



MILWAUKIE HIGH SCHOOL

11300 SE 23RD AVENUE, MILWAUKIE, OR 97222

APPLICANT:

NORTH CLACKAMAS SCHOOL DISTRICT
1245 SE FULLER ROAD
MILWAUKIE, OR 97222
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PLANNING CONSULTANT

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APPLICATION TYPE

TYPE III COMMUNITY SERVICE USE MODIFICATION

SUBMITTAL DATE

OCTOBER 2017

RECEIVED

JAN 25 2018

January 24, 2018

Brett Kelter
Associate Planner
6101 SE Johnson Creek Blvd.
Milwaukie, OR 97206CITY OF MILWAUKIE
PLANNING DEPARTMENT**SUBJECT: #CSU-2017-007**
SITE: Milwaukie High School (11200 SE 23rd Avenue)

Dear Brett,

3J Consulting has reviewed the City's November 9, 2017 correspondence regarding our client's application for a modification to Milwaukie High School' Community Service Use. Over the course of the last several months, we have prepared several additional materials in support of the application in our effort to address each of the issues raised within the City's request for additional information. The plans for the school's proposed improvements have also been modified with several minor changes to the roadway improvements and the

Submitted herewith is a revised land use narrative and SPHO Memorandum. The plans and submission materials have been revised to reflect the information requested to initiate the City's formal review of the application. As the District is striving to meet a summer construction schedule, the District requests that the City deem this application complete upon receipt and that a public hearing for the improvements be scheduled for the soonest possible public hearing. While the District has requested that the application be deemed complete, the District and the entire project team will be available to respond to any requests for further information or additional plans in support of the application.

The following sections of this letter provides a description of the information requested by the City and then a response which describes the changes that that have been completed to address each request.

Completeness Items**1. Forms and documentation:**

- a. **Provide a hard copy of the land use application form for this proposal, noting the Community Service Use, Variance Request, and Parking Modification components. (Note: The application form included with the submittal was for the Historic Resource Deletion request.)**
- b. **Provide some form of authorization for the submittal from the North Clackamas School District as the property owner. A letter or e-mail from the District acknowledging the submittal is sufficient. (Note: It is not clear whose signature is on the application form.)**

**Applicant's
Response:**

The requested forms have been updated and the district has provided an authorization letter identifying Mr. David Hobbs as the authorized representative.

2. MMC Chapter 19.500 Supplementary Development Regulations

- a. **MMC Subsection 19.504.9 On-Site Walkways and Circulation**



MMC 19.504.9 requires on-site walkways that link the site with the public sidewalk system to be constructed with pervious materials at least 5 ft in width, and lit to a minimum of 0.5 footcandles. Revise the narrative and site plan accordingly to explain how these various standards will be met.

b. **MMC Subsection 19.504.10 Setbacks to Adjacent Transit**

Note the setback limitations established in MMC 19.504.10 for sites like the subject property that are within 500 ft of an existing transit route. The proposed development is within 500 ft of the MAX Orange Line station and TriMet's #32 bus route on Lake Rd. Adjust the narrative to describe how the new high school building will comply with this section.

c. **MMC Subsection 19.504.11 Preliminary Circulation Plan**

The site plan (Sheet C2.0A) shows the building entrances, sidewalks, crosswalks, and vehicular drives and parking for the southern portion of the site. Expand the scope of information provided to include the entire site and the off-site parking lots and to show the following elements: (1) vehicular and pedestrian circulation between the off-site parking lots and the school/athletic field entrances, (2) the new pedestrian access within the Adams St right-of-way, and (3) access to nearby transit on Lake Rd and 23rd Ave. In addition, the scope of the Technical Memorandum by Lancaster Engineering should be expanded to provide an analysis of circulation for the entire site.

d. **MMC Subsection 19.505.8 Building Orientation to Transit.**

MMC 19.505.8 requires new development within 500 ft of an existing or planned transit route to have its primary orientation toward the transit street or route. As noted in Completeness Item 2-b, adjust the narrative to describe how the new high school building will comply with this section. In addition, the circulation plan (referenced in Completeness Item 2-c) should address how transit riders will walk between the school entrances and the MAX station and bus stop.

Applicant's Response: The narrative has been expanded to address the approval criteria provided in MMC 19.500 Supplementary Development Regulations

3. **MMC Chapter 19.600 Off-Street Parking and Loading**

a. **MMC Subsection 19.603.2 Submittal Requirements**

This subsection contains a list of required information for parking design, including relevant details (e.g., delineation of wheel stops, pedestrian pathways and circulation, landscaping and lighting details) that have not been provided in the narrative or site plan.

Applicant's Response: The Applicant's site plans and narrative has been expanded to address the approval criteria provided in MMC 19.600 Supplementary Development Regulations.

b. **MMC Section 19.605 Vehicle Parking Quantity Requirements**



MMC Subsection 19.605.2 establishes the procedures for modifying minimum and/or maximum parking ratios. MMC Subsection 19.605.3 establishes by-right reductions to minimum parking requirements. Note that reductions are limited to no more than 25% of the minimum parking requirement and cannot be utilized to further modify ratios that are modified through MMC 19.605.2. Revise the narrative to indicate whether a modification (MMC 19.605.2) or reduction (MMC 19.605.3) is proposed and address the relevant criteria accordingly.

Applicant's Response: The narrative has been expanded to address the approval criteria provided in MMC Subsection 19.605. The Applicant's proposed parking plan appears to meet the criteria for off-street parking with a 25% by-right reduction to the parking enabled by the school's proximity to the Orange MAX Light Rail Station.

c. MMC Section 19.606 Parking Area Design and Landscaping

- (1) The parking lot dimensional requirements are addressed in the narrative but are not clearly shown on the site plan.
- (2) Provide more detail regarding the required landscape buffering, particularly for the perimeter landscaping of the two southern/southeastern parking areas (eastern and southern perimeters of both) and the southwestern parking area (western perimeter). Be advised that the school site does not have a downtown zone designation, so the perimeter landscaping requirement where abutting the public right-of-way is 8 ft and not 4 ft.
- (3) Address the various applicable standards of MMC Subsection 19.606.3, such as for wheel stops, pedestrian access, and lighting.

Applicant's Response: The narrative has been expanded to address the approval criteria provided in MMC Subsection 19.606. Updated site and landscape plans have been provided to clearly document the site's compliance with the requirements of these sections.

d. MMC Section 19.608 Loading

The narrative notes that 2 new loading spaces will be provided (page 33), but they are not shown on the site plan. Revise the site plan accordingly.

Applicant's Response: The narrative has been expanded to address the approval criteria provided in MMC Subsection 19.608. Updated site and landscape plans have been provided to clearly document the site's compliance with the requirements of these sections.

e. MMC 19.609 Bicycle Parking

The narrative notes that the existing bike parking will remain, but it does not address Subsections 19.609.3 and 19.609.4 pertaining to rack design and location. Revise the site plan to show the bike parking location(s), and revise the narrative to address the relevant requirements of this section.

Applicant's Response: No new bicycle parking has been proposed therefore the sections regarding rack design and location have not been addressed.

4. **MMC Chapter 19.700 Public Facility Improvements**

- a. **Provide a plan showing proposed public improvements, consistent with the narrative description on pages 39-41.**
- b. **MMC Subsection 19.708.1 General Street Requirements and Standards**
 - (1) **As per MMC Subsection 19.708.1.A, all development subject to Chapter 19.700 shall comply with access management standard contained in Chapter 12.16. Revise the narrative to address this code section.**
 - (2) **MMC Subsection 19.708.1.D establishes requirements and standards for development in non-downtown zones. The narrative indicates that there will be 25 ft of right-of-way dedication on Adams St for a pedestrian connection (page 41), but the plans do not show any dedication. In addition, the site plan (Sheet C2.0A) does not show parking lot improvements on 25th Ave as described on page 41 of the narrative. Revise the submittal accordingly.**

Applicant's Response: Several new plans have been provided showing the public improvements and dedication described on pages 39-41 of the land use narrative. Additionally, the narrative has been expanded to address the City's Access Management Standards in 12.16.

c. **MMC Section 19.709 Public Utility Requirements**

- (1) **Per MMC Subsection 19.709.1.B, the development must conform to the City's Public Works Standards. These require the submittal of a preliminary stormwater plan showing that the new proposed stormwater facilities can accommodate the new flow from the impervious areas.**
- (2) **MMC Subsection 19.709.2 requires public utility improvements for proposed development that would cause capacity problems for existing public utilities. Milwaukie's 2010 Water System Master Plan indicates that the water line running up the fire lane to the east of the existing main building has deficient fire flow. Fire flow tests must be conducted if this line will continue to be used for fire flows. The master plan currently recommends upsizing this line to achieve fire flows. The new building will be sprinkled and so will have a different fire requirement. Expand the narrative to address in detail how the new building as well as the existing buildings will have adequate fire protection.**

Applicant's Finding: The Applicant has provided an updated stormwater management plan and report documenting that the proposed stormwater facilities can accommodate the new flows anticipated from the site's impervious areas.

The District has provided the results of a fire flow test for the line located to the east of the main building. The test documents that adequate pressure for fire flows are present. No upsizing of the line is currently proposed.



5. MMC Chapter 19.800 Nonconforming Uses and Development

The replacement of the main high school building would exceed 50% of the replacement value of the school. In such cases, MMC Subsection 19.805.1 B. requires new development to conform with current code standards. Revise the narrative to address this section, even if simply to state that newly built or rebuilt areas will meet the relevant code standards or to indicate whether a variance(s) has been requested.

**Applicant's
Response:**

The Applicant has updated the narrative to address MCC Chapter 19.805.1.B.

6. MMC Section 19.904 Community Service Uses

a. MMC Subsection 19.904.6 Application Requirements

MMC Subsection 19.904.6.H requires “detailed plans for the specific project.” The application submittal includes a series of Existing Conditions Plan sheets (C101-C109), a Schematic Design site plan (C2.0A), floor plan sheets, and a site plan for the temporary portable classrooms. However, the submittal is lacking important detailed information required by this section, including:

- (1) Detailed site plan – Sheet C2.0A provides a good overview of the improvements, but it lacks the necessary detail and dimensions for the proposed improvements. For example, the 2 new loading spaces noted on page 33 of the narrative are not clearly shown. Provide a revised site plan (or additional plan sheets) to show more detail.
- (2) Grading plan – Provide a grading plan for all portions of the site that are proposed to be modified. This is particularly important near the front (west side) of the school, where the existing grade is proposed to be significantly changed.
- (3) Landscaping plan – An illustrative landscaping concept has been provided (DOWA-IBI Site Study), but more detailed landscaping plans are required. For example, the submittal includes tree inventory information but a site plan identifying the existing trees and the trees proposed for removal is not provided. Revise the submittal materials accordingly.
- (4) Location of off-site vehicular parking – Revise the submittal materials to show all existing off-site parking areas that will be retained.
- (5) Location and design of existing bike parking – Revise the submittal materials to show all the location(s) of existing bike parking that will be retained.
- (6) Exterior lighting plan – Provide an exterior lighting plan, including photometric data sufficient to demonstrate minimum lighting levels and limited light spill across property boundaries. If the lights for the sports field are to be changed, please address this in the exterior lighting plan.

(7) Circulation – Provide a circulation plan for the entire site, including the off-site parking lots, TriMet #32 bus stop, and downtown MAX station.

Applicant's Response: The Applicant has provided a series of updated plans and reports which better illustrate the details of the site plan. All of the information required within section 19.904 should be provided within the revised plans.

b. MMC Subsection 19.904.7 Specific Standards for Schools

Address the relevant site area/pupil ratio, whether a specific ratio required by state law or the standard established in MMC Subsection 19.904.7.A. It may be necessary to add a variance request to address this standard.

Applicant's Response: The narrative has been revised to state that the school is currently unable to conform to the site area/pupil ratio based upon the existing size of the campus and the urban development patterns currently in place surrounding the District's property. As there is no room for future expansion of the campus, the District's non-conforming status can not be altered.

c. Describe how the school will operate while the modular classrooms are in place on the athletic field as the new facilities are being constructed. Of particular interest are pedestrian and vehicle circulation, parking, and construction staging. It might be most effective to provide a separate section or appendix that includes the modular classroom layout—at present, the layout is buried within the plans grouped within Appendix E.

Applicant's Response: The Applicant has expanded the narrative to explain how the School will conduct operations while the modular classrooms are in place.

Approvability Items

- 1. General Note – It is not necessary to include so much existing code language in the narrative. To reduce the bulk of the narrative and improve its readability, consider simply listing the relevant section or subsection numbers and headings and then providing a response to the appropriate criteria. This would make the narrative more accessible to the decision-makers, the public, and other reviewers.**

Applicant's Finding: The applicant acknowledges that is not necessary to repeat the relevant existing code language, however it is the preference of the applicant to include all applicable code language within the narrative for easy reference to the applicable standards.

- 2. Plan sheets – The application would be strengthened by providing information relevant to the applicable code standards on the plan sheets (to the maximum extent possible) and not relying solely on the narrative to substantiate compliance. The narrative could then cross-reference the relevant plan sheets to emphasize or illustrate relevant points.**



Applicant's Finding: Where possible, the plans have been cross referenced in the narrative with the plans sheets showing how the applicable approval criteria and standards have been addressed through the site's design.

3. Vehicle parking

- a. As noted in Completeness Item 3-b, either a modification or a reduction should be the focus of the request. The narrative regarding the revised number of vehicle parking spaces (MMC Section 19.605) would be significantly clarified if accompanied by notations on a site plan showing all proposed new parking and deleted parking for the entire site. If a parking modification is proposed (as per MMC Subsection 19.605.2), the justification could be strengthened by considering such factors as current parking usage, enrollment and staffing projections, access to transit (for staff and students), a potential Transportation Demand Management program, etc.
- b. It would help to have more clarity about whether or how a request for parking quantity modification accounts for the potential increase in capacity for the remodeled facility. The narrative uses the current numbers of students and staff as the basis for all calculations, but it seems fair to ask whether a potential increase in capacity should be planned for in addressing future parking needs. One suggestion is to expand the narrative with more discussion about current enrollment levels versus future projections and how the school will address parking demand with these considerations in mind.
- c. If a parking reduction is requested instead of a parking modification, be advised that school buses are not considered transit, so the proposed bus pull-out area on Willard St does not count as a transit facility improvement and does not qualify for a reduction. However, the site is eligible for the maximum 25% reduction for being within 1,000 ft (walking distance) of a light rail transit stop.
- d. The narrative does not provide a clear description of the proposed new or reconfigured parking areas. On page 17, there are notes about the "improved" southeastern lot and a "new" southwestern lot, but these characterizations appear to be reversed, if the existing southwestern lot will be reconfigured and the softball field will be replaced with a new parking lot. Consider providing names or labels for the various on-site parking areas to more clearly distinguish them from one another (e.g., "A," "B," and "C;" alternately, "SW" or "W," "S" or "E," and "SE;" or some other convention).
- e. The tally of current parking spaces does not align with the figures presented in earlier land use applications. When the new athletic field was established in 2007, information from the District indicated a total of 341 off-street spaces: 198 parking spaces on the school campus and 143 off-site shared spaces at the St. John's Catholic and St. Stephen's Serbian churches. On-street spaces, such as those along 25th Ave, were not included (land use file #CSU-07-05). When a variance was requested in 2009 to allow the 39 off-street spaces at the Lake Road athletic fields to count as shared parking for the high school, the tally was for 200 on-site spaces

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and 102 off-site shared spaces at the churches (file #VR-09-01). The current count of 279 spaces appears to include the on-street spaces on 25th Ave and is significantly higher than previous figures. These apparent discrepancies need some explanation.

- f. The City's suggestion for the new parking area that will replace the tennis courts was that it be designed to incorporate the 25th Ave right-of-way, with a variance to the standard requiring a perimeter landscaping buffer. The design presented on Sheet C2.0A appears to show a landscaped buffer and sidewalk between the parking area and 25th Ave, with no vehicular connection to 25th Ave. Be advised that, if the applicant opts not to design this parking area to physically incorporate the 25th Ave right-of-way, the parking spaces in the right-of-way will not count toward meeting the school's minimum requirement for off-street parking.

Applicant's Finding:

The Applicant has updated the plans for the new campus improvements to remove any improvements to the southern parking area. The Application materials have been updated to clarify that the District is entitled to and can meet the City's parking requirements with a 25% by-right reduction to the City's parking standards due to the site's proximity to the Orange MAX Light Rail Station. While the district may have, in the past, had entitlement to utilize additional off-street parking, the district has affirmed that the current shared parking agreements with the neighboring properties enable the use of 90 shared parking stalls. All other parking calculations have been based upon current survey data.

4. **Traffic memo**

- a. It is confusing to include the Lake Rd athletic fields in the analysis but not to include the entire high school site. It might be better to reorganize the memo to look at the two projects separately (main campus redevelopment versus improvements at Lake Rd fields), especially since it will be important to look at trip generation estimates for the Lake Rd fields facility itself in a separate land use application.
- b. Have any of the recommendations from the traffic memo been incorporated into the proposal?
- c. The characterization of "new" versus "reconfigured" lots is somewhat confusing. The memo notes 3 new lots, but the southwestern lot is existing and will be reconfigured.
- d. The text on page 3 of the memo is not clear where it explains the trip generation forecasting. There is a reference to a "proposed shared access," which is not clearly indicated on the plan sheet or otherwise described. The estimates in Table 1 appear to be based on a student count of 300 instead of 1,200 or 1,500, which suggest that the intent is to discuss the potential increase in student population, but this is not clear.

Applicant's Finding:

The Applicant has provided a stand-alone, updated traffic memorandum addressing improvements proposed for the site, trip generation, and site circulation.

5. **Public facility requirements**



- a. The traffic memo mentions that a minimum of 100 ft is required between driveways on local roads, citing MMC Section 19.708. However, the spacing requirement in MMC 19.708 is for intersection spacing; the requirements for driveway spacing are in MMC Section 12.16.040. The only limit on driveway spacing is provided in MMC Subsection 12.16.040.C.4.a, requiring a minimum of 45 ft from intersections. The plans submitted do not show modifications to 25th Ave, so compliance with driveway spacing requirements cannot be determined at this time. If the spacing requirements cannot be met, a variance request may be necessary.
- b. As proposed, the driveway approach for the southwestern parking lot is approximately 40 ft wide. Per MMC Subsection 12.16.040.F.6, the maximum driveway width is 36 ft but may be increased with a request to the Engineering Director as per MMC Subsection 12.16.040.F.8.

Applicant's Finding: The Applicant has provided a stand-alone, updated traffic memorandum addressing improvements proposed for the site, trip generation, and site circulation.

6. Variance Requests

- a. The argument for a variance from the perimeter landscaping standard could be strengthened by showing the area in question on the landscaping plan, along with the location of adjacent development and uses.
- b. At the bottom of page 61 of the narrative, the language of MMC Subsection 19.911.3.C is listed but no response is provided. The conclusion should be that both proposed variances require Type III review.

Applicant's Finding: The request for a variance for perimeter landscaping has been removed from the application.

We trust that the materials provided herewith will be useful to the City in reviewing the District's Application. Please feel free to give me a call if you have any questions or need any additional clarification.

Sincerely,



Andrew Tull
Principal Planner
3J Consulting, Inc.

copy: Mr. David Hobbs – North Clackamas School District
Mr. Steve Nicolas – Heery International
Mr. Matt Jacoby – BRIC Architects
File



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Attachments

- Appendix A – Application Forms
- Appendix B – Pre-App Notes
- Appendix C – Neighborhood Meeting Materials
- Appendix D – Supporting Reports
- Appendix E – Preliminary Land Use Plans

GENERAL INFORMATION

Applicant:

North Clackamas School District

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SITE INFORMATION

Parcel Number:

11E36BC 5600

Address:

2301 SE Willard Street

Size:

14.7 acres

Zoning Designation:

R-2 and R-1-B

Existing Use:

Milwaukie High School

Street Functional Classifications:

SE Washington Street is classified as a collector. SE 23rd Avenue, SE Willard Street and SE 25th Avenue are classified as local roads.

Surrounding Zoning:

The properties to the south and east are zoned R-2. The properties to the west are zoned R-1-B and DMU. The properties to the north are zoned R-1-B and R-2.

INTRODUCTION

APPLICANT'S REQUEST

The North Clackamas School District is proposing to construct a new High School on the existing Milwaukie High School Campus and seeks approval of an application for a Type III Community Service Use (CSU) Modification and a variance to allow for an exception to the City's van and carpool parking requirements. This narrative has been prepared to describe the proposed development and to document compliance with the relevant sections of Milwaukie's Development Code.

SITE DESCRIPTION/SURROUNDING LAND USE

Milwaukie High School is located at 11300 SE 23rd Avenue within the City of Milwaukie. The site consists of one tax lot, 1S1E36BC 5600, which is traversed by SE Willard Road. The site is approximately 14.7 acres and is primarily zoned R-2, with a small portion of the site west of 23rd avenue zoned R-1-B. The existing school consists of a primary academic and administrative building, with several connecting additions made to the campus over the years.

The existing building was established as a school facility in 1907. The school was built long before the CSU section of the City's zoning code was developed so no Community Service Use was originally issued for the facility. The City eventually issued a Community Service Permit for the site and the City has approved major modifications to the School's campus in 1986, 1988, 1993, 1999, and 2007. The most recent application to the City was a proposal to place a new scoreboard at the Softball fields in the southeastern corner of the site.

PROPOSAL

The North Clackamas School District is proposing to construct a new High School on the existing Milwaukie High School Campus. The proposed changes to the school will include the demolition of the original school structure built between 1925 and 1949, which is designated as a Historic Resource on the City's Comprehensive Plan Map and Zoning Map. A new main building will be constructed in place of the existing building, which will contain the academic and administrative functions. The existing Commons Building will remain and will be extensively remodeled. The new school will be physically joined to the Commons to provide a more cohesive and connected campus.

Proposed building improvements will provide improvements to technology, seismic upgrades, food service/kitchen remodel and improvements, accessibility (ADA) improvements, emergency generator replacement, re-roofing of the auditorium and Commons Building, and exterior and interior painting. Proposed site improvements will include a new main entry plaza, parking lot repairs and improvements, stadium field turf replacement, athletic track resurfacing, new stadium scoreboards, a new electronic reader board facing Willard Street, improved pedestrian circulation, improved vehicular circulation and new landscaping.

TEMPORARY IMPROVEMENTS

The North Clackamas School District is planning to complete the demolition of the existing school, reconstruction of the new main building, and improvements to the site and parking areas over the course of the next three years. Construction activities are anticipated to begin at the close of the 2017/2018 school year and are anticipated to achieve substantial completion in the fall of 2020. Because students will

be on campus throughout construction, the District is proposing to install modular classrooms and restrooms atop of the school's existing football field.

As shown on the attached modular plan, the District plans to install 27 new classroom modular buildings and six (6) new restroom/custodial buildings. The District's High School operations and faculty will operate out of the modular classroom center, existing Commons Building, existing Gymnasium, and existing performing Arts Center until the new building is constructed and ready for occupancy. Following the opening of the new building, the modular classroom center will be removed and the field will be re-surfaced and repaired.

Access to the modular buildings will be provided via a series of fenced pedestrian walkways which will lead west to the Gym and Commons. As the south side of the campus will be under construction, bus and vehicular traffic will be provided via the drop-off lane which currently exists along SE 23rd Avenue. Emergency vehicles will have access to the area via use of the existing track surrounding the football field. All utilities will be provided via new underground connections which will be abandoned upon the closure of the village.

NEIGHBORHOOD MEETING

The Applicant held a neighborhood meeting to discuss the proposed development on June 27, 2017. Invitations were mailed to members of the City Council and Planning Commission, the Design and Landmarks Committee, Milwaukie Museum members, the Clackamas County Historical Society, the chairs of several surrounding neighborhood associations, and property owners within 400 feet of the site. All total, more than 400 invitations to the community meeting were sent via mail and 63 invitations were sent via email. The materials from the neighborhood meeting are included with this application.

APPLICABLE CRITERIA

The following sections of the City of Milwaukie's Zoning and Development Ordinance have been extracted as they have been deemed to be applicable to the proposal. Following each **bold** applicable criteria or design standard, the Applicant has provided a series of draft findings. The intent of providing code and detailed responses and findings is to document, with absolute certainty, that the proposed development has satisfied the approval criteria for a Type III Community Service Use Modification, a Modification to the minimum required parking standards, and a Variance to allow for an exception to the City's carpool/van-pool parking requirements.

CHAPTER 19.300 BASE ZONES

19.302 MEDIUM AND HIGH DENSITY RESIDENTIAL ZONES

The medium and high density residential zones are Residential Zone R-3, Residential Zone R-2.5, Residential Zone R-2, Residential Zone R-1, and Residential-Business Office Zone R-1-B. These zones implement the Medium Density and High Density residential land use designations in the Milwaukie Comprehensive Plan.

19.302.1 Purpose

The medium and high density residential zones are intended to create and maintain higher density residential neighborhoods that blend a range of housing types with a limited mix of neighborhood-scale commercial, office, and institutional uses.

19.302.2 Allowed Uses in Medium and High Density Residential Zones

Uses allowed, either outright or conditionally, in the medium and high density residential zones are listed in Table 19.302.2 below. Similar uses not listed in the table may be allowed through a Director's Determination pursuant to Section 19.903. Notes and/or cross references to other applicable code sections are listed in the "Standards/Additional Provisions" column.

See Section 19.201 Definitions for specific descriptions of the uses listed in the table.

Table 19.302.2 Medium and High Density Residential Uses Allowed		
Use	R-2	Standards/Additional Provisions
Accessory and Other Uses		
Community Service Use	CSU	Section 19.904 Community Service Uses

CSU = Permitted with Community Service Use approval subject to provisions of Section 19.904. Type III review required to establish a new CSU or for major modification of an existing CSU. Type I review required for a minor modification of an existing CSU.

Applicant's Facts and Findings: The site consists of approximately 14.7 acres. All proposed improvements are located within the R-2 zoned portions of the property. School facilities are permitted within the City's R-2 zoning district when approved through a Community Service Use Application. The Applicant has submitted a Community Service Use Application and has addressed the applicable approval criteria for the base zone and the Community Service Use.

19.302.4 Development Standards

In the medium and high density residential zones, the development standards in Table 19.302.4 apply. Notes and/or cross references to other applicable code sections are listed in the "Standards/Additional Provisions" column. Additional standards are provided in Section 19.302.5.

The standards in Subsection 19.302.4 are not applicable to cottage cluster development except where specifically referenced by Subsection 19.505.4.

See Sections 19.201 Definitions and 19.202 Measurements for specific descriptions of standards and measurements listed in the table.

Table 19.302.4 Medium and High Density Residential Development Standards		
Standard	R-2	Standards/ Additional Provisions
A. Lot Standards		
1. Minimum lot size (sq ft)	2,500	Subsection 19.501.1 Lot Size Exceptions Subsection 19.505.4 Cottage Cluster Housing Subsection 19.505.5 Rowhouses
a. Rowhouse	7,000	
b. Duplex	5,000	
c. All other lots		
2. Minimum lot width (ft)	25	
a. Rowhouse	50	
b. All other lots		
3. Minimum lot depth (ft)	80	
a. Rowhouse	80	
b. All other lots		
4. Minimum street frontage requirements (ft)	25	
a. Rowhouse	35	
b. Standard lot	25	
c. Flag lot	35	
d. Double flag lot		
B. Development Standards		
1. Minimum yard requirements for primary structures (ft)	15	Subsection 19.302.5.A Side Yards Subsection 19.501.2 Yard Exceptions Subsection 19.504.8 Flag Lot Design and Development Standards
a. Front yard	See Subsection 19.302.5.A	
b. Side yard	15	
c. Street side yard	15	
d. Rear yard	15	
2. Maximum building height for primary structures	3 stories or 45 ft, whichever is less	Subsection 19.302.5.E Height Exceptions Subsection 19.501.3 Building Height and Side Yard Height Plane Exceptions Subsection 19.302.5.I Transition Measures
3. Side yard height plane limit	25	Subsection 19.501.3 Building Height and Side Yard Height Plane Exceptions
a. Height above ground at minimum required side yard depth (ft)	45	
b. Slope of plane (degrees)		
4. Maximum lot coverage (percent of total lot area)	45%	Section 19.201 "Lot coverage" definition
5. Minimum vegetation (percent of total lot area)	15%	Subsection 19.504.7 Minimum Vegetation Subsection 19.302.5.D Front Yard Minimum Vegetation Subsection 19.302.5.C Minimum Vegetation
C. Other Standards		

1. Density requirements (dwelling units per acre) a. Minimum b. Maximum	11.6 17.4	Subsection 19.202.4 Density Calculations
		Subsection 19.302.5.F Residential Densities
		Subsection 19.501.4 Density Exceptions

Applicant’s Facts and Findings: The Applicant has not proposed any residential development therefore the standards of the underlying zone associated with residential developments do not apply to this proposal.

The standards which do apply are listed in *Table 19.302.4 Medium and High Density Residential Development Standards:*

Base Zone Standard	As Required	As Proposed
1. Minimum Yard Requirements	Front: 15’ Side: 15’ Street Side: 15’ Rear: 15’	Front: 15’ Side: 15’ Street Side: 15’ Rear: 15’
2. Maximum Height for Primary Structures	45’ or 3 stories, whichever is less	45’ along SE Willard Street – 3 stories.
3. Side yard height plane limit a. Height above ground at minimum required side yard depth (ft) b. Slope of plane (degrees)	25 45	See response to section 19.501.3
Maximum Lot Coverage	45%	23% +/-

As shown above, the Applicant meets all of the underlying standards of the base zone.

CHAPTER 19.500 SUPPLEMENTARY DEVELOPMENT REGULATIONS

19.501 GENERAL EXCEPTIONS

The exceptions listed in Subsections 19.501.1–4 below are “by right” exceptions. “By right” exceptions require no special review or approval by the City to implement.

19.501.3 Building Height and Side Yard Height Plane Exceptions

- A. Projections such as chimneys, spires, domes, elevator shaft housings, flagpoles, and other similar objects not used for human occupancy are not subject to the building height and side yard height plane limitations of the Zoning Ordinance, except as provided in an L-F Zone.
- B. The following encroachments into a side yard height plane are allowed:
 - 1. Roof overhangs or eaves, provided that they do not extend more than 30 in horizontally beyond the side yard height plane.

2. The gable end of a roof, provided that the encroachment is not more than 8 ft high above the side yard height plane or more than 40 ft wide.
3. Dormers, with the following limitations:
 - a. The highest point of any dormer is at or below the height of the primary roof ridge.
 - b. The encroachment is not more than 6 ft high above the side yard height plane or more than 8 ft wide.
 - c. The combined width of all dormers does not exceed 50% of the length of the roof on which they are located.

Applicant's Facts and Findings: No exceptions to the building height and side yard planes are proposed. The requirements of this section do not apply.

CHAPTER 19.500 SUPPLEMENTARY DEVELOPMENT REGULATIONS

19.504 SITE DESIGN STANDARDS

19.504.9 On-Site Walkways and Circulation

A. Requirement

All development subject to Chapter 19.700 (excluding single-family and multifamily residential development) shall provide a system of walkways that encourages safe and convenient pedestrian movement within and through the development site.

Redevelopment projects that involve remodeling or changes in use shall be brought closer into conformance with this requirement to the greatest extent practicable. On-site walkways shall link the site with the public street sidewalk system. Walkways are required between parts of a site where the public is invited to walk. Walkways are not required between buildings or portions of a site that are not intended or likely to be used by pedestrians, such as truck loading docks and warehouses.

Applicant's Facts and Findings: The existing MHS Campus has several walkways and pedestrian routes. The Applicant has proposed to make a series of changes along the site's southern boundaries, in response to the placement and positioning of the new building. The newly proposed pedestrian circulation system provides convenient and direct routing from the site's SE Willard and SE Lake Road frontages to the proposed building's access. Points. The proposed circulation system's walkways have also been designed to connect to the site's existing pedestrian network where applicable.

B. Location

A walkway into the site shall be provided for every 300 ft of street frontage.

Applicant's Facts and Findings: The permanent improvements to the site fall mainly along the site's southern boundary. The replacement building has frontage and primary access along SE Willard and in part SE Willard Road has approximately 800 linear feet of frontage, necessitating at least two (2) walkways into the site. The proposed plan has two direct walkways leading to the entry/exit doors on the property, one on the east side and one on the west. The site also has a nearly continuous expanded pedestrian sidewalk along the bus drop off area. The proposed pedestrian

connection system from the site's southern frontage meets the requirements of this code.

C. Connections

Walkways shall connect building entrances to one another and building entrances to adjacent public streets and existing or planned transit stops. On-site walkways shall connect with walkways, sidewalks, bicycle facilities, alleys, and other bicycle or pedestrian connections on adjacent properties used or planned for commercial, multifamily, institutional, or park use. The City may require connections to be constructed and extended to the property line at the time of development.

Applicant's Facts and Findings: The permanent improvements to the site fall mainly along the site's southern boundary. The new high school main building has been placed essentially on the footprint of the old building. Pedestrian connections currently exist between the main building, the site's parking lots, the bus drop off area, and the Commons and Performing Arts buildings. The Applicant has proposed to place a large pedestrian plaza between the Performing Arts building, Commons building, parking lot and the new High School Main building. All existing pedestrian walkways which will not be affected by the proposed improvements will be connected to new pedestrian walkways which will meet at the main plaza. All new walkways on site, primarily south of the proposed building, will also be connected to the plaza and the other walkways on site. The proposed pedestrian connection system to the site's existing buildings meets the requirements of this code.

D. Routing

Walkways shall be reasonably direct. Driveway crossings shall be minimized. Internal parking lot circulation and design shall provide reasonably direct access for pedestrians from streets and transit stops to primary buildings on the site.

Applicant's Facts and Findings: All proposed walkways have been logically arranged to provide direct access to the new building's primary entry and to the main entries of the surrounding existing buildings and parking areas. Wherever possible, driveway crossings have been minimized. Trimet provides bus service from two bus stops located to the south of the intersection of SE 23rd Avenue and SE Lake Road. The applicant is proposing to create two new ADA compliant curb ramps on the northern corner of the intersection of Lake and 23rd. These curb connections will connect to a continuous public sidewalk and private walkway system which will lead to the school's proposed entrance and exit doors. The proposed pedestrian connection system meets the requirements of this code.

E. Design Standards

Walkways shall be constructed with a hard surface material, shall be permeable for stormwater, and shall be no less than 5 ft in width. If adjacent to a parking area where vehicles will overhang the walkway, a 7-ft-wide walkway shall be provided. The walkways shall be separated from parking areas and internal driveways using curbing, landscaping, or distinctive paving materials. On-site walkways shall be lighted to an average 5/10-footcandle level. Stairs or ramps shall be provided where necessary to provide a direct route.

Applicant's Facts and Findings: The proposed improvements to the site's new pedestrian walkways will be constructed using a mixture of concrete and pervious concrete. Plans C200, C201, C202, and C203 illustrate the location and type of materials proposed for the site's new walkways. Each proposed walkway will have a width of no less than five (5) feet. Where walkways have been proposed along parking lots, no overhangs have been anticipated due to the installation of wheel stops. The walkways along the site's parking areas still meet the standard for potential over-hanging vehicles as each walkway has been proposed to be wider than seven (7) feet. As shown on the attached lighting and photometric plans, all new walkways on site will be illuminated at levels between 1.42 and 15.7 foot candles. The placement of light fixtures has been deliberately considered in order to provide the highest levels of lighting along the primary pedestrian routes. The proposed pedestrian connection system meets the requirements of this code.

19.504.10 Setbacks Adjacent to Transit

The following requirement applies to all new commercial, office, and institutional development within 500 ft of an existing or planned transit route measured along the public sidewalk that provides direct access to the transit route:

When adjacent to a street served by transit, new commercial, office, or institutional development, including uses authorized under Section 19.904 Community Service Uses, shall be set back no more than 30 ft from the right-of-way that is providing transit service.

- A. An individual building may be set back more than 30 ft, provided the building is part of an approved phased development that will result in a future building(s) that complies with the 30-ft setback standard.**
- B. For sites with multiple buildings, the maximum distance from a street with transit to a public entrance of the primary building shall be no more than 100 ft.**
- C. If the proposed building is part of an institutional campus, the Planning Director may allow flexibility in the setback and orientation of the building. As a trade-off for this flexibility, enhanced sidewalk connections shall be provided between the institutional building(s) and nearby transit stops.**
- D. If the site abuts more than 1 street served by transit, then the maximum setback requirement need only apply to 1 street.**

Applicant's Facts and Findings: The proposed development is within 500 ft of the MAX Orange Line station and TriMet's #32 bus route on Lake Rd. The improvements located on the site are not physically able to be located along the frontages of either Lake Road or SE 21st Avenue because of the existing development patterns and buildings which are already located on the campus. The application therefore requires the flexibility in building siting and placement afforded through subsection C of this requirement. The placement of the school in over its existing footprint provides the best overall access to student drop-off areas and provides for logical connections to pedestrian routes to the site's surrounding transit facilities and other buildings and amenities on site.

The Applicant is proposing to create enhanced pedestrian facilities both on site and within the public rights-of-way for SE Willard and SE Lake Road. The Applicant is also proposing to install a new set of concrete stairs in the north-western portion of the improvement package to allow for a better pedestrian

connection to the SE Adams Street right-of-way. The District anticipates that users arriving on the Orange Max line will be able to use SE Adams to connect to the MAX platform. While the proposal does not explicitly meet the setback standards within this section, the Director can find that with the planned improvements to pedestrian connectivity, the requirements of this section have been met.

19.504.11 Preliminary Circulation Plan

A preliminary circulation plan is intended to guide site development by establishing a plan for multimodal access, connectivity, and circulation. A preliminary circulation plan is a conceptual plan, in that it does not establish a precise alignment for street, pedestrian, or bicycle facilities.

A. Applicability

A preliminary circulation plan is required for nonresidential development on sites 3 acres and larger that are subject to development review per Section 19.906 and where any of the following is true:

- 1. The site is vacant.**
- 2. The proposed new development or redevelopment will result in reconfiguration of the transportation and development pattern for > 50% of the site.**
- 3. The development is in the Flex Space Overlay Zone.**

B. Plan Contents

1. The preliminary circulation plan shall include a site plan, showing land uses; building envelopes and other structures; the pedestrian, bicycle, and vehicle circulation system; vehicle and bicycle parking areas; open areas; existing trees to be preserved; and utility connections. The site plan must also include the following:

- a. All existing improvements that will remain after development of the proposed use.**
- b. All improvements planned in conjunction with the proposed use.**
- c. Conceptual plans for possible future uses.**
- d. Pedestrian and bicycle facilities, including safe pedestrian and safe bicycle circulation between the following:**
 - (1) Major buildings, activity areas, and transit stops within the site plan boundaries and adjacent streets, pathways, and transit stops.**
 - (2) Adjacent developments and the proposed development.**

2. The preliminary circulation plan shall include a public right-of-way/easement plan depicting the following, if applicable:

Reservation, dedication, or use of the proposed site for public purposes, including, but not limited to the following: rights-of-way, showing the name and location of all existing and proposed public and private access drives within or on the boundary of the proposed site; the right-of-way and paving dimensions; the

ownership and maintenance status, if applicable; the location, width, and construction material of all existing and proposed sidewalks; pedestrian accessways and trails; and bicycle accessways and trails.

Applicant's Facts and Findings: The Applicant has provided preliminary circulation plans which describes the walkable and navigable areas of the site for pedestrians, vehicles and busses. The circulation plan is included within the traffic memorandum prepared by Lancaster Engineering, attached within appendix D.

C. Approval Criteria

In reviewing a proposed preliminary circulation plan, the Planning Director shall find compliance with the relevant portions of the Comprehensive Plan, Transportation System Plan, and Section 19.708 Transportation Facility Requirements.

Applicant's Facts and Findings: The Applicant has provided preliminary circulation plans showing the walkable and navigable areas of the site for pedestrians, vehicles and busses. The circulation plan is included within the traffic memorandum prepared by Lancaster Engineering, attached within appendix D. The circulation plan proposed by the applicant is consistent with the City's Comprehensive Plan and Transportation System Plan. Consistency with the Transportation System plan and Comprehensive plan has been achieved through a series of dedications and proposed roadway improvements which are aligned with the requirements for each of the roads which front the property based upon their functional classifications. The improvements proposed are described in detail in response to section 19.708.

19.505 BUILDING DESIGN STANDARDS

19.505.8 Building Orientation to Transit

The following requirement applies to all new commercial, office, mixed-use, and institutional development within 500 ft of an existing or planned transit route measured along the public sidewalk that provides direct access to the transit route:

New buildings shall have their primary orientation toward a transit street or, if not adjacent to a transit street, a public right-of-way which leads to a transit street. The primary building entrance shall be visible from the street and shall be directly accessible from a sidewalk connected to the public right-of-way. A building may have more than 1 entrance. If the development has frontage on more than 1 transit street, the primary building entrance may be oriented to either street or to the corner.

Applicant's Facts and Findings: The Applicant is proposing to reconstruct the High School's main building in the area where the current building stands. The primary entrance for the school is located approximately 500 feet from the nearest transit drop-off location. The new entrance should be visible from the drop off locations for TriMet's #32 bus route at its stops on Lake Road and 23rd Avenue.

CHAPTER 19.600 OFF-STREET PARKING AND LOADING

19.601 PURPOSE

Chapter 19.600 regulates off-street parking and loading areas on private property outside the public right-of-way. The purpose of Chapter 19.600 is to: provide adequate, but not excessive, space for off-street parking; avoid parking-related congestion on the streets; avoid unnecessary conflicts between vehicles, bicycles, and pedestrians; encourage bicycling, transit, and carpooling; minimize parking impacts to adjacent properties; improve the appearance of parking areas; and minimize environmental impacts of parking areas.

Regulations governing the provision of on-street parking within the right-of-way are contained in Chapter 19.700. The management of on-street parking is governed by Chapter 10.20. Chapter 19.600 does not enforce compliance with the Americans with Disabilities Act (ADA). ADA compliance on private property is reviewed and enforced by the Building Official.

19.602 APPLICABILITY

19.602.1 General Applicability

The regulations of Chapter 19.600 apply to all off-street parking areas and off-street loading areas, whether required by the City as part of development or a change in use, per Subsection 19.602.3, or voluntarily installed for the convenience of users, per Subsection 19.602.4. Activity that is not described by Subsections 19.602.3 or 4 is exempt from compliance with the provisions of Chapter 19.600. Changes to nonconforming off-street parking and loading are addressed through Chapter 19.600 and not through the provisions of Chapter 19.800.

19.602.2 Maintenance Applicability

Property owners shall comply with the regulations of Chapter 19.600 by ensuring conformance with the standards of Chapter 19.600 related to ongoing maintenance, operations, and use of off-street parking and loading areas. Changes to existing off-street parking or loading areas that bring the area out of conformance with Chapter 19.600, or further out of conformance if already nonconforming, are prohibited.

19.602.3 Applicability for Development and Change in Use Activity

The provisions of Chapter 19.600 apply to development and changes of use as described in Subsection 19.602.3.

- A. Development of a vacant site shall have off-street parking and off-street loading areas that conform to the requirements of Chapter 19.600. Development of a site that results in an increase of 100% or more of the existing floor area and/or structure footprint on a site shall also conform to the requirements of Chapter 19.600. The floor area and/or footprint of structures demolished prior to development or redevelopment on the site shall not be considered when calculating the increase in floor area and/or structural footprints.**
- B. Existing off-street parking and loading areas shall be brought closer into conformance with the standards of Chapter 19.600, per Subsection 19.602.5, when the following types of development or change in use occur:**
 - 1. Development that results in an increase of less than 100% of the existing floor area and/or structure footprint.**
 - 2. Changes of use, as defined in Section 19.201.**

Applicant's Facts and Findings: The applicant is proposing to demolish the main building at the Milwaukie Campus. The existing main building is approximately 94,437 square feet. The proposed replacement is approximately 137,813 square feet. The Square footage of the primary building has been approximated at this stage however the change in the development's square footage represents a 145% increase over the existing floor area.

The Applicant has addressed the standards of Section 19.602.5 below and has documented that the Applicant has brought the proposed parking and loading areas closer into conformance with the City's parking and loading standards.

19.602.4 Applicability not associated With Development or Change in Use

- A. Any parking or loading area developed to serve an existing use(s) that is not associated with development activity or a change in use described in Subsection 19.602.3 shall conform to the requirements of Sections 19.604 and 19.606-19.611. The total number of spaces in the existing parking area and new parking area shall not exceed the maximum allowed quantity of parking as established in Section 19.605.**
- B. Any parking or loading area that is not developed to serve an existing use and is not associated with development activity or a change in use as described in Subsection 19.602.3 shall conform to the requirements of Sections 19.604 and 19.606-19.611. The requirements of Section 19.605 do not apply to parking areas described under Subsection 19.602.4.B.**

Applicant's Facts and Findings: The Applicant has addressed the requirements of Sections 19.604, 19.605, and 19.606-19.611 as they apply to this project.

19.602.5 Improvements to Existing Off-Street Parking and Loading Areas

- A. Purpose**
The purpose of Subsection 19.602.5 is to improve nonconforming off-street parking and loading areas as redevelopment occurs. These improvements should occur in conjunction with a development or change in use.

Applicant's Facts and Findings: The Milwaukie High School site improvement package includes the development of a new parking area located to the east of the main school building, over the top of the existing softball field.

The existing parking lot located to the southwest of the main building will also be improved as part of this project. All proposed parking areas will be designed to conform to the City's parking standards.

The requirements of this section are met.

- B. Limitations on Required Improvements**
The cost of materials for any required improvements shall not exceed 10% of the development permit value of the associated development, redevelopment, and/or tenant improvements associated with a change in use. The cost of capital equipment such as manufacturing or operational equipment is exempt from the building permit value for purposes of this regulation. This exemption does not include building

infrastructure such as electrical, plumbing, heating, venting, or air conditioning equipment.

Applicant's Facts and Findings: The North Clackamas School District's proposal includes several significant improvements to the Milwaukie High School's campus and parking facilities. Because the district's proposal addresses several existing non-conforming parking areas and proposed improvements which meet the City's standards for parking and loading, the City is not compelled to ask for improvements beyond those proposed by the District.

C. Areas of Required Improvement

The Planning Director will evaluate the applicant's parking plan and use the prioritized list below when determining what improvements will be required.

- 1. Paving and striping of parking areas, per Subsection 19.606.3.A.**
- 2. Minimum required vehicle parking spaces, per Section 19.605.**
- 3. Minimum required bicycle parking spaces, per Section 19.609.**
- 4. Landscaping of existing buffers, islands, and medians, per Subsection 19.606.2.D.**
- 5. New perimeter landscape buffers, islands, and medians, as applicable, per Subsection 19.606.2.E.**
- 6. Other applicable standards within Chapter 19.600, as determined by the Planning Director.**

Applicant's Facts and Findings: The District's proposal includes significant improvements to the parking areas associated with the southern portions of the Milwaukie High School Campus. As each of the three parking areas affected will be redesigned and reconstructed in accordance with the City's standards, no additional improvements to these parking areas are required to address any non-conforming status.

19.603 REVIEW PROCESS AND SUBMITTAL REQUIREMENTS

19.603.1 Review Process

The Planning Director shall apply the provisions of Chapter 19.600 in reviewing all land use and development permit applications, except when an application is subject to a quasi-judicial land use review or appeal, in which case the body reviewing the application or appeal has the authority to implement and interpret the provisions of Chapter 19.600.

19.603.2 Submittal Requirements

Except for single-family dwellings, a development or change in use subject to Chapter 19.600 as per Section 19.602 shall submit a parking plan, drawn to scale. The parking plan shall show that all applicable standards are met, and shall include but not be limited to the items listed below, unless waived by the Planning Director.

- A. Delineation of individual spaces and wheel stops.**
- B. Drive aisles necessary to serve spaces.**
- C. Accessways, including driveways and driveway approaches, to streets, alleys, and properties to be served.**
- D. Pedestrian pathways and circulation.**
- E. Bicycle parking areas and rack specifications.**
- F. Fencing.**

- G. **Abutting land uses.**
- H. **Grading, drainage, surfacing, and subgrading details.**
- I. **Location and design of lighting fixtures and levels of illumination.**
- J. **Delineation of existing and proposed structures.**
- K. **Parking and loading area signage.**
- L. **Landscaping, including the following information.**
 - 1. **The location and area of existing and proposed trees, vegetation, and plant materials, including details about the number, size, and species of such items.**
 - 2. **Notation of the trees, plants, and vegetation to be removed, and protection measures for existing trees and plants to be preserved.**

Applicant's Facts and Findings: The Applicant has provided detailed site and landscape plans which contain the information required within this section.

19.604 GENERAL PARKING STANDARDS

19.604.1 Parking Provided with Development Activity

All required off-street parking areas shall be provided at the time the structure is built; at the time a structure or site is enlarged; or when there is change in use or an increase in density or intensity. All required off-street parking areas shall be provided in conformance with the standards of Chapter 19.600 prior to issuance of a certificate of occupancy, or final development permit approval, or as otherwise specified in any applicable land use decision.

Applicant's Facts and Findings: The Applicant has proposed to construct several new parking areas along with the newly proposed building. All parking proposed for this use has been designed in accordance with the requirements of Chapter 19.600. This standard has been met.

19.604.2 Parking Area Location

Accessory parking shall be located in one or more of the following areas:

- A. **On the same site as the primary use for which the parking is accessory.**
- B. **On a site owned by the same entity as the site containing the primary use that meets the standards of Subsection 19.605.4.B.2. Accessory parking that is located in this manner shall not be considered a parking facility for purposes of the base zones in Chapter 19.300.**
- C. **Where shared parking is approved in conformance with Subsection 19.605.4.**

Applicant's Facts and Findings: The District is proposing to create a new parking plan for the new Milwaukie High School Building. The redesigned parking lots are located on the same site as the primary use for which the parking is accessory and on property owned by the District. This standard has been met.

19.604.3 Use of Parking Areas

All required off-street parking areas shall continually be available for the parking of operable vehicles of intended users of the site. Required parking shall not be rented, leased, sold, or otherwise used for parking that is unrelated to the primary or accessory use of the site, except where a shared parking agreement per Subsection 19.605.4 has been recorded. Subsection

19.604.3 does not prohibit charging fees for parking when the parking serves the primary or accessory uses on site.

Applicant's Facts and Findings: The District intends to make all proposed parking areas continually available for the parking of operable vehicles related to the operation of the site as a High School. The District does not intend to rent, lease, or sell parking stalls. This standard has been met.

19.604.4 Storage Prohibited

No required off-street parking area shall be used for storage of equipment or materials, except as specifically authorized by Subsection 19.607.2 Commercial Vehicle, Pleasure Craft, and Recreational Vehicle Parking.

Applicant's Facts and Findings: The District does not intend to utilize any portion of the proposed parking areas on site for storage of equipment or materials following the completion of construction activities. Parking areas may be utilized for temporary staging or storage during various phases of construction. This standard has been met.

19.605 VEHICLE PARKING QUANTITY REQUIREMENTS

The purpose of Section 19.605 is to ensure that development provides adequate, but not excessive, vehicle parking based on their estimated parking demand. Subsection 19.605.1 establishes parking ratios for common land uses, and Subsection 19.605.3 allows certain exemptions and reductions to these ratios based on location or on-site amenities. Modifications to the established parking ratios and determinations of parking requirements for unique land uses are allowed with discretionary review per Subsection 19.605.2.

Nonresidential development in the Downtown Mixed Use (DMU) and Open Space (OS) Zones is exempt from the requirements of Section 19.605.

19.605.1 Minimum and Maximum Requirements

- A. Development shall provide at least the minimum and not more than the maximum number of parking spaces as listed in Table 19.605.1. Modifications to the standards in Table 19.605.1 may be made as per Section 19.605. Where multiple ratios are listed, the Planning Director shall determine which ratio to apply to the proposed development or use.**
- B. When a specific use has not been proposed or identified at the time of permit review, the Planning Director may elect to assign a use category from Table 19.605.1 to determine the minimum required and maximum allowed parking. Future tenants or property owners are responsible for compliance with Chapter 19.600 per the applicability provisions of Section 19.602.**
- C. If a proposed use is not listed in Table 19.605.1, the Planning Director has the discretion to apply the quantity requirements of a similar use listed in the table upon finding that the listed use and unlisted use have similar parking demands. If a similar use is not listed, the quantity requirements will be determined per Subsection 19.605.2.**
- D. Where the calculation of minimum parking spaces does not result in a whole number, the result shall be rounded down to the next whole number. Where the calculation of**

maximum parking spaces does not result in a whole number, the result shall be rounded to the nearest whole number.

- E. Parking spaces for disabled persons, and other improvements related to parking, loading, and maneuvering for disabled persons, shall conform to the Americans with Disabilities Act and shall be subject to review and approval by the Building Official. Spaces reserved for disabled persons are included in the minimum required and maximum allowed number of off-street parking spaces.
- F. Uses that have legally established parking areas that exceed the maximum number of spaces allowed by Section 19.605 prior to June 17, 2010, the effective date of Ordinance #2015, shall be considered nonconforming with respect to the quantity requirements. Such uses shall not be considered parking facilities as defined in Section 19.201.

Table 19.605.1 Minimum to Maximum Off-Street Parking Requirements		
Use	Minimum Required	Maximum Allowed
B. Community Service and Other Public Uses		
4. School—senior high.	0.25 spaces per student, plus 1 space per staff.	0.33 spaces per student, plus 1 space per staff.

Applicant’s Facts and Findings: The school district currently provides service to approximately 1,200 students and employs approximately 110 staff members. A 2007 CSU decision by the City referenced a maximum capacity of 1,500 students and 110 staff members within the existing building. The new school has been designed to accommodate up to 1500 students and 140 staff. This design results in a required increase to the amount of parking which must be provided on site due to the increased intensity of the use. A total of 30 new parking spaces are required to accommodate the additional staff members who may use the site.

In its existing condition, the High School is required to provide parking within the following range:

- Minimum Required Off-street Parking Requirement – 485 Stalls
- Maximum Permitted Off-street Parking Requirement – 605 Stalls

As the proposed, High School building is required to provide parking within the following range:

- Minimum Required Off-street Parking Requirement – 515 Stalls
- Maximum Permitted Off-street Parking Requirement – 635 Stalls

The District currently provides 259 parking stalls for students and staff. The Milwaukie Campus has three parking areas located to the south of the main campus building. These consist of 12 diagonal spaces along the southern side of the existing building, 71 parking stalls within the parking lot located to the southwest of the main school building and approximately 20 spaces located within the SE 25th Avenue right-of-way and adjacent to the existing tennis courts south of Willard. Another 86 parking spaces are available in the four parking lots located on the northern side of the campus. The District also currently uses two existing

parking lots for offsite parking as part of two shared parking agreements. The first shared parking lot is located southwest of the campus, within the parking lot for the St Stephens Serbian Orthodox Church. The second shared parking lot is located north of SE Washington Street within the parking lot for the St. John the Baptist Church. A total of 90 off-street parking stalls are available to the school district for use through a series of existing shared parking agreements.

The proposed improvements to the southeastern side of the existing building will include a reconfiguration of the existing parking areas and the construction of one new parking lot where the existing baseball field. The new southeastern parking lot will provide 94 new parking stalls.

The reconfiguration of the southwestern parking lot will provide for better access to the parking area from SE Willard Street and will provide a drop-off area near the school’s main entrance. A total of 63 stalls will be provided within the reconfigured southwestern parking lot.

The reconfiguration of the southwestern parking areas and the addition of the new southeastern parking area will represent an increase of 74 new parking stalls. While not in full compliance with the requirements of this section, the District’s proposed improvements move the facilities on campus closer to compliance with the underlying standards.

The table below summaries the parking provided before and after the proposed construction:

Parking Area	Current Parking	Proposed Parking	Net Gain or (Loss)
South side of building	12 stalls	0 stalls	(12)
Southwestern parking lot	71 stalls	63 stalls	(8)
Northern Parking Lots	86 stalls	86 stalls	0
Southeastern Lot	0 stalls	94 stalls	94
Off-site parking lots	90 stalls	90 stalls	0
Total	259 stalls	333 stalls	74

The Milwaukie High School Campus currently provides fewer than the minimum required parking stalls. This is an existing non-conforming use. The District has proposed to bring the site closer into conformance through the proposed installation of several additional parking spaces. The spaces provided will not only cover the new demands generated by adding capacity for additional staff, but will also provide additional general parking spaces for students and visitors. The Campus’ urban location allows for superb access to several options for public transit, including bus service and light rail.

Because the District is moving the property closer into conformance with the applicable standard, this standard is met, as permitted within MMC 19.804.

19.605.3 Exemptions and By-Right Reductions to Quantity Requirements

The following exemptions and by-right reductions cannot be used to further modify any parking modification or determination granted under Subsection 19.605.2.

A. Exemptions to Maximum Quantity Allowance

The following types of parking do not count toward the maximum amount of parking allowed on a site. This exemption applies only to the quantity requirements of Section 19.605 and not to the other requirements of Chapter 19.600. The City may impose conditions to ensure that parking spaces associated with these parking types are appropriately identified and used for the intended purpose.

1. Spaces for a parking facility.
2. Spaces for a transit facility or park and ride facility.
3. Storage or display areas for vehicle sales.
4. Employee carpool parking, when spaces are dedicated or reserved for that use.
5. Fleet parking.
6. Truck loading areas.

B. Reductions to Minimum Parking Requirements

Applicants are allowed to utilize multiple reductions from Subsections 19.605.3.B.2-7, provided that the total reduction in required parking does not exceed 25% of the minimum quantity requirement listed in Table 19.605.1. The total reduction in required parking is increased to 30% in the Downtown Mixed Use Zone DMU. Applicants may not utilize the reduction in Subsection 19.605.3.B.1 in conjunction with any other reduction in Subsection 19.605.3.B.

1. Reductions for Neighborhood Commercial Areas

The minimum parking requirements of Table 19.605.1 shall be reduced by 50% for the properties described below:

- a. Properties zoned Commercial Limited (C-L).
- b. Properties zoned Commercial Neighborhood (C-N).
- c. Properties in the Neighborhood Mixed-Use (NMU) Zone in the area bounded by 42nd Avenue, King Road, 40th Avenue, and Jackson Street.
- d. Properties in the Neighborhood Mixed-Use (NMU) Zone in the area bounded by 42nd Avenue, Harrison Street, 44th Avenue, and Jackson Street.

2. Proximity to Public Transit

- a. Parking for commercial and industrial uses may be reduced by up to 10% if the development is within 500-ft walking distance, as defined in Subsection 19.605.3.B.2.d, of a transit stop with a peak hour service frequency of 30 minutes or less.
- b. Parking for multifamily uses may be reduced by up to 20% if the development is within 500-ft walking distance, as defined in Subsection 19.605.3.B.2.d, of a transit stop with a peak hour service frequency of 30 minutes or less.
- c. Parking for all uses except single-family attached and detached dwellings may be reduced by 25% if the development is within 1,000-ft walking distance, as defined in Subsection 19.605.3.B.2.d, of a light rail transit stop, or if it is located in the Downtown Mixed Use Zone DMU.

Applicant's Facts and Findings: The Milwaukie High School Campus qualifies for a 25% reduction in the minimum required parking standards due to the site's distance from Public Transit. The site is located within 1000 feet of the Orange MAX Line Station. The total required

minimum parking is 515 stalls based upon current employment and student enrollment. The permitted reduction through the provision of qualifying reductive improvements is 128 parking stalls. The minimum number of stalls required based upon the site’s proximity to the light rail station is 387 parking stalls.

- d. **In determining walking distance, the applicant shall measure the shortest route along sidewalks, improved pedestrian ways, or streets if sidewalks or improved pedestrian ways are not present. Walking distance shall be measured along the shortest course from the point on the development site that is nearest to the transit stop.**

Applicant’s Facts and Findings: The walking distance from the campus to the Orange MAX Line Station is less than 500 feet.

19.606 PARKING AREA DESIGN AND LANDSCAPING

The purpose of Section 19.606 is to ensure that off-street parking areas are safe, environmentally sound, aesthetically pleasing, and that they have efficient circulation. These standards apply to all types of development except for cottage clusters, rowhouses, duplexes, single-family detached dwellings, and residential homes.

19.606.1 Parking Space and Aisle Dimensions

- A. **The dimensions for required off-street parking spaces and abutting drive aisles, where required, shall be no less than in Table 19.606.1. The minimum dimensions listed in Table 19.606.1 are illustrated in Figure 19.606.1.**

Table 19.606.1 Minimum Parking Space and Aisle Dimensions					
Angle (A)	Width (B)	Curb Length (C)	1-Way Aisle Width (D)	2-Way Aisle Width (D)	Depth (E)
0° (Parallel)	8.5’	22’	12’	19’	8.5’
30°	9’	17’	12’	19’	16.5’
45°	9’	12’	13’	19’	18.5’
60°	9’	10’	17’	19’	19’
90°	9’	9’	22’	22’	18’

Applicant’s Facts and Findings: All proposed parking stalls within the newly created parking lots have been designed to meet the minimum standards for 90 degree parking. All proposed parking stalls are at least nine feet wide and at least 18 feet deep. Proposed drive aisles are all at least 22 feet in width. The requirements of this section have been met.

- B. **The dimension of vehicle parking spaces provided for disabled persons shall be according to federal and State requirements.**

Applicant’s Facts and Findings: Parking for disabled or limited mobility individuals will be provided in accordance with the requirements of the Americans with Disabilities Act (ADA) in accordance with the requirements of the Oregon Structural Specialty Codes (OSSC). The requirements of this section have been met.

- C. Parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles may enter the street in a forward manner.**

Applicant's Facts and Findings: All proposed parking areas contain sufficient maneuvering areas to allow vehicles to enter the street in a forward manner. The requirements of this section have been met.

- D. Drive aisles shall be required in parking areas greater than 5 spaces. Drive aisles shall meet the minimum width standards of Subsection 19.606.1. Where a drive aisle or portion thereof does not abut a parking space(s), the minimum allowed width for a one-way drive aisle shall be 8 ft and the minimum allowed width for a two-way drive aisle shall be 16 ft.**

Applicant's Facts and Findings: All proposed drive aisles have been designed to meet the minimum width requirements for two-way traffic. The requirements of this section have been met.

19.606.2 Landscaping

A. Purpose

The purpose of the off-street parking lot landscaping standards is to provide vertical and horizontal buffering between parking areas and adjacent properties, break up large expanses of paved area, help delineate parking spaces and drive aisles, and provide environmental benefits such as stormwater management, carbon dioxide absorption, and a reduction of the urban heat island effect.

B. General Provisions

- 1. Parking area landscaping shall be required for the surface parking areas of all uses, except for cottage clusters, rowhouses, duplexes, and single-family detached dwellings. Landscaping shall be based on the standards in Subsections 19.606.2.C-E.**
- 2. Landscaped areas required by Subsection 19.606.2 shall count toward the minimum amount of landscaped area required in other portions of Title 19.**
- 3. Parking areas with 10 or fewer spaces in the Downtown Mixed Use Zone are exempt from the requirements of Subsection 19.606.2.**

Applicant's Facts and Findings: The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City's landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

C. Perimeter Landscaping

The perimeter landscaping of parking areas shall meet the following standards which are illustrated in Figure 19.606.2.C.

1. Dimensions

The minimum width of perimeter landscape areas are shown in Table 19.606.2.C.1. Where a curb provides the border for a perimeter landscape area, the dimension shall be measured from the inside of the curb(s). The Planning Director may reduce

the required minimum width of a perimeter landscaping area where existing development or site constraints make it infeasible to provide drive aisles, parking spaces, and the perimeter landscaping buffer width listed in Table 19.606.2.C.1.

Table 19.606.2.C.1 Minimum Perimeter Landscape Strip Dimensions		
Location	Downtown Zones	All Other Zones
Lot line abutting a right-of-way	4'	8'
Lot line abutting another property, except for abutting properties that share a parking area	0'	6'

Applicant’s Facts and Findings: The site’s two new parking lots have been separated from the public right-of-way line and provided with a minimum planted area of at least eight (8) feet. The single exception to this requirement is within the southwestern parking lot where a section of the SE Willard Street right-of-way extends into the parking area. The Applicant understands that the City plans to initiate a Right-of-way vacation in order to allow the right-of-way associated with Willard to better follow the planned alignment of the street. The requirements of this section have been met.

2. Planting Requirements

Landscaping requirements for perimeter buffer areas shall include 1 tree planted per 40 lineal ft of landscaped buffer area. Where the calculation of the number of trees does not result in a whole number, the result shall be rounded up to the next whole number. Trees shall be planted at evenly spaced intervals along the perimeter buffer to the greatest extent practicable. The remainder of the buffer area shall be grass, ground cover, mulch, shrubs, trees, or other landscape treatment other than concrete and pavement.

Applicant’s Facts and Findings: The new southeastern parking area has a perimeter of approximately 530 feet. This necessitates the planting of 14 new trees. As shown on the proposed landscape plans, this parking lot will be landscaped with 15 new trees.

The southeastern parking area has a perimeter of approximately 650 feet. This necessitates the planting of 16 new trees. As shown on the proposed landscape plans, this parking lot will be landscaped with 19 new trees. As this parking lot serves as the primary drop-off location for students receiving rides to school, much of the area immediately surrounding the parking lot is paved. Trees will be provided as close as possible to the parking lot along the eastern and northern side of the parking area.

The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City’s landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

3. Additional Planting Requirements Adjacent to Residential Uses

In addition to the planting requirements of Subsection 19.606.2.D.2, all parking areas adjacent to a residential use shall have a continuous visual screen in the landscape perimeter area that abuts the residential use. The area of required screening is illustrated in Figure 19.606.2.C.3. The screen must be opaque throughout the year from 1 to 4 ft above ground to adequately screen vehicle lights. These standards must be met at the time of planting. Examples of acceptable visual screens are a fence or wall, an earth berm with plantings, and other plantings of trees and shrubs.

Applicant's Facts and Findings: The southeastern parking lot abuts residential properties to the east. Along these boundaries. The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City's landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

D. Interior Landscaping

The interior landscaping of parking areas shall meet the following standards which are illustrated in Figure 19.606.2.D.

1. General Requirements

Interior landscaping of parking areas shall be provided for sites where there are more than 10 parking spaces on the entire site. Landscaping that is contiguous to a perimeter landscaping area and exceeds the minimum width required by Subsection 19.606.2.C.1 will be counted as interior landscaping if it meets all other requirements of Subsection 19.606.2.D.

2. Required Amount of Interior Landscaped Area

At least 25 sq ft of interior landscaped area must be provided for each parking space. Planting areas must be at least 120 sq ft in area and dispersed throughout the parking area.

Applicant's Facts and Findings: The proposed design for the southwestern parking lot includes plans to provide 63 new parking spaces. A total of 1,575 square feet of new landscape area is required. Approximately 2,118 square feet has been provided with planting areas which all exceed the minimum 120 square foot sizing requirements.

The new southeastern parking lot, provided where the existing baseball fields are located, will provide a total of 94 new parking spaces. A total of 2,350 square feet of new landscape area is required. A total of 2,976 square feet has been provided with planting areas which all exceed the minimum 120 square foot sizing requirements.

The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City's landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

3. Location and Dimensions of Interior Landscaped Areas

- a. **Interior landscaped area shall be either a divider median between opposing rows of parking, or a landscape island in the middle or at the end of a parking row.**

Applicant's Facts and Findings: All interior parking lots have been provided with divider medians or landscape islands along the ends. The requirements of this section have been met.

- b. **Interior landscaped areas must be a minimum of 6 ft in width. Where a curb provides the border for an interior landscape area, the dimension shall be measured from the inside of the curb(s).**

Applicant's Facts and Findings: As conceptually prepared, all interior parking lot landscape areas have been designed to be at least six (6) feet in width. The requirements of this section have been met.

4. Planting Requirements for Interior Landscaped Areas

- a. **For divider medians, at least 1 shade or canopy tree must be planted for every 40 linear ft. Where the calculation of the number of trees does not result in a whole number, the result shall be rounded up to the next whole number. Trees shall be planted at evenly spaced intervals to the greatest extent practicable.**
- b. **For landscape islands, at least 1 tree shall be planted per island. If 2 interior islands are located contiguously, they may be combined and counted as 2 islands with 2 trees planted.**
- c. **The remainder of any divider median or landscape island shall be grass, ground cover, mulch, shrubs, trees, or other landscape treatment other than concrete and pavement.**

Applicant's Facts and Findings: Conceptual Landscape plans show that at least 1 tree has been planted per landscape island. The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City's landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

5. Additional Landscaping for Large Parking Areas

Parking areas with more than 100 spaces on a site shall not have more than 15 spaces in a row without providing an interior landscaped island. See Figure 19.606.2.D.5.

Applicant's Facts and Findings: No parking areas on site will have more than 100 parking spaces. The requirements of this section do not apply.

E. Other Parking Area Landscaping Provisions

1. **Preservation of existing trees is encouraged in the off-street parking area and may be credited toward the total number of trees required, based on staff's review.**

2. **Installation of parking area landscaping shall be required before a certificate of occupancy is issued, unless a performance bond is posted with the City. Then landscaping shall be installed within 6 months thereafter or else the bond will be foreclosed and plant materials installed by the City.**
3. **Parking area landscaping shall be maintained in good and healthy condition.**
4. **Required parking landscaping areas may serve as stormwater management facilities for the site. The Engineering Director has the authority to review and approve the design of such areas for conformance with the Public Works Standards. This allowance does not exempt the off-street parking landscape area from meeting the design or planting standards of Subsection 19.606.2.**
5. **Pedestrian walkways are allowed within perimeter and interior landscape buffer if the landscape buffer is at least 2 ft wider than required in Subsections 19.606.2.C.1 and 19.606.2.D.3.b.**

Applicant's Facts and Findings: The Applicant has prepared only a conceptual landscape plan for the property at this time. The Applicant is willing to accept conditions of approval requiring the final construction plans to conform to the requirements of the City's landscape standards for parking areas and interior landscaping prior to the issuance of building permits. The requirements of this section can be met through a condition of approval.

19.606.3 Additional Design Standards

A. Paving and Striping

Paving and striping are required for all required maneuvering and standing areas. Off-street parking areas shall have a durable and dust-free hard surface, shall be maintained for all-weather use, and shall be striped to show delineation of parking spaces and directional markings for driveways and accessways. Permeable paving surfaces may be used to reduce surface water runoff and protect water quality.

Applicant's Facts and Findings: The proposed parking areas will be striped with asphalt surfaces and are striped to show all parking spaces and directional marking. No permeable asphalt has been proposed. The requirements of this section have been met.

B. Wheel Stops

Parking bumpers or wheel stops, of a minimum 4-in height, shall be provided at parking spaces to prevent vehicles from encroaching on the street right-of-way, adjacent landscaped areas, or pedestrian walkways. Curbing may substitute for wheel stops if vehicles will not encroach into the minimum required width for landscape or pedestrian areas.

Applicant's Facts and Findings: Curbs will be provided which will allow for parking without encroachment into the minimum required landscape areas. The requirements of this section have been met.

C. Site Access and Drive Aisles

1. **Accessways to parking areas shall be the minimum number necessary to provide access while not inhibiting the safe circulation and carrying capacity of the street.**

Driveway approaches shall comply with the access spacing standards of Chapter 12.16.

2. Drive aisles shall meet the dimensional requirements in Subsection 19.606.1.
3. Parking drive aisles shall align with the approved driveway access and shall not be wider than the approved driveway access within 10 ft of the right-of-way boundary.
4. Along collector and arterial streets, no parking space shall be located such that its maneuvering area is in an ingress or egress aisle within 20 ft of the back of the sidewalk, or from the right-of-way boundary where no sidewalk exists.
5. Driveways and on-site circulation shall be designed so that vehicles enter the right-of-way in a forward motion.

Applicant's Facts and Findings: All proposed drive aisles have been designed for safe and efficient movement throughout the parking areas. All proposed drive aisles meet the minimum width requirements as specified within 19.606.1 and have been designed to allow for access onto the public street network with only forward motions. The requirements of this section have been met.

D. Pedestrian Access and Circulation

Subsection 19.504.9 establishes standards that are applicable to an entire property for on-site walkways and circulation. The purpose of Subsection 19.606.3.D is to provide safe and convenient pedestrian access routes specifically through off-street parking areas. Walkways required by Subsection 19.606.3.D are considered part of the on-site walkway and circulation system required by Subsection 19.504.9.

1. Pedestrian access shall be provided for off-street parking areas so that no parking space is further than 100 ft away, measured along vehicle drive aisles, from a building entrance, or a walkway that meets the standards of Subsection 19.606.3.D.2.
2. Walkways through off-street parking areas must be continuous, must lead to a building entrance, and meet the design standards of Subsection 19.504.9.E.

Applicant's Facts and Findings: All proposed pedestrian walkways along the parking areas have been designed to allow for access from each proposed parking stall to a pedestrian route within 100 feet of the parking stall. All proposed walkways lead to the network of pathways and plazas on the campus, ultimately leading to building entrances. The requirements of this section have been met.

E. Internal Circulation

1. General Circulation

The Planning Director has the authority to review the pedestrian, bicycle, and vehicular circulation of the site and impose conditions to ensure safe and efficient on-site circulation. Such conditions may include, but are not limited to, on-site signage, pavement markings, addition or modification of curbs, and modifying drive aisle dimensions.

Applicant's Facts and Findings: The Applicant acknowledges that the planning director may review the proposed circulation systems on site and may impose conditions of approval to ensure that safe and efficient circulation is provided.

F. Lighting

Lighting is required for parking areas with more than 10 spaces. The Planning Director may require lighting for parking areas of less than 10 spaces if the parking area would not be safe due to the lack of lighting. Lighting shall be designed to enhance safe access for vehicles and pedestrians on the site, and shall meet the following standards:

1. Lighting luminaires shall have a cutoff angle of 90 degrees or greater to ensure that lighting is directed toward the parking surface.
2. Parking area lighting shall not cause a light trespass of more than 0.5 footcandles measured vertically at the boundaries of the site.
3. Pedestrian walkways and bicycle parking areas in off-street parking areas shall have a minimum illumination level of 0.5 footcandles, measured horizontally at the ground level.
4. Where practicable, lights shall be placed so they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.

Applicant's Facts and Findings: The proposed development will feature lighting within parking lots, along pedestrian walkways, and in bicycle parking areas. The attached lighting plan shows the proposed lighting scheme for the newly designed campus parking areas and plazas will meet the requirements of this section by providing at least 0.5 footcandles of illumination within the site's newly designed parking and pedestrian areas.

19.608 LOADING

19.608.2. Number of Loading Spaces

The Planning Director shall determine whether to require off-street loading for commercial, industrial, public, and semipublic uses. The ratios listed below should be the minimum required unless the Planning Director finds that a different number of loading spaces are needed upon reviewing the loading needs of a proposed use.

