CITY OF KIRKLAND
Planning and Community Development Department
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ADVISORY REPORT
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

To: Hearing Examiner

From: Janice Coogan, Senior Planner
Eric R. Shields, AICP, Planning Director

Date: November 28, 2012

File: **WOODINVILLE WATER DISTRICT KINGSGATE PUMP STATION, FILE ZON12-00311**

Hearing Date and Place: December 6, 2012 9:00 AM
City Hall Council Chamber
123 Fifth Avenue, Kirkland

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I. INTRODUCTION

A. APPLICATION

1. Applicant: Lisa Adolfson with ESA Associates representing the Woodinville Water District, property owner.

2. Site Location: 14422 130th Avenue NE (see Attachment 1).

3. Requests: Approval of a Process IIA zoning permit and variance to add the following site improvements to the existing Woodinville Water District Kingsgate facility (see Attachments 2 and 3 for project description and plans):

   a) Construct a pump station building to improve the water and fire flow pressure of the existing water tower standpipe (water tower) that services the surrounding Evergreen Hill/Kingsgate area. The building will contain booster pumps, control valves, generator and restroom for District employees. The one story building measures 21 feet by 54 feet (1,150 sq. ft.) and will be constructed of CMU blocks with a pitched metal roof.

      Other site improvements include a new asphalt driveway and parking area for employees, a transformer pad, above ground fuel storage tank to supply the backup generator, storm water detention pond, landscaping and security lighting. A new 8' tall chain link with 2' of barbed wire security fence will surround the new pump station and existing 100' tall standpipe. A split rail fence will be installed to delineate the west, north and east property lines.

      Vehicular access to the site will continue from the west along NE 144th Pl. The existing barrier in NE 144th Pl will remain prohibiting an east-west through street connection from 132nd Avenue NE to the site. Along the property frontage on NE 144th Pl a meandering sidewalk and street trees will be installed.

   b) A variance to the horizontal façade regulations of KZC 18.08 is requested to allow the pump station building to exceed the maximum 50 foot width requirement by 4 feet and exceed the 15 foot height limit by 4 feet 2 inches to 19.2 feet.

   Note: In Attachment 2 and 3 the applicant's plans indicate a second water tower will be constructed on the property in the future. Approval of the second water tower is not included in this application. Not related to the Zoning permit application, the applicant will be installing two water distribution and supply pipelines and a sanitary sewer line along the north side of NE 144th Pl from the site to 132nd Avenue NE and replacement of a pressure reducing valve at NE 140th ST west of 132nd Avenue NE.

4. Review Process: A Public Utility use in an RSA zone (KZC Section 18.10.070) on property less than five acres requires approval of a Process IIA zoning permit whereby the Hearing Examiner conducts a public hearing and makes a final decision. Of the two parcels owned by the District the western most parcel where the development activity is proposed is 1.2 acres in size.

   KZC Section 120.10 establishes that a variance request in an RSA zone will be reviewed with a Process I zoning permit (Planning Director decision). KZC Section 145.10 establishes when a variance also requires a Process IIA approval then the entire proposal will be reviewed using that process.

5. Summary of Key Issues: Compliance with the Zoning Code approval criteria for a Process IIA zoning permit, variance and applicable development regulations is required (see Section II).

B. RECOMMENDATIONS

1. Based on Statements of Fact and Conclusions (Section II), and Attachments in this report, we recommend approval of this Process IIA and variance application subject to the following conditions:

2. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 5, Development Standards, is provided in this report to familiarize the applicant with some of the additional development regulations. This attachment does not include all of the additional regulations. When a condition of approval conflicts with a development regulation in Attachment 5, the condition of approval shall be followed (see Conclusion in II.F).

3. As part of the application for a Building Permit the applicant shall submit:

   a) A revised site plan indicating the required improvements described in Attachment 5 including paving, landscaping, street improvements and exterior lighting plans to minimize glare impacts on adjacent properties (see Conclusion II.E.)

4. Prior to occupancy, the applicant shall:

   a) Install the required improvements as described in Attachment 5 and as follows:

      (1) Right of way improvements within the NE 144th Pl bordering the subject property (see Conclusion II.E.5).

      (2) Required landscaping shown on proposed landscape plan (and 6' tall sight obscuring fence along west property line of two lots) (see Conclusion II.E.3).

II. FINDINGS OF FACT AND CONCLUSIONS

A. SITE DESCRIPTION

1. Site Development and Zoning:

   a) Facts:

      (1) Size: The subject property contains two parcels owned by the Water District for a total of 2.47 acres.

