

Technical Memorandum

TO: Mr. Jim Rioux, Project Manager, City of Olympia
FROM: David Johnson, PE
DATE: January 9, 2020
RE: **SEPA Response Summary**
Water Street Lift Station Generator Replacement
Olympia, Washington
Project No. 0258060.010.011

Introduction

This technical memorandum summarizes the State Environmental Policy Act (SEPA) responses provided by Landau Associates, Inc. (LAI) and prepared for the City of Olympia (City) Public Works Department in support of the City's Water Street Lift Station Generator Replacement project (Project) located at 220 Water Street Northwest in Olympia, Washington. The emergency backup power generator at the Water Street Lift Station has exceeded its serviceable life and needs to be replaced to prevent sewer overflows to City streets and Budd Inlet. Not replacing the lift station generator poses a substantial risk to human health and the environment if a sewer overflow and discharge event were to occur due to a potential failure of the existing generator. To proceed with the generator replacement Project, the City started the SEPA review process. As part of the review process, the Washington State Department of Ecology (Ecology) issued a SEPA review comment letter that identified items of concern for the Project related to its location on a known toxic cleanup site that has yet to undergo final cleanup.

This technical memorandum details the responses prepared to address the concerns and comments provided in Ecology's SEPA Comment Letter (dated May 9, 2019) for the Project (Attachment 1) and provides the technical basis for modifying some of Ecology's requested action items. This technical memorandum will be used to guide internal decision making and presents the path forward for the Project that addresses Ecology's comments. It may also be used to coordinate the Project's final SEPA review determination of non-significance.

In addition to this technical memorandum, LAI will prepare an Environmental Media Management Plan for use during the Project. The Environmental Media Management Plan will detail the protocols and best management practices (BMPs) for managing potentially impacted media during implementation of the Project. The Environmental Media Management Plan will include a discussion of required health and safety plan (HASP) requirements and general provisions to address potential unforeseen conditions, if encountered. The Environmental Media Management Plan will also assist with coordination between the City and contractors during the implementation so that Project activities remain protective of human health and the environment.

Project Background

Based on information provided by the City and reviewed by LAI, the proposed Project is located on a toxic cleanup site (cleanup site ID 3608), where hazardous substances are known to have been released to the environment. The toxic cleanup site comprises two City-owned Thurston County Tax Parcels (No. 78507200100 [Former General Petroleum Corporation property, referred to as the GPC property, currently owned by the City of Olympia Parks, Arts and Recreation Department] and No. 78507200500 [Water Street Lift Station property, currently owned by the City of Olympia Public Works Department]), in addition to a portion of the Washington State-owned aquatic lands along the shoreline to the west of the City parcels managed by the Washington Department of Natural Resources (DNR). As stated in the most recent Ecology Opinion Letter (Ecology 2017), Ecology understands that the former GPC property and Water Street Lift Station property are separate facilities; however, data collected to date suggest that releases from these facilities have likely comingled and, as a result, the two properties are being treated as one toxic cleanup site for the purposes of ongoing investigation and cleanup. Both the City-owned parcels and State-owned land has been referred to collectively in prior documents as South Percival Landing (Integral Consulting 2016), but are herein referred to as Site.

The City has implemented several investigations and interim cleanup actions for the Site since 1998 under Ecology's Volunteer Cleanup Program (VCP), Project No. SW1134. The City also completed a Remedial Investigation and Feasibility Study (RI/FS) in 2013 (Anchor QEA 2013) and provided Ecology with an additional supplemental work plan in 2016 to address data gaps (Integral Consulting 2016). As discussed in the RI/FS prepared by Anchor QEA, the Site historically was used as a bulk fuel storage facility, which housed several aboveground storage tanks (ASTs), underground storage tanks (USTs), and underground pipelines. The Water Street Lift Station portion of the Site contained a leaking UST that was investigated in 1998 and decommissioned in place in 1999 (Anchor QEA 2013). The primary chemicals of potential concern (COPC) for the Site, based on available data, are petroleum hydrocarbons and benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds.

Interim actions conducted to date by the City have included closure in place of the Water Street Lift Station UST, excavation of petroleum-contaminated soil along the shoreline, and installation of a sheet pile wall along the western boundary of the Site. Ecology has determined that the nature and extent of contamination has not been fully defined, cleanup standards and points of compliance are yet to be established, selection of a final cleanup action cannot be completed (Ecology 2017), and additional Site investigations are required.

Despite the Site requiring additional investigation and cleanup, the existing emergency backup power generator at the Water Street Lift Station needs to be replaced with updated equipment to ensure reliable operation and to prevent potential discharge of sewer overflows to City streets and Budd Inlet. Backup power generation is a critical element of sewer lift station infrastructure. Lift stations

pose critical risks for wastewater spills and associated public and environmental health impacts. Lift stations comprise complex mechanical and electrical systems that are susceptible to chronic or acute failure and must continually operate in good working order to prevent sewer overflows. The City has produced a project charter (City of Olympia 2017) and 90 percent design drawings (Attachment 2) to complete the generator replacement. The proposed Project will install an updated generator and include limited building and foundation demolition, associated equipment demolition, asphalt removal, relocation of the new generator outside the lift station building within a sound enclosure, electrical and control upgrades, asphalt restoration, building restoration, and landscaping.

SEPA Response Summary

Based on the background of the Site, the details of the proposed Project, and ongoing coordination between the City and Ecology, the following responses have been prepared by LAI for the City in support of the proposed Project (see Attachment 1 for Ecology's SEPA review comment letter relevant to the proposed Project).

TOXICS CLEANUP: Adam Harris, Hydrogeologist/Cleanup Site Manager

Ecology Comment 1: *Ecology is concerned the SEPA Environmental Checklist describes the existence of a November 2018 report describing additional contamination detected during remedial investigation in 2018. That report should be provided to Ecology's Toxic Cleanup Program for the toxic cleanup site file.*

LAI Response: The referenced document is the *Summary of Groundwater Monitoring Services Technical Memorandum* prepared by LAI for the Water Street Tide Gate project, dated April, 26, 2018 (LAI 2018). This document has been provided to Ecology for the toxic cleanup Site file and is available online at Ecology's website for toxic cleanup sites. The City can provide an additional copy to Ecology, as necessary.

Ecology Comment 2: *Ecology suggests two possible options for proceeding with this project as follows:*

1. *Ecology's clear preference is that you require toxic cleanup Site number 3608 be cleaned up prior to any construction being permitted. For an independent cleanup conducted under Washington Administrative Code (WAC) 173-340-515, the cleanup would be complete when Ecology issues a no further action opinion letter (WAC 173-340-515(5)(b)) for Model Toxics Control Act (MTCA) Toxic Cleanup Site ID 3608.*

LAI Response: Despite the Site requiring additional investigation and cleanup, the existing emergency backup power generator at the Water Street Lift Station has exceeded its serviceable life and needs to be replaced with updated equipment to ensure reliable operation and prevent sewer overflows. Lift stations pose critical risks for wastewater spills and associated public and environmental health impacts. Preventing potential discharge of sewer overflows to City streets and Budd Inlet is dependent on replacing the existing generator to ensure backup power is available when required.

2. *If this proposed project is allowed to proceed without cleaning up toxic Cleanup Site number 3608 to protect human health and the environment, Ecology strongly recommends that:*
 - *Workers and visitors to the toxic cleanup site be informed that there are unknown levels of hazardous substances in Site soil and groundwater.*

LAI Response: The Environmental Media Management Plan to be prepared by LAI for use during the Project by the City will inform workers and visitors to the Site as the potential presence of unknown levels of hazardous substances at the Site. The Environmental Media Management Plan will detail the protocols and best management practices (BMPs) for managing potentially impacted media during implementation of the Project. The Environmental Media Management Plan will include a discussion of required health and safety plan (HASP) requirements and general provisions to address potential unforeseen conditions, if encountered. The Environmental Media Management Plan will also assist with coordination between the City and contractors during the implementation so that Project activities remain protective of human health and the environment.

- *Best management practices should be required to reduce human exposure to the currently unknown levels of contamination. During the project, soil, dust, and water from the toxic site should be considered contaminated and handled in accordance with guidance contained in Ecology Toxic Cleanup Program Publication 10-09-057, Guidance for the Remediation of Petroleum Contaminated Sites, Revised June, 2016.*

LAI Response: BMPs will be detailed in the Environmental Media Management Plan to be prepared by LAI for use during the project by the City. BMPs will be implemented to reduce human exposure to the currently unknown levels of contamination during the course of Project construction. The current Project scope of work includes limited demolition and shallow excavations to construct the replacement generator slab foundation pad and trenching of equipment electrical and control wiring. The generator pad foundation will be constructed to a planned depth of 18-inches below ground surface (bgs) in accordance with Sheet S2 of the 90 percent design drawings. The electrical and control conduit trenches will be limited to an approximate depth of 36 inches in accordance with Detail 1 on Drawing E2 of the 90 percent design drawings.

Excavated and disturbed soil will be disposed of offsite as petroleum-contaminated soil. The excavated and disturbed soil will be tested in accordance with the guidance contained in Ecology Toxic Cleanup Program Publication 10-09-057 (Ecology 2016). The Environmental Media Management Plan will identify the required analytical laboratory testing and material handling requirements necessary to dispose of the soil offsite.

- *Best management practices should be required to ensure that contaminated soil, sediment or water runoff from this project does not enter Budd Inlet.*

LAI Response: BMPs will be outlined in the Environmental Media Management Plan and implemented to ensure that contaminated soil, water runoff, and groundwater from the Site does not enter Budd Inlet. The Project will not encounter Site sediment. Temporary erosion and sediment

controls (TESC) will be implemented in accordance with the TESC Plan shown on sheet D1 (90 percent Design Plans) by the contractor so that no contaminated soil and water runoff from the project will enter Budd Inlet.

- *Prior to allowing construction to commence, Ecology strongly recommends you require excavation and removal or remediation of hazardous substances located beneath the specific location of the proposed project, and including sufficient excavation extents to avoid recontamination of soil or groundwater from hazardous substances remaining in other areas of the Site. Ecology suggests a 25 foot clean buffer be established in soils below and surrounding the location of the proposed project. Placing a new generator above contaminated soil and groundwater limits future access and the ability to clean up the hazardous substances known at the Site.*

LAI Response: Excavated soils will be managed and disposed of offsite as petroleum-contaminated soil during the Project. The Environmental Media Management Plan will outline the material testing and handling requirements. The nature and extent of contamination at the Site has not been fully defined, cleanup standards and points of compliance are yet to be established, and selection of a final cleanup action cannot be completed (Ecology 2017).

Despite the Site requiring additional investigation and cleanup, the existing emergency backup power generator at the Site has exceeded its serviceable life and needs to be replaced with updated equipment to ensure reliable operation and prevent sewer overflows into Budd Inlet. Given that the potential extent of contamination at the Site is unknown, Ecology's preference to establish a 25-foot clean buffer in soils beneath the proposed Project area poses a risk of future recontamination due to those immediate areas adjacent to the Project where contamination remains undefined. The proposed Project will not impede future Site investigations, selection of a final cleanup remedy, or the ability for the City to cleanup up potentially hazardous substances at the Site once the nature and extent evaluation process is completed.

- *Excavation pit water, groundwater and excavated or graded soils at the toxic cleanup Site should be considered contaminated and handled and disposed of accordingly unless determined otherwise. Soil excavated from the Site should not be reused at the Site or elsewhere without prior Ecology concurrence.*

LAI Response: LAI will prepare an Environmental Media Management Plan for use during the Project. To be conservative, encountered soil will be managed onsite as petroleum-contaminated soil. Excavated soil will be disposed of offsite under the guidance contained in Ecology Toxic Cleanup Program Publication 10-09-057, *Guidance for the Remediation of Petroleum Contaminated Sites*, Revised June, 2016.

- *Ecology recommends following current published soil reuse guidance applicable to this toxic cleanup site. Guidance is provided in Ecology Toxic Cleanup Program Publication 10-09-057, Guidance for the Remediation of Petroleum Contaminated Sites, Revised June, 2016, (Chapter 12; Re-use of Petroleum-Contaminated Soils). Ecology assumes that soil from*

Thurston County tax parcels 78507200100, 78507200500, and 78507200600 is contaminated and a risk to human health and the environment.