B. Nonresidential and Mixed-Use Buildings

Buildings where any floor area is in nonresidential uses should meet the following standards:

1. Less than 20,000 sq ft of total floor area: no loading spaces required.
2. 20,000 to 50,000 sq ft of total floor area: 1 loading space.
3. More than 50,000 sq ft of total floor area: 2 loading spaces.

Applicant's Facts and Findings: The proposed new High School building is greater than 50,000 square feet. A total of two loading spaces are therefore required. The requirements of this section have been met.

19.608.3 Loading Space Standards

- A. Loading spaces shall be at least 35 ft long and 10 ft wide, and shall have a height clearance of at least 13 ft.
- B. Loading areas shall be provided on the site and be separate from parking spaces.
- C. Off-street loading areas shall have a durable and dust-free hard surface. Permeable paving surfaces may be used to reduce surface water runoff and protect water quality.

- D. Lighting of loading areas shall conform to the standards of Subsection 19.606.3.F.
- E. Off-street loading areas for materials and merchandise shall be located outside of the minimum front and side yard requirements for structures.
- F. Off-street loading areas shall be located where not a hindrance to drive aisles, walkways, public or private streets, or adjacent properties.

Applicant's Facts and Findings: The two new proposed loading areas are to be located within the eastern parking lot, along a tandem roadway spur which will run along the eastern side of the new building. The new loading area is 100 feet long and 20 feet wide. These dimensions allow for the parking of at least two vehicles. All loading areas will be constructed using heavy grade asphalt and will be lit as shown within the attached plans. The requirements of this section have been met.

19.608.4 Prohibitions

- A. Loading activity for a site, regardless of whether loading spaces are required, shall not obstruct travel within the right-of-way.
- B. The accumulation of goods in loading areas shall be prohibited when it renders the space useless for loading and unloading of goods and passengers.

Applicant's Facts and Findings: The two newly proposed loading areas will not obstruct travel within any of the site's adjacent rights-of-way. No accumulation of goods or passengers shall be permitted within the loading areas. The requirements of this section have been met.

19.609 BICYCLE PARKING

19.609.1 Applicability

Bicycle parking shall be provided for all new commercial, industrial, community service use, and multifamily residential development. Temporary and seasonal uses (e.g., fireworks and Christmas tree stands) and storage units are exempt from Section 19.609. Bicycle parking shall be provided in the Downtown Mixed Use Zone and at transit centers.

19.609.2 Quantity of Spaces

- A. The quantity of required bicycle parking spaces shall be as described in this subsection. In no case shall less than 2 spaces be provided.
 - 1. Unless otherwise specified, the number of bicycle parking spaces shall be at least 10% of the minimum required vehicle parking for the use.
 - 2. The number of bicycle parking spaces at transit centers shall be provided at the ratio of at least 1 space per 100 daily boardings.
 - 3. Multifamily residential development with 4 or more units shall provide 1 space per unit.
- B. Covered or enclosed bicycle parking. A minimum of 50% of the bicycle spaces shall be covered and/or enclosed (in lockers or a secure room) in any of the following situations:
 - 1. When 10% or more of vehicle parking is covered.
 - 2. If more than 10 bicycle parking spaces are required.
 - 3. Multifamily residential development with 4 or more units.

Applicant's Facts and Findings: In 2009, the District installed a total of 54 covered bicycle parking stalls on site. The minimum number of bicycles stalls required is 41 spaces, based upon a minimum required parking requirement of 410 spaces. The site already meets this standard.

19.610 CARPOOL AND VANPOOL PARKING

19.610.1 Applicability

New industrial, institutional, and commercial development with 20 or more required parking spaces shall provide carpool/vanpool parking.

Applicant's Facts and Findings: The District has proposed to construct more than 20 parking spaces therefore the provisions of this section apply.

19.610.2 Number of Spaces

The number of carpool/vanpool parking spaces shall be at least 10% of the minimum amount of required parking spaces. The minimum amount of required parking spaces shall take into account the reduction allowed by Subsection 19.605.3.B.4.

19.610.3 Location

Parking for carpools/vanpools shall be located closer to the main entrances of the building than other employee or student parking, except ADA spaces.

19.610.4 Standards

Carpool/vanpool spaces shall be clearly designated with signs or pavement markings for use only by carpools/vanpools.

Applicant's Facts and Findings: The district has requested a variance to allow for an exemption from the requirements of this section. While most students traveling to school use an informal carpool system, the district does not plan to specifically mark carpool/vanpool spaces within the parking lots. The Applicant has addressed the City's approval criteria for a variance in support of this request.

CHAPTER 19.700 PUBLIC FACILITY IMPROVEMENTS

19.701.2 For Public Facilities

- A. Ensure that public facility improvements are safe, convenient, and adequate.**
- B. Ensure that public facility improvements are designed and constructed to City standards in a timely manner.**
- C. Ensure that the expenditure of public monies for public facility improvements is minimized when improvements are needed for private development.**
- D. Ensure that public facility improvements meet the City of Milwaukie Comprehensive Plan goals and policies.**

19.702 APPLICABILITY

19.702.1 General

Chapter 19.700 applies to the following types of development in all zones:

- A. Partitions.**
- B. Subdivisions.**
- C. Replats.**
- D. New construction.**

- E. **Modification or expansion of an existing structure or a change or intensification in use that results in any one of the following. See Subsections 19.702.2-3 for specific applicability provisions for single-family residential development and development in downtown zones.**
 - 1. **A new dwelling unit.**
 - 2. **Any increase in gross floor area.**
 - 3. **Any projected increase in vehicle trips, as determined by the Engineering Director.**

Applicant's Facts and Findings: The City's Public Facilities approval criteria apply to this application as new construction is proposed.

19.703 REVIEW PROCESS

19.703.1 Preapplication Conference

For all proposed development that requires a land use application and is subject to Chapter 19.700 per Section 19.702, the applicant shall schedule a preapplication conference with the City prior to submittal of the land use application. The Engineering Director may waive this requirement for proposals that are not complex.

19.703.2 Application Submittal

For all proposed development that is subject to Chapter 19.700 per Section 19.702, one of the following types of applications is required.

A. Development Permit Application.

If the proposed development does not require a land use application, compliance with Chapter 19.700 will be reviewed as part of the development permit application submittal.

B. Transportation Facilities Review (TFR) Land Use Application

If the proposed development triggers a transportation impact study (TIS) per Section 19.704, a TFR land use application shall be required. Compliance with Chapter 19.700 will be reviewed as part of the TFR application submittal and will be subject to a Type II review process as set forth in Section 19.1005. The TFR application shall be consolidated with, and processed concurrently with, any other required land use applications.

C. If the proposed development does not trigger a TIS per Section 19.704, but does require the submittal of other land use applications, compliance with Chapter 19.700 will be reviewed during the review of the other land use applications.

Applicant's Facts and Findings: The Applicant has not been required to provide a transportation Impact Statement however other land use applications have been proposed. The City will therefore review the proposed improvements to the public facility improvements as part of this application package.

19.703.3 Approval Criteria

For all proposed development that is subject to Chapter 19.700 per Section 19.702, the required development permit and/or land use application shall demonstrate compliance with the following approval criteria at the time of submittal.

A. Procedures, Requirements, and Standards

Development and related public facility improvements shall comply with procedures, requirements, and standards of Chapter 19.700 and the Public Works Standards.

Applicant's Facts and Findings: All proposed improvements to the City's public facilities included within this application have been designed to meet the requirements of section 19.700 and the City's public works standards. All improvements will be installed in accordance with the City's procedures and requirements. The requirements of this section for preliminary design are met and the installation standards can be met through the imposition of a condition of approval.

B. Transportation Facility Improvements

Development shall provide transportation improvements and mitigation at the time of development in rough proportion to the potential impacts of the development per Section 19.705 Rough Proportionality, except as allowed by Chapter 13.32 Fee in Lieu of Construction.

Development in downtown zones that is exempt per Subsection 19.702.3.B shall only be required to provide transportation improvements that are identified by a Transportation Impact Study as necessary to mitigate the development's transportation impacts. Such development is not required to provide on-site frontage improvements.

Applicant's Facts and Findings: The proposed development has not triggered the need for a transportation impact statement because the proposed use of the campus will not change as a result of the proposed development. As such, no transportation improvements beyond the frontage improvements proposed along the site's frontages have been proposed.

C. Safety and Functionality Standards

The City will not issue any development permits unless the proposed development complies with the City's basic safety and functionality standards, the purpose of which is to ensure that development does not occur in areas where the surrounding public facilities are inadequate. Upon submittal of a development permit application, an applicant shall demonstrate that the development property has or will have all of the following:

- 1. Adequate street drainage, as determined by the Engineering Director.**
- 2. Safe access and clear vision at intersections, as determined by the Engineering Director.**
- 3. Adequate public utilities, as determined by the Engineering Director.**
- 4. Access onto a public street with the minimum paved widths as stated in Subsection 19.703.3.C.5 below.**
- 5. Adequate frontage improvements as follows:**
 - a. For local streets, a minimum paved width of 16 ft along the site's frontage.**
 - b. For nonlocal streets, a minimum paved width of 20 ft along the site's frontage.**
 - c. For all streets, a minimum horizontal right-of-way clearance of 20 ft along the site's frontage.**
- 6. Compliance with Level of Service D for all intersections impacted by the development, except those on Oregon Highway 99E that shall be subject to the following:**
 - a. Level of Service F for the first hour of the morning or evening 2-hour peak period.**

b. Level of Service E for the second hour of the morning or evening 2-hour peak period.

Applicant's Facts and Findings: The district's proposed improvements are consistent with the City's requirements for safety and functionality. The site has been designed with consideration for safe access and clear vision at intersections. As described in the responses to 19.703.4, below, all minimum requirements for the site's surrounding street network have been satisfied through the proposed improvement plans. All required utilities will be installed as required by the City's Engineering Director.

19.703.4 Determinations

There are four key determinations related to transportation facility improvements that occur during the processing of a development permit or land use application. These determinations are described below in the order in which they occur in the review process. They are also shown in Figure 19.703.4. In making these determinations, the Engineering Director will take the goals and policies of the TSP into consideration and use the criteria and guidelines in this chapter.

A. Impact Evaluation

For development that is subject to Chapter 19.700 per Subsection 19.702.1, the Engineering Director will determine whether the proposed development has impacts to the transportation system pursuant to Section 19.704. Pursuant to Subsection 19.704.1, the Engineering Director will also determine whether a transportation impact study (TIS) is required. If a TIS is required, a transportation facilities review land use application shall be submitted pursuant to Subsection 19.703.2.B.

For development that is subject to Chapter 19.700 per Subsection 19.702.2, the City has determined that there are impacts to the transportation system if the proposed single-family residential expansion/conversion is greater than 200 sq ft.

Applicant's Facts and Findings: The Applicant has prepared a memorandum addressing the proposed impacts to the City's Transportation systems within the site's immediate vicinity. The analysis concludes that because the site is not proposing any change of use, impacts associated with the improvements will be similar to the existing conditions within the area. The director indicated that because of the low potential for any unusual impacts associated with this development, no Traffic Impact Statement would be required in support of the proposed improvements.

B. Street Design

Given the City's existing development pattern, it is expected that most transportation facility improvements will involve existing streets and/or will serve infill development. To ensure that required improvements are safe and relate to existing street and development conditions, the Engineering Director will determine the most appropriate street design cross section using the standards and guidelines contained in Section 19.708. On-site frontage improvements are not required for downtown development that is exempt per Subsection 19.702.3.B.

Applicant's Facts and Findings: The site has frontage along SE Lake, SE Willard, SE 25th, SE 23rd, and SE Washington.

Improvements proposed by the District as part of this improvement package are as follows:

SE Lake

SE Lake is classified as an arterial street within the City's Transportation System Plan (TSP). Arterial street ROWs are intended to be between 54 and 89 feet wide with motor vehicle zones, a potential median or turn-lane, bicycle zones, parking zones, green zones and pedestrian zones. The property's frontage with Lake road currently contains 30 feet of pavement within a 60 foot right-of-way. The roadway contains an existing four (4) foot wide sidewalk and an 11 to 12 foot wide green zone between the sidewalk and the right-of-way line.

The Applicant is proposing to construct approximately 4.0 additional feet of asphalt within the street, matching the section which was improved to the property's northwest. This will result in an ultimate paved width of 32 feet. The Applicant is also proposing an eight (8) foot wide, curb tight, walkway along the northern side of the street with a 4.0 foot wide green zone located north of the sidewalk. The Applicant is not proposing to dedicate any right-of-way along SE Lake because the existing right-of-way appears to be more than sufficient to accommodate the proposed improvements. The Applicant is also proposing an ADA compliant curb and ramp with a marked at the corner of Lake and Willard.

SE Willard

SE Willard is classified as a local street within the City's TSP. Local Streets are intended to be between 20 to 68 feet wide with shared travel zones, potential parking zones, green zones and pedestrian zones. The roadway currently has a 50 foot wide right-of-way along the property's southern frontage with approximately 36 feet of pavement, a curb-tight four (4) foot wide sidewalk and no green zone. Where bus queues are anticipated, the Applicant is proposing a dedication of approximately eight and a half (13) feet along the property's frontage. Where busses are not anticipated to be queued, the Applicant is proposing a dedication of approximately two and a half (2.5) feet along the property's frontage. Within this right-of-way the applicant proposes to construct a variable configuration. Where busses are not anticipated to be queued, the Applicant propose a half street pavement width reduction from a 20 feet wide area to an 18 feet wide (ten feet of travel lane and an eight (8) foot wide bus parking area, a curb, a three and a half (3.5) foot wide green zone, a five (5) foot sidewalk and a half (0.5) foot wide green zone located north of the sidewalk. Where bus queues are anticipated, the applicant is proposing a half street pavement section of 18 feet for a travel zone, a nine (9) foot wide bus pullout and stacking area, a ten (10) foot wide curb-tight sidewalk, and a half (0.5) foot wide green zone located north of the sidewalk. The Applicant is proposing to construct a new ADA compliant ramp at the westerly end of the bus stacking area, just before the entrance to the new southwestern parking area. The Applicant is also proposing to install a new ADA compliant curb-ramp at the eastern edge of the bus stacking area connecting the north half of the street to the west side of SE 25th Avenue.

As Willard Street turns to the south to intersect SE 23rd, the Applicant has illustrated the existing rights-of-way for these two streets on the plans. The current right-of-way appears to encroach into the southwestern parking area in a triangular shaped configuration. The Applicant understands that the City plans to initiate a right-of-way vacation in order to produce a right-of-way which more closely follows the public improvements proposed as part of this application.

SE 23rd Avenue

The Milwaukie High School property abuts the north west side of SE 23rd Avenue, which is classified as a local street within the City's TSP. Local Streets are intended to be between 20 to 68 feet wide with shared travel zones, potential parking zones, green zones and pedestrian zones. SE 23rd's existing right-of-way is currently 70 feet but it is not parallel to the centerline of the roadway. The existing ROW is oriented approximately north-south, which is parallel to the centerline of the previous configuration of SE 23rd. SE 23rd is currently oriented approximately northeast-southwest and intersects SE Lake Road at a 90° angle. The existing pavement width on SE 23rd is approximately forty-six and a half (46.5) feet, and the northwest side includes a curb, a four (4) foot sidewalk, and a variable width of green space due to the misaligned ROW. The applicant is proposing to reduce the asphalt width to thirty-four (34) feet, by moving the northwestern curb line approximately twelve and a half (12.5) feet southeast. The applicant is also proposing a curb, a three and a half (3.5) foot green zone, a five (5) foot sidewalk, and a half (0.5) foot wide green zone located northwest of the sidewalk. This will relocate the ROW parallel with the centerline of the existing roadway and provide a seamless transition from SE 23rd Avenue to SE Willard Street. This reconfiguration of the ROW will require a dedication to the City of Milwaukie and a vacation from the City of Milwaukie.

SE Adams

The existing right-of-way associated with SE Adams Road is fifty (50) feet wide and terminates along the northern segment of the Milwaukie High School's western property line. The Applicant is proposing to dedicate 25 feet of right-of-way to the east of the terminus of SE Adams Road to create a pedestrian connection between SE Adams and SE 23rd. This twenty-five (25) foot dedication will be an eastern extension of the southern half of the existing right-of-way. The Applicant is proposing to construct a new concrete stairway that will connect to the existing five (5) foot wide sidewalk within the newly dedicated section of Adams and provide the pedestrian connection from SE Adams Road to SE 23rd Avenue.

SE 25th Avenue

SE 25th is classified as a local street within the City's TSP. Local Streets are intended to be between 20 to 68 feet wide with shared travel zones, potential parking zones, green zones and pedestrian zones. SE 25th contains an existing right-of-way width of 50 feet. No improvements have been proposed within the SE 25th Avenue Right-of-way as part of this application.

SE Washington

SE Washington is functionally classified as a collector street within the City's TSP. Collector streets are intended to be between 40 to 74 feet wide with motor vehicle zones, a potential median or turn-lane, bicycle zones, parking zones, green zones and pedestrian zones. The Applicant is not proposing any improvements to SE Washington.

C. Proportional Improvements

When transportation facility improvements are required pursuant to this chapter, the Engineering Director will conduct a proportionality analysis pursuant to Section 19.705 to determine the level of improvements that are roughly proportional to the level of potential impacts from the proposed development. Guidelines for conducting a proportionality analysis are contained in Subsection 19.705.2.

Applicant's Facts and Findings: All required improvements to the streets surrounding the property are being completed as part of the proposed development. No proportionate share or additional improvements are required in order to mitigate any potential impacts from the project.

D. Fee in Lieu of Construction (FILOC)

If transportation facility improvements are required and determined to be proportional, the City will require construction of the improvements at the time of development. However, the applicant may request to pay a fee in lieu of constructing the required transportation facility improvements. The Engineering Director will approve or deny such requests using the criteria for making FILOC determinations found in Chapter 13.32 Fee in Lieu of Construction.

Applicant's Facts and Findings: The applicant has not proposed to provide any fees in lieu of site construction.

19.703.5 Remedies

A. Variances

Relief from any transportation facility improvement requirement in Section 19.708 may be granted through a variance process, which requires submittal and approval of a Variance land use application. Variance criteria and procedures are located in Section 19.911.

B. Appeals

Appeal of a land use decision is subject to the provisions of Chapter 19.1009. Appeal of a rough proportionality determination (Subsection 19.702.2 and Section 19.705) or street design standard determination (Subsection 19.708.2) not associated with a land use decision is subject to the provisions of Section 19.1006 Type III Review.

19.704 TRANSPORTATION IMPACT EVALUATION

The Engineering Director will determine whether a proposed development has impacts on the transportation system by using existing transportation data. If the Engineering Director cannot properly evaluate a proposed development's impacts without a more detailed study, a transportation impact study (TIS) will be required to evaluate the adequacy of the

transportation system to serve the proposed development and determine proportionate mitigation of impacts. The TIS determination process and requirements are detailed below.

19.704.1 TIS Determination

A. Based on information provided by the applicant about the proposed development, the Engineering Director will determine when a TIS is required and will consider the following when making that determination.

- 1. Changes in land use designation, zoning designation, or development standard.**
- 2. Changes in use or intensity of use.**
- 3. Projected increase in trip generation.**
- 4. Potential impacts to residential areas and local streets.**
- 5. Potential impacts to priority pedestrian and bicycle routes, including, but not limited to, school routes and multimodal street improvements identified in the TSP.**
- 6. Potential impacts to intersection level of service (LOS).**

Applicant's Facts and Findings: The Applicant has prepared and submitted a Transportation and Traffic Memorandum with this submission within Appendix D. Through a series of conversations with the City, it was determined that a TIS would not be required because the school is currently operational and the remodel is anticipated to improve transportation operations. Additionally, the school is not expected to increase the number of students in the near future.

19.705 ROUGH PROPORTIONALITY

The purpose of this section is to ensure that required transportation facility improvements are roughly proportional to the potential impacts of the proposed development. The rough proportionality requirements of this section apply to both frontage and off-site, or nonfrontage, improvements. A rough proportionality determination may be appealed pursuant to Subsection 19.703.5.

The Engineering Director will conduct a proportionality analysis for any proposed development that triggers transportation facility improvements per this chapter, with the exception of development subject to Subsection 19.702.2. The Engineering Director may conduct a proportionality analysis for development that triggers transportation facility improvements per Subsection 19.702.2.

When conducting a proportionality analysis for frontage improvements, the Engineering Director will not consider prior use for the portion of the proposed development that involves new construction. The Engineering Director will, however, consider any benefits that are estimated to accrue to the development property as a result of any required transportation facility improvements.

The following general provisions apply whenever a proportionality analysis is conducted.

19.705.1 Impact Mitigation

Mitigation of impacts, due to increased demand for transportation facilities associated with the proposed development, shall be provided in rough proportion to the transportation impacts of the proposed development. When a TIS is required, potential impacts will be determined in accordance with Section 19.704. When no TIS is required, potential impacts will be determined by the Engineering Director.

Applicant's Facts and Findings: The Applicant has analyzed the sites transportation impacts on the existing transportation network within the area within the attached Traffic Memorandum (Appendix D). As no significant impacts to the surrounding transportation system are anticipated within either the near or long term horizon, no mitigation has been proposed aside from the frontage improvements and changes to the parking lots adjacent to the site.

19.705.2 Rough Proportionality Guidelines

The following shall be considered when determining proportional improvements:

- A. Condition and capacity of existing facilities within the impact area in relation to City standards. The impact area is generally defined as the area within a 1/2-mile radius of the proposed development. If a TIS is required pursuant to Section 19.704, the impact area is the TIS study area.**
- B. Existing vehicle, bicycle, pedestrian, and transit use within the impact area.**
- C. The effect of increased demand associated with the proposed development on transportation facilities and on other approved, but not yet constructed, development projects within the impact area.**
- D. The most recent use when a change in use is proposed that does not involve new construction.**
- E. Applicable TSP goals, policies, and plans.**
- F. Whether any route affected by increased transportation demand within the impact area is listed in any City program including, but not limited to, school trip safety, neighborhood traffic management, capital improvement, and system development improvement.**
- G. Accident history within the impact area.**
- H. Potential increased safety risks to transportation facility users, including pedestrians and cyclists.**
- I. Potential benefit the development property will receive as a result of the construction of any required transportation facility improvements.**
- J. Other considerations as may be identified in the review process.**

Applicant's Facts and Findings: The Applicant has analyzed the sites transportation impacts on the existing transportation network within the area within the attached Traffic Memorandum (Appendix D). As no significant impacts to the surrounding transportation system are anticipated within either the near or long term horizon, no mitigation has been proposed aside from the frontage improvements and changes to the parking lots adjacent to the site.

19.708 TRANSPORTATION FACILITY REQUIREMENTS

This section contains the City's requirements and standards for improvements to public streets, including pedestrian, bicycle, and transit facilities. For ease of reading, the more

common term “street” is used more frequently than the more technical terms “public right-of-way” or “right-of-way.” As used in this section, however, all three terms have the same meaning.

The City recognizes the importance of balancing the need for improved transportation facilities with the need to ensure that required improvements are fair and proportional. The City also acknowledges the value in providing street design standards that are both objective and flexible. Objective standards allow for consistency of design and provide some measure of certainty for developers and property owners. Flexibility, on the other hand, gives the City the ability to design streets that are safe and that respond to existing street and development conditions in a way that preserves neighborhood character.

The City’s street design standards are based on the street classification system described in the TSP. Figure 8-1 of the TSP identifies the functional street classification for every street in the City and Figure 10-1 identifies the type and size of street elements that may be appropriate for any given street based on its classification.

19.708.1 General Street Requirements and Standards

A. Access Management

All development subject to Chapter 19.700 shall comply with access management standards contained in Chapter 12.16.

B. Clear Vision

All development subject to Chapter 19.700 shall comply with clear vision standards contained in Chapter 12.24.

C. Development in Downtown Zones

Street design standards and right-of-way dedication for the downtown zones are subject to the requirements of the Milwaukie Public Works Standards, which implement the streetscape design of the Milwaukie Downtown and Riverfront Plan: Public Area Requirements (PAR). Unless specifically stated otherwise, the standards in Section 19.708 do not apply to development located in the downtown zones or on street sections shown in the PAR per Subsection 19.304.6.

D. Development in Non-Downtown Zones

Development in a non-downtown zone that has frontage on a street section shown in the PAR is subject to the requirements of the Milwaukie Public Works Standards, which implements the street design standards and right-of-way dedication requirements contained in the PAR for that street frontage. The following general provisions apply only to street frontages that are not shown in the PAR and for development that is not in any of the downtown zones listed in Subsection 19.708.1.C above:

- 1. Streets shall be designed and improved in accordance with the standards of this chapter and the Public Works Standards. ODOT facilities shall be designed consistent with State and federal standards. County facilities shall be designed consistent with County standards.**
- 2. Streets shall be designed according to their functional classification per Figure 8-3b of the TSP.**
- 3. Street right-of-way shall be dedicated to the public for street purposes in accordance with Subsection 19.708.2. Right-of-way shall be dedicated at**

the corners of street intersections to accommodate the required turning radii and transportation facilities in accordance with Section 19.708 and the Public Works Standards. Additional dedication may be required at intersections for improvements identified by the TSP or a required transportation impact study.

4. The City shall not approve any development permits for a proposed development unless it has frontage or approved access to a public street.

5. Off-site street improvements shall only be required to ensure adequate access to the proposed development and to mitigate for off-site impacts of the proposed development.

6. The following provisions apply to all new public streets and extensions to existing public streets.

a. All new streets shall be dedicated and improved in accordance with this chapter.

b. Dedication and construction of a half-street is generally not acceptable. However, a half-street may be approved where it is essential to allow reasonable development of a property and when the review authority finds that it will be possible for the property adjoining the half-street to dedicate and improve the remainder of the street when it develops. The minimum paved roadway width for a half-street shall be the minimum width necessary to accommodate 2 travel lanes pursuant to Subsection 19.708.2.

7. Traffic calming may be required for existing or new streets. Traffic calming devices shall be designed in accordance with the Public Works Standards or with the approval of the Engineering Director.

8. Railroad Crossings

Where anticipated development impacts trigger a need to install or improve a railroad crossing, the cost for such improvements may be a condition of development approval.

9. Street Signs

The City shall install all street signs, relative to traffic control and street names, as specified by the Engineering Director. The applicant shall reimburse the City for the cost of all such signs installed by the City.

10. Streetlights

The location of streetlights shall be noted on approved development plans. Streetlights shall be installed in accordance with the Public Works Standards or with the approval of the Engineering Director.

Applicant's Facts and Findings:

The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. The Applicant has also provided detailed preliminary development plans showing that all proposed improvements have been designed in accordance with the City's Transportation System Plan and public works standards.

Section 12.16.040 details the City's Access Management requirements. This section describes where access may be permitted to allow for sufficient stopping sight distance, the ability of turning traffic to leave through lane with minimal disruption to operations, minimization of turning conflicts, and the avoidance,

through design, of conflicting traffic movements from existing streets and driveways.

Access spacing for the site's two new driveways on the southern side of the campus has been reviewed and refined through discussions with our transportation consultants and the City Engineer. Because Willard and SE 23rd are local streets, commercial type access driveways have been planned at reasonably spaced access points along the property's frontage.

E. Street Layout and Connectivity

- 1. The length, width, and shape of blocks shall take lot size standards, access and circulation needs, traffic safety, and topographic limitations into consideration.**
- 2. The street network shall be generally rectilinear but may vary due to topography or other natural conditions.**
- 3. Streets shall be extended to the boundary lines of the developing property where necessary to give access to or allow for future development of adjoining properties.**
 - a. Temporary turnarounds shall be constructed for street stubs in excess of 150 ft in length. Drainage facilities shall be constructed to properly manage stormwater runoff from temporary turnarounds.**
 - b. Street stubs to adjoining properties shall not be considered turnarounds, unless required and designed as turnarounds, since they are intended to continue as through streets when adjoining properties develop.**
 - c. Reserve strips may be required in order to ensure the eventual continuation or completion of a street.**
- 4. Permanent turnarounds shall only be provided when no opportunity exists for creating a through street connection. The lack of present ownership or control over abutting property shall not be grounds for construction of a turnaround. For proposed land division sites that are 3 acres or larger, a street ending in a turnaround shall have a maximum length of 200 ft, as measured from the cross street right-of-way to the farthest point of right-of-way containing the turnaround. For proposed land division sites that are less than 3 acres, a street ending in a turnaround shall have a maximum length of 400 ft, measured from the cross street right-of-way to the farthest point of right-of-way containing the turnaround. Turnarounds shall be designed in accordance with the requirements of the Public Works Standards. The requirements of this subsection may be adjusted by the Engineering Director to avoid alignments that encourage nonlocal through traffic.**
- 5. Closed-end street systems may serve no more than 20 dwellings.**

Applicant's Facts and Findings:

The Applicant is not proposing to create any new streets as part of this development. Only frontage improvements along the property's southern frontages has been proposed. The Applicant has received a request from the City to dedicate a small portion of Right-of-way along SE Adams to better accommodate pedestrian users within the area. The Applicant proposing to dedicate 25 feet of right-of-way to the east of the terminus of SE Adams Road to create a pedestrian connection between SE Adams and SE 23rd. The Applicant is

also proposing to construct a five (5) foot wide sidewalk within the newly dedicated section of Adams, connecting to SE 23rd Avenue.

F. Intersection Design and Spacing

- 1. Connecting street intersections shall be located to provide for traffic flow, safety, and turning movements, as conditions warrant.**
- 2. Street and intersection alignments for local streets shall facilitate local circulation but avoid alignments that encourage nonlocal through traffic.**
- 3. Streets should generally be aligned to intersect at right angles (90 degrees). Angles of less than 75 degrees will not be permitted unless the Engineering Director has approved a special intersection design.**
- 4. New streets shall intersect at existing street intersections so that centerlines are not offset. Where existing streets adjacent to a proposed development do not align properly, conditions shall be imposed on the development to provide for proper alignment.**
- 5. Minimum and maximum block perimeter standards are provided in Table 19.708.1.**
- 6. Minimum and maximum intersection spacing standards are provided in Table 19.708.1.**

Applicant's Facts and Findings: The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. No new intersections between existing roadways are proposed.

19.708.2 Street Design Standards

Table 19.708.2 contains the street design elements and dimensional standards for street cross sections by functional classification. Dimensions are shown as ranges to allow for flexibility in developing the most appropriate cross section for a given street or portion of street based on existing conditions and the surrounding development pattern. The additional street design standards in Subsection 19.708.2.A augment the dimensional standards contained in Table 19.708.2. The Engineering Director will rely on Table 19.708.2 and Subsection 19.708.2.A to determine the full-width cross section for a specific street segment based on functional classification. The full-width cross section is the sum total of the widest dimension of all individual street elements. If the Engineering Director determines that a full-width cross section is appropriate and feasible, a full-width cross section will be required. If the Engineering Director determines that a full-width cross section is not appropriate or feasible, the Engineering Director will modify the full-width cross section requirement using the guidelines provided in Subsection 19.708.2.B. Standards for design speed, horizontal/vertical curves, grades, and curb return radii are specified in the Public Works Standards.

A. Additional Street Design Standards

These standards augment the dimensional standards contained in Table 19.708.2 and may increase the width of an individual street element and/or the full-width right-of-way dimension.

- 1. Minimum 10-ft travel lane width shall be provided on local streets with no on-street parking.**

2. Where travel lanes are next to a curb line, an additional 1 ft of travel lane width shall be provided. Where a travel lane is located between curbs, an additional 2 ft of travel lane width shall be provided.
3. Where shared lanes or bicycle boulevards are planned, up to an additional 6 ft of travel lane width shall be provided.
4. Bike lane widths may be reduced to a minimum of 4 ft where unusual circumstances exist, as determined by the Engineering Director, and where such a reduction would not result in a safety hazard.
5. Where a curb is required by the Engineering Director, it shall be designed in accordance with the Public Works Standards.
6. Center turn lanes are not required for truck and bus routes on street classifications other than arterial roads.
7. On-street parking in industrial zones shall have a minimum width of 8 ft.
8. On-street parking in commercial zones shall have a minimum width of 7 ft.
9. On-street parking in residential zones shall have a minimum width of 6 ft.
10. Sidewalk widths may be reduced to a minimum of 4 ft for short distances for the purpose of avoiding obstacles within the public right-of-way including, but not limited to, trees and power poles.
11. Landscape strip widths shall be measured from back of curb to front of sidewalk.
12. Where landscape strips are required, street trees shall be provided a minimum of every 40 ft in accordance with the Public Works Standards and the Milwaukie Street Tree List and Street Tree Planting Guidelines.
13. Where water quality treatment is provided within the public right-of-way, the landscape strip width may be increased to accommodate the required treatment area.
14. A minimum of 6 in shall be required between a property line and the street element that abuts it; e.g., sidewalk or landscape strip.

B. Street Design Determination Guidelines

The Engineering Director shall make the final determination regarding right-of-way and street element widths using the ranges provided in Table 19.708.2 and the additional street design standards in Subsection 19.708.2.A. The Engineering Director shall also determine whether any individual street element may be eliminated on one or both sides of the street in accordance with Figure 10-1 of the TSP. When making a street design determination that varies from the full-width cross section, the Engineering Director shall consider the following:

1. Options and/or needs for environmentally beneficial and/or green street designs.
2. Multimodal street improvements identified in the TSP.
3. Street design alternative preferences identified in Chapter 10 of the TSP, specifically regarding sidewalk and landscape strip improvements.
4. Existing development pattern and proximity of existing structures to the right-of-way.

5. Existing right-of-way dimensions and topography.

Applicant's Facts and Findings: The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. The Applicant has also provided detailed preliminary development plans showing that all proposed improvements have been designed in accordance with the City's Transportation System Plan and public works standards.

19.708.3 Sidewalk Requirements and Standards

A. General Provisions

1. Goals, objectives, and policies relating to walking are included in Chapter 5 of the TSP and provide the context for needed pedestrian improvements. Figure 5-1 of the TSP illustrates the Pedestrian Master Plan and Table 5-3 contains the Pedestrian Action Plan.

2. Americans with Disabilities Act (ADA) requirements for public sidewalks shall apply where there is a conflict with City standards.

Applicant's Facts and Findings: The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. The Applicant has also provided detailed preliminary development plans showing that all proposed improvements have been designed in accordance with the City's Transportation System Plan and public works standards.

B. Sidewalk Requirements

1. Requirements

Sidewalks shall be provided on the public street frontage of all development per the requirements of this chapter. Sidewalks shall generally be constructed within the dedicated public right-of-way, but may be located outside of the right-of-way within a public easement with the approval of the Engineering Director.

2. Design Standards

Sidewalks shall be designed and improved in accordance with the requirements of this chapter and the Public Works Standards.

3. Maintenance

Abutting property owners shall be responsible for maintaining sidewalks and landscape strips in accordance with Chapter 12.04.

Applicant's Facts and Findings: The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. The Applicant has also provided detailed preliminary development plans showing that all proposed improvements have been designed in accordance with the City's Transportation System Plan and public works standards.

19.708.4 Bicycle Facility Requirements and Standards

A. General Provisions

1. Bicycle facilities include bicycle parking and on-street and off-street bike lanes, shared lanes, bike boulevards, and bike paths.

2. Goals, objectives, and policies relating to bicycling are included in Chapter 6 of the TSP and provide the context for needed bicycle improvements. Figure 6-2 of the TSP illustrates the Bicycle Master Plan, and Table 6-3 contains the Bicycle Action Plan.

B. Bicycle Facility Requirements

1. Requirements

Bicycle facilities shall be provided in accordance with this chapter, Chapter 19.600, the TSP, and the Milwaukie Downtown and Riverfront Plan: Public Area Requirements. Requirements include, but are not limited to, parking, signage, pavement markings, intersection treatments, traffic calming, and traffic diversion.

2. Timing of Construction

To assure continuity and safety, required bicycle facilities shall generally be constructed at the time of development. If not practical to sign, stripe, or construct bicycle facilities at the time of development due to the absence of adjacent facilities, the development shall provide the paved street width necessary to accommodate the required bicycle facilities.

3. Design Standards

Bicycle facilities shall be designed and improved in accordance with the requirements of this chapter and the Public Works Standards. Bicycle parking shall be designed and improved in accordance with Chapter 19.600 and the Milwaukie Downtown and Riverfront Plan: Public Area Requirements.

Applicant's Facts and Findings: The Applicant has provided a detailed description of the roadway improvements proposed as part of this project within the findings created in response to section 19.703.4. The Applicant has also provided detailed preliminary development plans showing that all proposed improvements have been designed in accordance with the City's Transportation System Plan and public works standards.

19.708.5 Pedestrian/Bicycle Path Requirements and Standards

Applicant's Facts and Findings: No new bicycle pathways have been required or proposed within the proposed development. The requirements of this section do not apply.

19.708.6 Transit Requirements and Standards

A. General Provisions

1. Transit facilities include bus stops, shelters, and related facilities. Required transit facility improvements may include the dedication of land or the provision of a public easement.

2. Goals, objectives, and policies relating to transit are included in Chapter 7 of the TSP. Figure 7-3 of the TSP illustrates the Transit Master Plan, and Table 7-2 contains the Transit Action Plan.

Applicant's Facts and Findings: No new public transit facilities have been required by the City as part of this project. The District has submitted plans for a new bus queueing and drop-off area which fronts the southern edge of the site. The requirements of this section do not apply as no new public transit facilities are proposed.

19.709 PUBLIC UTILITY REQUIREMENTS

19.709.1 Review Process

The Engineering Director shall review all proposed development subject to Chapter 19.700 per Section 19.702 in order to: (1) evaluate the adequacy of existing public utilities to serve the proposed development, and (2) determine whether new public utilities or an expansion of existing public utilities is warranted to ensure compliance with the City's public utility requirements and standards.

A. Permit Review

The Engineering Director shall make every effort to review all development permit applications for compliance with the City's public utility requirements and standards within 10 working days of application submittal. Upon completion of this review, the Engineering Director shall either approve the application, request additional information, or impose conditions on the application to ensure compliance with this chapter.

B. Review Standards

Review standards for public utilities shall be those standards currently in effect, or as modified, and identified in such public documents as Milwaukie's Comprehensive Plan, Wastewater Master Plan, Water Master Plan, Stormwater Master Plan, Transportation System Plan, and Public Works Standards.

Applicant's Facts and Findings: The Applicant has submitted a series of plans showing proposed improvements to the site's public utility system. All proposed improvements have been designed to comply with the City's standards. The Applicant has submitted the attached plans for the City's review, comment, and approval.

19.709.2 Public Utility Improvements

Public utility improvements shall be required for proposed development that would have a detrimental effect on existing public utilities, cause capacity problems for existing public utilities, or fail to meet standards in the Public Works Standards. Development shall be required to complete or otherwise provide for the completion of the required improvements.

A. The Engineering Director shall determine which, if any, utility improvements are required. The Engineering Director's determination requiring utility improvements shall be based upon an analysis that shows the proposed development will result in one or more of the following situations:

1. Exceeds the design capacity of the utility.
2. Exceeds Public Works Standards or other generally accepted standards.
3. Creates a potential safety hazard.
4. Creates an ongoing maintenance problem.

B. The Engineering Director may approve one of the following to ensure completion of required utility improvements.

1. Formation of a reimbursement district in accordance with Chapter 13.30 for off-site public facility improvements fronting other properties.
2. Formation of a local improvement district in accordance with Chapter 3.08 for off-site public facility improvements fronting other properties.

Applicant's Facts and Findings: Improvements to the site's public utilities will include the following modifications and additions:

Stormwater

The Applicant proposed to create new stormwater flow-through planters within the green zones for SE Willard, SE 25th, and SE Lake.

Sewer

The applicant is proposing a new grease trap within the new building. New sanitary sewer line will be directed from grease trap and from the riser room in the north east corner of the northern wing to an existing sanitary manhole connect to an eight (8) inch main located within the center of SE Willard.

Water

Water service is proposed from SE Willard with three new taps from the existing eight (8) inch main. One proposed tap will serve a new fire hydrant located along SE Willard. The two other taps will provide access for fire sprinkler system and for potable water.

Private utilities on site will include new parking lot stormwater planter areas in the southeastern parking lot. Stormwater management within the southwestern parking lot will consist of stormwater filter manholes.

19.709.3 Design Standards

Public utility improvements shall be designed and improved in accordance with the requirements of this chapter, the Public Works Standards, and improvement standards and specifications identified by the City during the development review process. The applicant shall provide engineered utility plans to the Engineering Director for review and approval prior to construction to demonstrate compliance with all City standards and requirements.

Applicant's Facts and Findings: All proposed public utility improvements have been designed in accordance with the requirements of this chapter. The attached plans have been submitted to the City's Engineering Director for review. No construction on site will be scheduled without the required approval and permits.

19.709.4 Oversizing

The Engineering Director may require utility oversizing in anticipation of additional system demand. If oversizing is required, the Engineering Director may authorize a reimbursement district or a system development charge (SDC) credit in accordance with Chapter 13.28.

Applicant's Facts and Findings: The Applicant has proposed improvements to the site's utility network to satisfy the demands associated with the new buildings and facilities on site. The City's Engineering Director has not indicated that any specific oversizing of the system will be required within the site's vicinity.

19.709.5 Monitoring

The Engineering Director shall monitor the progress of all public utility improvements by the applicant to ensure project completion and compliance with all City permitting requirements and standards. Utility improvements are subject to the requirements of Chapter 12.08. Follow-up action, such as facility inspection, bond release, and enforcement, shall be considered a part of the monitoring process.

Applicant's Facts and Findings: The Applicant will work with the City's Engineering Director throughout the construction process to ensure that all proposed improvements are completed to the satisfaction of the Director.

CHAPTER 19.800 NONCONFORMING USES AND DEVELOPMENT

19.804 ALTERATION OF NONCONFORMING USES AND DEVELOPMENT

19.804.1 Nonconforming Uses

A. Provisions

The following provisions apply to the alteration of nonconforming uses:

- 1. A nonconforming use shall not be moved, in whole or in part, to any portion of the site other than that occupied by the nonconforming use, except as allowed per Subsection 19.804.1.B.1.**
- 2. No additional development or physical alterations associated with the nonconforming use shall occur, except as allowed per Subsection 19.804.1.B.1. Additional development or physical alterations not associated with the nonconforming use and that conform to Title 19 are allowed.**
- 3. No intensification of the nonconforming use shall occur, except as allowed per Subsection 19.804.1.B.1. Alterations that decrease the intensity of the nonconforming use are allowed.**

Applicant's Facts and Findings: The Milwaukie High School Campus has several non-conforming uses on site due to the age of the Campus and due to several design changes which have taken place on site for the better part of the last century. The most significant non-conforming uses are related to the site's parking. The site does not provide sufficient parking to meet the City's minimum parking requirements for a High School. The site also fails to provide marked van/car pool parking spaces. Because the district is proposing to construct a new parking lot which will add additional stalls on campus, the Applicant has addressed the requirements of 19.800 to document that the improvements, while still resulting in a non-conforming situation, will result in a decrease of the intensity of the non-conforming use.

B. Land Use Review Required

- 1. A nonconforming use shall not be moved, altered, or intensified unless such move, alteration, or intensification is approved by the Planning Commission through a Type III review per Section 19.1006. The applicant shall demonstrate that the proposed move, alteration, or intensification would result in no more of a detriment to surrounding properties than the existing nonconforming use.**

Applicant's Facts and Findings: The changes proposed at Milwaukie High School Campus necessitate a Type III review before the City's Planning Commission as a Modification to the site's Community Service Use Permit. The Applicant has documented within this narrative how the proposed improvements to the school result in the reduction of the site's nonconformance with the applicable standards. The Applicant has further documented that the additional improvements to the campus will reduce the impacts on surrounding properties.

19.804.2 Nonconforming Development

The following provisions apply to the alteration of nonconforming development:

A. Alterations or expansions that increase or extend the nonconformity are not allowed unless a variance is approved pursuant to Section 19.911.

B. Alterations or expansions that conform to Title 19 are allowed. For example, development that does not conform to height, yard requirements, or lot coverage may be altered provided that the alteration does not exceed the height, yard requirements, or lot coverage requirements of Title 19.

Applicant's Facts and Findings:

The changes proposed at Milwaukie High School Campus necessitate a Type III review before the City's Planning Commission as a Modification to the site's Community Service Use Permit. The Applicant has documented within this narrative how the proposed improvements to the school result in the reduction of the site's nonconformance with the applicable standards. The Applicant has further documented that the additional improvements to the campus will reduce the impacts on surrounding properties.

The Applicant's primary nonconforming issue is related to parking. The site currently falls short of the City's minimum required parking standards. The District is proposing to construct a new parking lot to the east of the existing building. The District is also proposing to reconstruct the parking lot located west of the building to allow for better site circulation for pick-up and drop off. The proposed modifications and additions to the site's parking lots will result in a net increase of 74 parking stalls.

While the District is proposing to increase the parking on site, the newly proposed main high school building will also be enlarged and expanded to allow for additional room for students and for an increase in the number of staff which will be able to use the site. The current main building provides capacity for 1,500 students and 110 staff. The newly proposed building will provide sufficient capacity for 1,500 students and approximately 140 staff members.

Parking for high schools is required within MMC Chapter 19.600 at a minimum rate of 1 space for every staff member and 0.25 spaces for every student. This results in a minimum parking requirement of 515 parking stalls. The minimum parking standard can be reduced by up to 25% through the by-right parking minimum reductions listed in section 19.605.3. The District qualifies for the full 25% reduction due to the site's proximity to light rail. The reduced parking minimum for the site is therefore 387 stalls.

The District currently provides 259 parking spaces on site and through a series of shared parking agreements with neighboring properties. The reconfiguration of the site's existing parking and the addition of the new parking facilities will result in a net increase of 74 parking stalls on the site. The new demand created through the increase in capacity for additional facility is 30 parking stalls as up to 30 more staff members will be able to use the school. Because the parking created through the new parking lot improvements will exceed the new demands created by the construction of the new building, the District's proposal is moving the site closer into conformance with the applicable standards.

The proposed improvements to the school's building and parking will improve conditions within the area by reducing the demands for off-site parking within the surrounding neighborhoods during the school day. Circulation, safety, and accessibility for vehicles and pedestrians will also be dramatically improved following the construction of the proposed improvements. No increase in any detrimental or negative conditions within the existing vicinity is anticipated as part of the proposed improvements.

19.805 REBUILDING OF NONCONFORMING USES AND DEVELOPMENT

19.805.1 Provisions

The following provisions establish when a nonconforming use or development may be reestablished or rebuilt following its intentional or accidental destruction:

- A. When a nonconforming use or development is intentionally destroyed to an extent less than or equal to 50% of its replacement value, restoration is allowed. The restoration shall not result in an increase in the nonconformance of the use or development.**
- B. When a nonconforming use or development is intentionally destroyed to an extent exceeding 50% of its replacement value, restoration of the use or development shall conform to all applicable land use and development regulations.**
- C. If a nonconforming use or development is partially or totally destroyed by fire or other causes or natural hazards beyond the control of the owner, the use or development may be restored or replaced. The restoration or replacement shall not be more out of conformance with the land use or development regulations than the original use or development.**

Applicant's Facts and Findings:

The replacement value of the main high school building would exceed 50% of the value of the school. The entire site is not affected by the proposed improvements. The redeveloped portions of the site will be designed to conform to all applicable land use and development regulations except where detailed within this narrative. The proposed redevelopment of the building and parking areas on the MHS campus will not result in any intensification or increases in nonconformance which would move the campus farther from conformance with the applicable standards listed herein. In fact, many non-conforming aspects of the campus will move closer to conformance.

CHAPTER 19.900 LAND USE APPLICATIONS

19.904 COMMUNITY SERVICE USES

19.904.1 Purpose

This section allows development of certain uses which, because of their public convenience, necessity, and unusual character, may be appropriately located in most zoning districts, but which may be permitted only if appropriate for the specific location for which they are

proposed. This section provides standards and procedures for review of applications for such community uses. Community service uses may be sited in any zone, except where expressly prohibited, if they meet the standards of this section. Approval of a CSU does not change the zoning of the property.

19.904.2 Applicability

Any community service use shall be subject to the provisions of this section. Application must be submitted to establish or modify a community service use. Community service uses include certain private and public utilities, institutions, and recreational facilities as listed below:

A. Institutions—Public/Private and Other Public Facilities

- 1. Schools, public or private, and their accompanying sports facilities, day-care centers, private kindergartens;**

Applicant's Facts and Findings: Schools are an institutional use within the City of Milwaukie's Zoning Code. The provisions of this section apply to the project because the Applicant has proposed an amendment to the School's existing Community Service Use Permit.

19.904.3 Review Process

Except as provided in Subsections 19.904.5.C for minor modifications and 19.904.11 for wireless communication facilities, community service uses shall be evaluated through a Type III review per Section 19.1006.

Applicant's Facts and Findings: The Applicant acknowledges the required Type III review process.

19.904.4 Approval Criteria

An application for a community service use may be allowed if the following criteria are met:

- A. The building setback, height limitation, and off-street parking and similar requirements governing the size and location of development in the underlying zone are met. Where a specific standard is not proposed in the CSU, the standards of the underlying zone are met;**

Applicant's Facts and Findings: The Applicant had analyzed the allowable building setbacks, height limitations, off-street parking requirements and other applicable development standards. The Applicant's responses to sections 19.300 (Base Zones), 19.400 (Overlay Zones and Special Areas), 19.500 (Supplementary Development Regulations), 19.600 (Off-street Parking), and 19.700 (Public Facilities) of the City's code confirm that the District's proposal is in compliance with all applicable underlying development standards and limitations.

- B. Specific standards for the proposed uses as found in Subsections 19.904.7-11 are met;**

Applicant's Facts and Findings: The standards of 19.904.7 apply to Schools. The Applicant has addressed these standards within this narrative.

C. The hours and levels of operation of the proposed use are reasonably compatible with surrounding uses;

Applicant's Facts and Findings: The use of the site as a High School is not proposed to change. The hours and levels of operation are anticipated to be very similar to those in place today, which are reasonable compatible with the surrounding uses.

D. The public benefits of the proposed use are greater than the negative impacts, if any, on the neighborhood; and

Applicant's Facts and Findings: The Main Milwaukie High School building has served the residents of the City of Milwaukie and the North Clackamas School District for several generations. The removal of the existing main classroom building and the replacement of the building with a larger, modern High School facility will better serve the general public through the provision of a modernized education facility and through the implementation of a public improvement bond. The negative impacts upon the neighborhood involve the impacts associated with construction and the demolition of one of Milwaukie's Historic structures. The public benefits associated with the replacement of the High School far outweigh the potential negative impacts and the historic components associated with the School and the Comprehensive plan have been addressed in a separate application.

E. The location is appropriate for the type of use proposed.

Applicant's Facts and Findings: The District's proposed replacement of Milwaukie High School's main building is appropriate as the Milwaukie High School campus has been serving students within the City of Milwaukie within this current location since the 1920s. The School is located adjacent to a wide range of transportation modes and has served as a well-known institution within the Community.

19.904.5 Procedures for Reviewing a Community Service Use

A. The Planning Commission will hold a public hearing on the establishment of, or major modification of, the proposed community service use. If the Commission finds that the approval criteria in Subsection 19.904.4 are met, the Commission shall approve the designation of the site for community service use. If the Commission finds otherwise, the application shall be denied. An approval allows the use on the specific property for which the application was submitted, subject to any conditions the Planning Commission may attach.

B. In permitting a community service use or the modification of an existing one, the City may impose suitable conditions which assure compatibility of the use with other uses in the vicinity. These conditions may include but are not limited to:

1. Limiting the manner in which the use is conducted by restricting the time an activity may take place and by minimizing such environmental effects as noise and glare;
2. Establishing a special yard, setback, lot area, or other lot dimension;
3. Limiting the height, size, or location of a building or other structure;
4. Designating the size, number, location, and design of vehicle access points;
5. Increasing roadway widths, requiring street dedication, and/or requiring improvements within the street right-of-way including full street improvements;
6. Designating the size, location, screening, drainage, surfacing, or other improvement of a parking area or truck loading area; and/or
7. Limiting or otherwise designating the number, size, location, height, and lighting of signs.

Applicant's Facts and Findings:

The Applicant acknowledges the process for review of Type III Applications. The Applicant acknowledges that the City may place conditions of approval upon the application in order to assure compatibility with the uses which are present within the neighborhood. Though it is possible for the City to assign conditions of approval related to suitability, the site is already in use as an existing High School Campus. The District's proposal to construct a new building over the location of the existing high school warrants very few conditions to ensure suitability as the school has been in operation for longer than many of the homes within the surrounding neighborhood have been there.

The City's Planning Commission and City Council can find that no special conditions of approval require implementation prior to permitting the development of the proposed building and site improvements.

19.904.6 Application Requirements

An application for approval of a community service use shall include the following:

- A. Name, address and telephone number of applicant and/or property owner;
- B. Map number and/or subdivision block and lot;
- C. Narrative concerning the proposed request;
- D. Copy of deed, or other document showing ownership or interest in property. If applicant is not the owner, the written authorization from the owner for the application shall be submitted;
- E. Vicinity map;
- F. Comprehensive plan and zoning designations;
- G. A map showing existing uses, structures, easements, and public utilities and showing proposed development, placement of lot lines, etc.;
- H. Detailed plans for the specific project;
- I. Any information required by other applicable provisions of local, state or federal law;

- J. Proof of payment of the applicable fees;**
- K. Additional drawings, surveys or other material necessary to understand the proposed use may be required.**

Applicant’s Facts and Findings: The Applicant has provided each of the required submission materials to allow the City to consider the proposed improvements and the application.

19.904.7 Specific Standards for Schools

Public, private or parochial, elementary, secondary, preschool, nursery schools, kindergartens, and day-care centers are included.

- A. Public elementary or secondary schools shall provide the site area/pupil ratio required by state law. Other schools shall provide 1 acre of site area for each 75 pupils of capacity or for each 2½ classrooms, whichever is greater, except as provided in Subsection 19.904.7.B below.**
- B. Preschools, nursery schools, day-care centers, or kindergartens shall provide a fenced, outdoor play area of at least 75 sq ft for each child of total capacity, or a greater amount if so required by state law. In facilities where groups of children are scheduled at different times for outdoor play, the total play area may be reduced proportionally based on the number of children playing out-of-doors at one time. However, the total play area may not be reduced by more than half. These uses must comply with the State Children’s Services Division requirements as well as the City provisions.**
- C. Walkways, both on and off the site, shall be provided as necessary for safe pedestrian access to schools subject to the requirements and standards of Chapter 19.700.**
- D. Sight-obscuring fence of 4 to 6 ft in height shall be provided to separate the play area from adjacent residential uses.**
- E. Public facilities must be adequate to serve the facility.**
- F. Safe loading and ingress and egress will be provided on and to the site.**
- G. Off-street parking (including buses) shall be provided as per Chapter 19.600.**
- H. Minimum setback requirements:**
 - Front yard: 20 ft**
 - Rear yard: 20 ft**
 - Side yard: 20 ft**
 - Setbacks may be increased depending on the type and size of school in order to ensure adequate buffering between uses and safety for students.**
- I. Bicycle facilities are required which adequately serve the facility.**
- J. 15% of the total site is to be landscaped.**

Applicant’s Facts and Findings: The requirements of this section apply to the reconstruction of Milwaukie High School. The requirements of this section have been met through the satisfaction of several other of the City’s code standards. The 14.7 acre site currently provides

services to approximately 1,200 students. The school is currently non-compliant with the 75 pupil to acre requirement however no changes to the overall site size are proposed or practically possible. The site is bordered by developed properties and the District has very little, if any, opportunity to expand. Because of the urban nature of the school, the fact that enrollment varies, and because of the fact that no additional adjacent lands are available for expansion to meet the pupil to acre requirement, the District can not be held to a standard to which it cannot conform.

The site has walkways which provide access and circulation on site and the property is surrounded by a public sidewalk network which is complete and accessible along the site's frontage.

The property has adequate utilities, roadways, and public facilities both in the existing condition and as proposed through the improvements described as part of this development proposal.

The proposed site plan shows a new loading area for the new main school building which is located to the east of the new building. The proposed parking and loading areas will be consistent with the City's code and placed in order to minimize conflicts with pedestrians and other vehicular traffic. The proposed parking, drop-off, and loading areas address several existing safety concerns and should create a much safer environment for students, parents, and staff.

Off-street parking requirements for vehicles, busses, and bicycles has been addressed within the Applicant's responses to Chapter 19.600. Minimum setback requirements have all been met through the proposed placement of the new buildings on site.

Approximately 77% of the site is currently in landscape area and open space. The requirements of this section have been met.

19.911 VARIANCES

19.911.1 Purpose

Variances provide relief from specific code provisions that have the unintended effect of preventing reasonable development or imposing undue hardship. Variances are intended to provide some flexibility while ensuring that the intent of each development standard is met. Variances may be granted for the purpose of fostering reinvestment in existing buildings, allowing for creative infill development solutions, avoiding environmental impacts, and/or precluding an economic taking of property. Variances shall not be granted that would be detrimental to public health, safety, or welfare.

19.911.2 Applicability

A. Eligible Variances

Except for situations described in Subsection 19.911.2.B, a variance may be requested to any standard or regulation in Titles 17 or 19 of the Milwaukie Municipal Code, or any other portion of the Milwaukie Municipal Code that constitutes a land use regulation per ORS 197.015.

B. Ineligible Variances

A variance may not be requested for the following purposes:

1. To eliminate restrictions on uses or development that contain the word "prohibited."
2. To change a required review type.
3. To change or omit the steps of a procedure.
4. To change a definition.
5. To increase, or have the same effect as increasing, the maximum permitted density for a residential zone.
6. To justify or allow a Building Code violation.
7. To allow a use that is not allowed outright by the base zone. Requests of this nature may be allowed through the use exception provisions in Subsection 19.911.5, nonconforming use replacement provisions in Subsection 19.804.1.B.2, conditional use provisions in Section 19.905, or community service use provisions in Section 19.904.

C. Exceptions

A variance application is not required where other sections of the municipal code specifically provide for exceptions, adjustments, or modifications to standards either "by right" or as part of a specific land use application review process.

19.911.3 Review Process

A. General Provisions

1. Variance applications shall be evaluated through either a Type II or III review, depending on the nature and scope of the variance request and the discretion involved in the decision-making process.
2. Variance applications may be combined with, and reviewed concurrently with, other land use applications.
3. One variance application may include up to three variance requests. Each variance request must be addressed separately in the application. If all of the variance requests are Type II, the application will be processed through a Type II review. If one or more of the variance requests is Type III, the application will be processed through a Type III review. Additional variance requests must be made on a separate variance application.

Applicant's Facts and Findings: The Applicant has requested a variance to allow for an exemption to the carpool/vanpool parking standards located in section 19.610. This application has been submitted concurrently with an application for a Community Service Use Permit and will therefore be reviewed concurrently with the over-arching application.

C. Type III Variances

Type III variances allow for larger or more complex variations to standards that require additional discretion and warrant a public hearing consistent with the Type III review process. Any variance request that is not specifically listed as a Type II variance per Subsection 19.911.3.B shall be evaluated through a Type III review per Section 19.1006.

Applicant's Facts and Findings: The Applicant has requested a variance to allow for an exemption to the carpool/vanpool parking standards located in section 19.610. This application has been submitted concurrently with an application for a Community Service Use Permit and will therefore be reviewed concurrently with the over-arching application.

19.911.4 Approval Criteria

B. Type III Variances

An application for a Type III variance shall be approved when all of the criteria in either Subsection 19.911.4.B.1 or 2 have been met. An applicant may choose which set of criteria to meet based upon the nature of the variance request, the nature of the development proposal, and the existing site conditions.

1. Discretionary Relief Criteria

a. The applicant's alternatives analysis provides, at a minimum, an analysis of the impacts and benefits of the variance proposal as compared to the baseline code requirements.

Applicant's Facts and Findings: The Applicant has requested a variance to allow for an exemption to the carpool/vanpool parking standards located in section 19.610. The Applicant has addressed and satisfied the discretionary relief criteria and is eligible for both variances.

The Applicant has requested that no carpool/vanpool parking be located within the parking lots at Milwaukie High School. While many students already utilize informal carpool arrangements to get to school, the District does not wish to identify specific parking stalls within the parking lots to identify carpool/vanpool locations. The impacts of this request will be insignificant. The District's overall parking proposal will add an additional parking lot to the south east of the school and will result in a net increase of 75 parking stalls. With superior bus services, transit accessibility, and an increase in the amount of parking available on site, it is likely that this variance will not have any impact on the community or the users of the new school facilities.

b. The proposed variance is determined by the Planning Commission to be both reasonable and appropriate, and it meets one or more of the following criteria:

- (1) The proposed variance avoids or minimizes impacts to surrounding properties.**
- (2) The proposed variance has desirable public benefits.**
- (3) The proposed variance responds to the existing built or natural environment in a creative and sensitive manner.**

Applicant's Facts and Findings: The proposed variance for vanpool/carpool parking is a practical matter for the District in that the provision of stalls with parking restriction would require enforcement and maintenance. The district's requested exception to this requirement would likely have no impacts as most students utilize informal carpooling systems with or without painted or signed parking stalls.

c. Impacts from the proposed variance will be mitigated to the extent practicable.

Applicant's Facts and Findings: As described above, the proposed variances will have no impacts which will require mitigation.

SUMMARY AND CONCLUSION

Based upon the materials submitted herein, the Applicant respectfully requests approval from the City Council of this application for a Community Service Use Modification and Variance. We trust that the materials submitted herewith document that the applicant has satisfied the burden of proof in illustrating that the City's standards and codes either have been met or can be met through conditions of approval.



PLANNING DEPARTMENT
6101 SE Johnson Creek Blvd
Milwaukie OR 97206

PHONE: 503-786-7630
FAX: 503-774-8236
E-MAIL: planning@milwaukieoregon.gov

Application for Land Use Action

Master File #: _____

Review type*: I II III IV V

CHOOSE APPLICATION TYPE(S):

Community Service Use

Modification for Parking Standards

Variances

...

...

Use separate application forms for:

- Annexation and/or Boundary Change
- Compensation for Reduction in Property Value (Measure 37)
- Daily Display Sign
- Appeal

RESPONSIBLE PARTIES:

APPLICANT (owner or other eligible applicant—see reverse): North Clackamas School District

Mailing address: 12451 SE Fuller Road Milwaukie, OR Zip: 97222

Phone(s): 503-353-6000 E-mail: hobbsd@nclack.k12.or.us

APPLICANT'S REPRESENTATIVE (if different than above): Heery International, Steve Nicholas

Mailing address: 12400 SE Freeman Way Milwaukie, OR Zip: 97222

Phone(s): 503-431-6180 E-mail: snichola@heery.com

SITE INFORMATION:

Address: 11200 SE 23rd Avenue Map & Tax Lot(s): 11e36bc 5600 & 5800

Comprehensive Plan Designation: P Zoning: R-2 Size of property: 14.60 Acres

PROPOSAL (describe briefly):

Applicant proposes a major modification to the Milwaukie High School's Community Service Use Permit. .

SIGNATURE:

ATTEST: I am the property owner or I am eligible to initiate this application per Milwaukie Municipal Code (MMC) Subsection 19.1001.6.A. If required, I have attached written authorization to submit this application. To the best of my knowledge, the information provided within this application package is complete and accurate.

Submitted by:  Date: 1/5/2018

IMPORTANT INFORMATION ON REVERSE SIDE

RESET

*For multiple applications, this is based on the highest required review type. See MMC Subsection 19.1001.6.B.1.

WHO IS ELIGIBLE TO SUBMIT A LAND USE APPLICATION (excerpted from MMC Subsection 19.1001.6.A):

Type I, II, III, and IV applications may be initiated by the property owner or contract purchaser of the subject property, any person authorized in writing to represent the property owner or contract purchaser, and any agency that has statutory rights of eminent domain for projects they have the authority to construct.

Type V applications may be initiated by any individual.

PREAPPLICATION CONFERENCE:

A preapplication conference may be required or desirable prior to submitting this application. Please discuss with Planning staff.

REVIEW TYPES:

This application will be processed per the assigned review type, as described in the following sections of the Milwaukie Municipal Code:

- Type I: Section 19.1004
- Type II: Section 19.1005
- Type III: Section 19.1006
- Type IV: Section 19.1007
- Type V: Section 19.1008

THIS SECTION FOR OFFICE USE ONLY:

FILE TYPE	FILE NUMBER	FEE AMOUNT*	PERCENT DISCOUNT	DISCOUNT TYPE	DEPOSIT AMOUNT	DATE STAMP
Master file		\$			\$	
Concurrent application files		\$			\$	
		\$			\$	
		\$			\$	
		\$			\$	
SUBTOTALS		\$			\$	

TOTAL AMOUNT RECEIVED: \$ **RECEIPT #:** **RCD BY:**

Associated application file #s (appeals, modifications, previous approvals, etc.):

Neighborhood District Association(s):

Notes:

*After discount (if any)



Ron Stewart
*Assistant Superintendent
Finance and Operations*

stewartro@nclack.k12.or.us
12400 SE Freeman Way, Milwaukie, Oregon 97222
503-353-6071

November 17, 2017

Mr. Brett Kelter, Associate Planner
City of Milwaukie
Community Development
6101 SE Johnson Creek Boulevard
Milwaukie, OR 97206

**RE: Authorization to Sign Land Use
Applications on behalf of the District**

Dear Mr. Kelter,

This letter has been prepared in order to confirm that the North Clackamas School District has provided authorization for David Hobbs, the District's Capital Projects Director to provide all necessary signatures for the land use applications related to the District's capital improvement projects. Should you have any questions, please feel free to contact our offices at 503-353-6072.

Sincerely,

A handwritten signature in blue ink that reads "Ron Stewart". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Ron Stewart
*Assistant Superintendent
Finance and Operations*



Preparing graduates who are inspired and empowered to strengthen the quality of life in our local and global communities.

May 15, 2017

Mr. Denny Egner
Planning Director
City of Milwaukie
6101 SE Johnson Creek Boulevard
Milwaukie, OR 97206

Milwaukie High School and Lake Road Sports Complex
Pre-Application Conference Request
Milwaukie, Oregon

Dear Denny,

This office represents the North Clackamas School District. This letter has been prepared in order to request a pre-application conference to discuss two projects within the City of Milwaukie related to the District's facilities at the Lake Road Sports Complex and at Milwaukie High School. The district is proposing to complete several bond related improvements to both sites and requests a meeting with the City's planning and engineering staff to discuss the submission requirements and approval process for both projects.

Provided below is a description of each project and a list of questions for staff's consideration prior to the pre-application conference meeting:

Milwaukie High School

Milwaukie High School is located at 11300 SE 23rd Avenue within the City of Milwaukie. The site in question consists of taxlot 1s1e36bc 05600. The site is approximately 14.7 acres and is primarily zoned R-2. A small portion of the site west of 23rd Avenue is zoned R1B.

The project at Milwaukie High School involves the demolition of the original school structures (from 1925 to 1949). A new school facility will be constructed in the similar location – which will contain the academic and administrative functions. The existing Commons Building (constructed in 1993) will remain and be extensively remodeled. The new school will be physically joined to the Commons – to provide a more cohesive and connected campus.

Also under consideration is the possible removal of one or more of the existing large, mature trees located on the west side of the original school building. This existing area will be redeveloped to include a new main entry plaza, improved pedestrian circulation, improved vehicular circulation and new landscaping.

The overall scope of work includes various building improvements (both interior and exterior) and site improvements. The list below describes the current anticipated on-site schedule of improvements:

- Replace Main Academic Building
- Remodel Existing Commons Building
- Food Service / Kitchen Remodel and Improvements



-
- Technology Improvements
 - Seismic Improvements
 - Accessibility (ADA) Improvements
 - Emergency Generator Replacement
 - Re-Roof Auditorium and Commons Building
 - Parking Lot Repairs and Improvements
 - Stadium Field Turf Replacement
 - Athletic Track Resurfacing
 - New Stadium Scoreboards
 - A New Electronic Reader Board Facing Willard Street
 - Exterior and Interior Painting
 - New Landscaping
 - New Parking Areas

The project scope involves work beyond the main campus. Athletic field improvements and replacements will occur at Lake Road Facility, Rowe Middle School and Milwaukie Elementary. The proposed improvements to the Lake Road Facility are anticipated to progress along a similar timeline therefore this request for a pre-application conference covers both properties and projects. The proposed improvements to the Lake Road Facilities are described below.

Lake Road Sports Facilities

The Lake Road Sports Complex is located along Lake Road at approximately 28th Avenue within the City of Milwaukie. The site in question consists of taxlot 1s1e36ca 01200. The site is approximately 9.6 acres and is primarily zoned R-7.

The project scope for the sports complex includes the construction of a new varsity baseball field and a new varsity softball field. Other improvements on the property will include the creation of improved parking facilities, new concessions, and new dugouts and backstops.

Questions for Staff

The following questions have been prepared in order for staff's consideration:

- Please provide us copies of the staff reports associated with the most recent Community Use Applications for either the Lake Road Facility or the High School.
- Please confirm the overall land use review process and anticipated timeline for review for the required applications.
- Please review and confirm whether the City is comfortable receiving concurrent applications for Historic Demolition Review, Amendment of the City's Comprehensive Plan Map to remove the Historic Overlay from the High School Site, and the proposed modification to the Community Service Use. We understand that the required Design Review Application for both sites is to be submitted following the approval of the Community Service Use Applications.
- Please review and comment on the Overall Site Constraints/Challenges – which include the following:
 - Site will be fully occupied during the construction phases
 - Campus will need to be accessed by busses, emergency vehicles and pedestrians



-
- Daily classes, special events and athletic events will be occurring
 - Modular classrooms will need to be used to accommodate students during construction
 - The CM/GC will have limited site area for construction related activities, storage, vehicles, etc.
 - In reference to Site Study 1: Please review the proposed new Bus Lane. Would this configuration be acceptable on SE Willard Street?
 - In reference to Site Study 2: Please review the configuration / layout of the proposed new Bus Lane on the east side of the school property. Would (2) new driveways/curb cuts be allowed on this section of SE Willard Street?
 - In reference to Site Study 2: Please review the proposed new Parent Drop-Off/Pick-Up Lane. Would this configuration be acceptable on SE Willard Street?
 - What is the City's permit process for Tree Removal?
 - What is the City's permit process for Modular Buildings? (non-permanent installation)
 - Due to the project phasing, separate permit packages will be submitted for the Lake Road Facility Field Improvements and for the High School. Please confirm whether the City supports separate submissions for these projects.
 - What is the City's permit process for adding exterior lighting to play fields and/or tennis courts?

We genuinely appreciate the City's assistance with these projects and we look forward to working with staff throughout this process. Please feel free to give me a call if you have any questions or need any additional clarification.

Sincerely,



Andrew Tull
Principal Planner
3J Consulting, Inc.

copy: Mr. Garry Kryszak, North Clackamas School District
Mr. Steven Nicholas – Heery International
Mr. Matt Jacoby, DOWA Architects - IBI Group
Mr. Dan Hess, DOWA Architects, IBI Group

File 17398



CITY OF MILWAUKIE PREAPPLICATION APPOINTMENT WORKSHEET

6101 SE Johnson Creek Blvd. - Milwaukie, OR 97206 Tel.: (503) 786-7600

A preapplication appointment is strongly recommended, and in some cases is required, for development proposals that require land use approvals and for major commercial building improvements. The purpose of the appointment is to help the applicant through the land use and permit process.

Preapplication Meeting – First meeting free, second meeting \$50.00, third and subsequent meetings \$100.00/mtg.

- Optional meeting with 2 City staff. No meeting notes are provided by staff.
- Appointments should be made at least one week in advance of the desired meeting date. Check with staff for available meeting times.
- Requires 3 copies of the Submittal Information listed on the back of this page.

Preapplication Conference – \$200.00

- Optional or required meeting with 3 or more staff. Meeting notes are provided within 2 weeks.
- The City is represented by staff from the following departments: Planning, Building, and Engineering. Other public agencies (such as the Fire District) may attend as necessary.
- Appointment times are Thursdays from 10:00 a.m.–11:00 a.m.
- Appointments must be made no less than two weeks in advance of the desired meeting date.
- Requires 8 copies of the Submittal Information listed on the back of this page.

Traffic Impact Study Review – \$100.00

- Mandatory second meeting if the project requires a Traffic Impact Study.
- To be scheduled after completion of a Traffic Impact Study by the applicant.

To be completed by the Applicant

Today's Date: May 5, 2017 Time: _____

Project Address: 11300 SE 23rd Ave and Lake Road at 28th Ave.

Name: Andrew Tull

Company: 3J Consulting for North Clackamas School District

Applicant role: Owner Legal Representative
 Architect Contractor Other: Land Use Planner

Address: 5075 SW Griffith Drive, Suite 150

City, State, Zip code: Beaverton, Oregon 97007

Phone: 503-545-1907 Mobile: 503-545-1907

Fax: _____ E-mail: andrew.tull@3j-consulting.com

Number of Persons Expected to Attend: 6-8

Office staff:

Receipt Number: _____

Received by: _____

Appointment Date: _____

Appointment Time: _____

cc: Building

cc: Engineering

cc: Fire

cc: Planning

cc: Public Works

cc: File

Brief Proposal Description: This Pre-App request has been submitted for two of the district's properties within the City of Milwaukie, the Milwaukie High School and the Lake Road Sports Fields. Please see the attached preliminary development plans and the attached letter for more information.

PREAPPLICATION APPOINTMENT REQUIREMENTS:

(All appointments are scheduled on a first-come/first-served basis)

Preapplication Meeting

The following materials must be submitted when an appointment is scheduled:

- **A complete application form and accompanying fee**
- **3 sets of the following:**
 - Preliminary site plan and building plans, showing existing and proposed features. (Plans do not need to be professionally prepared, just accurate and reliable.)
 - A detailed narrative description of the proposal that clearly identifies the location, existing and proposed uses, and any proposed construction.
 - A list of all questions or issues the applicant would like the City to address.

