

STORMWATER SITE PLAN

**ST JOHN'S EPISCOPAL CHURCH
EXPANSION**

**913 2ND STREET,
SNOHOMISH, WASHINGTON 98290**

JANUARY 31, 2020



1/31/2019



PROJECT OVERVIEW

This Stormwater Site Plan has been prepared for the building permit submittal for the St John's Episcopal Church expansion project in Snohomish, Washington. The site is located on the south side of 2nd Street between Union Avenue and Avenue A (tax parcel 00579500500703), see Figure 1: Vicinity Map. The site contains the church building with walks and planters. This amounts to approximately 8,200 sf of existing impervious on the 12,861 sf parcel. The project consists of a building addition in the front courtyard area facing 2nd Street. The addition will include a basement level and an elevator. Stormwater on the site is collected and discharged at the southeast corner of the site where it flows east under the bank parking lot to the combined sewer system in Union Street. This pipe system will be maintained.

METHODOLOGY

The drainage design for the project has been prepared based on the requirements of the 2014 Department of Ecology Stormwater Management Manual (DOE Manual) as adopted by the City of Snohomish. Based on the flow charts in Figure 2.3 of the DOE Manual and the site parameters, the project is subject to Minimum Requirements 2.

The project site parameters are:

- The project is re-development (the site has 64% existing impervious).
- The project will create less than 2,000 sf of new and replaced impervious area.

The requirements of MR 2 are as follows:

MR 2: CONSTRUCTION STORMWATER POLLUTION PREVENTION

The construction site has the following characteristics:

Tax Parcel:	00579500500703
Disturbed Area:	Approximately 4,000 sf/0.09 Acres
Soil Type:	Tokul
Average slope:	2-11%
Critical Areas:	There are no critical areas.

1. CONSTRUCTION STORMWATER POLLUTION PREVENTION ELEMENTS

The 13 Required Elements are addressed as follows:

Element #1: Mark Clearing Limits

The construction plans delineate the clearing limits and they will be marked in the field prior to construction.

BMP C103, High Visibility Plastic or Metal Fence

Element #2: Establish Construction Access

The site has no room for a construction entrance. Construction staging and working pads will be off of 2nd Street.

Element #3: Control Flow Rates

No BMPs are proposed to mitigate flow control rates for this project. The impervious area impacts minimal and MR 7 is not required.

Element #4: Install Sediment Controls

Sediment controls will be installed prior to construction. These are indicated on the plans. The construction involves a basement and an elevator shaft. These will need to be dewatered and it is proposed that a sediment filter like a Rain for Rent filtration system or the like. This will be required until the excavation is complete and the foundations are placed. Then the interior subdrains will be on-line.

Element #5: Stabilize Soils

Bests Management Practices (BMP's) will be used to control sediment transport during construction.

BMP C120, Temporary & Permanent Seeding for any landscaped areas that are disturbed.

BMP C121, Mulching also for landscaped areas.

BMP C123, Plastic Covering for stockpiles

BMP C125, Topsoiling for any landscaped areas that are disturbed.

Element #6: Protect Slopes

Excavation slopes will be temporary and will be managed by the contractor as part of the excavation. No surface slopes will be disturbed.

Element #7: Protect Drain Inlets

On-site yard drains will be protected with inserts or filter fabric (depending on size). Off-site catchbasins at Union Street will also be protected.

Element #8: Stabilize Channels and Outlets

No temporary channels will be used to convey construction stormwater and no outlets exist or will be created that will require outlet protection.

Element #9: Control of Pollutants

- All pollutants, including waste materials and demolition debris, that occur on-site shall be handled and disposed of in a manner that does not cause contamination of stormwater.
- Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and non-inert wastes present on the site (see Chapter 173-304 WAC for the definition of inert waste). On-site fueling tanks shall include secondary containment.
- Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into stormwater runoff must be conducted using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned

immediately following any discharge or spill incident. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations for application rates and procedures shall be followed.
- BMPs shall be used to prevent or treat contamination of stormwater runoff by pH modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Stormwater discharges shall not cause or contribute to a violation of the water quality standard for pH in the receiving water.

