Over Temperature Protection	$T_{OTP}$	If the case temperature exceeds OTP point, the output voltage of the driver is automatically reduced.		90		°C
Short Circuit Protection		It will recover automatically after fault conditions is removed.				
<b>ENVIRONMENT</b>						
Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Operating Relative Humidity	$H_a$	Non Condensing	10		90	%
<b>OTHERS</b>						
Life Time	$T_{Life}$	Full Load, 120VAC Input, 60 °C Case Temperature	50			kHrs
MTBF	$T_{MTBF}$		200			kHrs
Net Weight	$W_{Net}$					g
Dimension L x W x H			202 mm x 96 mm x 39 mm (7.95" x 3.78" x 1.54")			
<b>SAFETY COMPLIANCE</b>						
UL Listed		UL8750 Compliance to UL1310 Class 2, CSA-C22.2 No. 107.1				
<b>EMC COMPLIANCE</b>						
FCC Part 15B		Conducted Emission Test and Radiated Emission Test				
Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25 °C and $V_{IN} = 120VAC$ .						

Questions/Support | 800-789-3810 | quotes@kelvix.com

070919DM

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

S7



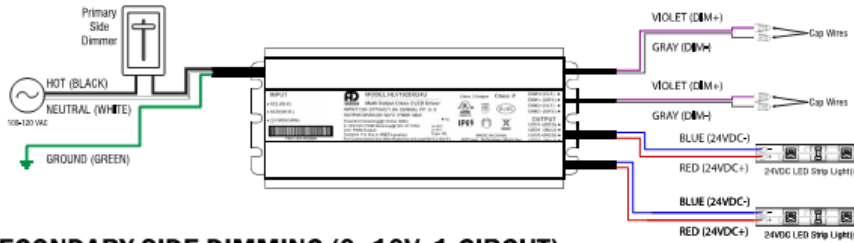
### HLV192

192 WATT (2 X 96W)—24 VOLT | CLASS 2 SUPPLY

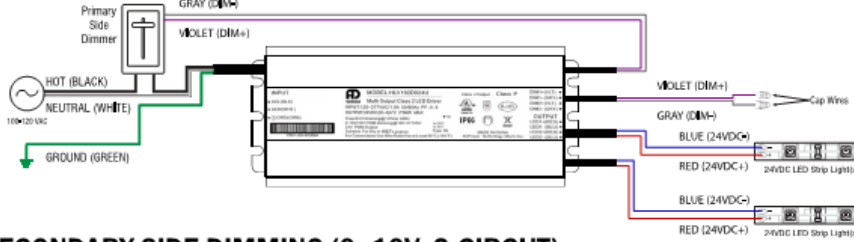


### TYPICAL APPLICATION

#### PRIMARY SIDE DIMMING (120V ONLY)



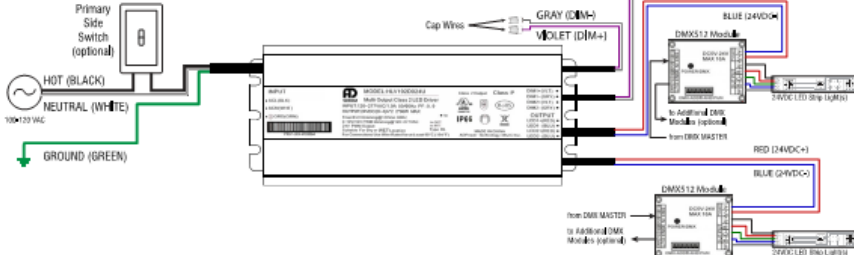
#### SECONDARY SIDE DIMMING (0-10V, 1-CIRCUIT)



#### SECONDARY SIDE DIMMING (0-10V, 2-CIRCUIT)



#### SECONDARY SIDE DIMMING (DMX)



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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

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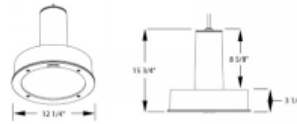
# Arne

## Specification Sheet

Project Name: \_\_\_\_\_ Job Location: \_\_\_\_\_  
 Fixture Type: \_\_\_\_\_ Fixture Quantity: \_\_\_\_\_

Source LED  
 Voltage 120V-277V  
 Frequency 50/60 Hz  
 EPA .577 Ft<sup>2</sup>  
 Weight 18 lbs (luminaire only)

The Arne luminaire is aluminum extrusion with a natural aluminum powdercoat finish offered by Santa & Cole Urbidermis with a clear or opal / diffused tempered glass.



Pole & Wall Mount Luminaire	
Product	ARP
LED Configuration	18 36
Drive Current	A ( 350 mA ) B ( 500 mA ) C ( 700 mA )
Color Temperature	1 ( 3000K ) 2 ( 4000K )
Distribution	WF ( Wide Flood ) F ( Flood ) M ( Medium ) S ( Spot Flood ) TH ( Type 2 ) THII ( Type 3 ) TIV ( Type 4 )
Lens	NwI ( Clear ) O ( Opal / Diffused )
Color	AS ( Aluminum Silver ) DK ( Dusk )

EXAMPLE: ARP - 18 - B - 1 - WF - AS

Catenary Luminaire	
Product	ARP
LED Configuration	18 36
Drive Current	A ( 350 mA ) B ( 500 mA ) C ( 700 mA )
Color Temperature	1 ( 3000K ) 2 ( 4000K )
Distribution	WF ( Wide Flood ) THII ( Quad Oval )
Lens	NwI ( Clear ) O ( Opal / Diffused )
Bracket	C ( Catenary )
Color	AS ( Aluminum Silver ) DK ( Dusk )

EXAMPLE: ARP - 36 - B - 2 - WF - O - C - DK

#### Mounting Offering



Catenary

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets



Mounting & Luminaire Accessories for Pole & Wall Mount Luminaire						
Product	ARP					
Bracket	01 ( Single Column )	01D ( Double Column )	02 ( Wall )	07 ( Single Arm )	07D ( Double Arm )	
Accessory	Null ( No Shade )		05 ( Shade )			
Color	AS ( Aluminum Silver )		DK ( Dusk )			