Preapplication Conference

The following materials must be submitted when an appointment is scheduled and no later than 4:00 p.m. every Thursday:

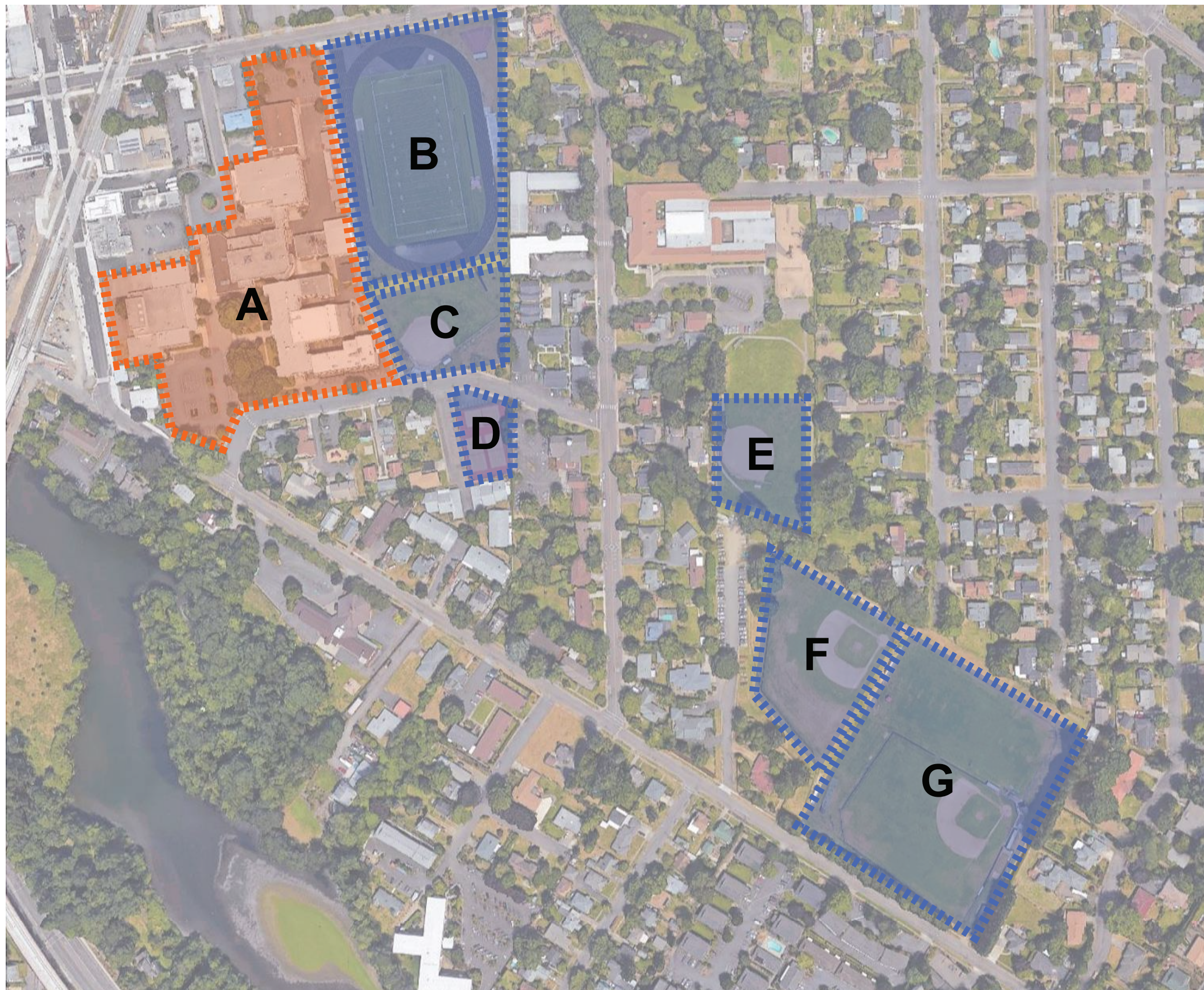
- **A complete application form and accompanying fee**
- **8 sets of the following:**
 - Preliminary site plan and building plans drawn to scale, showing existing and proposed features. (Plans do not need to be professionally prepared, just accurate and reliable.)
 - A detailed narrative description of the proposal that clearly identifies the location, existing and proposed uses, and any proposed construction.
 - A detailed list of all questions or issues the applicant would like the City to address.

Traffic Impact Study Review

The following materials must be submitted when an appointment is scheduled and no later than 4:00 p.m. every Thursday:

- **A complete application form and accompanying fee**
- **2 sets of the following:**
 - Completed Traffic Impact Study.

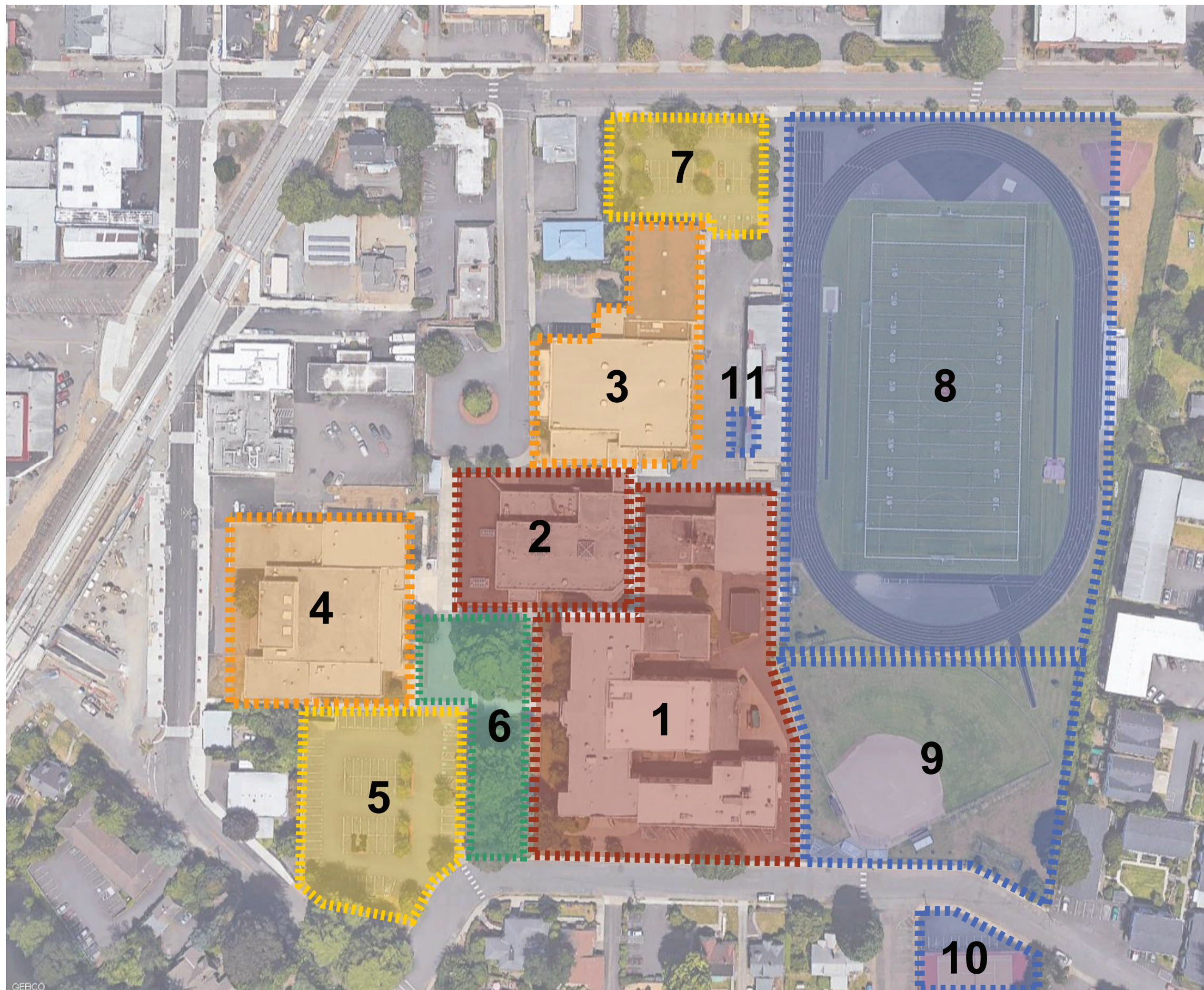
Persons attending preapplication meetings are requested to refrain from wearing fragrances.



PRELIMINARY PROJECT SCOPE

- A** Campus Improvements
Main Building Replacement
(See Enlarged Diagram)
- B** Running Track Resurfacing
Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- C** Relocate Varsity Softball Field to
Lake Road Facility
- D** Remove Existing Tennis Courts
New Parking Lot
- E** Improvements to JV Softball Field
at Milwaukie ES
- F** New Varsity Softball Field
- G** New Varsity Baseball Field
(Relocate Field Adjacent to Soft
ball Field)

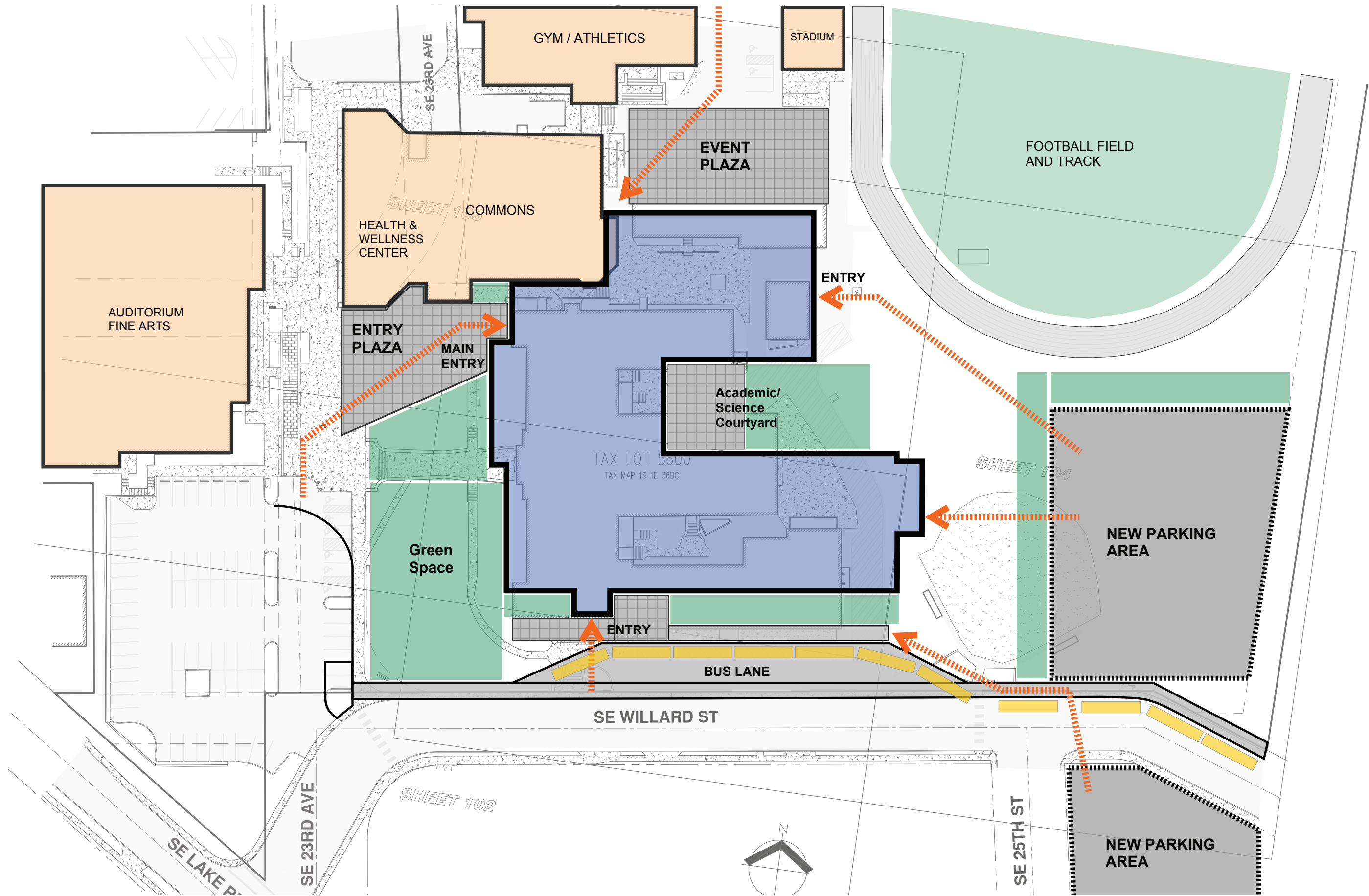
SCOPE DIAGRAM



PRELIMINARY PROJECT SCOPE

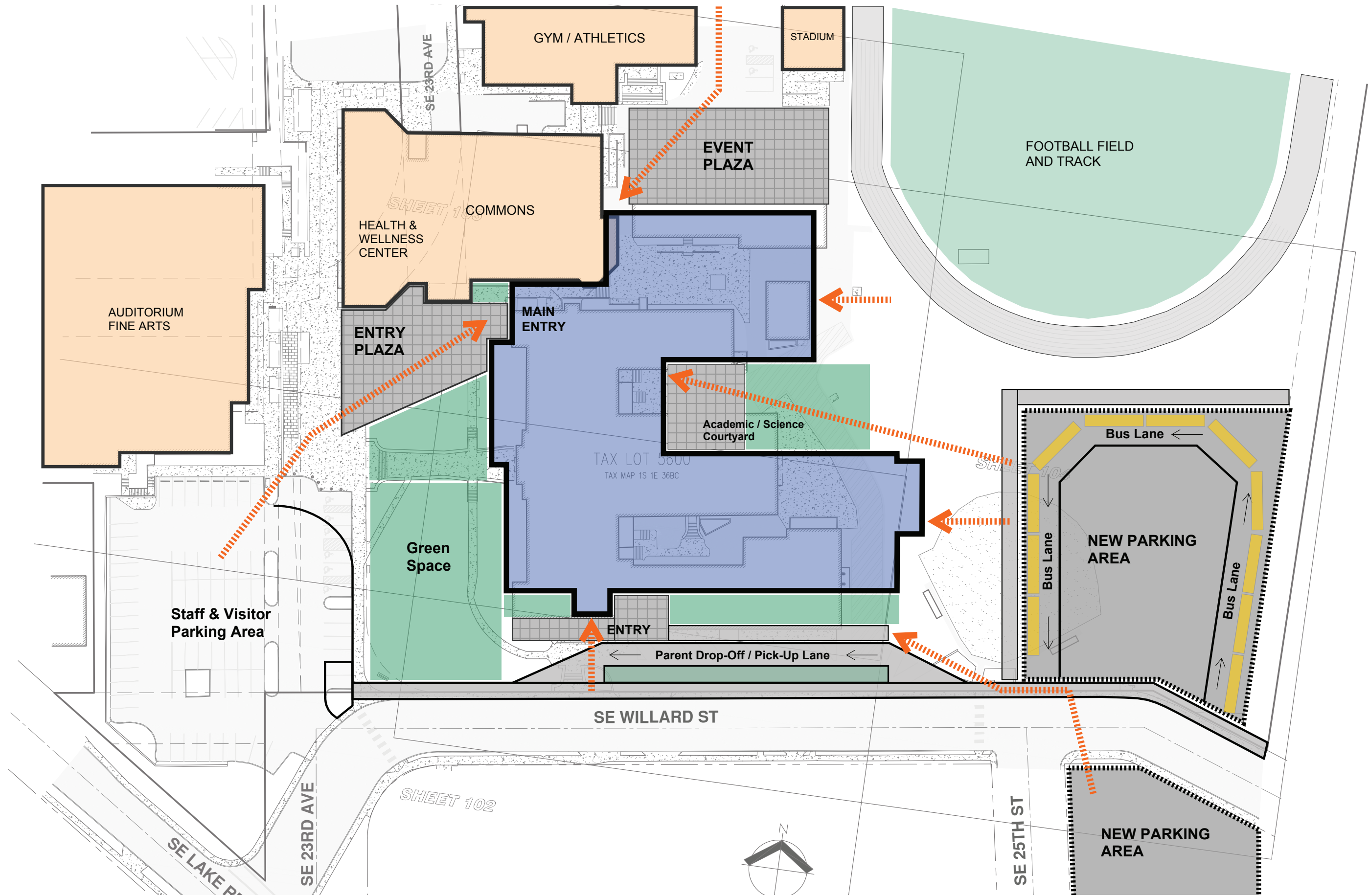
- 1** Main Building Replacement
Remove Boiler Building and Health & Wellness Center
- 2** Commons Improvements
Kitchen Remodel
Remodel Office Area
Re-Roof Commons Building
- 3** Gym Interior Improvements
Painting, Scoreboards
Refinish Gym Flooring
New Athletic Lockers
- 4** Re-Roof Auditorium
- 5** Main Parking Lot Improvements
- 6** Main Entry Plaza Improvements
- 7** North Parking Lot Improvements
- 8** Running Track Resurfacing
Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- 9** Remove Varsity Softball Field
Replace with New Parking Lot
- 10** Remove Existing Tennis Courts
Replace with New Parking Lot
- 11** ADA Improvements to Stadium
New Elevator to Press Box

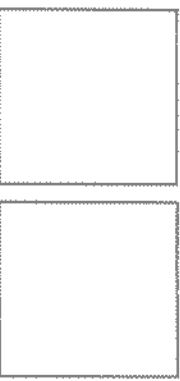
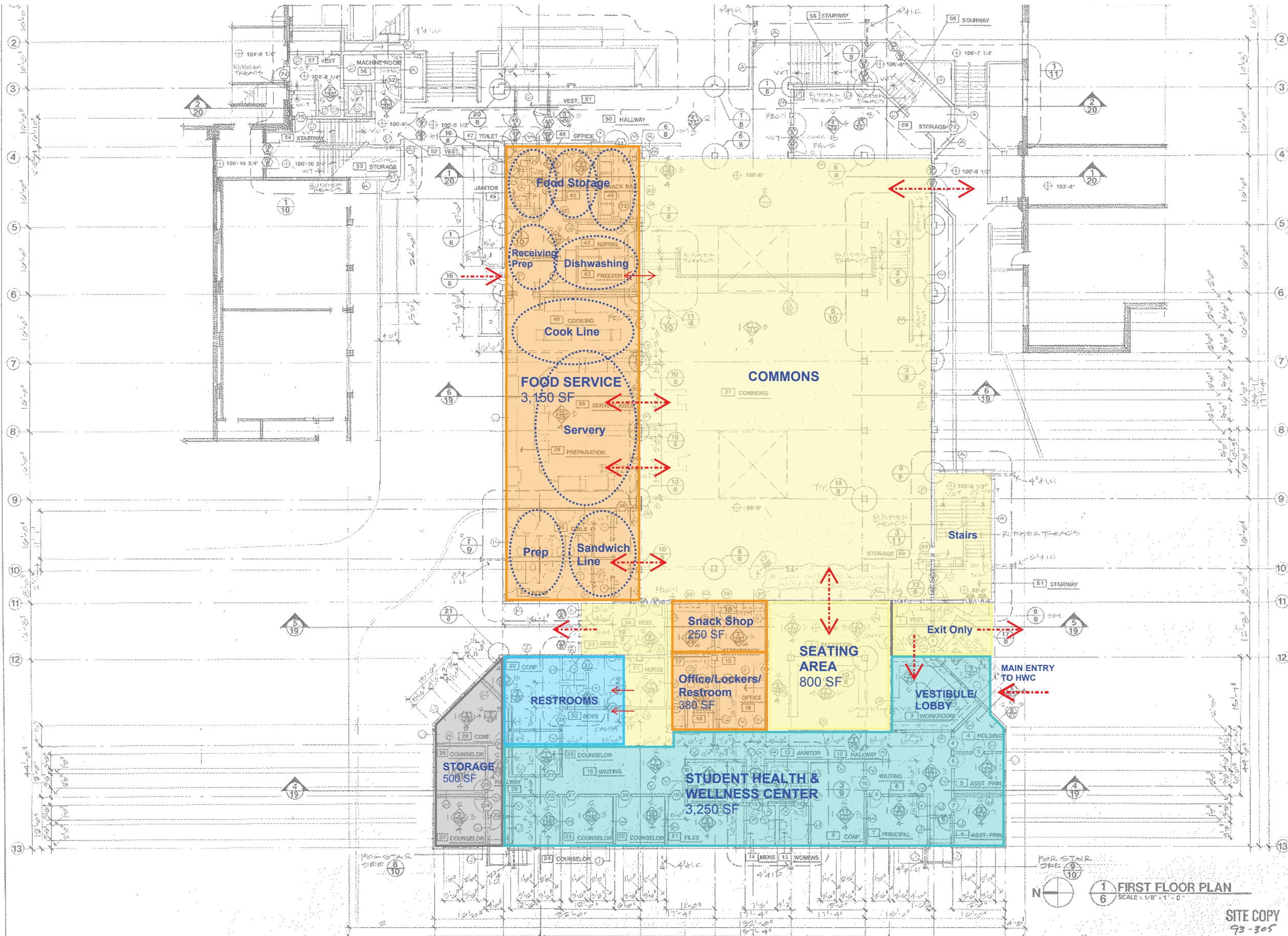
CONCEPT DIAGRAMS



CONCEPT DIAGRAMS

Dull Olson Weekes - IBI Group Architects, Inc.





JOHN L. HENSLEE
 Architect & Planner
 10101 SW Barbur Blvd, Suite 208
 Portland, OR 97219 245-4210

AN
 ADDITION TO
 MILWAUKIE
 HIGH
 SCHOOL

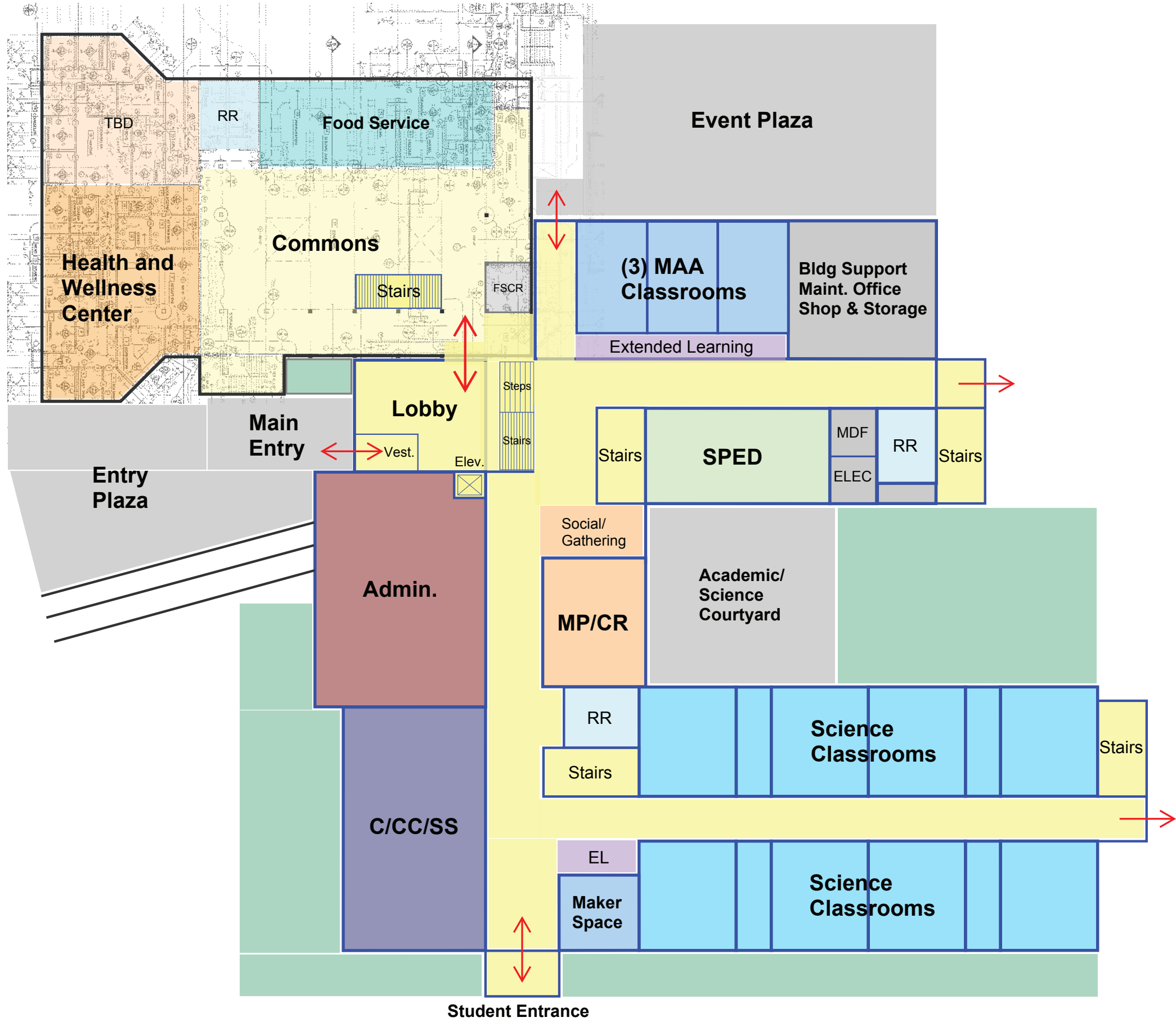
NORTH
 CLACKAMAS
 SCHOOL
 DISTRICT
 NO. 12

FLOOR PLAN
 FIRST
 FLOOR

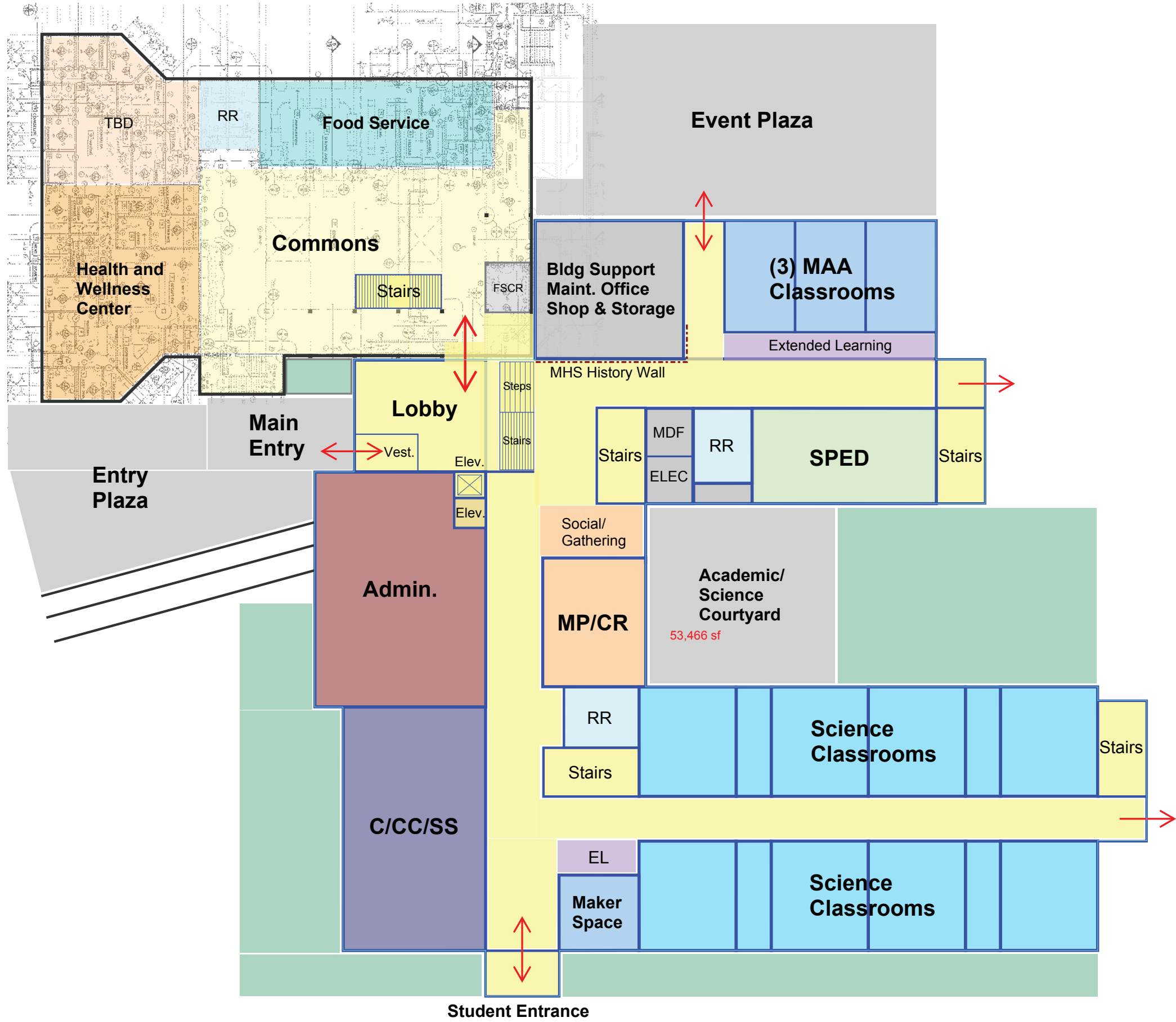
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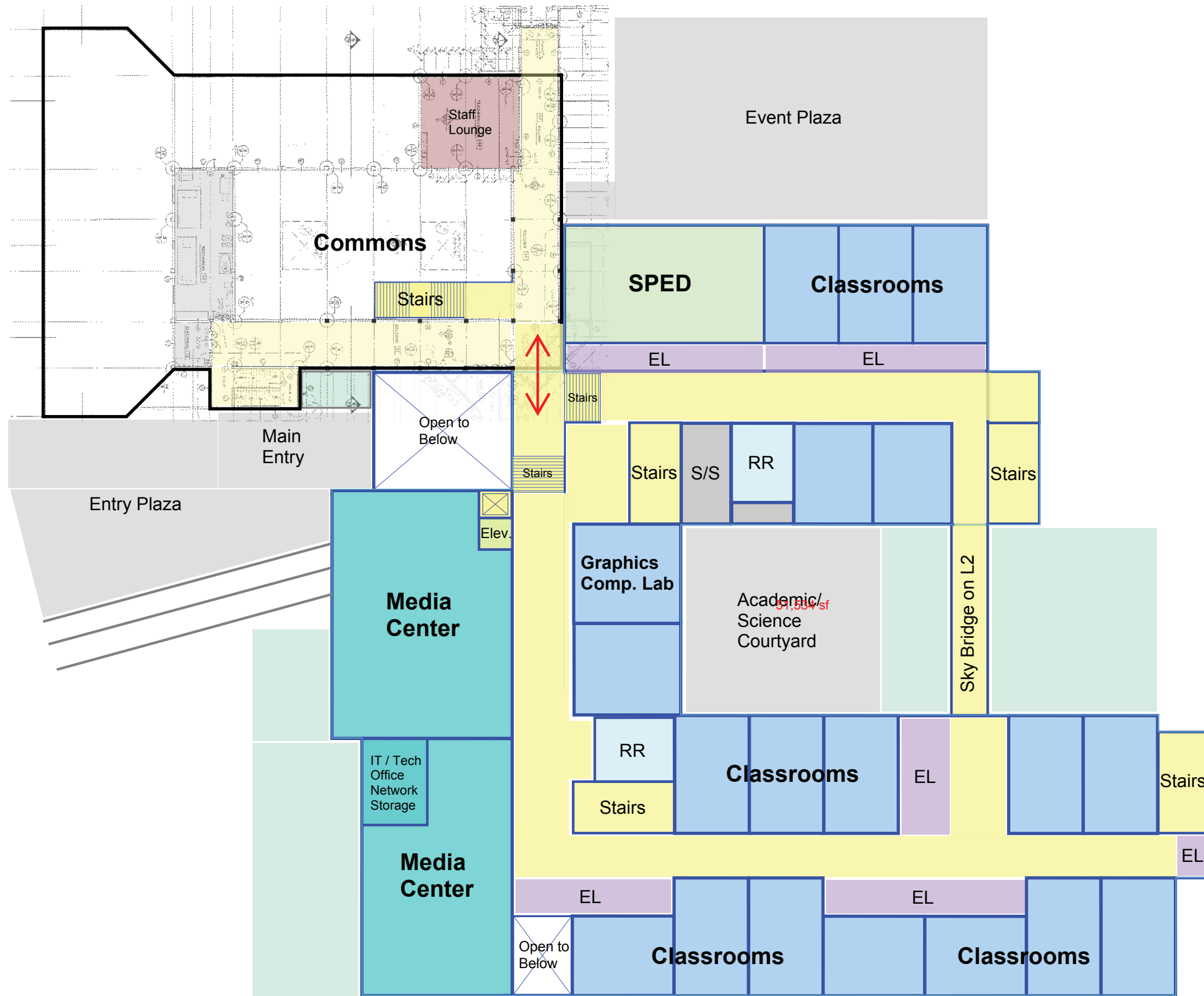
1 FIRST FLOOR PLAN
 SCALE - 1/8" = 1'-0"

SITE COPY
 93-305

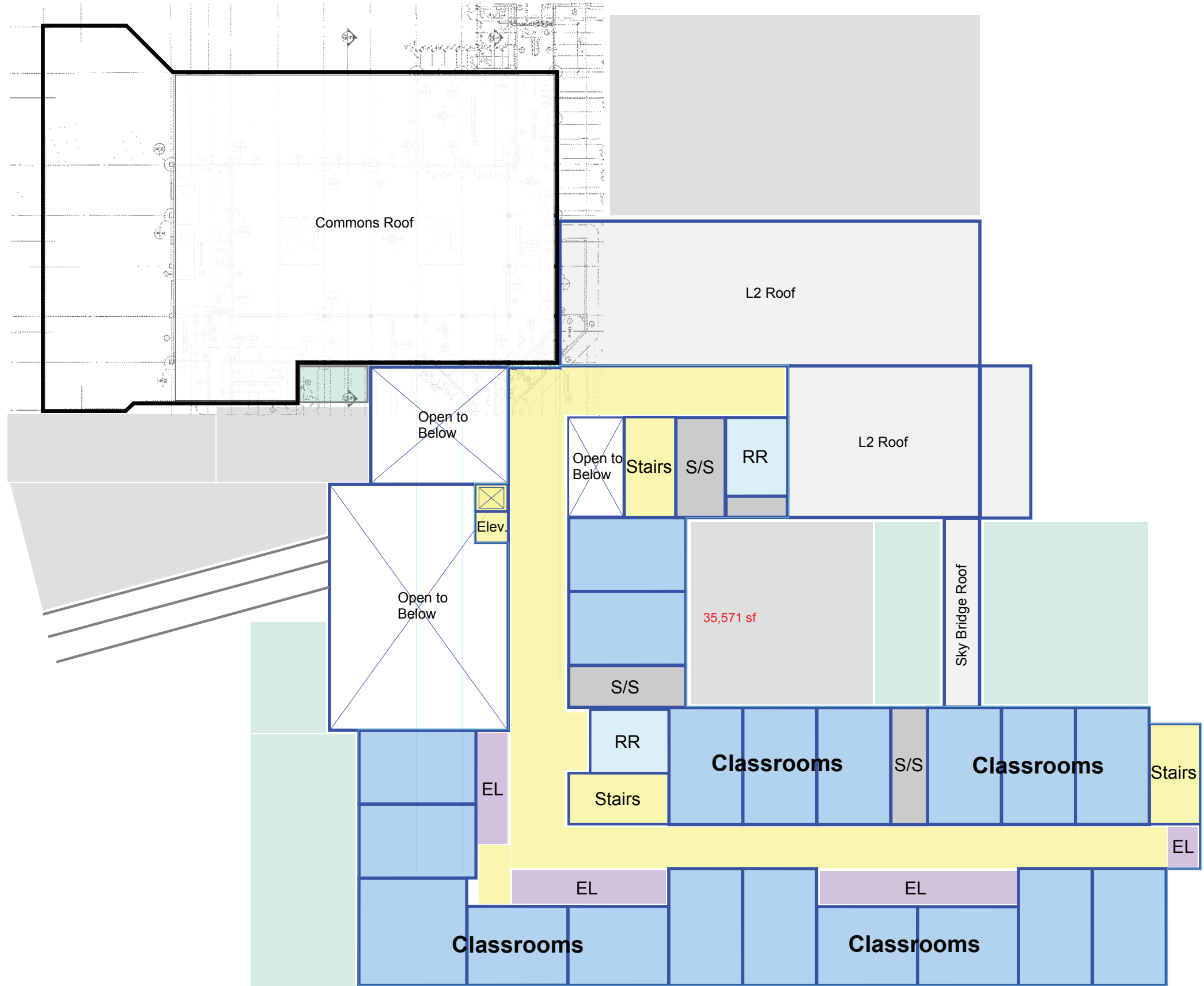


CONCEPT DIAGRAMS





CONCEPT DIAGRAMS





June 26, 2017

Andrew Tull
3J Consulting
5075 SW Griffith Dr, Ste 150
Beaverton OR 97007

Re: Preapplication Report

Dear Andrew:

Enclosed is the Preapplication Report Summary from your meeting with the City on June 12, 2017, concerning your proposal for action on property located at 11300 SE 23rd Ave, and Lake Rd and 28th Ave.

A preapplication conference is required prior to submittal of certain types of land use applications in the City of Milwaukie. Where a preapplication conference is required, please be advised of the following:

- Preapplication conferences are valid for a period of 2 years from the date of the conference. If a land use application or development permit has not been submitted within 2 years of the conference date, the Planning Director may require a new preapplication conference.
- If a development proposal is significantly modified after a preapplication conference occurs, the Planning Director may require a new preapplication conference.

If you have any questions concerning the content of this report, please contact the appropriate City staff.

Sincerely,

Alicia Martin
Administrative Specialist II

Enclosure

cc: Garry Kryszak, North Clackamas School District
HHPR
3J Consulting
KPF
Heery International
Matt Jacoby, DOWA-IBI Group

PRE-APPLICATION CONFERENCE REPORT

This report is provided as a follow-up to a meeting that was held on 6/12/2017 at 10:00am

Applicant Name: Andrew Tull

Company: 3J Consulting, Inc.

Applicant 'Role': Other

Address Line 1: 5075 SW Griffith Drive, Ste 150

Address Line 2:

City, State Zip: Beaverton OR 97005

Project Name: Milwaukie High School and Lake Road Sports Fields

Description: Bond-related improvements to both sites. MHS-demolition of original school structures, new construction of school facilities, and remodeling of remaing Commons Building. Sports Fields-new baseball/softball fields and improved amenities including parking facilities.

ProjectAddress: 11300 SE 23rd Ave and Lake Rd/28th Ave

Zone: Residential R-2, R-1-B, and Downtown Mixed Use (DMU) on main campus

Occupancy Group:

ConstructionType:

Use: Primarily Public (P), with Mixed Use (C/HD), High Density (HD), and Transit Center (TC)

Occupant Load:

AppsPresent: Daniel Chin, Steve Nicholas, Garry Kryszak, Dan Houf, Jeffery Creel, Matt Jacoby, Andrew Tull, Ben Austin, Mercedes Smith, Mark Wharry, Eric Melle

Staff Attendance: Brett Kelper, Alex Roller, Samantha Vandagriff, Keith Liden

BUILDING ISSUES

ADA: The new building will need to be fully ADA compliant. 25% of the project costs for the other buildings will need to go toward the removal of architectural barriers (ADA compliance). An ADA improvement plan can be submitted incorporating the various projects and sites and utilized to show compliance with this requirement.

Structural: Separate permits for each building will be required at time of submittal.

Mechanical:

Plumbing:

Plumb Site Utilities:

Electrical:

Notes:

Please note all drawings must be individually rolled. If the drawings are small enough to fold they must be individually folded.

FIRE MARSHAL ISSUES

Fire Sprinklers: Fire sprinklers may be required based on the floor design.

Fire Alarms:

Fire Hydrants:

Turn Arounds:

Addressing:

Fire Protection:

Fire Access:

Hazardous Mat.:

Fire Marshal Notes: See attached.

PUBLIC WORKS ISSUES

Water: City of Milwaukie 6-inch and 10-inch water mains on SE Washington and an 8-inch lines in Willard provide service to the property currently. The water System Development Charge (SDC) is based on the size of water meter serving the property. The corresponding water SDC will be assessed with installation of a water meter. Water SDC credit will be provided based on the size of any existing water meter serving the property removed from service. The water SDC will be assessed and collected at the time the building permits are issued.

Applicant expressed interest in connecting the performing arts building to the main building with an enclosed structure. There is currently a City water main running between these building, preventing any building from being constructed here. Applicant expressed interest in abandoning this portion of the main. The connection locations to the main for domestic and fire are unclear at this point. Further discussions with City staff will be required to establish how the abandonment process may be completed.

Sewer: Two City of Milwaukie wastewater mains provide service to property. A clay 8-inch wastewater main on SE Willard and an HDPE 8" main on SE 23rd Avenue. The city would like to vacate the southern approximately 150-feet of SE 23rd Avenue. Currently the City wastewater main extends through this portion. High school property is the only property accessing these last 150-feet. With vacation of the end of 23rd Avenue, applicant would be responsible for constructing a new manhole at the end of the new right of way, and the existing manhole and main now on High School property will become private. With this 23rd Avenue vacation, the City would require the High School to dedicate a 25-foot

width to extend the Adams Street right-of-way. The wastewater System Development Charge (SDC) is comprised of two components. The first component is the City's SDC charge of \$1,075 and the second component is the County's SDC for treatment of \$6,130 that the City collects and forwards to the County. Both SDC charges are per connection unit. The wastewater SDC is assessed using a plumbing fixture count from Table 7-3 of the Uniform Plumbing Code. The wastewater SDC connection units are calculated by dividing the fixture count of new plumbing fixtures by sixteen. The wastewater SDC will be assessed and collected at the time the building permits are issued. Existing fixture count will need to be submitted to the City, which will provide credit. Applicant will only be charged for new fixtures.

Storm:

Submission of a storm water management plan by a qualified professional engineer is required as part of the proposed development. The plan shall conform to Section 2 - Stormwater Design Standards of the City of Milwaukie Public Works Standards. The storm water management plan shall demonstrate that the post-development runoff does not exceed the pre-development, including any existing storm water management facilities serving the development property. Also, the plan shall demonstrate compliance with water quality standards. The City of Milwaukie has adopted the City of Portland 2008 Stormwater Management Manual for design of water quality facilities. All new impervious surfaces, including replacement of impervious surface with new impervious surfaces, are subject to the water quality standards. See City of Milwaukie Public Works Standards for design and construction standards and detailed drawings.

The storm SDC is based on the amount of new impervious surface constructed at the site. One storm SDC unit is the equivalent of 2,706 square feet of impervious surface. The storm SDC is currently \$845 per unit. The storm SDC will be assessed and collected at the time the building permits are issued.

Street:

The proposed development fronts the south side of SE Washington Street, a Collector street. The portion of SE Washington Street fronting the proposed development has a right-of-way width of 60 feet and a paved width of 36 feet with curb on both sides and sidewalk improvements on the south side.

The proposed development fronts the north side of SE Willard Street, a local road. The portion of SE Willard Street fronting the proposed development has a right-of-way width of 50 feet, a paved width of 36 feet, and has sidewalk on both sides of the road.

The proposed development fronts the east side of SE 23rd Avenue, a local road. The portion of SE 23rd Avenue fronting the proposed development has a right-of-way width of 40 feet, a paved width of 26 feet, and sidewalk on both sides of the road.

The proposed development fronts the east side of SE 21st Avenue, a local road. The portion of SE 23rd Avenue fronting the proposed development has a right-of-way width of 60 feet, a paved width of 34 feet, and sidewalk on both sides of the road.

Frontage:

Chapter 19.700 of the Milwaukie Municipal Code, hereafter referred to as "Code", applies to partitions, subdivisions, and new construction.

Transportation Facility Requirements, Code Section 19.708, states that all rights-of-way, streets, sidewalks, necessary public improvements, and other public transportation facilities located in the public right-of-way and abutting the development site shall be adequate at the time of development or shall be made adequate in a timely manner.

SE Willard Street
According to Code Table 19.708.2 and the Transportation Design Manual, the local street cross section

includes the following:

- 10-foot travel lanes
- 6-foot parking strips with curb
- 5-foot landscape strips
- 5-foot setback sidewalks

Applicant is proposing a different cross section with a pull-out area with setback curb for parent drop off. Final design will need approval by the engineering director. Applicant will construct these improvements.

SE Lake Road

The necessary improvements to Lake Road in front of Rowe Middle School were previously constructed with a Capital Improvement Project. The applicant is not responsible for any additional improvements. Property on Lake near 28th Avenue has already dedicated, and will not require any other improvements.

West of Willard/Lake Road intersection: The final cross section of Lake road includes a center turn lane.

Required improvements on Lake Road are as follows:

- 6-foot setback sidewalk
- 5-foot planter strip
- curb & gutter
- connect to existing asphalt

Improvements will be constructed to the west to meet with improvements previously constructed with the PMLR project.

Adams Street

Improvements required in the newly dedicated Adams Street right-of-way will be a pedestrian connection from 23rd to Adams Street.

25th Avenue

Parking will be restriped from head in to angled parking. Striping will face the cars northeast.

Right of Way:

Applicant will be responsible for 25-foot right-of-way dedication to extend Adam Street's right-of-way to connect to SE 23rd Avenue. Upon receipt of this dedication, the City will initiate full right-of-way vacation of approximately 150-feet of the south end of SE 23rd Avenue.

Applicant will be responsible for 9.18-foot right-of-way dedication of existing tennis court lot on Willard frontage.

The remaining existing right-of-way on SE Willard, SE Washington Street, and SE Lake Road fronting the proposed development properties (including Rowe, and 28th Ave facility) is of adequate width and no right-of-way dedication is required.

Driveways:

Code Section 12.16.040.A states that access to private property shall be permitted with the use of driveway curb cuts and driveways shall meet all applicable guidelines of the Americans with Disabilities Act (ADA). Driveway approaches shall be improved to meet the requirements of Milwaukee's Public Works Standards. Dual driveways with signage indicating ingress and egress are approvable without a variance to driveway spacing standards, as they will function as one driveway.

Erosion Control:

Per Code Section 16.28.020(C), an erosion control permit is required prior to placement of fill, site clearing, or land disturbances, including but not limited to grubbing, clearing or removal of ground

vegetation, grading, excavation, or other activities, any of which results in the disturbance or exposure of soils exceeding five hundred square feet.

Code Section 16.28.020(E) states that an erosion control permit is required prior to issuance of building permits or approval of construction plans. Also, Section 16.28.020(B) states that an erosion control plan that meets the requirements of Section 16.28.030 is required prior to any approval of an erosion control permit.

Traffic Impact Study: Code Section 19.704.1(A) states that the City will determine whether a transportation impact study (TIS) is required. In the event the proposed development will significantly increase the intensity of use; a transportation impact study will be required. The Engineering director has determined that a TIS will not be required.

PW Notes:

TRANSPORTATION SDC

The Transportation SDC will be based on the increase in trips generated by the new use per the Trip Generation Handbook from the Institute of Transportation Engineers. The SDC for transportation is \$1,921 per trip generated. Credits will be given for any demolished structures, which shall be based upon the existing use of the structures.

PARKS & RECREATION SDC

The parks & recreation System Development Charge (SDC) is triggered when application for a building permit on a new dwelling is received. Currently, the parks and recreation SDC for each employee is \$60.00. Credit is applied to any demolished structures and is based upon the existing use of the structures. The parks and recreation SDC will be assessed and collected at the time the building permits are issued.

REQUIREMENTS AT FINAL PLAT

- Engineered plans for public improvements (street, sidewalk, and utility) are to be submitted and approved prior to start of construction. Full-engineered design is required along the frontages of the proposed development.
- The applicant shall pay an inspection fee of 5.5% of the cost of public improvements prior to start of construction.
- The applicant shall provide a payment and performance bond for 100% of the cost of the public improvements prior to the start of construction.
- The applicant shall provide a final approved set of Mylar "As Constructed" drawings to the City of Milwaukie prior to the final inspection.
- The applicant shall provide a 1 year maintenance bond for 100% of the cost of the public improvements prior to the final inspection.

PLANNING ISSUES

Setbacks:

Yard requirements for the Residential R-2 and R-1-B zones are established in Milwaukie Municipal Code (MMC) Subsection 19.302.4. Minimum front and rear yards are 15 ft, side yards (for other than rowhouses) must be at least 5 ft, and street-side yards (for corner lots) are 15 ft. There are additional yard setback requirements for Lake Road and Washington Street, but the proposed buildings and areas of work are not located near these frontages.

For side yards in the R-2 and R-1-B zones, there is a building height plane limit of 25 ft at the minimum setback, with a slope of 45 degrees. See the definition of "side yard height plane" in MMC Section 19.201 for an illustration of this principle. MMC Subsection 19.501.3.B establishes some allowable exceptions to the side yard height plane, including limited minor encroachments for roof overhangs or eaves, gable ends of roofs, and dormers.

Yard setbacks for accessory structures are established in MMC Subsection 19.502.2 and depend on the size and height of the proposed structure, varying from 3 to 5 ft to the same standards as the base R-2 and R-1-B zones. Accessory structures must be located beyond the front yard of the primary structure, unless they are at least 40 ft from the front lot line. Utility apparatus, such as air conditioners, must be at least 3 ft away from side and rear property lines and are not permitted in any required front yard setback or street-side yard setback.

The maximum building height in the R-2 and R-1-B zones is 3 stories or 45 ft, whichever is less.

Based upon the description of the proposed improvements, the setback and building height requirements in the DMU, R-7, and R-10 zones are not anticipated to be relevant.

Landscape:

In the R-2 and R-1-B zones, a minimum of 15% of the site must be landscaped. In addition, at least 40% of the front yard area must be vegetated (measured from the front property line to the front face of the house). Vegetated areas may be planted in trees, grass, shrubs, or bark dust for planting beds, with no more than 20% of the landscaped area finished in bark dust (as per MMC Subsection 19.504.7). A maximum of 30% of the site may be covered by structures, including decks or patios over 18 inches above grade. Note that artificial turf does not count toward the required landscape area.

Parking:

As per the off-street parking standards of MMC Chapter 19.600, a high school must provide at least 1 off-street parking space per 0.25 students plus 1 space per staff member. Sport field parking will require a formal determination of the minimum and maximum quantities, in accordance with MMC Subsection 19.605.2. Bicycle parking is required at a rate of 10% of the required number of vehicle parking spaces. The standards for parking areas are established in MMC Section 19.606 and include requirements for stall and drive aisle dimension, perimeter and interior landscaping, pedestrian walkways, and lighting. See the various figures provided throughout MMC 19.600 for more information regarding vehicular and bicycle parking standards.

Transportation Review:

The proposed subdivision triggers the requirements of MMC Chapter 19.700 Public Facility Improvements. The high school campus has frontage on Willard Street and Lake Road. Please see the Public Works notes or contact the City's Engineering Department for more information about the requirements of MMC 19.700.

Application Procedures:

An Historic Resource review is required to address the designation of the original high school building as a "significant" historic resource. MMC Subsection 19.403.7 establishes a procedure for demolition of historic resources, but demolition does not remove the property from the historic and cultural resources inventory or change its designation on the zoning map or in the Comprehensive Plan. The applicant must go through the process outlined in MMC Subsection 19.403.4 to delete the property from the inventory, which will eliminate the need for the demolition review outlined in MMC 19.403.7. The deletion application will be processed with Type IV review (in accordance with the procedures established in MMC Section 19.1007) and will include amendments to both the Comprehensive Plan and the zoning map. MMC 19.403 does not include criteria for approval of deletion requests; the application should address the approval criteria for Comprehensive Plan text and map amendments (provided in MMC Subsection 19.902.3.B) and those for zoning map amendments (provided in MMC Subsection 19.902.6.B).

Applications for major modification to existing Community Service Uses (CSUs) are subject to Type

III review as per MMC Subsection 19.904.3. The proposed development involves three distinct sites (high school campus, sports fields on Lake Road, and Rowe Middle School tennis courts), and three distinct applications for major modification to a CSU will be required: (1) high school replacement and remodel, (2) renovation of the Lake Road sports fields, and (3) placement of tennis courts at the Rowe site. The procedures for Type III review are established in MMC Section 19.1006.

MMC Table 19.605.1 does not provide quantity requirements for athletic fields, so a Type II application for parking quantity determination will be required for the Lake Road sport fields. Application requirements and approval criteria are established in MMC Subsection 19.605.2. If a Traffic Impact Study (TIS) is required for any component of the project, a Transportation Facilities Review (TFR) application will be required, as per MMC Subsection 19.703.2.B. Otherwise, compliance with the relevant standards of MMC Chapter 19.700 will be included with the review of any concurrent applications.

Variations to any relevant standards will be subject to the provisions of MMC Section 19.911 and processed with either Type II or Type III review accordingly.

Current application fees are \$1,000 for Type II review, \$2,000 for Type III review, and \$5,000 for Type IV review. Multiple applications for one project component (i.e., high school campus, Lake Road sports fields, or Rowe tennis courts) can be reviewed concurrently as per MMC Subsection 19.1001.6.B, with the highest numbered review type determining the process for all concurrent applications. For multiple applications processed concurrently, there is a 25% discount for all application fees after the most expensive one.

Note: There are pro's and con's for packaging the historic inventory deletion with the CSU application package for the high school campus, due to the different timelines for Type III and IV review. On one hand, it makes sense to submit the historic inventory deletion as part of the CSU package for the high school campus, so the deletion request can be considered in the context of the overall remodel. If submitted concurrently, the CSU decision would be made by the Planning Commission with approval contingent on the City Council's approval of the requested deletion from the historic inventory, which adds at least 20 days to the process. If the deletion request were to be denied, the applicant could then pursue the demolition process. Or for more certainty in the process timeline, the historic inventory deletion application could be submitted in advance of the high school campus CSU package. Regardless, no development permits will be issued until the end of the appeal period for the overall final decision.

For the City's initial review, the applicant should submit 5 complete copies of the application materials, including all required forms, checklists, narrative, and plans. (Note: Disregard the call for 12 copies noted in the code and on several checklists.) A determination of the application's completeness will be issued within 30 days. If deemed incomplete, additional information will be requested. If deemed complete, additional copies of the application may be required for referral to other departments, the Historic Milwaukie Neighborhood District Association (NDA), Lake Road NDA, and other relevant parties and agencies. City staff will inform the applicant of the total number of copies needed.

Prior to submitting the application, the applicant is encouraged to present the project at a regular meeting of the Historic Milwaukie and Lake Road NDAs. The Historic Milwaukie NDA meets at 6:30 p.m. on the second Monday of most months at Libbie's Restaurant (11056 SE Main St); the Lake Road NDA meets at 6:30 p.m. on the second Wednesday of most months at Rowe Middle School (3606 SE Lake Rd).

Once the application is deemed complete, a public hearing with the Planning Commission will be scheduled. Staff will determine the earliest available date that allows time for preparation of a staff

report (including a recommendation regarding approval) as well as provision of the required public notice to property owners and residents within 300 ft of the subject property, at least 20 days prior to the public hearing. A sign giving notice of the application must be posted on the subject property at least 14 days prior to the hearing.

Issuance of a decision starts a 15-day appeal period for the applicant and any party who establishes standing. The appeal period must have ended without event before permits for development on any of the new lots will be issued.

Natural Resource Review: The Milwaukie High School, the Lake Road sports fields, and Rowe Middle School tennis court sites do not include any designated natural resource areas.

Lot Geography: The three school properties in question are all largely rectilinear but irregular in shape. The Milwaukie High School main campus occupies much of the block bounded by Willard Street and Lake Road on the south, 21st Avenue on the west, Washington Street on the north, and residential properties along 27th Avenue on the east. An additional lot south of Willard Street and west of 25th Avenue is developed with tennis courts for the high school. The athletic fields complex has frontage on Lake Road at 28th Avenue and is surrounded by residential properties, with the Milwaukie Elementary School campus adjacent to the northwest. The Rowe Middle School tennis courts are at the northeast corner of the Rowe campus, at Lake Road and Shell Lane.

Planning Notes: For the overall project, staff recommends as much communication between the project management team and the NDAs and immediate neighbors as possible, so that people in the community understand the project, its timeline and phases, and the impacts it is likely to have on the neighborhood. It would be useful to have a follow-up meeting with the City to discuss project phasing, proposed location of modular classrooms, and similar details related to how the project will impact the neighborhood and larger community during construction.

For the high school replacement and remodel, the applicant is advised to consider the following:

- * Within the application narrative, provide information that describes the extent of the work, including phasing and overall timeline, use of modular classrooms (number, location, etc.), proposed landscaping and tree removal, access and circulation, and field lighting.
- * In particular, provide the rationale for removing the historic building and significant trees, including evaluation of any alternatives that were considered.
- * Even if a TIS is not required, there are several circulation issues that should be addressed regarding buses, cars, pedestrians, and cyclists. The aim is to keep the site simultaneously safe and accessible during and after construction. An analysis of parking should compare existing and proposed off-street parking for vehicles and bicycles, including access to all parking areas.
- * In addressing the CSU approval criteria (MMC Subsection 19.904.4), the narrative should clarify the hours and levels of operation of both the main campus in general and the football field in particular.
- * See the Public Works/Engineering notes for more information on the potential requirement for dedication to extend Adams Street as well as for a City-initiated vacation of a portion of 23rd Avenue.

For the Lake Road sports fields:

- * The proposed new field lighting and artificial turf will expand the intensity of use of the site throughout the day and year. The narrative should address this issue in the context of the evaluation of public benefits versus negative impacts on the neighborhood (MMC Subsection 19.904.4.D). Elaborate on how impacts will be mitigated.
- * In the past, the City has received complaints related to overflow parking along the narrow accessway leading from Lake Road up to the parking area. The parking quantity determination component of the application should include an analysis of historical parking demand at the site and should demonstrate that the existing parking area is adequate or will be made adequate to meet parking demand without compromising the accessway.

For the Rowe tennis courts:

* In the narrative, explain whether or how the intensity of use of the existing courts will change. For example: What will be the timing and nature of any high school matches or tournaments that will occur at Rowe? Will the courts be lighted, thus expanding the intensity of use?

The City strongly recommends a second formal preapplication conference for review and comment on plans as revised after this preapplication conference. A formal follow-up conference would provide a structured opportunity for various departments to evaluate and comment consistently on revisions, with written notes as documentation.

ADDITIONAL NOTES AND ISSUES

County Health Notes:

Other Notes:

This is only preliminary preapplication conference information based on the applicant's proposal and does not cover all possible development scenarios. Other requirements may be added after an applicant submits land use applications or building permits. City policies and code requirements are subject to change. If you have any questions, please contact the City staff that attended the conference (listed on Page 1). Contact numbers for these staff are City staff listed at the end of the report.

Sincerely,

City of Milwaukie Development Review Team

BUILDING DEPARTMENT

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Bonnie Lanz - Permit Specialist - 503-786-7613

ENGINEERING DEPARTMENT

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Richard Nasiombe - Associate Engineer - 503-786-7694

Alex Roller - Engineering Tech II - 503-786-7695

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Alicia Martin - Admin Specialist - 503-786-7600

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David Levitan - Senior Planner - 503-786-7627

Brett Kolver - Associate Planner - 503-786-7657

Vera Koliass - Associate Planner - 503-786-7653

Mary Heberling - Assistant Planner - 503-786-7658

CLACKAMAS FIRE DISTRICT

Mike Boumann - Lieutenant Deputy Fire Marshal - 503-742-2673

Matt Amos - Fire Inspector - 503-742-2661

Clackamas County Fire District #1

Fire Prevention Office



E-mail Memorandum

To: City of Milwaukie Planning Department
From: Matt Amos, Fire Inspector, Clackamas Fire District #1
Date: 6/26/2017
Re: Milwaukie High School 11300 SE 23rd Ave 17-011PA

This review is based upon the current version of the Oregon Fire Code (OFC), as adopted by the Oregon State Fire Marshal's Office. The scope of review is typically limited to fire apparatus access and water supply, although the applicant must comply with all applicable OFC requirements. When buildings are completely protected with an approved automatic fire sprinkler system, the requirements for fire apparatus access and water supply may be modified as approved by the fire code official. The following items should be addressed by the applicant:

A Fire Access and Water Supply plan is required for subdivisions and commercial buildings over 1000 square feet in size or when required by Clackamas Fire District #1. The plan shall show fire apparatus access, fire lanes, fire hydrants, fire lines, available fire flow, FDC location (if applicable), building square footage, and type of construction. The applicant shall provide fire flow tests per NFPA 291, and shall be no older than 12 months. Work to be completed by experienced and responsible persons and coordinated with the local water authority.

Access:

- 1) No part of a building may be more than 150 feet from an approved fire department access road.
- 2) Buildings exceeding 30 feet in height shall require extra width and proximity provisions for aerial apparatus.

Water Supply:

- 1) Fire Hydrants, Commercial Buildings: Where a portion of the building is more than 400 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the building, on-site fire hydrants and mains shall be provided.

Note: This distance may be increased to 600 feet for buildings equipped throughout with an approved automatic sprinkler system.

- 2) The fire department connection (FDC) for any fire sprinkler system shall be placed as near as possible to the street, and within 100 feet of a fire hydrant.

Note:

Comments may not be all inclusive based on information provided.



Milwaukie High School Community Meeting



North Clackamas School District
Dull Olson Weekes - IBI Group Architects
May 24, 2017

- **Project Timeline**
- **Overall Bond Scope of Work**
- **Current Design Concepts**
- **Area Program / Educational Specs**
- **Questions & Answers**



Project Timeline



Design Phase: April 2017 to June 2018

Permitting: Spring / Summer 2018

Final Costing: Spring 2018

Abatement / Demolition: Summer 2018

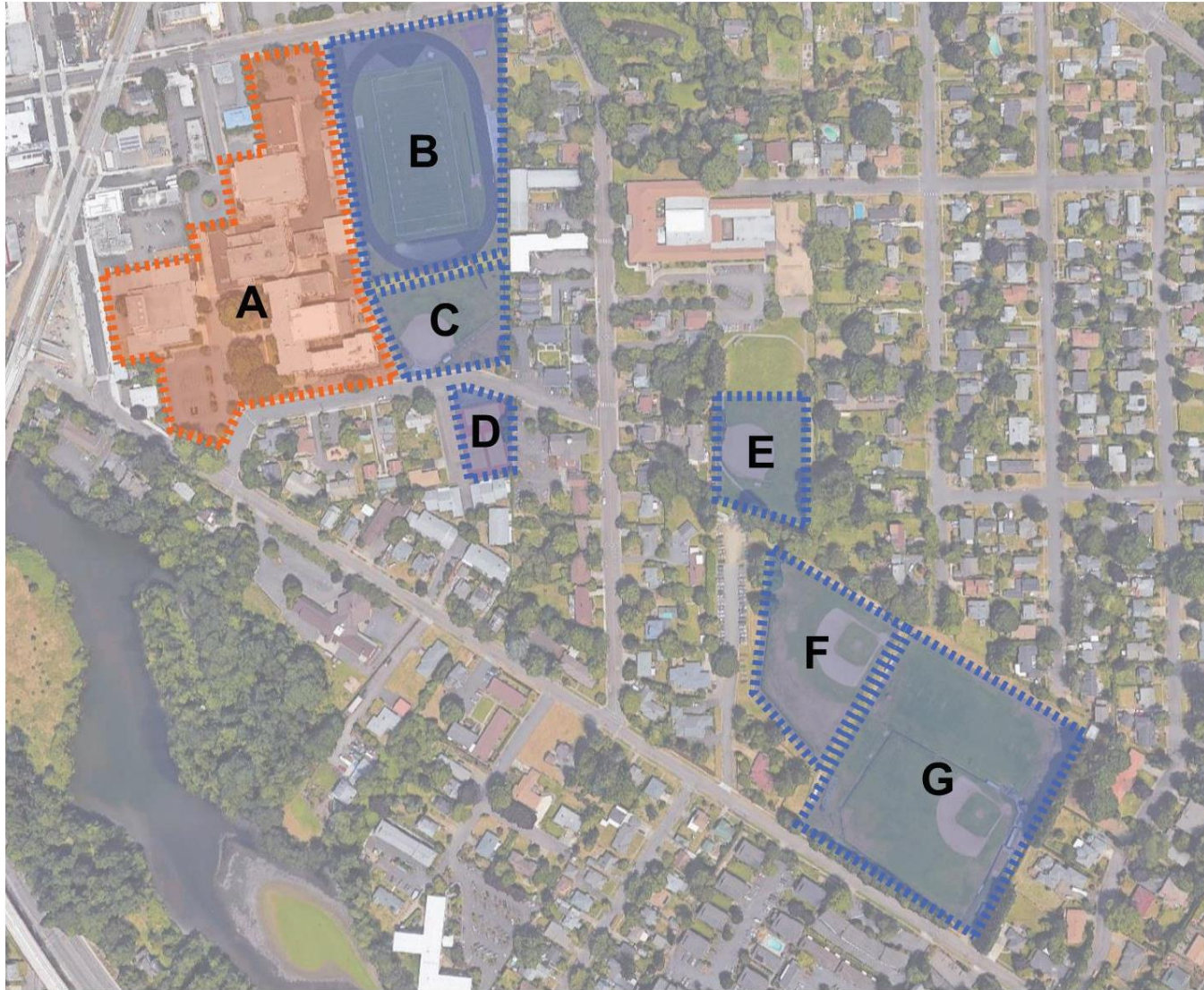
Start of Construction Phase: Summer 2018

Construction Complete: Late 2020 / Early 2021

Overall Bond Scope of Work



Scope Diagram

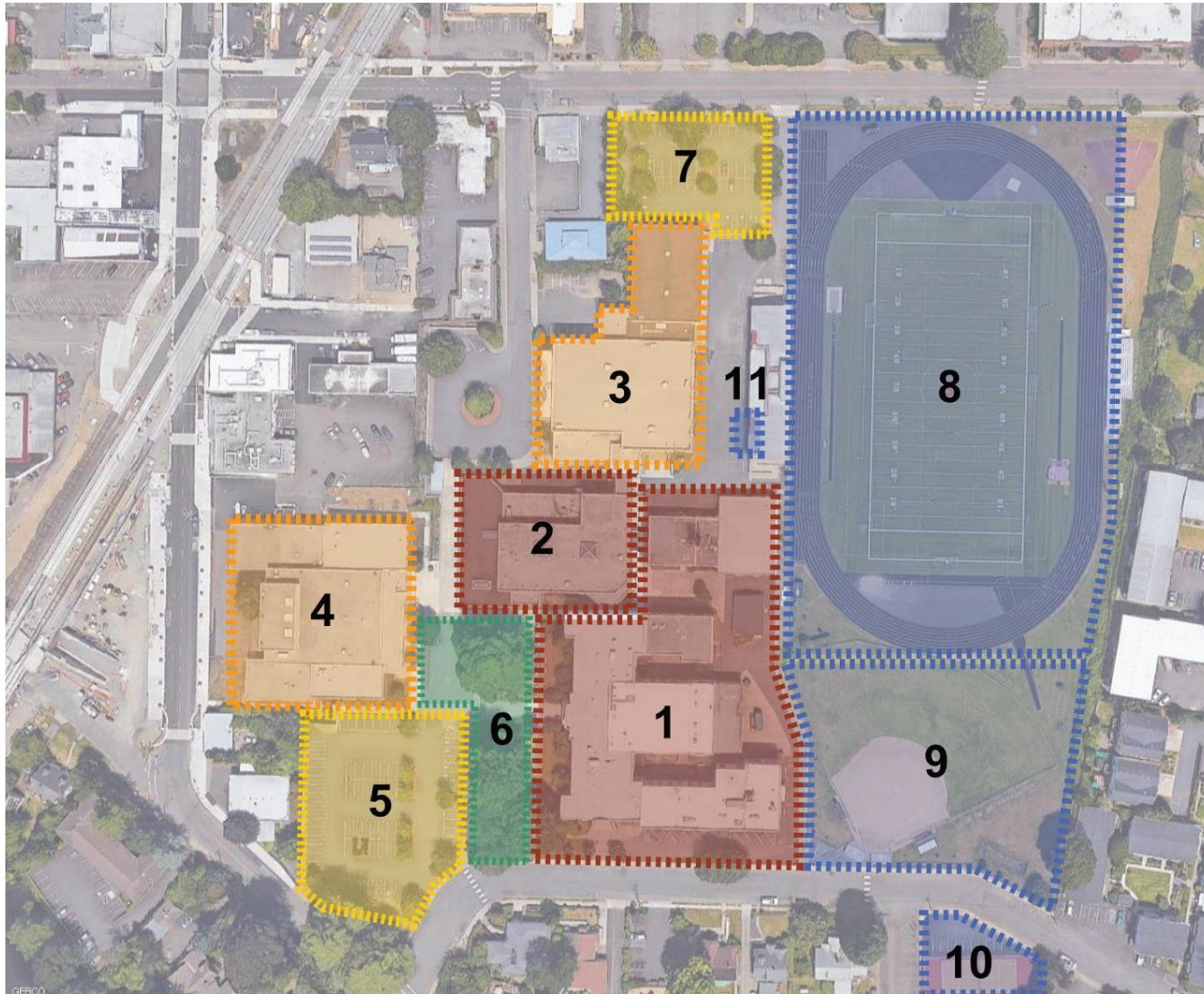


PRELIMINARY PROJECT SCOPE

- A** Campus Improvements
Main Building Replacement
(See Enlarged Diagram)
- B** Running Track Resurfacing
Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- C** Relocate Varsity Softball Field to
Lake Road Facility
- D** Remove Existing Tennis Courts
New Parking Lot
- E** Improvements to JV Softball Field
at Milwaukie ES
- F** New Varsity Softball Field
- G** New Varsity Baseball Field
(Relocate Field Adjacent to Soft
ball Field)



Scope Diagram



PRELIMINARY PROJECT SCOPE

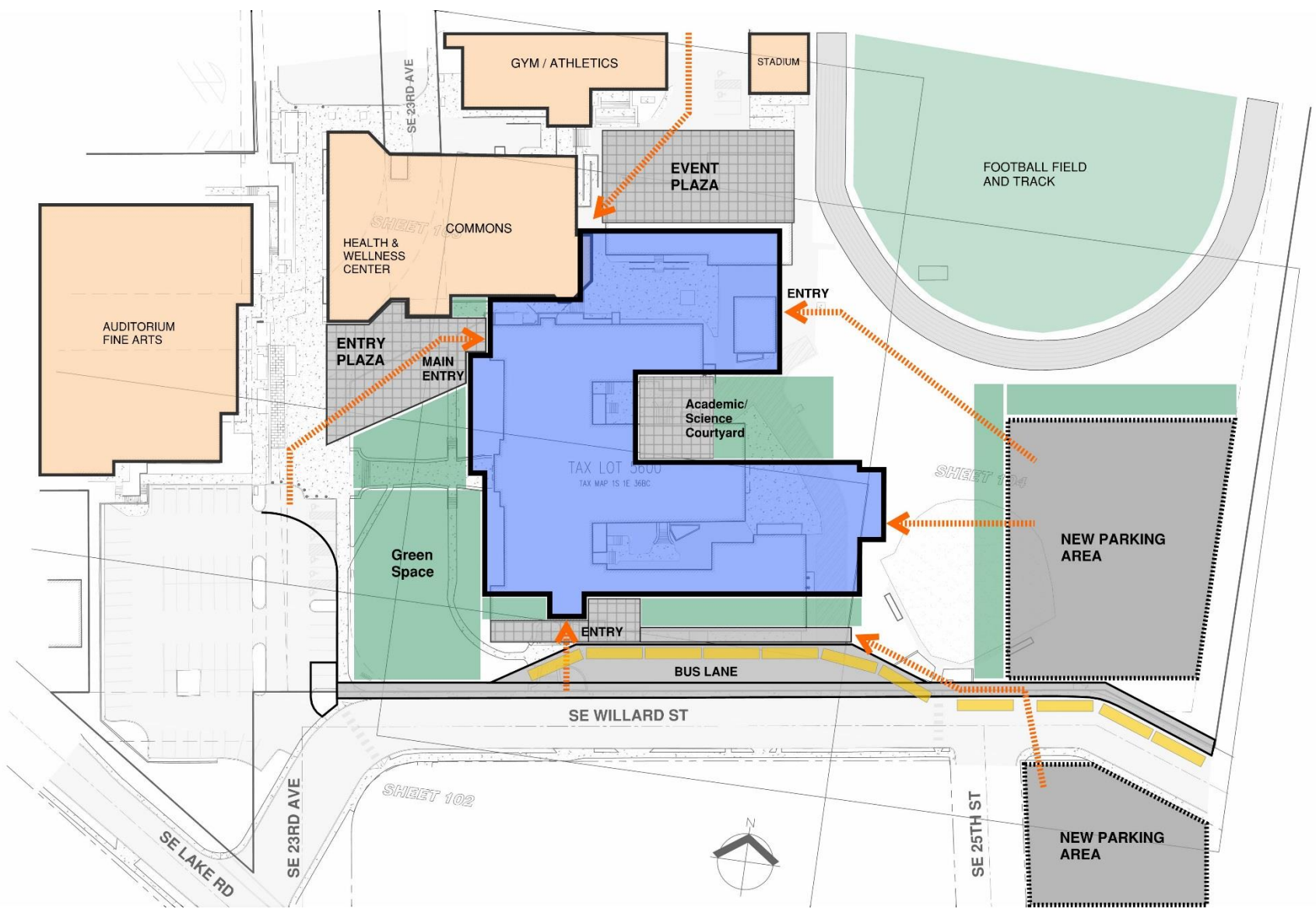
- 1** Main Building Replacement
Remove Boiler Building and Health & Wellness Center
- 2** Commons Improvements
Kitchen Remodel
Remodel Office Area
Re-Roof Commons Building
- 3** Gym Interior Improvements
Painting, Scoreboards
Refinish Gym Flooring
New Athletic Lockers
- 4** Re-Roof Auditorium
- 5** Main Parking Lot Improvements
- 6** Main Entry Plaza Improvements
- 7** North Parking Lot Improvements
- 8** Running Track Resurfacing
Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- 9** Remove Varsity Softball Field
Replace with New Parking Lot
- 10** Remove Existing Tennis Courts
Replace with New Parking Lot
- 11** ADA Improvements to Stadium
New Elevator to Press Box



