



MAKING A "WAY" OUT OF "NO WAY"

Wallace H Peterson
3803 & 3821 136th St NE, Marysville, WA 98271

PN - _____

1st C&G Early Grading: May 2022

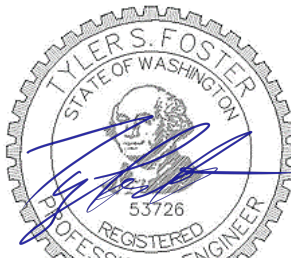
**Stormwater Site Plan
Report
for
James G. Murphy Co. -
Early Grading**

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Acronyms

The following acronyms and abbreviations may or may not be called out within the body of this report.

○ ASTM	- American Society for Testing and Materials
○ BMPs	- Best Management Practices
○ CB	- Catch Basin
○ CAO	- Critical Areas Ordinance
○ CESCL	- Certified Erosion and Sediment Control Lead
○ DOE	- Department of Ecology
○ EDDS	- Engineering Design & Development Standards
○ FEMA	- Federal Emergency Management Agency
○ HSPF	- Hydrological Simulation Program—Fortran
○ LiDAR	- Light Detecting And Ranging
○ LDA	- Land disturbing activity
○ LID	- Low Impact Development
○ LID Manual	- DOE 2005 LID Technical Guidance Manual for Puget Sound
○ MRs	- Minimum Requirements (for Stormwater Management)
○ MS4	- Municipal Separate Storm Sewer System
○ MSL	- Mean Sea Level
○ NAVD88	- North American Vertical Datum of 1888
○ NGVD29	- National Geodetic Vertical Datum of 1929
○ NPDES	- National Pollutant Discharge Elimination System
○ NRCS	- Natural Resources Conservation Service
○ NPGIS	- Non-Pollutant Generating Impervious Surface
○ O&M	- Operations and Maintenance
○ PGIS	- Pollutant Generating Impervious Surface
○ PGPS	- Pollutant Generating Pervious Surface
○ PLSS	- Public Land Survey System
○ POC	- Point of Compliance
○ RCW	- Revised Code of Washington
○ ROW	- Right-of-Way
○ SCDM-2010	- Snohomish County 2010 Drainage Manual
○ SMMWW	- DOE 2005 Stormwater Management Manual for Western Washington
○ SWPPP	- Stormwater Pollution Prevention Plan
○ TDA	- Threshold Discharge Area
○ TESC	- Temporary Erosion and Sediment Controls
○ USDA	- United States Department of Agriculture
○ US EPA	- United States Environmental Protection Agency
○ WSDOT	- Washington State Department of Transportation
○ WWHM	- Western Washington Hydrology Model

Section 1 – Report Summary

1.1 Project Description

James G. Murphy Co. is proposing to bring in fill material to the addressed property for the future development of their operations base for James G. Murphy Co. Commercial and Industrial Auctioneers. The proposed grading permit will be on 6.82-acres of land in northern Marysville, WA adjacent to Smokey Point Blvd with access from 136th St. Future development of the parcel is in the planning phase and a Pre-Application Review has been conducted in Early 2022. Fill material will be required for the future development of the parcel. The grading permit will be to “jump start” the development of the parcel with needed import material during the Summer months of 2022.

A large portion of the parcel is currently vacant and vegetated with pasture. An existing warehouse and parking lot are located in the southeast corner of the parcel. No critical areas are known to occur onsite.

Fill will be brought into the site from 136th St NE at the south property boundary. A temporary construction entrance and exit will be installed along this route, from the existing driveway/parking access. Entrance to the site will be from the south in a loop through the property and exit at the same location. Fill will be brought into the parcel along this route. The final site of the early grading permit will contain no new impervious area. Temporary site will have a construction entrance of 1,000 sf which will be removed at the conclusion of grading.

The fill will have a maximum compacted slope of 3:1. A 10 *foot* vegetated buffer will extend from the toe of the slope to the property boundary for future landscape buffers and fences.

The fill slopes will be tracked, seeded, and mulched.

The 2014 DOE Stormwater Management Manual for Western Washington will be used for stormwater management.

Per NRCS mappings, type “C/D” Custer fine sandy loam soils are found throughout the site. Sandy, permeable soils are found at depth.

The entire developable project area is in a single natural discharge area with a single discharge location to West Fork Quilceda Creek. Stormwater BMPs will be employed to mitigate polluted and unpolluted surface water flows.