LAI Response: To be conservative, encountered soil will be managed onsite as petroleum-contaminated soil. The encountered soil will be tested in accordance with the guidance contained in Ecology Toxic Cleanup Program Publication 10-09-057, *Guidance for the Remediation of Petroleum Contaminated Sites*, Revised June, 2016.

HAZARDOUS WASTE AND TOXICS REDUCTION: Tara Davis, RCRA/RSVP

Ecology Comment: *The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury, are removed prior to demolition. Also, be aware that PCBs are increasingly being found in caulking and paint. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials.*

LAI Response: The Project includes limited exterior and interior demolition to remove the existing generator as shown on the 90 percent Design Drawings Sheet D1 and D2. Based on LAI review of the materials to be demolished, a Hazardous Building Materials Survey (HBMS) is recommended to be performed by the City or contractor selected for construction of the replacement generator prior to initiating demolition activities.

WATER QUALITY/WATERSHED RESOURCES UNIT: Chris Montague-Breakwell, Unit Supervisor

Ecology Comment: *Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.*

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Construction Stormwater General Permit:

The following construction activities require coverage under the Construction Stormwater General Permit:

- 1. Clearing, grading and/or excavation that results in the disturbance of one or more acres and discharges stormwater to surface waters of the State; and*
- 2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more and discharge stormwater to surface waters of the State.*

- a) *This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, and discharge to surface waters of the State; and*
- 3. *Any size construction activity discharging stormwater to waters of the State that Ecology:*
 - a) *Determines to be a significant contributor of pollutants to waters of the State of Washington.*
 - b) *Reasonably expects to cause a violation of any water quality standard.*

There are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found; a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted.

LAI Response: Based on LAI review of the scope of work, appropriate TESC Plans are planned to be implemented for the project based on the 90 percent Design Drawings. Based on the current proposed Project, the Ecology requirements for coverage under the Construction Stormwater General Permit (CSWGP) will not be triggered.

Use of This Technical Memorandum

This technical memorandum has been prepared for the exclusive use of the City of Olympia for specific application to the Water Street Lift Station Generator Replacement project (Project). No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates, Inc. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, its services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. Landau Associates makes no other warranty, either express or implied.

* * * * *

We trust that the information provided herein is sufficient to proceed with the next phase of the project. If you have questions or comments, please contact the undersigned at (360) 628-5243.

LANDAU ASSOCIATES, INC.



David Johnson, PE
Associate

DEJ/JAF/tam

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Attachments: Ecology SEPA Comment Letter (5/9/19)
Project 90 Percent Design Drawings

References

- Anchor QEA. 2013. Remedial Investigation/Feasibility Study Report, City Sewer Pump Station & General Petroleum Corporation Site. April.
- City of Olympia. 2017. Project Charter, Water Street Lift Station Generators Project No. 1753Q Service Agreement. June 28.
- Ecology. Revised 2016. Guidance for Remediation of Petroleum Contaminated Sites, Toxic Cleanup Program Publication 10-09-057. June.
- Ecology. 2017. Letter: Opinion on Proposed Cleanup of the following Site: Site Name: Olympia City Sewer Pump Station & General Petroleum Corporation; Site Address: 220 Water Street, Olympia; Facility/Site No.: 31651436; Cleanup Site ID No.: 3608; VCP Project No.; SW1134. March 30.
- Integral Consulting. 2016. Supplemental Work Plan, City Sewer Pump Station and General Petroleum Corporation Site, Olympia, WA. April 26.
- LAI. 2018. Technical Memorandum: Summary of Groundwater Monitoring Services, Water Street Tide Gate, Olympia, Washington. April 2.

Ecology SEPA Comment Letter (5/9/19)



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 9, 2019

Cari Hornbein, Senior Planner
City of Olympia
Community Planning and Development
PO Box 1967
Olympia, WA 98507-1967

Dear Cari Hornbein:

Thank you for the opportunity to comment on the determination of nonsignificance for the Water Street Lift Station Generator Replacement Project (19-1127) proposed by City of Olympia Public Works Department. The Department of Ecology (Ecology) reviewed the environmental checklist and information provided and has the following comment(s):

TOXICS CLEANUP: Adam Harris, Hydrogeologist/Cleanup Site Manager
(360) 407-6528 / Adam.Harris@ecy.wa.gov

The proposed Water Street Lift Station Generator Replacement, City of Olympia File number 19-1127, SEPA Number 201901919, is located at a toxic cleanup site where hazardous substances are known to have been released to the environment. The cleanup of this toxic site is regulated under the Washington Model Toxics Control Act (MTCA), Chapter 70.105D RCW, and its implementing regulations contained in the Model Toxics Cleanup Act Cleanup Regulation, Chapter 173-340 WAC. This toxic cleanup site has been designated by Ecology as Cleanup Site ID 3608, and is currently in remedial investigation under WAC 173-340-350 within Ecology's Voluntary Cleanup Program as project number SW1134.

As currently known to Ecology, hazardous substances at this toxic cleanup site were detected in soil and groundwater on portions of Thurston County tax parcels 78507200100, 78507200500, and 78507200600, and along the shorelines and in sediments of Budd Inlet. The nature and extent of hazardous substances released to the environment has not yet been adequately determined (WAC 173-340-350). A cleanup action has not yet been selected (WAC 173-340-360) or implemented (WAC 173-340-400). Cleanup standards have not yet been determined (WAC 173-340-700). The risk of the toxic site to human health and the environment has not yet been determined (WAC 173-340-357).

Comment 1. Ecology is concerned the SEPA Environmental Checklist describes the existence of a November 2018 report describing additional contamination detected during remedial investigation in 2018. That report should be provided to Ecology's Toxic Cleanup Program for the toxic cleanup site file.

Comment 2. Ecology suggests two possible options for proceeding with this project as follows:

1. Ecology's clear preference is that you require toxic cleanup Site number 3608 be cleaned up prior to any construction being permitted. For an independent cleanup conducted under WAC 173-340-515, the cleanup would be complete when Ecology issues a no further action opinion letter (WAC 173-340-515(5)(b)) for MTCA Toxic Cleanup Site ID 3608.
2. If this proposed project is allowed to proceed without cleaning up toxic Cleanup Site number 3608, to protect human health and the environment Ecology strongly recommends that:
 - Workers and visitors to the toxic cleanup site be informed that there are unknown levels of hazardous substances in Site soil and groundwater.
 - Best management practices should be required to reduce human exposure to the currently unknown levels of contamination. During the project, soil, dust and water from the toxic site should be considered contaminated and handled in accordance with guidance contained in Ecology Toxic Cleanup Program Publication 10-09-057, Guidance for the Remediation of Petroleum Contaminated Sites, Revised June, 2016.
 - Best management practices should be required to ensure that contaminated soil, sediment or water runoff from this project does not enter Budd Inlet.
 - Prior to allowing construction to commence, Ecology strongly recommends you require excavation and removal or remediation of hazardous substances located beneath the specific location of the proposed project, and including sufficient excavation extents to avoid recontamination of soil or groundwater from hazardous substances remaining in other areas of the Site. Ecology suggests a 25 foot clean buffer be established in soils below and surrounding the location of the proposed project. Placing a new generator above contaminated soil and groundwater limits future access and the ability to clean up the hazardous substances known at the Site.
 - Excavation pit water, groundwater and excavated or graded soils at the toxic cleanup Site should be considered contaminated and handled and disposed of accordingly unless determined otherwise. Soil excavated from the Site should not be reused at the Site or elsewhere without prior Ecology concurrence.
 - Ecology recommends following current published soil reuse guidance applicable to this toxic cleanup site. Guidance is provided in Ecology Toxic Cleanup Program Publication 10-09-057, Guidance for the Remediation of Petroleum Contaminated Sites, Revised June, 2016, (Chapter 12; Re-use of Petroleum-Contaminated Soils). Ecology assumes that soil from Thurston County tax parcels 78507200100, 78507200500, and 78507200600 is contaminated and a risk to human health and the environment.

HAZARDOUS WASTE & TOXICS REDUCTION: Tara Davis, RCRA/RSVP
(360) 407-6275 / Tara.Davis@ecy.wa.gov

The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury, are removed prior to demolition. Also, be aware that PCBs are increasingly being found in caulking and paint. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials.

Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," on Ecology's website at: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Common-dangerous-waste/Construction-and-demolition>. The applicant may also contact Robert Rieck with Ecology's Hazardous Waste and Toxics Reduction program (HWTR) at (360) 407-6751 for more information about safely handling dangerous wastes and demolition debris

WATER QUALITY/WATERSHED RESOURCES UNIT:
Chris Montague-Breakwell, Unit Supervisor
(360) 407-6364 / Chris.Montague-Breakwell@ecy.wa.gov

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or stormdrains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Construction Stormwater General Permit:

The following construction activities require coverage under the Construction Stormwater General Permit:

1. Clearing, grading and/or excavation that results in the disturbance of one or more acres **and** discharges stormwater to surface waters of the State; and
2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more **and** discharge stormwater to surface waters of the State.
 - a) This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, **and** discharge to surface waters of the State; and

3. Any size construction activity discharging stormwater to waters of the State that Ecology:
 - a) Determines to be a significant contributor of pollutants to waters of the State of Washington.
 - b) Reasonably expects to cause a violation of any water quality standard.

There are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found; a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted.

You may apply online or obtain an application from Ecology's website at: [http://www.ecy.wa.gov/programs/wq/stormwater/construction/- Application](http://www.ecy.wa.gov/programs/wq/stormwater/construction/-Application). Construction site operators must apply for a permit at least 60 days prior to discharging stormwater from construction activities and must submit it on or before the date of the first public notice.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(MLD:201901919)

cc: Adam Harris, TCP
Tara Davis, HWTR
Robert Rieck, HWTR
Chris Montague-Breakwell, WQ
Jim Rioux, Project Manager, City of Olympia Public Works Department (Proponent)

