

Auburn Youth and Community Center

Les Gove Community Campus

910 Ninth Street Southeast

Auburn, WA 98002

Stormwater Site Plan (*Preliminary*)

February 27, 2015 | SEPA Submittal



Stormwater Site Plan

February 27, 2015

Prepared for:
City of Auburn

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Appendices [To be completed in final Stormwater Site Plan]

Appendix A – Operations and Maintenance Manual

Appendix B – Construction Stormwater Pollution Prevention Plan (SWPPP)

Appendix C – Submittal Requirement Checklist

Appendix D – Hydraulic Analysis Worksheet

Appendix E – Other Special Reports – Geotechnical Report, Offsite Analysis

Appendix F – Figures, Topographic Map, Storm Drainage Plan, and Details

Appendix G - Conveyance Calculations and Basin Map

1. Project Overview

The Auburn Youth and Community Center project is a renovation and expansion of the Parks Administration Building on the Les Gove Community Campus in Auburn, WA. The project site is bordered by Eighth Street Southeast to the north, residential parcels to the northwest, the adjacent Senior Center to the southwest, and Les Gove Park to the south and east (see Figure 1-1). The total disturbed area is approximately 2.20 acres.

The project will provide approximately 21,000 square feet of total building improvements, which will consist of a combination of interior renovations and a building addition of approximately 13,700 square feet. Associated site improvements will include approximately 69 new parking stalls, utility improvements, Low Impact Development (LID) facilities for stormwater treatment and infiltration, access improvements, and new landscaping and outdoor amenities.

This Stormwater Site Plan has been prepared per the requirements of the 2009 City of Auburn Surface Water Management Manual, June 2014 revision (SWMM). This report provides the narrative for the temporary and permanent stormwater controls proposed for this site, including flow control, water quality, LID facilities for onsite stormwater management, and construction best management practices (BMPs).

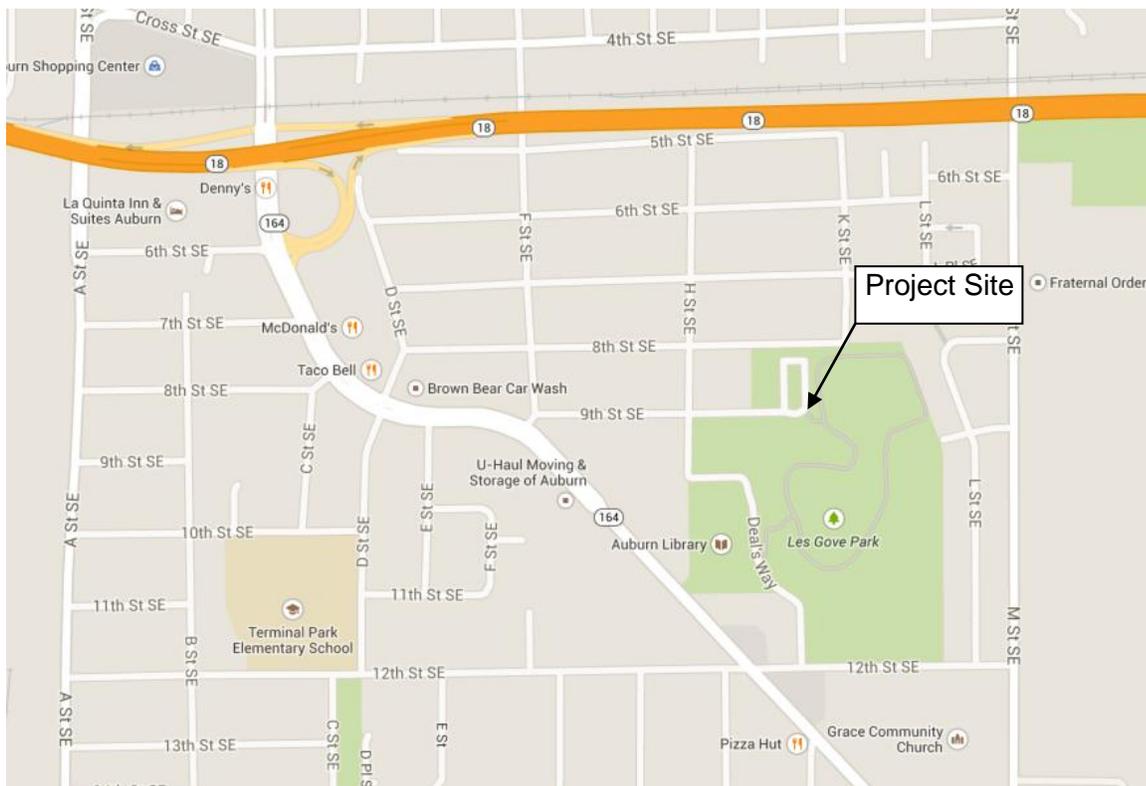


Figure 1-1: Vicinity Map

(map courtesy of Google)

2. Existing Conditions Summary

The existing site is developed with a building containing the Auburn Parks Administration and the Senior Center, along with parking, pedestrian connections, landscaping, and outdoor amenities and recreation spaces. The site is integrated into the Les Gove park amenities to the east and south.

The site is generally flat, sloping down from southeast to northwest with approximately 4 feet of fall across the site. The site is fully served by a stormwater system which includes catch basins as well as LID facilities for stormwater treatment and infiltration. Existing LID facilities include rain gardens, pervious concrete pavement, and infiltration trenches. The overflow discharge point for non-infiltrating stormwater is the 12-inch storm main in Ninth Street Southeast.

The soils at the site generally consist of sand and silty sand overlying gravel. Estimated long-term infiltration rates vary across the site between approximately 0.3 inches per hour to 3.7 inches per hour. The geotechnical report was prepared by GeoEngineers, dated December 4, 2014.