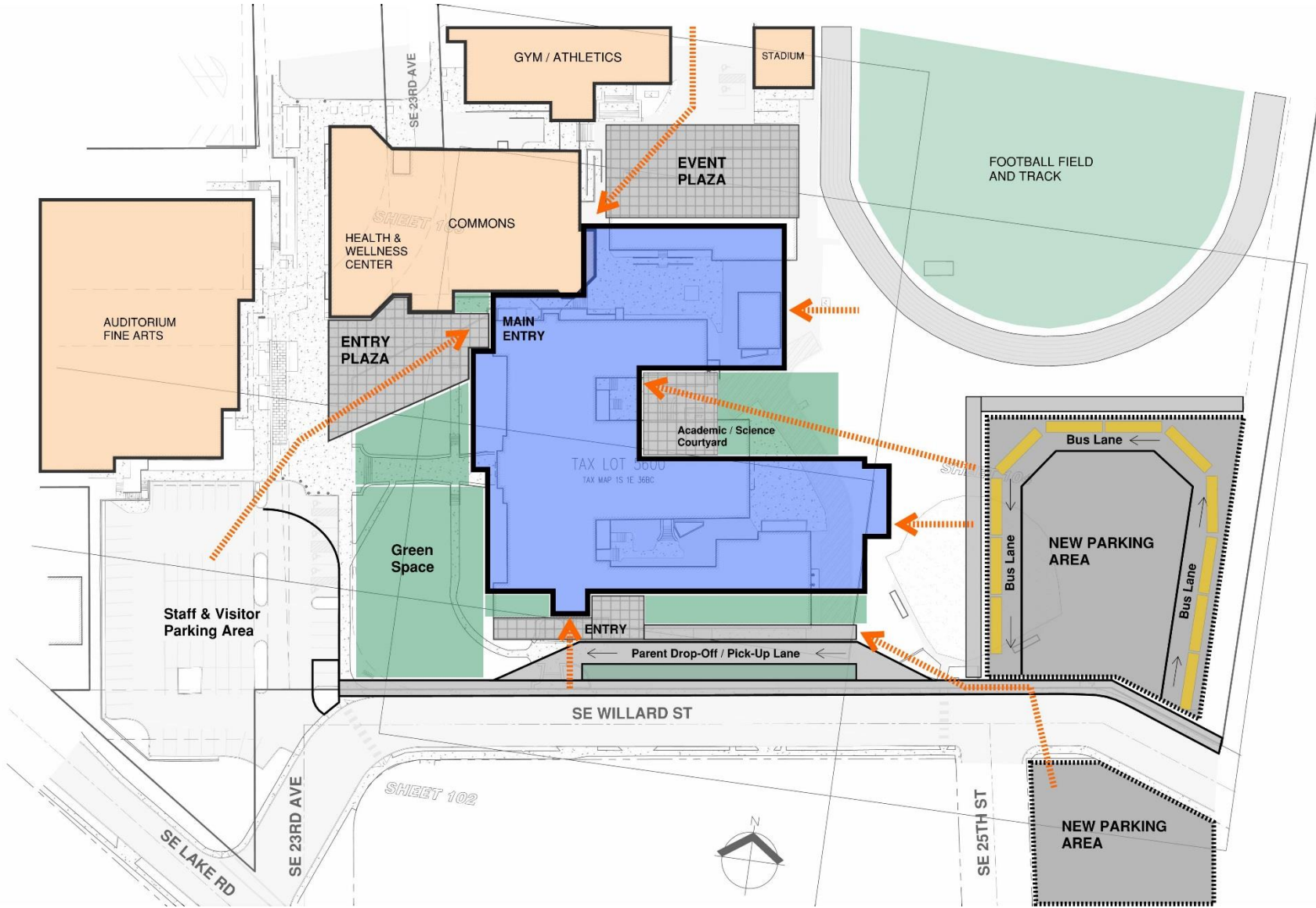
Current Design Concepts



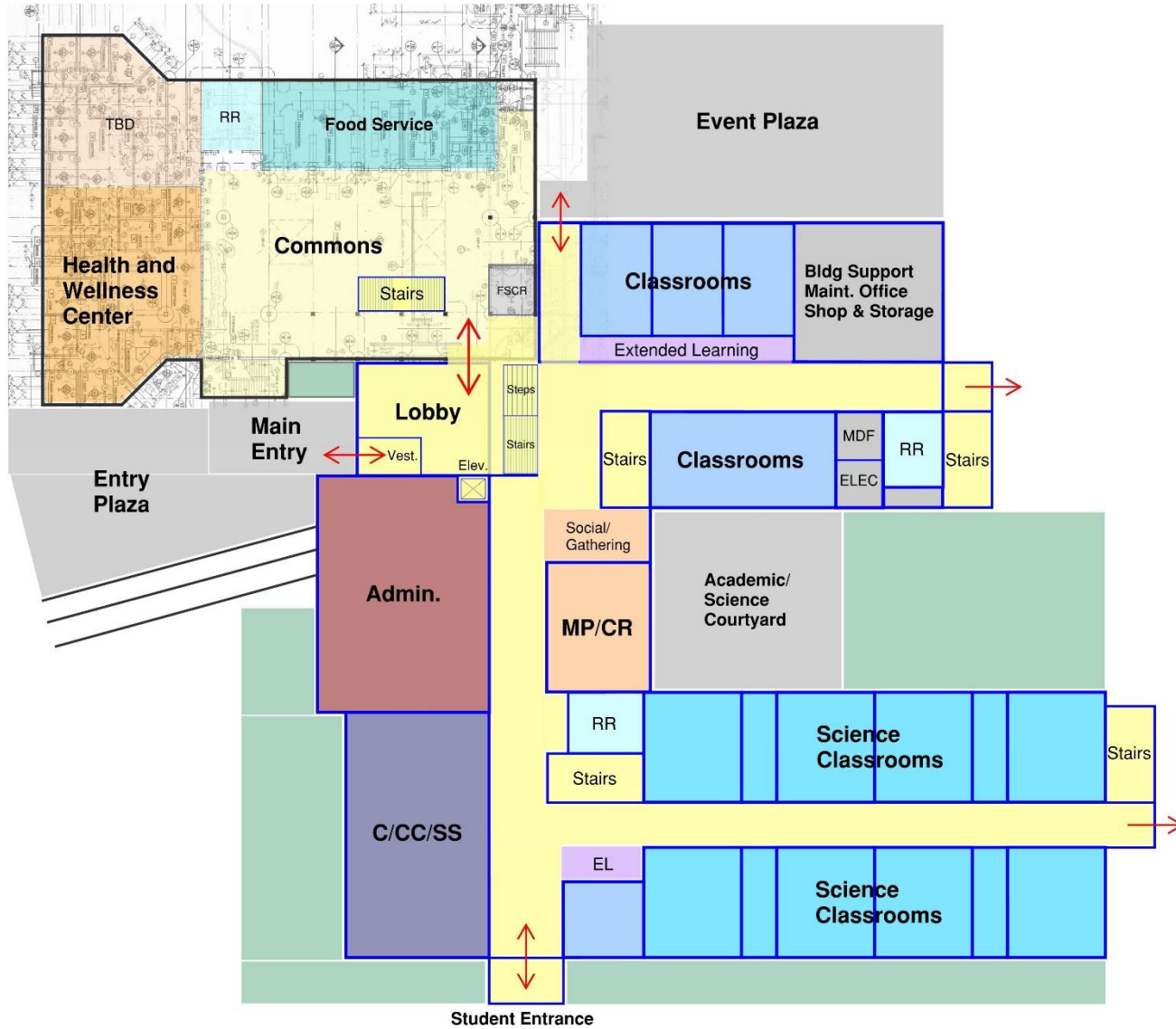
Site Plan Study 1



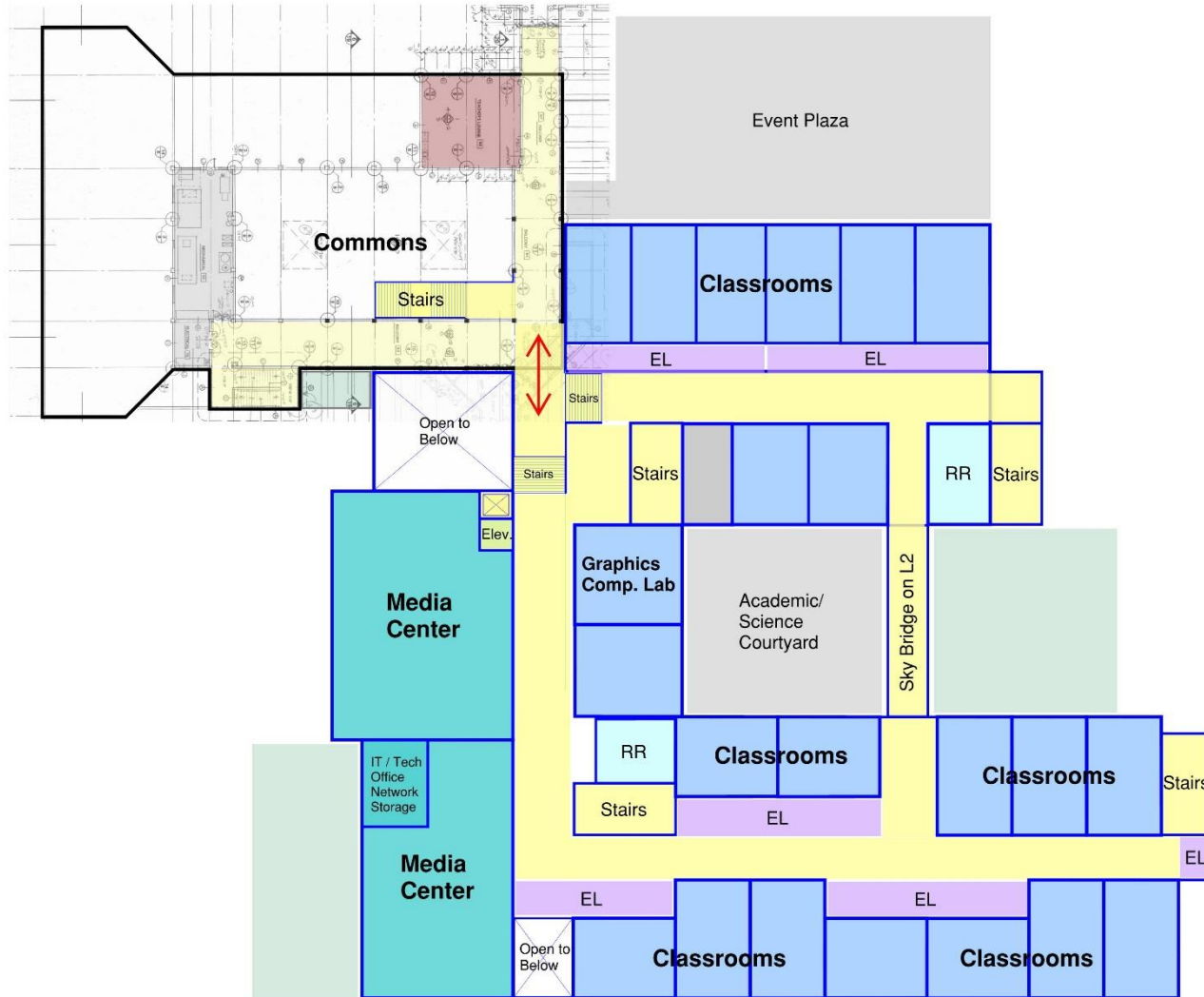
Site Plan Study 2



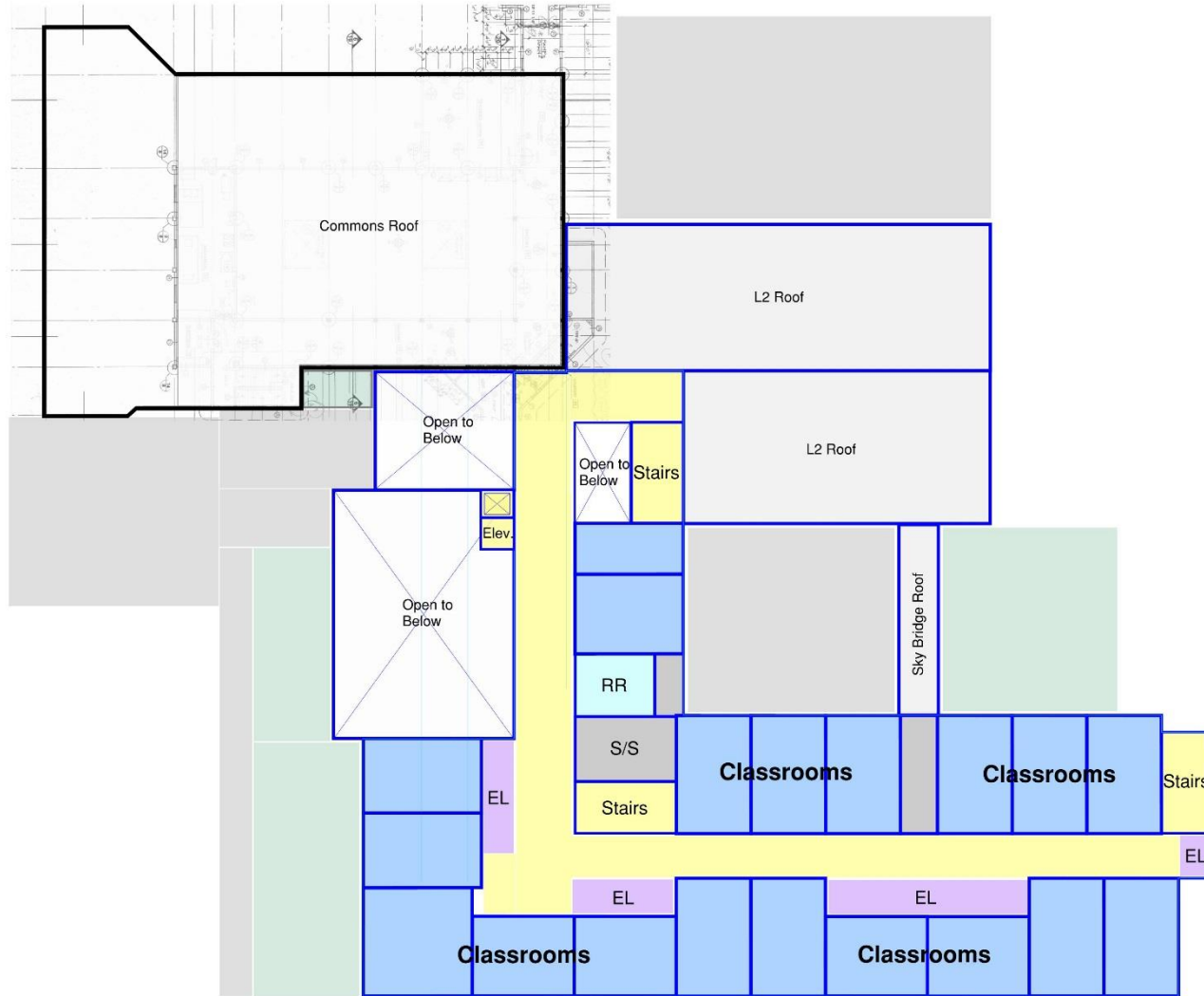
Level 1 Diagram



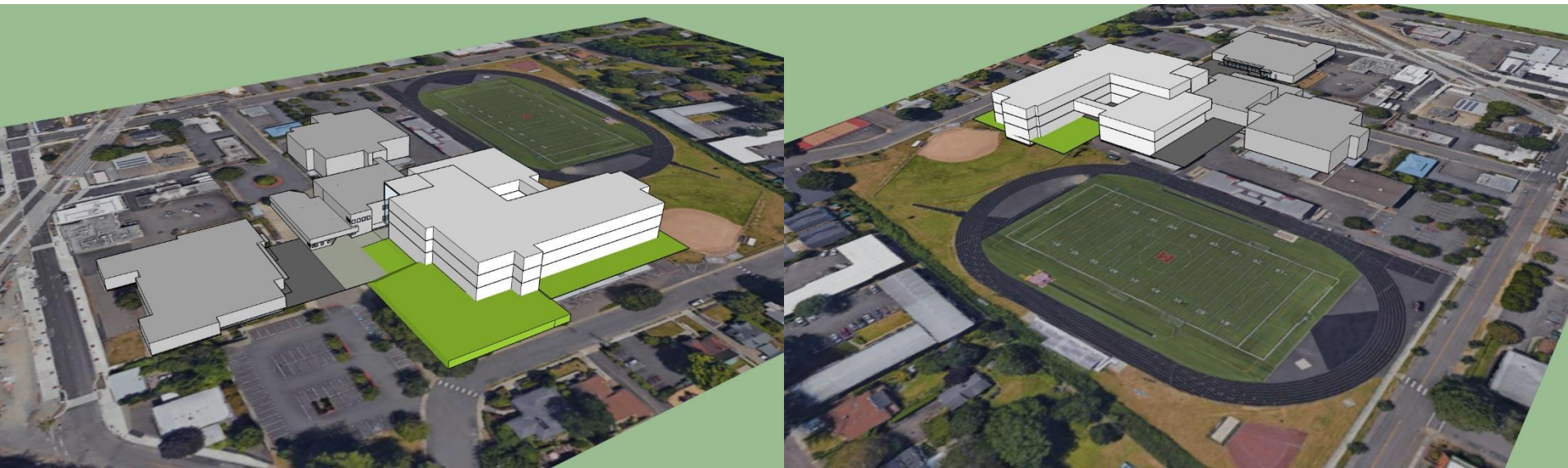
Level 2 Diagram



Level 3 Diagram



Concept Design Study

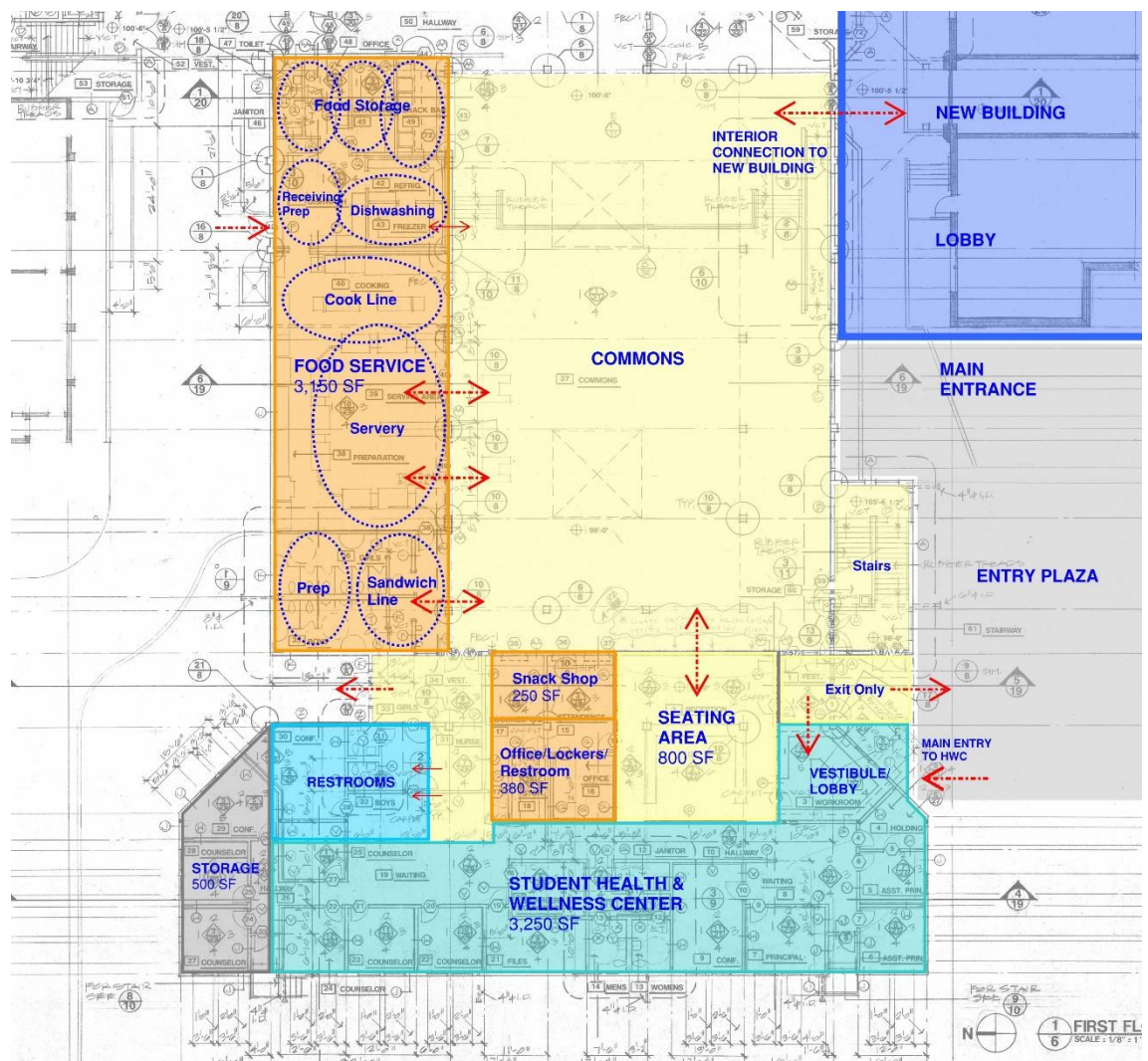


Dull Olson Weekes – IBI Group Architects
North Clackamas School District



Milwaukie High School – Community Meeting
May 24, 2017

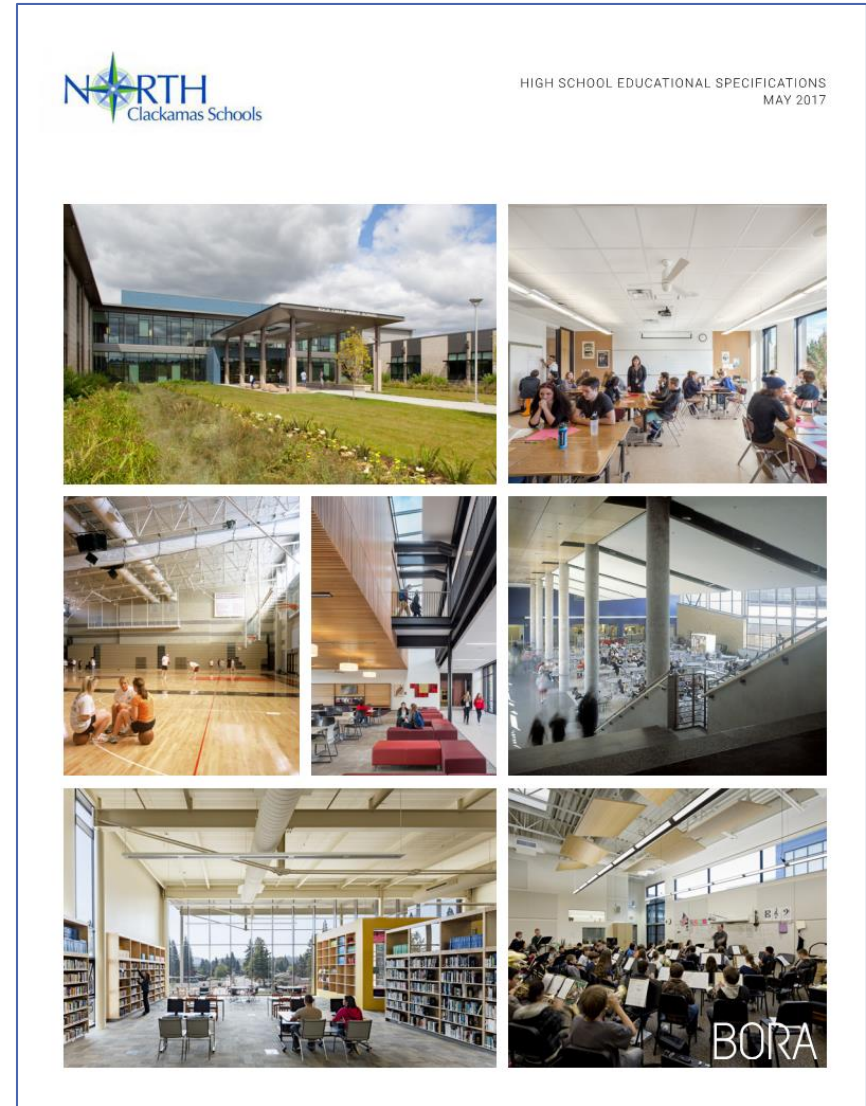
Commons Remodel - Overall Floor Plan



Area Program / Educational Specs



- North Clackamas School District's High School Educational Specifications are complete.
- The MHS area program for the new building mirrors Ed Specs, with some customization based on school needs.
 - Classroom organization and use of extended learning areas
 - Teacher planning rooms
 - Minor Adjustments to Admin, SPED and Library areas.
- Limited ability to align commons building with Ed Specs due to size of existing building.



Q & A





Milwaukie High School Community Meeting



North Clackamas School District
Dull Olson Weekes - IBI Group Architects
May 24, 2017

Bond Information

2016 CAPITAL CONSTRUCTION BOND

The Milwaukie High School and Lake Road Sports facilities are both enabled by the passage of the 2016 capital construction bond measure. With a passage rate of 62%, this measure will positively impact 17,324 students and our community through major facilities renovations, safety upgrades, and new construction.

PROJECT LIST:

Alder Creek Middle School
Athletic Fields / Clackamas High West and Rex Putnam
Ardenwald Elementary School
Bilquist Elementary School
Campbell Elementary School
Clackamas High School East / Phase One
Clackamas High School East / Phase Two
Clackamas High School West
Clackamas High School West Student Health Center
Facilities Operations
Happy Valley Elementary School
Happy Valley Middle School Classroom Addition
Happy Valley MS Covered Play and Interior
Lake Road Sports Facilities
Land Lab
Lewelling Elementary School
Linwood / Sojourner Elementary School
Milwaukie / El Puente Elementary School
Milwaukie High School
Mount Scott Elementary School Classroom and Cafeteria

Mount Scott Elementary School Improvements
New Elementary School
New High School in Rock Creek Area
New Urban High School
Oak Grove Elementary School
Oregon Trail Elementary School
Rex Putnam High School
Rex Putnam High School Health Center
Riverside Elementary School
Rowe Middle School
Sabin Professional Technical Center
Schellenberg Professional Technical Center
Scouters Mountain Elementary School
Spring Mountain Elementary School
Sunnyside Elementary School
Verne Duncan Elementary School
View Acres Elementary School
Whitcomb Elementary School
Wichita Family Support Center



Historical Context

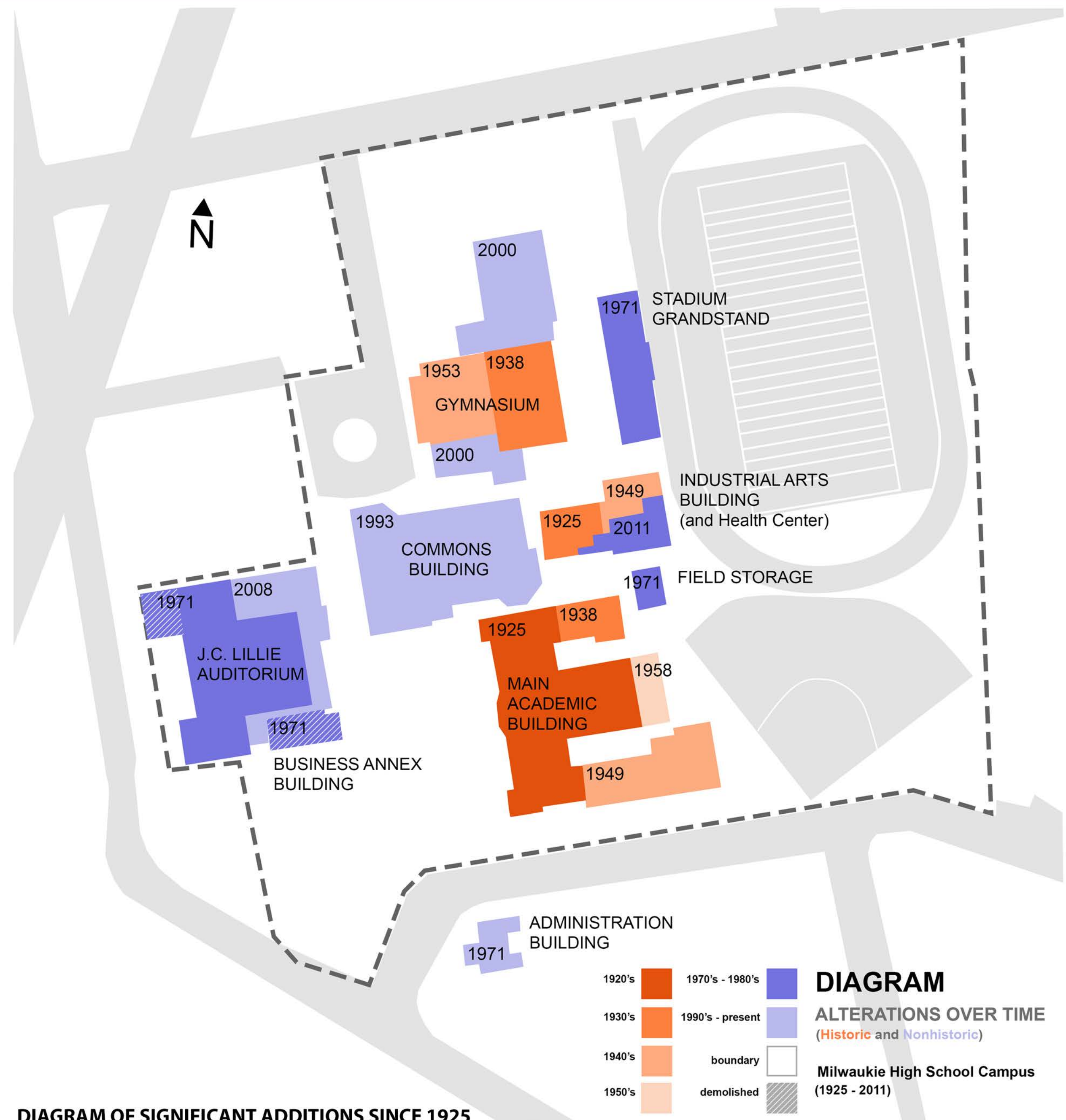


DIAGRAM OF SIGNIFICANT ADDITIONS SINCE 1925

RENOVATION TIMELINE

- 1925 STOKES & ZELLER CO.**
Main academic building and manual training & boiler building
- 1938 STOKES & ZELLER CO.**
Gymnasium and north wing
- 1941 WALTER E. KELLY**
Vocational agricultural building
- 1949 STOKES & ALLYN**
Addition of south wing to main building, addition to schools boiler room, track & field and tennis court addition.
- 1953 RICHARD WILHELM SUNDELEAF**
Addition and remodel to the gymnasium and remodel to boiler building to create shop.
- 1958 FREEMAN, HAYSLIP, TUFT & HEWLETT**
Major renovation of the main academic building, renovation to the boiler building to create an arts & crafts use, addition of the vocal room to the main building, conversion of the vocational agricultural building into a band building.
- 1971**
Business Education Building, conversion of vocal room into library administrative offices and the auditorium into a library resource center and reading room, replacement of the band building, original construction of the auditorium.
- 1993**
The Commons Building and relocation of the school administration into the commons building.
- 2000**
Second addition to the gym on the north side of the building, minor alterations to the main building, reconstruction of the main entry facade and installation of new windows
- 2008**
Conversion of the auditorium into the J.C. Lillie Performing Arts Building with an addition of a new art department and dance studio, renovations to the band room and drama room, addition of a black box theater, new lobby, demolition of the Business Education Building, remodel of locker room and team rooms.
- 2011**
Demolition of the southeastern corner of the Arts & Crafts/boiler building and replaced with the Health and Wellness Center



1956 photograph of Milwaukie Union High School
Oregon Historical Society archives



A photograph looking east at the current Milwaukie High School's main facade.



1956 photographs of Milwaukie Union High School
Oregon Historical Society archives



1926 photographs of Milwaukie Union High School
The Milwaukie Review, 1926



3J CONSULTING

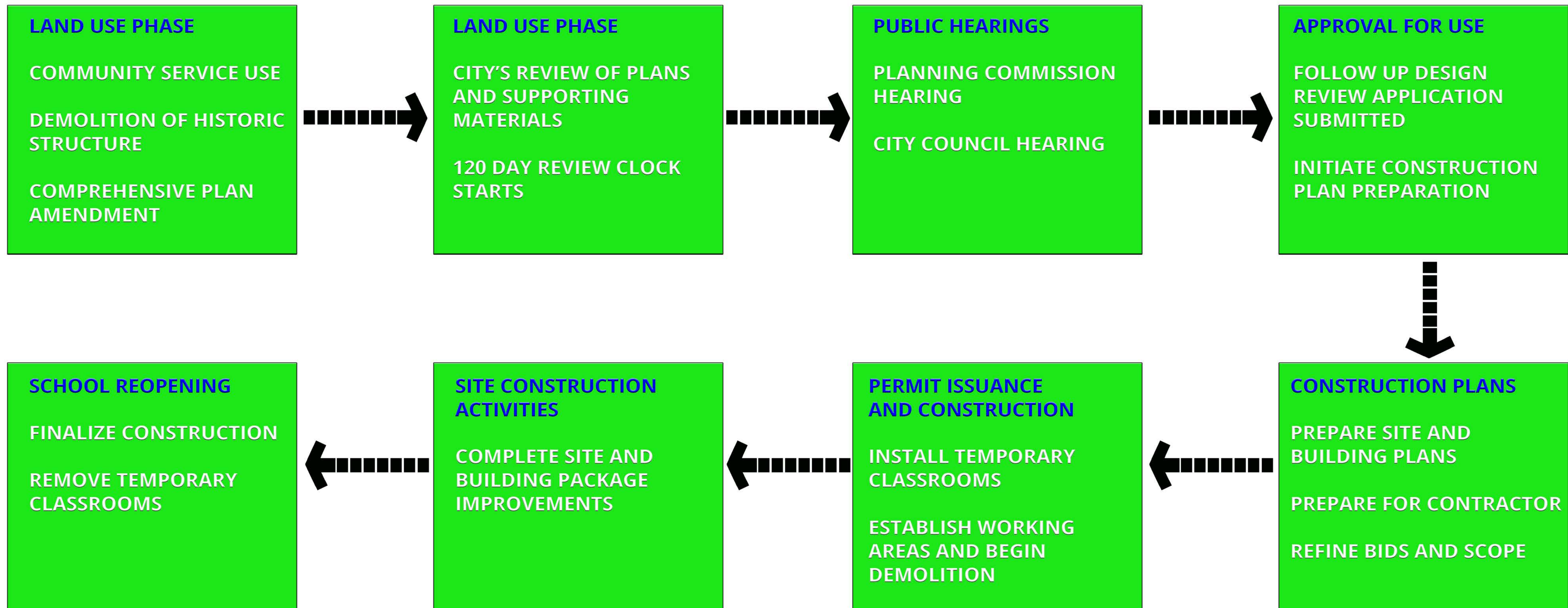
Dull Olson Weekes – IBI Group Architects
North Clackamas School District



Milwaukie High School – Community Meeting

Process and Timeline

Process and Timeline



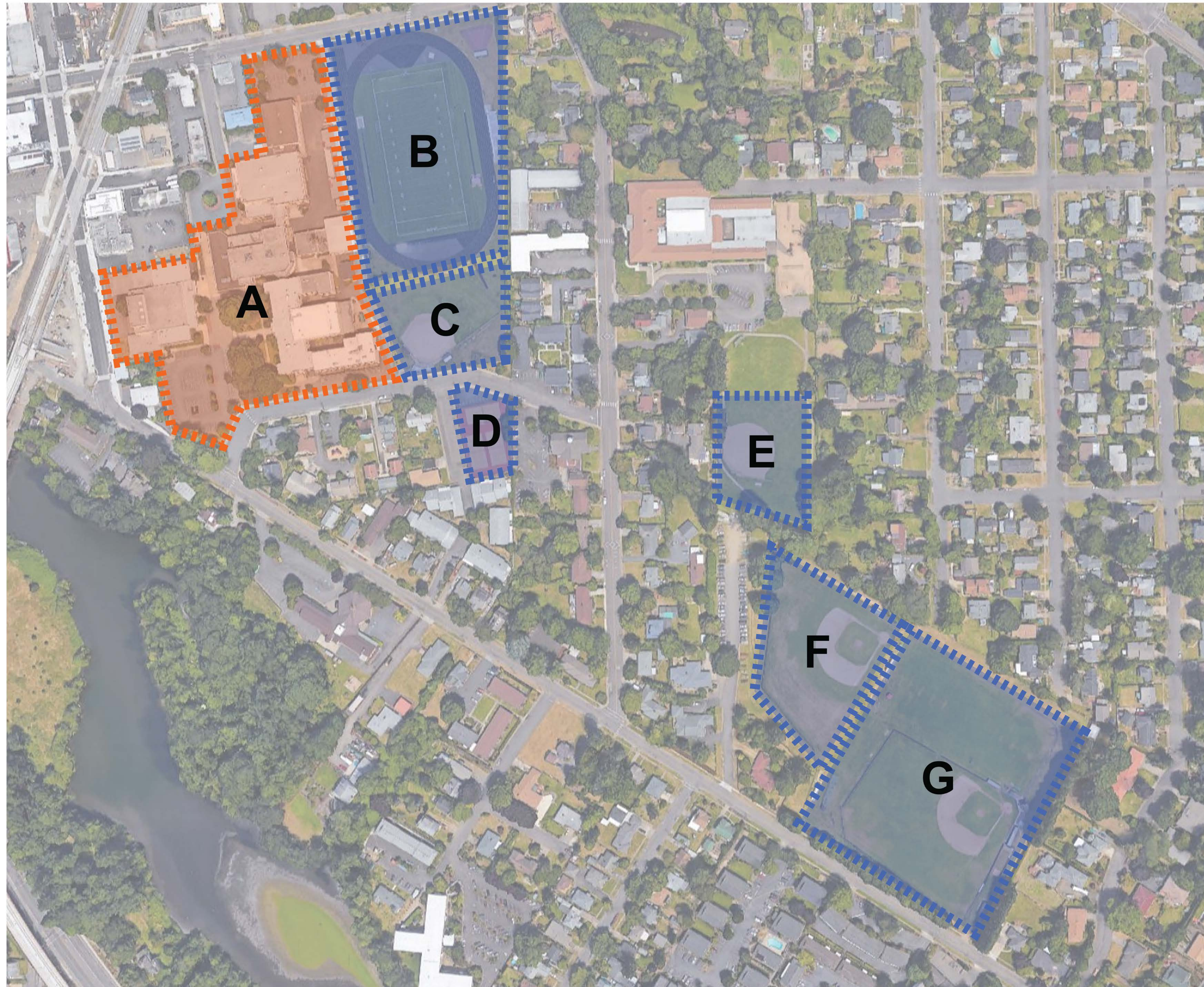
3J CONSULTING, INC.

Dull Olson Weekes – IBI Group Architects
North Clackamas School District



Milwaukie High School – Community Meeting

Scope Diagram

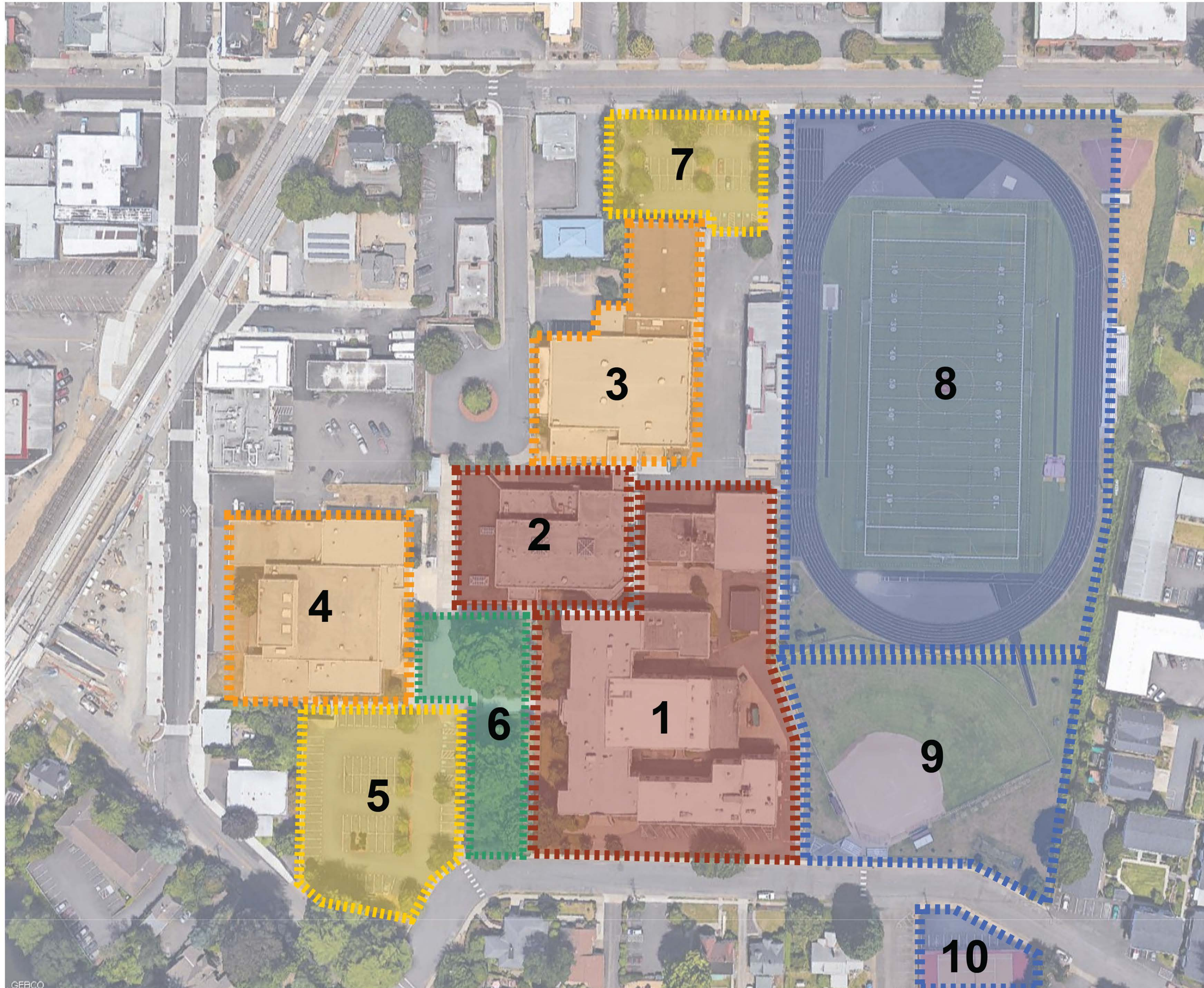


PRELIMINARY PROJECT SCOPE

- A** Campus Improvements
Main Building Replacement
(See Enlarged Diagram)
- B** Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- C** Relocate Varsity Softball Field to
Lake Road Facility
Add (4) New Tennis Courts
- D** Remove Existing Tennis Courts
New Parking Lot
- E** New JV Softball Field at
Milwaukie ES
- F** New Varsity Softball Field
- G** New Varsity Baseball Field
(Relocate Field Adjacent to Soft
ball Field)



Scope Diagram | Main Campus



PRELIMINARY PROJECT SCOPE

- 1** Main Building Replacement
Remove Boiler Building and Health & Wellness Center
- 2** Commons Improvements
Kitchen Remodel
Remodel Office Area
Re-Roof Commons Building
- 3** Gym Interior Improvements
Painting, Scoreboards
Refinish Gym Flooring
New Athletic Lockers
- 4** Re-Roof Auditorium
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- 6** Main Entry Plaza Improvements
- 7** North Parking Lot Improvements
- 8** Running Track Striping
Field Turf Replacement
New Stadium Scoreboards
- 9** Remove Varsity Softball Field
(4) New Tennis Courts
- 10** Remove Existing Tennis Courts
New Parking Lot



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MILWAUKIE, OR 97222

GATELY PHILLIP C & STEPHANIE
L
10333 SE 37TH AVE
MILWAUKIE, OR 97222

GIFFORD RONALD D & BEVERLY J
SWANSON
3586 SE NASE CT
MILWAUKIE, OR 97222

GRAHAM JOHN JR & JOLYAN M
PRATT-GRAHAM
3717 SE LICYNTRA LN
MILWAUKIE, OR 97222

HALL DENNIS D
12216 SE 38TH AVE
MILWAUKIE, OR 97222

HEIMS KIRK R
12251 SE 38TH AVE
MILWAUKIE, OR 97222

HENKES LAURA M TRUSTEE
12717 SE BOSS LN
MILWAUKIE, OR 97222

HOLCOMB DAVID GERALD &
SARAH RENEE
12232 SE 36TH AVE
MILWAUKIE, OR 97222

HOUSER CAROL J
12404 SE SHELL LN
MILWAUKIE, OR 97222

HUGHSON HELEN E TRUSTEE
12511 SE GUILFORD DR
MILWAUKIE, OR 97222

IGNATOWSKI JOSEPH LEONARD
CO-TRUSTEE
2408 OAK VALE CT NW
VIENNA, VA 22181

JACOBS BERNARD J & JOAN
12346 SE 38TH AVE
MILWAUKIE, OR 97222

JAKOBSON ROSANNA M
12545 SE GUILFORD DR
MILWAUKIE, OR 97222

JI TONGYOU & SHUHUA ZHAO
12751 SE BOSS LN
MILWAUKIE, OR 97222

JONES THERESA M & SAMUEL
MARK
12236 SE 37TH AVE
MILWAUKIE, OR 97222

JOSLIN PAMELA A
12179 SE 37TH AVE
MILWAUKIE, OR 97222

KARAMBELAS RANDY
CONSTANTINE TRUSTEE
12760 SE BOSS LN
MILWAUKIE, OR 97222

KAUFMAN DEREK & KARA
3555 SE LAKE RD
MILWAUKIE, OR 97222

KAYSER WILLIAM H & CRISTA D
3417 SE ALDERCREST RD
MILWAUKIE, OR 97222

KENNY JOHN F & MAY A
3575 SE NASE CT
MILWAUKIE, OR 97222

KING ISABEL BARBARA
TRUSTEE
12446 SE GUILFORD DR
MILWAUKIE, OR 97222

KNAPP MELVIN D & PEGGY L
12462 SE GUILFORD DR
MILWAUKIE, OR 97222

KOSMAS THOMAS J & KAREN S
3576 SE NASE CT
MILWAUKIE, OR 97222

KOZAR PENNY
12226 SE GUILFORD DR
MILWAUKIE, OR 97222

KYLES MOLLY FROLICH &
CHRISTOPHER
12236 SE 35TH CT
MILWAUKIE, OR 97222

LACINE JEFFREY J & CHELSI L
12315 SE 38TH AVE
MILWAUKIE, OR 97222

LANDIS MELVIN G & SANDRA M
PO BOX 22649
MILWAUKIE, OR 97269

MALVICK STEVEN W & ELLEN E
12526 SE GUILFORD DR
MILWAUKIE, OR 97222

MANN LAWRENCE C & CAROL L
3360 SE ALDERCREST RD
MILWAUKIE, OR 97222

MARTIN EDWARD J TRUSTEE
12764 SE NIXON AVE
MILWAUKIE, OR 97222

MARTIN KAREN M
884 SE 25TH AVE
GRESHAM, OR 97080

MASCOTT WILLIAM J & BONNIE J
3455 SE ALDERCREST RD
MILWAUKIE, OR 97222

MCCLURE KEVIN L
2814 SW BRIXTON AVE
GRESHAM, OR 97080

MCKEE DENNIS L & BETTY L
3634 SE LICYNTRA LN
MILWAUKIE, OR 97222

MCKINNON ELIZABETH G
12210 SE 36TH AVE
MILWAUKIE, OR 97222

MEAGHER MEGAN & MICHAEL
12571 SE GUILFORD DR
MILWAUKIE, OR 97222

MILLS LEONARD L & LISA K
3435 SE ALDERCREST RD
MILWAUKIE, OR 97222

MILWAUKIE LUTHERAN CHURCH
3810 SE LAKE RD
MILWAUKIE, OR 97222

MINER CAROL
12336 SE GUILFORD DR
MILWAUKIE, OR 97222

MITCHELL WILLIAM DEAN
12255 SE 36TH AVE
MILWAUKIE, OR 97222

MOCK LOIS ANN TRUSTEE
12554 SE SHELL LN
MILWAUKIE, OR 97222

MORRISON MIRIAM R
12626 SE BOSS LN
MILWAUKIE, OR 97222

MUELLER DAVID L & GAIL M
3409 SE ALDERCREST RD
MILWAUKIE, OR 97222

MURRAY MIRANDA M
12406 SE GUILFORD DR
MILWAUKIE, OR 97222

NORTH CLACKAMAS SD #12
4444 SE LAKE RD
MILWAUKIE, OR 97222

NORTH CLACKAMAS SD #12
12400 SE FREEMAN WAY
MILWAUKIE, OR 97222

ODELL JENELLE
3566 SE NASE CT
MILWAUKIE, OR 97222

OLSON DONNA LYNNE
12382 SE SHELL LN
MILWAUKIE, OR 97222

OWEN MICHAEL W & DAWN L
12455 SE GUILFORD DR
MILWAUKIE, OR 97222

PERSAD AMY L
12235 SE GUILFORD DR
MILWAUKIE, OR 97222

PETERSON EDDY A & PATRICIA
J
3809 SE ANGELA WAY
MILWAUKIE, OR 97222

POP ARTUR L
12565 SE BOSS LN
MILWAUKIE, OR 97222

PYRYT JOHN F
12486 SE SHELL LN
MILWAUKIE, OR 97222

QUINTANA RICHARD D &
TERESA LYNN
12209 SE 38TH AVE
MILWAUKIE, OR 97222

RAHIMI ALIREZA
3822 SE LICYNTRA LN
MILWAUKIE, OR 97222

RICE JASON C & MARIA A
12405 SE GUILFORD DR
MILWAUKIE, OR 97222

RICE RANDY J
3421 SE GUILFORD CT
MILWAUKIE, OR 97222

RICHARDS ESTHER M TRUSTEE
12166 SE 36TH AVE
MILWAUKIE, OR 97222

ROBERTSON JASON
12204 SE 35TH CT
MILWAUKIE, OR 97222

SABIN DAVID J & MARIA C
12202 SE GUILFORD DR
MILWAUKIE, OR 97222

SANMAN RODGER G & DARLENE
R
3410 SE ALDERCREST RD
MILWAUKIE, OR 97222

SANTILLI STEVEN M & CATHY J
12530 SE OATFIELD RD
MILWAUKIE, OR 97222

SCHMIDT MARION
12304 SE 38TH AVE
MILWAUKIE, OR 97222

SEAMAN CHARLES P & PEGGY E
8407 SW 58TH AVE
PORTLAND, OR 97219

SEAMAN MARK H & FRIEDA T
11839 SW 26TH PL
PORTLAND, OR 97219

SEAMAN MARK H JR
8407 SW 58TH AVE
PORTLAND, OR 97219

SHUELL JODY R
12380 SE SHELL LN
MILWAUKIE, OR 97222

SILVA ROBERTO P & SARAH S
12123 SE 36TH AVE
MILWAUKIE, OR 97222

SIMMONS EDWARD KEITH &
LAURIE ELLEN
3500 SE GUILFORD CT
MILWAUKIE, OR 97222

SMITH BARBARA C & HOWARD
LANOFF
12577 SE BOSS LN
MILWAUKIE, OR 97222

SMITH MARLENE M TRUSTEE
12215 SE 38TH AVE
MILWAUKIE, OR 97222

STORES REX A
3535 SE GUILFORD CT
MILWAUKIE, OR 97222

STOUTENBURG SHELLY
6314 NE MALLORY AVE
PORTLAND, OR 97211

TAYLOR HAROLD A &
CONCEPCION
12224 SE 38TH AVE
MILWAUKIE, OR 97222

THOMASON MONA J & BRIAN R
SHENK
3666 SE LICYNTRA LN
MILWAUKIE, OR 97222

TONDREAU FLORIENE M CO-
TRUSTEE
12432 SE GUILFORD DR
MILWAUKIE, OR 97222

TOREN HARM & SUSAN J
12623 SE BOSS LN
MILWAUKIE, OR 97222

WALL MITCHELL C & MARILYN M
PO BOX 68373
PORTLAND, OR 97268

WEINTRAUB FRANKLIN R
TRUSTEE
12216 SE GUILFORD DR
MILWAUKIE, OR 97222

WELLS STEPHANIE C BASTIN &
LANCE J
12215 SE GUILFORD DR
MILWAUKIE, OR 97222

WIENS HENRY & AUDREY DENT
12208 SE 38TH AVE
MILWAUKIE, OR 97222

WILE MARA
1347 DALTON DR
EUGENE, OR 97404

WORTHINGTON CLARENCE T &
JANE E
12124 SE 36TH AVE
MILWAUKIE, OR 97222

WRIGHT MARK O
4907 SE 51ST AVE
PORTLAND, OR 97206

WROBLEWSKI VERONICA E
8414 FORREST DR
CANTON, MI 48187

YOSHITOMI ANNE H TRUSTEE
3764 SE LICYNTRA CT
MILWAUKIE, OR 97222

ZUERN GREG D & TIFFANY A
3758 SE LICYNTRA LN
MILWAUKIE, OR 97222

ADLER DONALD H TRUSTEE
PO BOX 12507
PORTLAND, OR 97212

ADLER RESIDENTIAL
PROPERTIES LLC
PO BOX 12507
PORTLAND, OR 97212

ALLEN KAREN L
11987 SE 28TH AVE
MILWAUKIE, OR 97222

ALVARADO VICTOR E
11763 SE 33RD AVE
MILWAUKIE, OR 97222

ANDERSON JERRY A & ARIJA
11611 SE 33RD AVE
MILWAUKIE, OR 97222

ANDREW WILLIAM N
11827 SE 28TH AVE
MILWAUKIE, OR 97222

ANGELL DALE & CONNIE
11951 SE 33RD AVE
MILWAUKIE, OR 97222

ATHERTON RICHARD & ALICE
11464 SE 27TH AVE
MILWAUKIE, OR 97222

AUSTEN JONATHAN THOR &
RACHEL
11448 SE 27TH AVE
MILWAUKIE, OR 97222

BABBITT DONALD D &
CONSTANCE A
11661 SE 32ND AVE
MILWAUKIE, OR 97222

BARGENDER STEPHEN J &
JUDITH A
3105 SE LAKE RD
MILWAUKIE, OR 97222

BARRIENTOS SERGIO &
JENNIFER L
11573 SE 31ST AVE
MILWAUKIE, OR 97222

BARTON BRAD & CASSANDRA
14845 SW 100TH AVE
TIGARD, OR 97224

BERTRAND MELISSA D
3172 SE LAKE RD #27
MILWAUKIE, OR 97222

BIGGS JENNIFER KAY & LLOYD S
WOLFE III
3115 SE LAKE RD
MILWAUKIE, OR 97222

BLUESTONE & HOCKLEY RE
SERVICES
9320 SW BARBUR BLVD STE 300
PORTLAND, OR 97219

BOLEY RONALD J & VICTORIA D
11563 SE 30TH AVE
MILWAUKIE, OR 97222

BRODY BENJAMIN L
2725 SE LAKE RD
MILWAUKIE, OR 97222

BRYAN RAYMOND D
11416 SE 27TH AVE
MILWAUKIE, OR 97222

BUCKLEY KATHLEEN
11421 SE 30TH AVE
MILWAUKIE, OR 97222

BULLARD MATTHEW A
11633 SE 33RD AVE
MILWAUKIE, OR 97222

BURT BARBARA A TRUSTEE
11814 SE 28TH AVE
MILWAUKIE, OR 97222

BURT WARREN R
11667 SE 31ST AVE
MILWAUKIE, OR 97222

CAMPBELL SALLY
3128 SE LAKE RD
MILWAUKIE, OR 97222

CANNONBALL RUN LLC
2906 SE MADISON ST
MILWAUKIE, OR 97222

CARLETON MARY PATRICIA
11512 SE 27TH AVE
MILWAUKIE, OR 97222

CARTASEGNA CAROL JEAN
11973 SE 33RD AVE
MILWAUKIE, OR 97222

CHALE LUANNE KENNA
11531 SE 30TH AVE
MILWAUKIE, OR 97222

CLARK MARY S
11742 SE 32ND AVE
MILWAUKIE, OR 97222

CLAYTON ADAM E
3126 SE LAKE RD
MILWAUKIE, OR 97222

COLPO DAVID A & LYNNE M
11625 SE 27TH AVE
MILWAUKIE, OR 97222

COXEN PETER E
82-5824 NAPOOPOO RD
CAPTAIN COOK, HI 96704

CRABB LARRY BRIAN
11423 SE 30TH AVE
MILWAUKIE, OR 97222

CRONK ROBERT K
3570 SW RIVER PKWY #1711
PORTLAND, OR 97239

DAMIAN ANTHONY TRUSTEE
11846 SE 32ND AVE
MILWAUKIE, OR 97222

DAMON EMILY COLLEEN
3016 SE SELLWOOD ST
MILWAUKIE, OR 97222

DANIELSEN ANNE-LISE
11598 SE 27TH AVE
MILWAUKIE, OR 97222

DEARDORFF MARIA G
11690 SE 32ND AVE
MILWAUKIE, OR 97222

DONNERBERG GEORGE W &
LINDA A
17809 NE MARINE DR SLIP A13
PORTLAND, OR 97230

DOWELL WILLIAM L & HEATHER
D
3182 SE LAKE RD
MILWAUKIE, OR 97222

DOWNES DAVID J & KRISTA J
13114 SE KUEHN RD
MILWAUKIE, OR 97222

DURRE DAWN M
11635 SE 31ST AVE
MILWAUKIE, OR 97222

EDDY JANET C & RODGER
2582 NW LOVEJOY ST
PORTLAND, OR 97210

ESTABROOK TODD A
11659 SE 32ND AVE
MILWAUKIE, OR 97222

FAST CHRISTOPHER
3144 SE LAKE RD
MILWAUKIE, OR 97222

FAUST LAND TRUST
11571 SE 32ND AVE
MILWAUKIE, OR 97222

FIELDS JACK E & LINDA L
11593 SE 27TH AVE
MILWAUKIE, OR 97222

FISHER DEBBIE C
PO BOX 220395
MILWAUKIE, OR 97269

FLYNN CASEY R
11394 SE 27TH AVE
MILWAUKIE, OR 97222

FOSTERLING CHARLES D
TRUSTEE
11901 SE 32ND AVE
MILWAUKIE, OR 97222

FOWLER DENNIS Z
3164 SE LAKE RD
MILWAUKIE, OR 97222

FOZ ALEXANDER A & JOHANNA
K TWIGG
2636 SE GINO LN
MILWAUKIE, OR 97222

FULWIDER MICHAEL H & KATHIE
S NYE
16525 SE WARNOCK LN
MILWAUKIE, OR 97267

GAGE LYNDA M
11665 SE 33RD AVE
MILWAUKIE, OR 97222

GIBSON KENDALL J & TERRI B
3015 SE SELLWOOD ST
MILWAUKIE, OR 97222

GOOD ALLISON M
11519 SE 30TH AVE
MILWAUKIE, OR 97222

GREEN DAVID
5040 SE TOLMAN ST
PORTLAND, OR 97206

GRIFFITH RANDALL SCOTT
11630 SE 27TH AVE
MILWAUKIE, OR 97222

GROSKLOS BRIAN M
11603 SE 32ND AVE
MILWAUKIE, OR 97222

GUNDERSON TIMOTHY V & TINA
M
11415 SE 30TH AVE
MILWAUKIE, OR 97222

HAMBLEY KIRK & KAYLA
3216 SE WISTER ST
MILWAUKIE, OR 97222

HASSEN HECTOR & HALA H
12798 SE NORMANDY DR
CLACKAMAS, OR 97015

HAYES LILLICE K
11637 SE 32ND AVE
MILWAUKIE, OR 97222

HEALD JANICE L TRUSTEE
1632 VILLAGE PARK PL
WEST LINN, OR 97068

HEALY RYAN & HILARY
11552 SE 32ND AVE
MILWAUKIE, OR 97222

HESPEN BRETT D & MARGARET
C
11584 SE 32ND AVE
MILWAUKIE, OR 97222

HICKMAN DARLENE ROBERTA
11580 SE 31ST AVE
MILWAUKIE, OR 97222

HUGHES RACHEL
11366 SE 27TH AVE
MILWAUKIE, OR 97222

INGELS FRANK B III
11526 SE 30TH AVE
MILWAUKIE, OR 97222

JAGER ALTON L
12106 SE 31ST PL #45
MILWAUKIE, OR 97222

JAYNES BRUCE D & SUZANNE K
12082 SE NIKLAS LN
HAPPY VALLEY, OR 97086

JOHNSON BENJAMIN A & KELLY
L SULLIVAN
11470 SE 30TH AVE
MILWAUKIE, OR 97222

JUNG DANIEL N
11676 SE 31ST AVE
MILWAUKIE, OR 97222

KAUSCH-DALE MAREN TRUSTEE
11607 SE 33RD AVE
MILWAUKIE, OR 97222

KELLEY BRIAN TY
3152 SE LAKE RD
MILWAUKIE, OR 97222

KELLY MAURA F
11636 SE 32ND AVE
MILWAUKIE, OR 97222

KLINKER JOHN W JR TRUSTEE
8700 SW 54TH AVE
PORTLAND, OR 97219

KNIGHT JAMES
10987 SE 28TH AVE
MILWAUKIE, OR 97222

KORINEK EVA M
9700 SW EAGLE CT
BEAVERTON, OR 97008

LAKE ROAD PROPERTIES LLC
2647 SE LAKE RD
MILWAUKIE, OR 97222

LAMASCUS JAMES PRESTON
11870 SE 28TH AVE
MILWAUKIE, OR 97222

LANDIS CAROL S
11363 SE 30TH AVE
MILWAUKIE, OR 97222

LANGE ANDREW E & PATRICIA R
PO BOX 22497
MILWAUKIE, OR 97269

LARKINS PAITHEN & KATHRYN
PO BOX 68076
OAK GROVE, OR 97268

LAUZON GALE S
3180 SE LAKE RD
MILWAUKIE, OR 97222

LEAMY NANCY JOAN
1235 13TH ST
PORT TOWNSEND, WA 98368

LEFORS LAURIE J
11480 SE 27TH AVE
MILWAUKIE, OR 97222

LINENKO LARRY & ANN
2705 SE LAKE RD
MILWAUKIE, OR 97222

LOKAN DENNIS G & SHEILA M
3036 SE SELLWOOD ST
MILWAUKIE, OR 97222

LOOS ROBERT K
11585 SE 32ND AVE
MILWAUKIE, OR 97222

LUFKIN JACK E
11858 SE 28TH AVE
MILWAUKIE, OR 97222

LUFT CONNIE M
10167 SE 45TH AVE
MILWAUKIE, OR 97222

MAXWELL RICHARD A
2502 LINCOLN AVE
VANCOUVER, WA 98660

MCCAUSLAND GREGORY S
2706 SE LAKE RD
MILWAUKIE, OR 97222

MCENANY SAMUEL ALBERT
771 NW ANGEL HEIGHTS RD
STEVENSON, WA 98648

MCKENNA AMBER
3120 SE LAKE RD
MILWAUKIE, OR 97222

MCKEON JOHN J
5416 SE KNIGHT ST
PORTLAND, OR 97206

MCNAUGHTON ASHLEY E
11622 SE 31ST AVE
MILWAUKIE, OR 97222

MENELY SARAH K & MATTHEW A
2816 SE LAKE RD
MILWAUKIE, OR 97222

METRO 11525 SE 32ND AVE LLC
3914 SW MARTINS LN
PORTLAND, OR 97239

MOHR RACHEL M
3168 SE LAKE RD
MILWAUKIE, OR 97222

MONTGOMERY ANN MARIE
12101 SE 33RD PL
MILWAUKIE, OR 97222

MORAN JOHN H & JENNIFER L
11693 SE 32ND AVE
MILWAUKIE, OR 97222

MORRIS TIMOTHY R & NANCY E
11548 SE 31ST AVE
MILWAUKIE, OR 97222

MULKEY WILLIAM
11654 SE 31ST AVE
MILWAUKIE, OR 97222

NELSON JANIS E
3174 SE LAKE RD
MILWAUKIE, OR 97222

NIELSEN BENJAMIN
3148 SE LAKE RD
MILWAUKIE, OR 97222

OFSTEAD HEATH T & JULIE M
11698 SE 31ST AVE
MILWAUKIE, OR 97222

OLSEN CHARLES WESLEY JR
TRUSTEE
PO BOX 4803
PARKER, CO 80134

ONCEA CHARLES W IV
11658 SE 32ND AVE
MILWAUKIE, OR 97222

PERRY ROBERT
601 SW ASHDOWN CIR
WEST LINN, OR 97068

PHILLIPS RICK DEAN
3236 SE WISTER ST
MILWAUKIE, OR 97222

RAGLAND ANDREW J &
KATHLEEN M INNES
12331 SE 25TH AVE
MILWAUKIE, OR 97222

RICHARDS CHRISTINE JOANNE
PO BOX 22856
MILWAUKIE, OR 97269

RICHARDS ELIZABETH
3202 SE LAKE RD
MILWAUKIE, OR 97222

ROUSSEAU BENJAMIN T &
LORENA A
3264 SE LAKE RD
MILWAUKIE, OR 97222

RUPP DAVID & MARYLOU
3154 SE LAKE RD UNIT 18
MILWAUKIE, OR 97222

SCHABER JOANNE M
17702 SE HOWARD ST
MILWAUKIE, OR 97222

SCOTT WILLIAM C JR &
DEBORAH L
11554 SE 27TH AVE
MILWAUKIE, OR 97222

SENGER GAYLEN J & SANDRA M
11649 SE 31ST AVE
MILWAUKIE, OR 97222

SHEARER CASSANDRA D
2716 SE LAKE RD
MILWAUKIE, OR 97222

SHEARER SHERYL J
3124 SE LAKE RD
MILWAUKIE, OR 97222

SHELBY WILLIAM C & ELVA M
11805 SE 28TH AVE
MILWAUKIE, OR 97222

SHIELDS BONNIE S
3156 SE LAKE RD
MILWAUKIE, OR 97222

SIMUKKA KYLE
2806 SE LAKE RD
MILWAUKIE, OR 97222

STAI DUWAYNE L
11917 SE 33RD AVE
MILWAUKIE, OR 97222

STANIELS EMMA
11558 SE 30TH AVE
MILWAUKIE, OR 97222

ST STEPHEN SERBIAN ORTH CH
11447 SE 27TH AVE
MILWAUKIE, OR 97222

SUMMERS STEPHEN P
3140 SE LAKE RD UNIT 11
MILWAUKIE, OR 97222

SUN I PARK
4401 FREEMONT ST NE
LACEY, WA 98516

SUTHERLAND ANDREA & JAY
3255 SE LAKE RD
MILWAUKIE, OR 97222

TESCH DOUGLAS A
319 PALOS VERDES BLVD APT
201
REDONDO BEACH, CA 90277

TESCH DOUGLAS A
3178 SE LAKE RD
MILWAUKIE, OR 97222

TOBLER RANDY E JR TRUSTEE
678 NORTH FORK RD
CHEHALIS, WA 98532

VANBERGEN GLENN ALAN
11610 SE 30TH AVE
MILWAUKIE, OR 97222

VANBERGEN KATHLEEN
11576 SE 30TH AVE
MILWAUKIE, OR 97222

VAUGHAN JANICE E CO-
TRUSTEE
PO BOX 25
COUPEVILLE, WA 98239

WACEK HAROLD J LIVING TRUST
PO BOX 171
CLACKAMAS, OR 97015

WATERMAN RONALD L &
CATHERINE L
11774 SE 32ND AVE
MILWAUKIE, OR 97222

WATSON DOROTHY
11662 SE 27TH AVE
MILWAUKIE, OR 97222

WESTERGREN CRAIG B
TRUSTEE
2711 SE LAKE RD
MILWAUKIE, OR 97222

WHEELER BARBARA E
3146 SE LAKE RD
MILWAUKIE, OR 97222

WIEGE RENE E
11855 SE 32ND AVE
MILWAUKIE, OR 97222

WILLIS BRENT T & LINDA
3277 SE LAKE RD
MILWAUKIE, OR 97222

WILSON HEIDI LAND
PO BOX 181500
CORONADO, CA 92178

YARNO SANDRA L
11448 SE 30TH AVE
MILWAUKIE, OR 97222

ZANNI LAURIE MAY
PO BOX 220044
MILWAUKIE, OR 97269

ADLER DONALD H
PO BOX 12507
PORTLAND, OR 97212

AMATO/CRAIG PROPERTIES IN
412 NE ROYAL CT
PORTLAND, OR 97232

ATHERTON RICHARD & ALICE
11464 SE 27TH AVE
MILWAUKIE, OR 97222

AUSTEN JONATHAN THOR &
RACHEL
11448 SE 27TH AVE
MILWAUKIE, OR 97222

B37 MILWAUKIE OWNER LLC
760 SW 9TH AVE STE 2200
PORTLAND, OR 97205

BACHHUBER THOMAS E JR
2236 SE WASHINGTON ST
MILWAUKIE, OR 97222

BERGERON JOYCE C
PO BOX 1338
GRESHAM, OR 97030

BERNARD SIRI
2437 SE LAKE RD
MILWAUKIE, OR 97222

BJORNSON BRIAN
621 SW MORRISON ST STE 800
PORTLAND, OR 97205

BLALOCK SHIRLEY A
2445 SE LAKE RD
MILWAUKIE, OR 97222

BLUESTONE & HOCKLEY RE
SERVICES
9320 SW BARBUR BLVD STE 300
PORTLAND, OR 97219

BLUESTONE HOMES INC
704 MAIN ST STE 301
OREGON CITY, OR 97045

BRINK JAMES E & VIVIAN J
11188 SE 27TH AVE
MILWAUKIE, OR 97222

BRYAN RAYMOND D
11416 SE 27TH AVE
MILWAUKIE, OR 97222

BUCHWALTER MARIANNE
TRUSTEE
135 SE HAWTHORNE BLVD
PORTLAND, OR 97214

CARLETON MARY PATRICIA
11512 SE 27TH AVE
MILWAUKIE, OR 97222

CHURCHILL SCOTT PERRY & N C
MONAGHAN
2708 SE MONROE ST
MILWAUKIE, OR 97222

CHURCHILL SCOTT PERRY &
NINA C M
2708 SE MONROE ST
MILWAUKIE, OR 97222

CITY OF MILWAUKIE
10722 SE MAIN ST
MILWAUKIE, OR 97222

COGGIN DANIELLE
2505 SE LAKE RD
MILWAUKIE, OR 97222

COLLINS JOHN C
11329 SE 27TH AVE
MILWAUKIE, OR 97222

COLPO DAVID A & LYNNE M
11625 SE 27TH AVE
MILWAUKIE, OR 97222

COLUMBIA PACIFIC INVSTMNT
PROP LLC
11165 SE 23RD AVE
MILWAUKIE, OR 97222

COSSETTE DANIEL L & DONNA L
2502 SE LAKE RD
MILWAUKIE, OR 97222

DANGELO VINCENT ALI
2455 SE LAKE RD
MILWAUKIE, OR 97222

DANIEL-HOFFMAN DILLON D &
KAIJA
2425 SE LAKE RD
MILWAUKIE, OR 97222

DANIELSEN ANNE-LISE
11598 SE 27TH AVE
MILWAUKIE, OR 97222

DANTAS BETO
1811 NW ROSEFINCH LN
PORTLAND, OR 97229

DECRISTOFORO MERENO
11358 SE 21ST AVE
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DEVILLIERS SYLVIA TRUSTEE
11177 SE 27TH AVE
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DUPASQUIER KATHLEEN ANN
11155 SE 27TH AVE
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EISWERTH BRENDAN E & TRACY
MANDEL
11009 SE 28TH AVE
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FIELDS JACK E & LINDA L
11593 SE 27TH AVE
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FISHER DEBBIE C
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FLYNN CASEY R
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FRANZ MARTHA S
2429 SE LAKE RD
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GAFFNEY JOHN W
1155 CLAYTON WAY
GLADSTONE, OR 97027

GODZYK ANDREW & BARBARA
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679 S STONEHENGE TER
WEST LINN, OR 97068

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HARLAN DALE M
1952 NE SPINDRIFT CT
LINCOLN CITY, OR 97367

HASSEN HECTOR & HALA H
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HORTON FAMILY LTD PRTNRSHP
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ISOM RUSSELL DUANE
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JENKINS SUSAN
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MILWAUKIE, OR 97222

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KILBY CONSTANCE L
2451 SE LAKE RD
MILWAUKIE, OR 97222

KING SANDRA J
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LAKE ROAD PROPERTIES LLC
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LEE LOUANN
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ST STEPHEN SERBIAN ORTH CH
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DISTRICT OF OR
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3J CONSULTING

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MILWAUKIE HIGH SCHOOL
SIGN-IN SHEET
JUNE 27, 2017

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WAYNE OSTERMAN	2005 MAVERICK DR PLUMAS LAKE CA	916-204-4315 95691
MIKE PARK	2460 SE WILLARD MILWAUKIE OR 97222	MLPARK2001@gmail.com



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MILWAUKIE HIGH SCHOOL
 SIGN-IN SHEET
 JUNE 27, 2017

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Donel & Skipwith	2435 SE Lake	nmskip@gmail.com
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chelsea botteron		chelseabotteron@gmail.com
Kim Kerr	22821 SE Tillstrom Damasus OR	kim@acmeadapters.com
Rene-Wiege	11855 SE 32nd Ave	rene255@gmail.com
MARTIN CASILLAS	28150 N ALMA SCHOOL PARKWAY	
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MILWAUKIE HIGH SCHOOL SIGN-IN SHEET JUNE 27, 2017

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Yvonne McVay		Yvonne.McVay@clacohcot.com
Bill Corti	3963 SE Lake Rd Milwaukie	WillCorti@AOL.com
HAZ WACEK	P.O. Box 171 CLACKAMAS, OR 97015	(N/A)
Stephen McMurtry	Northwest Housing Alternatives	503-654-1007 x122 mcmurtry@nwhousing.org
Freya Soper		freya411@yahoo.com



MEETING NOTES

Date: June 27, 2017
Project: Milwaukie High School and Lake Road Sports Complex
3J No.: 17398

The following transcripts were prepared from the comment cards submitted at the Milwaukie High School and Lake Road Sports Complex Neighborhood Meeting on June 27, 2017.

Commenter:

Bill Corti
503-654-0988
Willcorti@aol.com

Comments: I live near Rowe Middle School and Work and drive into downtown Milwaukie every day. Please do not create a traffic problem at the high school along Lake Road when the construction of the new school is taking place.
Make sure there are large enough rooms for the computer labs. Plan ahead for future computer innovations coming in the decades to come.

Commenter:

Rene Wiese
503-593-1034
renew2553@gmail.com

Comments: I live behind home plate and have concerns about additional traffic, noise, and congestion with the field being upgraded to Varsity Level. Currently there is insufficient parking for activities held there. SE 32nd Avenue off Lake Road is a dead end and now street parking is packed and creates traffic issues as drivers try to turn around. I do not want structures built any taller than existing, more lights, brighter lights, louder sound systems, than what I contend with now. I do not want to lose my view of the hills to the west. I don't want to feel fenced in my backyard.
The plans for the school improvements are much needed, and overdue and will serve Milwaukie well into the future.