1.2 Project Data Summary

Existing and proposed project areas are presented for determination of stormwater management requirements based on prescribed thresholds as outlined in the Marysville Municipal Code (MMC 22C) and the 2014 SMMWW Vol-1, Ch-2, Section 2.4 are summarized in the following tables.

Table 1 - Project Parcel Summary

Project Data:	
Applicant	James G. Murphy Co.
Site Owner	Wallace H Peterson
Project Name	James G. Murphy Co. - Early Grading
Project T.S.R. Location	TwN 30 N, Rng 5 E, Sec 4, Qtr-NW
Project Address	3803 & 3821 136th St NE, Marysville, WA 98271
Parcel ID(s)	300504-002-005-00, -002-00
Watershed	Snohomish
Basin	Snohomish
Sub-Basin	Quilceda Creek
WRIA Number	7
Analysis Standard	2014 DOE SMMWW

Table 2 - Project Area Analysis & Activities Summary

Existing Conditions:		
Total Site Area	297,162	sf (6.82 ac)
Existing Impervious Area	0	sf (0.00 ac) 0%
Proposed Activity:		
Proposed Activity	Grading Import	
Total Proposed Disturbance Area	245,065	sf (5.62 ac)
Proposed Grading Area	245,065	sf (5.62 ac)
Proposed New NPGIS	0	sf (0.00 ac)
Proposed New PGIS	0	sf (0.00 ac)
Proposed Replaced Impervious Area	0	sf (0.00 ac)
Native Vegetation convert to Lawn	0	sf (0.00 ac)
Native Vegetation convert to Pasture	0	sf (0.00 ac)
Total New Impervious Area	0	sf (0.00 ac)
Total Site Impervious Area (new+exist)	0	sf (0.00 ac)
Grading is ≤ 2 feet from P/L	No	
Any excavation 4+' at <1:1 slope to P/L	No	
Fill Slopes 4+' and >33% slope	No	

Section 2 - Minimum Requirements

2.1 Assessment of Minimum Requirements and Thresholds

Minimum requirements and thresholds are established by City of Marysville Municipal Code 14.15.050 – Minimum Requirements. Minimum Requirements for new development and Redevelopment are based on a development’s disturbance area. Existing and proposed project areas for determination of stormwater management requirements are presented in Table 2.

The existing impervious area is less than 35% so this project qualifies as ‘new development’. The proposed condition of the fully developed site will have impervious area less than 2,000 sf. The project does not convert more than 2.5 acres of native vegetation to pasture. The project does cause more than 7,000 *square feet* of land disturbing activity. This requires construction activities and stormwater management to comply with Minimum Requirements 1 through 5. A full construction SWPPP is also required.

Minimum Requirements per the SCMD:

MR-1: Prepare Stormwater Site Plan. MMC 14.15.050 (1)

MR-2: Stormwater Pollution Prevention Plan (SWPPP). MMC 14.15.050 (2)

MR-3: Water pollution source control for new development. MMC 14.15.050 (3)

MR-4: Preservation of natural drainage systems and outfalls. MMC 14.15.050 (4)

MR-5: On-site stormwater management. MMC 14.15.050 (5)

Each Minimum Requirements is described in the following sections. There are no additional requirements to be met.

2.2 MR #1: Preparation of Stormwater Site Plans

This document is the Stormwater Site Plan Report that addresses the requirements of MR-1. This section presents the portion of the Stormwater Site Plan that includes recommendations, calculations, and procedures required to adhere to Minimum Requirement #1. The evaluation of the existing site conditions follows.

2.2.1 Site Location

The site is located in the NW quarter of Section 4 of Township 30 North, Range 5 East. The street address is 3803 & 3821 136th St NE, Marysville, WA 98271 and the parcels are located on the east side of Smokey Point Blvd and on the north side of 136th St NE. See Figure 1 for a vicinity map.

2.2.2 Site Description, Existing Conditions

The project site is 6.82-*acres* parcel. The parcels are owned by Wallace H Peterson. The Snohomish County parcel number are 300504-002-005-00, -002-00. They are zoned Light Industrial and are located in Snohomish County.

The site is vacant. The existing drainage system(s) are undetermined but largely surface runoff to the west and some infiltration. Surface runoff overall flows west.