      (2) Land Use: The west parcel contains the existing 100 foot tall water tower reservoir surrounded by a 6' tall chain link fence. The new pump station building and other site improvements will be installed on the west parcel (see Attachment 3).

      The east parcel is vacant. Under an agreement between the City of Kirkland and the Water District established in 1999 by Resolution 4-199, the Kirkland Parks and Community Services Department leases and maintains the two parcels as open space and park for a period of twenty five years (2024). No improvements are planned for the east parcel except within the

right of way with the installation of new sewer, water pipes and meandering sidewalk.

(3) Zoning: RSA 4 (see Attachment 6)

(4) Terrain and Vegetation: Surrounding the water tower the subject property is "park like" with large open areas of grass lawn and many trees. A low swale area exists along the property frontage where the future detention pond will be located. In the northwest corner of the site is an unregulated Type 3 wetland approximately 1,340 sq. ft. in size. No construction activity is planned near the unregulated wetland.

The arborist's report states that out of approximately 87 existing trees assessed on the site 29 trees are proposed to be removed and 58 retained (see Attachment 7).

b) Conclusions: There are no site constraining factors with this application.

2. Neighboring Development and Zoning:

a) Facts: Single family homes zoned RSA 4 and RSA 6 surround the District property in all directions.

b) Conclusion: Tree removal will change the park like setting into a public facility use by opening up the view of the existing water tower, new parking lot, new building and taller chain link fence. How the site is designed to minimize visual impacts of the new improvements is a factor in the review of this application (see Zoning Code Section II E and G.).

B. PUBLIC COMMENT

1. Facts: Prior to submittal of this application the District held two public meetings on December 16, 2010 and January 31, 2012. Two additional District Board meetings were held where the public commented on the proposal. Attachment 2 describes the types of comments received at the meetings related to neighbors discouraging perimeter fencing limiting access to the property, preferring use of black vinyl coated chain link for the security fence (proposed), the amount of tree removal, concern about potential glare from site lighting spilling onto adjacent properties and type of material for the pump station facade. As of the date of this report, one comment letter was received from a neighbor who borders the north property line requesting that the fence be rustic in design and minimal vegetation removed (see Attachment 8).

2. Conclusions: The District has responded to the above comments by providing a landscape buffer and street trees along the street and along the west property line in front of two homes that will be most affected by the new site improvements. Black vinyl chain link will be used for the security fence. A split rail fence will be installed along the property lines and no trees will be removed near the north property line. No construction will occur on the east parcel and therefore remain in open space.

C. STATE ENVIRONMENTAL POLICY ACT (SEPA)

1. Facts: As lead agency the Woodinville Water District issued a Determination of Nonsignificance (DNS) on April 30, 2012 (a copy of the DNS is located in File ZON12-0311). No SEPA appeal was filed.

2. Conclusion: The proposal was reviewed for compliance with the State Environmental Policy Act.

D. CONCURRENCY

1. Facts: The Public Works Department determined the application was exempt from a concurrency test.

2. Conclusion: The applicant has complied with the concurrency requirements.

E. DEVELOPMENT REGULATIONS

1. Horizontal Façade Requirements

   a) Facts: RSA General Regulations 18.08.2 establishes that for structures adjoining a detached dwelling unit in a low density zone, either the height of that portion of the structure shall not exceed 15 feet above average building elevation or the maximum horizontal façade of the structure shall not exceed 50 feet in width (see Attachment 6).

   b) Conclusions: The horizontal façade regulations apply to all proposed improvements located within 100' of the west, north, east and south property lines. The applicant is seeking a variance from KZC Section 18.08 to allow the building to be 54 feet in width and approximately 19 feet above average building elevation. See staff analysis in Section II.G below.

2. Public Utility Use and Minimum Site Design Standards

   a) Facts: RSA Section 18.10.070 establishes the minimum required yards (20' front, 20' side and 20' rear), maximum lot coverage (70%), building height requirements (30'; see below), required landscape buffers and special regulations for a Public Utility Use (see Attachment 6).

      (1) Special Regulation 2 establishes that site design must minimize adverse impacts on surrounding residential neighborhoods. Landscape buffers are one way to reduce impacts of more intensive uses on adjacent residential which the applicant is providing.