EXAMPLE: ARP - 01 - 05 - DK

#### Mounting Offerings



Single Column



Double Column



Wall



Single Arm



Double Arm

Arne Aluminum Pole Height	Pole #	Mounting	Diameter	Wall	Weight
4.2m ( 13.8 ft )	ARF11	( 1 ) Single Column Bracket	Straight 5"	0.125"	55 lbs
	ARF13	( 1 ) Double Column Bracket	Straight 5"	0.125"	55 lbs
5.0m ( 16.4 ft )	ARF21	( 1 ) Single Column Bracket	Straight 5"	0.125"	65 lbs
	ARF22	( 2 ) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 5"	0.125"	65 lbs
	ARF23	( 1 ) Double Column Bracket	Straight 5"	0.125"	65 lbs
5.8m ( 19.0 ft )	ARF31	( 1 ) Single Column Bracket	Straight 5"	0.125"	75 lbs
	ARF32	( 2 ) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 5"	0.125"	75 lbs
	ARF33	( 1 ) Double Column Bracket	Straight 5"	0.125"	75 lbs
	ARF34	( 2 ) Double Column Brackets, Staggered Heights	Straight 5"	0.125"	75 lbs
	ARF37	Single Arm or Double Arm Bracket(s)	Straight 5"	0.125"	75 lbs
7.6m ( 25.0 ft )	ARF41	( 3 ) Single Column Brackets, Spiral Configuration, 120° Orientation	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF42	( 4 ) Single Column Brackets, Spiral Configuration, 90° Orientation	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF43	( 2 ) Single Arms, Staggered Heights, 180° Orientation	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF44	( 2 ) Double Column Brackets, Staggered Heights	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF47	Single Arm or Double Arm Bracket(s)	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF49	( 3 ) Double Column Brackets, Staggered Heights	Stepped 7"/5"	0.188"/0.25"	115 lbs
	ARF49	( 3 ) Double Column Brackets, Staggered Heights	Stepped 7"/5"	0.188"/0.25"	115 lbs
9.2m ( 30.2 ft )	ARF51	( 4 ) Single Column Brackets, Spiral Configuration, 90° Orientation	Stepped 8"/5"	0.188"/0.25"	180 lbs
	ARF52	( 5 ) Single Column Brackets, Spiral Configuration, 72° Orientation	Stepped 8"/5"	0.188"/0.25"	180 lbs
	ARF54	( 2 ) Double Column Brackets, Staggered Heights	Stepped 8"/5"	0.188"/0.25"	180 lbs
	ARF59	( 3 ) Double Column Brackets, Staggered Heights	Stepped 8"/5"	0.188"/0.25"	180 lbs
	ARF59	( 3 ) Double Column Brackets, Staggered Heights	Stepped 8"/5"	0.188"/0.25"	180 lbs

\* Landscape Forms can provide poles for your catenary project. Contact the factory for more information.

Pole Options							
Twist Lock	Null ( None )	T ( Twist Lock Receptacle )					
Color	BLK ( Black )	DSK ( Dusk )	MBK ( Matte Black )	MER ( Mercury ) *	SIL ( Silver )	SCL ( Storm Cloud )	TNM ( Titanium )

\* Mercury from Landscape Forms is our recommended color match for aluminum silver from Santa & Cole.

EXAMPLE: ARF33 - T - MER

#### Modifications

Don't see what you are looking for? Our goal is to partner with you as the designer to manufacture solutions needed for the space you are creating. We offer the option to modify our standard product to meet certain design specifications or needs. Common modifications can include GFCI outlets, custom RAL colors, banner arm(s) mounting, and custom pole heights. Contact your local Landscape Forms representative to learn more about these offerings.

#### Notes

Please send completed forms to your Landscape Forms representative or contact us at (800) 430-6209 with any questions.

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

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Luminaire Type:   
 Catalog Number:



### General Illumination Wall Mount Cylinder 4"

OVERVIEW

#### Feature Set

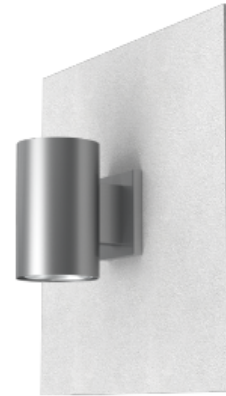
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- Bounding Ray™ optical design
- 45° cutoff to source and source image
- Fully serviceable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 SDCM; 85 CRI typical, 90+ CRI optional
- Fixtures are damp location standard; wet location option (WL)
- 20 standard colors in textured and gloss finish; custom or RAL colors also available
- Field configurable surface junction box conduit covers available
- ENERGY STAR® Certified product

#### Distribution



#### Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000
Delivered Lumens	271	573	808	1001	1527	1994	2580	3110	3612	4120	4584	5045
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7	31.2	38.4	35.4	40.1	44.7
Lumens per Watt	87.4	79.6	102.3	113.8	111.5	102.3	100.4	99.7	94.1	116	114	113



COMPLIMENTARY PRODUCTS

#### Coordinated Apertures | Multiple Layers of Light



General Illumination Layer | EVO



High Center Beam Layer | Incito



EVO + Incito — Multiple Layers of Light

Core	Downlight	Adjustable	Open Wallwash	Lensed Wallwash	Cylinder	Pinhole	Bevel	Hyperbolic
Healthcare	MRI	Surgical Suite	Patient Room					
Special Applications	Dynamic	Food Service	Vandal/Tamper	Clean Room	Shower	Steam Room		

EVO4WC  
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 The product images shown are for illustration purposes only and may not be an exact representation of the product.

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.



## WLWSD WHS Auditorium

Luminaire Cut Sheets



### 4" General Illumination Wall Mount Cylinder

ORDERING INFORMATION

A+ Capable options indicated by this color background.

Luminaire Type:

Catalog Number:

EXAMPLE: EV04WC 35/15 AR MWD LSS MVOLT EZ1 JBX DN DWHG

Series	Color Temperature	Lumens	Reflector Color	Distribution	Reflector Finish	Voltage
EV04WC EVO 4in Wall Mount Round Cylinder Open Downlight	27/ 2700 K	02 250 lumens	AR Clear	ASYM <sup>2</sup> Asymmetric	LSS Semi-specular	MVOLT 120V - 277V
	30/ 3000 K	05 500 lumens	PR Pewter	MD Medium (0.9 s/mh)	LD Matte diffuse	120 120V
	35/ 3500 K	07 750 lumens	WTR Wheat	MWD Medium wide (1.0 s/mh)	LS Specular	277 277V
	40/ 4000 K	10 1000 lumens	GR Gold	WD Wide (1.2 s/mh)		347 <sup>3</sup> 347V
	50/ 5000 K	15 1500 lumens	WR <sup>1</sup> White painted			
		20 2000 lumens	BR <sup>1</sup> Black			
		25 2500 lumens	WRAMF <sup>1</sup> White anti-microbial			
		30 3000 lumens				
		35 3500 lumens	BZR <sup>1</sup> Dark Bronze painted			
		40 4000 lumens				
	45 4500 lumens					
	50 5000 lumens					