Project 90 Percent Design Drawings

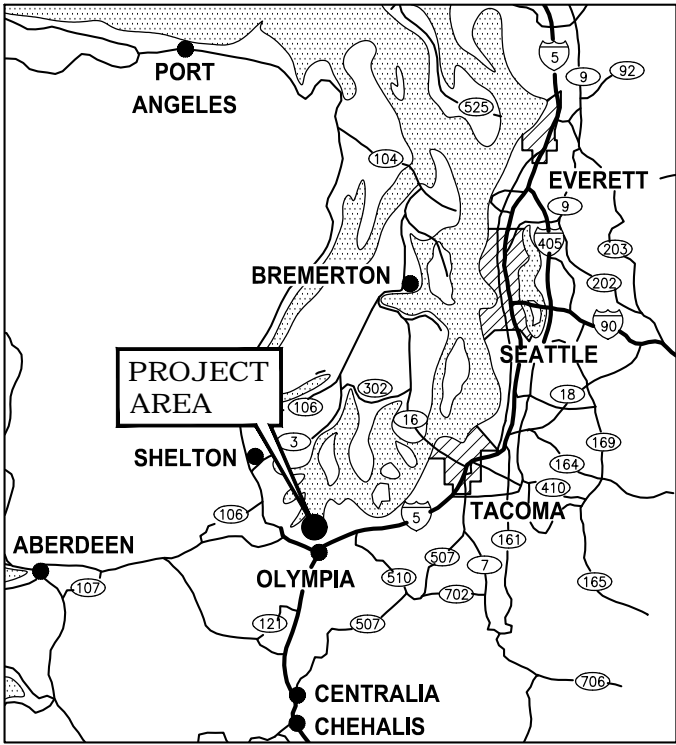


CITY OF OLYMPIA

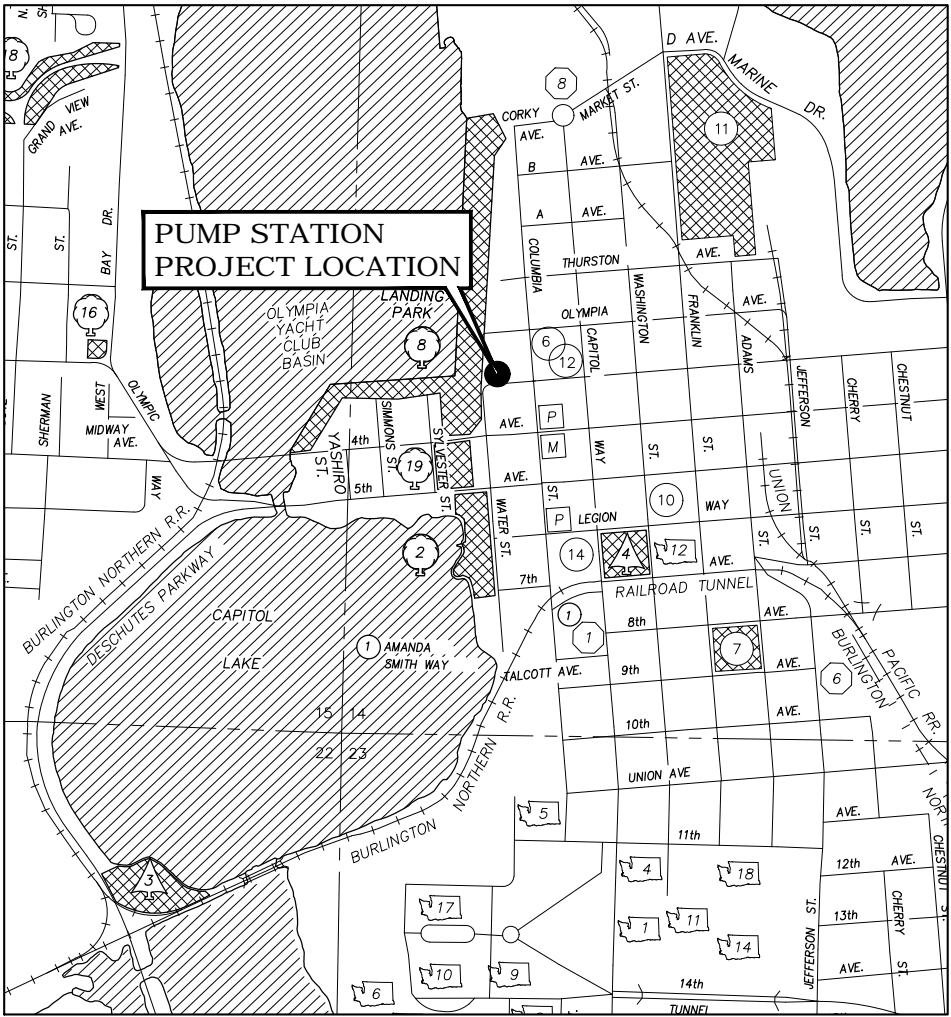
WATER STREET LIFT STATION GENERATOR

CITY PROJECT #1580Q

OLYMPIA, WASHINGTON



LOCATION MAP
NOT TO SCALE



PUMP STATION ADDRESS: 207 W. OLYMPIA AVE
OLYMPIA, WA

VICINITY MAP
NOT TO SCALE

INDEX TO DRAWINGS		
SHT NO.	DWG NO.	
GENERAL		
1	G1	COVER SHEET
DEMOLITION		
2	D1	EXTERIOR DEMOLITION PLAN AND DETAILS
3	D2	INTERIOR DEMOLITION DETAILS
CIVIL		
4	C1	CIVIL SITE PLAN
STRUCTURAL		
5	S1	STRUCTURAL LEGEND
6	S2	STRUCTURAL DETAILS
ELECTRICAL		
7	E1	ELECTRICAL LEGEND AND ABBREVIATIONS
8	E2	ELECTRICAL SITE PLAN
9	E3	ELECTRICAL ONE-LINE DIAGRAM AND CIRCUIT SCHEDULE
10	E4	ELECTRICAL CONTROL AND SIGNAL INTERCONNECT

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LAYOUT: G1
PLOTTER BY: peterden DATE: Friday, March 15, 2019 12:08:42 PM

REVISIONS	DATE	BY	DESIGNED
			J. REINMUTH
			DRAWN
			A. PETERSON
			CHECKED
			K. HOUSE
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME
PS1577042G-01
JOB No.
216-1577-042
DATE
SEPTEMBER 2018



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10119 39TH AVENUE SE, SUITE 100 PUYALLUP, WA 98374 P 253.604.6600 WWW.PARAMETRIX.COM

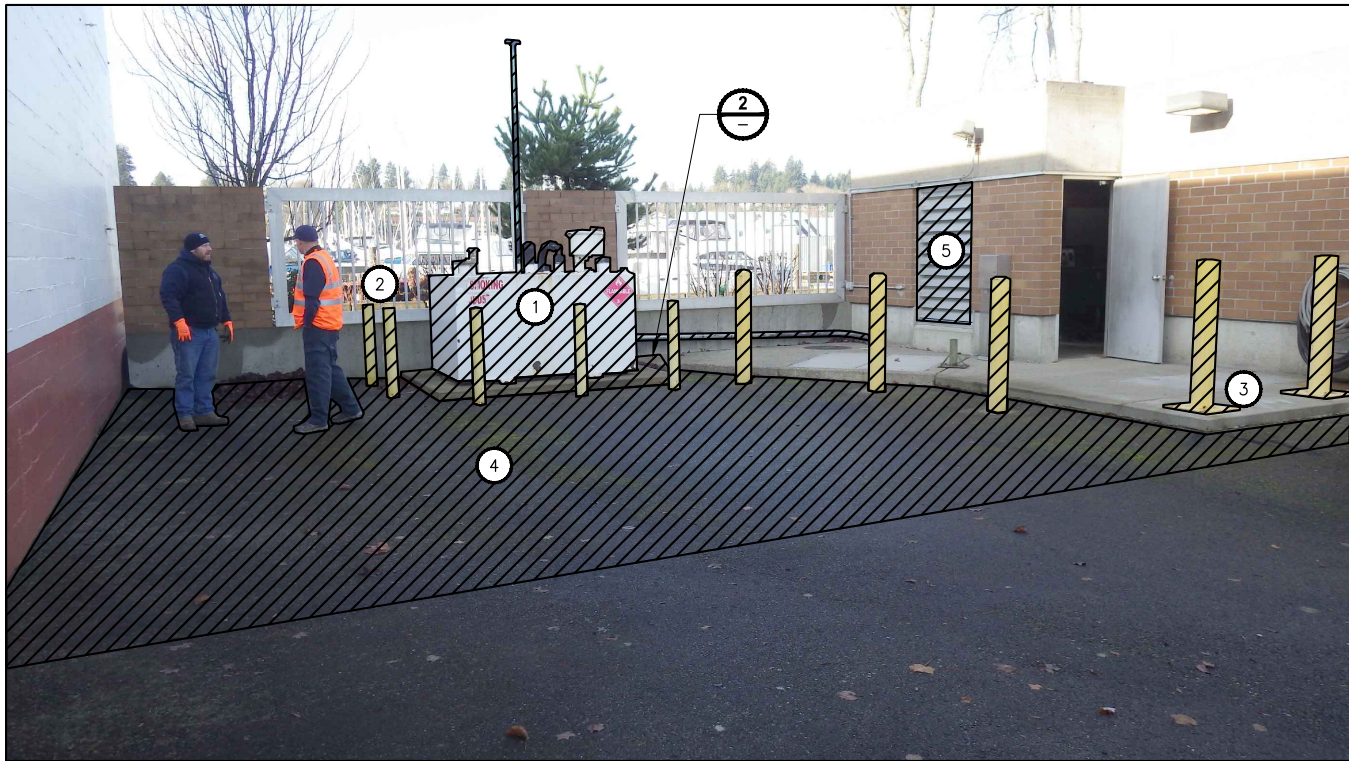
PROJECT NAME
WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

COVER SHEET

DRAWING NO. 1 OF 10
G1

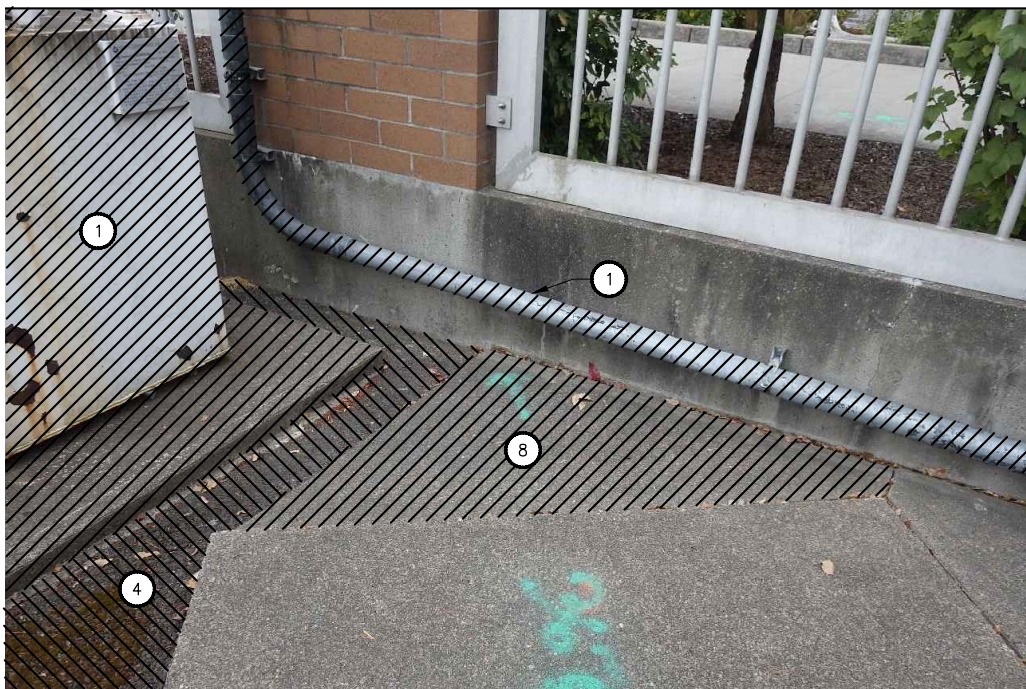
PERMIT REVIEW 3/15/2019
NOT FOR CONSTRUCTION

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LAYOUT: D1
PLOTED BY: peterden DATE: Friday, March 15, 2019 12:09:15 PM



DEMOLITION
DETAIL

NO SCALE



DEMOLITION
DETAIL

NO SCALE



DEMO NOTES:

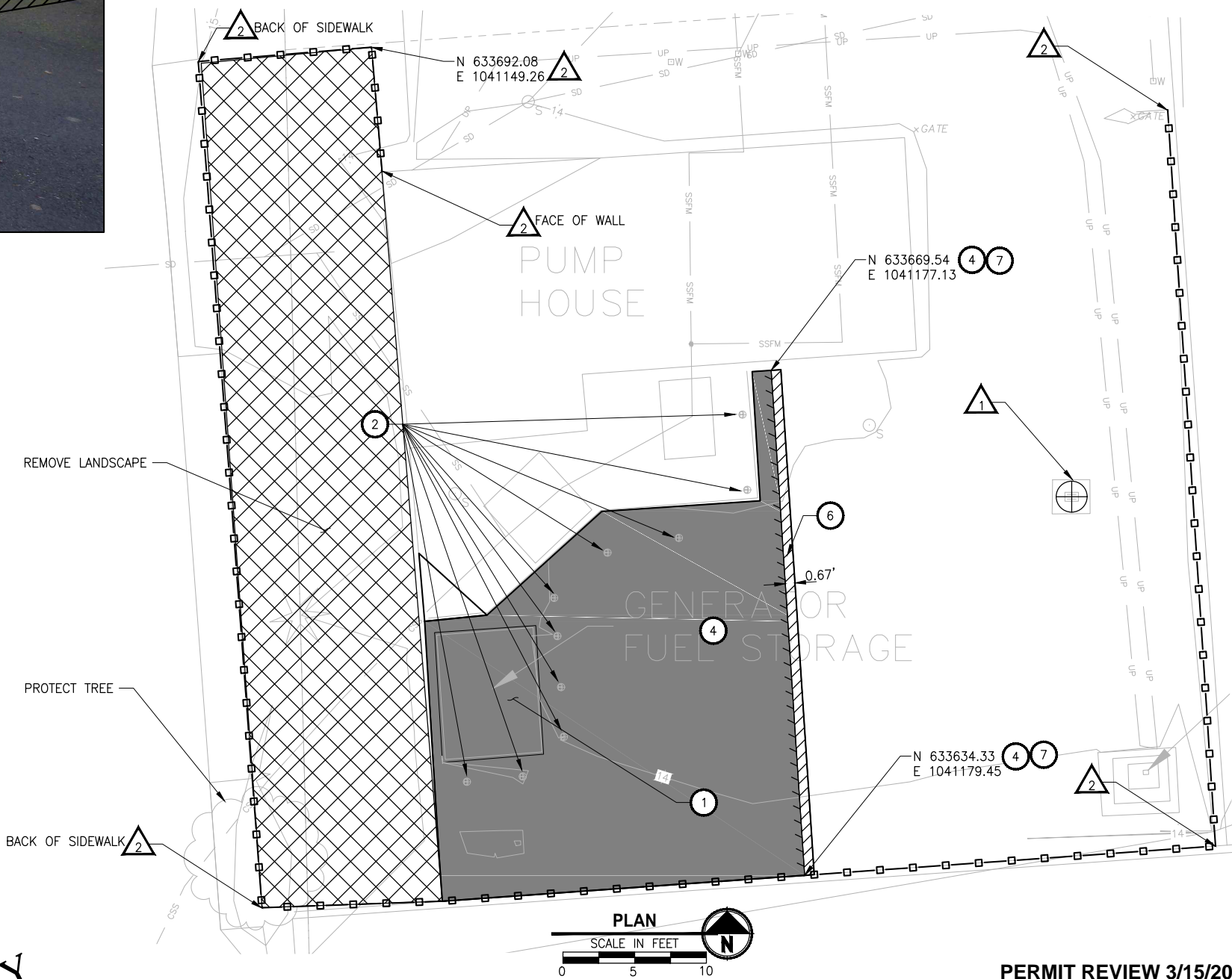
- 1 REMOVE FUEL AND 500 GALLON FUEL STORAGE TANK WITH ASSOCIATED EQUIPMENT PAD, FUEL PIPING, AND SIGNAL CONDUCTORS/CONDUITS.
- 2 REMOVE BOLLARDS. TYP 10.
- 3 REMOVE BOLLARD ANCHORS AND GROUT BELOW BASE PLATE BY GRINDING FLUSH WITH FINISHED CONCRETE SURFACE.
- 4 REMOVE EXISTING ASPHALT. REPLACE WITH NEW HMA PER CIVIL SHEET.
- 5 REMOVE LOUVER AND ASSOCIATED CONDUIT AND WIRE. SEE STRUCTURAL DETAILS SHEET S2.
- 6 GRIND PAVEMENT 2".
- 7 SAWCUT PAVEMENT.
- 8 REMOVE SUNKEN SECTION OF CONCRETE SLAB. SEE CIVIL SITE PLAN C1.