      The proposal states that new security lighting will be installed which also could introduce new glare impacts onto adjacent residences. No lighting plans were submitted with the application. KZC 115.85 establishes that glare from the subject property is prohibited and that the applicant shall select, place and direct lighting sources so that glare to the maximum extent possible will not extend onto adjacent properties. One option to reduce glare is to use shielded light fixtures.

      (2) The proposed site improvements are shown to meet the minimum requirements of KZC Section 18.10.070 such as setbacks, lot coverage and landscape buffer requirements except for the needed variance for the horizontal façade requirements discussed below.

   b) Conclusions: The proposal meets the minimum Zoning Code requirements except for the horizontal façade requirements discussed in Section II.E above and landscape buffer requirements discussed below. Proposed site lighting should be designed and installed to minimize light glare spilling onto adjacent single family homes. As part of the building permit application the applicant should include lighting plans that meet the requirements of KZC 115.85.

3. Non-conforming Landscape Buffers

a) Facts: Section 18.10.070 Special Regulation 3 establishes that Landscape Category A or B may be required depending on the type of use and impacts associated with the use on the nearby uses. Single family homes are adjacent to the site on the south, west, and north sides and therefore Category A, Standard 1 applies.

(1) KZC Section 95.42 buffer Standard 1 requires a 15' wide landscape strip with a 6 foot high solid screening fence or wall installed along the west, north and east property lines (fences are not required along streets). For public utilities the fence or wall may be placed either on the outside or inside edge of the landscape stip. The landscape strip must be planted with one tree per 20 linear feet of buffer and shrubs to attain coverage of at least 60 percent of the buffer within two years.

(2) KZC Section 95.45 establishes that a 5' wide perimeter landscape buffer be installed along driveways and parking areas planted with trees and groundcover. When both a perimeter landscape and parking buffer are required the more restrictive buffer above shall apply.

(3) The existing Water District Facility was built under King County jurisdiction and does not meet the City of Kirkland's landscape buffer requirements along property lines.

(4) KZC Section 95.47 establishes that nonconforming landscape buffers must be brought into conformance when there will be an increase in gross floor area of any structure or a change in use on the subject property and the new use requires larger buffers than the former use. The landscape buffer is only required where the new gross floor area impacts adjoining property.

(5) Based on the proposed new improvements to the site and the requirements of KZC 95.47, at a minimum, a 15' wide landscape buffer is required along the property line abutting two parcels on the west and two parcels across the street to the south.

The applicant proposes to meet this requirement by installing a 15' wide landscape buffer with trees and shrubs along the two parcels along the west and south property lines (see Attachment 4). A solid 6' tall fence is proposed along the east property line in back of one of the two parcels (because the other property currently contains a 6' tall fence). No fence is required along the south property line along the street.

b) Conclusions: The proposal meets the minimum landscape buffer requirements and as a result will help minimize the visual impacts of the new public utility improvements on the surrounding residents.

4. Natural Features - Significant Vegetation

a) Facts:

(1) Regulations regarding the retention of existing significant trees can be found in Chapter 95 of the Kirkland Zoning Code. KZC Section 95.30 establishes that for commercial and non-residential uses the applicant is required to retain moderate and high retention value to the extent feasible.

(2) The applicant submitted an arborist report, tree inventory of all the trees on site and adjacent to the property lines, and tree removal and retention plan based on the level of impact of the development proposal on the existing trees (see Attachment 7). Many existing trees will also be removed on the south two thirds of the property to install the site improvements. The arborist report dated July 2012 Revised II only evaluated the trees within and surrounding the construction area. The report indicates a total tree inventory of 87 significant trees on site. A total of 29 trees are proposed to be removed as a result of the new improvements and fence, leaving 58 trees to be retained.

b) Conclusions: The applicant has provided a Tree Retention plan and arborist report reviewed by the City's Arborist. Retaining the existing trees on the north and east portions of the subject property will help buffer the site from residents to the north and east. The applicant should retain all trees shown to be retained and utilize the City's tree protection requirements of KZC 95 during construction.

5. Right-of-Way Improvements

a) Facts:

(1) Zoning Code Sections 110.10 and 110.25 require the applicant to make half street improvements in rights-of-way abutting the subject property. The subject property abuts NE 144th Pl that contains a barricade preventing an east/west through connection. Vehicular access to the site is and will continue to be from 130th Avenue. NE 144th Pl Street currently does not meet current standards regarding pavement width and lacks sidewalks. The applicant also proposes to install water and sewer lines within NE 144th Pl under a separate right of way permit.

