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November 2, 2020

THE CITY OF PUYALLUP
Development Engineering
Puyallup City Hall
333 South Meridian
Puyallup, WA 98371

SUBJECT: ***ABBREVIATED STORMWATER DRAINAGE LETTER FOR CTE AND GLAD PORTABLES PUYALLUP SCHOOL DISTRICT NO. 3 PARCEL NO. 0419043117 SITTS & HILL PROJECT NO. 18,980***

To The City of Puyallup Development Engineering Department:

The Puyallup School District is applying for a site development permit for the placement of two dry portable buildings and the addition of associated concrete sidewalk and asphalt pavement at the Puyallup School District Support Operations Campus (1501 39th Avenue SW, Puyallup, Washington 98373). The total of new hard surfaces associated with the placement of the portable is approximately 4,113 square feet. No replaced hard surfaces are proposed. Minimum Requirements #1 through #5 are applied to this project (see attached flowcharts). Runoff from the project area will continue to be managed by existing onsite stormwater conveyance, treatment and flow control facilities.

In the existing condition, runoff from the project area sheet flows either to the east into the street or to the west into the wetland. Minimum Requirement #8 Wetlands Protection is not triggered by the proposed project. Runoff that enters the street continues to surface flow north into the existing stormwater system. Soil conditions in the project area were previously investigated as a part of the Kessler Center Project (permit no. E-19-0574), which is currently under construction. Excerpts from the Subsurface Exploration, Infiltration Testing, and Design Infiltration Rate Determination letter for this project (dated December 18, 2019 by Associated Earth Sciences Inc.) are included with this letter. The upper layer of soil is described as Vashon Recessional Lacustrine Deposits, which provides a poor infiltration rate.

Minimum Requirement #1 – Preparation of Stormwater Site Plans:
This letter and the accompanying project drawings satisfy this requirement.

Minimum Requirement #2 - Construction Stormwater Pollution Prevention:
A discussion of each of the thirteen elements is provided below:

1. *Mark Clearing Limits* - Work limits will be identified in the field from the construction plans. *Applicable BMPs*: C101 Preserving Natural Vegetation

2. *Establish Construction Access* - Construction vehicles will access the site from 17th Street SW. Access is via existing pavement. Any debris generated as a result of construction activity will be swept clean to prevent tracking onto paved areas.

3. *Control Flow Rates* - Flow control is not a requirement for this project.

4. *Install Sediment Controls* – Silt fence will be installed per the project plans. Catch basin inserts will be used by the contractor to minimize sediment entering the existing catch basins. If any catch basins or inserts become filled with sediment or debris, it must be cleaned in such a manner as to prevent material from entering the stormwater drainage system. Sweeping of paved surfaces will also help to prevent sediment from entering the existing system.
   Applicable BMPs: C220 Inlet Protection; C233 Silt Fence

5. *Stabilize Soils* - Any exposed soils requiring stabilization due to poor weather conditions, or left unworked for more than 2 days from October 1 to April 30 (7 days from May 1 to September 30), will be covered at the end of each work shift. Covering material will be anchored to ensure adequate protection. Erosion control measures will remain in place until soil stabilization can be achieved by the installation of permanent surfacing. Dust control is not anticipated to be required, but will be utilized as necessary at the Contractor's discretion by keeping the work area in an adequately moistened condition.
   Applicable BMPs: C120 Temporary and Permanent Seeding; C121 Mulching; C123 Plastic Covering; C125 Topsoiling/Composting; C140 Dust Control

6. *Protect Slopes* - The project will not include any destabilized slopes.

7. *Protect Drain Inlets* - All catch basins near the site are to be protected as necessary during construction. This will be accomplished through the use of catch basin inserts and pavement sweeping. The construction drawings detail the location and protection measures required for each existing catch basin to be protected. Inlet protection filters are required on all existing catch basins near the area of work. Filters will be inspected frequently during construction (especially after storm events) and pavement will be checked and swept as necessary. If inlet protection filters become one-third full, they will be cleaned in such a manner as to prevent sediment from entering the stormwater drainage system. Inlet protection material will also be kept on hand in case additional protection becomes necessary.
   Applicable BMPs: C220 Inlet Protection

8. *Stabilize Channels and Outlets* - No channel or outlet stabilization will be required.