TESC NOTES:

- 1 INSTALL INLET PROTECTION PER CITY OF OLYMPIA BMP C220
- 2 INSTALL SILT FENCE PER CITY OF OLYMPIA BMP C233

GENERAL NOTES:

1. CONTRACTOR TO KEEP SIDEWALK CLEAN AT ALL TIMES
2. SOIL DISTURBED FOR LANDSCAPE RESTORATION SHALL BE RETAINED INSIDE PROJECT FOOTPRINT
3. TEMPORARY FENCING SHALL BE PROTECTED AND REMAIN INSTALLED DURING CONSTRUCTION



PRELIMINARY

REVISIONS	DATE	BY	DESIGNED
			J. REINMUTH
			C. WOODCOCK
			K. HOUSE
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME PS1577042DM-01
JOB No. 216-1577-042
DATE SEPTEMBER 2018



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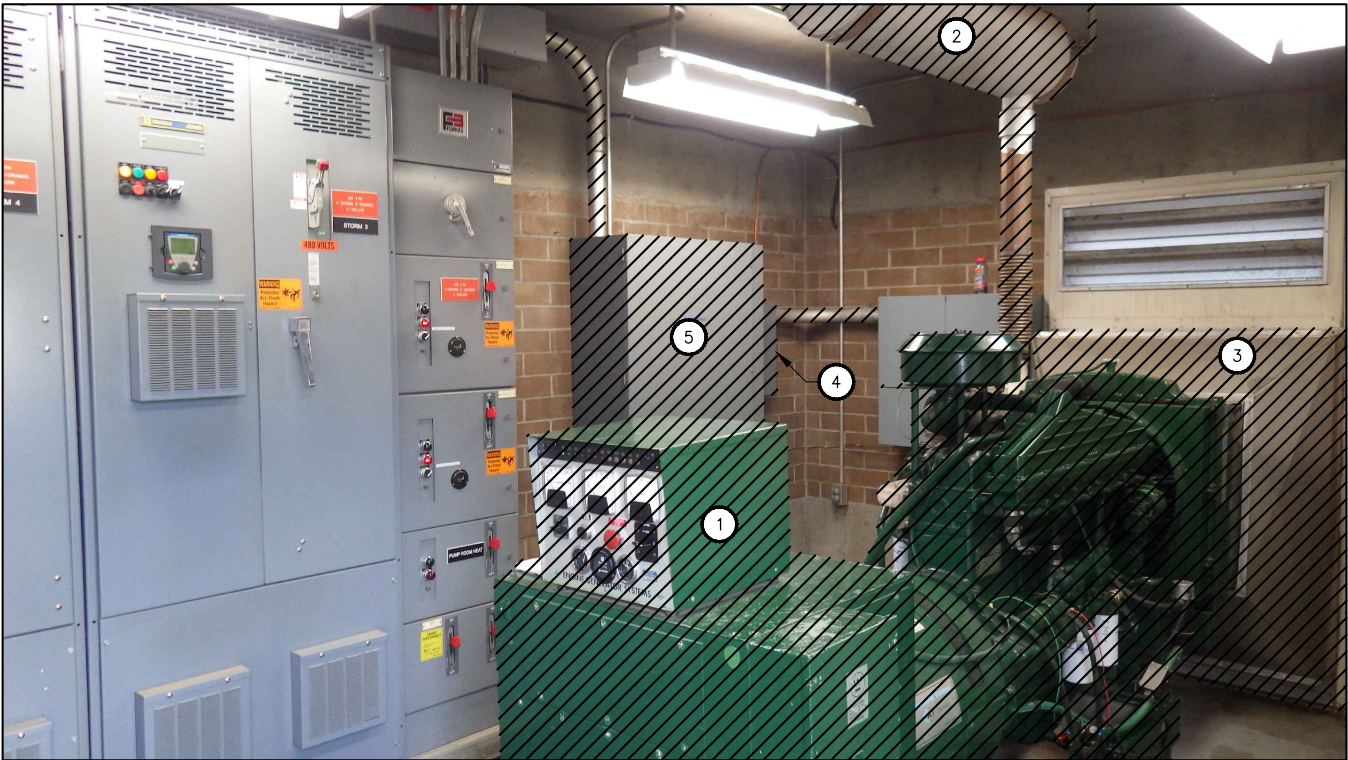
PROJECT NAME
WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

EXTERIOR DEMOLITION AND TESC PLAN AND DETAILS

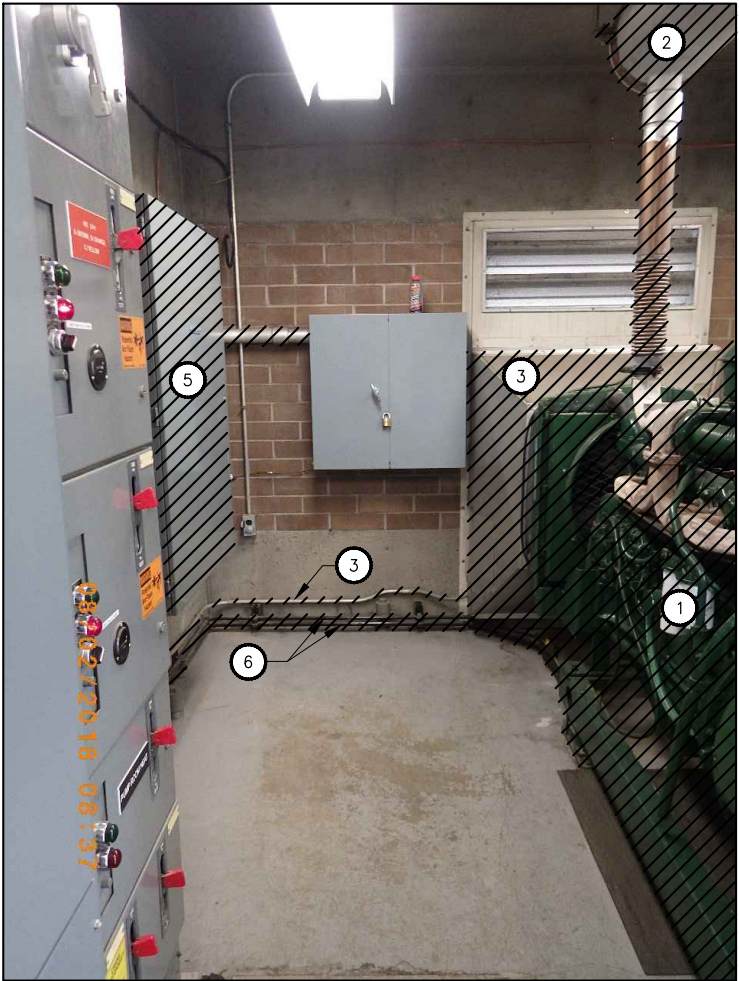
DRAWING NO. 2 OF 10
D1

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LAYOUT: D2
PLOT BY: peterden DATE: Friday, March 15, 2019 12:10:18 PM



DEMOLITION
DETAIL
NO SCALE



DEMOLITION
DETAIL
NO SCALE

DEMO NOTES:

- 1 REMOVE GENERATOR.
- 2 REMOVE GENERATOR EXHAUST SYSTEM AND ASSOCIATED HARDWARE. REMOVE EXTERIOR EXHAUST RAIN CAP (NOT SHOWN) AND SEAL VENT STACK WITH WEATHER-TIGHT SHEET METAL CAP.
- 3 REMOVE VENT HOOD AND LOUVERS WITH ASSOCIATED CONDUIT AND WIRE. SEE STRUCTURAL DETAILS SHEET S2.
- 4 REPLACE EXISTING MAIN CIRCUIT BREAKER PER ELECTRICAL DRAWINGS.
- 5 REPLACE EXISTING AUTOMATIC TRANSFER SWITCH (ATS) PER ELECTRICAL DRAWINGS.
- 6 REMOVE FUEL PIPING.
- 7. REUSE EXISTING CONDUITS AS NECESSARY. UNUSED CONDUITS SHALL BE REMOVED. UNUSED CONDUITS IN CONCRETE SHALL BE SEALED AND PLUGGED PER SECTION 26 05 33.