(2) The street is shown on the City's Rights-of-Way Designation Map as a neighborhood access street. Section 110.35 establishes that a neighborhood access street be improved with a 5' wide sidewalk and 4.5 landscape strip with street trees.

(3) Section 110.70 establishes the authority of the City to require a modification to the street standards. Public Works Department staff recommends the applicant install a meandering pedestrian path with street trees planted 30 feet on center along the property line of both parcels (see Attachments 4 and 5). The barrier would remain in the street allowing access only from the west.

b) Conclusions: Pursuant to sections 110.10 and 110.25, the applicant should improve the right-of-way immediately adjacent to the subject property consistent with the standards set forth in Attachment 5 including meandering sidewalk and street trees.

F. DEVELOPMENT STANDARDS

1. Fact: Additional comments and requirements from each City Department placed on the project are found on the Development Standards, Attachment 5.

2. Conclusion: As part of the building permit and land surface modification permit the applicant should comply with the requirements set forth in Attachment 5.

G. APPROVAL CRITERIA

1. Process IIA Approval Criteria

   a. Fact: Zoning Code Section 150 states that a Process IIA application may be approved if:

      (1) It is consistent with all applicable development regulations and, to the extent there is no applicable development regulation, the Comprehensive Plan; and

      (2) It is consistent with the public health, safety, and welfare.

   b) Conclusion: The proposal complies with the criteria in Section 150, development regulations, except for the Horizontal Façade Requirements discussed below, and is consistent with the Comprehensive Plan. In addition, it is consistent with the public health, safety, and welfare because the pump station is needed to improve the water system level of service in the District's service area.

2. Variance Approval Criteria

   a) Facts: KZC Chapter 120 sets forth the mechanism whereby a provision of the Code may be varied on a case-by-case basis if the application of the provision would result in an unusual and unreasonable hardship.

   KZC Section 120.20 establishes three decisional criteria with which a variance request must comply in order to be granted. The applicant's response to these criteria can be found in Attachment 2. Staff's evaluation of the applicant's response to the variance criteria are described below.

   b) Conclusions: Based on the following staff analysis, the application meets the following criteria for a variance.

   Variance Criterion 1: The variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City, in part or as a whole.

   a) Facts:

      (1) The intent of the horizontal façade requirement is to protect single family homes from impacts related to bulk and mass of larger structures. To meet this regulation the applicant may either exceed the 50' maximum building width requirement and meet the 15' height limit or meet the maximum 50' building width requirement and exceed the 15' maximum height to 30' above average building elevation.

      (2) The proposed pump station building will be 54' in length by 19'2" in height, exceeding the maximum 50' horizontal façade requirement by 4' and horizontal façade height requirements by 4.2'.

      (3) The proposed pump station building will be located 65' from the west property line and 30' from the south property line, while the Code requires only a 20' minimum side and rear yard.

(4) Because of its function, the existing 100' water tower built in King County during the 1970's, exceeds the height requirements for a public utility use in an RSA zone.

(5) Currently the site is non-conforming as to the landscape buffer requirements for the use. The applicant proposes to install the required 15' wide landscape buffer along the west and south property lines to minimize the visual effects of the new improvements from the adjoining single family homes most affected.

b) Conclusion: The 4' in length and 4.2' in height that the building exceeds the horizontal façade requirements are minor and will not be visually noticeable. The building is set back from the adjoining properties significantly more than the required 20' minimum, reducing any adverse building bulk impacts from the minor deviation. Adding landscaping around the perimeter of the site will help screen the view from adjacent residents and therefore meets this criteria.

Variance Criterion 2: The variance is necessary because of special circumstances regarding the size, shape, topography, or location of the subject property, or the location of preexisting improvements on the subject property that conformed to the Zoning Code in effect when the improvement was constructed.

a) Facts:

(1) The water district facility has existed for 40 years and the new pump building is necessary to upgrade the facility to improve the water and fire flow pressure to the surrounding Kingsgate Neighborhood.

(2) The applicant has indicated that reducing the length or height of the building would result in increasing the building footprint, require moving the diesel back-up power generator outside or adding another building to house the generator. Enclosing the items indoors reduces potential noise and security concerns.

b) Conclusion: According to the applicant, the proposed pump house building is the minimum necessary to house the required equipment to support the water tower. A larger footprint building may result in a greater impact on the adjacent properties.