The site is pasture.

All maps and figures are presented in the Support Data section of this document.

A vicinity map that shows the site location is shown as Figure 1.

A site map that shows the property lines is shown in Figure 2.

A topographic map that shows the site boundaries, study area boundaries, and the downstream flow-paths is also presented in Figure 3.

2.2.3 Existing Basin Analysis

The project is defined by the development within the subject parcel. Existing project flow paths are shown in Figure 2.

The study area is located in the Quilceda Creek sub-basin of the Snohomish Basin in the Snohomish watershed (WRIA-7), which drains to the Puget Sound.

All existing flow assessment and site related basin delineations were established by tracing analysis of a LIDAR surface model.

2.2.4 Other Information on the Study Area

The site is not in or adjacent to a USEPA Sole Source Aquifer.

The site is not in a well-head protection area.

The site is not in a floodway or floodplain.

2.2.5 Critical Areas

No known critical areas are known to occur onsite. A critical areas determination will be submitted with the Site Plan Approval permit and accompany this permit.

2.2.6 Topography

The site and surrounding topography was analyzed using survey topographic points provided by the Puget Sound Lidar Consortium. A 3D surface model was generated.

The site has mostly flat slopes with a low point around 92 *feet* MSL along the southwest property corner. The site slopes up from the west to a high point of 95 *feet* associated with the Existing warehouse building. It appears the site has been filled in the past for creation of building and parking.

Slopes average in the range of 0 to 1 percent for the majority of the developable area. The site has an average slope of 0.50%.

2.2.7 Soils

The majority of the site is situated on Custer fine sandy loam soils, a hydrologic Type-C/D soil per the NRCS mapping. Custer fine sandy loam soils have a 0-9 *inch* first layer of fine sandy loam with the remaining profile being sand. Much surface runoff is attributed to the fine sandy loam layer.

Detailed physical and chemical properties of these soils are presented in Section 4.1. The NRCS mapping can be seen in Figure 5.

2.2.8 Field Inspection

The site has not been visited recently.

2.2.9 Upstream Analysis

The upstream is comprised of a developed storage unit complex with driveways and buildings. This upstream system has not been determined to discharge stormwater to the property. City of Marysville GIS locates a stormwater system on this property discharging to the Smokey Point Blvd storm system within the ROW. Stormwater generated from the adjacent north parcel is likely to be captured and conveyed to independent stormwater facilities. A single storm culvert is noted in the City of Marysville As-Built drawings for the widening of Smokey Point Blvd to extend in to the site to provide a stormwater connection. It has not yet been verified the capacity this connection can accept.

2.2.10 Downstream Analysis

The downstream area was established by tracing analysis of a LiDAR surface model and evaluation of various GIS data, aerial imagery, and City of Marysville Drainage Inventory. The development area flows to the southeast corner and into the existing culvert connection to the City's stormwater system. Stormwater along this existing conveyance system to the south and crosses Smokey Point Blvd via a 24" PVC culvert. Stormwater flows west and then discharges to Railroad ROW. The Railroad ROW may be associated with an untyped, unnamed conveyance and eventually flows beneath Interstate 5 and into West Fork Quilceda Creek.

The existing parking area and building appear to be connected to the 136th St NE Stormwater system and flows to the east. This stormwater system flows several hundred feet in closed conveyance before reaching Hayho Creek. Hayho Creek travels south before reaching the Quilceda Creek. Quilceda Creek drains to the Puget Sound.

Stormwater generated from the project site is to be dispersed as the predeveloped scenario. There is no land conversion taking place.

Figure 3 shows a portion of the downstream flow path.

2.3 MR #2: Stormwater Pollution Prevention Plans (SWPPPs)

MMC 14.15.050 (2) specifies the requirements for development and redevelopment projects are responsible for preventing erosion and discharge of sediment and other pollutants into receiving waters. Volume I, Chapter 2.5.2 of the 2014 SMMWW specifies that all new development and redevelopment implement a Stormwater Pollution Prevention Plans (SWPPP), which is a list of 13 elements that present measures and methods for all permanent and temporary erosion and sediment control (TESC), pollution prevention, inspection/monitoring activities, and recordkeeping required during the proposed construction project.