REVISIONS	DATE	BY	DESIGNED
			J. REINMUTH
			DRAWN
			C. WOODCOCK
			CHECKED
			K. HOUSE
			APPROVED

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PROJECT NAME

WATER STREET LIFT STATION
GENERATOR

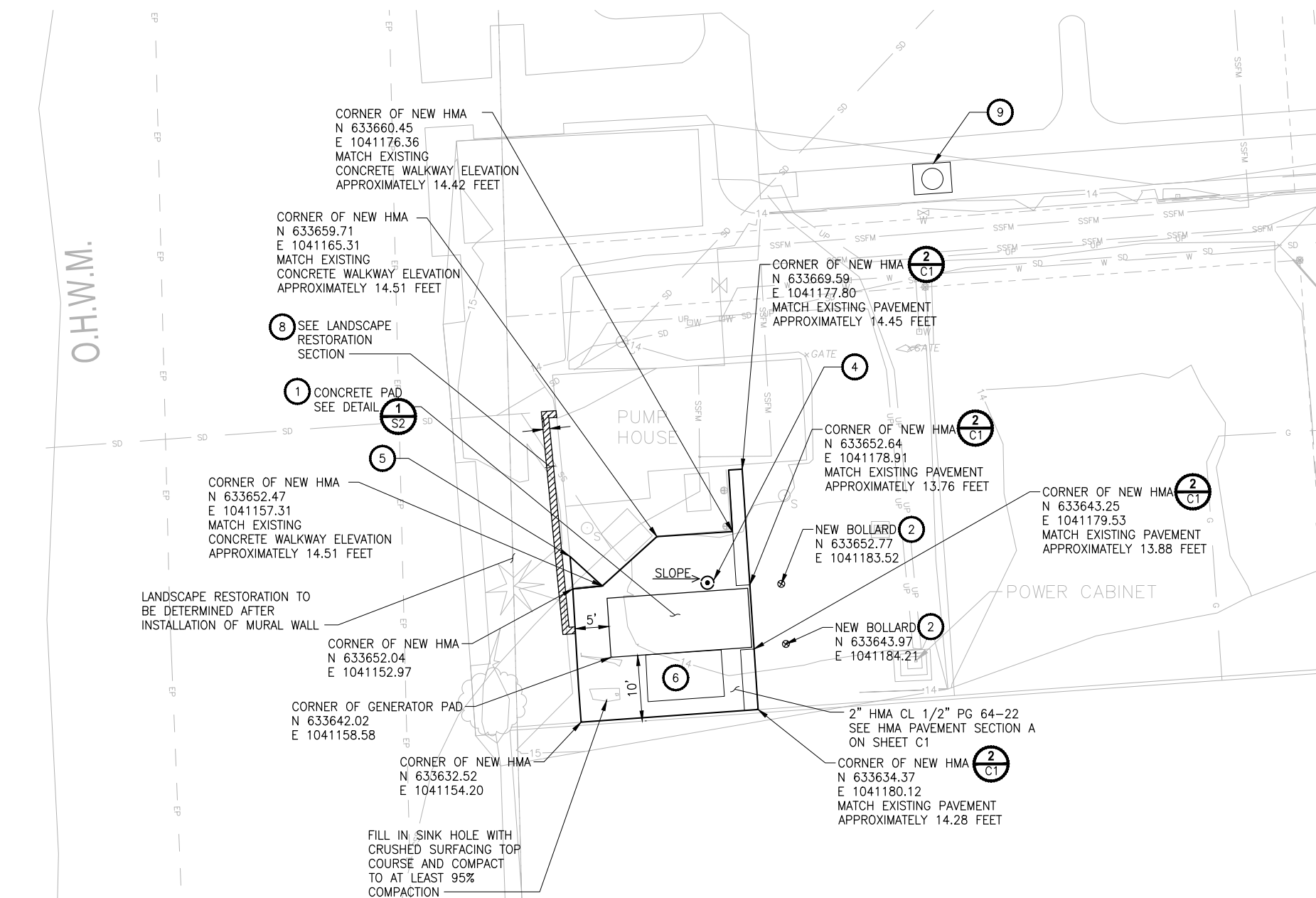
OLYMPIA, WASHINGTON

INTERIOR DEMOLITION
DETAILS

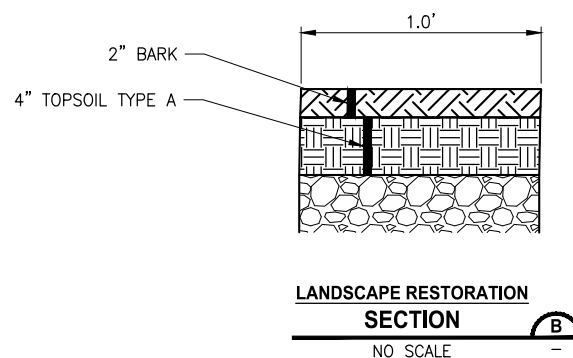
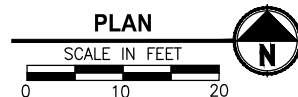
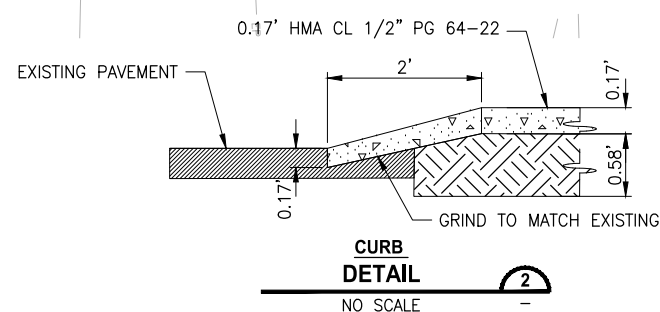
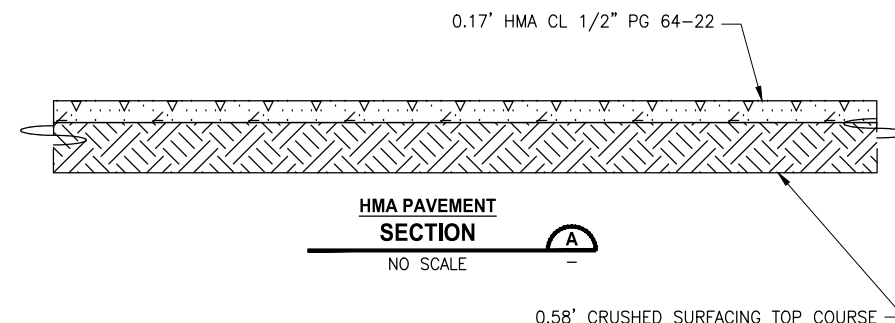
DRAWING NO.
3 OF 10

D2

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NOTES:




BYPASS PORT
DETAIL

NO SCALE

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				DRAWN C. WOODCOCK
				CHECKED K. HOUSE
				APPROVED

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PROJECT NAME

**WATER STREET LIFT STATION
GENERATOR**

OLYMPIA, WASHINGTON

CIVIL SITE PLAN

DRAWING NO.
4 OF 10

C1

GENERAL STRUCTURAL NOTES:

DESIGN CRITERIA

APPLICABLE BUILDING CODES
2015 INTERNATIONAL BUILDING CODE, WASHINGTON STATE AMENDMENTS.

LOADS

ROOF LIVE OR SNOW LOAD25 psf
CONCRETE GROUND FLOOR 100 psf
GENERATOR SLABPER EQUIP. MFG.

WIND LOADS

WIND SPEED (3 SECOND GUST) = 110 MPH, EXPOSURE = B

SEISMIC LOADS

OLYMPIA, WA
SITE CLASS D, Ie = 1.25
Sds = 1.33 x 1.0 x ⅔ = 0.89
Sd1 = 0.55 x 1.50 x ⅔ = 0.55

FOUNDATIONS

BASED ON ORIGINAL CONSTRUCTION DRAWINGS.

ALLOWABLE SOIL BEARING = 2000 PSF

INSPECTIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING AND COORDINATING REQUIRED BUILDING DEPARTMENT INSPECTIONS. IN ADDITION, SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE TABLE ON THIS SHEET. THESE INSPECTIONS SHALL BE PERFORMED BY A CURRENTLY WABO CERTIFIED INSPECTOR UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER.

THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION. THEN IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE REPORTED TO THE DESIGN PROFESSIONAL AND TO THE BUILDING OFFICIAL.

THE SPECIAL INSPECTOR SHALL SUBMIT A SEALED FINAL REPORT BY A REGISTERED PROFESSIONAL ENGINEER STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.

MISCELLANEOUS

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF RECESSES, DUCT OPENINGS, PIPING, CONDUITS, EQUIPMENT LOCATION AND ANCHORAGES, ETC., NOT SHOWN.

SUBMIT ALL REQUIRED SHOP DRAWINGS AND RECEIVE THEIR SATISFACTORY REVIEW FROM THE OWNER'S REPRESENTATIVE, PRIOR TO FABRICATION.

COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWINGS AND VERIFY ALL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE PRIOR TO STARTING WORK AND NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY DISCREPANCIES.

REFER TO SPECIFICATIONS FOR INFORMATION NOT CONTAINED IN THESE GENERAL NOTES.

CONCRETE

ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ACI 315, LATEST EDITION.

CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318 BUILDING CODE.

DESIGN STRENGTH

CAST-IN-PLACE CONCRETE, UNLESS OTHERWISE NOTED:
f'c = 4000psi AT 28 DAYS
REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615,
GRADE 60. LAP SPLICES SHALL BE PER TABLE SHOWN BELOW.

CONCRETE COVER

CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, BUT NOT LESS THAN ONE BAR DIAMETER:

FOOTINGS AND MATS FORMED AGAINST SOIL3"
CONCRETE IN CONTACT WITH SOIL, WEATHER OR WATER2"
CONCRETE NOT EXPOSED TO SOIL, WEATHER OR WATER1½"
BEAMS AND COLUMNS (TO STIRRUPS) 1½"
SLAB ON GRADE
UNDER 6" THICKAT SLAB CENTER
6" AND OVER.AS SHOWN

ANCHOR BOLTS

ANCHOR BOLTS FOR BUILDING STRUCTURE SHALL CONFORM TO ASTM A307
HOT DIPPED GALVANIZED. SET ALL BOLTS BY TEMPLATE

DRILLED-IN EXPANSION BOLTS

EXPANSION BOLTS SHALL BE STAINLESS STEEL "KWIK BOLTS" BY HILTI CORP., OR APPROVED EQUAL. ICBO CERTIFICATION AND SPECIAL INSPECTION IS REQUIRED. MINIMUM SPACING SHALL BE 12 BOLT DIAMETERS AND MINIMUM EDGE DISTANCE 6 BOLT DIAMETERS UNLESS NOTED OTHERWISE.

BOLT DIAMETER (IN.)	½	⅝	¾	⅞	1
MIN. EMBEDMENT IN STRUCTURAL CONCRETE (IN.)	4	4	5	6	7

ADHESIVE/EPOXY ANCHORING SYSTEM

ANCHORS SHALL BE STAINLESS STEEL RODS COMPLYING TO AISI 318. REINFORCING BARS AND RODS ANCHORED INTO EXISTING CONCRETE SHALL BE IN DRILLED HOLE WITH THREADED CODE APPROVED ADHESIVE ANCHORING MATERIALS. ICC-ES REPORTS ARE REQUIRED FOR USE IN CRACKED CONCRETE FOR WIND OR SEISMIC LOADING. MINIMUM EMBEDMENT IN STRUCTURAL CONCRETE SHALL BE 8 BAR DIAMETERS. MINIMUM EDGE DISTANCE 6 BAR DIAMETERS.

MASONRY

HOLLOW CLAY MASONRY UNITS SHALL BE SELECTED TO MATCH MASONRY IN EXISTING BUILDING IN SIZE, COLOR AND TEXTURE.

MASONRY SHALL CONFORM TO ASTM C652.

MORTAR SHALL BE TYPES WITH f'c = 1800psi @ 28 DAYS

GROUT SHALL ATTAIN A COMPRESSIVE STRENGTH f'c = 2000psi @ 28 DAYS.

SOLID GROUT ALL CELLS CONTAINING REINFORCEMENT.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
C	CHANNEL
EW	EACH WAY
HSS	HOLLOW STRUCTURAL SHAPE
L	ANGLE
M	MISCELLANEOUS SHAPE
MB	MACHINE BOLT
PL	PLATE
SCH	PIPE SCHEDULE
S	S SHAPE
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
W	WIDE FLANGE

SPECIAL INSPECTION SCHEDULE

ITEM	CI	PI	REMARKS/REFERENCES
GENERAL:			
PREFABRICATED ITEMS		X	
SITE PREPARATION, FILL PLACEMENT, SOIL COMPACTION	X		BY GEOTECHNICAL ENGINEER OR AN APPROVED TESTING AGENCY
CONCRETE:			
REINFORCING MATERIALS		X	ASTM AS NOTED, ACI 318 7.1–7.4
REINFORCING PLACEMENT		X	ACI 318 7.5–7.8
WELDING – REINFORCING		X	AWS D1.4
ANCHOR RODS, EMBEDDED BOLTS & INSERTS	X		PRIOR TO AND DURING CONCRETE PLACEMENT
USE OF REQUIRED MIX DESIGN		X	
CONCRETE SLUMP, AIR CONTENT, TEMPERATURE & TEST SPECIMENS	X		WHILE MAKING SPECIMENS FOR STRENGTH TESTS, ACI 318 5.6
CONCRETE PLACEMENT	X		ACI 318 5.9, 5.10
CONCRETE CURING		X	ACI 318 5.11, 5.13
POST-INSTALLED ANCHORS			
GROUTED ANCHORS	X		
ADHESIVE ANCHORS	X		
MECHANICAL ANCHORS	X		
MASONRY:			
SITE-MIXED MORTAR & GROUT PROPORTIONS		X	ACI 530.1 2.6A–B
ANCHOR TYPE, SIZE & LOCATION		X	ACI 530.1 15.4, 2.1.2
SIZE, GRADE & TYPE OF REINFORCING		X	ACI 530.1 2.4,3.4
PLACEMENT OF UNITS & CONSTRUCTION OF MORTAR JOINTS		X	ACI 530.1 3.3B
PLACEMENT OF REINFORCING AND CONNECTORS		X	ACI 530.1 3.4
GROUT SPACE		NA	ACI 530.1 3.2D
GROUT PLACEMENT	X		ACI 530.1 3.5
TEST SPECIMEN PREPARATION	NA		ACI 530.1 1.4
HOT/COLD WEATHER CONSTRUCTION		X	ACI 530.1 1.8
WOOD:			
TYPE & SPACING OF STRUCTURAL PANEL NAILING		NA	IBC 1707.3
TYPE & INSTALLATION OF TRUSS SEISMIC TIES		NA	

INSPECTION SCHEDULE NOTES

- ITEMS MARKED WITH AN "X" REQUIRE INSPECTION BY A SPECIAL INSPECTOR APPROVED BY THE BUILDING OFFICIAL.
- ITEMS MARKED "NA" ARE NOT APPLICABLE TO THIS PROJECT.
- CI = CONTINUOUS INSPECTION DURING PROGRESS OF WORK BY SPECIAL INSPECTOR.
- PI = PERIODIC INSPECTION BY SPECIAL INSPECTOR AS REQUIRED TO CONFIRM CONFORMANCE OF WORK.
- TESTING AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER, BUILDING OFFICIAL AND CONTRACTOR.