3. Off-Site Analysis

An off-site analysis is not required because this project proposes to infiltrate 100 percent of its stormwater runoff. See Minimum Requirement No. 10 in Section 5 of this report.

4. Permanent Stormwater Control Plan

1. THRESHOLD DISCHARGE AREAS AND REQUIREMENTS FOR TREATMENT AND FLOW CONTROL

The project site is comprised of one threshold discharge area. Land cover tabulation is shown in Table 4-1 and Table 4-2 to determine the requirements for flow control and water quality treatment, respectively.

Table 4-1: Impervious Land Cover

	Area (sf)	Area (ac)
New+ Replaced Impervious Surface	51,800	1.189
Effective Impervious Surface	0	0

Per SWMM Vol. I, Section 3.3.1, this project must comply with Minimum Requirements Nos. 1 through 10 because the project will create greater than 5,000 square feet of new impervious area.

Per SWMM Vol. I, Section 3.4.7.1, Minimum Requirement No. 7, Flow Control will not be required because the Effective Impervious Area is less than 10,000 square feet.

Table 4-2: Pollution Generating Land Cover

	Area (sf)	Area (ac)
New+Replaced Pollution Generating Impervious Surface (PGIS)	22,100	0.507
New+Replaced Pollution Generating Pervious Surface (PGPS)	30,800	0.707

Per SWMM Vol. I, Section 3.4.6.1, Minimum Requirement No. 6, Runoff Treatment will be required because the effective pollution-generating impervious surface (PGIS) exceeds 5,000 square feet.

2. PRE-DEVELOPED SITE HYDROLOGY

The site land cover consists of impervious roof and paving, pervious concrete, landscaping, and grass. Runoff from the site is discharged to infiltration facilities on site.

3. DEVELOPED SITE HYDROLOGY

The developed site land cover is shown in Table 4-3:

Table 4-3: Site Land Cover

	Area (sf)	Area (ac)
Impervious	51,800	1.19
Pervious	44,000	1.01
Total	95,800	2.20

Refer to Table 4-2 for pollution generating surface land cover areas.

4. PERFORMANCE STANDARDS AND GOALS

Water quality facilities will meet the Basic Treatment Standard. Site facilities will be selected and designed per the Basic Treatment Menu in SWMM Volume V, Section 2.4.

5. FLOW CONTROL SYSTEM

Flow control is not required for this project; see Section 4.1 of this report.

6. WATER QUALITY SYSTEM

Water quality facilities installed to provide Basic Treatment will include pervious concrete pavement, and rain gardens.

7. CONVEYANCE SYSTEM ANALYSIS AND DESIGN

Roof downspouts will be tightlined to rain gardens near the building. Conveyance design will be prepared for the construction permit submittal. 100% of the parking lot runoff will be infiltrated through pervious pavement. An overflow system will be provided via existing and proposed rain gardens adjacent to the parking lots. Any additional overflow will drain across the existing pervious parking lot, and ultimately out to the city's public drainage system as previously designed.

5. Discussion of Minimum Requirements

The project will comply with minimum requirements Nos. 1 through 10 as outlined in Section 4.1 of this report. The following subsections will discuss the applicability of each minimum requirement to this project, as required by SWMM Volume I, Section 3.4.

MINIMUM REQUIREMENT NO. 1 – PREPARATION OF A STORMWATER SITE PLAN

A final Stormwater Site Plan, which will include both this report and the project plans, will be prepared to meet the City of Auburn stormwater requirements.

MINIMUM REQUIREMENT NO. 2 – CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The project will add more than 5,000 square feet of impervious surface, so the project will require a complete Construction Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will be prepared to City of Auburn and Washington State Department of Ecology (DOE) standards as described in SWMM Volume II. The completed SWPPP will be provided in the final Stormwater Site Plan.

MINIMUM REQUIREMENT NO. 3 – SOURCE CONTROL OF POLLUTION

Construction source controls will be described in the SWPPP (see Minimum Requirement No. 2). Source control of pollution for the developed site will be described in the final Stormwater Site Plan.

MINIMUM REQUIREMENT NO. 4 – PRESERVATION OF NATURAL DRAINAGE SYSTEMS AND OUTFALLS

There are no existing natural drainage systems or outfalls on or adjacent to the project site.

MINIMUM REQUIREMENT NO. 5 – ON-SITE STORMWATER MANAGEMENT

On-Site Stormwater Management will be widely applied to this project. Roof downspout infiltration systems will infiltrate 100 percent of roof runoff, and additional site infiltration systems will infiltrate 100 percent of runoff from target surfaces. The grading and storm drainage plans and details will be included in the final Stormwater Site Plan.

MINIMUM REQUIREMENT NO. 6 – RUNOFF TREATMENT

Runoff treatment will be designed per the process identified in SWMM Volume V, Chapter 1.

MINIMUM REQUIREMENT NO. 7 – FLOW CONTROL

Flow control is not required for this project, see Section 4.1 of this report.

MINIMUM REQUIREMENT NO. 8 – WETLAND PROTECTION

There are no wetlands on or adjacent to the project site.

MINIMUM REQUIREMENT NO. 9 – OPERATION AND MAINTENANCE

An Operation and Maintenance Manual (O&M Manual) will be included in the final Stormwater Site Plan.

MINIMUM REQUIREMENT NO. 10 – OFF-SITE ANALYSIS AND MITIGATION

An off-site analysis is not required because this project proposes to infiltrate 100 percent of its stormwater runoff. If an off-site analysis becomes necessary during the design process, then it will be completed and included in the final Stormwater Site Plan.