Based on the MR#2 thresholds, this project generates more than 2,000 *square feet* of impervious area, so a full SWPPP is required. Required elements for the SWPPP:

- SWPPP element 1: Preserve vegetation/mark clearing limits
- SWPPP element 2: Establish construction access
- SWPPP element 3: Control flow rates
- SWPPP element 4: Install sediment controls
- SWPPP element 5: Stabilize soils
- SWPPP Element 6: Protect slopes
- SWPPP element 7: Protect permanent drain inlets
- SWPPP element 8: Stabilize channels and outlets
- SWPPP element 9: Control pollutants
- SWWP element 10: Control dewatering
- SWPPP element 11: Maintain best management practices
- SWPPP element 12: Manage the project
- SWPPP element 13: Protect On-Site Stormwater Management BMPs for Runoff from Roofs and Other Hard Surfaces

The SWPPP is assembled as a separate document for portability and reproduction purposes. The document is titled “**Stormwater Pollution Prevention Plan for James G. Murphy Co. - Early Grading**”, dated 3 May 2022. This document will be provided with Construction Plan Submittal.

2.4 MR #3: Source Control of Pollution

MMC 14.15.050 (3) specifies the requirements for water pollution source control for new development or redevelopment activities in accordance with Volume IV of the SMMWW. These activities are primarily commercial industrial developments that represent significant pollutant generation potential and the associated source control BMPs are designed to suit those activities.

Per Chapter 2.5.3, MR#3 does not apply to fills, hence such source controls are not specified for this project.

2.5 MR #4: Preservation of Natural Drainage Systems and Outfalls

MMC 14.15.050 (4) specifies the requirements for preservation of natural drainage systems or outfalls for all new development and redevelopment activities under Minimum Requirement 4 in the 2014 SMMWW.

Natural drainage patterns as they once existed shall be retained. Existing conditions experience a sheet drainage pattern to the site's west property boundary and southwest corner. Pre-developed conditions experience surface runoff. Stormwater generated onsite reaches the property boundary through surface runoff. Surface runoff reaches the offsite ditch and is conveyed offsite.

2.6 MR #5: On-Site Stormwater Management

MMC 14.15.050 (5) specifies requirements for on-site stormwater BMPs. This requirement mandates that on-site stormwater runoff be infiltrated, dispersed, and/or retained to the maximum extent feasible without causing flooding or erosion impacts. Projects triggering Minimum Requirements 1 through 5 must use On-site stormwater management BMPs from List #1 for all surfaces or demonstrate compliance with the LID Performance Standard. Projects triggering Minimum Requirements 1 through 9 must meet the requirements of Table 2.5.1 in Vol. 1 of the 2014 SMMWW. Table 2.5.1 specifies the requirements for new or redevelopment depending on UGA and parcel size to meet the requirements of the LID Performance Standard and/or List #2. List #1 and List #2 specify stormwater BMPs in order of preference. The first BMP determined feasible is required.

This project trigger MR's 1-5. This project is within the City's UGA. This project is required to adhere to List #1 per Table 2.5.1.

List #1 and #2 contain appropriate BMPs to mitigate a particular developed surface. The surfaces included in the list are Lawn and Landscaped Areas, Roofs, and other hard surfaces (road/driveway/parking).

Lawn/Landscape is required to utilize BMP T5.13, Post-Construction Soil Quality and Depth.

No roofs are proposed.

No driveways are proposed.

Stormwater shall be managed through dispersion BMPs to match predeveloped conditions.

A site plan showing the stormwater management and development can be seen in Figure 4.