Variance Criterion 3: The variance would not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this Code allows for other properties in the same area and zone as the subject property.

a) Facts:

(1) The size and design of the pump station building is smaller than the typical two story home in the area. Single family houses in the RSA zone are allowed a maximum building height of 30' above average building elevation.

b) Conclusion: The proposal would not grant a special privilege inconsistent with the general rights of the other properties surrounding the use. Many homes are two stories and allowed to be 30' in height. The proposal will minimize the impacts of the use on the adjacent properties by locating the improvements toward the interior of the site

resulting in increased setbacks from the property lines and installing new landscape buffers.

B. COMPREHENSIVE PLAN

1. Fact: The subject property is located within the Kingsgate neighborhood annexed to Kirkland in 2011. The Land Use map designates the property at low density residential at 6 units per acre. Comprehensive Plan Chapter XI describes the role of the Woodinville Water District in providing water and sewer services to residents in Kirkland. The following policies relate to siting public utility facilities and transitions between uses:

   a. *Policy U-1.4: Ensure that utility services are provided in a manner that is environmentally sensitive, safe and aesthetically compatible with surrounding land uses.*

   b. *Policy LU-1.3: Encourage attractive site and building design that is compatible in scale and in character with existing or planned development.*

   c. *Policy LU-1.4: Create an effective transition between different land uses and housing types.*

   d. *Policy LU-8.3: Design essential public facilities as well as government and community facilities to reduce incompatibility with adjacent land uses.*

2. Conclusion: The proposal is consistent with the Comprehensive Plan policies related to the design of facilities to be compatible with surrounding residential uses and the need to maintain levels of service of public utilities.

III. SUBSEQUENT MODIFICATIONS

Modifications to the approval may be requested and reviewed pursuant to the applicable modification procedures and criteria in effect at the time of the requested modification.

IV. APPEALS AND JUDICIAL REVIEW

The following is a summary of the deadlines and procedures for appeals. Any person wishing to file or respond to an appeal should contact the Planning Department for further procedural information.

A. APPEALS

Appeal to City Council:

Section 150.80 of the Zoning Code allows the Hearing Examiner's decision to be appealed by the applicant and any person who submitted written or oral testimony or comments to the Hearing Examiner. A party who signed a petition may not appeal unless such party also submitted independent written comments or information. The appeal must be in writing and must be delivered, along with any fees set by ordinance, to the Planning Department by 5:00 p.m., _____, fourteen (14) calendar days / twenty-one (21) calendar days following the postmarked date of distribution of the Hearing Examiner's decision on the application.

B. JUDICIAL REVIEW

Section 150.130 of the Zoning Code allows the action of the City in granting or denying this zoning permit to be reviewed in King County Superior Court. The petition for review must be filed within 21 calendar days of the issuance of the final land use decision by the City.

V. LAPSE OF APPROVAL

Under Section 150.135 of the Zoning Code, the applicant must submit to the City a complete building permit application approved under Chapter 150, within four (4) years after the final approval on the matter, or the decision becomes void; provided, however, that in the event judicial review is initiated per Section 150.130, the running of the four years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions. Furthermore, the applicant must substantially complete construction approved under Chapter 150 and complete the applicable conditions listed on the Notice of Approval within six (6) years after the final approval on the matter, or the decision becomes void.

"Date of approval" means the date of approval by the City of Kirkland, or the termination of review proceedings if such proceedings were initiated pursuant to RCW 90.58.180 and WAC 173-27-220.

VI. APPENDICES

Attachments 1 through 8 are attached.
1. Vicinity map
2. Project description and response to variance criteria
3. Project plans
4. Revised landscape plan received 10/29/2012
5. Development Standards
6. RSA Use Zone Chart
7. Arborist report 7/2012 revised II
8. Public comment letter from Rosalie Cole 7/20/2012