9. *Control Pollutants* - All material to be removed / demolished will be disposed of at an approved off-site location. Fueling and lubrication of construction vehicles and other motorized equipment will occur only at approved off-site facilities. Construction equipment will be inspected daily as part of regular maintenance activities. Any leaks or other sources of contamination will be repaired immediately. Spillage or other discharges of pollutants will be reported within 24 hours. Also, the contractor will maintain any materials necessary for rapid cleanup of spills.
   Applicable BMPs: C151 Concrete Handling; C152 Sawcutting and Surfacing Pollution Prevention; C153 Material Delivery, Storage, and Containment; C154 Concrete Washout Area

10. *Control Dewatering* - It is not anticipated that de-watering will be included as a part of this project.

11. *Maintain BMPs* - All erosion and sediment control BMPs will be maintained and repaired as needed during construction. Installed BMPs will be inspected weekly (unless otherwise specified) or after any large storm event for stability and functionality. Deficiencies will be corrected in such a way as to prevent sediment from entering the stormwater drainage system. Refer to the project TESC Plans.
    Applicable BMPs: C150 Materials on Hand; C160 Certified Erosion and Sediment Control Lead

12. *Manage the Project* - The Erosion Control Specialist will be identified prior to the start of construction and will be on-call at all times.

Applicable BMPs: C150 Materials on Hand; C160 Certified Erosion and Sediment Control Lead; C162 Scheduling

13. *Protect Low Impact Development BMPs* - No low impact development BMPs are proposed.

Minimum Requirement #3 – Source Control of Pollution:
The proposed project is located on the Puyallup School District Support campus. The current source control measures for the existing stormwater system will continue to be implemented. No new source control measures are applicable to the proposed portable buildings.

During construction, the project shall comply with the following Department of Ecology BMP's:

BMP C101 Preserving Natural Vegetation
BMP C120 Temporary and Permanent Seeding
BMP C121 Mulching
BMP C123 Plastic Covering
BMP C125 Topsoiling/Composting
BMP C140 Dust Control
BMP C150 Materials on Hand
BMP C151 Concrete Handling
BMP C152 Sawcutting and Surfacing Pollution Prevention
BMP C153 Material Delivery, Storage, and Containment
BMP C154 Concrete Washout Area
BMP C160 Certified Erosion and Sediment Control Lead
BMP C162 Scheduling
BMP C220 Inlet Protection
BMP C233 Silt Fence

Minimum Requirement #4 – Preservation of Natural Drainage Systems and Outfalls:
Runoff from the project area will continue to drain to the existing onsite stormwater system.

Minimum Requirement #5 – On-site Stormwater Management:
Since the project triggers only Minimum Requirements #1 through #5, on-site stormwater management BMPs from List #1 are selected to satisfy Minimum Requirement #5.

For lawn and landscaped areas, BMP T5.13 Post-Construction Soil Quality and Depth applies. This BMP will be implemented for all disturbed soil areas.

For hard surfaces, infiltration BMPs such as rain gardens, perforated sub-out connections, and permeable pavement are not feasible due to the lack of infiltrative soils on the project site (see attached excerpt from geotechnical letter for the Kessler Center Project E-19-0574). Dispersion BMPs are not feasible since the required flow path lengths cannot be provided due to the close proximity of existing pavement to the portable building. However, splash blocks are proposed at the building downspouts to provide as much dispersion as is available.

Other Requirements:
An Operation and Maintenance Manual is not required for the project building downspout and splash block systems. The School District is responsible for potential maintenance and is covered by an existing recorded maintenance agreement.

Please contact us with any comments or questions regarding this project.

Sincerely,

SITTS & HILL ENGINEERS, INC.

Richard C. Hand, P.E.
Senior Project Manager

Attachments:

- Flow Charts from the Manual
- Excerpt from Subsurface Exploration, Infiltration Testing, and Design Infiltration Rate Determination Letter by Associated Earth Sciences, Inc. dated December 18, 2019