Section 3 - Maps & Figures

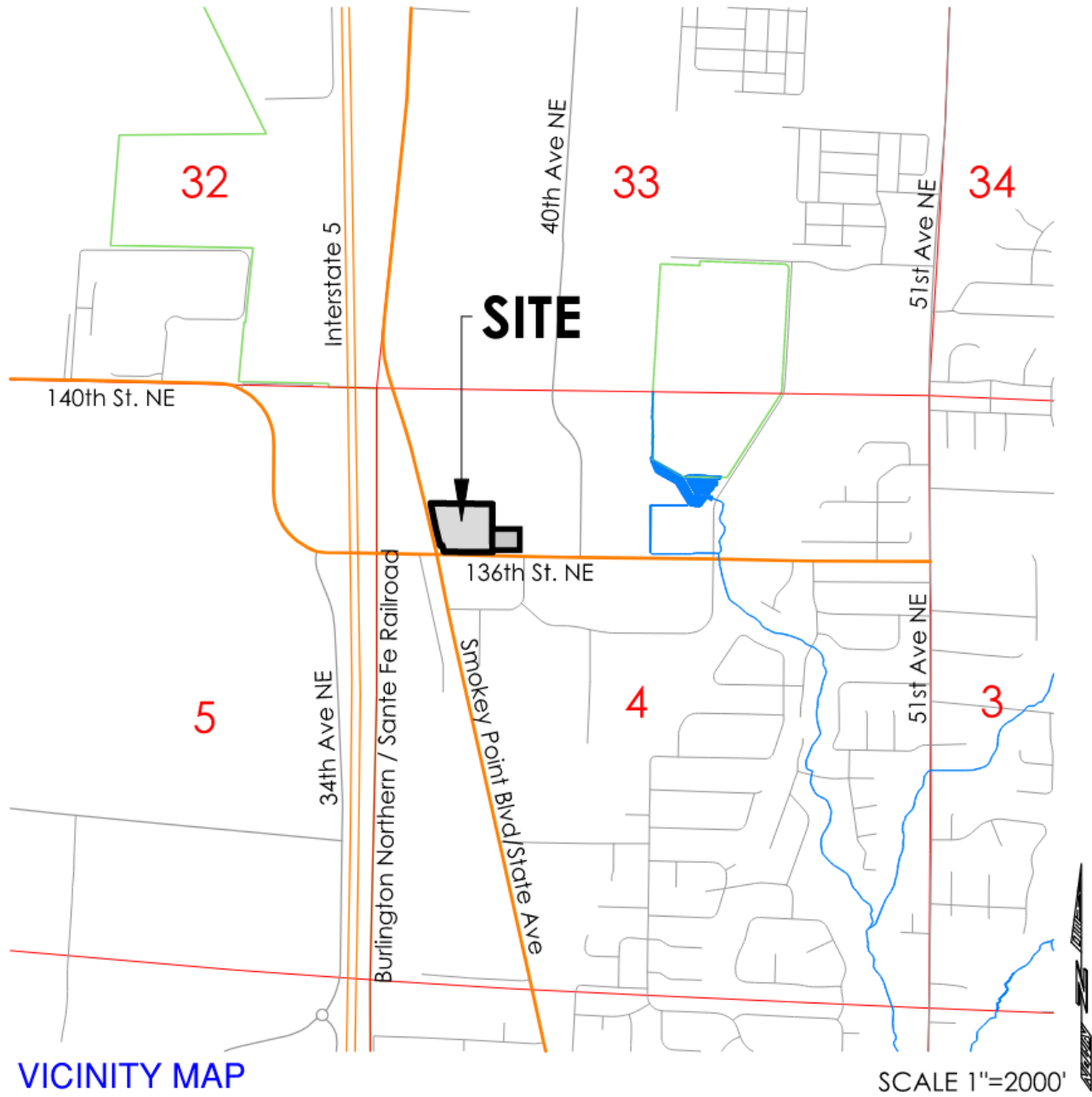


Figure 1 - Vicinity Map



Figure 2 - Existing Conditions (not to scale)