Driver <sup>4</sup>	Mounting	Fixture Orientation
GZ10 0-10V driver dims to 10%	JBX Integral driver, Recessed or Surface J-box JBXCC Integral driver, Surface J-box with Conduit Covers	DN Mounted with reflector pointing down
GZ1 0-10V driver dims to 1%		UP <sup>7</sup> Mounted with reflector pointing up
EZ10 eidoLED 0-10V ECOdrive. Linear dimming to 10% min.		
EZ1 eidoLED 0-10V ECOdrive. Linear dimming to 1% min.		
EZB eidoLED 0-10V SOLOdrive. Logarithmic dimming to <1%.		
EDAB <sup>5</sup> eidoLED SOLOdrive DALI. Logarithmic dimming to <1%.		
EDXB <sup>5*</sup> eidoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Min: 1000LM; Max: 4000LM		
ECOS2 <sup>6</sup> Lutron <sup>®</sup> Hi-Lume <sup>®</sup> 2-wire forward-phase driver. 120V Only. Minimum dimming level 1%. Min: 1000LM; Max: 2500LM.		
ECOD <sup>3</sup> Lutron <sup>®</sup> EcoSystem <sup>®</sup> digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.		
ELV <sup>8</sup> Electronic line voltage (120V only)		

Control Interface <sup>9</sup>	Options	Architectural Colors - Powder Paint <sup>13</sup>
(blank) No controls	SF Single fuse. Specify 120V or 277V.	DBB Gloss Dark Bronze
NLT nLight <sup>®</sup> dimming pack.	90CRI High CRI (90+)	DBL Matte Black
NLTER <sup>1</sup> nLight <sup>®</sup> dimming pack for fixtures on emergency circuit	N80 nLight Lumen Compensation	DWH Gloss White
NLTAIR2 nLight <sup>®</sup> AIR dimming pack.	HAO <sup>10</sup> HAO High Ambient Option (40°C)	DMB Matte Medium Bronze
NLTAIRER2 <sup>2</sup> nLight <sup>®</sup> AIR dimming pack for fixtures on emergency circuit	WL <sup>11</sup> Wet Location	DNA Gloss Natural Aluminum
	WLL <sup>12</sup> Wet Location Lens	DSS Gloss Sandstone
		DGC Gloss Charcoal Grey
		DTG Gloss Tennis Green
		DBR Gloss Bright Red
		DSB Gloss Steel Blue
		DBBT Textured Dark Bronze
		DBLB Textured Black
		DWHG Textured White
		DBNH Textured Bronze
		DNAT Textured Natural Aluminum
		DSST Textured Sandstone
		DSPD Textured Dark Grey
		DSPE Textured Green
		DSPH Textured Light Red
		DWHAMF Gloss White with Anti-microbial finish

**ACCESSORIES — order as separate catalog numbers (shipped separately)**

GCOLORS KIT Architectural colors chip kit, consisting of powder-coat and plated finishes

**ORDERING NOTES**

- Not Available with Finishes.
- Requires UP option. Not available with WL or WLL options.
- Factory supplied step down transformer must be remote mounted. Access required to location of remote mounted device.
- Refer to [Tech 240](#) for compatible dimmers.
- Not Available with Control Interfaces.
- Includes terminator resistor.
- For indoor use, damp location only.
- Field installed. Access required to location of remote mounted device.
- For use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
- Only available up to 2500 lumens; not available with WL or ECOS2.
- Not available with UP. Max: 3000LM.
- Wet Location Lenses should be selected if Wet Location is required with UP fixture orientation. Not available with ASYM.
- For details on RAL and Custom colors please see [Architectural colors](#).

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

### Luminaire Cut Sheets

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SPECIFICATIONS

#### Optical Assembly

Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling. Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top down flash characteristic for superior glare control.

#### Electrical

The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. Support 347V via remote-mounted stepdown transformer. The fluctuations of line voltage shall have no visible effect on the luminous output. The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output. Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages. Input wires shall be 18AWG, 300V minimum solid copper.

#### Controls

Luminaire shall be equipped with interface for nLight wired or nLight AIR networks with integral power supply as per specification.

#### Emergency

Luminaires supplied with a battery pack comply with NFPA 101 (Life Safety code) and deliver constant light output throughout the 90 minutes of code required emergency operation period when there is a normal AC power loss. Luminaires equipped with a generator transfer device work in conjunction with an auxiliary generator or a central inverter system to power fixtures for safe egress lighting.

#### Dimming

The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%. eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered. Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

#### Construction

Heaving-gauge aluminum construction. Extruded body with flangeless reflector allows flow-through passive thermal management. Surface ceiling mount for direct installation to 4" recessed or surface octagonal junction box. Optional field configurable conduit covers available. Conduit covers match cylinder in finish and diameter. Wall mount can be oriented in up or down position. For wet location, specify WLL for lens.

#### Listings

Fixtures are CSA Certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, damp location standard; wet location options available open under covered ceiling (WL) or lensed (WLL). Luminaire configurations are Energy Star certified through testing in EPA-recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit [www.energystar.gov](http://www.energystar.gov) for specific configurations listed.

#### Photometrics

LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours. Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 6,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by the center of the quadrangles defined in ANSI C78.377-2015.

#### Warranty

5-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

#### Note:

Actual performance may differ as a result of end user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

**A+ Capable Luminaire**

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight™ control networks when ordered with drivers marked by a shaded background\*
- This luminaire is part of an A+ Certified solution for nLight™ control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background\*

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

\*See ordering tree for details

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

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### 4" General Illumination Wall Mount Cylinder

Tables of Use

EVO - eidoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic*	Linear
EDXB	<1%	Square	Linear

\*Changable through DALI controller

Distributions		
Nomenclature	Beam Angle	Field Angle
MD	54	82
MWD	67	89
WD	71	92

Lumen Output Multiplier		
CRI	CCT	Multiplier
80	2700K	0.916
	3000K	0.948
	3500K	1
	4000K	1.032
	5000K	1.1
90	2700K	0.748
	3000K	0.8
	3500K	0.838
	4000K	0.845
	5000K	0.945

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73
BZR - Bronze	0.73

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eidoLED 0-10V ECODrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eidoLED 0-10V ECODrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eidoLED 0-10V SOLDrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

J-box Compatibility Matrix		Cylinder Configurations	
		JBX	JBX w/EDXB Driver
Recommended J-box (by others)	4" Octagonal 4x4x1.5 deep*	✓	✗
	4" Octagonal 4x4x2.125 deep	✓	✓
	4" Square 4x4x1.5 deep	✓	✗

#### Standard Architectural Color Options for Cylinder Bodies



NOTE: These colors were carefully reproduced to give as true a depiction as possible of finished product color. Some colors, however, may vary slightly from actual appearance due to display/printing variations and limitations. Please always contact a Gotham representative for an accurate paint chip sample.