Element #10: Control De-Watering

Dewatering will be required for the excavations of the basement and elevator pit. The rates are not expected to be large and will be modified by the filtration system prior to discharge to the gutter on 2nd Street. This runoff will be clean and will discharge into the combined sewer system of Union Avenue.

Element #11: Maintain BMP's

All temporary and permanent Erosion and Sediment Control (ESC) BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function.

Maintenance and repair shall be conducted in accordance with each BMP specification.

Visual monitoring of all BMPs installed at the site will be conducted at least once every calendar week and within 24 hours of any stormwater or non-stormwater discharge from the site. If the site becomes inactive and is temporarily stabilized, the inspection frequency may be reduced to once every calendar month.

All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Trapped sediment shall be stabilized on-site or removed. Disturbed soil resulting from removal of either BMPs or vegetation shall be permanently stabilized.

Additionally, protection must be provided for all BMPs installed for the permanent control of stormwater from sediment and compaction. BMPs that are to remain in place following completion of construction shall be examined and restored to full operating condition. If sediment enters these BMPs during construction, the sediment shall be removed, and the facility shall be returned to conditions specified in the construction documents.

Element #12: Manage the Project

The project will be subject to seasonal work limitations, site inspection and monitoring as required by Snohomish County. Erosion control monitoring and supervision will be managed by the contractor. Proposed disturbance is less than 1 acre and will not require a DOE Construction Stormwater General Permit.

Element #13: Protect LID BMPs

No LID BMPs are proposed for this site.

2. PROJECT DESCRIPTION

This Stormwater Site Plan has been prepared for the building permit submittal for the St John's Episcopal Church expansion project in Snohomish, Washington. The site is located on the south side of 2nd Street between Union Avenue and Avenue A (tax parcel 00579500500703), see Figure 1: Vicinity Map. The project consists of a building addition in the front courtyard area facing 2nd Street. The addition will include a basement level and an elevator. Stormwater on the site is collected and discharged at the southeast corner of the site where it flows east under the bank parking lot to the combined sewer system in Union Street. This pipe system will be maintained. The grading quantities for the construction are estimated at: 670 CY Cut and 50 CY Fill.

3. EXISTING SITE CONDITIONS

The site contains the church building with walks and planters. This amounts to approximately 8,200 sf of existing impervious on the 12, 861 sf parcel. The site slopes to the south with slopes ranging from 5-11 percent. Ground cover is landscaping and grass.

4. ADJACENT AREAS

The site lies to the south of 2nd Street. To the east lies a bank while to the west is a commercial building. To the southwest is the ATM site for the bank and to the southeast is City Hall.

5. CRITICAL AREAS

There are no critical areas.

6. SOILS

The United States Department of Agriculture Natural Resources Conservation Service Soil Survey lists the entire site as being underlain by Tokul soils. These soils are typified by a dense till layer at about 2-3 feet below original surface. They are listed in Hydrologic Group C.

7. EROSION PROBLEM AREAS

The vertical excavation for the basement and elevator pit will be the likeliest threat for erosion. These areas will need to be dewatered by pump. That water will require treatment prior to discharge.

8. CONSTRUCTION SEQUENCE & PHASING

1. Attend preconstruction meeting with the City of Snohomish.
2. Call 811 for underground locates.
3. Install temporary erosion control measures.
4. Strip, clear and demolish for building pad.
5. Excavation and construct foundations for the building.
6. Install utilities.
7. Construction building and supporting infrastructure.
8. Recondition site soils and seed or landscape.
9. Remove TESC measures once project work is complete.

No phasing is proposed for the project.

9. CONSTRUCTION SCHEDULE

The site work is proposed to begin in the spring/summer of 2020 and be finished in Winter of 2020.

10. FINANCIAL/OWNERSHIP RESPONSIBILITIES

The St John's Episcopal Church has financial responsibility for the project.

11. ENGINEERING CALCULATIONS

There are no systems proposed that require engineering calculations.

12. Certified Erosion and Sediment Control Lead Information

The site is well under 1.0 acres of disturbance, so a CESCL is not required for this project. Erosion and sediment control monitoring will be managed by the contractor.