11-02-2020

Figure I-2.4.1 Flow Chart for Determining Requirements for New Development

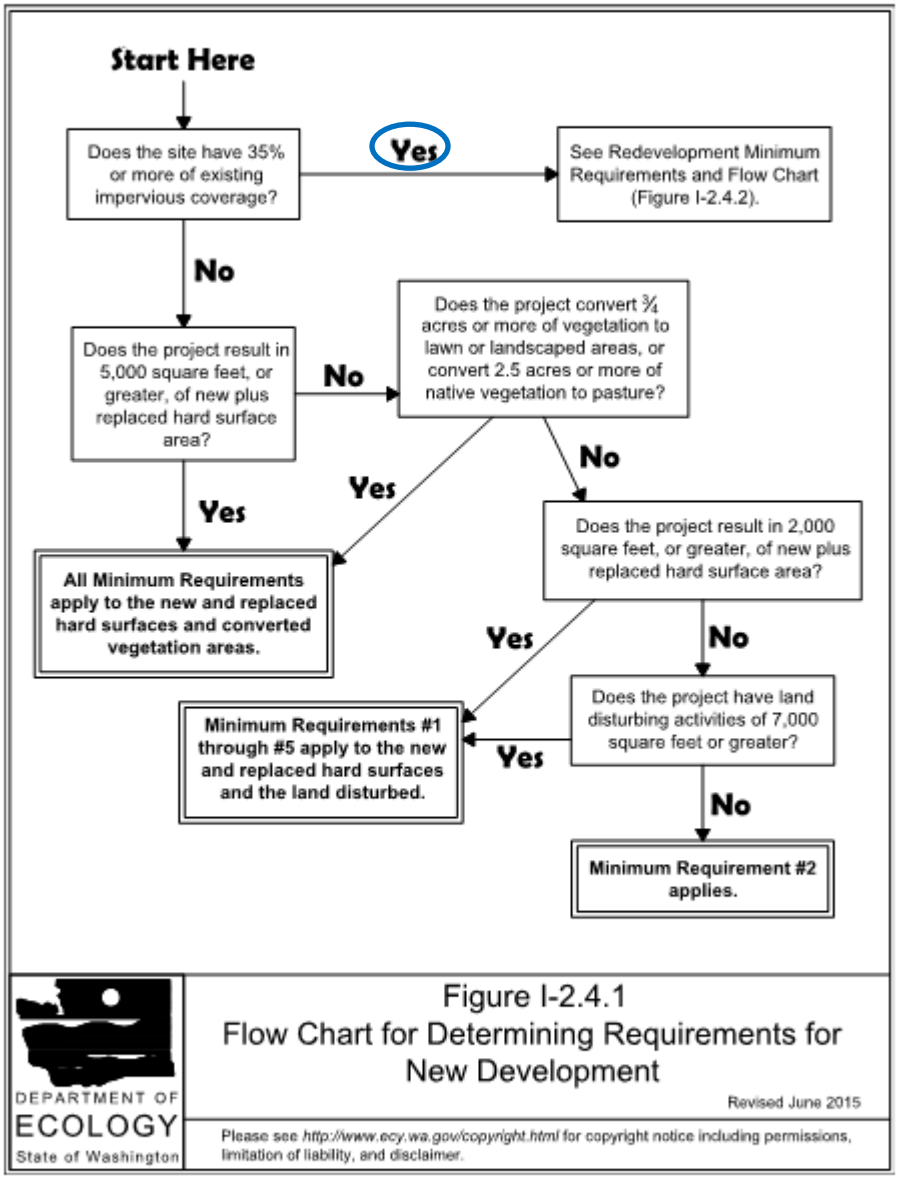
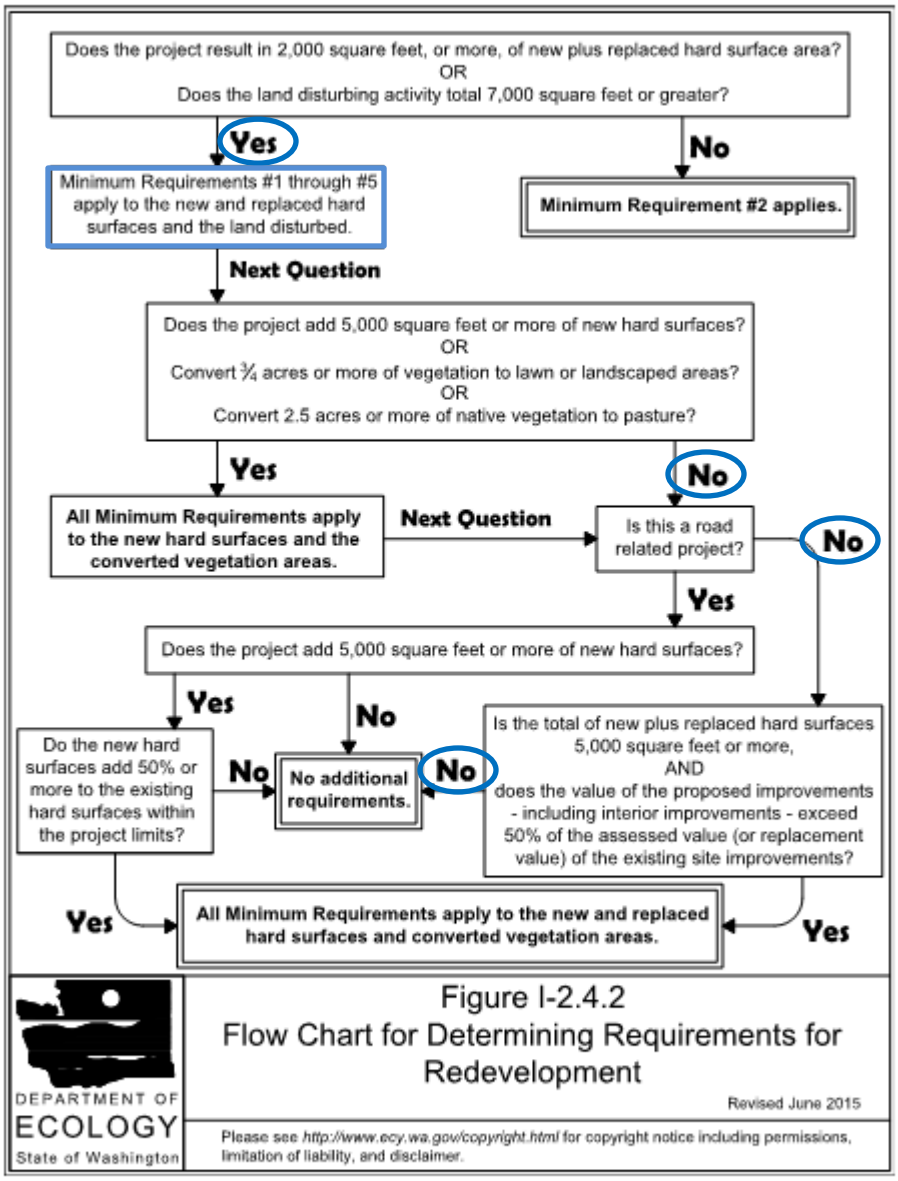