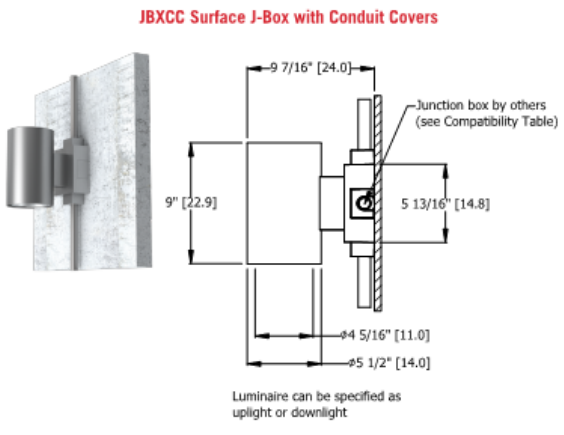
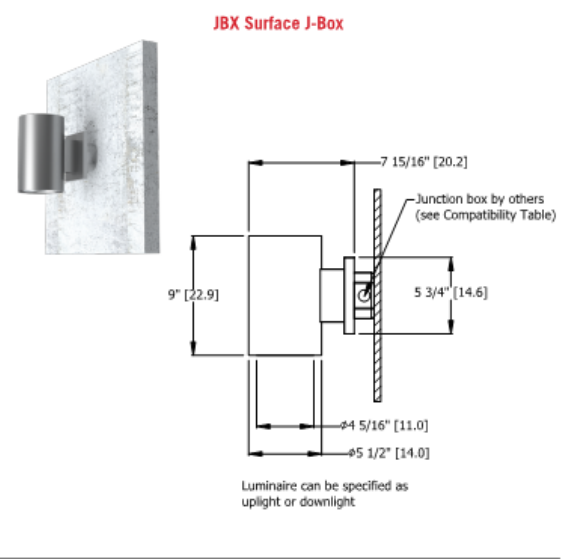
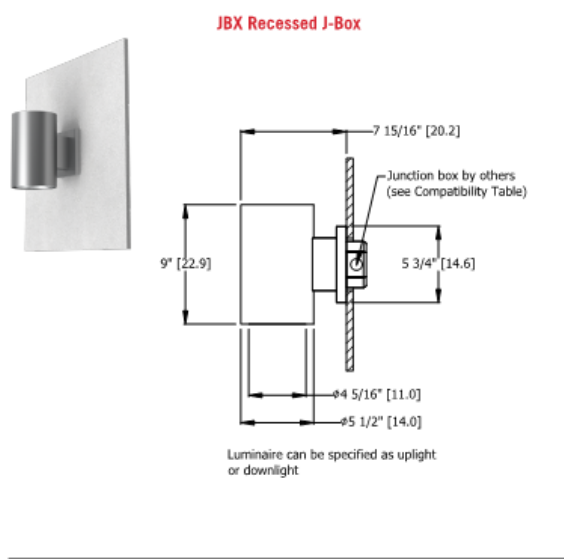
## WLWSD WHS Auditorium

### Luminaire Cut Sheets



### 4" General Illumination Wall Mount Cylinder

DIMENSIONAL DATA



\*Dimensions in inches [centimeters]



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lampping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

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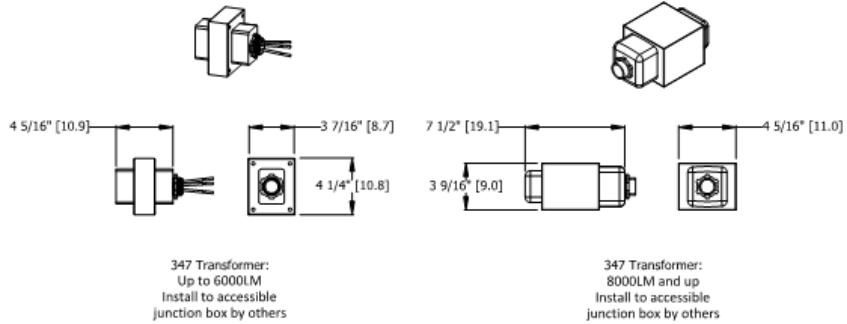
Luminaire Cut Sheets



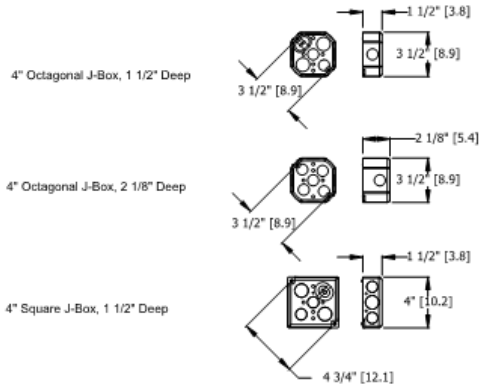
### 4" General Illumination Wall Mount Cylinder

DIMENSIONAL DATA

#### 347V Stepdown Transformer



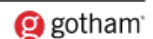
#### Junction Box Dimensions (by others)



\*Dimensions in inches [centimeters]

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GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com  
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The product images shown are for illustration purposes only and may not be an exact representation of the product.



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lampping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

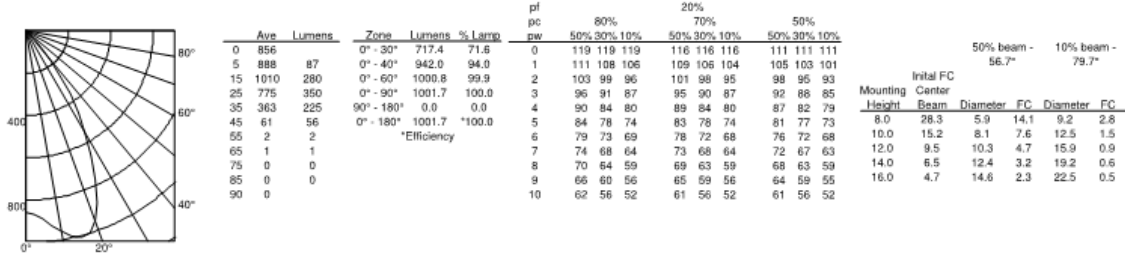


### 4" General Illumination Wall Mount Cylinder

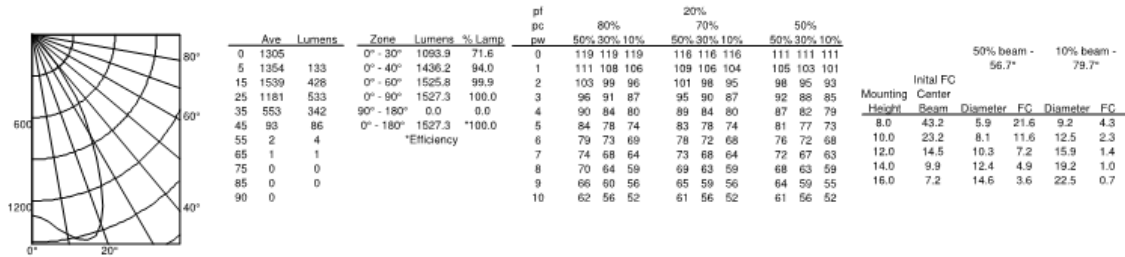
Photometry

CONSULT [WWW.GOTHAMLIGHTING.COM](http://WWW.GOTHAMLIGHTING.COM) FOR ADDITIONAL PHOTOMETRY.