Commenter:

Donald Skipwith
503-303-5438
nmskip@gmail.com

Comments: Please consider the inclusion of such facilities as would enhance the disaster preparedness of this downtown/HS community.
MHS is the appropriate and logical place to become the location for recovery and medical triage after "the Big One". It has space for assembly and grouping.



If we were in Multnomah 6, MHS would already have been identified as an “assembly point” but Clackamas has not yet identified these points.

Please plan for and incorporate disaster preparedness into your plan.

Commenter:

Hal Wacek

503-659-7960

Comments: The varsity field upgrades appear not well planned. Increased play activity on these fields require substantial neighborhood input, as the activity already on the present fields is annoying. The only reason few complaints have been made is that play is not often. Some things that will bring complaints when activity increases are:

- Increased traffic and parking. Current players already park on side streets, parkways, and the field itself. They do not walk.
- Increased lighting during night games. The lighting hinders sleep in 2nd and 3rd floor apartments south of Lake Road, and in other areas.
- Increased noise. The noise during night games is intolerable. The only saving grace is relatively few night games are played now. MHS administrators can count on many more complaints about noise should they increase the number of games played on these fields, both during the day and at night.
- Litter will increase. Currently very little litter spoils the neighborhood from games played on these fields, because few total numbers of people attend these games. Varsity games will increase this problem.
- Please increase the parking available on site on these fields. Make lighting that cannot be seen outside the fields. Put snack dining near the center of the fields, not near the periphery. And schedule the games during the day, so neighbors can sleep at night. Milwaukie requires quiet after 8pm in residential neighborhoods. Please be sure all your games meet this requirement.
- Also, make all neighbors within one block of these fields aware of your detailed plans for improving these fields, and your detailed plans for use of them in the future. Please do this soon.



MILWAUKIE
HIGH SCHOOL

LAKE ROAD
SPORTS COMPLEX



MILWAUKIE HIGH SCHOOL LAKE ROAD SPORTS COMPLEX

The North Clackamas School District cordially invites you to attend an Open House to discuss proposals for the new Milwaukie High School and improvements to the Lake Road Sports Complex.

The meeting will be held at the Milwaukie High School Library on Tuesday, June 27th from 6:00pm to 8:00pm.

No RSVP is required.



Technical Memorandum



**LANCASTER
ENGINEERING**

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Andrew Tull
From: Melissa Webb, PE
Miranda Wells, PE
Date: December 29, 2017
Updated: January 22, 2018
Subject: Milwaukie High School Remodel Traffic Memorandum

This memorandum provides a transportation evaluation of the proposed plans for a remodel of Milwaukie High School located in Milwaukie, Oregon. The plans include two parking lots that are proposed on the north side of SE Willard Street (to the east and west of the high school), as well as a redesign of the Milwaukie High School athletic fields.

Project Description

The high school proposed for remodel is located at 2301 SE Willard Street in Milwaukie, Oregon. Figure 1 shows the project location.

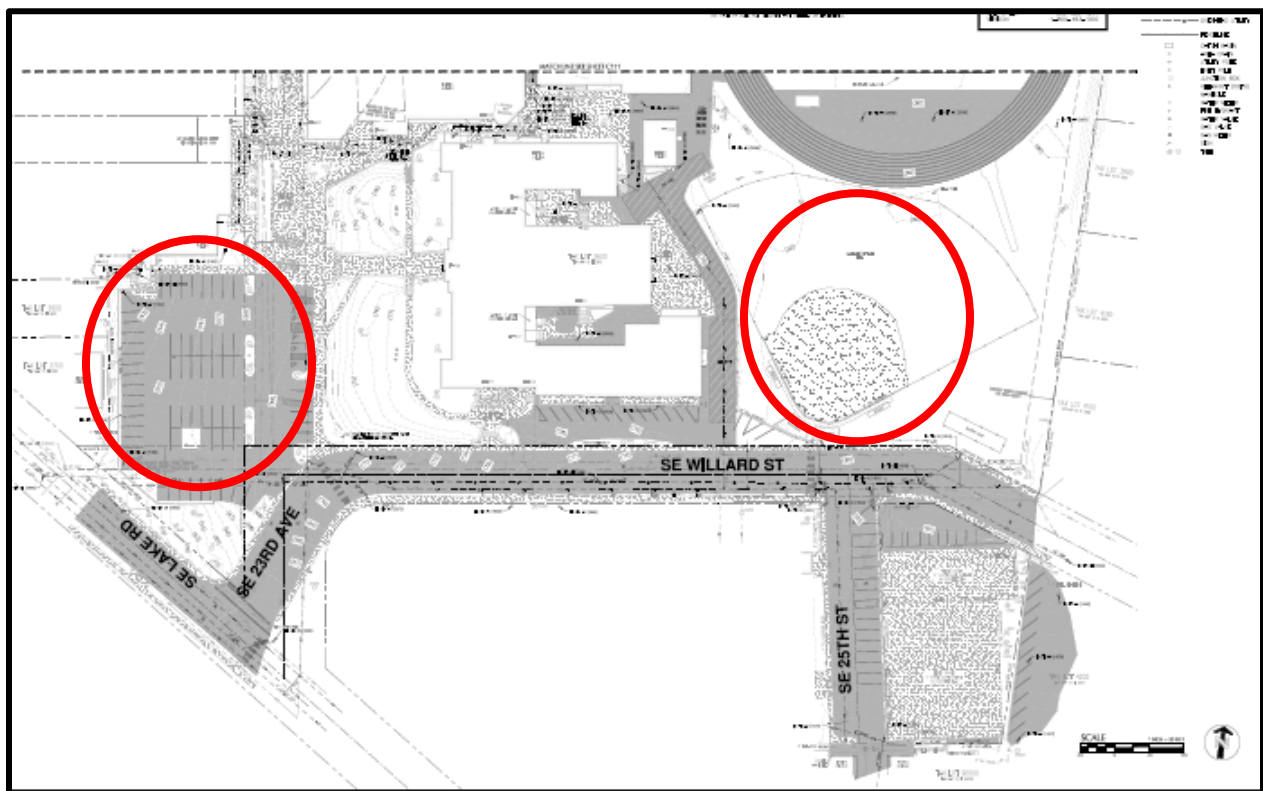
Figure 1 - Aerial view of site and immediate vicinity (image from Google Maps)





There are two parking lots proposed in this remodel, including one new parking lot and one reconfigured lot. The new and reconfigured parking areas will hold a total of 133 parking stalls, including seven ADA parking stalls. There is also a new bus lane planned for the remodel which will accommodate eight busses. Figure 2 shows the location of each lot. Detailed site plans are provided in the appendix.

Figure 2 - Milwaukie High School site plan (proposed parking lots circled in red)



The school currently offers space for 1,200 students. The remodel is anticipated to provide capacity for an additional 300 students for a total of 1,500 students. While additional capacity will be available, it is not anticipated to meet that enrollment for over 10 years.

Trip Generation

To estimate the total traffic that will utilize the proposed shared access, an estimate of trip generation was made using the *TRIP GENERATION MANUAL, Ninth Edition*, published by the Institute of Transportation Engineers (ITE)¹.

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual, Ninth Edition*



The current school capacity is 1200 students, and with the remodel of Milwaukie High School the anticipated school capacity of 1500 students. The net increase of 300 students was used for the trip generation calculations.

Based on data from the ITE manual for land-use code #530, *High School*, the area around Milwaukie High School could generate 129 trips during the morning peak hour, 39 trips during the evening peak hour, and an average of 514 daily trips. The trip generation calculations are summarized in Table 1, and detailed trip generation calculations are provided in the appendix.

Table 1 - Trip Generation Summary

# Students	Morning Peak Hour			Evening Peak Hour			Weekday
	In	Out	Total	In	Out	Total	Total
300	88	41	129	18	21	39	514

As per guidelines outlined in the City of Milwaukie’s Municipal Code, the City’s Engineering Director will determine if a Transportation Impact Study (TIS) will be required.² Per conversations with the City, it was determined that a TIS would not be required because the school is currently operational and the remodel is anticipated to improve transportation operations. Additionally, the school is not expected to increase the number of students in the near future.

As a result, this memorandum is provided to the architect as a tool for identifying potential transportation improvements, as well as to provide transportation-related text for their land use application.

Existing Transportation Facilities

The site is located along the northern edge of SE Willard Street. SE Willard Street ends at SE Lake Road to the west and SE 27th Avenue to the east. SE Willard Street and SE 27th Avenue are signed as 20 miles per hour (mph). SE Lake Road is also signed as 20 mph in the vicinity of the school during school hours. All of these roadways have signed school crossings that feed into a consistent sidewalk network. The majority of these roadways do not have bike lanes. Local streets and neighborhood routes are typically considered shared roadways between motor vehicles and bicycles. A summary of these roadways is provided in Table 2.

² http://www.qcode.us/codes/milwaukie/?view=desktop&topic=19-19_700-19_704



Table 2 - Summary of Supporting Roadways

Roadway	Classification ¹	Speed (mph)	Sidewalks	Bicycle Facilities
SE Willard Street	Local street	20	Yes	Shared roadway
SE Lake Road	Arterial	20 ²	Yes	West of SE 23 rd Avenue
SE 27 th Avenue	Neighborhood Route	20	Yes	None designated

1 – Classifications based on Milwaukie Transportation System Plan
2 – School zone

SE Lake Road is the main route that vehicles traveling to and from the school are anticipated to use. Beyond the school zone, the speed limit along SE Lake Road is 30 mph. There are two TriMet transit stops near the intersection of SE Lake Road and SE Willard Street.

There is existing on-street parking located on both sides of SE 27th Avenue, and along the south side of SE Willard Street. There is no on-street parking along the north side of SE Willard Street, and “No Parking” signs are displayed along this area. SE Lake Road does not allow on-street parking in the vicinity of the school.

SE Willard Street is classified as a local road³. It is signed as 20 miles per hour (mph) and has sidewalks on both sides of the roadway. There are no dedicated bicycle lanes; however, the City of Milwaukie considers local roads as shared roadways. The road is compliant with current City Guidelines.

The intersection of SE Willard Street and SE Lake Road is controlled by a stop sign along SE Willard Street. Vehicles can turn either left or right onto SE Lake Road. The intersection of SE Willard Street and SE 27th Avenue is controlled by a stop sign at SE Willard Street. However, vehicles can only make a right-hand turn onto SE 27th Avenue. Both intersections have striped crossings.

Alternative Modes of Transportation

Milwaukie High School is surrounded by neighborhoods to the east and the south. Pedestrians and bicyclists in these neighborhoods would be traveling to and from the high school. For pedestrians and bicyclists traveling to the neighborhoods east and south of the school, there are sidewalks along SE Willard Street and striped crossings along SE 27th Avenue and along SE Lake Road. There are also speed humps along SE 27th Avenue that should keep speeds low and allow for safer shared roadway operations.

There are two public TriMet bus stops located along the north and south sides of SE Lake Road that serve bus line 32. Both stops are located at the corner of SE Lake Road and SE 23rd Avenue. To get to and from

³https://www.milwaukieoregon.gov/sites/default/files/fileattachments/planning/page/42751/ch_8_street_network_element.pdf



these bus stops there are sidewalks and striped crosswalks. The transit stops do not provide a bench or shelter for waiting passengers.

Circulation Plan

The Milwaukie Municipal Code, Section 19.504.11, details that the preliminary circulation plan “shall include a site plan, showing land uses; building envelopes and other structures; the pedestrian, bicycle, and vehicle circulation system; vehicle and bicycle parking areas; open areas; existing trees to be preserved; and utility connections. The site plan must also include the following: (a) All existing improvements that will remain after development of the proposed use; (b) All improvements planned in conjunction with the proposed use; (c) Conceptual plans for possible future uses; and (d) Pedestrian and bicycle facilities, including safe pedestrian and safe bicycle circulation between the following: (1) Major buildings, activity areas, and transit stops within the site plan boundaries and adjacent streets, pathways, and transit stops. (2) Adjacent developments and the proposed development”.⁴

Site Plan and Land Uses

The proposed site plan for the remodel of the High School is shown in Figure 3. The current land-use for the site is not anticipated to change as part of the remodel.

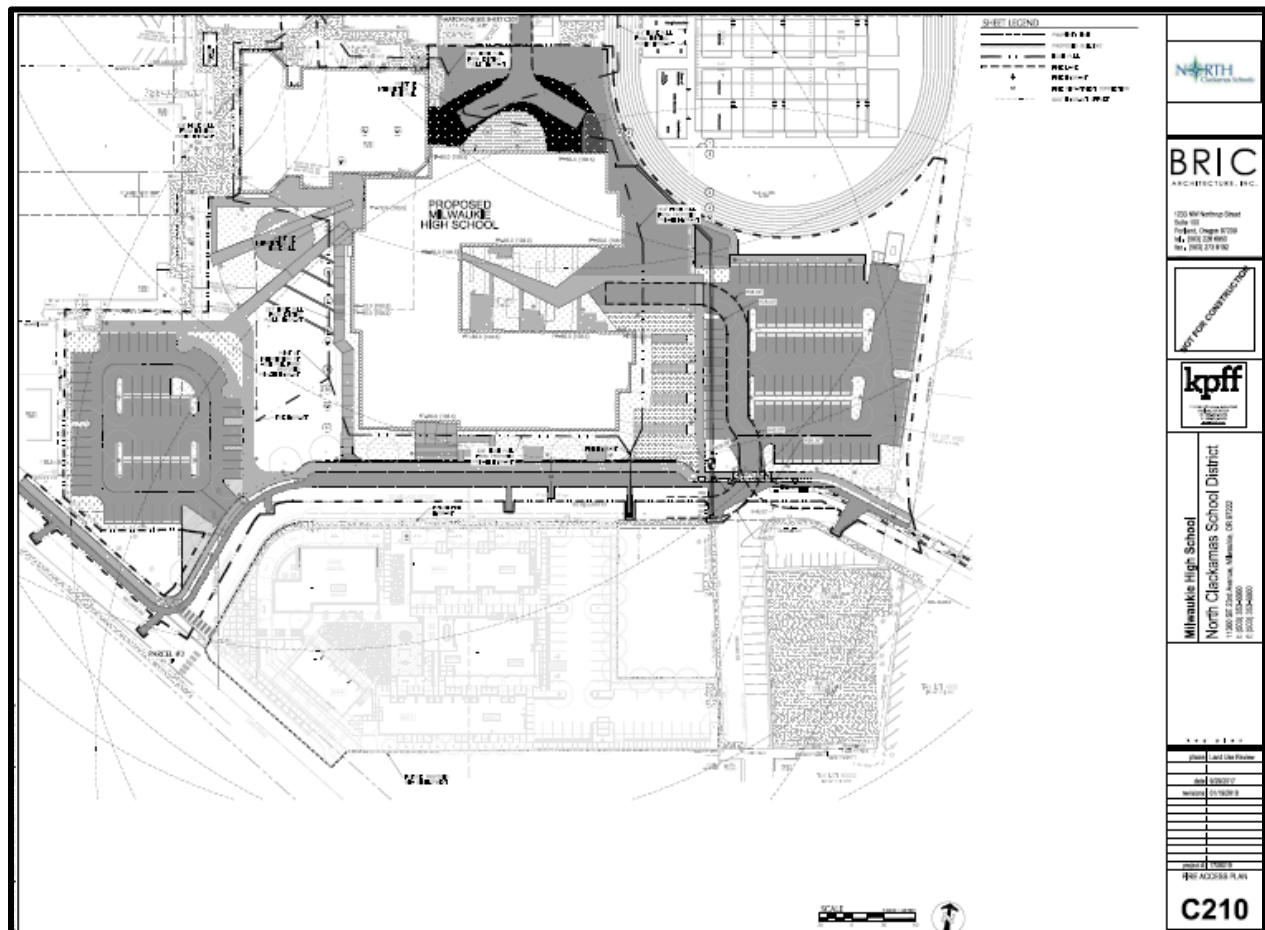
Buildings

Milwaukie High School consists of several buildings on the campus. These buildings are shown in the site plan shown in Figure 3. The buildings are separated in various locations by open areas, parking lots, roadways, and walkways.

⁴ http://www.qcode.us/codes/milwaukie/?view=desktop&topic=19-19_500-19_504



Figure 3 – Proposed Site Plan of Milwaukie High School



Pedestrian, Bicycle, and Vehicle Circulation System

All on-site circulation will be provided via an interlocking pedestrian network that provides access to all buildings. This network consists of sidewalks in front of the two main entrances, as well as paved areas throughout the campus. There is a skywalk with a breezeway connecting the commons and the gymnasium, and a large paved entry-way area for the bus loading areas that provide direct connection to the buildings.



Pedestrian traffic coming off-site that will need to access the on-site pedestrian network will include pedestrians traveling to and from parking areas, TriMet stops, and students walking to/from school from home. As discussed previously, the surrounding transportation infrastructure provides sidewalks, striped crossings, and low-volume low-speed roadways for pedestrians to travel from home and from TriMet stations to the school.

Pedestrians traveling from the parking lots will be connecting from various locations. When parking in the east or west parking lots, there are walkways provided from the parking lots directly to the on-site interlocking pedestrian network.

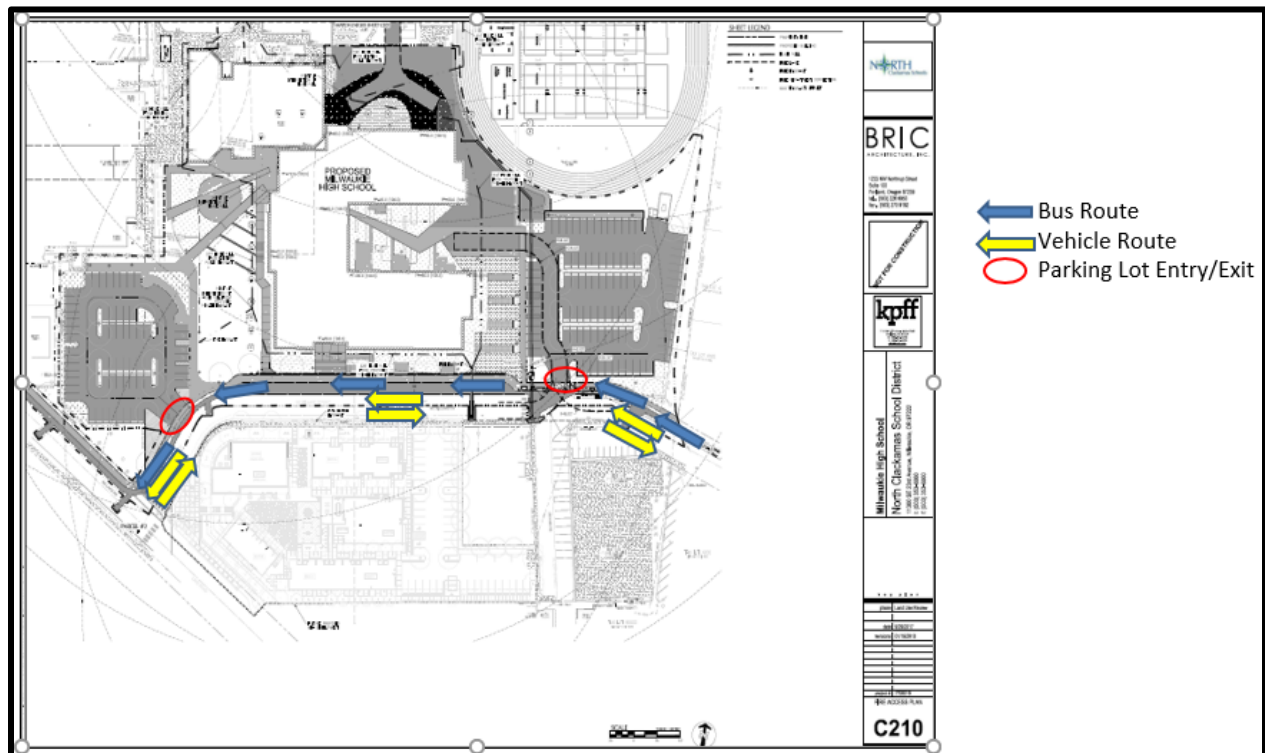
Similar to pedestrians, bicyclists can access the school at various locations via low-volume low-speed roadways with striped crossings. Once on campus, the bicyclists can access buildings as a pedestrian traveling through the on-site interlocking pedestrian network.

School busses will enter SE Willard Street from SE 27th Avenue, and exit onto SE Lake Road. They will stop along SE Willard Street in front of the main campus area. They will pull out of the thru lane parallel along the school's curb to pick up students, and then pull back into the thru lane. Figure 4 provides a graphic representation of the bus circulation.

Vehicles will enter and exit SE Willard Street from both SE 27th Avenue and SE Lake Road. Once on SE Willard Street, they will be able to access the two proposed parking lots. Figure 4 shows bus and vehicle circulation routes along SE Willard Street.



Figure 4 - Bus and Vehicle Circulation



Vehicle and Bicycle Parking Areas

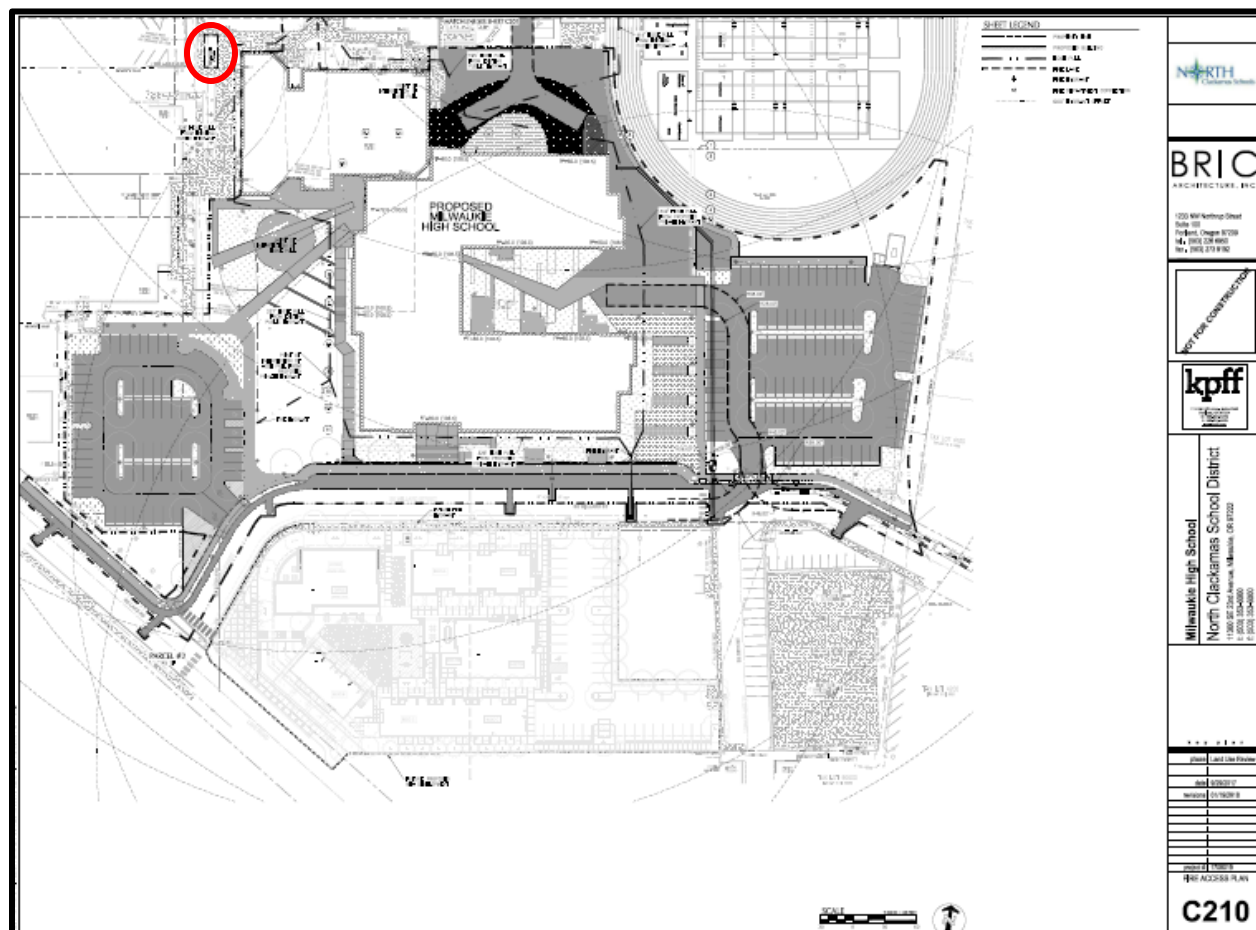
There are two parking lots proposed for the Milwaukie High School remodel:

- Reconfigured west parking lot 33 parking spaces (29 standard and 4 ADA)
- New east parking lot: 100 parking spaces (97 standard and 3 ADA)

There is one covered bicycle storage area located in the northwest corner of the Milwaukie High School campus as shown in Figure 5 circled in red. There are additional non-covered bicycle parking areas throughout the campus available as well.



Figure 5 - Location of Bicycle Storage (circled in red)



Open Areas

There are several open areas proposed in the remodel of Milwaukie High School. These open areas are convenient for pedestrians to access and travel through.

- Memorial Amphitheater/Entry Plaza, located directly west of the main entrance
- Informal seating area, located along the north side of SE Willard Street
- Academic Courtyard, located in the center of the high school campus, between two wings
- Event Plaza, located in the north part of campus between the commons and the football field

All open areas can be easily accessed by the inter-locking pedestrian network available on-site.



Conclusions

The proposed remodel of Milwaukie High School is anticipated to be efficiently supported by the surrounding transportation network. The current circulation is expected to be efficiently supported as well, with an enhanced inter-locking pedestrian network, improved bus loading areas, additional parking areas, and reconfiguration of buildings.



TRIP GENERATION CALCULATIONS

Land Use: High School
Land Use Code: 530
Variable: Students
Variable Value: 300

AM PEAK HOUR

Trip Rate: 0.43

	Enter	Exit	Total
Directional Distribution	68%	32%	
Trip Ends	88	41	129

PM PEAK HOUR

Trip Rate: 0.13

	Enter	Exit	Total
Directional Distribution	47%	53%	
Trip Ends	18	21	39

WEEKDAY

Trip Rate: 1.71

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	257	257	514

PM PEAK HOUR OF GENERATOR

Trip Rate: 0.29

	Enter	Exit	Total
Directional Distribution	33%	67%	
Trip Ends	29	58	87

April 18, 2017

Steven Nicholas
Heery International
Two Centerpointe Drive, Suite 250
Lake Oswego, OR 97035

RE: Milwaukie High School – Arborist Tree Evaluation

Mr. Nicholas:

As requested, attached is the Detailed Tree Inventory information for the trees shown on the Topographic Survey. Please let me know if you have any questions.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Bruce R. Baldwin
ISA Certified Arborist #PN-6666A
ISA Qualified Tree Risk Assessor
Member, International Society of Arboriculture



Detailed Tree Inventory for Milwaukie High School

AKS Job No. 5859 - Tree Evaluation: April 6 & 11, 2017

Tree #	DBH (in.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**
10422	17	Cherry (<i>Prunus sp.</i>)	Pruning scars with good woundwood closure; Large exposed roots; Many scaffold branches weakly attached at one point	1	2
10423	15	Maple (<i>Acer sp.</i>)	Many large exposed roots; Multiple scaffold branches weakly attached at one point	1	2
10973	24,12	Maple (<i>Acer sp.</i>)	OFFSITE	1	1
10986	49	Cedar (<i>Cedrus sp.</i>)		1	1
10987	24	European White Birch (<i>Betula pendula</i>)	Broken branches; Some bulges on bole	1	2
10988	55	Cedar (<i>Cedrus sp.</i>)	Codominant 20' from ground with included bark	1	2
10989	17	Western Redcedar (<i>Thuja plicata</i>)	Codominant 10' from ground with included bark	1	2
11081	8	Maple (<i>Acer sp.</i>)		1	1
11082	13	Maple (<i>Acer sp.</i>)	Small bulge on bole at base	1	1
11124	13	Maple (<i>Acer sp.</i>)	Roots are girdling	1	2
11130	25	European White Birch (<i>Betula pendula</i>)	Lean (S); Cavities with decay; Bulges on bole; Dead branches; Crooked	2	3
11131	32	European White Birch (<i>Betula pendula</i>)	Broken branches; Pruning scars with decay; Epicormic sprouts; Bulges on bole; Scars; Cavities with decay; Crooked	2	3
11132	38	Bigleaf Maple (<i>Acer macrophyllum</i>)	Large exposed roots; Large bulge on bole	1	2
11133	7,8,11, 11,12,13	Western Redcedar (<i>Thuja plicata</i>)	11" Stems - Crooked and sweep away from main stem; 11" Stem - bark peeling; Poor structure	2	2
11150	7	Cherry (<i>Prunus sp.</i>)	Roots exposed and damage to top; Crooked	1	1
11151	7	Cherry (<i>Prunus sp.</i>)	Roots exposed and damage to top; Crooked	1	1
11175	7	Cherry (<i>Prunus sp.</i>)	Large roots appear to be girdling; Many roots above surface; Pruned	1	2
11176	6	Cherry (<i>Prunus sp.</i>)	Bark peeling	2	1
11219	62	Cedar (<i>Cedrus sp.</i>)		1	1
11291	10	Maple (<i>Acer sp.</i>)		1	1
11407	6	Maple (<i>Acer sp.</i>)		1	1
11409	6	Maple (<i>Acer sp.</i>)		1	1
11460	6	Maple (<i>Acer sp.</i>)		1	1
11461	9	Maple (<i>Acer sp.</i>)		1	1



Detailed Tree Inventory for Milwaukie High School

AKS Job No. 5859 - Tree Evaluation: April 6 & 11, 2017

Tree #	DBH (in.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**
11480	7	Maple (<i>Acer sp.</i>)		1	1
11482	6	Maple (<i>Acer sp.</i>)		1	1
11882	20	Western Redcedar (<i>Thuja plicata</i>)	Codominant 10' from the ground with included bark	1	2
11885	8	Cherry (<i>Prunus sp.</i>)		1	1
11935	13	Western Redcedar (<i>Thuja plicata</i>)		1	1
11947	9	Cherry (<i>Prunus sp.</i>)		1	1
11960	7	Cherry (<i>Prunus sp.</i>)		1	1
11973	8	Cherry (<i>Prunus sp.</i>)		1	1
12148	25	Bigleaf Maple (<i>Acer macrophyllum</i>)	OFFSITE ; Evaluation from the property line; Appears dead	3	3
12149	9	Japanese Maple (<i>Acer palmatum</i>)		1	1
12150	9	Japanese Maple (<i>Acer palmatum</i>)		1	1
12151	6	Japanese Maple (<i>Acer palmatum</i>)		1	1
12172	8	Japanese Maple (<i>Acer palmatum</i>)		1	1
12212	16	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
12226	10	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
12227	11	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
12356	61	Cedar (<i>Cedrus sp.</i>)		1	1
12799	12	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
12867	9	Engelmann Spruce (<i>Picea engelmannii</i>)		1	1
12908	15	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1



Detailed Tree Inventory for Milwaukie High School

AKS Job No. 5859 - Tree Evaluation: April 6 & 11, 2017

Tree #	DBH (in.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**
12909	8	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
12911	12	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
13413	6	Cherry (<i>Prunus sp.</i>)		1	1
14080	9	European White Birch (<i>Betula pendula</i>)	OFFSITE ; Some bore holes	1	1
14081	10,13	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant with included bark	1	2
14082	7	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1
14083	9,11	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant with included bark; Large roots lifting asphalt to east	1	2
14084	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1
14085	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some broken branches; Sap flow	1	1
14086	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Bulges on bole	2	2
14087	12	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant 10' from the ground with included bark	1	2
14088	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Sap flow	1	1
14089	9	Oregon Oak (<i>Quercus garryana</i>)	Sparse foliage; Some dead branches; Multiple branches weakly attached at one point	2	2
20187	6	Cherry (<i>Prunus sp.</i>)	Pruning scars; Decay at pruning scars; Bark peeling at base of tree; Cracked bark	2	2
20188	6,6,9,10	Cherry (<i>Prunus sp.</i>)	Large bulges at base; Pruned; Multiple weak attachments at one point	1	1
20192	27	California Black Oak (<i>Quercus kelloggii</i>)	Some broken branches	1	1
20701	10	"Cleveland Select" Pear (<i>Pyrus calleryana</i>)		1	1
30000	8	Maple (<i>Acer sp.</i>)		1	1
200001	84	Giant Sequoia (<i>Sequoiadendron giganteum</i>)	OFFSITE	1	1



Detailed Tree Inventory for Milwaukie High School

AKS Job No. 5859 - Tree Evaluation: April 6 & 11, 2017

Tree #	DBH (in.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**
200002	15	Cherry (<i>Prunus sp.</i>)	OFFSITE	1	1
200003	6,6	Cherry (<i>Prunus sp.</i>)	OFFSITE; Lean (S); Short stature	1	2
200004	8	Cedar (<i>Cedrus sp.</i>)	OFFSITE	1	1
200005	12	Maple (<i>Acer sp.</i>)	OFFSITE	1	1
200006	8	Cherry (<i>Prunus sp.</i>)	OFFSITE; Sparse foliage; Broken branches	2	1

Total # of Existing Trees Inventoried = 68

***Health Rating:**

1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.

2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.

3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

****Structure Rating:**

1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.

2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.

3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.

Milwaukie High School Flow



Static Pressure (PSI):

55

Residual Pressure (PSI):

49

Total Test Flow-rate (GPM):

1481

CALCULATE

GPM at 20 psi: 3839

Class: AA

Marking color: Light Blue

% Pressure Drop: 10.9%

flow:
20PSI @ 4.5" hose
monster
1481 GPM

test:
55psi static
49psi residual

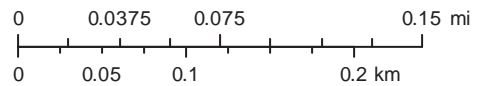
12" main

10" main

October 24, 2017

1:4,514

- Milwaukie City Limits
- Butterfly
- Water Hydrants**
- Other Entity
- Gate
- City of Milwaukie
- Hydrant
- Water System Valves**
- Other Valve Types



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Stormwater Management Report

Milwaukie High School

Prepared for: BRIC Architecture, Inc.

Prepared by: James Sweeney, EIT

Project Engineer: Eric Melle, PE

February 2018 | KPF Project #10101700019

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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.

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Stormwater Basin Maps

Appendix B

Stormwater Details

Appendix C

Proposed Utility Plan

Project Overview and Description

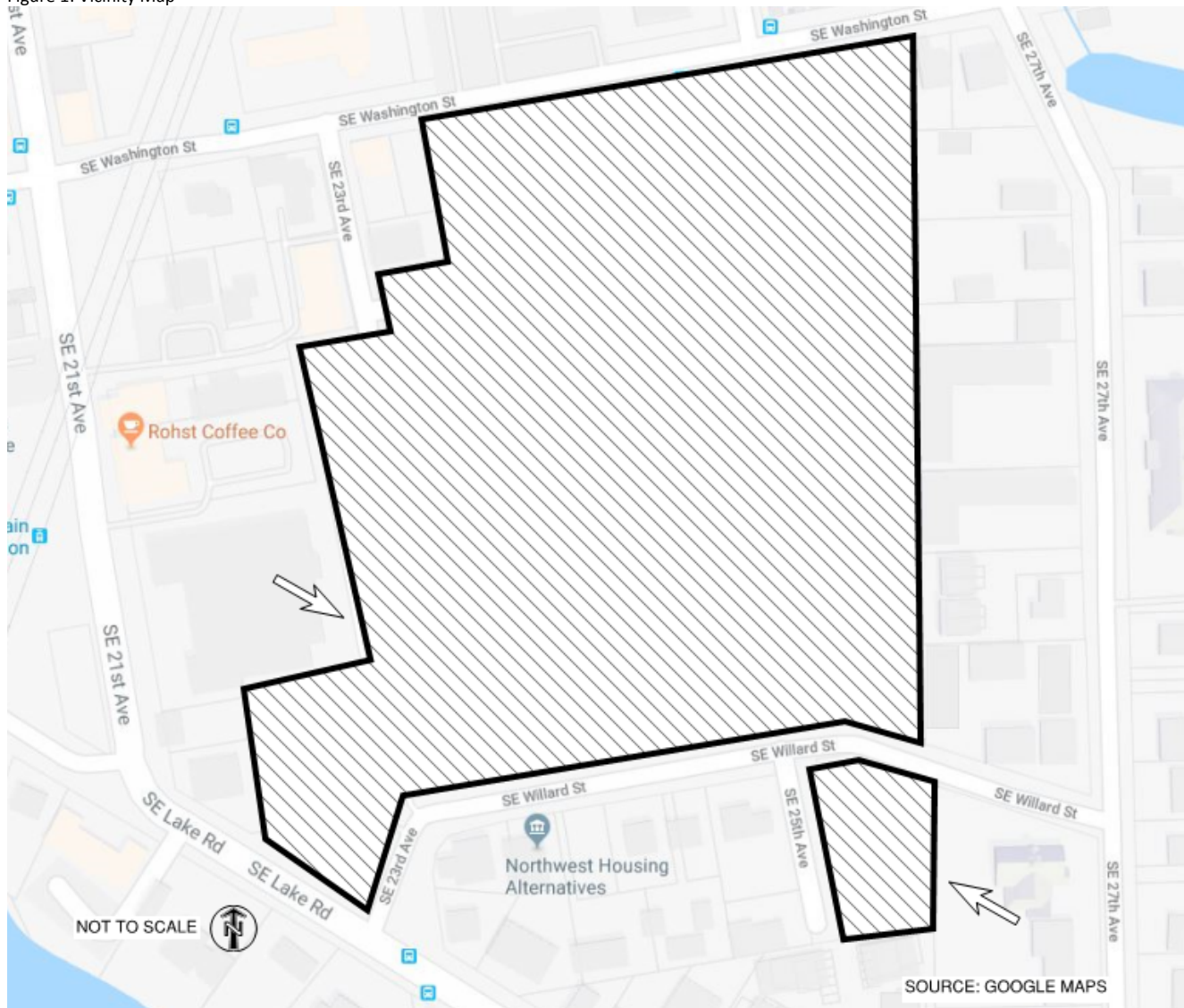
Purpose of this report

This report describes the stormwater management design strategies for the proposed development. The basis for this report are the City of Milwaukie Public Works Standards (PWS) and the requirements outlined therein. The purpose of the proposed stormwater management facilities is to protect existing public stormwater infrastructure and improve the overall health of the watershed.

Project Location

The project site consists of approximately 13.9 acres of private land, and 0.8 acres of public right-of-way in the City of Milwaukie, Oregon. See Figure 1 below for the Vicinity Map and Appendix 5 for the Existing Conditions plan sheet.

Figure 1: Vicinity Map



The site has frontage along six public streets: SE Lake Road, SE Willard Street, SE 23rd Street, SE Washington Street, SE Adams Street, and SE 25th Street. Public improvements include street widening and new frontage sidewalks along Lake Road and SE Willard Street. Adams Street will include a half street dedication from the existing dead-end, east, to the Milwaukie High School site and a pedestrian stairway connection. 23rd Street will include approximately 150 feet of vacation by the City of Milwaukie to Milwaukie High School, where a private sanitary sewer manhole will be installed.

Type of Development and Proposed Improvements

On-site

The project will include the demolition and reconstruction of the main high school building, reconstruction and reconfiguration of the existing southwestern parking area, the resurfacing of the existing track and replacement of the turf on the internal field, the addition of a pedestrian stairway connection to Adams Street, the demolition of the existing soft ball field, and the construction of an approximately 94-space parking lot in its place. The new school building construction will include new outdoor academic plazas inside the eastern courtyard, two southern stairways and an ADA ramp entrance, various pervious pedestrian connections, plaza improvements northeast of the building, and a new main entrance plaza to the west of the high school building at the proposed intersection point with the existing Commons Building. The Commons Building will have renovations to the first floor and the existing gym will receive a new roof.

Public Right-of-Way

The existing frontages on the north side of SE Willard Street do not currently meet sidewalk corridor widths as required by the City, as a local road half street requires a 10-foot travel lane, 8 feet of on street parking, 3-5-foot landscape strips, and a 5-foot setback sidewalk. The existing frontage has an approximate 20.5-foot travel lane and curb-tight approximately 4-foot sidewalks. The integration of the local roadway standard into SE Willard Street results in a slight narrowing of the roadway width and an average 2.5-foot right-of-way dedication. The approximate 370-feet of frontage directly south of the proposed building will also include an 8.5-foot wide pull-out lane with applicable reverse curve radii to provide a drop off area for eight (8) buses. Along this segment of SE Willard Street there will be a non-standard, curb tight, 10-foot sidewalk and a 13-foot right-of-way dedication.

The existing SE 23rd Street right-of-way does not run parallel to the existing roadway, and it extends north into the Milwaukie High School property significantly, where the historic SE 23rd Street previously ran directly north-south. SE 23rd Street now runs approximately southwest to northeast and the right-of-way will be adjusted to reflect this alignment and integrate seamlessly with the proposed NHA development southeast of SE 23rd Street. This will require a triangular vacation of right-of-way (~3,687 square feet) from the City to Milwaukie High School on the northwestern side of SE 23rd Street.

Similarly, Milwaukie High School will be required to dedicate a triangular portion of the site property (~145 square feet) to the City. The SE 23rd Street northern half street will be constructed to match the local road half street requirement of a 10-foot travel lane, 8-feet of on street parking, 3-5-foot landscape strips, and a 5-foot setback sidewalk. As a result of the above described dedications and vacations the dedication widths will vary from a maximum of 15.6-foot dedication to a maximum 54.9-foot vacation. Within the landscape strips of both SE 23rd Street and SE Willard Street flow through water quality planters with concrete forebays will be appropriately located to treat stormwater generated in the newly constructed half street right-of-way.

Permits Required

All on-site work will require a building permit from the City of Milwaukie. Also, since the total disturbed area will be greater than one acre, a DEQ 1200C permit will be required.

Existing vs. Post-construction Conditions

The grades for the majority of the site are level, but the site drops off steeply by about 12 feet at the western edge of the property. The eastern property line is flanked by an approximately fourteen (14) foot berm that drains west into the site.

Methodology

At a minimum, the City of Milwaukie requires that the post-development runoff rate does not exceed the pre-development runoff rate, and that all stormwater quality facilities meet design requirements of the current City of Portland's Stormwater Management Manual (SWMM). Therefore, the initial design investigations followed those required by the SWMM, which were to determine if it was possible to fully infiltrate on-site runoff through vegetated surface facilities or via sub-surface infiltration facilities, such as a bed of infiltration chambers.

Drainage and Conveyance

The proposed development consists of approximately 14.8 total acres, which increases the amount of impervious area; therefore the post-development condition will increase the total runoff. Design within the extents of demolition assumes approximately 30 percent of the site to be pervious area.

Stormwater generated from the eastern half of the roof, the eastern academic courtyard, and the eastern parking area will be collected in catch basins, roof drains, and area drains. It will then be routed through storm filter manholes to a subsurface detention/infiltration bed, which will be equipped with a flow control manhole and will ultimately discharge to the existing municipal system at the eastern portion of SE Willard St. south of the main campus. Stormwater generated from the western half of the roof, the entry courtyard, and the western parking area will collect in catch basins, roof drains, and area drains. It will then be routed through storm filter manholes to a subsurface detention/infiltration bed, which will be equipped with a flow control manhole and will ultimately discharge to the existing municipal system at the via an existing 12-inch drain line that discharges to the SE Lake Road municipal system of the southwestern corner of the site. Proposed discharge rates to the municipal system will mimic or be less than existing conditions.

Infiltration Testing Results

As of the writing of this memo, geotechnical investigations have not been concluded. Infiltration testing has been requested for locations of proposed subsurface detention facilities. Using a custom soil resource report from the Natural Resources Conservation Service, it is estimated that soils beneath proposed subsurface detention facilities will be of hydrologic soil group B & C, making infiltration feasible.

Flow Control

As outlined in the City of Milwaukie requirements, onsite storm quantity detention facilities shall be designed to capture, detain, and release runoff of the 2, 5, 10, and 25-year design storms at a rate equal or less than the predevelopment discharge rate.

Stormwater Quality Treatment Standards

According to the PWS, section 2.0013-B, all water quality facilities shall meet the design requirements of the current City of Portland Stormwater Management Manual. The Pollution Reduction storm event is representative of 90% of the average annual rainfall and is used to size facilities for the pollution reduction stormwater management requirement. The 5-minute intensity (in/hr) for the quadrant in which this project resides, multiplied by the 90% factor yields 0.18 in/hr.

This project will be providing water quality treatment for the proposed impervious area within the project boundaries. Accepted water quality treatment solutions such as stormwater treatment filters will be provided for treatment. The water quality storm intensity tabulated above will be used in conjunction with total site impervious area to determine the quantity of storm filters required.

Table 1: On-Site Existing and Post-Development Areas

Description	Total Impervious Area	Pervious Area (Including permeable pavement)	Total Site Area	
	(SF)	(SF)	(SF)	(Acres)
Existing	403,175	237,129	640,304	14.70
Post-Development	490,553	149,751	640,304	14.70

Analysis

Detention requirements will be met using subsurface detention systems. Preliminary analysis for these systems has been performed using Storm and Sanitary Analysis 2018 (SSA).

Figure 2: SSA Basin Map



Engineering Conclusion

Based on the requirements of PWS and the engineering assumptions and calculations detailed in this report, all facility components are anticipated to have enough capacity to manage flow control and are designed to treat to the necessary level of pollution reduction.

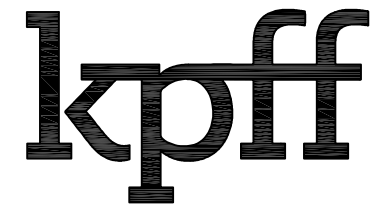
Operations and Maintenance

In order for the stormwater detention facilities to operate at acceptable levels, regular maintenance and inspection is required. An Operations and Maintenance Plan that provides instruction and procedures for maintaining these facilities will be developed and provided to the property owner.

10101700019- bd

Appendix A

Stormwater Basin Maps



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 Portland, OR 97204
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 F: 503.224.4681
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ON-SITE LEGEND

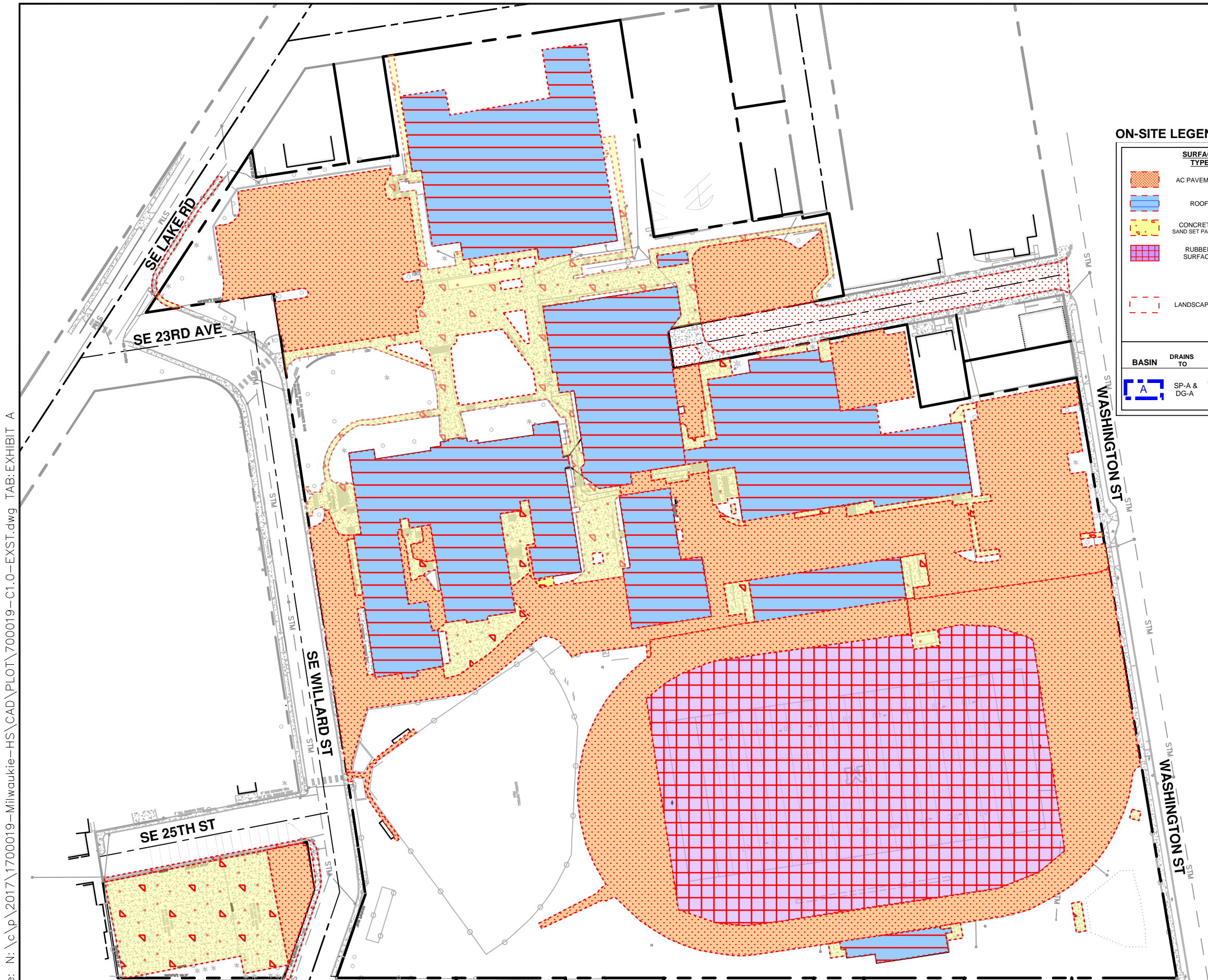
SURFACE TYPE	IMPERV. AREA (SF)	PERV. AREA (SF)
AC PAVEMENT	108,485	-
ROOF	128,957	-
CONCRETE/ SAND SET PAVERS	66,629	-
RUBBER SURFACE	99,104	-
LANDSCAPING	-	241,129

BASIN	DRAINS TO	TOTAL AREA	TOTAL IMPERVIOUS AREA	TOTAL PERVIOUS AREA
A	SP-A & DG-A	73,726	45,660	28,066

OFF-SITE LEGEND

SURFACE TYPE	IMPERV. AREA (SF)	PERV. AREA (SF)
AC PAVEMENT	540	-
CONCRETE SIDEWALK	730	-
AREA EX (EX. UNDISTURBED PAVEMENT)	7433	-
GS-B (GREENSTREET PLANTER)	-	350

BASIN	DRAINS TO	TOTAL AREA	TOTAL IMPERVIOUS AREA	TOTAL PERVIOUS AREA
B	GS-B	14,035	8688	5347
	AREA X (UN-TREATED)		6500	



STORMWATER BASIN MAP

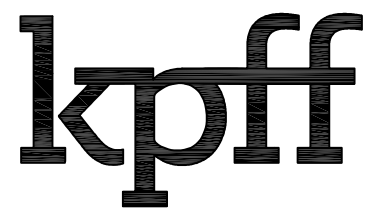
SCALE: 1"=100'



MILWAUKIE H.S.
 SHEET NO.
EXHIBIT A




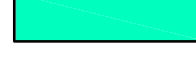
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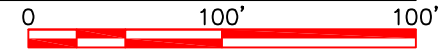


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PROPOSED STORMWATER BASIN MAP

SCALE: 1"=100' 



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SHEET NO.
EXHIBIT B

Appendix B

Stormwater Details

Sizing Methodologies for the Stormwater Management StormFilter[®]

Across the country, many regulatory agencies are establishing criteria for sizing stormwater treatment devices to meet their water quality standards. Depending on these local requirements, there are a number of ways to size the StormFilter, including: flow-based, volume-based, and storage-based sizing methodologies, which are summarized below.

Flow-Based Sizing Methodology

For a flow-based sizing methodology, a design storm event is used to calculate a design discharge flow rate (volume per time). Typically, the design storm event is specified by the regulatory agency as some depth of rainfall over a certain period of time (for example: 1 inch in 24 hours) or as an intensity (for example: 0.5 inch per hour), with a specified distribution. The distribution may vary with time or may be a straight-line relationship. Depending on how the storm is specified, a number of hydrologic models could be used to calculate the discharge flow rate from the site given the design storm. Some models will simply result in a single flow rate value (for example: Rational Method). Others will result in a peaked hydrograph (for example: TR-55 and Santa Barbara Urban Hydrograph (SBUH)). For a peaked hydrograph, the discharge flow rate is considered to be the peak flow rate of the hydrograph. The discharge flow rate is primarily influenced by the distribution of the rainfall.

Key components of the design include:

- the design storm event or intensity;
- time of concentration;
- rainfall distribution.

To size a StormFilter using a flow-based methodology, the design flow rate is divided by the StormFilter cartridge flow rate to determine the number of cartridges required. The cartridge flow rate may vary from 2 gpm up to 15 gpm, depending on the targeted pollutants. The StormFilter structure can then be sized to accommodate the required number of cartridges.

Key features of the system include:

- 2.3 feet of head required from StormFilter inlet to outlet;
- filter cartridges use standard restrictor discs per design flow rate;
- filter cartridges control the flow through the system;
- standard baffle walls, unless otherwise required by the local agency;
- upstream structures may not be required, unless a high-flow bypass is necessary.

Maintenance of a flow-based system typically requires removal of accumulated sediments and replacement of the filter cartridges on a regular basis (typically, annually).

Examples of jurisdictions using a flow-based design methodology include:

- State of Washington;
- City of Portland, Oregon;
- City of Houston, Texas and Harris County.

Volume-Based Sizing Methodology

For a volume-based sizing methodology, a design rainfall is used to calculate a water quality volume (WQv) that must be treated (note: this is different than detention). Typically, the local agency specifies a depth of runoff over the site that must be captured and treated (for example: 0.5 or 1.0 inches per impervious acre, also commonly referred to as “first flush”). Some may specify a depth of rainfall that must be routed over the site to create an equivalent depth of runoff. The WQv is then calculated by multiplying the depth of rainfall or runoff by the site area. The volume to be treated is primarily influenced by the total amount of rainfall or runoff. A typical volume-based system must also meet the local agency’s drain-down requirements (for example: in less than 40 hours; between 5 and 24 hours; etc.).

Key components of the design include:

- depth of rainfall;
- depth of runoff;
- drain-down requirements.

To size a StormFilter using a volume-based methodology, the WQv must be captured in some type of storage facility and then slowly routed through the StormFilter. The storage facility may be composed of a pipe gallery or box culvert followed by a separate StormFilter structure. Another option is to contain the storage component and filtration component in a single, box-culvert structure, also known as a Volume StormFilter. **The storage component and filtration component are hydraulically connected (no restriction between storage and filters), so that when the storage component is full, high-head is placed on the filter cartridges. The restrictor disc for the cartridges is then sized accordingly.**

There are two subdivisions of this design methodology:

1. Whole volume storage: the storage component is required to capture and hold the entire WQv (100%). This results in the largest storage facility. The treatment volume is then slowly released through the filtration component. The number of cartridges is determined using a mass-loading calculation, or other calculation as specified by the jurisdiction.
2. Volume storage with some routing: some jurisdictions allow for some credit for treatment through the StormFilter as the storage tank is filling. This helps minimize the size of the storage facility. A credit may be specified by the jurisdiction (for example: 25% credit while filling so only 75% of the WQv needs to be captured, resulting in treatment of 100% of the WQv) or a routing routine may be used to determine how much flow is actually treated while the storage tank is filling. The storage tank volume could then be reduced accordingly. An inflow hydrograph is needed to route the storm through the tank. The number of cartridges is determined using a mass-loading calculation, or other calculation as specified by the jurisdiction.

Key features of the system include:

- volume may be stored in same structure as filter cartridges;
- allows high head on the cartridges;
- filter cartridges control the flow through the system;
- no control structure required for the volume storage tank;
- full height downstream baffle wall in the StormFilter;
- in some cases, the number of cartridges required may be reduced if dead storage or a sump is provided as part of the storage component (reduces the pollutant loading to the cartridges).

Maintenance of a volume-based system typically requires drain-down of the dead storage (if applicable), removal of accumulated sediments from the storage component and the filtration component of the system, and replacement of the filter cartridges. Cartridge replacement frequency may be reduced if more pretreatment or dead storage is provided.

Examples of jurisdictions using a volume-based sizing methodology:

- State of Maryland;
- State of New York.

Storage-Based Sizing Methodology

A storage-based sizing methodology may be used to meet either a flow-based or volume-based sizing requirement. Similar to a volume-based sizing methodology, this methodology would result in a system consisting of two components: a storage component followed by a filtration component. Depending on the regulatory requirements, the storage component would be sized either to capture the WQv (or some portion thereof) or to capture the volume of a storm generated by a hydrograph. The storage component may be composed of a pipe gallery or box culvert followed by a separate StormFilter structure. **However, unlike the volume-based methodology, the storage component and filtration component are not hydraulically connected. Therefore, a control structure is required between the storage component and filtration component. As a result, the StormFilter cartridges require only the standard drop and use standard restrictor discs.**

There are three subdivisions of this design methodology:

1. Standard storage: the storage component is required to capture and hold either the entire WQv or the volume of the peaked hydrograph. The treatment volume is then slowly released through a control structure (or orifice) to the filtration component, operating at a standard cartridge flow rate. The number of cartridges is determined using a mass-loading calculation, or other calculation as specified by the jurisdiction. The number of cartridges may be reduced if dead storage or a sump is provided as part of the storage component or control structure (reduces the pollutant loading to the cartridges).
2. Downstream of detention: Another purpose of stormwater regulations is to require detention facilities in order to reduce the peak flow rate off newly developed impervious areas, to meet pre-existing conditions. Many jurisdictions across the country require some type of rate control, requiring the post-developed flow off a site be reduced to pre-developed flow

conditions in order to reduce the erosion of receiving streambeds. In areas where such a detention facility (which is typically sized to meet release rate requirements) is located upstream of a StormFilter, the detention facility may provide similar functions as a simple storage facility. The detention facility will typically slowly release the flow through a control structure to the StormFilter, which operates at a standard cartridge flow rate. The number of cartridges is determined using a mass-loading calculation, or other calculation as specified by the jurisdiction. The number of cartridges may be reduced if dead storage or a sump is provided as part of the detention facility (reduces the pollutant loading to the cartridges). It is important not to confuse detention with storage. Hydraulically they are the same thing, but the term “detention” implies that the facility is for rate control as well as water quality.

3. **Surge Tank:** when a hydrograph results in an extremely high peak flow rate, a surge tank can be used to “trim the peak” and reduce the size of the StormFilter. The minimum number of cartridges is determined using a mass-loading calculation, or other calculation as specified by the jurisdiction. This dictates the peak hydraulic capacity of the StormFilter. More cartridges can be used, if desired, to fill the vault and increase the hydraulic capacity. During a storm, the runoff flows directly into the StormFilter, until the capacity of the filter cartridges is achieved. If the inflow exceeds cartridge capacity, the peak of the hydrograph is routed off to the surge tank, typically located in parallel with the StormFilter. The size of the surge tank is determined by calculating the volume of water remaining in the peak of the hydrograph, above the capacity of the cartridges. Once the storm subsides, and the water level in the StormFilter begins to drop, the volume stored in the surge tank is gradually released back into the cartridge chamber, until empty. This ensures full treatment of the design storm.

Key features of these systems include:

- 2.3 feet of head required from StormFilter inlet to outlet;
- filter cartridges use standard restrictor discs per design flow rate;
- filter cartridges control the flow through the system;
- standard StormFilter baffle walls, unless otherwise required by the local agency.

STORMFILTER CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 3 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF THREE CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

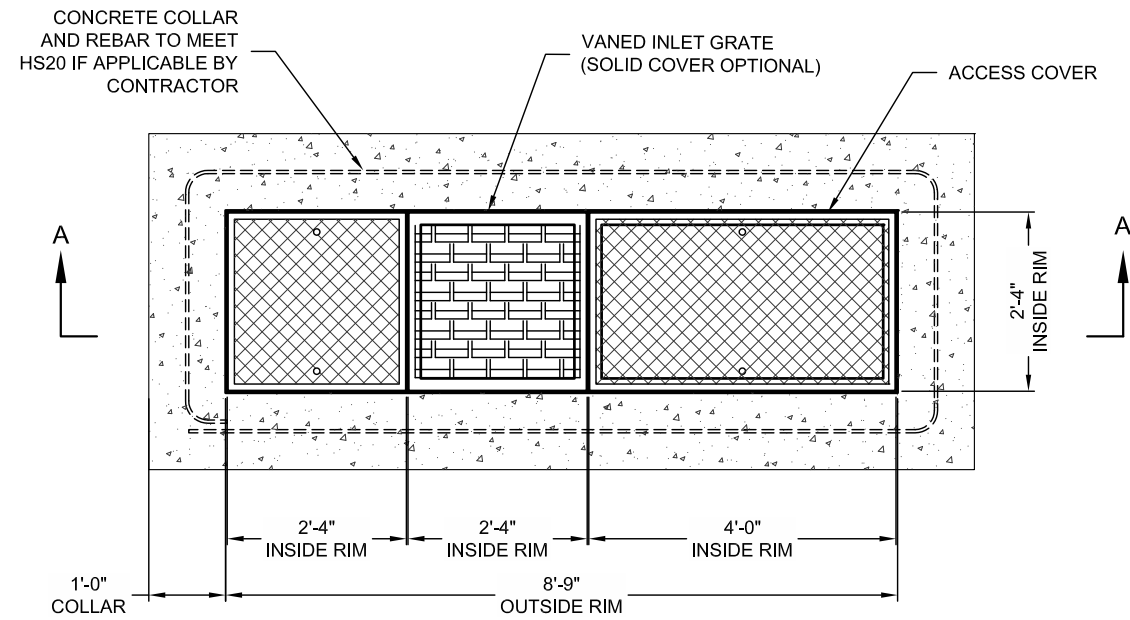
CARTRIDGE HEIGHT	27"		18"		18" DEEP	
	MINIMUM HYDRAULIC DROP (H)	3.05'		2.3'		3.3'
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	15	7.5
PEAK HYDRAULIC CAPACITY	1.0		1.0		1.8	
INLET PERMANENT POOL LEVEL (A)	1'-0"		1'-0"		2'-0"	
OVERALL STRUCTURE HEIGHT (B)	4'-9"		3'-9"		4'-9"	

GENERAL NOTES

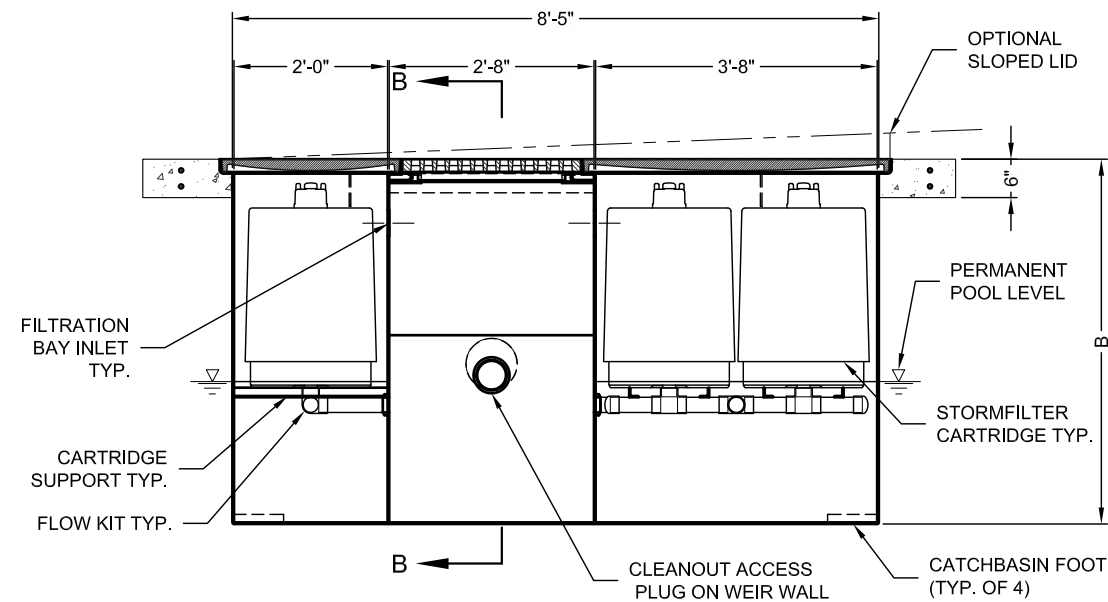
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
- STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (2) #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES

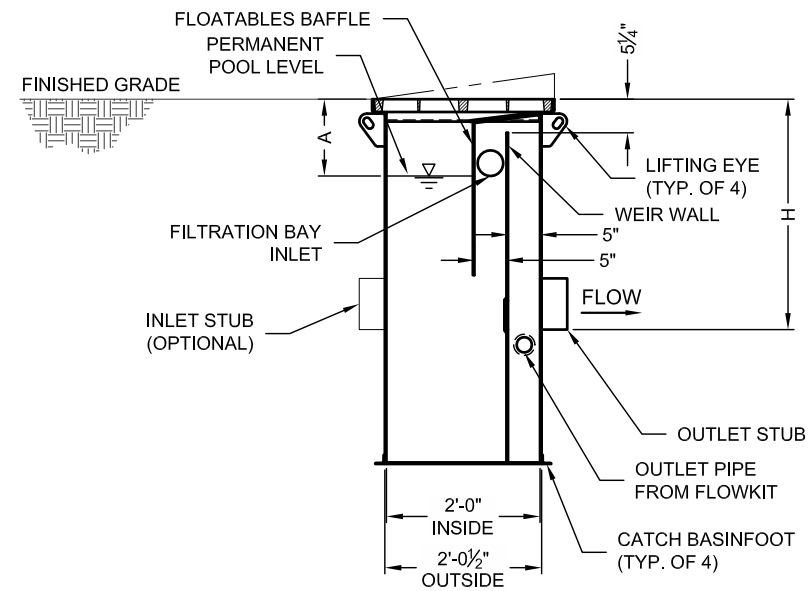
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



PLAN VIEW



SECTION A-A



SECTION B-B

3-CARTRIDGE CATCHBASIN STORMFILTER DATA

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"

CONFIGURATION



SLOPED LID	YES/NO
SOLID COVER	YES/NO

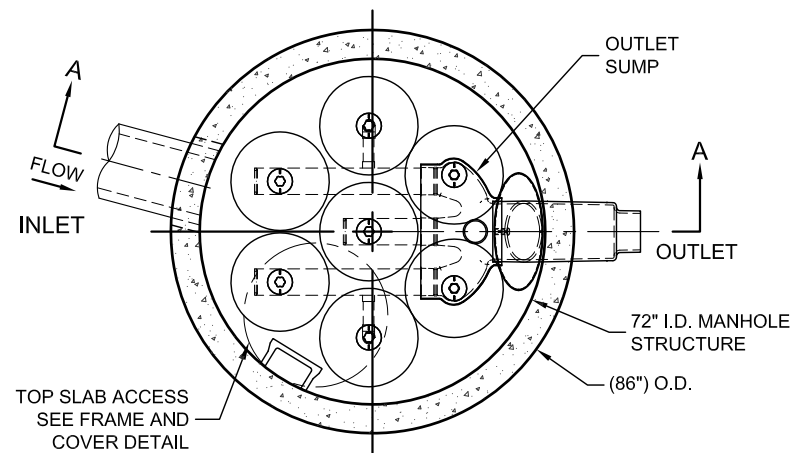
NOTES/SPECIAL REQUIREMENTS:

STORMFILTER DESIGN NOTES

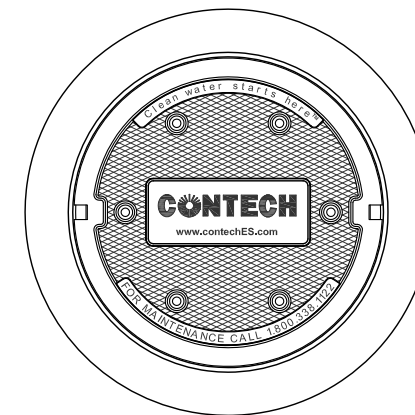
STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (7). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 7 CARTRIDGES. Ø72" MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.5 CFS. IF THE SITE CONDITIONS EXCEED 1.5 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"		18"		LOW DROP	
RECOMMENDED HYDRAULIC DROP (H)	3.05'		2.3'		1.8'	
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	10	5



PLAN VIEW
STANDARD OUTLET RISER
FLOWKIT: 42A



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED	*
CARTRIDGE FLOW RATE	*
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	*

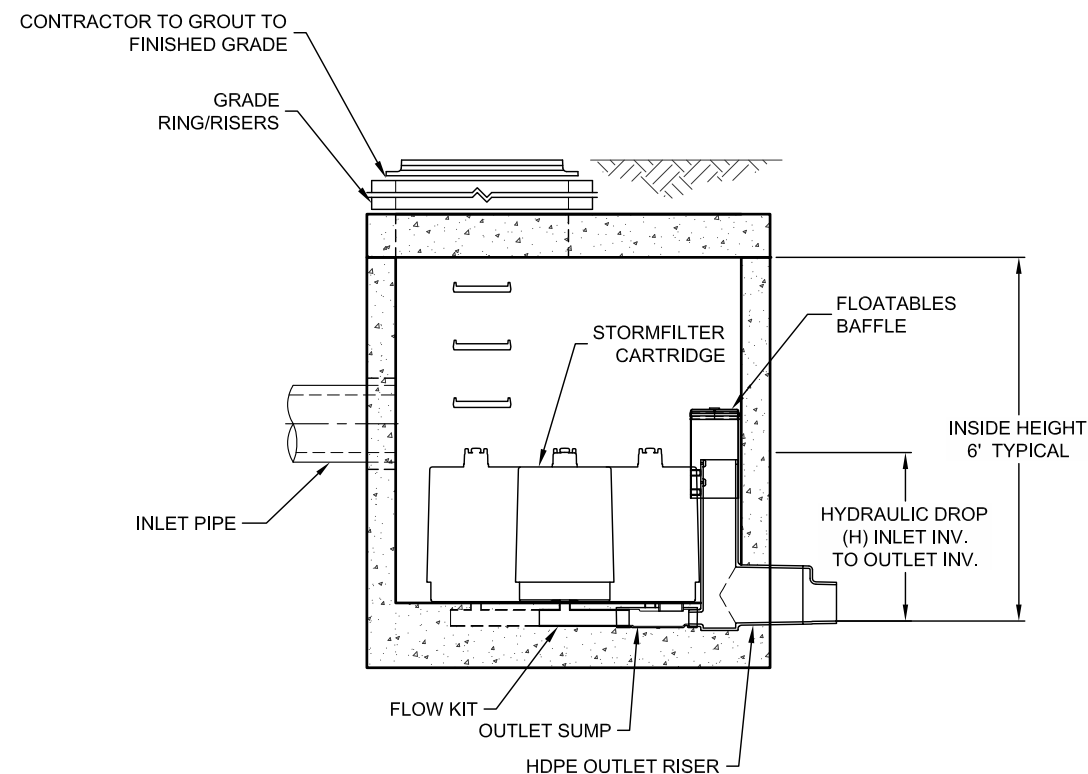
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION _____ *

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD



SECTION A-A

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 39 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
- CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES, CONTRACTOR TO REMOVE THE 8 INCH OUTLET STUB AT MOLDED IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,322,228; U.S. PATENT NO. 8,322,229; U.S. PATENT NO. 8,322,230; U.S. PATENT NO. 8,322,231; U.S. PATENT NO. 8,322,232; U.S. PATENT NO. 8,322,233; U.S. PATENT NO. 8,322,234; U.S. PATENT NO. 8,322,235; U.S. PATENT NO. 8,322,236; U.S. PATENT NO. 8,322,237; U.S. PATENT NO. 8,322,238; U.S. PATENT NO. 8,322,239; U.S. PATENT NO. 8,322,240; U.S. PATENT NO. 8,322,241; U.S. PATENT NO. 8,322,242; U.S. PATENT NO. 8,322,243; U.S. PATENT NO. 8,322,244; U.S. PATENT NO. 8,322,245; U.S. PATENT NO. 8,322,246; U.S. PATENT NO. 8,322,247; U.S. PATENT NO. 8,322,248; U.S. PATENT NO. 8,322,249; U.S. PATENT NO. 8,322,250; U.S. PATENT NO. 8,322,251; U.S. PATENT NO. 8,322,252; U.S. PATENT NO. 8,322,253; U.S. PATENT NO. 8,322,254; U.S. PATENT NO. 8,322,255; U.S. PATENT NO. 8,322,256; U.S. PATENT NO. 8,322,257; U.S. PATENT NO. 8,322,258; U.S. PATENT NO. 8,322,259; U.S. PATENT NO. 8,322,260; U.S. PATENT NO. 8,322,261; U.S. PATENT NO. 8,322,262; 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STORMTECH SC-740 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

STORMTECH SC-740 CHAMBER (not to scale)

Nominal Chamber Specifications

Size (L x W x H)
85.4" x 51" x 30"
2,170 mm x 1,295 mm x 762 mm

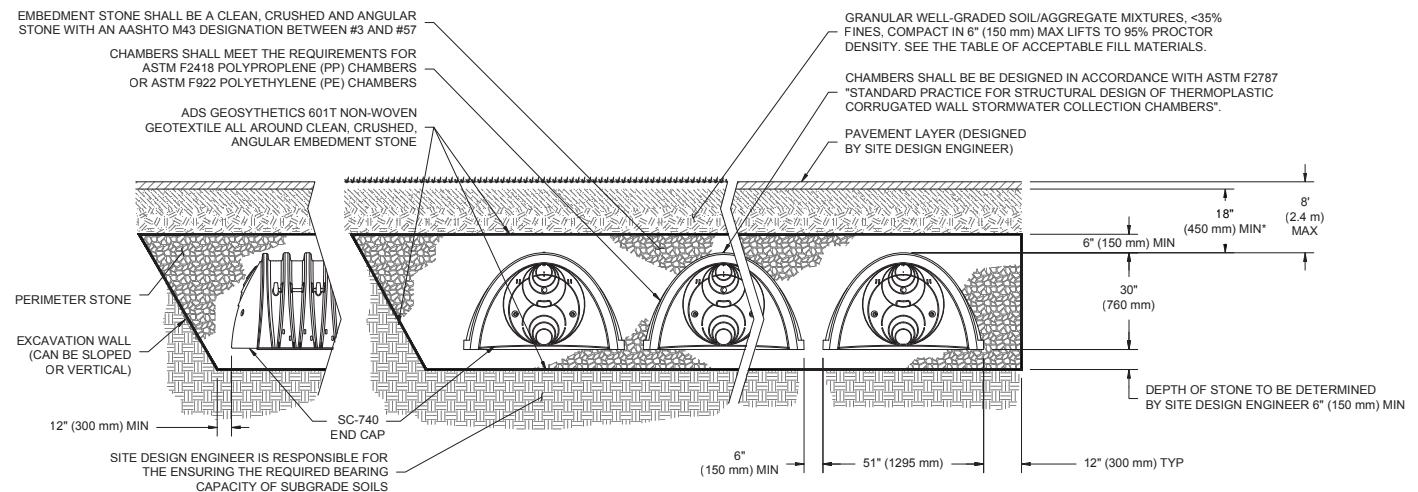
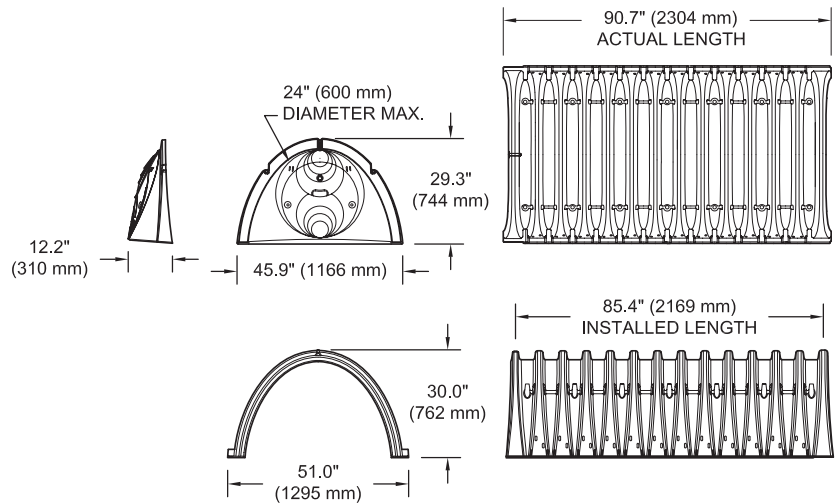
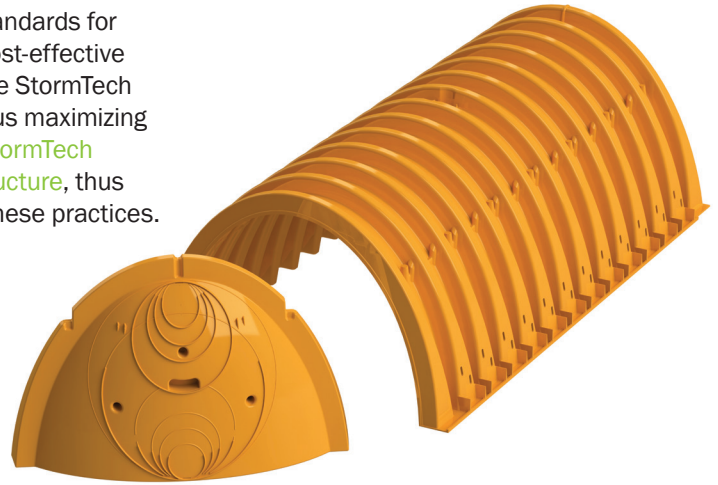
Chamber Storage
45.9 ft³ (1.30 m³)

Min. Installed Storage*
74.9 ft³ (2.12 m³)

Weight
74.0 lbs (33.6 kg)

Shipping
30 chambers/pallet
60 end caps/pallet
12 pallets/truck

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.