STEEL REINFORCING LAP SCHEDULE

BAR SIZE	CONCRETE f' c = 4,000 OR 5,000 PSI	MASONRY f' m = 1,500 PSI
#3	19"	16"
#4	25"	21"
#5	31"	26"
#6	37"	43"
#7	48"	60"
#8	55"	92"
#9	62"	NA
#10	69"	NA

MINIMUM LAP SPLICES UNLESS OTHERWISE DETAILED ON DRAWINGS

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STRUCTURAL NOTES

DRAWING NO.
5 OF 10

S1

REVISIONS	DATE	BY	DESIGNED
			S. WAGNER
			DRAWN D. PETERSON
			CHECKED K. HOUSE
			APPROVED

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FILE NAME PS1577042S-01
JOB No. 216-1577-042
DATE SEPTEMBER 2018



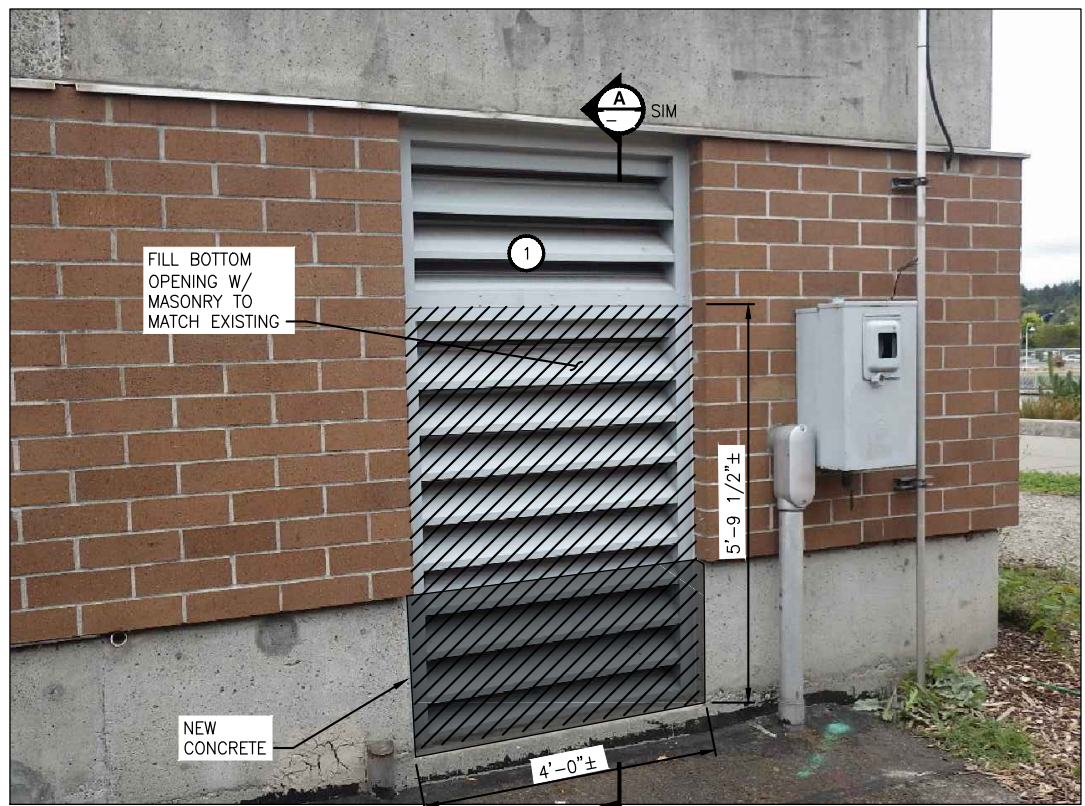
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PROJECT NAME
WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

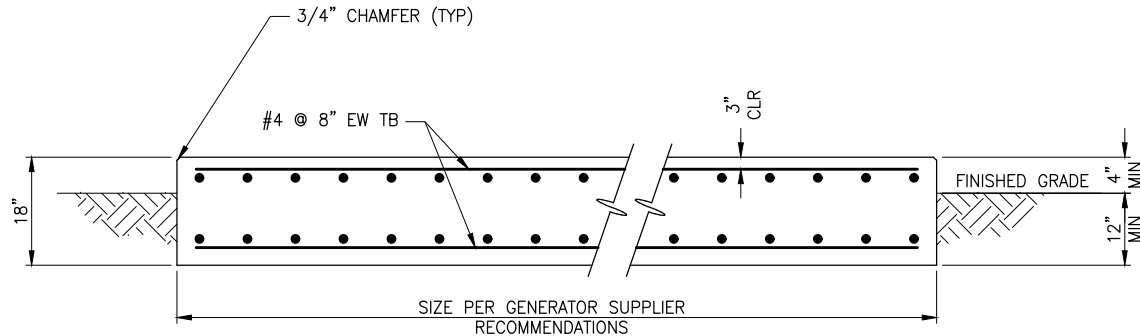
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VERSION 00.01-2017.01.09
PLOTTED BY: peterden DATE: Friday, March 15, 2019 12:11:29 PM



**SOUTH LOUVER
DETAIL**
NO SCALE

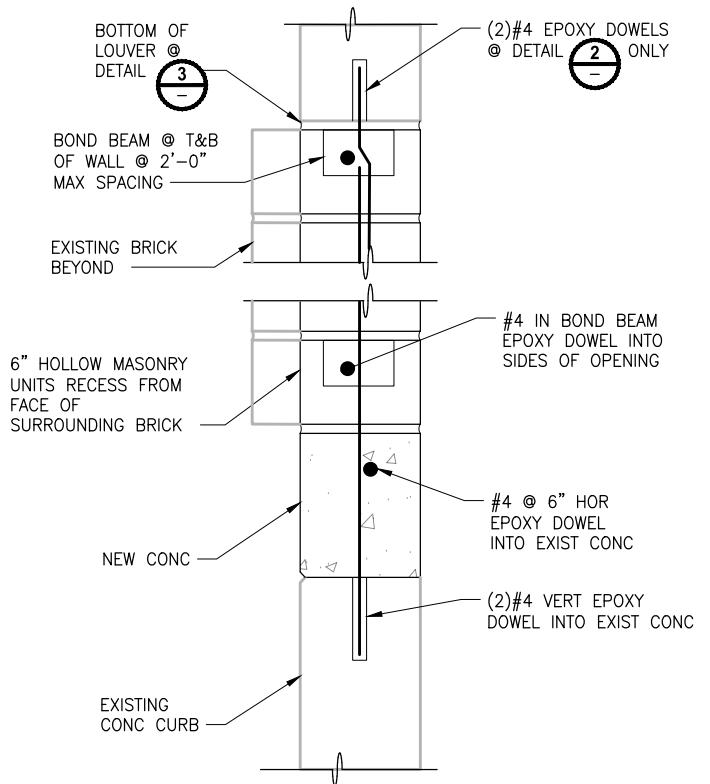


**NORTH LOUVER
DETAIL**
NO SCALE



**GENERATOR PAD
DETAIL**
NO SCALE

- NOTES:**
- 1 UPPER SECTION OF LOUVER SHALL BE REINSTALLED AS PART OF WALL RESTORATION. LOUVER MEETS NECESSARY VENTING TO PROVIDE REQUIRED SIX AIR CHANGES PER HOUR.
 - 2 INCREASE ELEVATION OF GENERATOR PAD FINISHED SURFACE AS NECESSARY TO BRING TOP OF FINAL APPROVED GENERATOR SUB-BASE FUEL TANK TO ELEVATION OF 17.1 FEET.



**SECTION
NO SCALE**

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REVISIONS	DATE	BY	DESIGNED
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			D. PETERSON
			K. HOUSE
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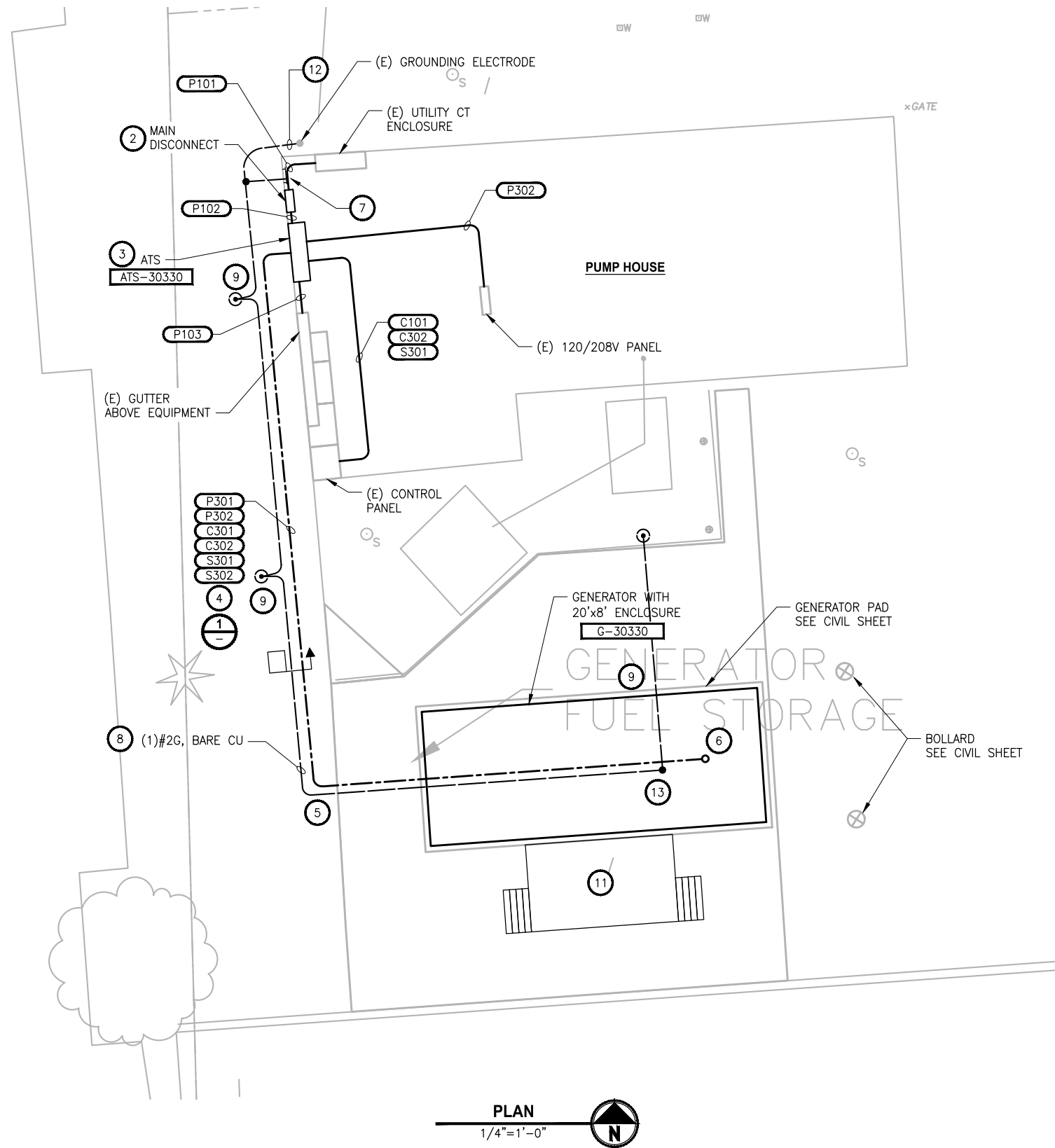
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WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