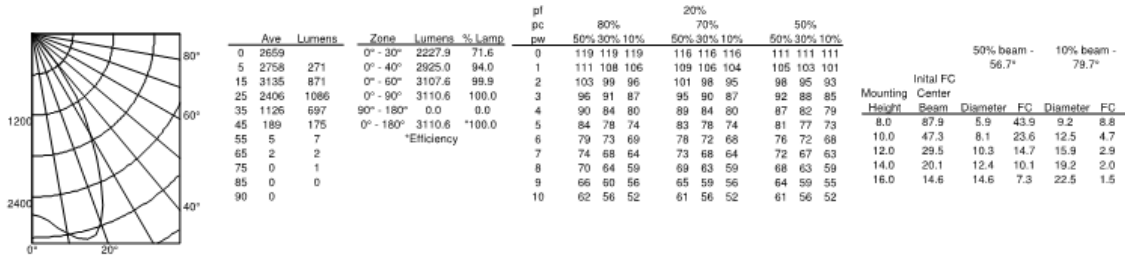
**EVO4WC 35/10 MWD LS INPUT WATTS: 8.8W, DELIVERED LUMENS: 1001.7LM, LPW = 113.8, 1.08 S/MH, TEST NO. LTL27786P**



**EVO4WC 35/15 MWD LSS INPUT WATTS: 13.7W, DELIVERED LUMENS: 1527.3LM, LPW = 111.4, 1.08 S/MH, TEST NO. LTL27786P**



**EVO4WC 35/30 MWD LSS INPUT WATTS: 31.2W, DELIVERED LUMENS: 3110.6LM, LPW = 99.6, 1.08 S/MH, TEST NO. LTL27786P**



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

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### 4" General Illumination Wall Mount Cylinder

nLight AIR

**nLight® AIR** is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

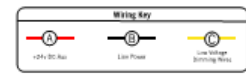
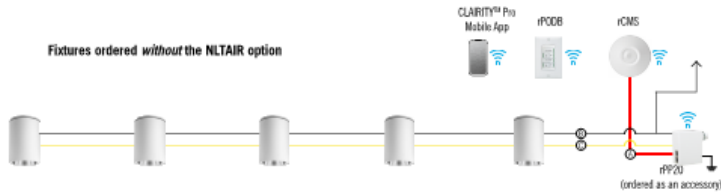
**nLight® AIR Control Accessories**  
Order as separate catalog number. Visit [nLight AIR](#).

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

**nLight® AIR Control Accessories (cont.)**

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

#### Possibilities for nLight® AIR



nLight

**nLight® Wired** The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

**nLight® Wired Control Accessories**  
Order as separate catalog number. Visit [nLight](#).

Wall Switches	Model Number
On/Off single pole	nPODM (XX)
On/Off two pole	nPODM 2P (XX)
On/Off & raise/lower single pole	nPOD DX (XX)
On/Off & raise/lower two pole	nPODM 2P DX (XX)
Graphic touchscreen	nPOD GFX (XX)

**Photocell Controls**

Dimming	nCM ADCX
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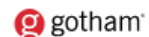
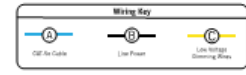
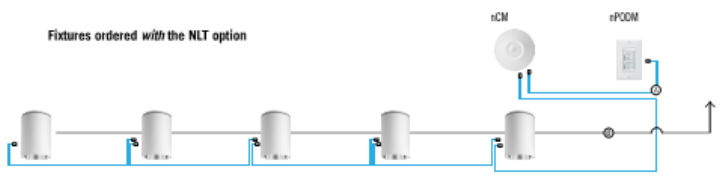
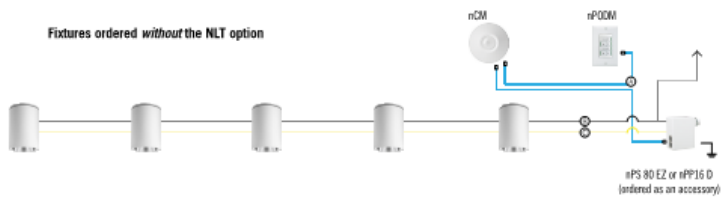
**nLight® Wired Control Accessories (cont.)**

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX

**Cat-5 Cables (plenum rated)**

10', CAT5	CATS 10FT J1
15', CAT5	CATS 15FT J1

#### Possibilities for nLight® wired



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lampping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

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Luminaire Cut Sheets



Luminaire Type:   
 Catalog Number:



### General Illumination Round Downlight 6"

OVERVIEW

#### Feature Set

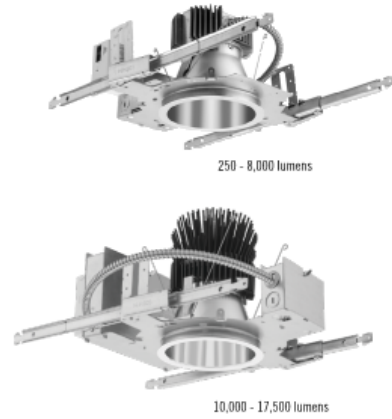
- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 SDCM; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product

#### Distribution



#### Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000	6000	8000	10,000	12,000	15,000	17,500
Delivered Lumens	297	519	776	994	1471	2006	2537	3077	3542	4027	4533	5256	6371	8247	10637	12332	15776	17801
Wattage	3.4	6.2	8.2	9.6	14.7	19.7	24.7	29.5	33.8	39.0	47.3	48.7	57.6	74.9	97.1	115.0	150.9	175.3
Lumens per Watt	87.4	83.7	94.6	103.5	100.1	101.8	102.7	104.3	104.8	103.3	95.8	107.9	110.6	110.1	109.5	107.2	104.5	101.5



COMPLIMENTARY PRODUCTS

#### Coordinated Apertures | Multiple Layers of Light



General Illumination Layer | EVO



High Center Beam Layer | Incito

EVO + Incito — Multiple Layers of Light

Core	Downlight	Adjustable	Open Wallwash	Lensed Wallwash	Cylinder	Pinhole	Bevel	Hyperbolic
Healthcare	MRI	Surgical Suite	Patient Room					
Special Applications	Dynamic	Food Service	Vandal/Tamper	Clean Room	Shower	Steam Room		

EVO6-OPEN  
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Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.