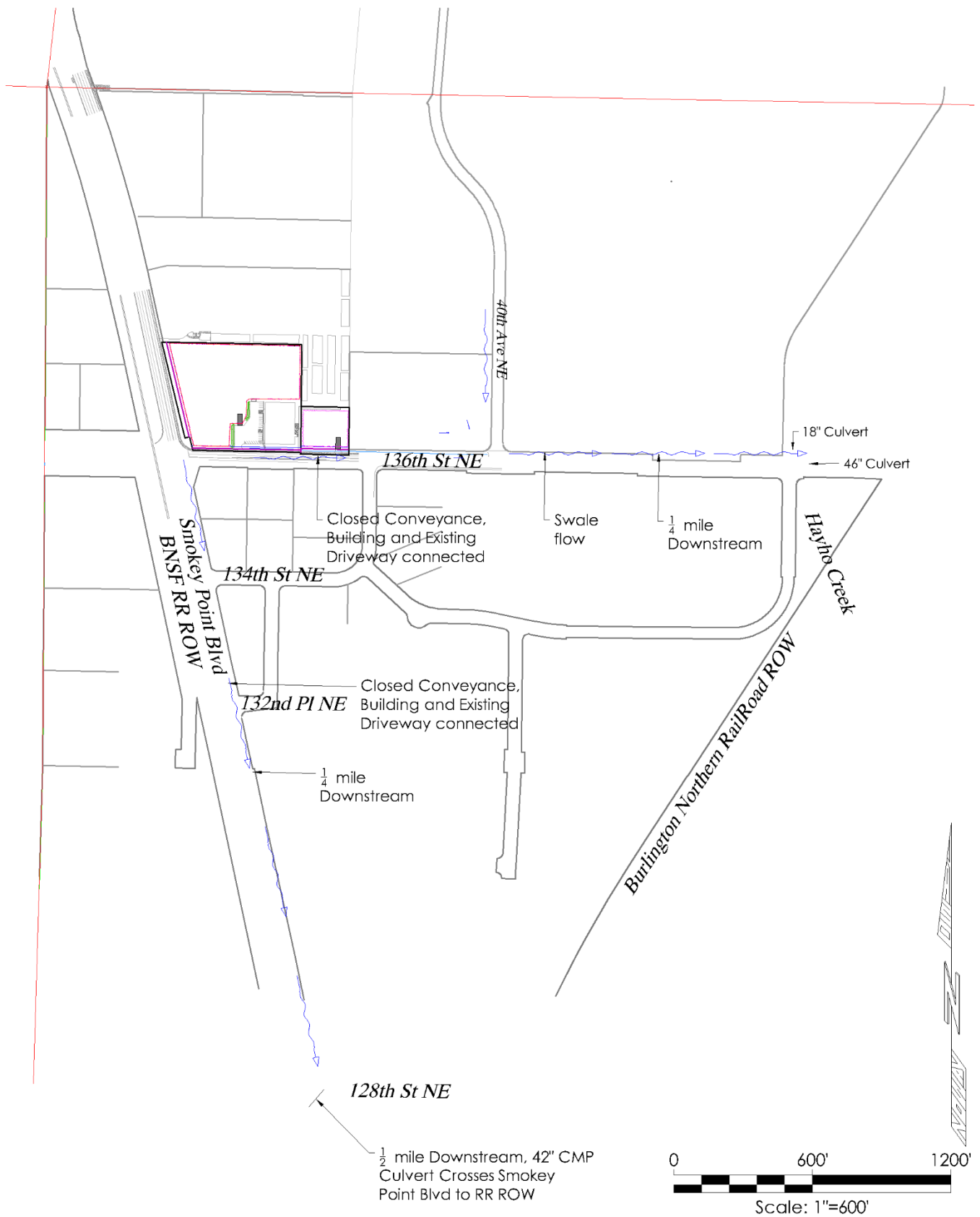


Figure 3 – Downstream Flow Path

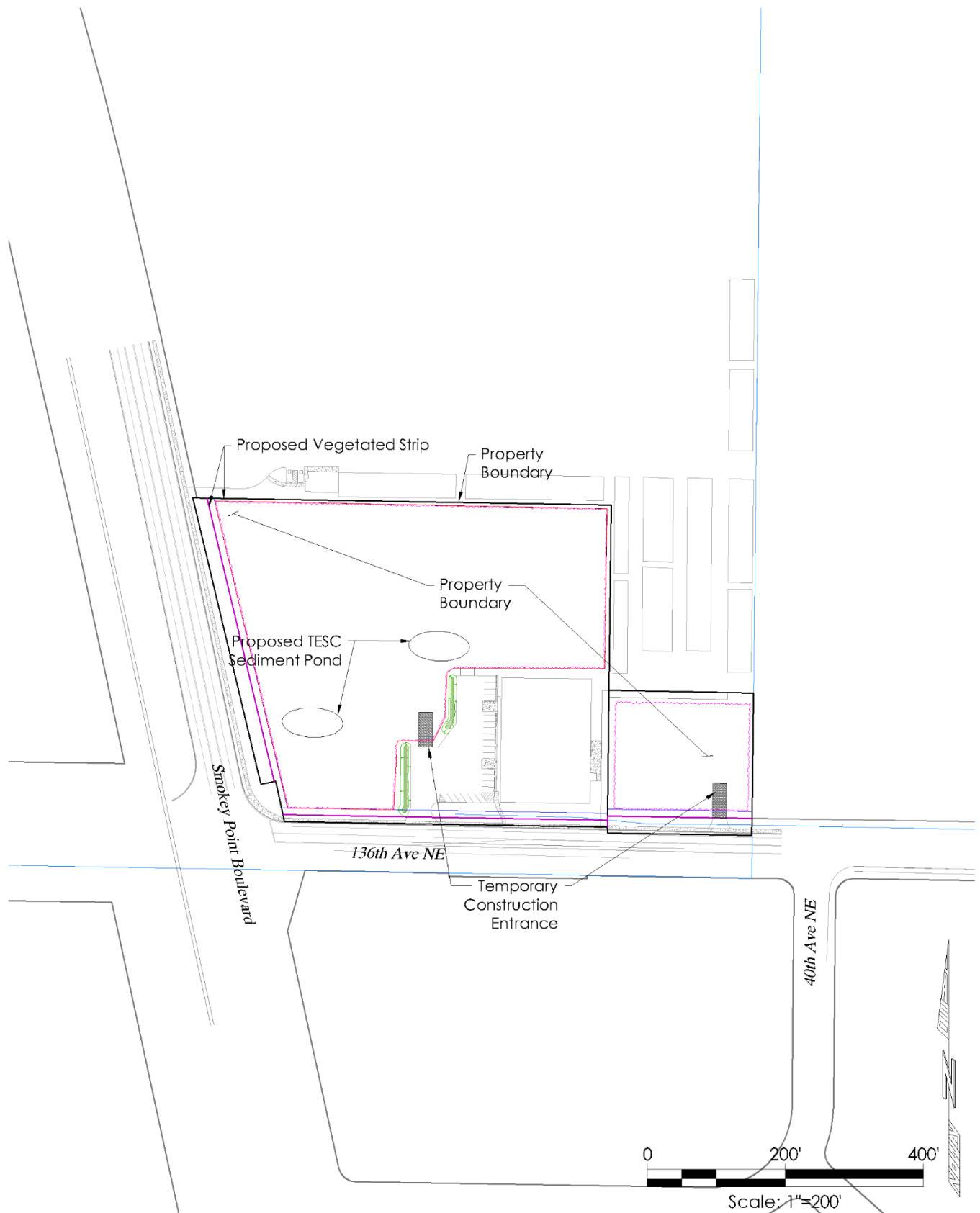


Figure 4 - Site Plan



Figure 5 – Soil Map (Not to Scale, from Geotech Report)

Section 4 - Support Data

4.1 Soils Data

13—Custer fine sandy loam

Map Unit Setting

National map unit symbol: 2hy0

Elevation: 0 to 150 feet

Mean annual precipitation: 32 to 50 inches

Mean annual air temperature: 48 to 50 degrees F

Frost-free period: 150 to 200 days

Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Custer, undrained, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Custer, Undrained

Setting

Landform: Outwash plains

Parent material: Glacial outwash

Typical profile

H1 - 0 to 9 inches: fine sandy loam

H2 - 9 to 35 inches: sand

H3 - 35 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Natural drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Forage suitability group: Wet Soils (G002XN102WA)

Hydric soil rating: Yes

Minor Components

Custer, drained

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Indianola

Percent of map unit: 5 percent

Hydric soil rating: No

Norma, undrained

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Section 5 Works Cited

- Puget Sound Action Team. (2005, January). Low Impact Development Technical Guidance Manual for Puget Sound. *Publication No. PSAT 05-03*. Washington: Washington State University - Pierce County Extension.
- Puget Sound LIDAR Consortium. (2003, April). LIDAR Bare Earth DEM File. q47121h24be.e00. Snohomish County, Washington. Retrieved May 2013, from <http://pugetsoundlidar.ess.washington.edu/index.htm>
- Snohomish County Planning and Development Services. (2007, October 1). Aquifer Recharge/Wellhead Protection. Everett, WA.
- Snohomish County Surface Water Management Division. (2002, December). Snohomish UGA Drainage Needs Report. Everett, Washington.

5.1 Topographic Data

- The various on and off site topography, utilities, and drainage elements were professionally surveyed by Pacific Coast Surveying in 2015.
- Snohomish County 2003 LiDAR survey was used to augment the existing site topography and the downstream and surrounding areas.

The modeled coordinate system:

Lateral - Washington State Plan Plane - North, FIPS 4601;

Vertical – NAVD 88