STRUCTURAL DETAILS

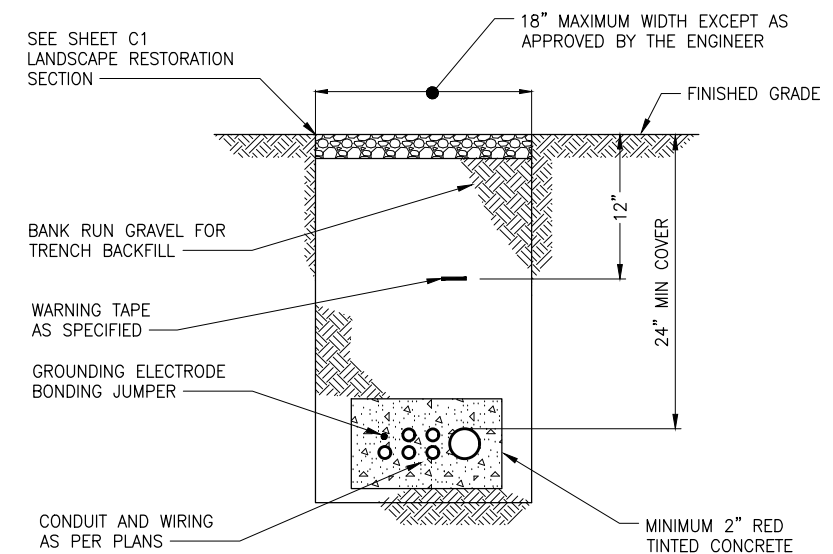
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S2

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LAYOUT: E2
PLOTED BY: peterden DATE: Friday, March 15, 2019 12:13:48 PM



NOTES:

1. NOT ALL EXISTING CONDUIT AND EQUIPMENT SHOWN. FIELD VERIFY. ADDITIONAL CONDUITS SHOWN ON SHEET E3.
2. REPLACE EXISTING MAIN DISCONNECT WITH NEW ENCLOSED CIRCUIT BREAKER.
3. REPLACE EXISTING ATS WITH NEW ONAN OTPC ATS. PROVIDE GUTTER BELOW ATS.
4. PROVIDE MINIMUM 2 INCHES OF RED TINTED CONCRETE AROUND ELECTRICAL CONDUITS OUTSIDE PUMP STATION FENCE LINE.
5. CORE DRILL WALL PENETRATION FOR CONDUITS IF NOT RUN BELOW EXISTING FOOTING.
6. VERIFY ROUTING OF CONDUIT ENTRY WITH APPROVED GENERATOR SHOP DRAWINGS.
7. PROVIDE GROUND BUSBAR AND CONNECT TO:
 - BUILDING GROUND ELECTRODE SYSTEM PER SHEET E3.
 - EXISTING EXPOSED BARE COPPER GROUND WIRE IN ELECTRICAL ROOM.
8. SEE SHEET E3 FOR GROUNDING ELECTRODE BONDING JUMPER.
9. NEW GROUND RODS SHALL BE LOCATED A DISTANCE GREATER THAN 10 FEET AWAY FROM EXISTING BUILDING GROUNDING ELECTRODE SYSTEM. SEE SECTION 26 05 26 FOR GROUND ROD BOX SPECIFICATIONS.
10. ORIENT GENERATOR WITH RADIATOR AND FAN TO WEST.
11. PROVIDE GENERATOR ACCESS PLATFORM PER SECTION 26 32 13.
12. BOND NEW GROUND ELECTRODE SYSTEM TO EXISTING GROUNDING ELECTRODE WITH IRREVERSIBLE MEANS BELOW GRADE.
13. BOND GENERATOR GROUND TO GROUNDING ELECTRODE SYSTEM. PROVIDE (1)#2G, BARE COPPER CONDUCTOR IN 1 INCH PVC CONDUIT THROUGH GENERATOR PAD.



NOTES:

1. INSIDE LIFT STATION FENCE LINE, PROVIDE SAND INSTEAD OF RED TINTED CONCRETE.
2. CONCRETE ENCASEMENT OF GROUNDING ELECTRODE CONDUCTOR SHALL NOT BE REQUIRED OUTSIDE CONDUIT ROUTING.
3. LOCATE SIGNAL CONDUITS TO OPPOSITE SIDE OF TRENCH AWAY FROM THE GENERATOR LINE CONDUCTORS.

TYPICAL CONDUIT AND WIRING IN TRENCH

DETAIL

SCALE: 1"=1'-0"

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REVISIONS	DATE	BY	DESIGNED
			J. REINMUTH
			DRAWN
			A. PETERSON
			CHECKED
			A. STOKES
			APPROVED

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WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

ELECTRICAL SITE PLAN
E2

DRAWING NO. 8 OF 10
E2

PATH: U:\PSO\Projects\Clients\1577-CityOfOlympia\216-1577-042 EngrinRd&WaterSLS\99Svcs\CADD\DWG\Water Street
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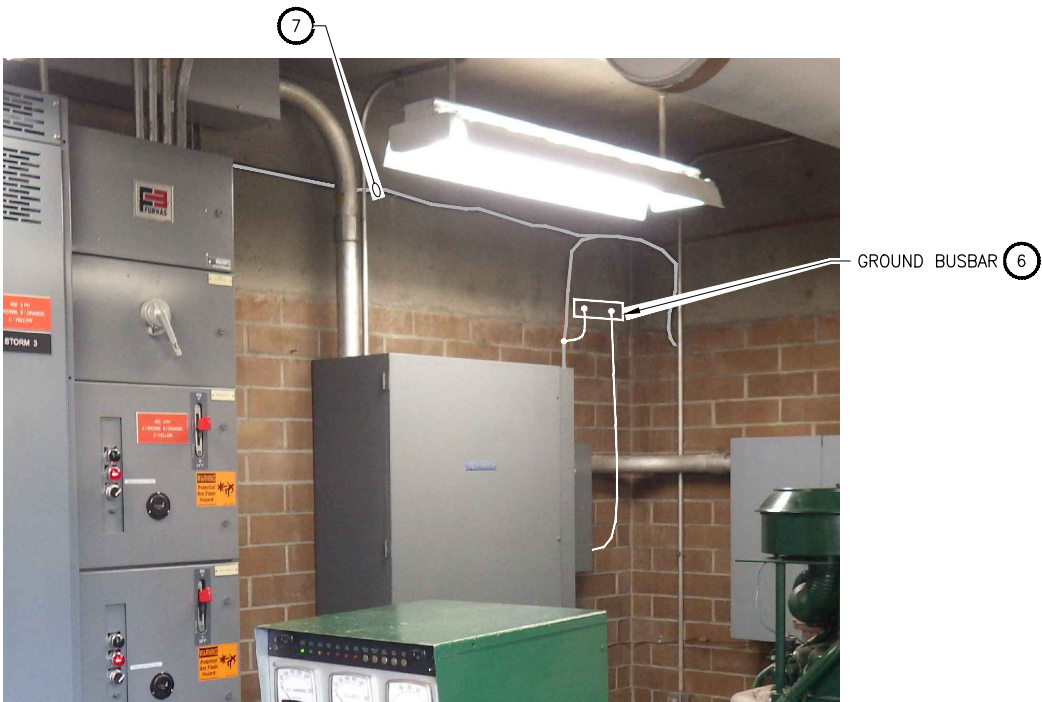
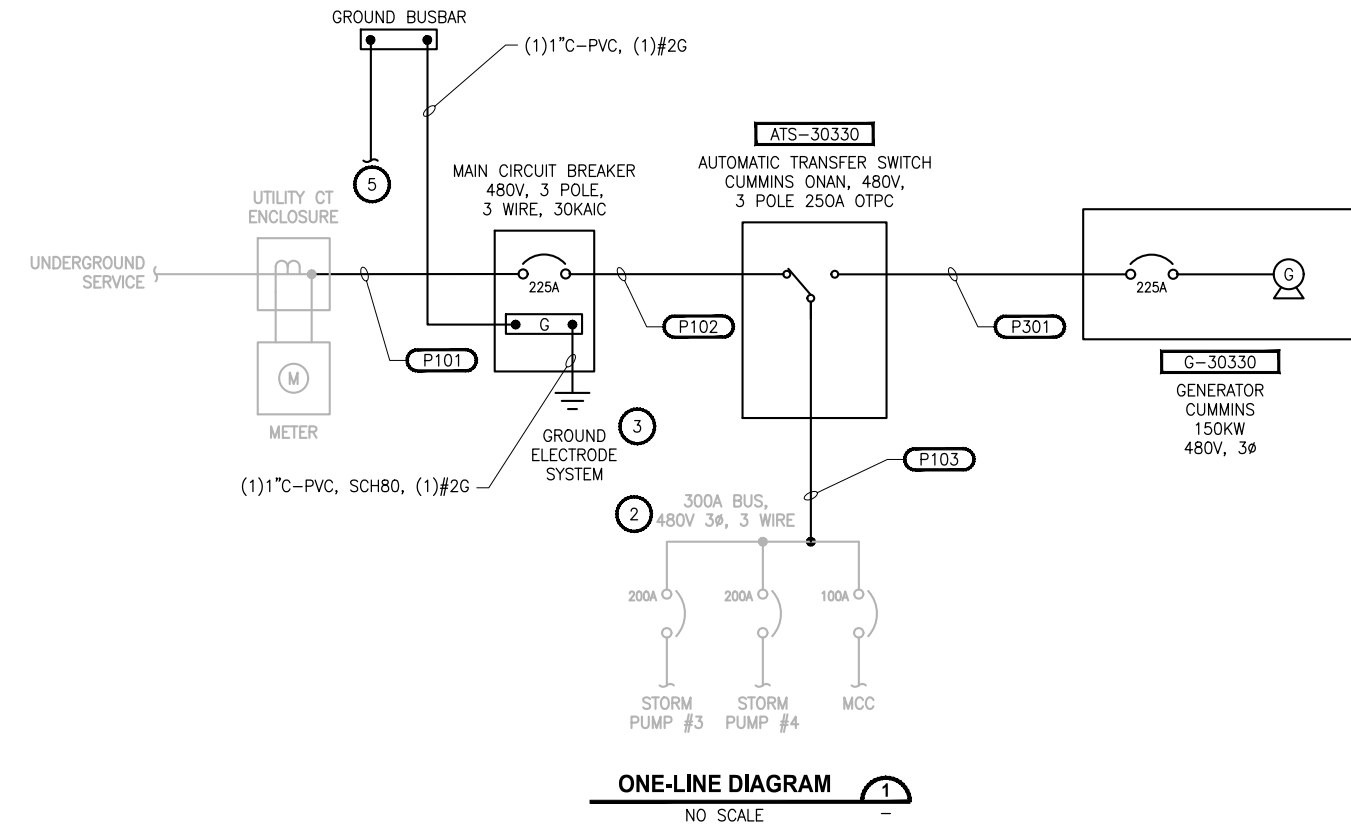
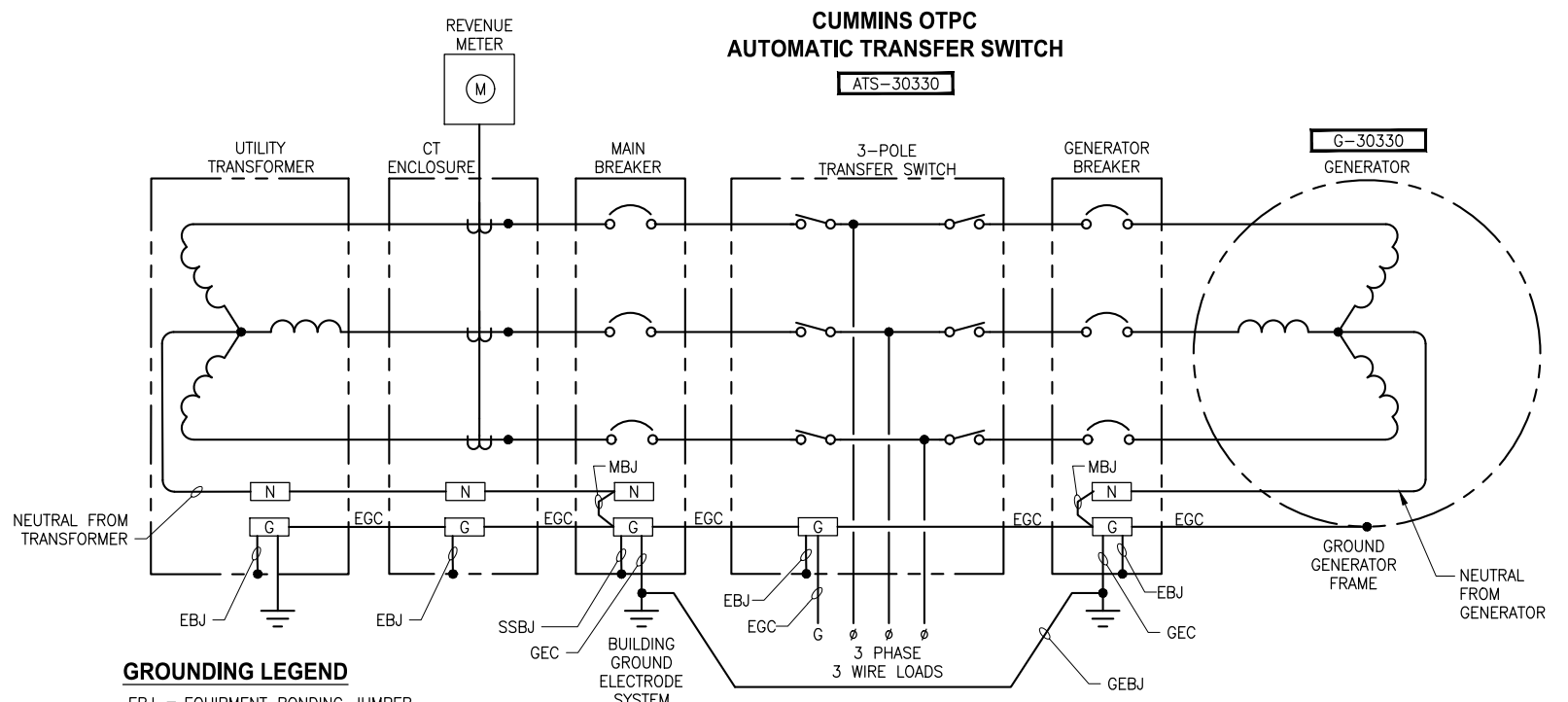