## WLWSD WHS Auditorium

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Luminaire Cut Sheets



**6"** General Illumination Round Downlight

ORDERING INFORMATION

		Luminaire Type: <input style="width: 150px;" type="text"/> Catalog Number: <input style="width: 150px;" type="text"/>
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EXAMPLE: EV06 35/150 AR MWD LSS MVOLT EZ1

Series	Color Temperature	Nominal Lumen Values	Reflector & Flange Color	Trim Style	Distribution	
EV06	27/ 2700 K	02 250 lumens	40 4000 lumens	AR Clear	(blank) Self-flanged	VND Very Narrow (0.5 s/mh)
	30/ 3000 K	05 500 lumens	45 4500 lumens	PR Pewter	FL Flangeless	ND Narrow (0.7 s/mh)
	35/ 3500 K	07 750 lumens	50 5000 lumens	WTR Wheat		MD Medium (0.9 s/mh)
	40/ 4000 K	10 1000 lumens	60 6000 lumens	GR Gold		MWD Medium Wide (1.0 s/mh)
	50/ 5000 K	15 1500 lumens	80 8000 lumens	WR <sup>1</sup> White		WD Wide (1.2 s/mh)
		20 2000 lumens	100 10000 lumens	BR <sup>1</sup> Black		
		25 2500 lumens	120 12000 lumens	WRAMF <sup>1</sup> White Anti-microbial		
		30 3000 lumens	150 15000 lumens			
		35 3500 lumens	175 17500 lumens			

Finish	Voltage	Driver <sup>4</sup>	ECOS <sup>2</sup>
LSS Semi-specular	MVOLT	GZ10 0-10V driver dims to 10%	ECOS <sup>2</sup> Lutron® Hi-Lume® 2-wire forward-phase driver. Minimum dimming level 1%, 120V only. Minimum 1000 lumens/Maximum 4000 lumens.
LD Matte-diffuse	120	GZ1 0-10V driver dims to 1%	
LS Specular	277	EZ10 eidoLED 0-10V ECODrive. Linear dimming to 10% min.	ECOD <sup>3</sup> Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Max. 4000LM.
	347 <sup>2,3</sup>	EZ1 eidoLED 0-10V ECODrive. Linear dimming to 1% min.	
		EZB eidoLED 0-10V SOLDrive. Logarithmic dimming to <1%.	
		EDAB <sup>3</sup> eidoLED SOLDrive DALI. Logarithmic dimming to <1%.	
		EDXB <sup>3</sup> eidoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Includes termination resistor. Refer to DMXR Manual. Minimum 1000 lumens/Maximum 15000 lumens.	

Control Interface	Options	N80 <sup>10</sup>
NLT <sup>1</sup> nLight® dimming pack controls	SF Single fuse. Specify 120V or 277V.	nLight® Lumen Compensation
NLTER <sup>1,2,3</sup> nLight® dimming pack controls emergency circuit	TRW <sup>7</sup> White painted flange	BGTD Bodine generator transfer device. Specify 120V or 277V.
NLTAIR2 <sup>1,3</sup> nLight® AIR enabled	TRBL <sup>4</sup> Black painted flange	90CRI High CRI (90+)
NLTAIRER2 <sup>1,3,13</sup> nLight® AIR enabled emergency	EL Emergency battery pack, 10W, with integral test switch	CP <sup>11</sup> Chicago Plenum. Specify 120V or 277V for 5000lm and above.
EXA1 XPoint Wireless, eidoLED driver. Linear dimming to 1%	ELR Emergency battery pack, 10W, with self-diagnostics, with remote test switch	HAO <sup>12</sup> HAO High Ambient Option (40°C)
EXAB XPoint Wireless, eidoLED driver. Logarithmic dimming to dark	ELSD Emergency battery pack, 10W, with self-diagnostics, integral test switch	RRL RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Refer to RRL for complete nomenclature
	ELRSD Emergency battery pack, 10W, with self-diagnostics, remote test switch	
	E10WCP Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch	
	E10WCPR Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch	

ACCESSORIES — order as separate catalog numbers (shipped separately)	
SCA6	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D. Refer to <a href="#">TECH-190</a> .
CTA4-8 YKHL	Ceiling thickness adapter for 10,000LM and above (extends mounting frame to accommodate ceiling thickness up to 5"). Adds ~4" to fixture height.
CTA4-8 YK	Ceiling thickness adapter for 8,000LM and below (extends mounting frame to accommodate ceiling thickness up to 5"). Adds ~4" to fixture height.
GVRT	Vandal-resistant trim accessory. Refer to <a href="#">TECH-200</a> .
ISD BC	0-10V wallbox dimmer. Refer to <a href="#">ISD-BC</a> .

ORDERING NOTES	
1. Not available with finishes.	9. ER for use with generator supply power. Will require an emergency hot feed and normal hot feed.
2. Not available with emergency battery pack options.	10. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
3. Supplied with factory installed step down transformer.	11. 12,000LM max with EL or nLight® options. 5,000LM max with Lutron drivers combined with EL. Not available with ELR, HAO, EXA1, or EXAB options.
4. Refer to <a href="#">TECH-240</a> for compatible dimmers.	12. Only available 5000LM - 15,000LM with eidoLED drivers.
5. Not available with nLight® and XPoint options.	13. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.
6. Specify voltage.	
7. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.	
8. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.	

Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.



SPECIFICATIONS

**Optical Assembly**

Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling. Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top-down flash characteristic for superior glare control. Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

**Electrical**

The luminaire shall operate from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output. The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output. Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages. Input wires shall be 18AWG, 300V minimum, solid copper.

**Controls**

Luminaire shall be equipped with interface for nLight wired or wireless network with integral power supply as per specification.

**Dimming**

The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%. eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered. Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

**Construction**

Luminaire housing shall be constructed of 16-gauge galvanized steel and have preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment. luminaires shall be suitable for installation in ceilings up to 1 1/2" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5"). Tool-less adjustments shall be possible after installation. The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration. 25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise). 40°C high ambient optional.

**Listings**

Fixtures are CSA certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, wet location covered ceiling. Luminaire configurations are Energy Star certified through testing in EPA-recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit [www.energystar.gov](http://www.energystar.gov) for specific configurations listed.

**Photometrics**

LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours. Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 6,000 hours and operate with a tolerance of <2.5 MacAdam ellipse as defined by a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

**Warranty**

5-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/support/customer-support/terms-and-conditions](http://www.acuitybrands.com/support/customer-support/terms-and-conditions)

**Note:**

Actual performance may differ as a result of end user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

**A+ Capable Luminaire**

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight™ control networks when ordered with drivers marked by a shaded background\*
- This luminaire is part of an A+ Certified solution for nLight™ control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background\*

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

\*See ordering tree for details



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

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Luminaire Cut Sheets

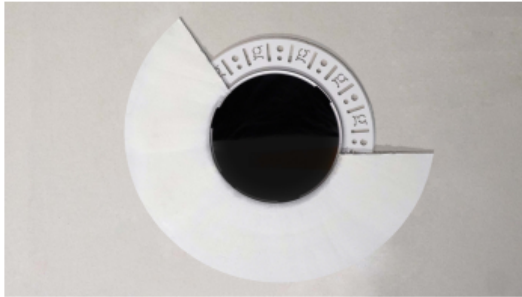


**6"** General Illumination Round Downlight

Flangeless



Partially finished mud ring, showing cross-section detail.