Figure I-2.4.2 Flow Chart for Determining Requirements for Redevelopment



The following section presents more detailed subsurface information organized from the youngest to the oldest sediment types.

Vashon Recessional Lacustrine Deposits

Immediately below the surficial sod and/or fill, all of our explorations encountered a thick deposit of massive to stratified, silty, fine sands and fine, sandy silts. We interpret this deposit to be Vashon recessional lacustrine sediments that were deposited in a lake or other low-energy setting during the retreat of the Vashon ice sheet. Where fully penetrated, these deposits extended to a depth of about 11 to 31 feet below existing ground surface. These sediments have a low permeability and are challenging for stormwater infiltration due to a high percentage of fines.

Vashon Lodgement Till and Melt-out Till

On the west side of the site in the area of the proposed infiltration trench, several exploration pits, EP-18, EP-24, and EP-25, encountered a thin deposit, 1 to 3½ feet thick, of sediments interpreted to be representative of Vashon lodgement till, directly below the Vashon recessional lacustrine sediments. The lodgement till primarily consisted of dense, slightly moist, grayish brown, unsorted silty fine sand with some gravel. The Vashon lodgement till was deposited directly from basal, debris-laden, glacial ice during the Vashon Stade of the Fraser Glaciation, approximately 12,500 to 15,000 years ago. The high relative density characteristic of the Vashon lodgement till is due to its consolidation by the massive weight of the glacial ice from which it was deposited. Two borings, EB-10 and EB-11, encountered an interval of transitional melt-out till and Vashon advance outwash sediments were encountered, directly below the Vashon recessional lacustrine sediments. The melt-out till sediments generally consisted of dense to very dense, unsorted, silty sand with minor amounts gravel, and silty gravel with minor amounts of sand. These sediments were about 4 to 5½ feet thick. Vashon lodgement till and melt-out till are not recommended for use as an infiltration receptor.

Vashon Advance Outwash

Several exploration pits on the west side of the site in the area of the proposed infiltration trench, most exploration borings, and the infiltration test, IT-3, encountered dense, gravelly sand with variable amounts of silt to sand with minor amounts of gravel and silt underlying the Vashon recessional lacustrine or lodgement till/advance outwash transitional deposits. These sediments are interpreted to be representative of Vashon advance outwash. The Vashon advance outwash consists of sediments that were deposited by meltwater streams that emanated from the advancing Vashon glacier, and were subsequently consolidated by the massive weight of the glacial ice. These deposits appear to extend across the site in an