*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

SC-740 CUMULATIVE STORAGE VOLUMES PER CHAMBER

Assumes 40% Stone Porosity. Calculations are Based Upon a 6" (150 mm) Stone Base Under Chambers.

Depth of Water in System Inches (mm)	Cumulative Chamber Storage ft ³ (m ³)	Total System Cumulative Storage ft ³ (m ³)
42 (1067)	45.90 (1.300)	74.90 (2.121)
41 (1041)	45.90 (1.300)	73.77 (2.089)
40 (1016)	45.90 (1.300)	72.64 (2.057)
39 (991)	45.90 (1.300)	71.52 (2.025)
38 (965)	45.90 (1.300)	70.39 (1.993)
37 (940)	45.90 (1.300)	69.26 (1.961)
36 (914)	45.90 (1.300)	68.14 (1.929)
35 (889)	45.85 (1.298)	66.98 (1.897)
34 (864)	45.69 (1.294)	65.75 (1.862)
33 (838)	45.41 (1.286)	64.46 (1.825)
32 (813)	44.81 (1.269)	62.97 (1.783)
31 (787)	44.01 (1.246)	61.36 (1.737)
30 (762)	43.06 (1.219)	59.66 (1.689)
29 (737)	41.98 (1.189)	57.89 (1.639)
28 (711)	40.80 (1.155)	56.05 (1.587)
27 (686)	39.54 (1.120)	54.17 (1.534)
26 (660)	38.18 (1.081)	52.23 (1.479)
25 (635)	36.74 (1.040)	50.23 (1.422)
24 (610)	35.22 (0.977)	48.19 (1.365)
23 (584)	33.64 (0.953)	46.11 (1.306)
22 (559)	31.99 (0.906)	44.00 (1.246)
21 (533)	30.29 (0.858)	4.185 (1.185)
20 (508)	28.54 (0.808)	39.67 (1.123)
19 (483)	26.74 (0.757)	37.47 (1.061)
18 (457)	24.89 (0.705)	35.23 (0.997)
17 (432)	23.00 (0.651)	32.96 (0.939)
16 (406)	21.06 (0.596)	30.68 (0.869)
15 (381)	19.09 (0.541)	28.36 (0.803)
14 (356)	17.08 (0.484)	26.03 (0.737)
13 (330)	15.04 (0.426)	23.68 (0.670)
12 (305)	12.97 (0.367)	21.31 (0.608)
11 (279)	10.87 (0.309)	18.92 (0.535)
10 (254)	8.74 (0.247)	16.51 (0.468)
9 (229)	6.58 (0.186)	14.09 (0.399)
8 (203)	4.41 (0.125)	11.66 (0.330)
7 (178)	2.21 (0.063)	9.21 (0.264)
6 (152)	0 (0)	6.76 (0.191)
5 (127)	0 (0)	5.63 (0.160)
4 (102)	0 (0)	4.51 (0.128)
3 (76)	0 (0)	3.38 (0.096)
2 (51)	0 (0)	2.25 (0.064)
1 (25)	0 (0)	1.13 (0.032)

Note: Add 1.13 ft³ (0.032 m³) of storage for each additional inch (25 mm) of stone foundation.

For more information on the StormTech SC-740 Chamber and other ADS products, please contact our Customer Service Representatives at 1-800-821-6710

STORAGE VOLUME PER CHAMBER FT³ (M³)

	Bare Chamber Storage ft ³ (m ³)	Chamber and Stone Foundation Depth in. (mm)		
		6 (150)	12 (300)	18 (450)
SC-740 Chamber	45.9 (1.3)	74.9 (2.1)	81.7 (2.3)	88.4 (2.5)

Note: Assumes 6" (150 mm) stone above chambers, 6" (150 mm) row spacing and 40% stone porosity.

AMOUNT OF STONE PER CHAMBER

ENGLISH TONS (yds ³)	Stone Foundation Depth		
	6"	12"	16"
SC-740	3.8 (2.8)	4.6 (3.3)	5.5 (3.9)
METRIC KILOGRAMS (m ³)	150 mm	300 mm	450 mm
SC-740	3,450 (2.1)	4,170 (2.5)	4,490 (3.0)

Note: Assumes 6" (150 mm) of stone above and between chambers.

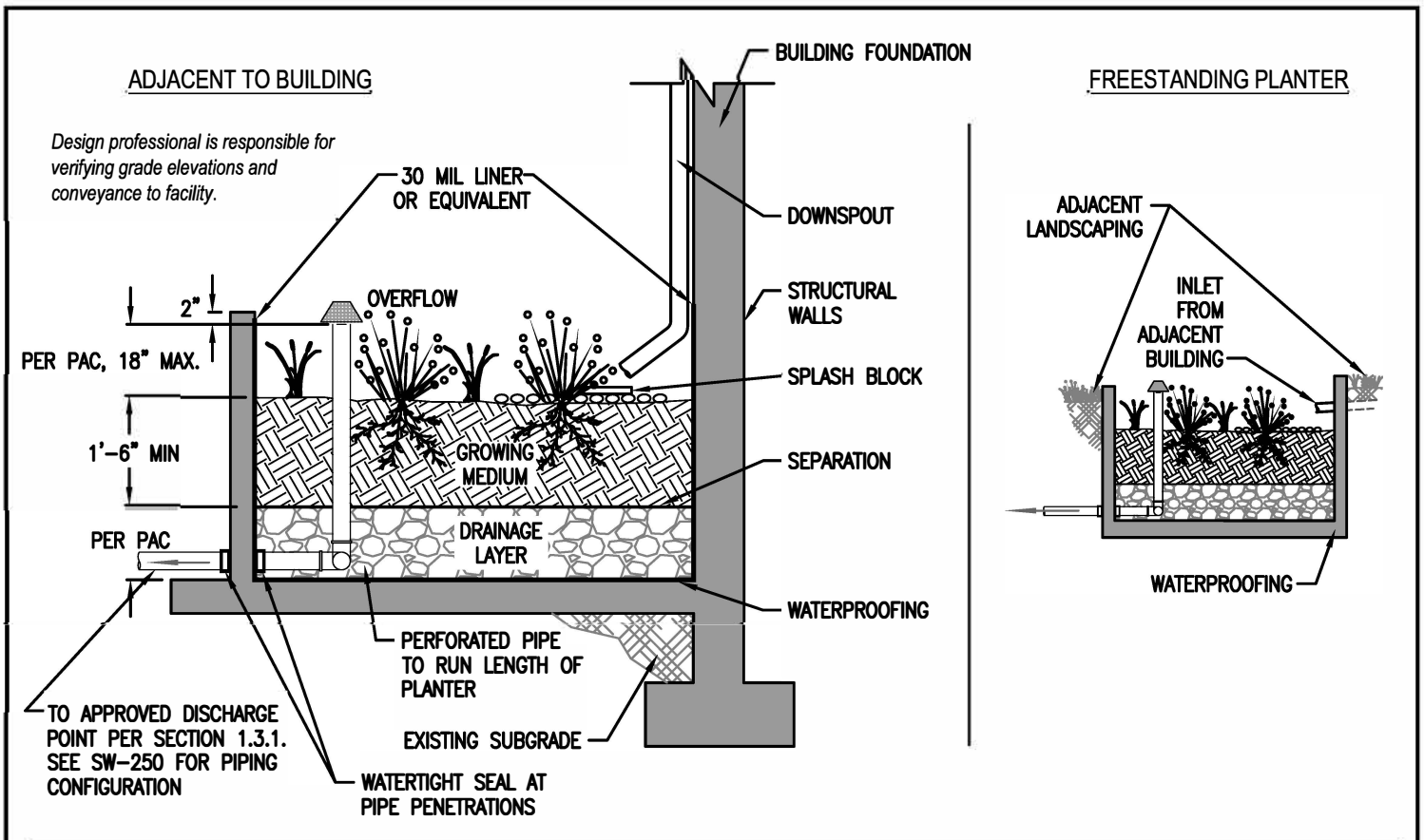
VOLUME EXCAVATION PER CHAMBER YD³ (M³)

	Stone Foundation Depth		
	6 (150)	12 (300)	18 (450)
SC-740	5.5 (4.2)	6.2 (4.7)	6.8 (5.2)

Note: Assumes 6" (150 mm) of row separation and 18" (450 mm) of cover. The volume of excavation will vary as depth of cover increases.



Working on a project?
Visit us at www.stormtech.com
and utilize the StormTech Design Tool



1. Detail intended as an example. Detail must match PAC assumptions and/or design report.
2. Dimensions:
Width of planter: 24" minimum.
Depth of planter (from top of growing medium to overflow elevation): per PAC calculations.
Longitudinal slope of planter: 0.5% or less.
3. Setbacks:
Planters must be less than 30" in height above finish grade if within 5-feet of property line.
4. Planter Walls:
Material must be monolithically poured concrete, unless otherwise approved. Walls must be included on foundation plans.
5. Waterproofing:
If planter is monolithically poured no additional liner/waterproofing is required. Check state structural requirements for foundations.
6. Piping must be ABS Sch.40, cast iron, or PVS Sch.40. 3" pipe required for facilities draining up to 1500 s.f., otherwise 4" min. pipe. Piping must have 1% grade and follow the Uniform Plumbing Code.
7. Drain Layer:
Determined by designer. Options include, but are not limited to drain mat, 3/4" washed round rock, or other approved system.
8. Separation between drain and growing medium:
Use appropriate filter fabric or a gravel lens (3/4 - 1/4 inch washed, crushed rock 2 to 3 inches deep), or as per approved design.
9. Overflow:
Inlet elevation must allow for 2" of freeboard, minimum. Protect from debris and sediment with strainer or grate.
10. Growing Medium:
18" minimum depth. Use sand/loam/compost 3-way mix, or approved mix that will support healthy plants.
24" minimum depth is required if the lined facility is also meeting BDS landscape requirements.
11. Vegetation: Refer to plant list in SWMM, Section 2.4.1. Minimum container size is #1 container. # of plantings per 100sf of facility area:
80 herbaceous plants OR;
72 herbaceous plants and 4 small shrubs.
12. Inspections: Call BDS MR Inspection Line, (503) 823-7000, request 487. 3 inspections required.

- DRAWING NOT TO SCALE -

STORMWATER MANAGEMENT TYPICAL DETAILS

- Presumptive and Performance Design Approach -
Planter - lined



Bureau of Environmental Services



NUMBER

SW-230
7-1-16

Appendix C

Proposed Utility Plan



BRIC
ARCHITECTURE, INC.

1233 NW Northrup Street
Suite 100
Portland, Oregon 97209
tel. (503) 226 6950
fax. (503) 273 9192

NOT FOR CONSTRUCTION



Milwaukie High School
North Clackamas School District
2301 SE Willard Street, Milwaukie, OR 97222
t: (503) 353-6000
f: (503) 353-6000

SHEET NOTES

- ON-SITE PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
- OFF-SITE (IN ROW) PIPE BEDDING AND TRENCH BACKFILL AND SURFACING PER CITY STD DWG P-100 AND P-101.
- STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
- INSTALL TRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

UTILITY KEY NOTES

- | NOTE | DESCRIPTION | DETAIL REF. |
|------|--|-------------|
| 1 | KILL EXISTING WATER SERVICE | |
| 2 | INSTALL 3" WATER METER | |
| 3 | FIELD VERIFY LOCATION AND IE OF EXISTING WATER SERVICE LATERAL PRIOR TO CONSTRUCTION. | |
| 4 | INSTALL STANDARD SANITARY MANHOLE. | |
| RPV | 4" REDUCED PRESSURE BACKFLOW ASSEMBLY VAULT | |
| DC | 3" IRRIGATION DOUBLE CHECK VAULT | |
| DCD | 6" DOUBLE CHECK DETECTOR VAULT | |
| FP | CONNECT TO FIRE PROTECTION SYSTEM. SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION. | |
| FTP | FLOW THROUGH PLANTER | |
| IR | 3" IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION. | |
| G | CONNECT TO GAS METER. CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION. | |
| S | CONNECT TO PROPOSED WASTE LINE. SEE PUBLIC IMPROVEMENT PLANS FOR CONTINUATION OF THE SANITARY EXTENSION. | |
| SD | CONNECT TO STORM DRAIN/ROOF DRAIN. SEE THIS PLAN FOR CONTINUATION. SIZE AND IE AS NOTED. | |
| WQS | WATER QUALITY SWALE. ID AS SHOWN. | |
| VOB | VEGETATED DETENTION BASIN. ID AS SHOWN. | |
| !! | UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O. | |

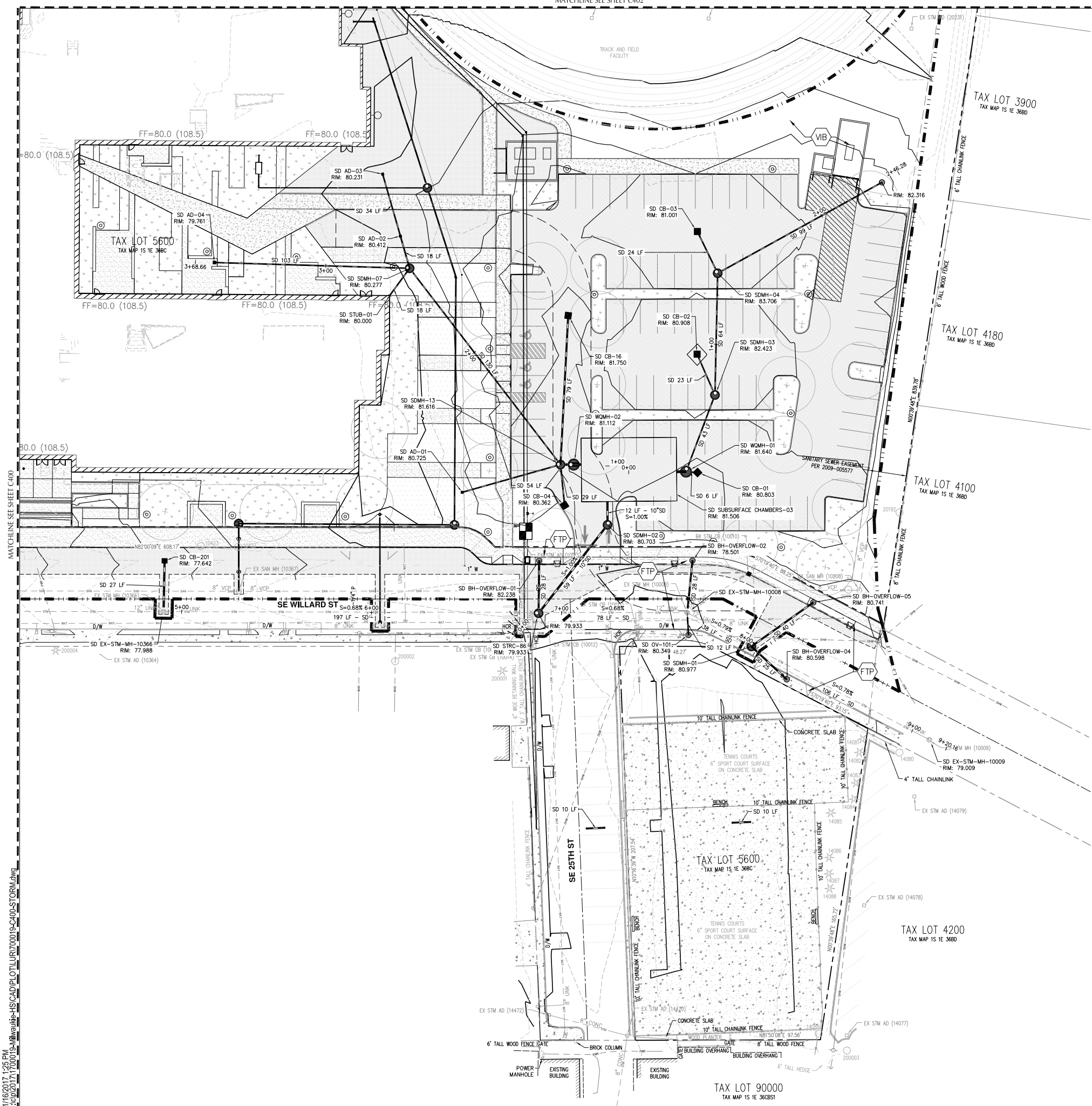
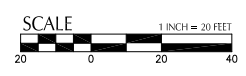
STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD2	AREA DRAIN TYPE 2	
BWV	BUTTERFLY VALVE	
CB	CATCH BASIN	
CO	CLEANOUT TO GRADE	
DCVA	DOUBLE CHECK VALVE ASSEMBLY	
DDCV	DOUBLE DETECTOR CHECK VALVE	
DI	DITCH INLET	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GM	GAS METER	
GV	GATE VALVE	
HB	HORIZONTAL BEND	
MH	MANHOLE	
OF	OUTFALL	
OV2	OVERFLOW INLET TYPE 2	
PRG	PEDESTRIAN RATED GRATE	
PUMP	PUMP	
RD	ROOF DRAIN CONNECTION	
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	
STUB	STUB	
TB	THRUST BLOCK	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
VB	VERTICAL BEND	
WM	WATER METER	
WQ	WATER QUALITY	
WQCB	WATER QUALITY CATCH BASIN	
WYE	WYE CONNECTION	

LEGEND

CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
MH	MANHOLE
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE IN 15' WIDE EASEMENT



key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019

STORM DRAINAGE PLAN

C401

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- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17065063. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
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 - VERTICAL DATUM: ELEVATIONS ARE NAVD88 DERIVED FROM THE TRIMBLE VRS NOW NETWORK. NETWORK ELEVATIONS WERE CHECKED AGAINST PUBLISHED DATASHEET ELEVATIONS AT NGS BENCHMARK NO. RD1487, RD1488, AND RD1491.
 - THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
 - SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAKST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
 - HORIZONTAL DATUM: LOCAL DATUM PLANE SCALED FROM OREGON STATE PLANE NORTH 3601, NAD83(2011) EPOCH 2010.0000, BY HOLDING A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0000045532 AT A CALCULATED CENTRAL PROJECT POINT WITH GRID VALUES OF (NORTH 654950.01, EAST 7854525.35). THE MERIDIAN CONVERGENCE ANGLE AT THE CALCULATED CENTRAL POINT IS -1'30"48". THE STATE PLANE COORDINATES WERE DERIVED FROM THE TRIMBLE VRS NOW NETWORK WITH HORIZONTAL POSITION CHECKED AGAINST PUBLISHED DATASHEET COORDINATES AT NGS CONTROL POINT PID RD1491.
 - CITY OF MILWAUKIE ORDINANCE NUMBER 242, BOOK 497 PAGE 383 IS BLANKET IN NATURE AND COVERS 23RD STREET 500 FEET FROM WASHINGTON ST. AND WILLARD ST. FROM LAKE ROAD EASTERLY TO HENNEMAN ACRES.
 - EASEMENTS FOR EXISTING PUBLIC UTILITIES IN VACATED STREET AREAS AND THE CONDITIONS IMPOSED THEREBY, BOOK 181 PAGE 94 DOES NOT DESCRIBE ANY UTILITIES OR EASEMENTS.

NOTICE TO EXCAVATORS:
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 (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503)-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.
 Call the Oregon One-Call Center
 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS M-F 7am-6pm 503-226-4211 Ext.4313
 AFTER HOURS 503-226-4211
 PGE 503-464-7777
 CENTURYLINK 1-800-573-1311
 CITY BUREAU OF MAINTENANCE 503-823-1700
 CITY WATER 503-823-4874
 VERIZON 1-800-483-1000

LEGEND

PROPOSED	DESCRIPTION
---	PROPERTY LINE
---	RIGHT OF WAY
---	EASEMENT LINE
---	CENTERLINE
---	BUILDING OUTLINE
---	BUILDING OVERHANG
---	SIDEWALK/CONCRETE
---	CURB
---	CURB & GUTTER
---	EDGE OF ASPHALT
---	GRADE BREAK
---	SAWCUT
---	AC PAVEMENT
---	SCORING PATTERN
---	LANDSCAPE AREA
---	CONTOUR
---	STORM DRAIN
---	SANITARY SEWER
---	WATER MAIN
---	FIBER OPTIC
---	GAS MAIN
---	OVERHEAD UTILITY
---	FENCELINE
□	CATCH BASIN
○	AREA DRAIN
○	UTILITY POLE
○	LIGHT POLE
○	JUNCTION BOX
○	CLEANOUT (COTG)
○	MANHOLE
○	FIRE METER
○	FIRE HYDRANT
○	WATER VALVE
○	GAS VALVE
○	GAS METER
○	SIGN
○	TREE



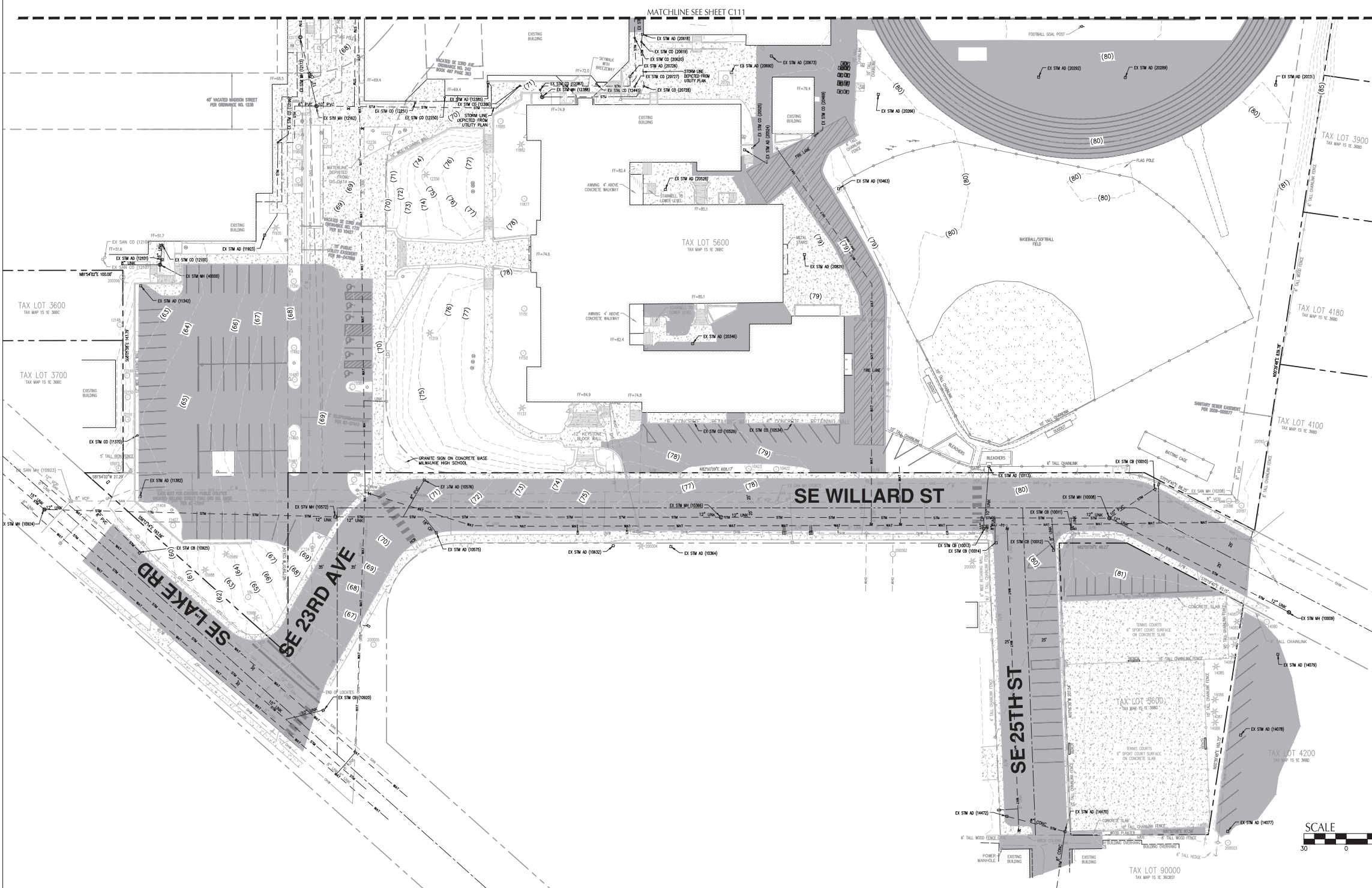
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 ARCHITECTURE, INC.

1233 NW Northrup Street
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 Portland, Oregon 97209
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 fax. (503) 273 9192

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North Clackamas School District
 11300 SE 23rd Avenue, Milwaukie, OR 97222
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key plan

phase	Land Use Review
date	9/29/2017
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project #	1700019
EXISTING CONDITIONS	
C110	

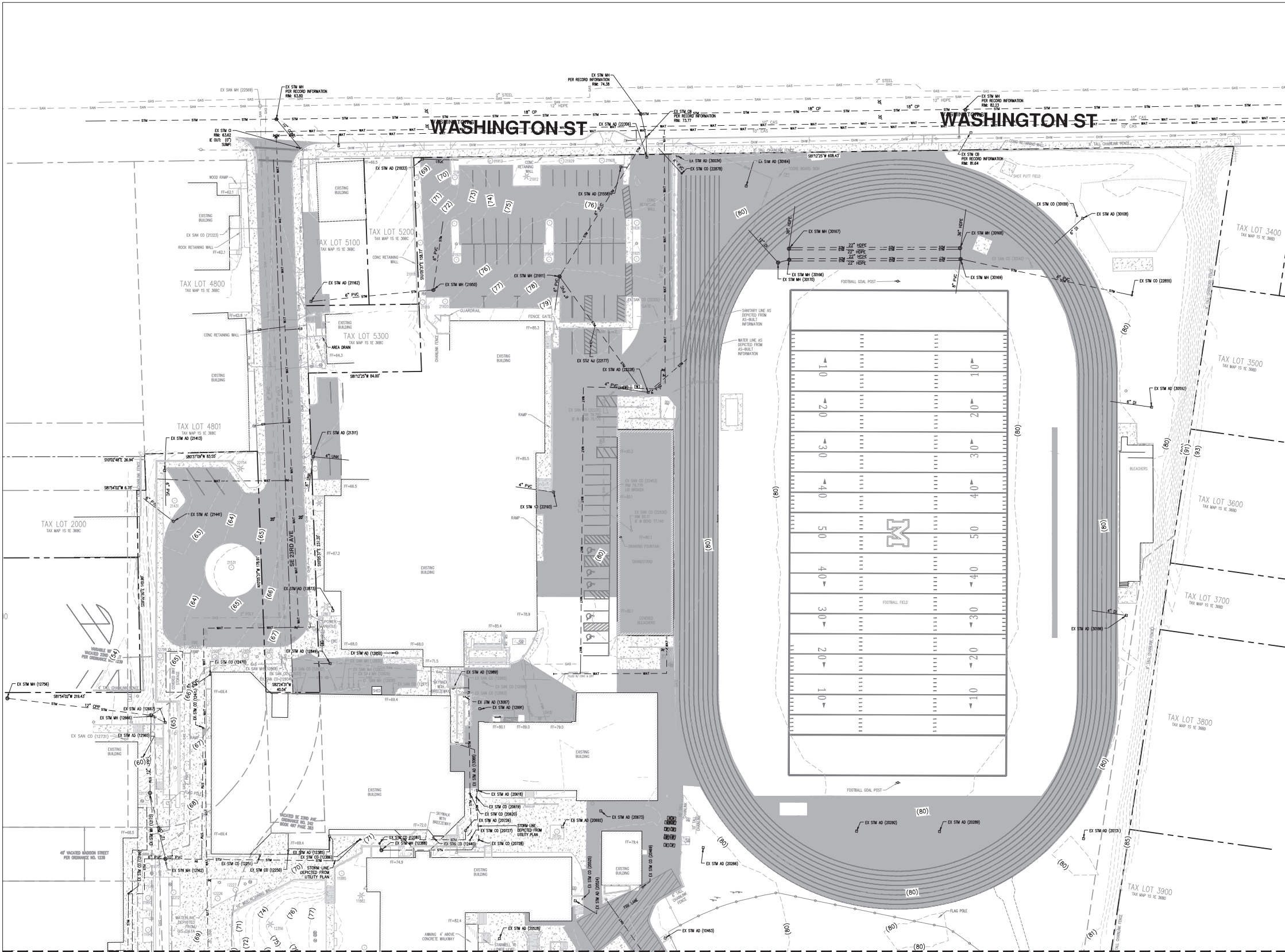
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○	UTILITY POLE
○	LIGHT POLE
○	JUNCTION BOX
○	CLEANOUT (COT)
○	MANHOLE
○	WATER METER
○	FIRE HYDRANT
○	WATER VALVE
○	GAS VALVE
○	GAS METER
○	SIGN
○	TREE

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MATCHLINE SEE SHEET C110

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key plan

phase Land Use Review

date 9/29/2017

revisions 01/19/2018

project # 1700019

SITE DEMOLITION

C120

SHEET NOTES

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

DEMOLITION KEY NOTES

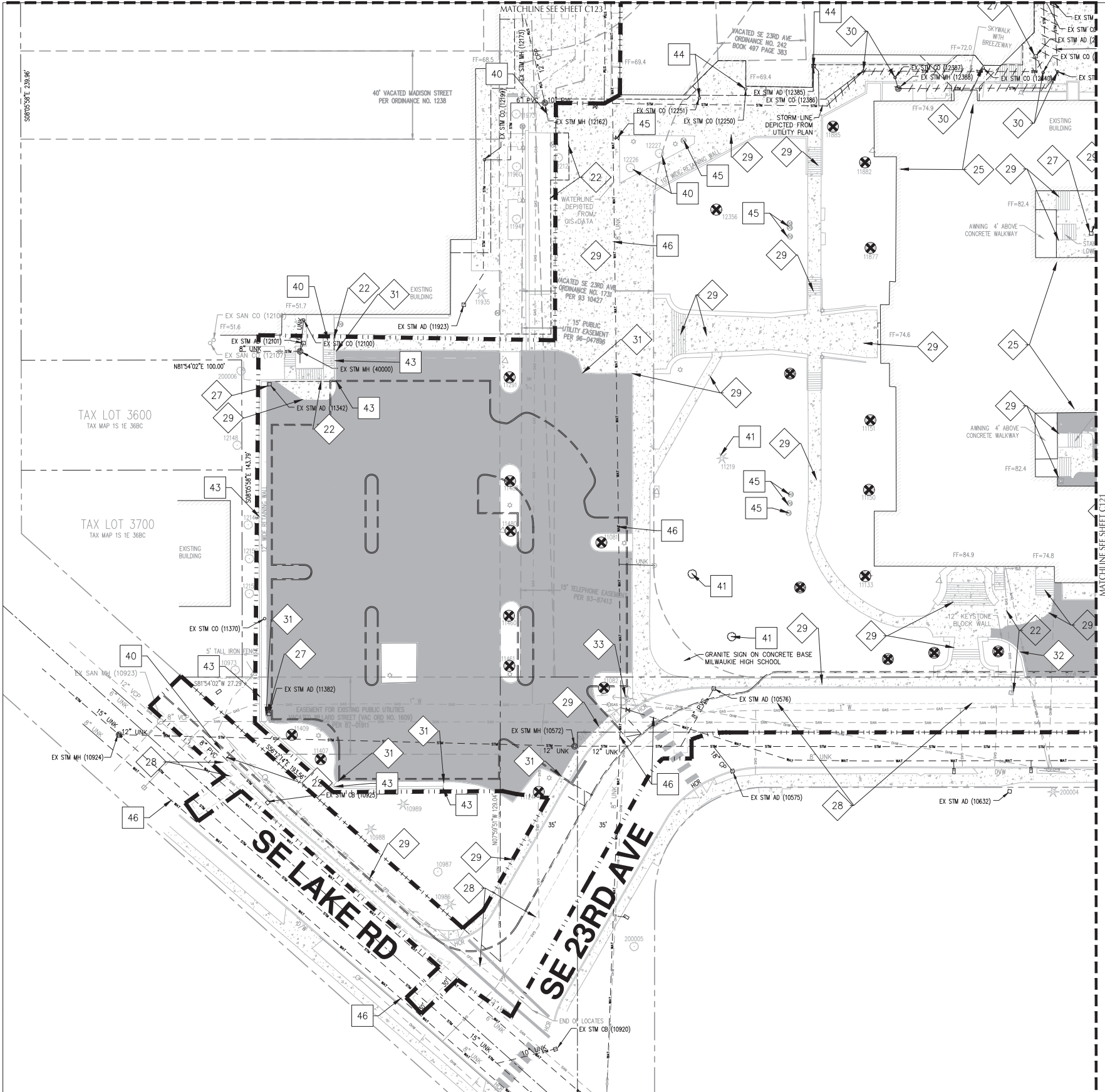
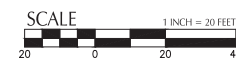
- 20 COORDINATE WITH CITY TO REMOVE WATER METER AND SERVICE
- 21 REMOVE AND PLUG STORM/SANITARY SERVICE AT PROPERTY LINE PER DETAIL 1/C1.1
- 22 SAWCUT EXISTING CONCRETE (REFERENCE SITE PLAN FOR EXACT LOCATION).
- 23 REMOVE EXISTING SIGNS. COORDINATE WITH PROPERTY OWNER.
- 24 COORDINATE WITH GAS COMPANY TO REMOVE GAS METER AND SERVICE.
- 25 BUILDING TO BE REMOVED (SHOWN FOR REFERENCE)
- 26 REMOVE FENCE
- 27 REMOVE AREA DRAIN/CATCH BASIN
- 28 SAWCUT EXISTING ASPHALT (REFERENCE SITE PLAN FOR EXACT LOCATION).
- 29 REMOVE EXISTING CONCRETE SIDEWALK/STAIRS
- 30 REMOVE EXISTING CLEANOUT
- 31 REMOVE EXISTING CURB
- 32 REMOVE EXISTING WALL
- 33 COORDINATE WITH POWER COMPANY TO REMOVE GAS METER AND SERVICE.

PROTECTION KEY NOTES

- 40 PROTECT CURB AND SIDEWALK (REFERENCE PUBLIC IMPROVEMENT PLANS WHERE APPLICABLE)
- 41 PROTECT TREE
- 42 PROTECT EXISTING UTILITY
- 43 PROTECT EXISTING RETAINING WALL
- 44 PROTECT EXISTING DRAINAGE STRUCTURE, ADJUST RIM TO PROPOSED GRADE
- 45 PROTECT EXISTING WATER STRUCTURE, ADJUST RIM TO PROPOSED GRADE
- 46 PROTECT EXISTING WATER LINE

SHEET LEGEND

- PROPERTY LINE
- DEMOLITION / WORK LIMITS, SHOWN OFFSET FOR CLARITY
- SAWCUT LINE
- REMOVE OR ABANDON UTILITY LINE IN PLACE
- REMOVE TREE
- EXISTING GRADE CONTOUR
- PROPOSED CURB LINE SHOWN FOR REFERENCE
- APPROXIMATE EXTENT OF DEMOLITION OF PUBLIC SIDEWALK AND CURB, AND ON-SITE PAVEMENT.



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WASHINGTON ST

SHEET NOTES

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DEMOLITION KEY NOTES

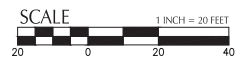
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PROTECTION KEY NOTES

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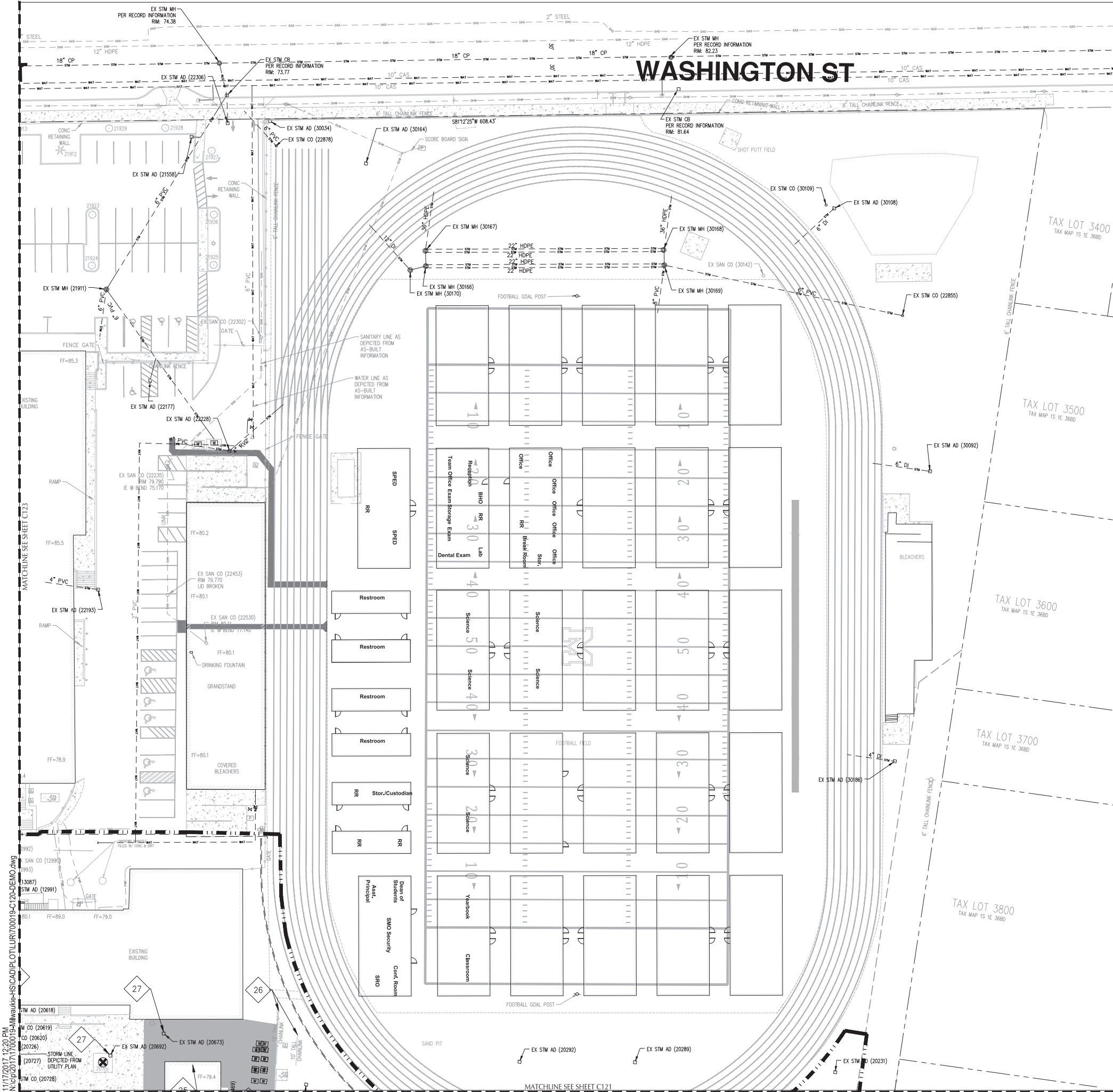
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key plan

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date	9/29/2017
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project #	1700019
SITE DEMOLITION	

C122



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SITE DEMOLITION

C123

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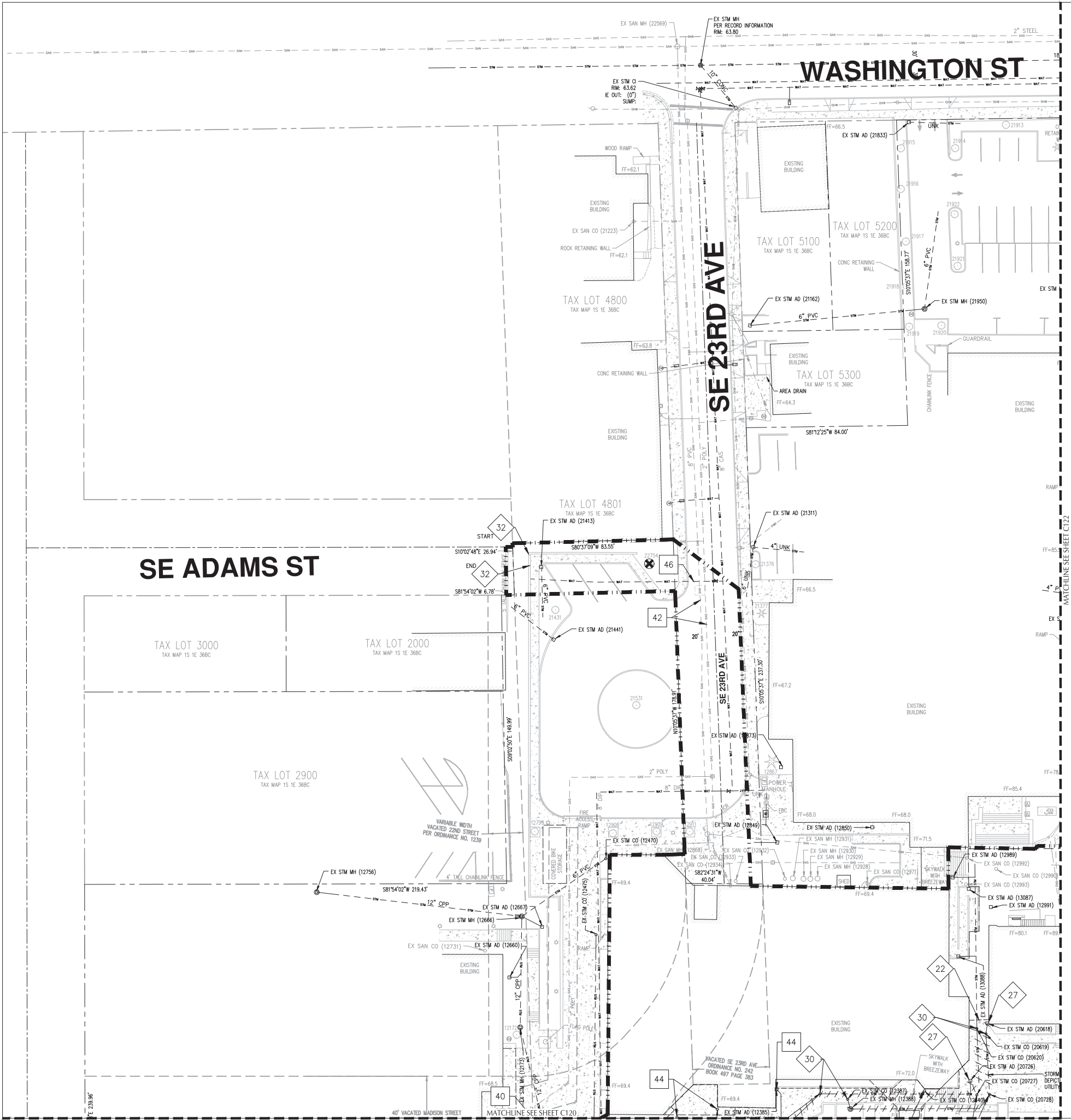
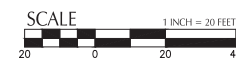
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key plan

phase Land Use Review

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project # 1700019

SITE DIMENSION & LAYOUT

C200

SHEET LEGEND

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL (UNLESS OTHERWISE NOTED).
2. SEE LANDSCAPE PLANS FOR PLANTING AND ADDITIONAL SITE FEATURES.
3. SEE LANDSCAPE PLANS FOR CONCRETE SCORING AND JOINT LOCATIONS.
4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS AND LAYOUT.

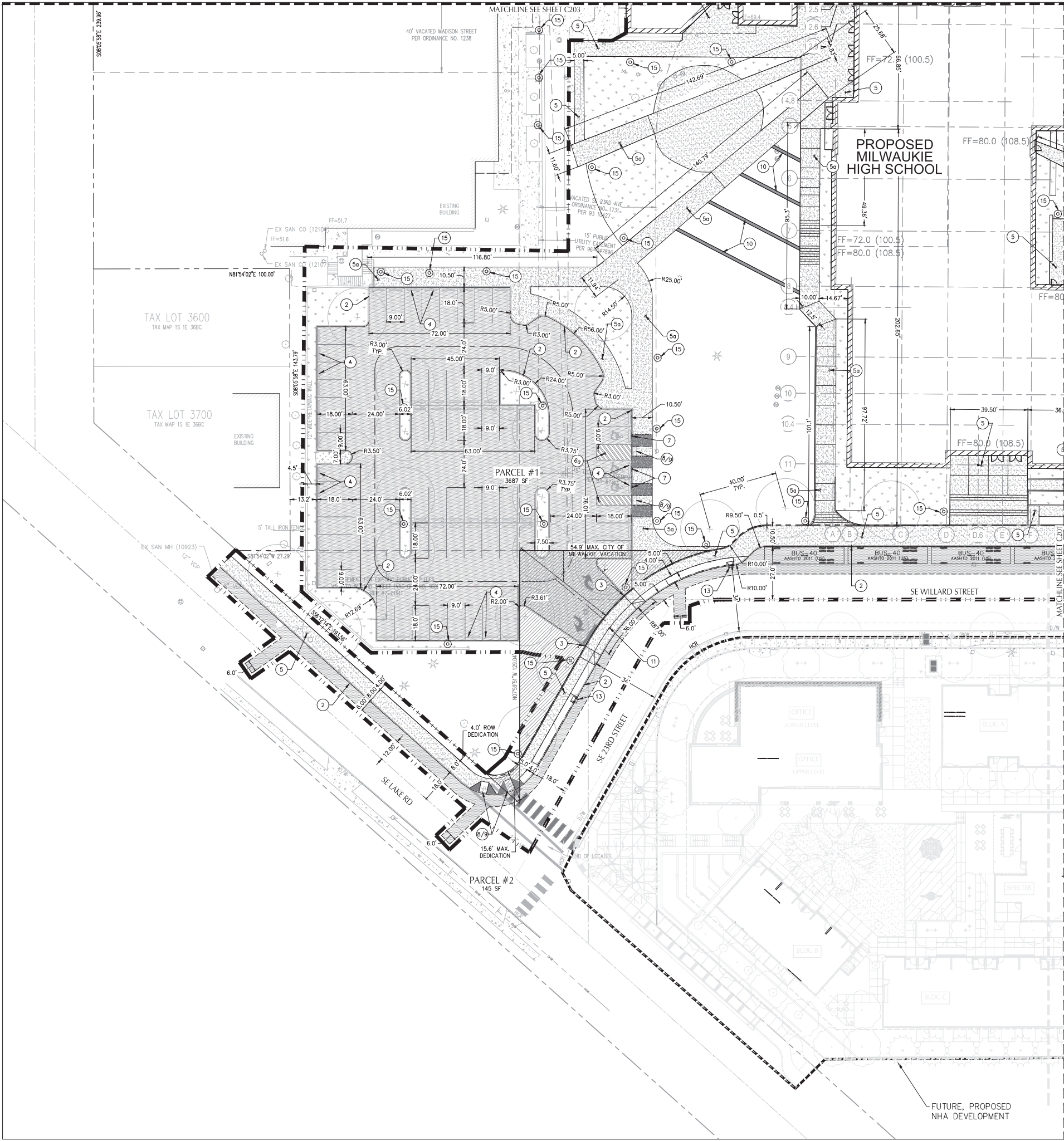
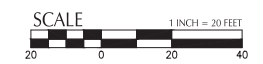
- PROPERTY LINE
- BUILDING
- HEAVY CONCRETE PAVING
- LIGHT ASPHALT PAVEMENT SECTION
- HEAVY ASPHALT PAVEMENT SECTION
- CONCRETE SIDEWALK - SEE LANDSCAPE PLANS FOR DETAIL
- PERVIOUS CONCRETE
- ARTIFICIAL TURF
- SAWCUT LINE
- LIMITS OF WORK
- FIRE LANE
- STORMWATER WATER QUALITY FLOW-THROUGH PLANTER
- CONC. SPILLWAY W/ CONC. FOREBAY (PER CITY OF MILWAUKIE STD DETAIL)
- SITE LIGHTING (SEE SHEET EPH1 FOR PHOTOMETRICS)
- PROPOSED TREE

SHEET NOTES

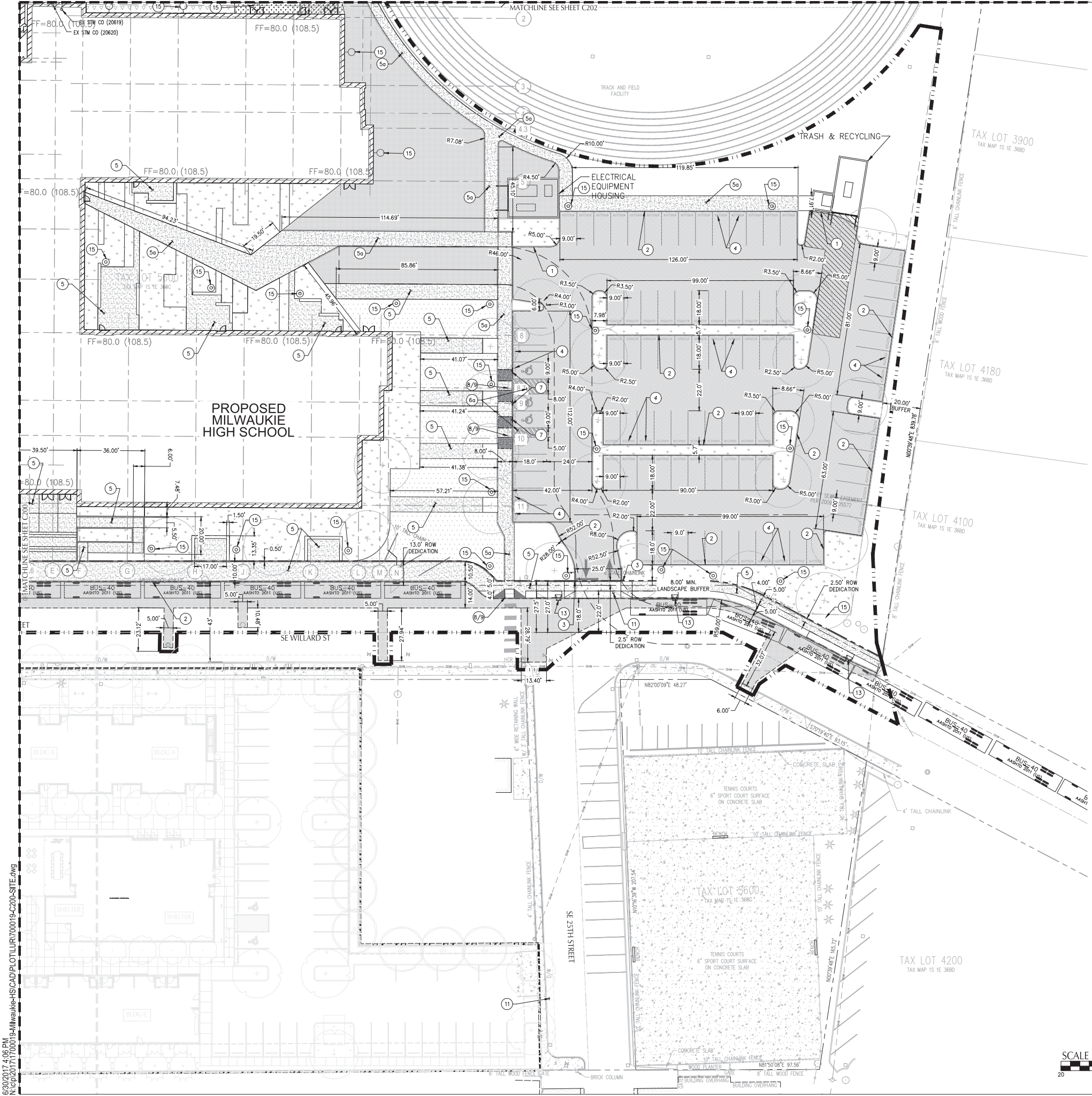
1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
2. PROPOSED FRONTAGE IMPROVEMENTS IN RIGHT-OF-WAY SHOWN FOR REFERENCE ONLY. TO BE PERMITTED UNDER SEPARATE PERMIT.

KEY NOTES

#	DESCRIPTION
1	MOUNTABLE CURB
2	STANDARD CURB
3	CURB ENDING
4	WHEEL STOP
5	CONCRETE SIDEWALK
5a	PERVIOUS CONCRETE
6a	ADA PARKING STALLS AND STRIPING
6b	"NO PARKING" ZONE STRIPING
6c	4" WIDE WHITE STRIPE
7	ADA PARKING SIGN
8	DETECTABLE WARNING
9	CURB RAMP
10	MODULAR WALL
11	CONCRETE DRIVEWAY APRON
12	CONCRETE STAIRWAY
13	CURB SPILLWAY WITH SPLASH BLOCK
14	ACCESSIBLE CROSSWALK
15	SITE LIGHTING - SEE SHEET EPH1 FOR PHOTOMETRICS



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SHEET LEGEND

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL (UNLESS OTHERWISE NOTED).
 2. SEE LANDSCAPE PLANS FOR PLANTING AND ADDITIONAL SITE FEATURES.
 3. SEE LANDSCAPE PLANS FOR CONCRETE SCORING AND JOINT LOCATIONS.
 4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS AND LAYOUT.
- PROPERTY LINE
 - BUILDING
 - HEAVY CONCRETE PAVING
 - LIGHT ASPHALT PAVEMENT SECTION
 - HEAVY ASPHALT PAVEMENT SECTION
 - CONCRETE SIDEWALK - SEE LANDSCAPE PLANS FOR DETAIL
 - PERVIOUS CONCRETE
 - ARTIFICIAL TURF
 - SAWCUT LINE
 - LIMITS OF WORK
 - FIRE LANE
 - STORMWATER WATER QUALITY FLOW-THROUGH PLANTER
 - CONC. SPILLWAY W/ CONC. FOREBAY (PER CITY OF MILWAUKIE STD DETAIL)
 - SITE LIGHTING (SEE SHEET EPH1 FOR PHOTOMETRICS)
 - PROPOSED TREE

SHEET NOTES

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8	DETECTABLE WARNING
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11	CONCRETE DRIVEWAY APRON
12	CONCRETE DRIVEWAY
13	CURB SPILLWAY WITH SPLASH BLOCK
14	ACCESSIBLE CROSSWALK
15	SITE LIGHTING - SEE SHEET EPH1 FOR PHOTOMETRICS



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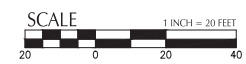


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key plan	
phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019
SITE DIMENSION & LAYOUT	

C201



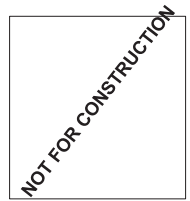
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key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018

project # 1700019
SITE DIMENSION & LAYOUT

C202

SHEET LEGEND

1. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL (UNLESS OTHERWISE NOTED).
2. SEE LANDSCAPE PLANS FOR PLANTING AND ADDITIONAL SITE FEATURES.
3. SEE LANDSCAPE PLANS FOR CONCRETE SCORING AND JOINT LOCATIONS.
4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS AND LAYOUT.

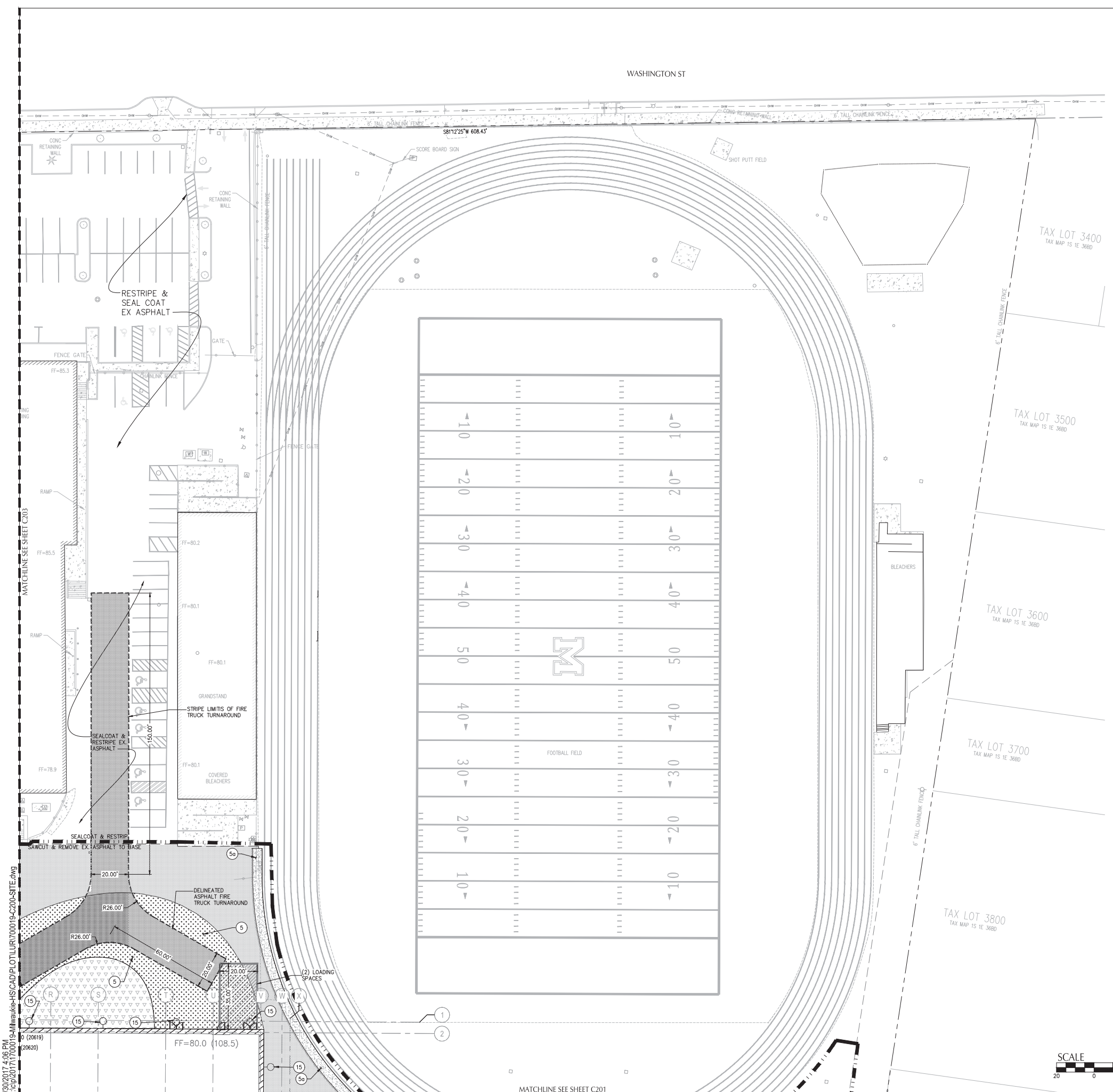
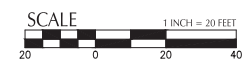
- PROPERTY LINE
- BUILDING
- HEAVY CONCRETE PAVING
- LIGHT ASPHALT PAVEMENT SECTION
- HEAVY ASPHALT PAVEMENT SECTION
- CONCRETE SIDEWALK - SEE LANDSCAPE PLANS FOR DETAIL
- PERVIOUS CONCRETE
- ARTIFICIAL TURF
- SAWCUT LINE
- LIMITS OF WORK
- FIRE LANE
- STORMWATER QUALITY FLOW-THROUGH PLANTER
- CONC. SPILLWAY W/ CONC. FOREBAY (PER CITY OF MILWAUKIE STD DETAIL)
- SITE LIGHTING (SEE SHEET EPH1 FOR PHOTOMETRICS)
- PROPOSED TREE

SHEET NOTES

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10	MODULAR WALL
11	CONCRETE DRIVEWAY APRON
12	CONCRETE STAIRWAY
13	CURB SPILLWAY WITH SPLASH BLOCK
14	ACCESSIBLE CROSSWALK
15	SITE LIGHTING - SEE SHEET EPH1 FOR PHOTOMETRICS



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 (20620)

MATCHLINE SEE SHEET C201

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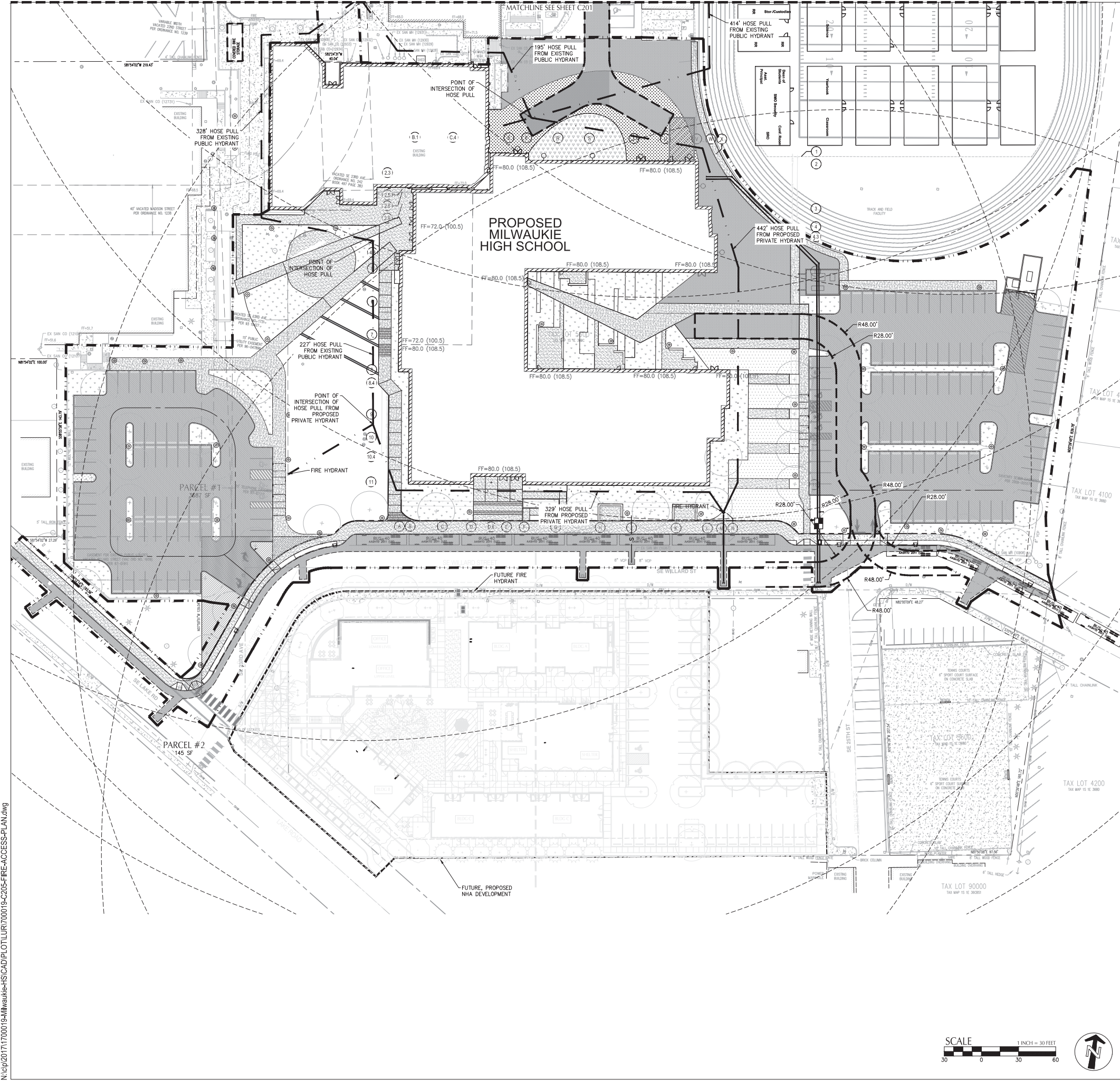
key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	17000019
FIRE ACCESS PLAN	

C210

SHEET LEGEND

- PROPERTY LINE
- ▨ PROPOSED BUILDING
- HOSE PULL
- - - FIRE LANE
- ⊕ FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- - - 600' HYDRANT OFFSET



11/20/2017 9:07 AM
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key plan

phase Land Use Review

date 9/29/2017

revisions 01/19/2018

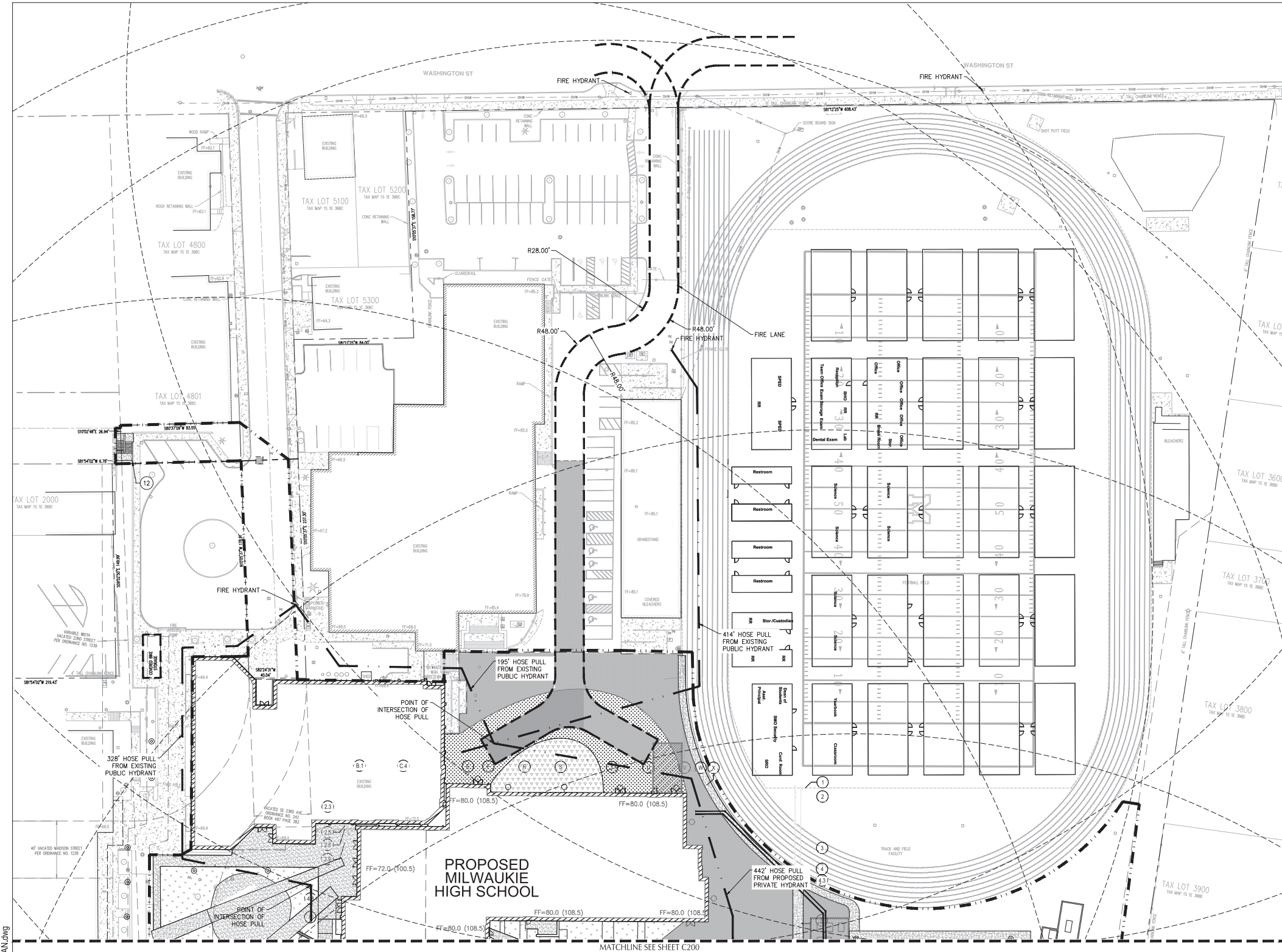
project # 1700019

FIRE ACCESS PLAN

C211

SHEET LEGEND

- PROPERTY LINE
- ▬ PROPOSED BUILDING
- - - HOSE PULL
- FIRE LANE
- ⊕ FIRE HYDRANT
- ⊕ FIRE DEPARTMENT CONNECTION
- - - 600' HYDRANT OFFSET



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key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018

project # 1700019
GRADING PLAN

C300

SHEET NOTES

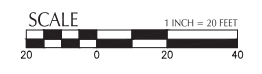
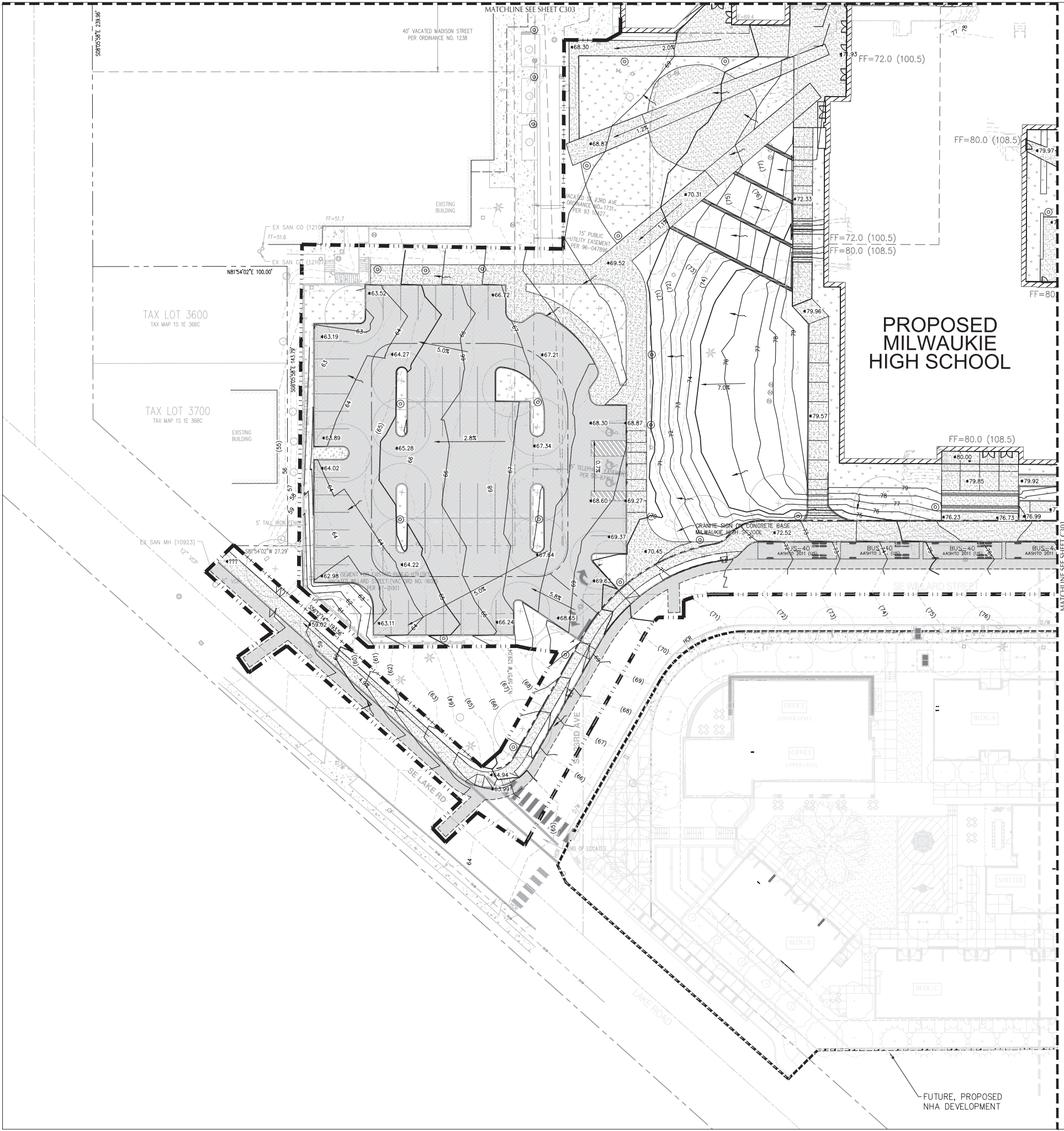
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2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).

GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X%	GRADING SLOPE AND DIRECTION (DOWNHILL)
SPOT ELEVATION	SPOT ELEVATION
DESCRIPTION LISTED BELOW	DESCRIPTION LISTED BELOW
NO DESCRIPTION MEANS TP OR TG	NO DESCRIPTION MEANS TP OR TG
XXX.XX	BOS
XX	BOW
	BS
	BW
	EG
	FF
	FL
	G
	HP
	LP
	RM
	TC
	TG
	TP
	TS
	TW
(XXX.X±)	EXISTING GRADE (MATCH WHERE APPLICABLE)

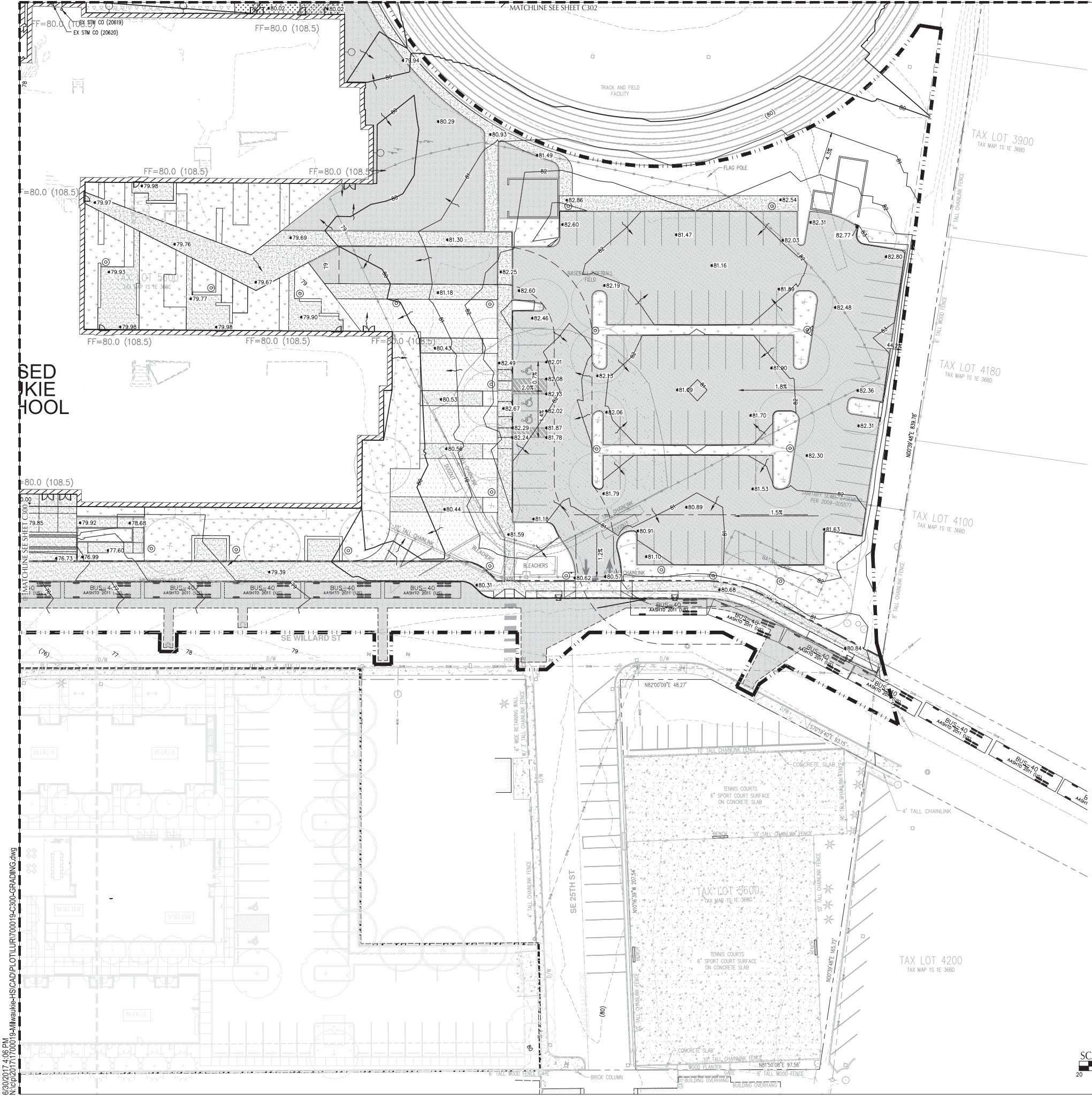
SHEET LEGEND

	DRAINAGE FLOW DIRECTION
	GRADE BREAK
	EX. CONTOUR MINOR
	EX. CONTOUR MAJOR
	CONTOUR MINOR (FG)
	CONTOUR MAJOR (FG)
	CONVEYANCE SWALE



FUTURE, PROPOSED
NHA DEVELOPMENT

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SHEET NOTES

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GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X%	GRADING SLOPE AND DIRECTION (DOWNHILL)
SPOT ELEVATION	SPOT ELEVATION
DESCRIPTION LISTED BELOW	DESCRIPTION LISTED BELOW
NO DESCRIPTION MEANS TP OR TG	NO DESCRIPTION MEANS TP OR TG
XXX.XX	EXISTING GRADE (MATCH WHERE APPLICABLE)
XX	SPOT ELEVATION
BOS	BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RM	RIM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL

SHEET LEGEND

	DRAINAGE FLOW DIRECTION
	GRADE BREAK
	EX. CONTOUR MINOR
	EX. CONTOUR MAJOR
	CONTOUR MINOR (FG)
	CONTOUR MAJOR (FG)
	CONVEYANCE SWALE



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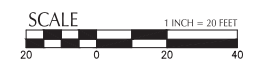
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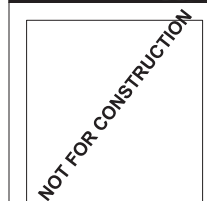
key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019
GRADING PLAN	

C301



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key plan

phase Land Use Review

date 9/29/2017

revisions 01/19/2018

project # 1700019

GRADING PLAN

SHEET NOTES

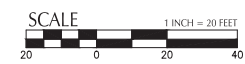
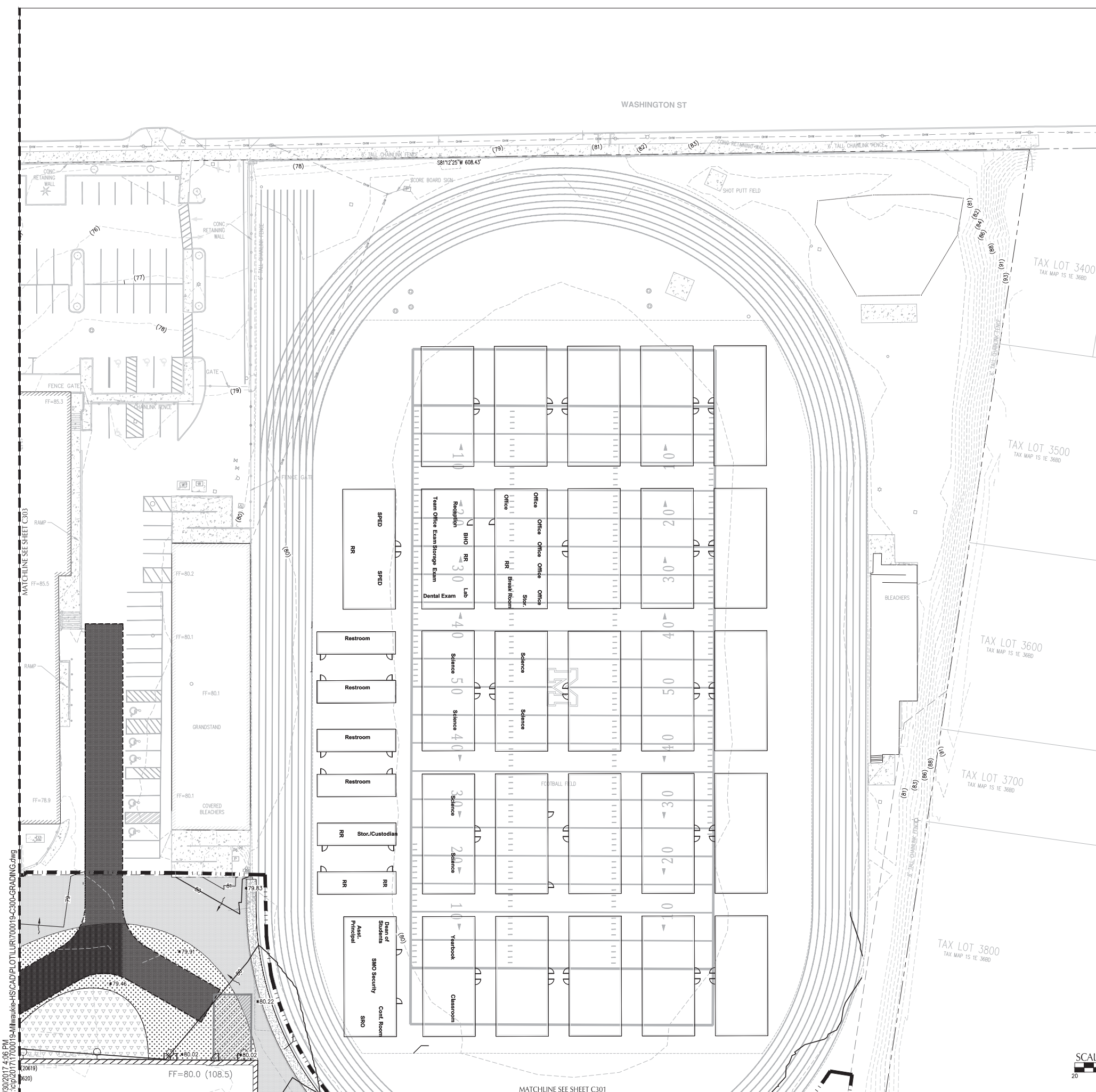
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GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X%	GRADING SLOPE AND DIRECTION (DOWNHILL)
XX.XX XX	SPOT ELEVATION DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
BOS	BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RM	RM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL
(XXX.X)	EXISTING GRADE (MATCH WHERE APPLICABLE)

SHEET LEGEND

	DRAINAGE FLOW DIRECTION
	GRADE BREAK
(49)	EX. CONTOUR MINOR
(50)	EX. CONTOUR MAJOR
49	CONTOUR MINOR (FG)
50	CONTOUR MAJOR (FG)
	CONVEYANCE SWALE



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FF=80.0 (108.5)

MATCHLINE SEE SHEET C301

MATCHLINE SEE SHEET C303



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key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018

project # 1700019

GRADING PLAN

C303

SHEET NOTES

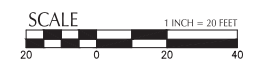
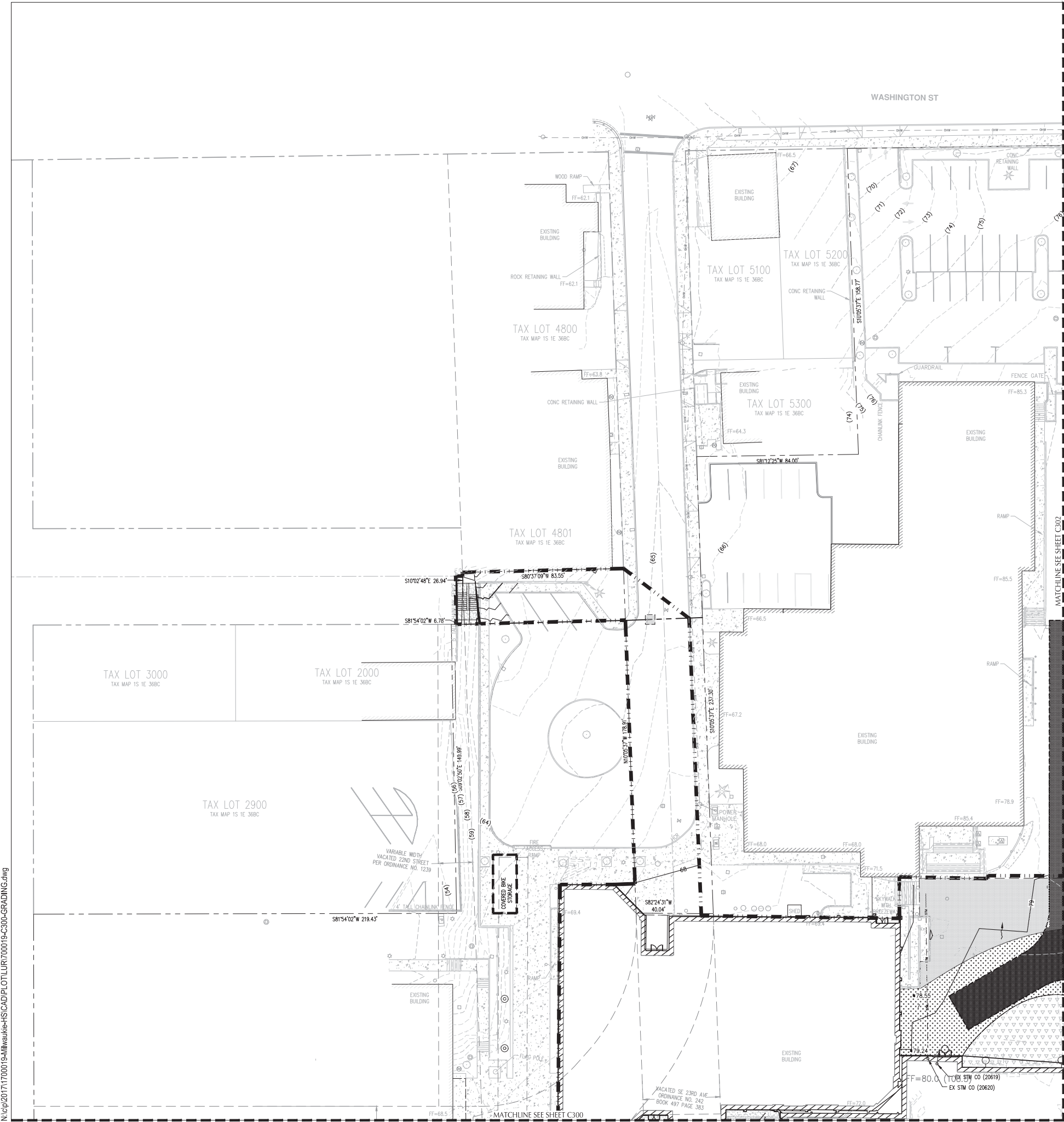
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GRADING LABEL LEGEND

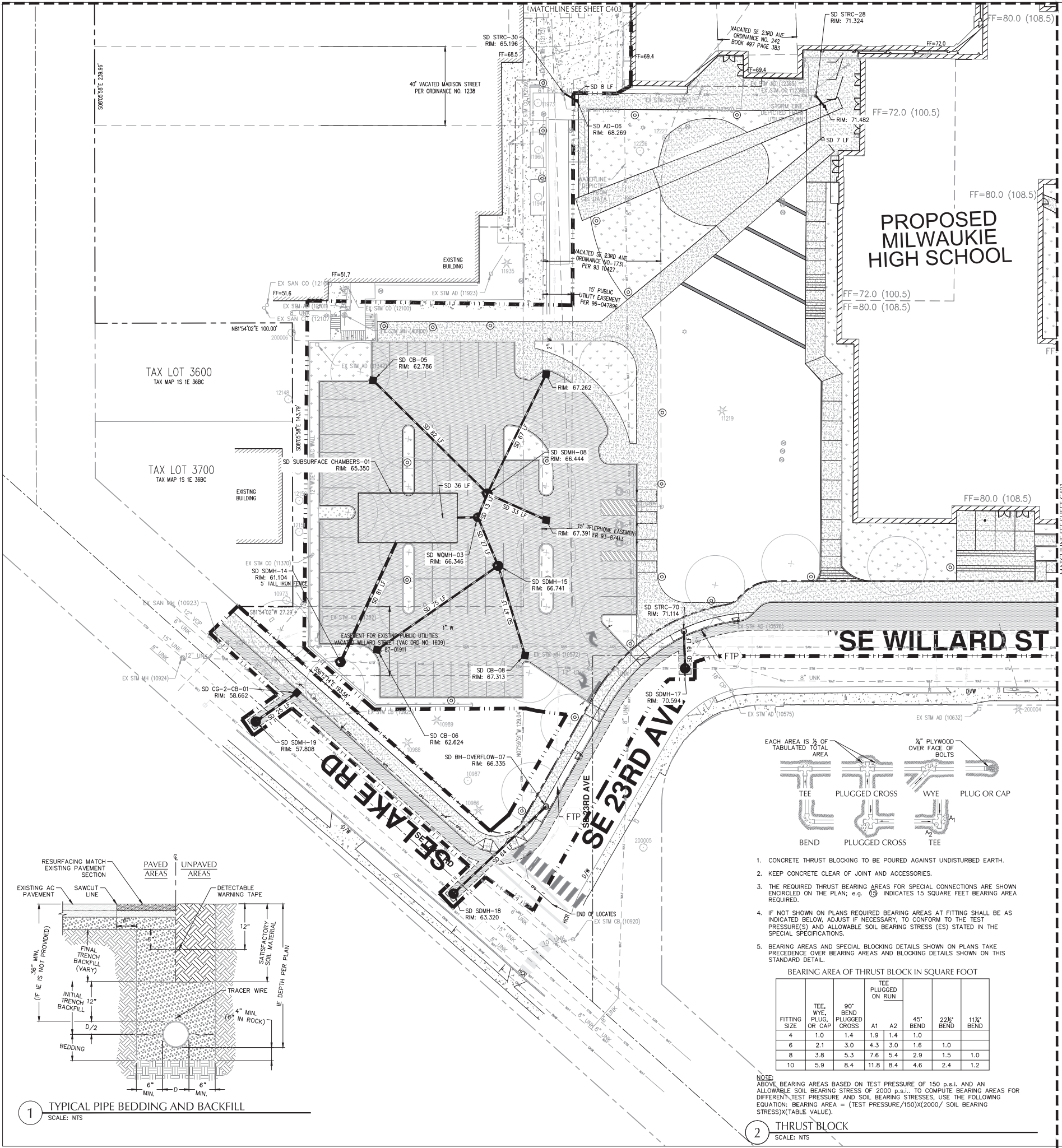
CALLOUT	DESCRIPTION
X.X%	GRADING SLOPE AND DIRECTION (DOWNHILL)
SPOT ELEVATION	DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
XX.XX XX	BOS BOTTOM OF SWALE
BOW	BACK OF WALK
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
HP	HIGH POINT
LP	LOW POINT
RM	RYM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TW	TOP WALL
(XXX.X±)	EXISTING GRADE (MATCH WHERE APPLICABLE)

SHEET LEGEND

	DRAINAGE FLOW DIRECTION
	GRADE BREAK
(49)	EX. CONTOUR MINOR
(50)	EX. CONTOUR MAJOR
49	CONTOUR MINOR (FG)
50	CONTOUR MAJOR (FG)
	CONVEYANCE SWALE



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SHEET NOTES

- ON-SITE PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
- OFF-SITE (IN ROW) PIPE BEDDING AND TRENCH BACKFILL AND SURFACING PER CITY STD DWG P-100 AND P-101.
- STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
- INSTALL THRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

UTILITY KEY NOTES

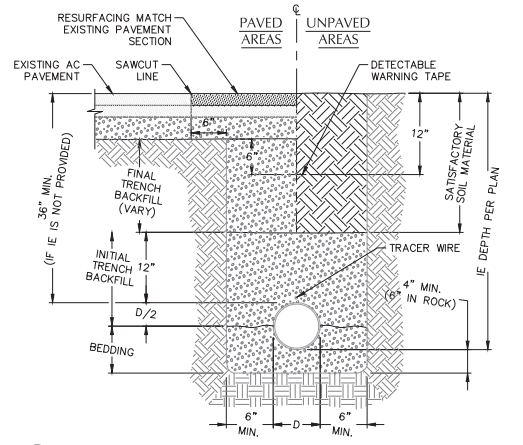
- NOTE DESCRIPTION DETAIL REF.
- KILL EXISTING WATER SERVICE
 - INSTALL 3" WATER METER
 - FIELD VERIFY LOCATION AND IE OF EXISTING WATER SERVICE LATERAL PRIOR TO CONSTRUCTION.
 - INSTALL STANDARD SANITARY MANHOLE.
- RPV 4" REDUCED PRESSURE BACKFLOW ASSEMBLY VAULT
 DC 3" IRRIGATION DOUBLE CHECK VAULT
 DCD 6" DOUBLE CHECK DETECTOR VAULT
 FP CONNECT TO FIRE PROTECTION SYSTEM. SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION.
 FTP FLOW THROUGH PLANTER
 IR 3" IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION.
 G CONNECT TO GAS METER. CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION.
 S CONNECT TO PROPOSED WASTE LINE. SEE PUBLIC IMPROVEMENT PLANS FOR CONTINUATION OF THE SANITARY EXTENSION.
 SD CONNECT TO STORM DRAIN/ROOF DRAIN. SEE THIS PLAN FOR CONTINUATION. SIZE AND IE AS NOTED.
 WQS WATER QUALITY SWALE. ID AS SHOWN.
 VDB VEGETATED DETENTION BASIN. ID AS SHOWN.
 !! UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE. U.N.O.

STRUCTURE TYPE

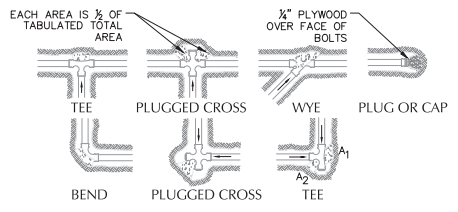
- CALLOUT DESCRIPTION DETAIL REF.
- AD2 AREA DRAIN TYPE 2
 - BWV BUTTERFLY VALVE
 - CB CATCH BASIN
 - CD CLEANOUT TO GRADE
 - DCVA DOUBLE CHECK VALVE ASSEMBLY
 - DDCV DOUBLE DETECTOR CHECK VALVE
 - DI DITCH INLET
 - FOMH FLOW CONTROL MANHOLE
 - FD FOUNDATION DRAINAGE
 - FDC FIRE DEPARTMENT CONNECTION
 - FH FIRE HYDRANT
 - GM GAS METER
 - GV GATE VALVE
 - HB HORIZONTAL BEND
 - MH MANHOLE
 - OF OUTFALL
 - OV2 OVERFLOW INLET TYPE 2
 - PRG PEDESTRIAN RATED GRATE
 - PUMP PUMP
 - RD ROOF DRAIN CONNECTION
 - RPBA REDUCED PRESSURE BACKFLOW ASSEMBLY
 - STUB STUB
 - TB THRUST BLOCK
 - TD TRENCH DRAIN
 - TEE TEE CONNECTION
 - VB VERTICAL BEND
 - WM WATER METER
 - WO WATER QUALITY
 - WOCB WATER QUALITY CATCH BASIN
 - WYE WYE CONNECTION

LEGEND

- CALLOUT DESCRIPTION
- FDC FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
 - FH FIRE HYDRANT ASSEMBLY
 - VALVE ISOLATION VALVE
 - METER WATER METER VAULT
 - TB THRUST BLOCK
 - GM GAS METER
 - MH MANHOLE
 - CD CLEANOUT
 - VT VAULT
 - SDMH STORM DRAIN MANHOLE
 - CB CATCH BASIN
- SD STORM DRAIN LINE
 W WATER LINE
 S SANITARY SEWER LINE
 FH FIRE HYDRANT LINE
 FP FIRE PROTECTION LINE
 T TELECOMMUNICATIONS LINE
 E ELECTRIC LINE
 NG NATURAL GAS LINE
 PUBLIC WATER LINE IN 15' WIDE EASEMENT



1 TYPICAL PIPE BEDDING AND BACKFILL
SCALE: NTS



- CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
- THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCIRCLED ON THE PLAN; e.g. 15 INDICATES 15 SQUARE FEET BEARING AREA REQUIRED.
- IF NOT SHOWN ON PLANS REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED BELOW, ADJUST IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS (ES) STATED IN THE SPECIAL SPECIFICATIONS.
- BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.

BEARING AREA OF THRUST BLOCK IN SQUARE FOOT

FITTING SIZE	TEE, WYE, PLUG, OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22 1/2° BEND	11 1/2° BEND
			A1	A2			
4	1.0	1.4	1.9	1.4	1.0	1.0	1.0
6	2.1	3.0	4.3	3.0	1.6	1.5	1.0
8	3.8	5.3	7.6	5.4	2.9	2.4	1.2
10	5.9	8.4	11.8	8.4	4.6	3.6	1.8

NOTE: ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 p.s.i. AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 p.s.i.. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURE AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150)(2000/ SOIL BEARING STRESS)(TABLE VALUE).

2 THRUST BLOCK
SCALE: NTS



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f: (503) 353-6000

key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019

STORM DRAINAGE PLAN

C400

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SHEET NOTES

1. ON-SITE PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
2. OFF-SITE (IN ROW) PIPE BEDDING AND TRENCH BACKFILL AND SURFACING PER CITY STD DWG P-100 AND P-101.
3. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
4. INSTALL TRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

UTILITY KEY NOTES

- | NOTE | DESCRIPTION | DETAIL REF. |
|------|--|-------------|
| 1 | KILL EXISTING WATER SERVICE | |
| 2 | INSTALL 3" WATER METER | |
| 3 | FIELD VERIFY LOCATION AND IE OF EXISTING WATER SERVICE LATERAL PRIOR TO CONSTRUCTION. | |
| 4 | INSTALL STANDARD SANITARY MANHOLE. | |
| RPV | 4" REDUCED PRESSURE BACKFLOW ASSEMBLY VAULT | |
| DC | 3" IRRIGATION DOUBLE CHECK VAULT | |
| DCD | 6" DOUBLE CHECK DETECTOR VAULT | |
| FP | CONNECT TO FIRE PROTECTION SYSTEM. SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION. | |
| FTP | FLOW THROUGH PLANTER | |
| IR | 3" IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION. | |
| G | CONNECT TO GAS METER. CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION. | |
| S | CONNECT TO PROPOSED WASTE LINE. SEE PUBLIC IMPROVEMENT PLANS FOR CONTINUATION OF THE SANITARY EXTENSION. | |
| SD | CONNECT TO STORM DRAIN/ROOF DRAIN. SEE THIS PLAN FOR CONTINUATION. SIZE AND IE AS NOTED. | |
| WQS | WATER QUALITY SWALE. ID AS SHOWN. | |
| VOB | VEGETATED DETENTION BASIN. ID AS SHOWN. | |
| !! | UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O. | |

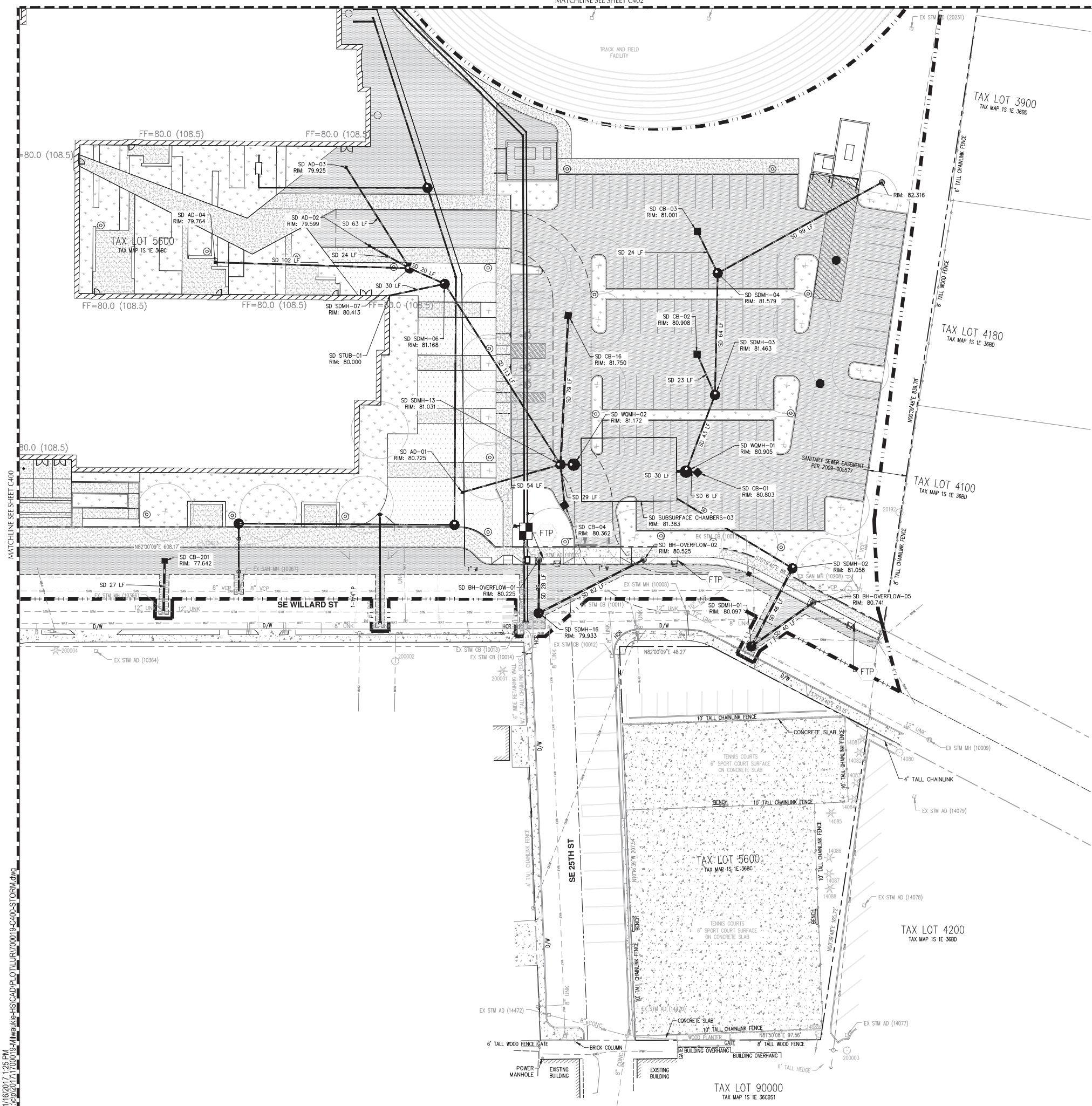
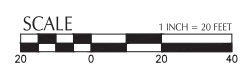
STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
AD2	AREA DRAIN TYPE 2	
BWV	BUTTERFLY VALVE	
CB	CATCH BASIN	
CO	CLEANOUT TO GRADE	
DCVA	DOUBLE CHECK VALVE ASSEMBLY	
DDCV	DOUBLE DETECTOR CHECK VALVE	
DI	DITCH INLET	
FCMH	FLOW CONTROL MANHOLE	
FD	FOUNDATION DRAINAGE	
FDC	FIRE DEPARTMENT CONNECTION	
FH	FIRE HYDRANT	
GM	GAS METER	
GV	GATE VALVE	
HB	HORIZONTAL BEND	
MH	MANHOLE	
OF	OUTFALL	
OV2	OVERFLOW INLET TYPE 2	
PRG	PEDESTRIAN RATED GRATE	
PUMP	PUMP	
RD	ROOF DRAIN CONNECTION	
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	
STUB	STUB	
TB	THRUST BLOCK	
TD	TRENCH DRAIN	
TEE	TEE CONNECTION	
VB	VERTICAL BEND	
WM	WATER METER	
WQ	WATER QUALITY	
WQCB	WATER QUALITY CATCH BASIN	
WYE	WYE CONNECTION	

LEGEND

CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
MH	MANHOLE
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE IN 15' WIDE EASEMENT



MATCHLINE SEE SHEET C400

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key plan

phase Land Use Review

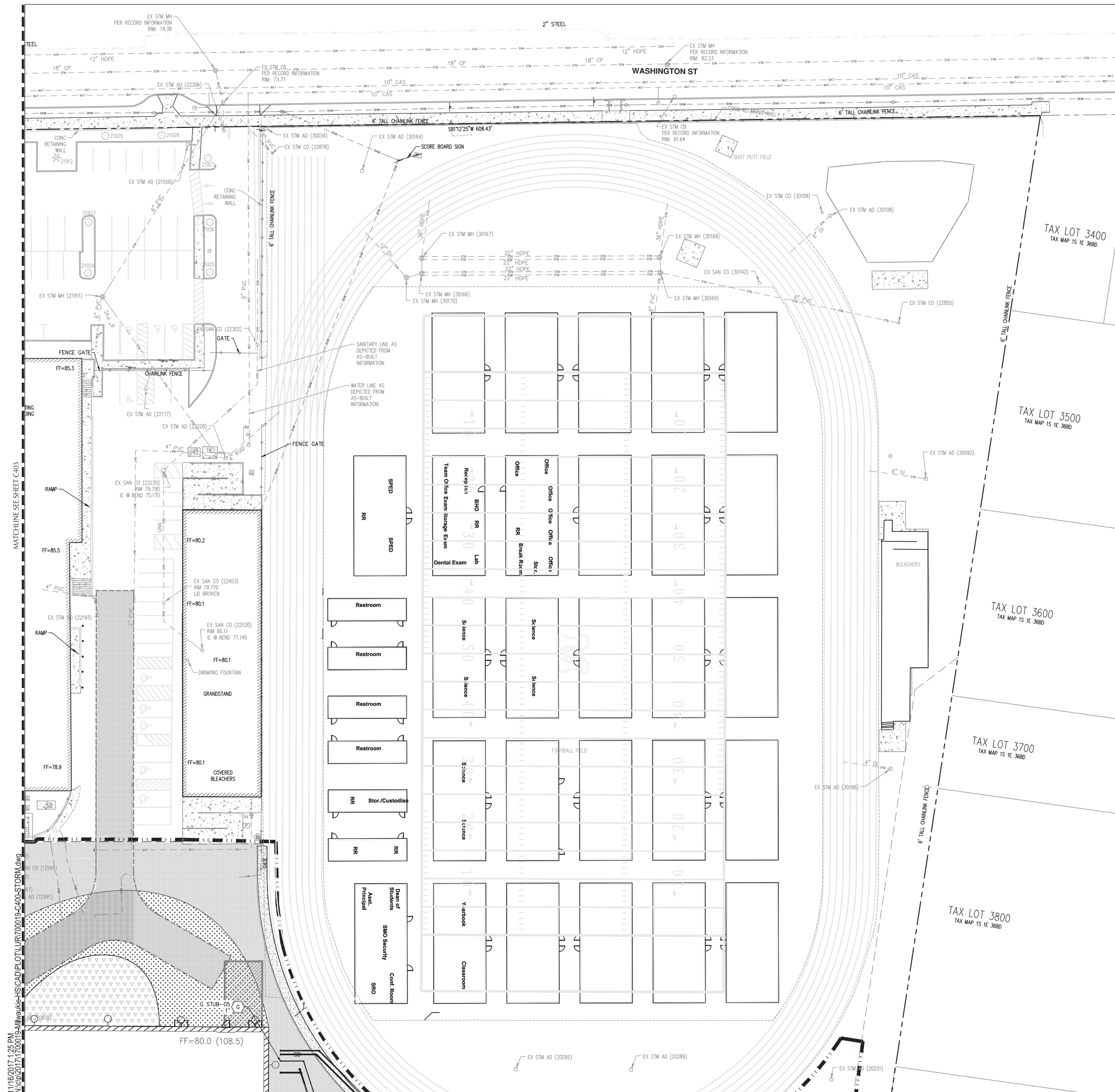
date 9/29/2017

revisions 01/19/2018

project # 1700019

STORM DRAINAGE PLAN

C401



SHEET NOTES

- ON-SITE PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
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- STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
- INSTALL TRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

UTILITY KEY NOTES

- | 2) IE DESCRIPTION | DETAIL REF. |
|--|-------------|
| KILL EXISTING WATER SERVICE | |
| INSTALL 3" WATER METER | |
| FIELD VERIFY LOCATION AND IE OF EXISTING WATER SERVICE LATERAL PRIOR TO CONSTRUCTION. | |
| INSTALL STANDARD SANITARY MANHOLE. | |
| 4" REDUCED PRESSURE BACKFLOW ASSEMBLY VAULT | |
| 3" IRRIGATION DOUBLE CHECK VAULT | |
| 6" DOUBLE CHECK DETECTOR VAULT | |
| CONNECT TO FIRE PROTECTION SYSTEM. SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION. | |
| FLOW THROUGH PLANTER | |
| 3" IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION. | |
| CONNECT TO GAS METER. CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION. | |
| CONNECT TO PROPOSED WASTE LINE. SEE PUBLIC IMPROVEMENT PLANS FOR CONTINUATION OF THE SANITARY EXTENSION. | |
| CONNECT TO STORM DRAIN/ROOF DRAIN. SEE THIS PLAN FOR CONTINUATION. SIZE AND IE AS NOTED. | |
| WATER QUALITY SWALE. ID AS SHOWN. | |
| VEGETATED DETENTION BASIN. ID AS SHOWN. | |
| UTILITY CROSSING. PROVIDE 12" MIN. CLEARANCE, U.N.O. | |

STRUCTURE TYPE

CALLOUT	DESCRIPTION
AD2	AREA DRAIN TYPE 2
BWV	BUTTERFLY VALVE
CB	CATCH BASIN
CO	CLEANOUT TO GRADE
DCVA	DOUBLE CHECK VALVE ASSEMBLY
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DI	DITCH INLET
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FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
GM	GAS METER
GV	GATE VALVE
HB	HORIZONTAL BEND
MH	MANHOLE
OF	OUTFALL
OV2	OVERFLOW INLET TYPE 2
PRG	PEDESTRIAN RATED GRATE
PUMP	PUMP
RD	ROOF DRAIN CONNECTION
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STUB	STUB
TB	THRUST BLOCK
TD	TRENCH DRAIN
TEE	TEE CONNECTION
VB	VERTICAL BEND
WM	WATER METER
WO	WATER QUALITY
WQCB	WATER QUALITY CATCH BASIN
WYE	WYE CONNECTION

LEGEND

CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
MH	MANHOLE
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE IN 15' WIDE EASEMENT



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key plan	
phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019

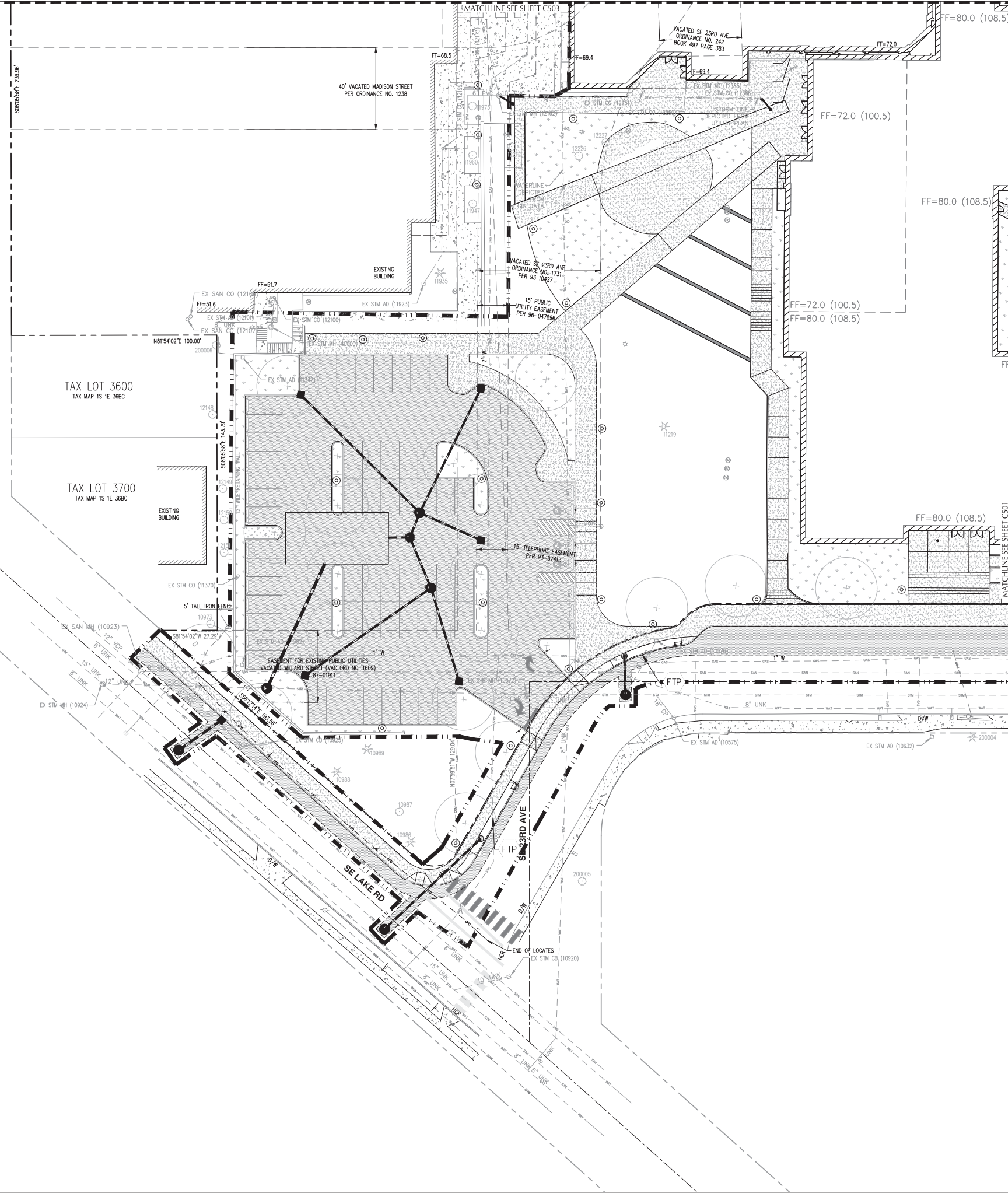
STORM DRAINAGE PLAN

C402

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MATCHLINE SEE SHEET C-401

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SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
2. STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
3. INSTALL TRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

KEY NOTES

- NOTE DESCRIPTION**
- 1 KILL EXISTING WATER SERVICE, BY WATER BUREAU UNDER SEPARATE PERMIT.
 - 2 INSTALL 3" WATER METER, COORDINATE INSTALLATION WITH CITY OF MILWAUKIE.
 - 3 INSTALL 4" DOMESTIC WATER SERVICE, COORDINATE WITH CITY OF MILWAUKIE FOR TAPPING AND INSTALLATION.
 - 4 INSTALL 6" FIRE SERVICE, COORDINATE INSTALLATION WITH CITY OF MILWAUKIE.
 - 5 INSTALL GAS SERVICE
 - FH INSTALL FIRE HYDRANT AND 8" SERVICE, COORDINATE WITH CITY OF MILWAUKIE.
 - DCV INSTALL COMBINATION WATER AND FIRE DOUBLE CHECK DETECTOR VAULT AND ASSEMBLIES
 - FP CONNECT TO FIRE PROTECTION SYSTEM, SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION.
 - IR IRRIGATION POINT OF CONNECTION, SEE IRRIGATION PLANS FOR CONTINUATION.
 - G CONNECT TO GAS METER, CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION.
 - S CONNECT TO WASTE LINE, SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
 - W CONNECT TO COLD WATER SYSTEM, SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.

UTILITY LABEL LEGEND

STRUCTURE LABEL
 UTILITY TYPE (S=SANITARY SEWER, W=WATER, FP=FIRE PROTECTION)
 STRUCTURE TYPE CALLOUT
 XX XX-XX ID NUMBER (WHERE APPLICABLE)

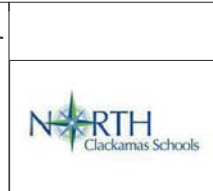
PIPE LABEL
 UTILITY LENGTH
 UTILITY SIZE
 UTILITY TYPE
 XX'LF - XX" XX"
 S=X.XXX% SLOPE (WHERE APPLICABLE)

CALLOUT	DESCRIPTION	DETAIL REF.
CO	CLEANOUT TO GRADE	TBD
DCV	DOUBLE CHECK VAULT	TBD
FDC	FIRE DEPARTMENT CONNECTION	TBD
FH	FIRE HYDRANT	TBD
GI	GREASE INTERCEPTOR	TBD
GM	GAS METER	TBD
GV	GATE VALVE	TBD
HB	HORIZONTAL BEND	TBD
SSMH	MANHOLE	TBD
PIV	POST INDICATOR VALVE	TBD
PLUG	PLUG	TBD
PUMP	PUMP	TBD
STUB	STUB	TBD
TEE	TEE CONNECTION	TBD
WM	WATER METER	TBD

LEGEND

CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
MH	MANHOLE
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE
	IN 15' WIDE EASEMENT



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key plan	
phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019
WATER & SEWER UTILITY PLAN	
C500	





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key plan

phase Land Use Review

date 9/29/2017

revisions 01/19/2018

project # 1700019

WATER & SEWER UTILITY PLAN

C501

SHEET NOTES

- PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 1/C400.
- STRUCTURES LOCATIONS ARE BASED ON CENTER OF STRUCTURE.
- INSTALL TRUST BLOCK ON FIRE AND WATER LINES PER DETAIL 2/C400.

KEY NOTES

- NOTE DESCRIPTION
- KILL EXISTING WATER SERVICE, BY WATER BUREAU UNDER SEPARATE PERMIT.
 - INSTALL 3" WATER METER, COORDINATE INSTALLATION WITH CITY OF MILWAUKIE.
 - INSTALL 4" DOMESTIC WATER SERVICE COORDINATE WITH CITY OF MILWAUKIE FOR TAPPING AND INSTALLATION.
 - INSTALL 6" FIRE SERVICE, COORDINATE INSTALLATION WITH CITY OF MILWAUKIE.
 - INSTALL GAS SERVICE
 - INSTALL FIRE HYDRANT AND 8" SERVICE, COORDINATE WITH CITY OF MILWAUKIE.
 - INSTALL COMBINATION WATER AND FIRE DOUBLE CHECK DETECTOR VAULT AND ASSEMBLIES
 - CONNECT TO FIRE PROTECTION SYSTEM, SIZE AS NOTED. SEE PLUMBING PLANS FOR CONTINUATION.
 - IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION.
 - CONNECT TO GAS METER, CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION.
 - CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
 - CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (S=SANITARY SEWER, W=WATER, FP= FIRE PROTECTION)

STRUCTURE TYPE CALLOUT

XX XX-XX ID NUMBER (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH

UTILITY SIZE

UTILITY TYPE

XX LF - XX" XX

S=X.XXX% SLOPE (WHERE APPLICABLE)

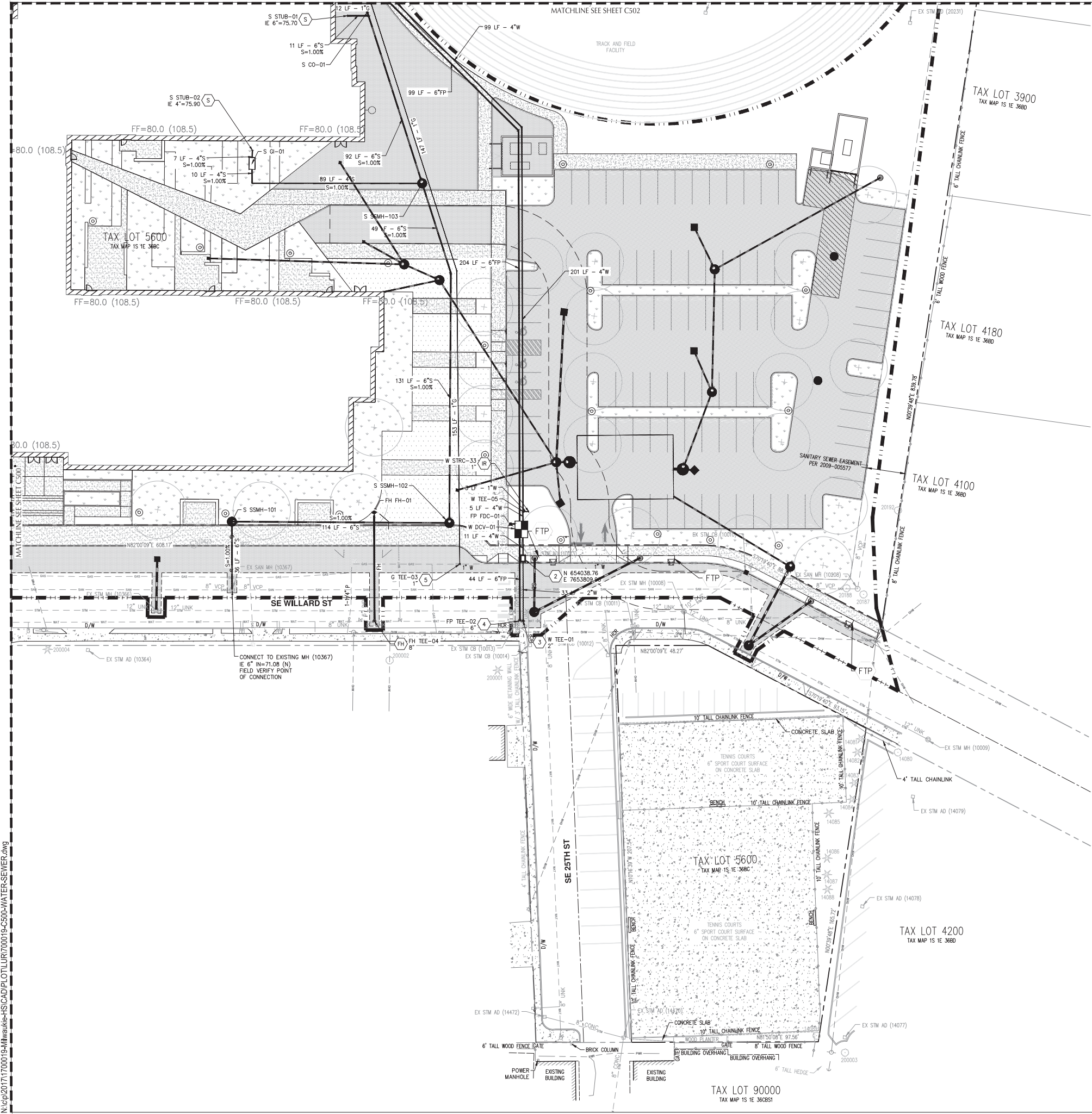
STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
CO	CLEANOUT TO GRADE	TBD
DCV	DOUBLE CHECK VAULT	TBD
FDC	FIRE DEPARTMENT CONNECTION	TBD
FH	FIRE HYDRANT	TBD
GI	GREASE INTERCEPTOR	TBD
GM	GAS METER	TBD
GV	GATE VALVE	TBD
HB	HORIZONTAL BEND	TBD
SSMH	MANHOLE	TBD
PIV	POST INDICATOR VALVE	TBD
PLUG	PLUG	TBD
PUMP	PUMP	TBD
STUB	STUB	TBD
TEE	TEE CONNECTION	TBD
WM	WATER METER	TBD

LEGEND

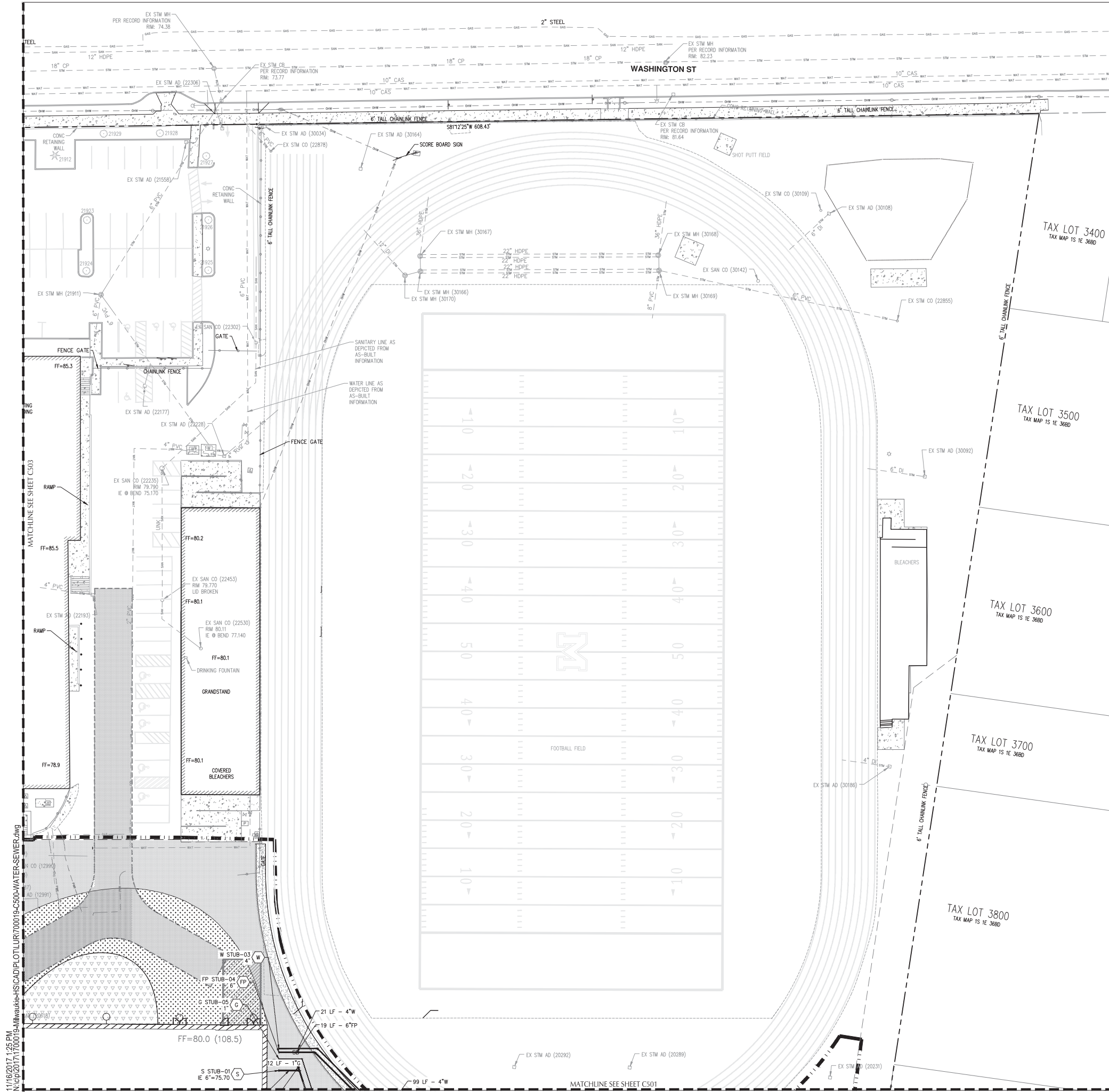
CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE IN 15' WIDE EASEMENT



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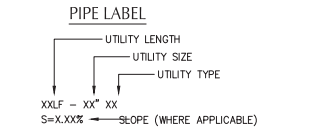
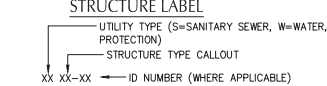
TAX LOT 9000
TAX MAP 15 1E 36C81



KEY NOTES

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 - IRRIGATION POINT OF CONNECTION. SEE IRRIGATION PLANS FOR CONTINUATION.
 - CONNECT TO GAS METER. CONTRACTOR TO COORDINATE WITH GAS COMPANY. SEE PLUMBING PLANS FOR CONTINUATION.
 - CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
 - CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.

UTILITY LABEL LEGEND



STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
CO	CLEANOUT TO GRADE	TBD
DCV	DOUBLE CHECK VAULT	TBD
FDC	FIRE DEPARTMENT CONNECTION	TBD
FH	FIRE HYDRANT	TBD
GI	GREASE INTERCEPTOR	TBD
GM	GAS METER	TBD
GV	GATE VALVE	TBD
HB	HORIZONTAL BEND	TBD
SSMH	MANHOLE	TBD
PV	POST INDICATOR VALVE	TBD
PLUG	PLUG	TBD
PUMP	PUMP	TBD
STUB	STUB	TBD
TEE	TEE CONNECTION	TBD
WM	WATER METER	TBD

LEGEND

CALLOUT	DESCRIPTION
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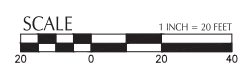
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key plan

phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019
WATER & SEWER UTILITY PLAN	
C502	

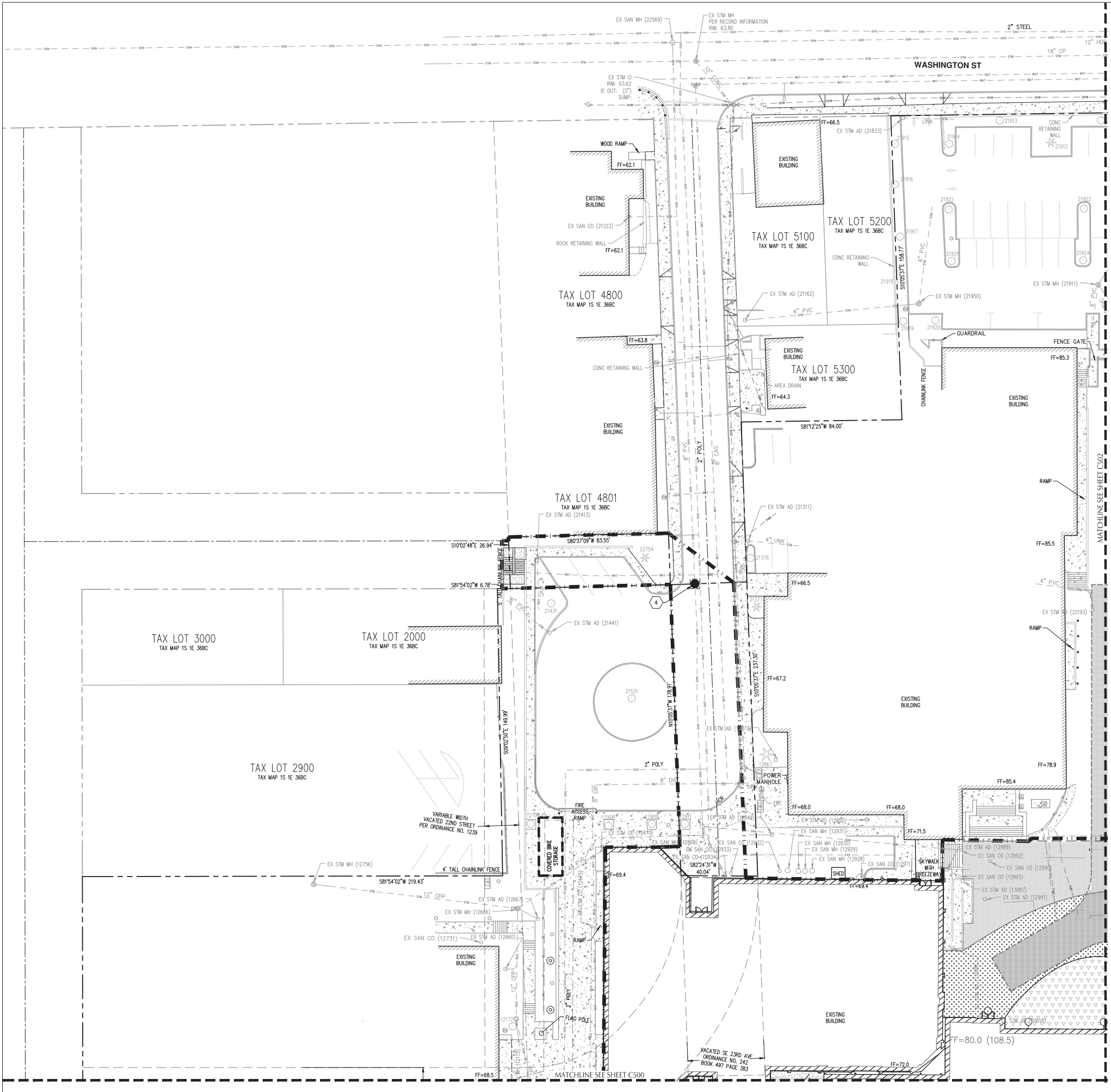


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MATCHLINE SEE SHEET C503

MATCHLINE SEE SHEET C501

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 - CONNECT TO WASTE LINE. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.
 - CONNECT TO COLD WATER SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AS NOTED.

UTILITY LABEL LEGEND

STRUCTURE LABEL
 UTILITY TYPE (S=SANITARY SEWER, W=WATER, FP= FIRE PROTECTION)
 STRUCTURE TYPE CALLOUT
 XX XX-XX ID NUMBER (WHERE APPLICABLE)

PIPE LABEL
 UTILITY LENGTH
 UTILITY SIZE
 UTILITY TYPE
 XXLF - XX" XX
 S=X.XXX% SLOPE (WHERE APPLICABLE)

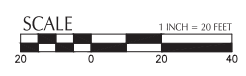
STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
CO	CLEANOUT TO GRADE	TBD
DCV	DOUBLE CHECK VAULT	TBD
FDC	FIRE DEPARTMENT CONNECTION	TBD
FH	FIRE HYDRANT	TBD
GI	GREASE INTERCEPTOR	TBD
GM	GAS METER	TBD
GV	GATE VALVE	TBD
HB	HORIZONTAL BEND	TBD
SSMH	MANHOLE	TBD
PIV	POST INDICATOR VALVE	TBD
PLUG	PLUG	TBD
PUMP	PUMP	TBD
STUB	STUB	TBD
TEE	TEE CONNECTION	TBD
WM	WATER METER	TBD

LEGEND

CALLOUT	DESCRIPTION
FDC	FIRE DEPARTMENT CONNECTION/DRY STANDPIPE
FH	FIRE HYDRANT ASSEMBLY
VALVE	ISOLATION VALVE
METER	WATER METER VAULT
TB	THRUST BLOCK
GM	GAS METER
MH	MANHOLE
CO	CLEANOUT
VT	VAULT
SDMH	STORM DRAIN MANHOLE
CB	CATCH BASIN

SD	STORM DRAIN LINE
W	WATER LINE
S	SANITARY SEWER LINE
FH	FIRE HYDRANT LINE
FP	FIRE PROTECTION LINE
T	TELECOMMUNICATIONS LINE
E	ELECTRIC LINE
NG	NATURAL GAS LINE
	PUBLIC WATER LINE IN 15' WIDE EASEMENT



BRIC
ARCHITECTURE, INC.

1233 NW Northrup Street
Suite 100
Portland, Oregon 97209
tel. (503) 226 6950
fax. (503) 273 9192

NOT FOR CONSTRUCTION



Milwaukie High School
North Clackamas School District
11300 SE 23rd Avenue, Milwaukie, OR 97222
t: (503) 353-6000
f: (503) 353-6000

key plan

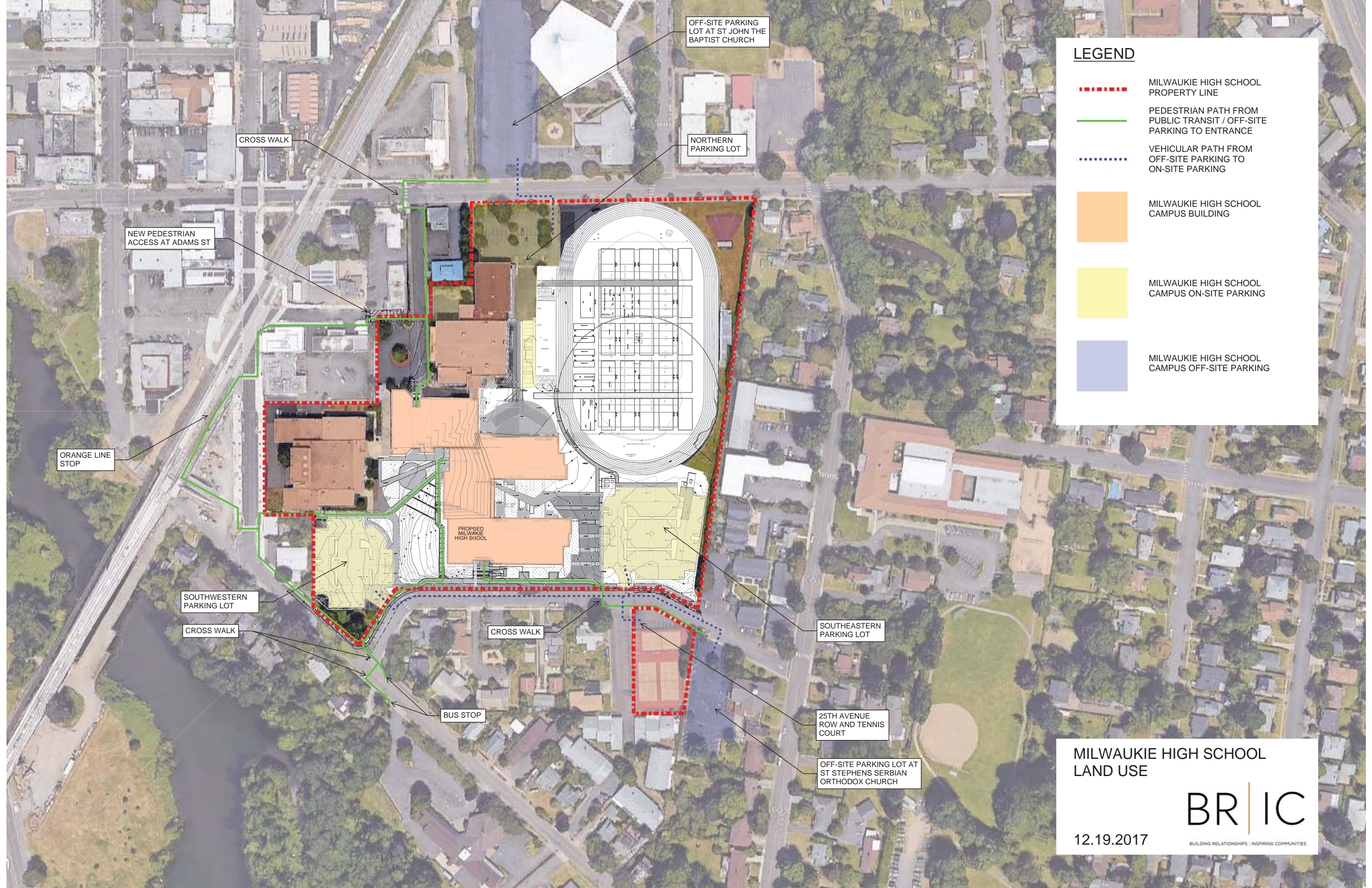
phase	Land Use Review
date	9/29/2017
revisions	01/19/2018
project #	1700019
WATER & SEWER UTILITY PLAN	
C503	



M
H
S



Milwaukie High School



LEGEND

- - - - - MILWAUKIE HIGH SCHOOL PROPERTY LINE
- PEDESTRIAN PATH FROM PUBLIC TRANSIT / OFF-SITE PARKING TO ENTRANCE
- - - - - VEHICULAR PATH FROM OFF-SITE PARKING TO ON-SITE PARKING
- MILWAUKIE HIGH SCHOOL CAMPUS BUILDING
- MILWAUKIE HIGH SCHOOL CAMPUS ON-SITE PARKING
- MILWAUKIE HIGH SCHOOL CAMPUS OFF-SITE PARKING

CROSS WALK

OFF-SITE PARKING LOT AT ST JOHN THE BAPTIST CHURCH

NORTHERN PARKING LOT

NEW PEDESTRIAN ACCESS AT ADAMS ST

ORANGE LINE STOP

SOUTHWESTERN PARKING LOT

BUS STOP

CROSS WALK

CROSS WALK

SOUTHEASTERN PARKING LOT

25TH AVENUE ROW AND TENNIS COURT

OFF-SITE PARKING LOT AT ST STEPHENS SERBIAN ORTHODOX CHURCH

MILWAUKIE HIGH SCHOOL
LAND USE

BR | IC

12.19.2017

BUILDING RELATIONSHIPS | INSPIRING COMMUNITIES

LEVEL ONE PLAN



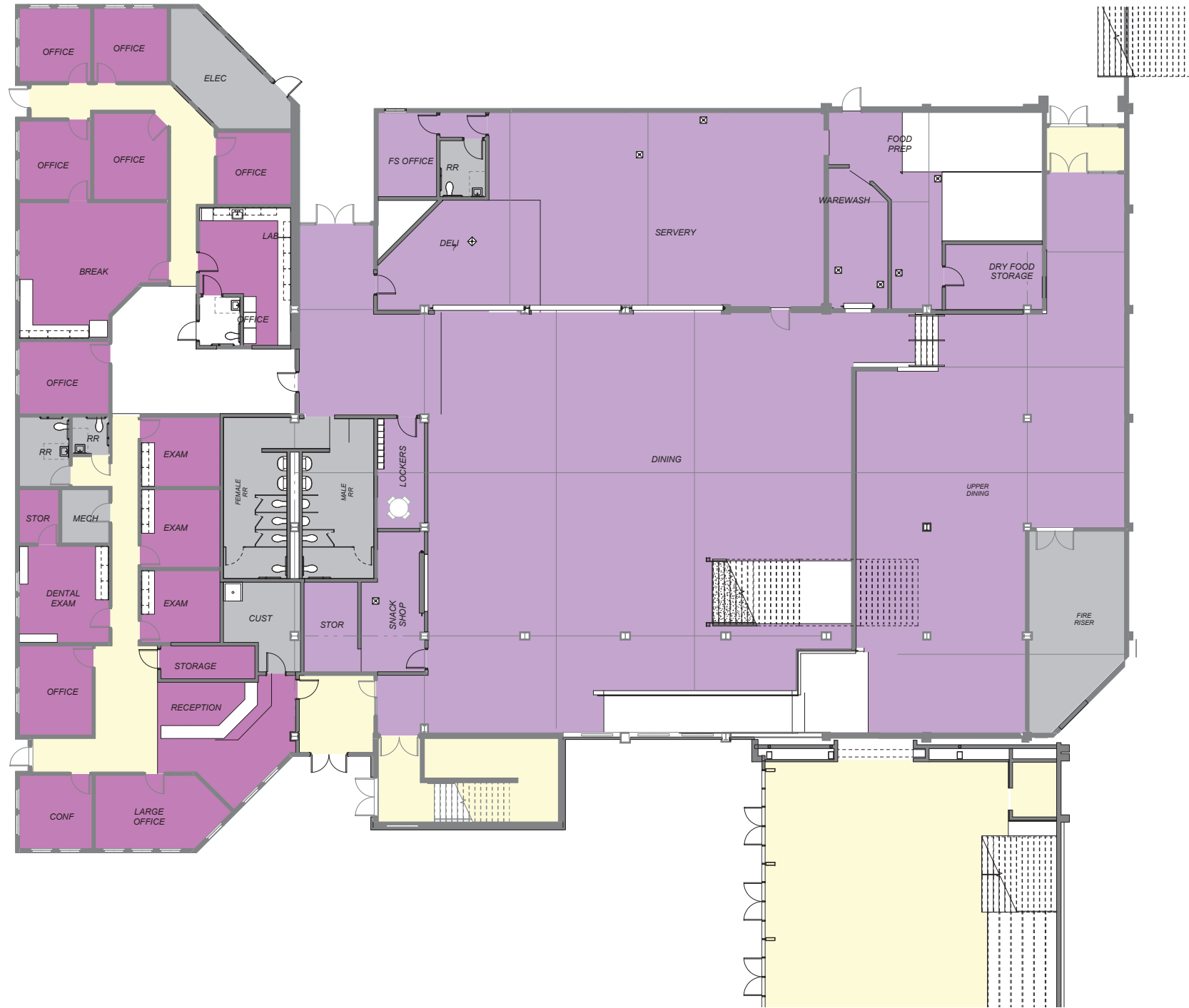
LEVEL TWO PLAN



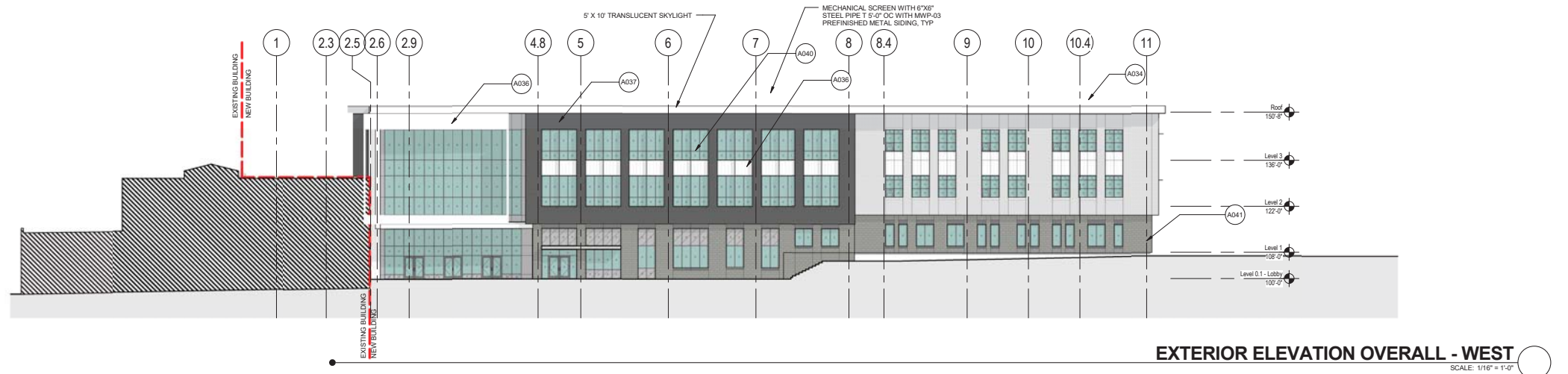
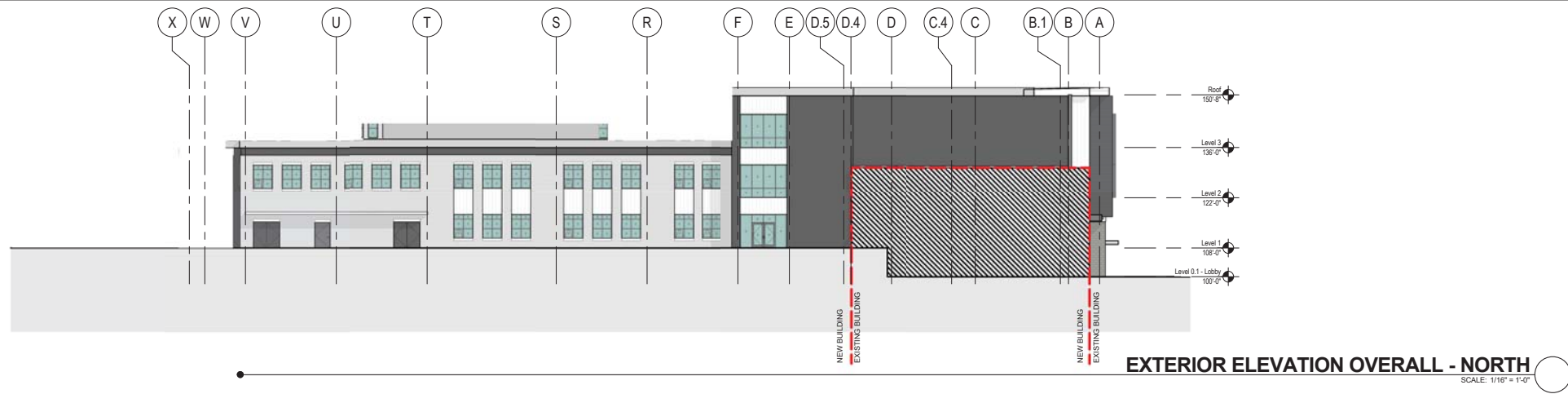
LEVEL THREE PLAN

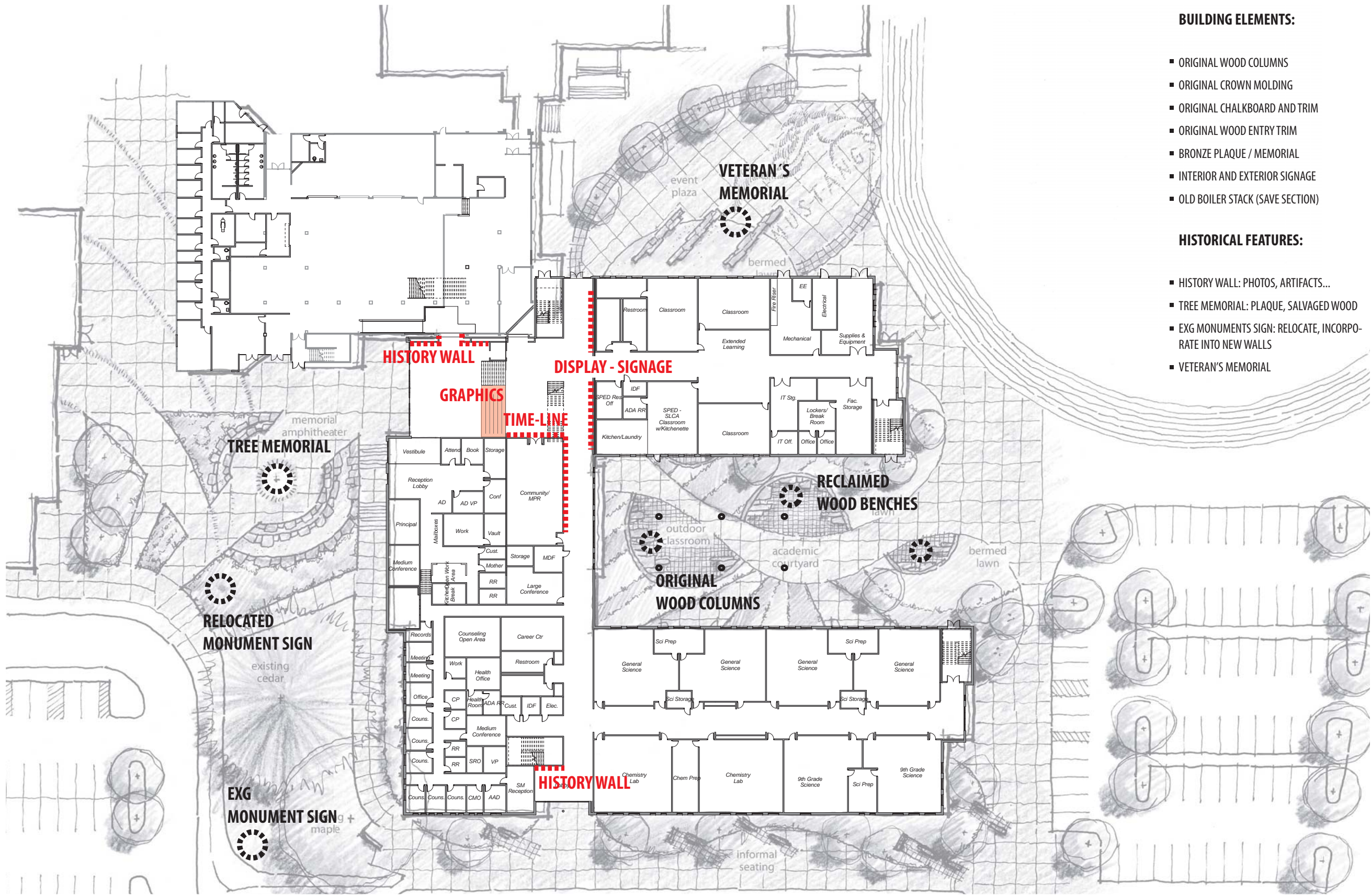
BRIC ARCHITECTURE INC.