An EVO downlight requires only approximately 3" of plaster to finish.



EVO with flangeless trim

### Flangeless Installation

Gotham's flangeless option utilizes a micro-thin polymer mud ring that minimizes the amount of drywall compound required to finish the ceiling. The end result is a virtually undetectable flangeless downlight installation.

The polymer mud ring is installed independent of the of the recessed frame, therefore floating with the ceiling. This innovation minimizes any surface cracks during reflector installation, ceiling movement and any future service to the recessed frame, wiring, electronics, etc.

## WLWSD WHS Auditorium

## S10

Luminaire Cut Sheets



### 6" General Illumination Round Downlight

Tables of Use

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000			11
10000			9
12000			
15000			
17500	72	36	

EVO - eidoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000			
17500	72	36	9

Lumen Output Multiplier		
CRI	CCT	Multiplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000			11
10000			9
12000			
15000			
17500	72	36	

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000			
12000	48	24	3

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eidoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eidoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eidoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

**How to Estimate Delivered Lumens in Emergency Mode**

**Delivered Lumens = 1.25 x P x LPW**

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

## WLWSD WHS Auditorium

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Luminaire Cut Sheets



### 6" General Illumination Round Downlight

Tables of Use

Marked Spacing in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
500-5000	None	None	None
6000	24	12	5
8000			11
10000			9
12000			
15000			
17500	72	36	

EVO - eidoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EXA1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic	Linear
EXAB	<1%	Logarithmic	Linear
EDXB	<1%	Square	Linear

Marked Spacing in Inches 40°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
5000	24	12	5
6000			
8000	48	24	9
10000			
12000			
15000			
17500	72	36	9

Lumen Output Multiplier		
CRI	CCT	Multiplier
80	2700K	0.96
	300K	1.00
	3500K	1.00
	4000K	1.01
	5000K	1.07
90	2700K	0.80
	300K	0.83
	3500K	0.85
	4000K	0.87
	5000K	0.91

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73

Marked Spacing Chicago Plenum Open Frame in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-5000	None	None	None
6000	24	12	5
8000			11
10000			9
12000			
15000			
17500	72	36	

Distributions		
Nomenclature	Beam Angle	Field Angle
VND	30	64
ND	44	69
MD	54	82
MWD	67	89
WD	71	92

Marked Spacing Chicago Plenum Enclosure in Inches 25°C Ambient			
Lumen Package	Fixed Center to Center MIN	Fixture Center to Building Member MIN	Space Above Fixture
250-6000	None	None	None
8000	36	18	6
10000			
12000	48	24	3

Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eidoLED 0-10V EC0drive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eidoLED 0-10V EC0drive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eidoLED 0-10V SOL0drive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

**How to Estimate Delivered Lumens in Emergency Mode**

**Delivered Lumens = 1.25 x P x LPW**

P = Output power of emergency driver. P = 10W for PS1055CP

LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.

## WLWSD WHS Auditorium

S10

Luminaire Cut Sheets

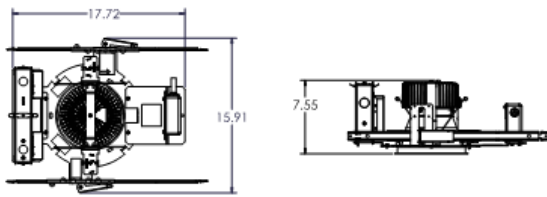


**6"** General Illumination Round Downlight

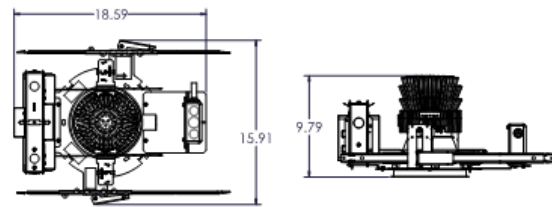
DIMENSIONAL DATA

\*Dimensions in inches [centimeters]

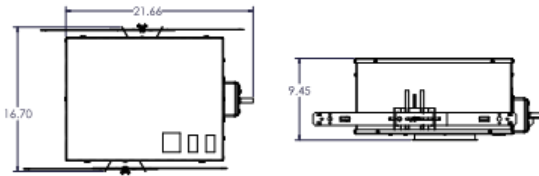
**5000 (Lutron & POWER Drive Only), 6000 & 8000 Lumen Open Frame CP**



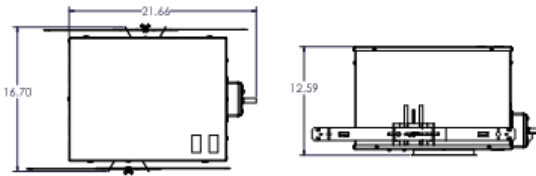
**10000 - 17,500 Lumen Open Frame CP**



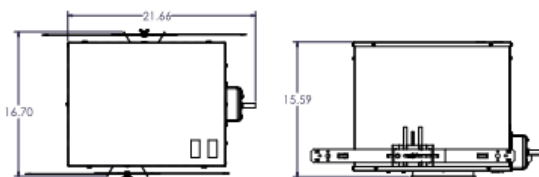
**250 - 6000 Lumen CP for nLight® or Battery Pack**



**8,000LM Enclosed CP for nLight or Battery Pack**



**10,000LM-12,000LM Enclosed CP for nLight or Battery Pack**



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

# S10

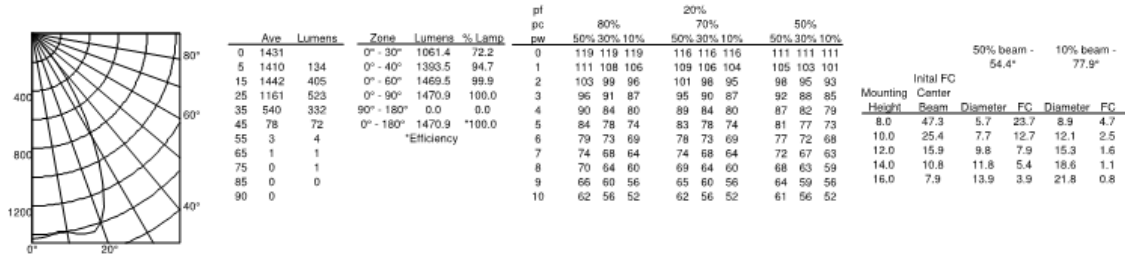
Luminaire Cut Sheets



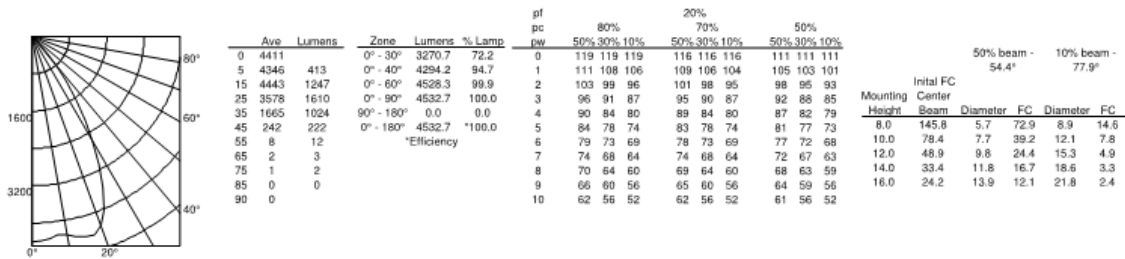
**6"** General Illumination Round Downlight