PHOTO SHOWS EXISTING CONDITIONS, FOR REFERENCE ONLY

DETAIL PHOTO

NO SCALE



GROUNDING LEGEND

EBJ = EQUIPMENT BONDING JUMPER
EGC = EQUIPMENT GROUNDING CONDUCTOR
GEC = GROUNDING ELECTRODE CONDUCTOR
GSC = GROUNDED SERVICE CONDUCTOR
MBJ = MAIN BONDING JUMPER
SBJ = SYSTEM BONDING JUMPER
SSBJ = SUPPLY-SIDE BONDING JUMPER
GEBJ = GROUNDING ELECTRODE BONDING JUMPER

TRANSFER SWITCH CONNECTION

DIAGRAM

NO SCALE

NOTES:

1. EXISTING POWER CONDUCTORS ARE ALUMINUM. WHEN REPLACING CONDUCTORS AS SHOWN, REPLACE CONDUCTOR TERMINATIONS AS NECESSARY.
2. EXISTING BUS MADE OF INDIVIDUAL CONDUCTORS TAPPED IN GUTTER ABOVE EQUIPMENT.
3. PROVIDE NEW GROUND ELECTRODE SYSTEM AND BOND TO EXISTING GROUND ELECTRODE SYSTEM.
4. PROVIDE THREADED PLUGS FOR SPARE CONDUIT.
5. BOND EXISTING BARE COPPER GROUND WIRE TO NEW GROUND BUSBAR. PROVIDE #2 AWG, BARE COPPER GROUND CONDUCTOR AND CONNECT TO EXISTING BARE GROUND WIRE USING IRREVERSIBLE CRIMP GROUND CONNECTORS.
6. SEE ONE-LINE GROUND CONDUCTORS, SEE SECTION 26 05 26 FOR GROUND BUSBAR SPECIFICATIONS.
7. EXISTING BARE GROUND CONDUCTOR.

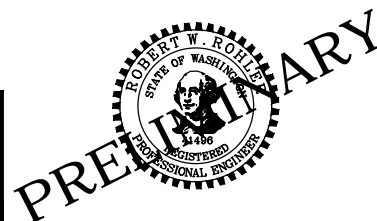
CIRCUIT SCHEDULE

CIRCUIT NUMBER	# OF CONDUITS	CONDUIT SIZE & TYPE	WIRE FILL	FROM	TO	REMARKS
P101	1	2-1/2" RMC	(3)#4/0,(1)#4G	UTILITY CT	MAIN CIRCUIT BREAKER	NEW COPPER CONDUCTORS
P102	1	2-1/2" RMC	(3)#4/0,(1)#4G	MAIN CIRCUIT BREAKER	ATS	NEW COPPER CONDUCTORS
P103	1	2-1/2" RMC	(3)#4/0,(1)#4G	ATS	300A BUS	NEW COPPER CONDUCTORS VIA EXISTING GUTTER
P301	1	2-1/2" RMC	(3)#4/0,(1)#4G	GENERATOR	ATS	
P302	1	1" RMC	(4)#12,(1)#12G	120/208V PANEL	GENERATOR ACCESSORY RECEPTS	GENERATOR BLOCK HEATER AND BATTERY CHARGER CIRCUITS VIA GUTTER BELOW ATS. REUSE EXISTING EQUIPMENT CIRCUITS IN 120/208V PANEL. PROVIDE SIMPLEX RECEPTACLES FOR THE INDIVIDUAL CIRCUITS AT POINT OF USE.
C101	1	1" RMC	(16)#14, (1)#14G	CONTROL PANEL	ATS	VIA GUTTER BELOW ATS. INCLUDES (4) SPARE CONDUCTORS.
C301	1	1" RMC	(8)#14, (1)#14G	GENERATOR CONTROL PANEL	ATS	VIA GUTTER BELOW ATS. INCLUDES (6) SPARE CONDUCTORS.
C302	1	1" RMC	(20)#14, (1)#14G	GENERATOR CONTROL PANEL	CONTROL PANEL	VIA GUTTER BELOW ATS. INCLUDES (8) SPARE CONDUCTORS.
S301	1	1" RMC	(1)#16 TSP	GENERATOR FUEL TANK	CONTROL PANEL	VIA GUTTER BELOW ATS.
S302	1	1" RMC	PULL STRING	GEN	ELECTRICAL ROOM	SPARE CONDUIT

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			J. REINMUTH
			DRAWN
			A. PETERSON
			CHECKED
			A. STOKES
			APPROVED

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DATE
SEPTEMBER 2018



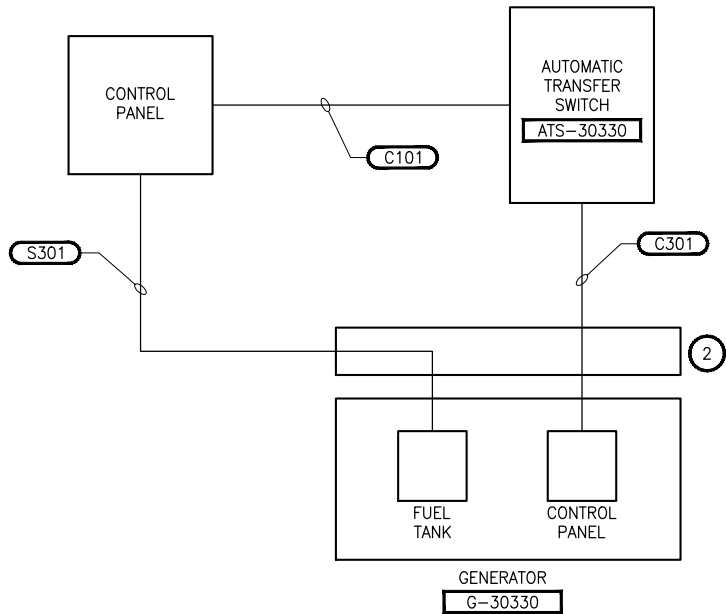
Parametrix ENGINEERING · PLANNING · ENVIRONMENTAL SCIENCES
1019 39TH AVENUE SE, SUITE 100 PUYALLUP, WA 98374 P 253.604.6600 WWW.PARAMETRIX.COM

PROJECT NAME
WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

ELECTRICAL ONE-LINE DIAGRAM AND CIRCUIT SCHEDULE

DRAWING NO. 9 OF 10
E3

PATH: U:\PSO\Projects\Clients\1577-CityOfOlympia\216-1577-042 EngrnRd&WaterSLS\99Svcs\CADD\DWG\Water Street
LAYOUT: E4
PLOTTED BY: peterden DATE: Friday, March 15, 2019 12:16:30 PM



CONTROL DIAGRAM

NO SCALE

1

NOTES:

1. COMPLETE PLC I/O INFORMATION PROVIDED FOR REFERENCE. ATS AND GENERATOR RELATED I/O SHOWN AS BOLD TEXT.
- 2 GUTTER LOCATED BELOW ATS.

PLC I/O CARD TABLE			
I/O	CAGE/ CARD/ POINT	FUNCTION	TYPE
AI	01-03-00	0 COMMON	
	01-03-01	SUMP LVL	STATUS
	01-03-02	GEN FUEL LEVEL	STATUS
	01-03-03	SPARE	
	01-03-04	SPARE	
DI	01-04-00	COMMON 24V-	
	01-04-01	P1 AUTO	STATUS
	01-04-02	P2 AUTO	STATUS
	01-04-03	P3 AUTO	STATUS
	01-04-04	P4 AUTO	STATUS
	01-04-05	P1 RUN	STATUS
	01-04-06	P2 RUN	STATUS
	01-04-07	P3 RUN	STATUS
DI	01-05-00	COMMON 24V-	
	01-05-01	P1 C/V	STATUS
	01-05-02	P2 C/V	STATUS
	01-05-03	P3 C/V	STATUS
	01-05-04	P4 C/V	STATUS
	01-05-05	HI FLOAT	ALARM
	01-05-06	BAR SCN	ALARM
	01-05-07	DMP GT	ALARM
	01-05-08	GEN AUTO	STATUS
DI	01-06-00	COMMON 24V-	
	01-06-01	FIRE	ALARM
	01-06-02	INTRUSION	ALARM
	01-06-03	DRY WELL	ALARM
	01-06-04	A/C GEN	STATUS
	01-06-05	A/C NORM	STATUS
	01-06-06	GEN FAIL	ALARM
	01-06-07	GEN RUN	STATUS
AO	01-07-00	0 COMMON	
	01-07-01	SPARE	
	01-07-02	SPARE	
	01-07-03	P3 SPEED	STATUS
	01-07-04	P4 SPEED	STATUS
DO	01-08-00	COMMON 24V-	
	01-08-01	P1 START	CONTROL
	01-08-02	P2 START	CONTROL
	01-08-03	P3 START	CONTROL
	01-08-04	P4 START	CONTROL
	01-08-05	LOW WW LT	CONTROL
	01-08-06	SPARE	
	01-08-07	SPARE	
DI	01-08-08	GEN TEST	CONTROL
	02-02-00	COMMON 24V-	
	02-02-01	P4 FAULT	ALARM
	02-02-02	P3 FAULT	ALARM
	02-02-03	P2 TEMP	ALARM
	02-02-04	P2 MOIST	ALARM
	02-02-05	P1 TEMP	ALARM
	02-02-06	P1 MOIST	ALARM
	02-02-07	GEN LOW FUEL	ALARM
	02-02-08	GEN WARNING	ALARM

PERMIT REVIEW 3/15/2019
NOT FOR CONSTRUCTION

REVISIONS	DATE	BY	DESIGNED
			J. REINMUTH
			D. MILES
			A. STOKES
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY	
FILE NAME	PS1577042E-04
JOB No.	216-1577-042
DATE	SEPTEMBER 2018



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PROJECT NAME
WATER STREET LIFT STATION GENERATOR
OLYMPIA, WASHINGTON

ELECTRICAL CONTROL AND SIGNAL INTERCONNECT

DRAWING NO. 10 OF 10
E4