Overall Elevations





BUILDING ELEMENTS:

- ORIGINAL WOOD COLUMNS
- ORIGINAL CROWN MOLDING
- ORIGINAL CHALKBOARD AND TRIM
- ORIGINAL WOOD ENTRY TRIM
- BRONZE PLAQUE / MEMORIAL
- INTERIOR AND EXTERIOR SIGNAGE
- OLD BOILER STACK (SAVE SECTION)

HISTORICAL FEATURES:

- HISTORY WALL: PHOTOS, ARTIFACTS...
- TREE MEMORIAL: PLAQUE, SALVAGED WOOD
- EXG MONUMENTS SIGN: RELOCATE, INCORPORATE INTO NEW WALLS
- VETERAN'S MEMORIAL

LAND USE LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	HOUSING	SHIELDING	MOUNTING	FINISH	ULIP RATING	DRIVER/POWER SUPPLY	LAMP(S)	INPUT WATTS	MFG/CATALOG #
EX	EXISTING POST TOP LED PEDESTAL LUMINAIRES TO REMAIN									
SA-2	POST TOP LED AREA LUMINAIRES TO MATCH EXISTING, TYPE II DISTRIBUTION	NOMINAL 18-INCH DIAMETER BY OVERALL HEIGHT OF 32-INCH DIE-CAST ALUMINUM	PRECISION ACRYLIC REFRACTIVE OPTICS	18-FOOT HIGH, STRAIGHT STEEL ROUND POLE. POLE TO WITHSTAND 100 MILE PER HOUR WINDS WITH A GUST FACTOR OF 1.3. ABOVE ROUND CONCRETE PEDESTAL.	DARK BRONZE			NOMINAL 6605 LUMENS, 4000K, 80 CRI	75 WATTS	LITHONIA LIGHTING MRP LED SERIES TO MATCH EXISTING
SA-5	POST TOP LED AREA LUMINAIRES TO MATCH EXISTING, TYPE V DISTRIBUTION	NOMINAL 18-INCH DIAMETER BY OVERALL HEIGHT OF 32-INCH DIE-CAST ALUMINUM	PRECISION ACRYLIC REFRACTIVE OPTICS	18-FOOT HIGH, STRAIGHT STEEL ROUND POLE. POLE TO WITHSTAND 100 MILE PER HOUR WINDS WITH A GUST FACTOR OF 1.3. ABOVE ROUND CONCRETE PEDESTAL.	DARK BRONZE			NOMINAL 6605 LUMENS, 4000K, 80 CRI	75 WATTS	LITHONIA LIGHTING MRP LED SERIES TO MATCH EXISTING
SA-EX	EXISTING POST TOP LED AREA LUMINAIRES TO REMAIN				DARK BRONZE				75 WATTS	
SA-R	EXISTING POST TOP LED AREA LUMINAIRES TO BE REUSED AND RELOCATED				DARK BRONZE				75 WATTS	
SB	POST-TOP LED AREA LIGHT WITH TYPE V SYMMETRIC DISTRIBUTION	NOMINAL 25-INCH DIAMETER BY 25.75-INCH HIGH CAST ALUMINUM; CORROSION RESISTANT	INJECTION-MOLDED ACRYLIC PIXELATION-FREE LENS WITH WAVESTREAM OPTICS	12-FOOT HIGH, STRAIGHT STEEL ROUND POLE. POLE TO WITHSTAND 100 MILE PER HOUR WINDS WITH A GUST FACTOR OF 1.3. FLUSH ROUND CONCRETE PEDESTAL.	AS SELECTED BY ARCHITECT	IP66	INTEGRAL DRIVER; 0-10V DIMMING	NOMINAL 1930 LUMENS; 3000K LED; >80 CRI	24 WATTS	INVUE ARBOR POST TOP SERIES
SC	WALL MOUNTED LED LUMINAIRE WITH TYPE IV SYMMETRIC DISTRIBUTION	NOMINAL 17-INCH WIDE BY 14-INCH DEEP BY 7.25-INCH HIGH DIE CAST ALUMINUM	CLEAR POLYMER	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	AS SELECTED BY ARCHITECT	IP68	INTEGRAL DRIVER; 0-10V DIMMING	NOMINAL 2747 LUMENS; 3000K LED; >80CRI	28 WATTS	PHILIPS GARDCO 101L SERIES

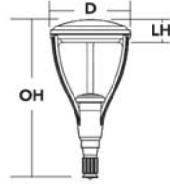
TYPE SA & EXISTING



MRP LED LED Area Luminaire

Specifications

EPA: 1.125 ft² (0.105 m²)
 Luminaire Height: 6-3/8" (16.2 cm)
 Overall Height: 32" (81.3 cm)
 Diameter: 18" (45.7 cm)
 Weight (max): 37.5 lbs (17 kg)



Wall Mount

TYPE SC



Calculation Summary

Label	Calc Type	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Site	Illuminance	fc	1.42	15.7	0.0	N/A	N/A
North East Parking	Illuminance	fc	1.33	2.9	0.2	6.88	17.25
South East Parking	Illuminance	fc	1.40	4.5	0.1	14.00	45.00
Staff Parking	Illuminance	fc	1.22	3.9	0.1	12.20	39.00

1 SITE PHOTOMETRICS - LIGHTING
 SCALE: 1"=30'-0"

PROJECT: 2017-0517
 CONTACT: Deborah Radner
 INTERFACE ENGINEERING
 100 SW Main Street
 Suite 1600
 Portland, OR 97204
 TEL: 503.382.2286
 FAX: 503.382.2282
 www.interfaceengineering.com

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Milwaukie High School

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key plan

revisions	
phase date project	85% Design Development 17010
SITE PHOTOMETRICS - LIGHTING	
EPH1	

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MILWAUKIE HIGH SCHOOL

NORTH CLACKAMAS SCHOOL DISTRICT
2301 SE Willard Street, Milwaukie, OR 97222
t: (503) 353-6000
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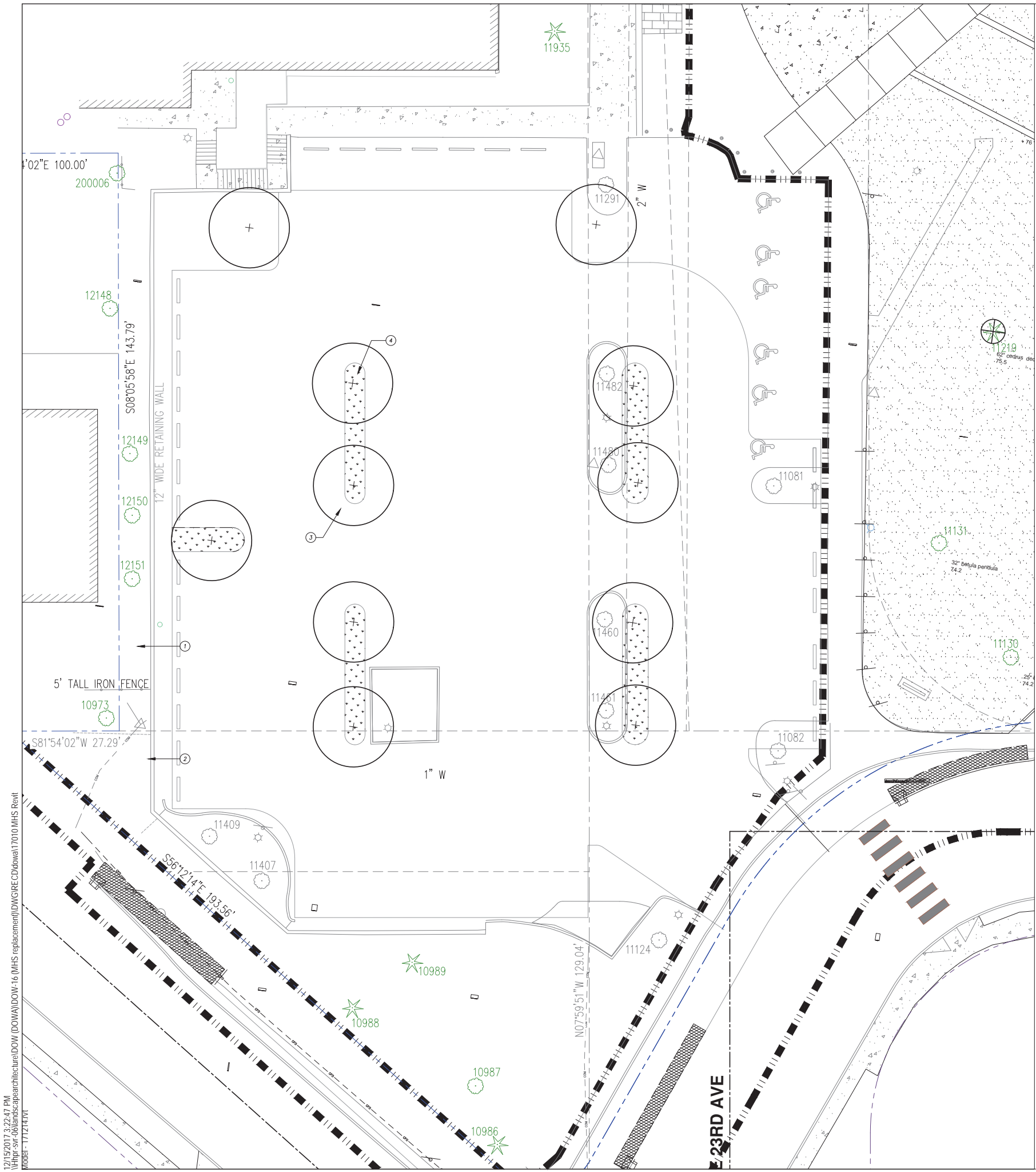
CONSTRUCTION NOTES

- ① 8' WIDE LANDSCAPE BUFFER
- ② MAINTAIN EXISTING CEDAR TREES
- ③ CANOPY TREES AT LANDSCAPE ISLANDS
- ④ SHRUB AND GROUNDCOVER PLANTINGS

key plan

revisions	
phase	DD PROGRESS SET
date	12/15/17
project	17010

LANDSCAPE
CONSTRUCTION PLAN



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 Model - 171214.rvt

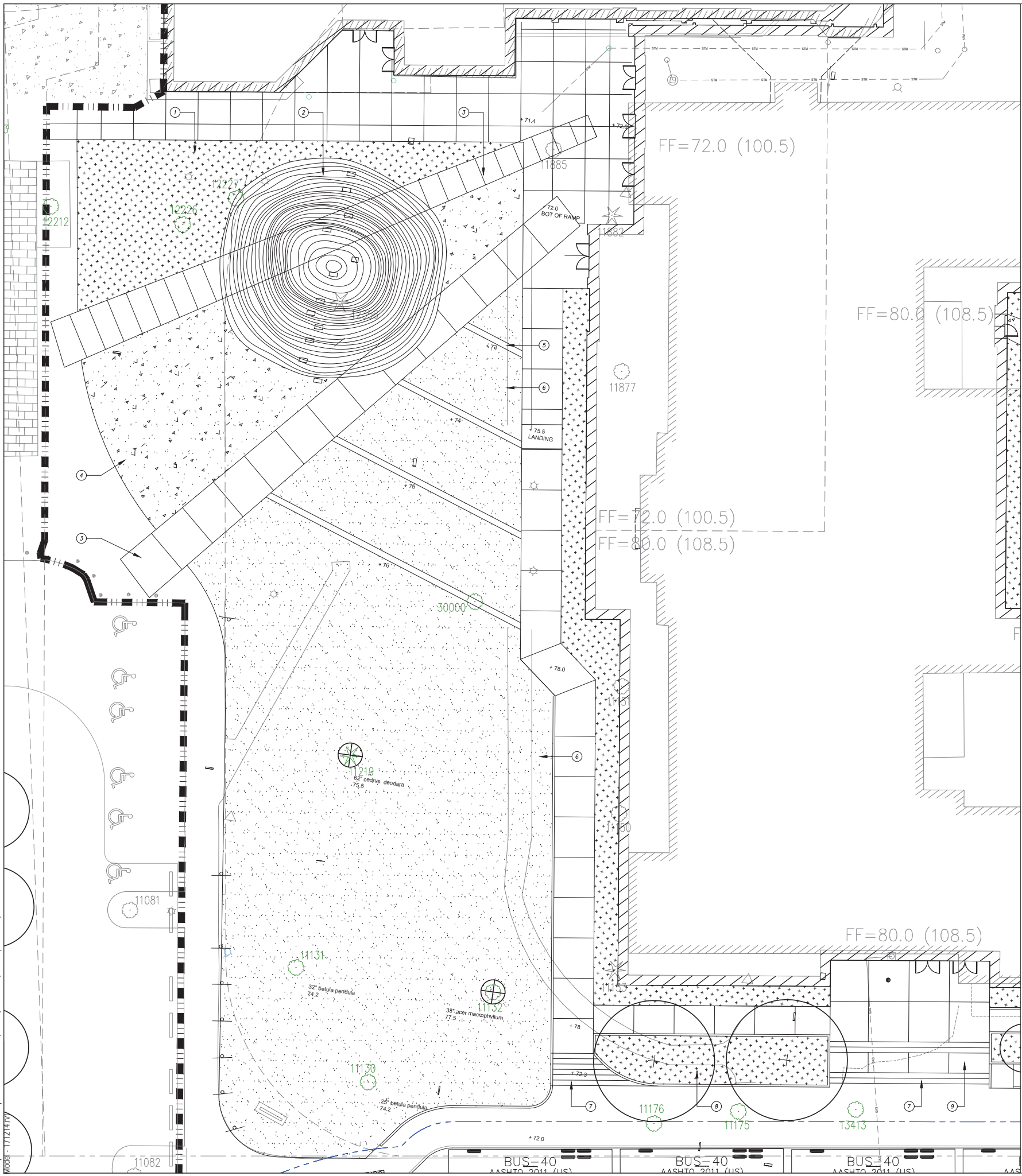
MILWAUKIE HIGH SCHOOL

NORTH CLACKAMAS SCHOOL DISTRICT
2301 SE Willard Street, Milwaukie, OR 97222
t: (503) 353-6000
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CONSTRUCTION NOTES

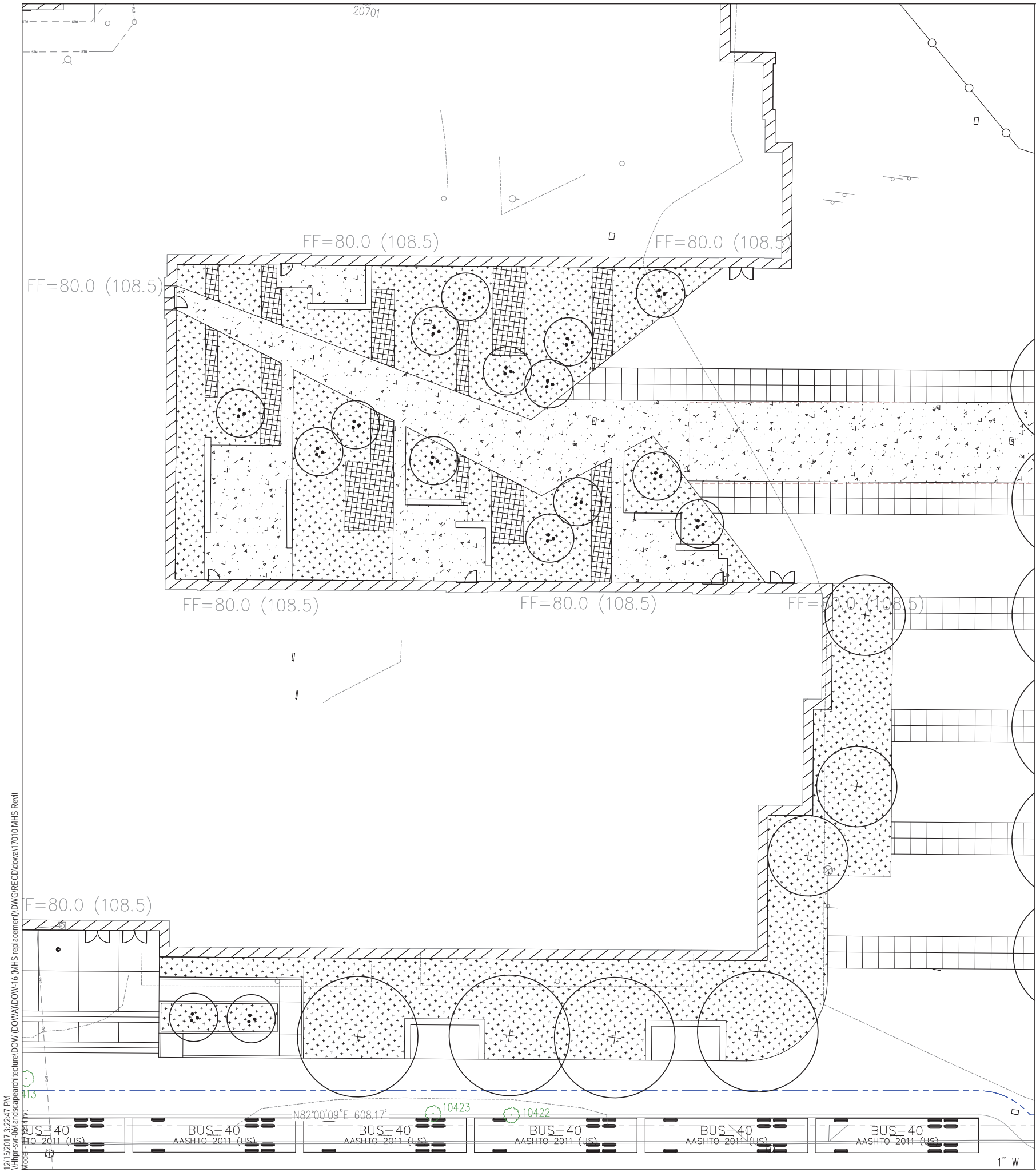
- ① ORNAMENTAL GRASSES
- ② TREE MEMORIAL PLAZA - GROWTH RING TIME LINE
- ③ SPECIAL CONCRETE
- ④ CONCRETE PAVING
- ⑤ 12" HEIGHT CURB WALLS, CAST IN PLACE
- ⑥ SEEDED LAWN
- ⑦ CONCRETE STAIRS
- ⑧ RAISED PLANTER
- ⑨ CONCRETE PAVING

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Model - 171217.rvt



key plan

revisions	
phase	DD PROGRESS SET
date	12/15/17
project	17010
LANDSCAPE CONSTRUCTION PLAN	
L1.2	



CONSTRUCTION NOTES

- 6' TALL CHAIN LINK FENCE, TYP. SEE DETAIL 1/L4.00 - 2,422 LF
- 16" CONCRETE MOW STRIP, TYP. SEE DETAIL 2/L4.00 - 1,897 LF
- CONCRETE PAVEMENT, TYP. SEE CIVIL FOR DETAIL.
- THICK ASPHALT PAVEMENT, TYP. SEE CIVIL FOR DETAIL.
- 6" BENCH, TYP. BLACK POWDER COAT FINISH. SEE DETAIL 3/L4.00. SEE SPECIFICATIONS FOR MAKE AND MODEL. - 6 EA.
- REFUSE CONTAINER, TYP. SEE SPECIFICATIONS FOR MAKE AND MODEL. SEE DETAIL 3/L4.00 - 5 EA
- 12' WIDE VEHICLE GATE, TYP. SEE DETAIL 6/L4.00 - 2 EA.
- NOT USED
- CONCRETE RAMP WITH STEEL HANDRAILS W/ BLACK POWDER COAT FINISH. SEE DETAIL 7/L4.00 - 481 SF CONCRETE RAMP / 113 LF HANDRAIL
- 3" THICK TETHERBALL STRIPING, TYP. (10' RADIUS) - 189 LF
- 3" THICK FOUR SQUARE STRIPING, TYP. SEE DETAIL 5/L4.00. -192 LF
- BASKETBALL STRIPING, SEE DETAIL 4/L4.10.
- 18" DEEP ENGINEERED WOOD SAFETY SURFACING W/ SUB-SURFACE DRAINAGE. SEE DETAIL 9/L4.00 - 232 CY
- BLOCK RETAINING WALL (SEE CIVIL)
- BIKE RACKS - HUNTCO BIKE CORRAL. POWDER COAT BLACK. CAPACITY = 4 BIKES. - 1 EA.
- 12' TALL CHAINLINK BACKSTOP. SEE DETAIL 5/L4.10 -48 LF
- CLAY INFIELD SURFACING - 3,621 SF
- 4' WIDE PEDESTRIAN GATE, TYP. SEE DETAIL 6/L4.00 - 2 EA.
- UNITARY TILE SURFACING OVER 4" CONCRETE SLAB - 965 SF
- PLAY STRUCTURE. SEE SPECIFICATIONS. INSTALL PER MANUFACTURERS INSTRUCTIONS.

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MILWAUKIE HIGH SCHOOL

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f: (503) 353-6000

key plan

revisions	

phase	DD PROGRESS SET
date	12/15/17
project	17010

LANDSCAPE CONSTRUCTION PLAN

L1.3

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 Model=

MILWAUKIE HIGH SCHOOL

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2301 SE Willard Street, Milwaukie, OR 97222
t: (503) 353-6000
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key plan

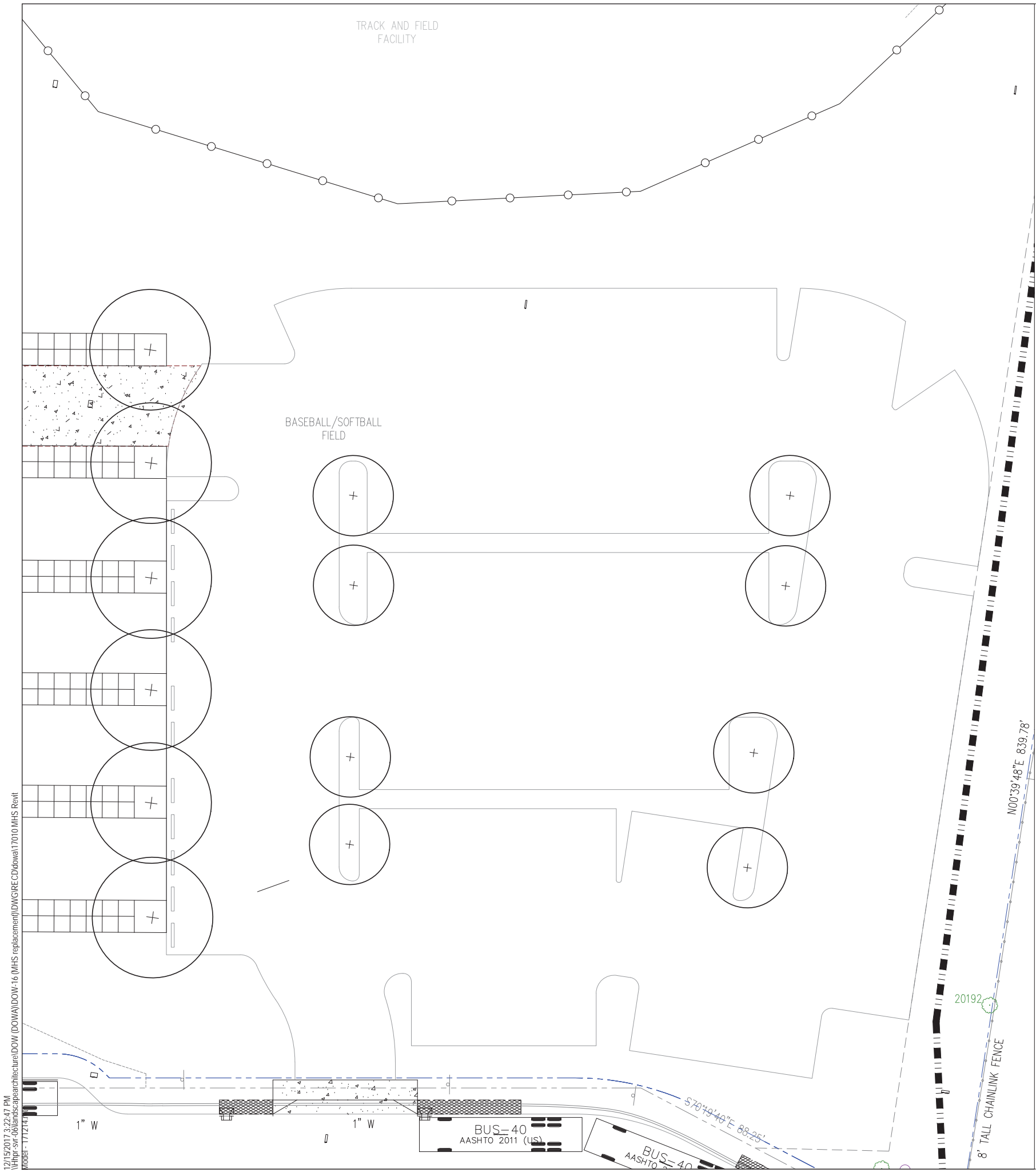
revisions	
phase	DD PROGRESS SET
date	12/15/17
project	17010

LANDSCAPE CONSTRUCTION PLAN

L1.4

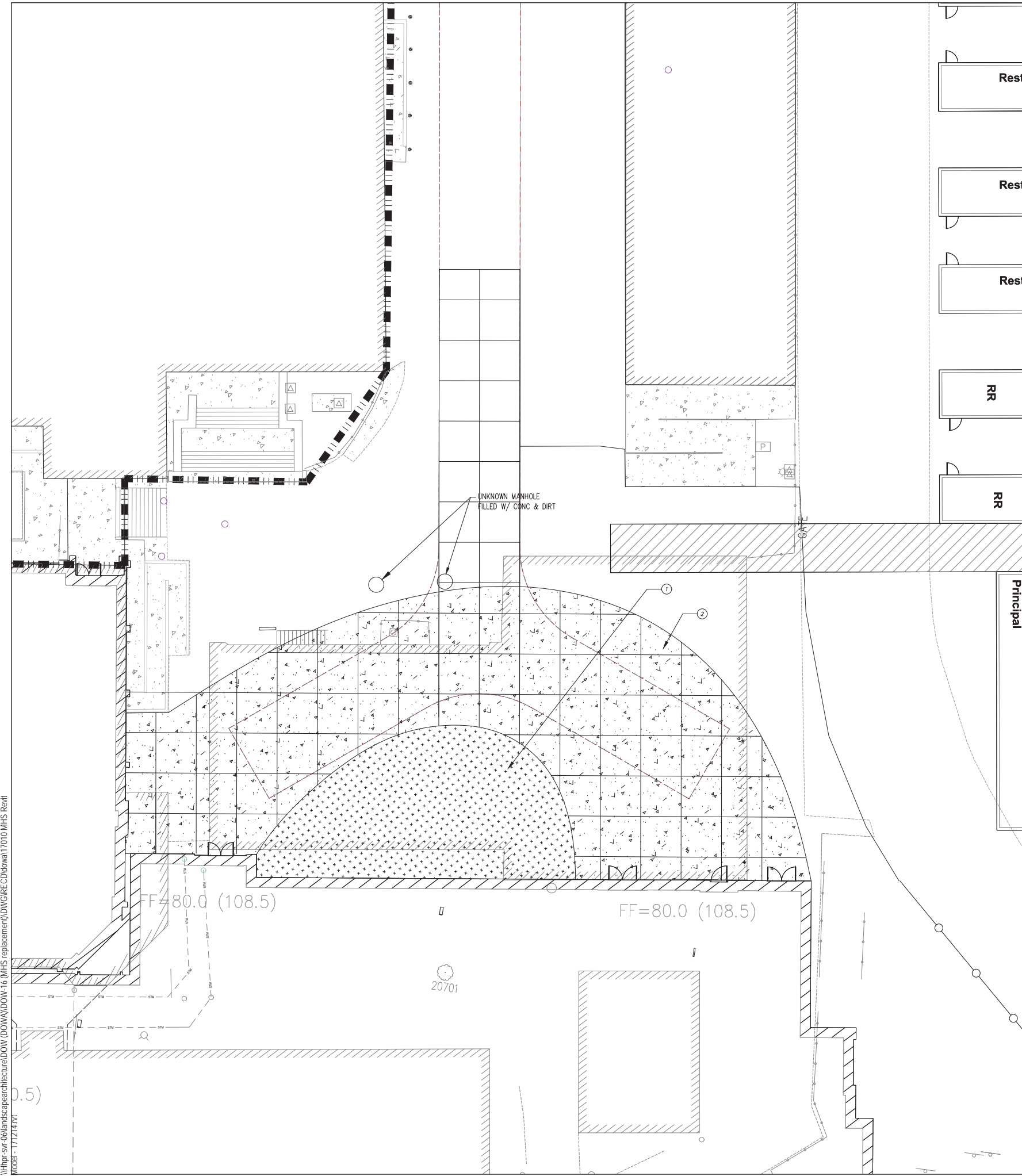
CONSTRUCTION NOTES

- 6" TALL CHAIN LINK FENCE, TYP. SEE DETAIL 1/L4.00 - 2,422 LF
- 16" CONCRETE MOW STRIP, TYP. SEE DETAIL 2/L4.00 - 1,897 LF
- CONCRETE PAVEMENT, TYP. SEE CIVIL FOR DETAIL.
- THICK ASPHALT PAVEMENT, TYP. SEE CIVIL FOR DETAIL.
- 6" BENCH, TYP. BLACK POWDER COAT FINISH. SEE DETAIL 3/L4.00. SEE SPECIFICATIONS FOR MAKE AND MODEL. - 6 EA.
- REFUSE CONTAINER, TYP. SEE SPECIFICATIONS FOR MAKE AND MODEL. SEE DETAIL 3/L4.00 - 5 EA
- 12' WIDE VEHICLE GATE, TYP. SEE DETAIL 6/L4.00 - 2 EA.
- NOT USED
- CONCRETE RAMP WITH STEEL HANDRAILS W/ BLACK POWDER COAT FINISH. SEE DETAIL 7/L4.00 - 481 SF CONCRETE RAMP / 113 LF HANDRAIL
- 3" THICK TETHERBALL STRIPING, TYP. (10' RADIUS) - 189 LF
- 3" THICK FOUR SQUARE STRIPING, TYP. SEE DETAIL 5/L4.00. -192 LF
- BASKETBALL STRIPING, SEE DETAIL 4/L4.10.
- 18" DEEP ENGINEERED WOOD SAFETY SURFACING W/ SUB-SURFACE DRAINAGE. SEE DETAIL 9/L4.00 - 232 CY
- BLOCK RETAINING WALL (SEE CIVIL)
- BIKE RACKS - HUNTCO BIKE CORRAL. POWDER COAT BLACK. CAPACITY = 4 BIKES. - 1 EA.
- 12' TALL CHAINLINK BACKSTOP. SEE DETAIL 5/L4.10 -48 LF
- CLAY INFIELD SURFACING - 3,621 SF
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- UNITARY TILE SURFACING OVER 4" CONCRETE SLAB - 965 SF
- PLAY STRUCTURE. SEE SPECIFICATIONS. INSTALL PER MANUFACTURERS INSTRUCTIONS.



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 Model - 171214.rvt



CONSTRUCTION NOTES

- CONCRETE PAVING
- SYNTHETIC TURF MOUND

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Harper Houf Peterson Righellis Inc.
 ENGINEERS PLANNERS
 LANDSCAPE ARCHITECTS SURVEYORS

MILWAUKIE HIGH SCHOOL

NORTH CLACKAMAS SCHOOL DISTRICT
 2301 SE Willard Street, Milwaukie, OR 97222
 t: (503) 353-6000
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key plan

revisions	
phase	DD PROGRESS SET
date	12/15/17
project	17010

LANDSCAPE
 CONSTRUCTION PLAN

L1.5

Land Use Luminaire Cut Sheets

North Clackamas School District Milwaukie High
School [BRIC]
2017-0517

Prepared for:
BRIC Architecture

Prepared by:
Deborah Raines, MIES

December 15, 2017



MRP LED LED Area Luminaire



TYPE SA & EXISTING

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

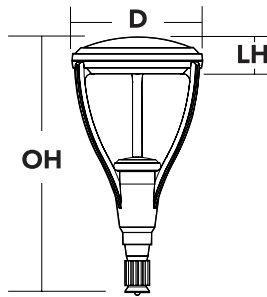
- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a **shaded background**. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability¹
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a **shaded background**¹

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: [Link to Roam](#); [Link to DTL DLL](#)

Specifications

EPA:	1.125 ft ² (0.105 m ²)
Luminaire Height:	6-3/8" (16.2 cm)
Overall Height:	32" (81.3 cm)
Diameter:	18" (45.7 cm)
Weight (max):	37.5 lbs (17 kg)



A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: MRP LED 42C 700 40K SR5 MVOLT DDBXD

MRP LED		Drive current		Color temperature		Distribution		Voltage		Mounting			
Series	LEDs												
MRP LED	42C 42 LEDs (one engine)	350	350mA	30K	3000K	SR2	Type II	MVOLT ¹	277 ²	Shipped included			
		530	530mA	40K	4000K	SR3	Type III	120 ²	347 ²	(blank)	Fits 4" OD round pole	Shipped separately ³	
		700	700mA	50K	5000K	SR4	Type IV	208 ²	480 ²	MRPT20	2-3/8" tenon slipfitter	MRPT35	4" tenon slipfitter
		1000	1000mA (1A)			SR5	Type V	240 ²		MRPT25	2-7/8" tenon slipfitter	MRPF3	3" OD round pole adapter
										MRPF5	5" OD round pole adapter ⁴		
Control options						Other options			Finish (required)				
Shipped installed						SF	Single fuse (120, 277, 347V) ²		DDBXD	Dark bronze	DDBTXD	Textured dark bronze	
PER	NEMA twist-lock receptacle only (control ordered separate)					PNMTDD3	Part night, dim till dawn ⁷		DBLXD	Black	DBLBXD	Textured black	
PER5	Five-wire receptacle only (control ordered separate) ⁵					PNMT5D3	Part night, dim 5 hrs ⁷		DNAXD	Natural aluminum	DNATXD	Textured natural aluminum	
PER7	Seven-wire receptacle only (control ordered separate) ⁵					PNMT6D3	Part night, dim 6 hrs ⁷		DWHXD	White	DWHGXD	Textured white	
BL30	Bi-level switched dimming, 30% ^{6,7}					PNMT7D3	Part night, dim 7 hrs ⁷						
BL50	Bi-level switched dimming, 50% ^{6,7}												



Ordering Information

Accessories

Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ⁸
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ⁸
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ⁸
DSHORT SBK U	Shorting cap ⁸
MRPT20 DDBXD U	2-3/8" tenon slipfitter (specify finish)
MRPT25 DDBXD U	2-7/8" tenon slipfitter (specify finish)
MRPT30 DDBXD U	3-1/2" tenon slipfitter (specify finish)
MRPT35 DDBXD U	4" tenon slipfitter (specify finish)
MRPF3 DDBXD U	3" OD round pole adapter (specify finish)
MRPF5 DDBXD U	5" OD round pole adapter (specify finish) ³

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Also available as a separate accessory; see Accessories information at left.
- Maximum pole wall thickness is 0.156".
- If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls.
- Requires an additional switched line.
- Dimming driver standard. Not available with 347V, 480V, SF, DF, PER5 or PER7.
- Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K					40K					50K				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
42C (42 LEDs)	530	75W	SR2	5,456	1	2	1	55	6,605	1	2	1	66	6,671	1	2	1	67
			SR3	5,436	1	1	1	54	6,581	1	1	2	66	6,647	1	1	2	66
			SR4	5,399	1	1	1	54	6,537	1	1	2	65	6,602	1	1	2	66
			SR5	5,748	3	1	3	57	6,959	3	1	3	70	7,029	3	1	3	70
	700	100W	SR2	6,630	1	2	1	44	8,026	2	2	2	53	8,106	2	2	2	54
			SR3	6,605	1	1	2	44	7,997	1	2	2	53	8,077	1	2	2	53
			SR4	6,561	1	1	2	43	7,943	1	2	2	53	8,022	1	2	2	53
			SR5	6,985	3	1	3	46	8,456	3	2	3	56	8,541	3	2	3	57
	1000	151W	SR2	8,165	2	2	2	109	9,885	2	2	2	132	9,983	2	2	2	133
			SR3	8,135	1	2	2	108	9,848	2	2	2	131	9,947	2	2	2	133
			SR4	8,080	2	2	2	108	9,782	2	2	2	130	9,880	2	2	2	132
			SR5	8,602	3	2	3	115	10,414	4	2	4	139	10,518	4	2	4	140

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
		Wire 4/Wire5	Wire 6/Wire7	Wire 4/Wire5	Wire 6/Wire7	
Photocontrol Only (On/Off)	✓	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✓	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
Futureproof*	⊘	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture
Futureproof* with Motion	⊘	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture

✓ Recommended

⊘ Will not work

⚠ Alternate

*Futureproof means: Ability to change controls in the future.

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.06
10°C	1.04
20°C	1.01
25°C	1.00
30°C	0.99
40°C	0.96

Projected LED Lumen Maintenance

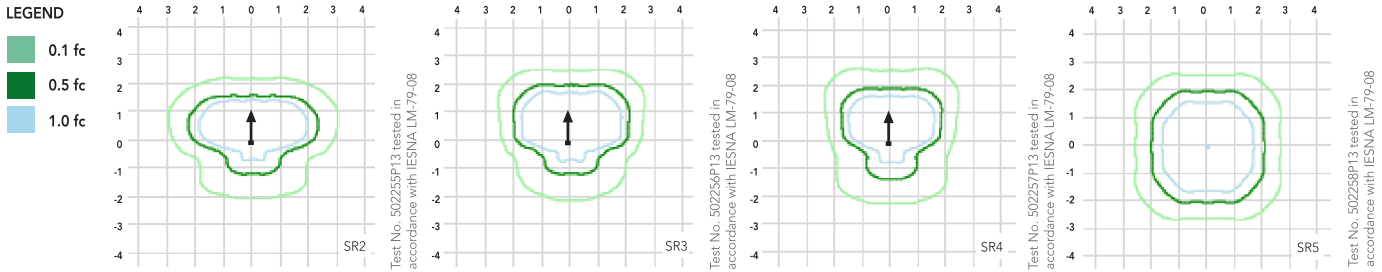
Data references the extrapolated performance projections for the **MRP LED 42C 700** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.96	0.92	0.85



Isofootcandle plots are considered to be representative of available optical distributions.



FEATURES & SPECIFICATIONS

INTENDED USE

Streets, walkways, parking lots and surrounding areas.

CONSTRUCTION

Single-piece die-cast aluminum housing with nominal wall thickness of .012". Die-cast top access doorframe has impact-resistant, tempered glass lens (3/16" thick). Doorframe is fully gasketed with one-piece tubular silicone.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum and white. Available in textured and non-textured finishes.

OPTICS

Precision acrylic refractive optics for optimum light distribution through the flat glass lens. Light engines are available in standard 3000K (70 CRI) or optional 4000K (70 CRI) or 5000K (70 CRI) configurations.

ELECTRICAL

Light engine consists of 42 high-efficacy LEDs mounted to a metal-core circuit board and aluminum heat sink, ensuring optimal thermal management and long life. Class 1 electronic driver has a power factor >90%, THD <20%, and has an expected life of 100,000 hours with <1% failure rate. Easily-serviceable surge protection device meets a minimum Category C Low for operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Standard post-top mounting configuration fits into a 4" OD open pole top (round pole only). Multiple options and accessories are available for other mounting needs.

LISTINGS

CSA certified to U.S. and Canadian standards. Luminaire is IP65 rated. Rated for -40°C minimum ambient. **U.S. Patent No. D556,357.**

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

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. Specifications subject to change without notice.

DESCRIPTION

The Invue Arbor post top brings architectural style to area/site and pedestrian scale applications. Its dayform appearance brings a desired organic look into the urban environment. WaveStream™ LED Optics provide a uniform pixelation free image, managing glare while providing high levels of visibility.

Catalog #		Type	
Project		TYPE SB	
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

Construction

Two-piece IP66 rated housing is cast from low copper content corrosion resistant aluminum, maintaining strength and precision to sustain long term dayform appearance. ANSI C136.31 testing compliance prevents damage from installation generated vibration. External hardware and casting seams are minimized to enhance appearance.

Optics

Specifically designed for pedestrian applications, WaveStream LED optical waveguide technology produces both symmetric NEMA type V and asymmetric NEMA II, III, IV distributions. The waveguide is manufactured from precision injection molded acrylic resulting in a pixelation free optical image for improved glare control and visual comfort. Luminaire efficacy's measure up to 100 lm/w for 4000K (+/- 275K) CCT at 70 CRI (min), optional 3000K CCT at 80 CRI is also available.

Electrical

LED driver(s) are directly mounted to upper housing thermal pad for optimal thermal performance. Standard 0-10V dimming drivers and Eaton's proprietary surge protection module are designed to withstand 10kV of transient line surge. Drivers operate at 120-

277V 50/60Hz with 347V/60Hz or 480V/60Hz operation optional. Suitable for ambient temperature applications from -30°C (-22°F) to 40°C (104°F). Limited high ambient options allow for 50°C operation.

Controls

The Arbor LED luminaire control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions. The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol. An integrated dimming and occupancy sensor is a standalone control option available in on/off (MS) and bi-level dimming (MS/DIM) operation. The optional LumaWatt Pro™ system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication.

Mounting

Fitter assembly mounts over 2-3/8" O.D. tenon and is secured via six concealed stainless steel set screws. Design of fitter provides seamless transition to 3" O.D. round pole top. Additional mounting accessories include a

single fixture arm mount, twin fixture arm mount and wall mount arm. Additional pole mount accessories mount to a 3" x 4" long tenon for 4" - 5" O.D. poles tops. For existing 2-3/8" tenons an adapter is shipped standard.

Finish

Eaton utilizes premium ultra-weatherable TGIC based polyester powder coatings that are specifically formulated to withstand extended outdoor exposure. The powders are formulated exclusively for Eaton to serve functionally as well as decorative. Good film appearance combined with excellent mechanical an exterior exposure qualities display greater than twice as much gloss retention. RAL and custom color matches available. Finish is compliant with ASTM B117 3000hr salt spray standard.

Warranty

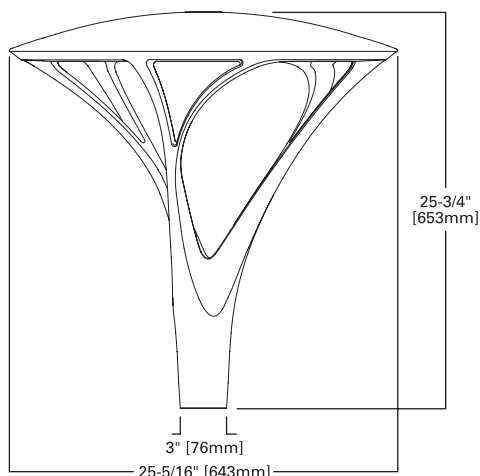
Five-year warranty.



ARB ARBOR POST TOP

DECORATIVE LUMINAIRE

DIMENSIONS



CERTIFICATION DATA

UL/cUL Listed
IP66 Housing
ANSI C136.31
1.5G Vibration Tested
RoHS
ISO 9001

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz, 347V/60Hz,
480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating

EPA

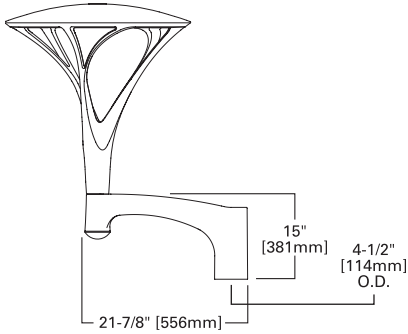
Effective Projected Area: (Sq. Ft.) 0.9

Approximate Net Weight:

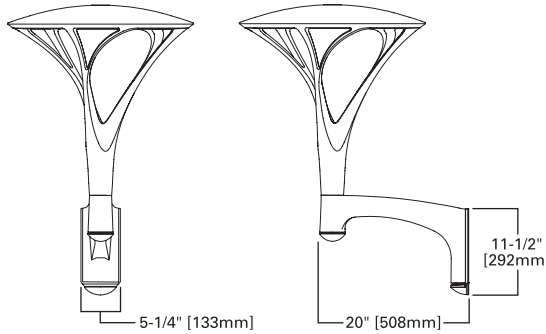
37 lbs. [16.8 kgs.]

MOUNTING CONFIGURATIONS (WEIGHT AND EPAS INCLUDES FIXTURE)

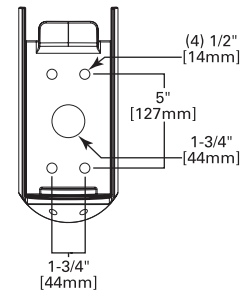
Single Arm Mount
 Weight: 56 lbs. [25.45 kgs.]
 EPA: 1.7 sq/ft



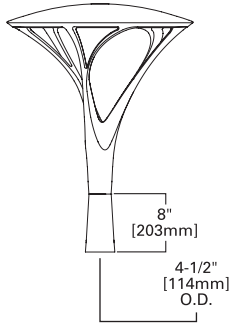
Wall Mount Arm
 Weight: 57 lbs. [25.91 kgs.]
 EPA: 1.8 sq/ft



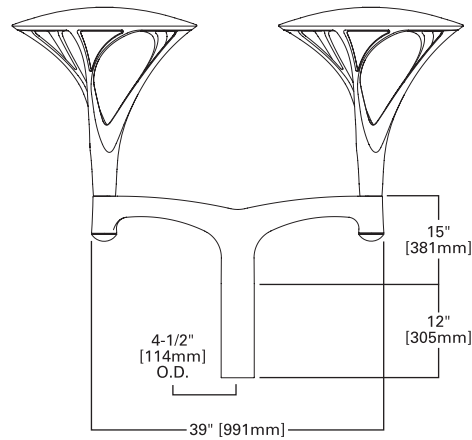
Wall Mount Arm Drill Pattern



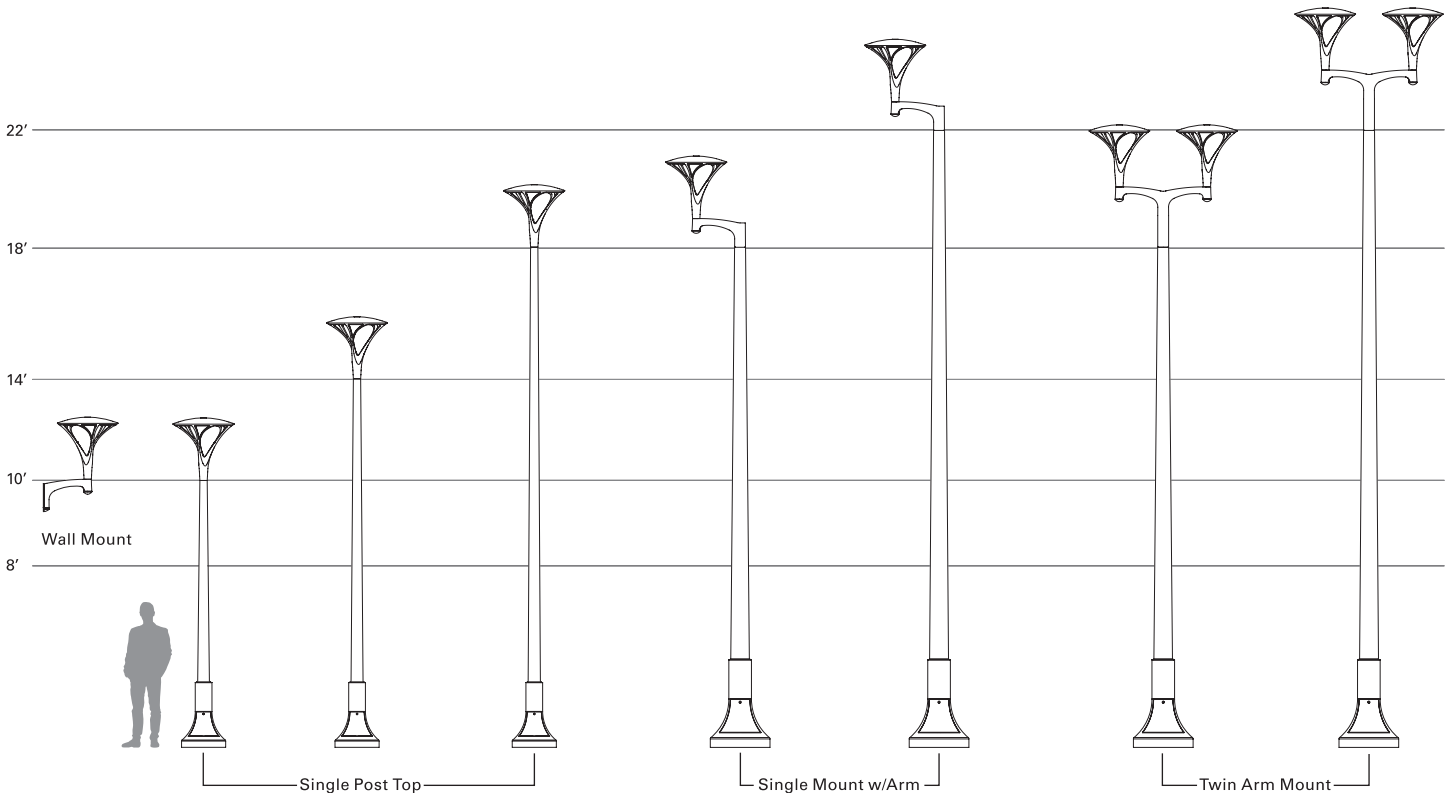
Post Top Adapter
 Weight: 41 lbs. [18.63 kgs.]
 EPA: 1.2 sq/ft



Twin Arm Mount - 1.5G
 Weight: 114 lbs. [51.81 kgs.]
 EPA: 3.45 sq/ft



POLE CONFIGURATIONS (ARP DECORATIVE POLE SHOWN)



POWER AND LUMENS

Lumen Package	B1	B2	B3	B4	
Drive Current					
Power Wattage (Watts)	24W	48W	96W	99W	
Input Current (mA) @ 120V	200	400	800	830	
Input Current (mA) @ 208V	120	240	470	480	
Input Current (mA) @ 240V	100	200	400	420	
Input Current (mA) @ 277V	90	180	350	360	
Power Wattage (Watts)	26W	53W	107W	108W	
Input Current (mA) @ 347V	79	161	325	328	
Input Current (mA) @ 480V	58	117	235	237	
Optics					
Type II	Lumens	2,045	3,994	7,362	--
	BUG Rating	B1-U1-G1	B1-U2-G2	B3-U2-G3	--
Type III	Lumens	2,324	4,534	8,451	-
	BUG Rating	B1-U1-G1	B1-U2-G2	B2-U2-G3	--
Type IV	Lumens	2,408	4,691	8,740	--
	BUG Rating	B1-U1-G1	B1-U2-G2	B2-U2-G3	-
Type V	Lumens	2,311	4,529	8,511	9,464
	BUG Rating	B2-U1-G1	B3-U2-G2	B3-U2-G3	B3-U2-G3

COLOR TEMPERATURE

Color Temperature (CCT)	CRI (Nominal)	Multiplier (Hours)
4000	70	1.00
3000	80	0.91

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Calculated L70 (Hours)
25°C	>91%	>230,000
40°C	>88%	>172,000
50°C	>86%	>142,000

NOTE: Maintenance data applies to the highest drive current and represents the worst case at the highest wattage.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

ORDERING INFORMATION

Sample Number: ARB-B2-LED-D1-T2-GM

Product Family ^{1,2}	Lumens ³	Lamp Type ⁵	Voltage	Distribution	Color
ARB=Arbor Post Top	B1=Nominal 2,300 Lumens B2=Nominal 4,500 Lumens B3=Nominal 8,500 Lumens B4=Nominal 9,500 Lumens ⁴	LED=Solid State Light Emitting Diodes	D1=Dimming Driver (120-277V) 347=347V ⁶ 480=480V ^{6,7}	T2=Type II T3=Type III T4=Type IV T5=Type V	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White CC=Custom Color ⁸
Options (Add as Suffix)			Accessories (Order Separately) ¹⁹		
7030=70 CRI / 3000K CCT ⁹ 8030=80 CRI / 3000K CCT ⁹ PC=Button Type Photocontrol ¹⁰ PER=Standard 3-PIN Photocontrol Receptacle ¹⁰ PER7=NEMA 7-PIN Twistlock Photocontrol Receptacle ^{10,11} HA=50°C High Ambient ¹² MS-LXX=Photo/Motion Sensor for On/Off Operation ^{13,14} MS/DIM-LXX=Programmable Photo/Motion Sensor ^{13,14,15} LWR-LW=LumaWatt Pro Wireless Sensor, Wide Lens 8' - 16' Mounting Height ¹⁶ LWR-LN=LumaWatt Pro Wireless Sensor, Wide Lens 16' - 40' Mounting Height ¹⁶ 5LTD=Fifth Light Dali Driver ¹⁷ DIM=0-10V External Dimming Leads ¹⁸ VS=Tempered Glass Vandal Shield			ARSA-XX=Single Pole Mount Arm ²⁰ ARWM-XX=Wall Mount Arm ARTA15-XX=Twin Mount Bracket - 1.5G ²⁰ ARPA4-XX=Pole Adapter 4" O.D. Pole FSIR-100=Wireless Configuration Tool for Occupancy Sensor ¹⁵		

- NOTES:**
- Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional information.
 - Fixture slipfits over standard 2-3/8" or 3" O.D. tenon.
 - Lumens are nominal. See lumen table for more information.
 - B4 only available with Type V distribution.
 - Standard 4000K CCT, nominal 70 CRI.
 - Requires the use of a step down transformer.
 - Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
 - Cutsom and RAL color matching available upon request. Consult your lighting representative at Eaton for more information.
 - Extended lead times apply. Use dedicated IES files when performing layouts. These files are published on the Arbor luminaire product page on the website.
 - Not available with MS, MSDIM or DIMRF options.
 - Compatible with standard 3-PIN photocontrols and 5-PIN or 7-PIN ANSI controls.
 - Not available with Type II, III and IV B3 optics.
 - Not available with HA option.
 - Replace XX with mounting height in feet for proper lens selection, L8, L20 and L40 are available options.
 - This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
 - LumaWatt Pro wireless sensors are factory installed and require network components LWP-EM-1, LWP-GW-1, and LWP-Po in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
 - Only available with B1 and B2 lumen packages.
 - Low voltage control leads brought out 18" outside fixture. Not available with control options.
 - Replace XX with color designation.
 - Fits on 3" O.D. x 4" long tenon for nominal 4-1/2" O.D. pole top.



Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Qty: _____
 Notes: _____

Philips Gardco 101 LED wall sconces feature a low-profile design that provides wide flexibility in high performance exterior wall illumination. Full cutoff performance, usable illumination patterns, and powerful wattages combine into a compact and architecturally pleasing design. 101L sconces are available in Type 2, 3, and 4 distributions, and provide output of up to 9500 lumens. Energy saving control options increase energy savings and offer California Title 24 compliance. Emergency Battery Backup option available for path of egress.

Ordering guide

example: 101L-32L-700-NW-G1-3-120-IMRI2-BZ

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Distribution	Emergency	Voltage	Options		
							Controls	Electrical	Finish
101L									
101L 101L LED Wall Sconce	16L 16 LEDs (1 module)	530 530mA 650 650mA ¹ 700 700mA 1000 1000mA 1200 1200mA	CW-G1 Cool White 5700K, 70CRI Generation 1 NW-G1 Neutral White 4000K, 70CRI Generation 1 WW-G1 Warm White 3000K, 70CRI Generation 1	2 Type 2 3 Type 3 4 Type 4	EBPC Emergency Battery Pack Cold Weather ^{3,4,12} Leave blank to omit an emergency option	UNV 120-277V HVU 347-480V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V	DD 0-10V Dimming Driver ^{5,6} DCC Dual Circuit Control ^{7,8} DynaDimmer: Automatic Profile Dimming CS50 Safety 50% Dimming (7 hours) ^{7,9,10} CM50 Median 50% Dimming (8 hours) ^{7,9,10} CE50 Economy 50% Dimming (9 hours) ^{7,9,10} DA50 All Night 50% Dimming ^{7,9,10} Photoelectric/Receptacle systems (Twist Lock Receptacle) PCB Photocontrol Button ^{5,10,11,12} TLRD5 Twist Lock Receptacle 5-Pin ¹³ TLRD7 Twist Lock Receptacle 7-Pin ¹³ TLRPC Twist Lock Receptacle w/Photocell ^{11,12,16} Infrared Motion Response systems IMRI2 Integral with #2 lens ^{9,12,14} IMRI3 Integral with #4 lens ^{9,12,14} Network system (SiteWise) SW SW Integral module ^{4,17} Wireless system LLC2 Integral module with #2 lens ^{5,7,9,15} LLC3 Integral module with #3 lens ^{5,7,9,15}	Fusing F1 Single (120, 277, 347VAC) ¹³ F2 Double (208, 240, 480VAC) ¹³ F3 Canadian Double Pull (208, 240, 480VAC) ¹³	Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray Customer specified RAL Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) CC Custom color (Must supply color chip for required factory quote)

- 650mA only available with Emergency Battery Pack Cold Rated (EBPC) option
- 32L rated for 30°C at 1000mA
- Available for use with 16L and 32L in 530mA or 650mA only. Rated for -20°C to 35°C.
- Available in 120 or 277V only.
- Not available with Dual Circuit Control (DCC) option.
- 16L not available with Dimming Driver (DD) in following configurations: 530, 700 and 1200mA in 347 and 480V.
- Not available with Dimming Driver (DD) option.
- Available in 32L with 530mA. Consult technical support center for use with photocell and CS/CM/CE/DA.
- Available in 120-277V (UNV) only.
- Not available with LLC, TLR and DCC.
- Not available with 480V.
- Must specify input voltage.
- TLRD5/7 option not available with LLC, PCB, DCC. Works with 3 or 5 pin NEMA photocell dimming. Dimming will not be connected to TLR if ordering with DD, CS/CM/CE/DA and IMRI.
- Not available with DD, DCC or LLC.
- LLC2/3 Not available with TLR, PCB, IMRI, CS/CM/CE/DA. Ships with WS accessory attached to wireless module. Not for use with LLCR accessory.
- Not available with PCB, TLRD5/7, DCC, LLC.
- SW option is not available with any other control options with the exception of IMRI2, IMRI3 motion response options

101L Sconce LED

Wall Mount

Luminaire Accessories (order separately)

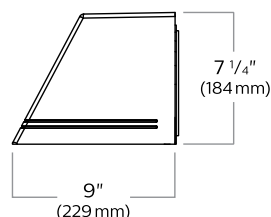
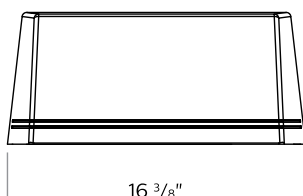
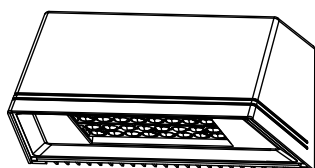
Mounting accessories
Wall Mount
WS Wall Mounted Box for Surface Conduit

System accessories
Wireless system remote mount module
LLCR2-(F) #2 lens - specify finish in place of (F)
LLCR3-(F) #3 lens - specify finish in place of (F)
Central Remote Motion Response (used connected to SiteWise main panel)
MS2-A-FVR-3
MS2-A-FVR-7

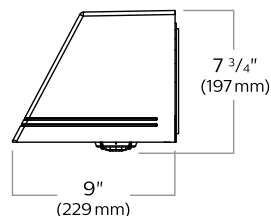
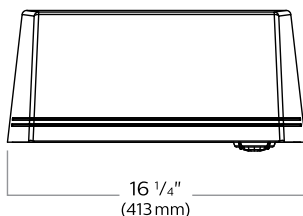
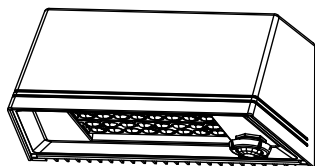
Wireless system remote controller accessory

Wireless system offers a remote radio/sensor module that allows to connected to a Limelight system (sold by other). Remote module can be mounted to wall or pole with j-box supplied. May be specified by choosing one of two different lenses to accommodate a variety of mounting heights/sensor detection ranges. Must specify option DD on luminaires that are planned to be used with remote mount controllers. See page 4 for Wireless system details.

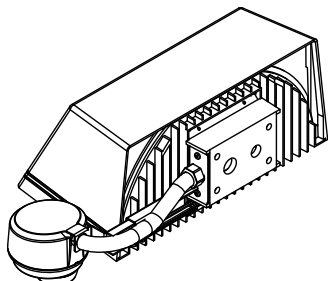
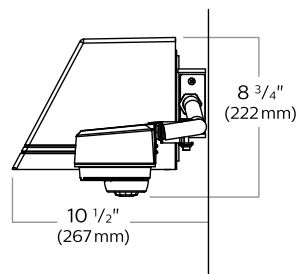
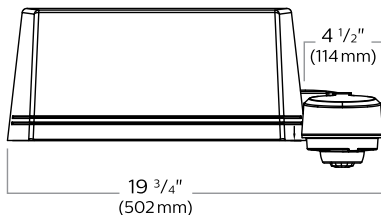
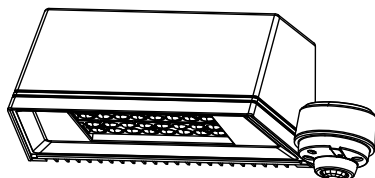
Dimensions



Motion Response



Wireless Controls



Luminaire Weights	
LED Wall Sconce 101L	Weight
Luminaire	13.5 lbs
Luminaire - EBPC (EM battery pack)	17.0 lbs
Luminaire - Integrated system controls	16.3 lbs

101L Sconce LED

Wall Mount

LED Wattage and Lumen Values

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Average System Watts ¹	Type 2			Type 3			Type 4		
					Lumen Output ^{1,2}	BUG Rating	Efficacy (LPW)	Lumen Output ^{1,2}	BUG Rating	Efficacy (LPW)	Lumen Output ^{1,2}	BUG Rating	Efficacy (LPW)
101L-16L-530-NW-G1	16	530	4000K	28	2944	B1-U0-G0	106	2687	B1-U0-G1	97	2747	B1-U0-G1	99
101L-16L-700-NW-G1	16	700	4000K	37	3789	B1-U0-G1	103	3458	B1-U0-G1	94	3535	B1-U0-G1	96
101L-16L-1000-NW-G1	16	1000	4000K	55	5050	B1-U0-G1	92	4609	B1-U0-G1	84	4712	B1-U0-G1	86
101L-16L-1200-NW-G1	16	1200	4000K	65	5744	B2-U0-G1	89	5242	B1-U0-G2	81	5359	B1-U0-G2	83
101L-32L-530-NW-G1	32	530	4000K	52	5698	B2-U0-G1	110	5200	B1-U0-G2	100	5316	B1-U0-G2	102
101L-32L-700-NW-G1	32	700	4000K	70	7242	B2-U0-G1	103	6609	B1-U0-G2	94	6757	B1-U0-G2	96
101L-32L-1000-NW-G1	32	1000	4000K	107	9797	B2-U0-G1	92	8941	B2-U0-G2	84	9140	B2-U0-G2	86

LED Wattage and Lumen Values (Emergency Mode)³

Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Ave. System Watts (charging mode)	Type 2	Type 3	Type 4
101L-16L-NW-EBPC	16	N/A	4000K	14	1345	1228	1255
101L-32L-NW-EBPC	32	N/A	4000K	14	1754	1600	1636

1. Wattage and lumen output may vary by +/- 8% due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.
2. Lumen values based on photometric tests performed in compliance with IESNA LM-79.
3. For emergency EBPC option, publish values are based on initial lumens.

Luminaire options

DD: 0-10V dimming driver with leads supplied through back of luminaire (for secondary dimming controls by others).

Dynadimmer Automatic Profile Dimming: Automatic dimming profiles (CS50/CM50/CE50) offer safety, median, or economy settings, for shorter or longer duration. Dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. 50% dimming is standard. DA50 offers 50% instantaneous dimming all night (during all dark hours). 75% and 25% dimming is also available if different light levels are required (contact Technical Support for details).

Profile	Dimming		
	Schedule	Duration	Level
Economy	9 PM - 6 AM	9 hours	50%
Median	10 PM - 6 AM	8 hours	50%
Safety	11 PM - 6 AM	7 hours	50%
Reactive 50	all night	dynamic	50%

TLRD5: Twist Lock Receptacle with 5 pins enabling dimming, can be used with a twistlock photoelectric cell or a shorting cap. Can also be used with Philips or third party control system.

TLRD7: Twist Lock Receptacle with 7 pins enabling dimming and additional functionality, can be used with twistlock photoelectric cell or a shorting cap. Can also be used with Philips or third party control system.

TLRDPC: Receptacle with twistlock photoelectric cell (must specify voltage). Receptacle located on top of luminaire housing.

IMRI2, IMRI3: Infrared Motion Response Integral (IMRI). IMRI module is mounted integral to the luminaire door and is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges (see charts for approximate detection patterns). Motion response used in combination of Dynadimmer and SiteWise are not programmable and used to override controllers schedule when motion is detected. When used not combined with any controller, IMRI is set/operates in the following fashion: The motion sensor is set to a constant 25%. When motion is detected by the PIR sensor, the luminaire returns to 100% light output. Dimming on low is factory set to 25% with 5 minute default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 75%, to 25% of the normal constant wattage reducing the light level. IMRI can also be specified with automatic profile dimming for the added benefit of a combined dimming profile with sensor detection, where the PIR sensor will override the dimming profile when occupancy is detected. Passive infrared (PIR) motion sensor, WattStopper FSP-211, equipped with lens choice specified. Available from 120V to 277V input only. Motion sensor off state power is 0.0 watts. The FSP-211 can also be reprogrammed with WattStopper's FS1R-100 remote programming tool accessory.

DCC: Dual Circuit Control permits separate switching of 32L models only, where a quantity of (2) 16 LED modules are controlled independently by use of two sets of leads, one for each module.

SW

SiteWise option is a fully integrated controller that connects to Philips SiteWise system in order to offer a complete area lighting management system. The communication signal is based on Philips patented central dimming technology. SiteWise delivers it deliver optimal energy savings using your site's existing cabling. No additional wiring required, installation and commissioning are simple. An intuitive, mobile app makes it easy for authorized users to set schedules to meet site specific lighting needs, local regulations, and energy codes

Wireless system: 101L luminaires are available with optional wireless controllers ready to be connected to a Limelight system (sold by other). The system allows you to Wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely.

Based on a high density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless System can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor.

101L Sconce LED

Wall Mount

Specifications

Housing

Main body cast housing and back plate made of a low copper die cast Aluminum alloy for a high resistance to corrosion, 0.100" (2.5mm) minimum thickness. Hinged door allows access to driver and LED compartment.

Mounting

Mounting is completed through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Mounting plate is located in the center of the luminaire width and 3.5" above the luminaire bottom (lens down position). Luminaire ships fully assembled, ready to install.

Light Engine

Composed of 4 main components: Heat Sink / LED Module / Optical System / Driver. Electrical components are RoHS compliant. IP66 sealed light engines. LEDs tested by ISO 17025-2005 accredited lab in accordance with IESNA LM-80 guidelines extrapolations in accordance with IESNA TM-21. Metal core board ensures greater heat transfer and longer lifespan.

Heat Sink

Integral door/heat sink design made of low copper die cast Aluminum alloy for a high resistance to corrosion.

LED Module

Composed of high performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000K nominal (+/- 275K), CRI 70 Min. Available in other color temperatures including Cool White, 5700K and Warm White, 3000K.

SiteWise Network System

SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems.

Hardware

All exposed screws shall be stainless and/or corrosion resistant and captive.

Optical System

The advanced LED optical systems provide IES Types 2, 3, 4. Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Dark sky compliant with 0% uplight and U0 per IESNA TM-15.

Driver

High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Surge Protection

Each luminaire is provided as standard with surge protector (Philips designed SP1) tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/5kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High Test Level 10kV / 5kA.

Wiring (supplied by others)

Splices must be made in the junction box.

Finish

Five standard colors offered in textured black, white, bronze, dark gray and medium gray. Color in accordance with the AAMA 2604 standard. Application of polyester powder coat paint 2.5 mils minimum. The thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. RAL and custom color matching available.

LED Products Manufacturing Standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with EC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

LED Useful Life

Luminaire Useful Life accounts for LED lumen maintenance. Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, LED LM-80/TM-21, expected to reach 100,000 + hours with >L70 lumen maintenance @ 25°C.

Certifications and Compliance

cULus Listed for Canada and USA suitable for wet locations when mounted downward facing. cULus Listed for Canada and USA suitable for damp locations when inverted upward facing when mounted in covered ceiling application. Emergency Battery Pack option is tested and listed to UL924 and CSA C22.2 No. 141-10 DesignLights Consortium qualified on models as listed on DLC QPL. Luminaire is rated for operation in ambient temperature of -40°C (-40°F) up to +40°C (+104°F).

Limited Warranty

5-year limited warranty. See philips.com/warranties for details and restrictions. Visit our eCatalog or contact your local sales representative for more information.