Photometry

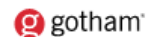
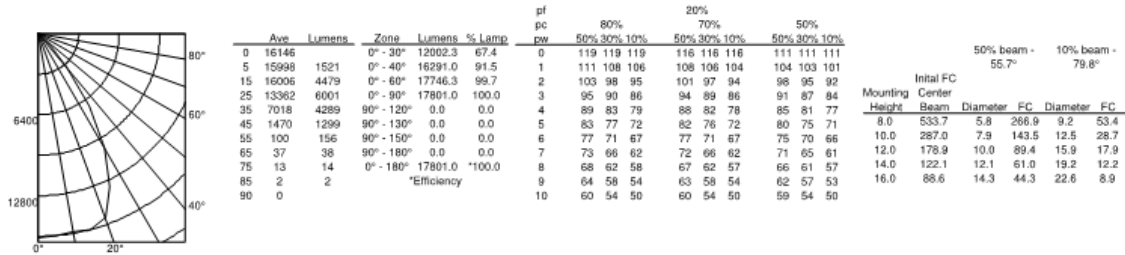
**EV06 35/15 AR MWD LS INPUT WATTS: 14.7, DELIVERED LUMENS: 1471LM, LPW= 100, 1.03 S/MH, TEST NO. LTL27783P1505**



**EV06 35/45 AR MWD LS INPUT WATTS: 47.3, DELIVERED LUMENS: 4532.7LM, LPW= 95.8, 1.03 S/MH, TEST NO. LTL27783P1649**



**EV06 35/175 AR MWD LS INPUT WATTS: 175.3, DELIVERED LUMENS: 17801LM, LPW=101.5, 1.06 S/MH, TEST NO. ISF 34035P268**



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.

## WLWSD WHS Auditorium

Luminaire Cut Sheets

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### 6" General Illumination Round Downlight

nLight AIR

nLight® AIR is the ideal solution for retrofit or new construction spaces where adding communication wiring is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each EVO Luminaire ordered with the NLTAIR option. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.

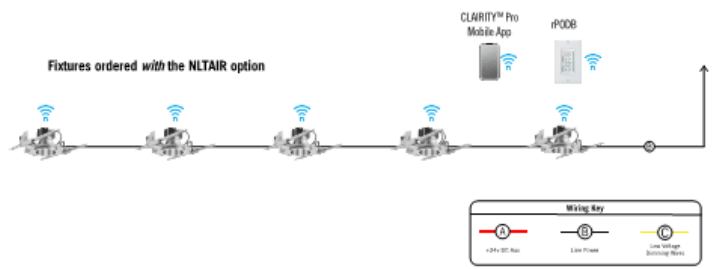
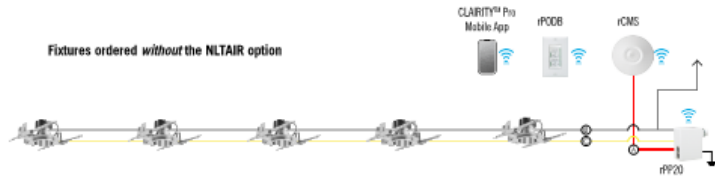
**nLight® AIR Control Accessories**  
Order as separate catalog number. Visit [nLight AIR](#).

Wall Switches	Model Number
On/Off single pole	rPODB (color) G2
On/Off two pole	rPODB 2P (color) G2
On/Off & raise/lower single pole	rPODB DX (color) G2
On/Off & raise/lower two pole	rPODB 2P DX (color) G2

**nLight® AIR Control Accessories (cont.)**

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	rCMS 9 / rCMS PDT 9
Large motion 360°, ceiling	rCMS 10 / rCMS PDT 10

#### Possibilities for nLight® AIR



nLight

nLight® The nLight® solution is a digital networked lighting control system that provides both energy savings and increased user configurability by cost effectively integrating time-based, daylight-based, sensor-based and manual lighting control schemes.

**nLight® Wired Control Accessories**  
Order as separate catalog number. Visit [nLight](#).

Wall Switches	Model Number
On/Off single pole	nPODM (color)
On/Off two pole	nPODM 2P (color)
On/Off & raise/lower single pole	nPOD DX (color)
On/Off & raise/lower two pole	nPODM 2P DX (color)
Graphic touchscreen	nPOD GFX (color)

**Photocell Controls**

Dimming	nCM ADCX
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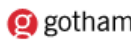
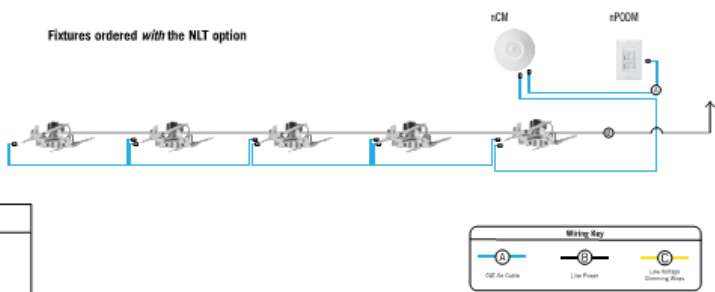
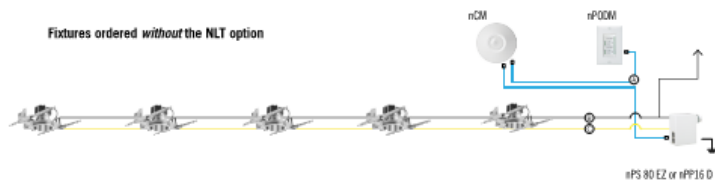
**nLight® Wired Control Accessories (cont.)**

Occupancy Sensors (PIR/dual tech)	Model Number
Small motion 360°, ceiling	nCM 9 / nCM PDT 9
Large motion 360°, ceiling	nCM 10 / nCM PDT 10
Wide View	nWV 16 / nWV PDT 16
Wall switch with raise/lower	nWSX LV DX / nWSX PDT LV DX

**Cat-5 Cables (plenum rated)**

10', CAT5	CATS 10FT J1
15', CAT5	CATS 15FT J1

#### Possibilities for nLight® wired



Refer to Luminaire Schedule for manufacturer's catalog ordering code, required lamping, finishes, modifications and/or required accessories.