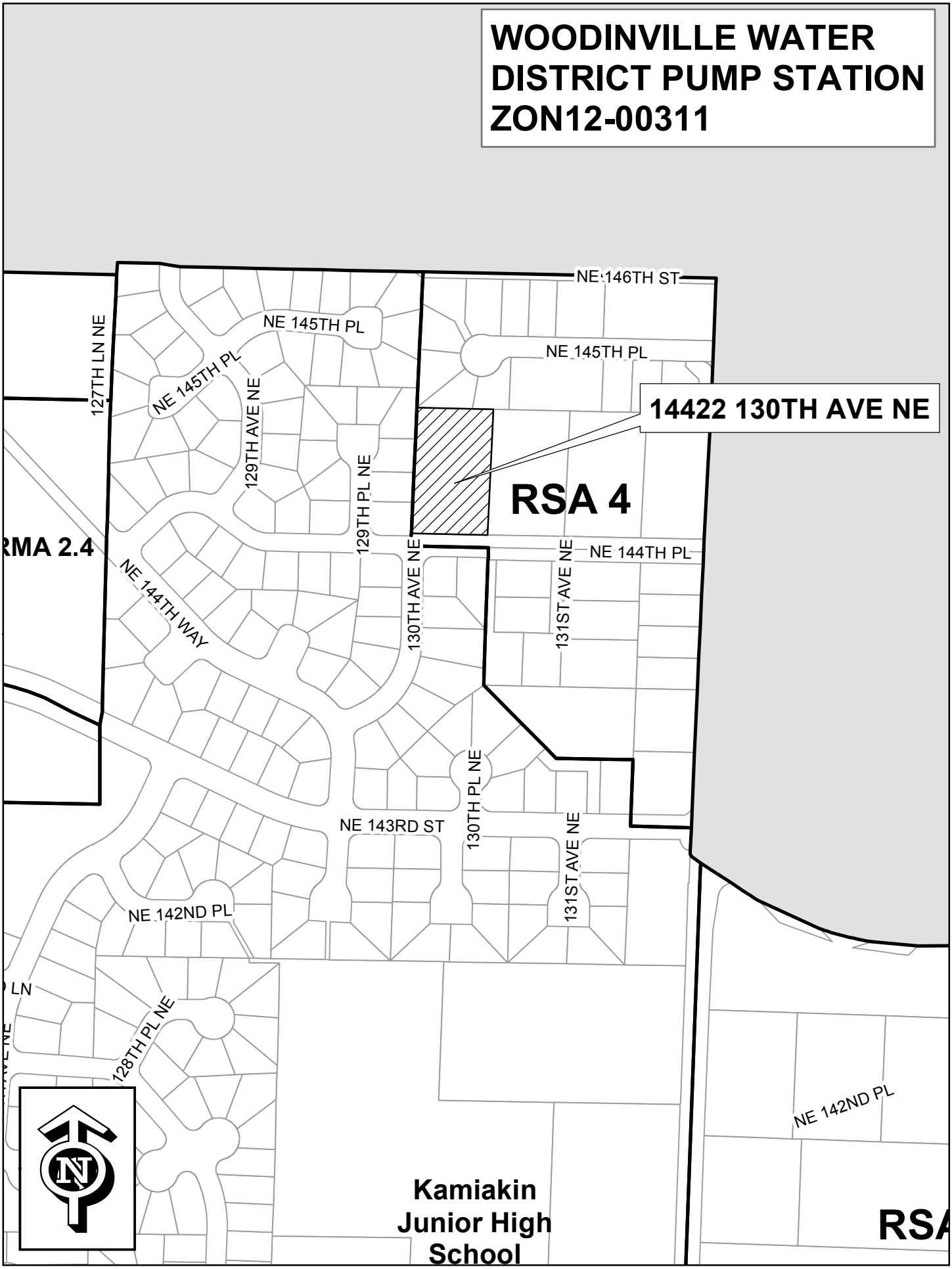
VII. PARTIES OF RECORD

Applicant: Lisa Adolfson Senior Project Manager, ESA/Northwest Water, 5309 Shilshole Avenue NW, Suite 200, Seattle WA 98107

Ken McDowell, PE, District Engineer, Woodinville Water District, PO Box 1390 Woodinville WA 98072-1390

Parties of Record list:
Rosalie Cole
Department of Planning and Community Development
Department of Public Works
Department of Building and Fire Services

A written decision will be issued by the Hearing Examiner within eight calendar days of the date of the open record hearing.


WOODINVILLE WATER DISTRICT PUMP STATION
ZON12-00311
NE 146TH ST
NE 145TH PL
NE 145TH PL
NE 145TH PL
127TH LN NE
129TH AVE NE
129TH PL NE
14422 130TH AVE NE
RSA 4
RMA 2.4
NE 144TH PL
NE 144TH WAY
130TH AVE NE
131ST AVE NE
130TH PL NE
NE 143RD ST
131ST AVE NE
NE 142ND PL
128TH PL NE
NE 142ND PL
Kamiakin Junior High School
RSA

Kingsgate Booster Pump Station Project Description

The Woodinville Water District's Kingsgate service area receives water from Seattle Public Utilities (SPU) Tolt River Supply Lines Taps 76 and 77. Storage is provided by the Kingsgate Standpipe, which is a water tank or reservoir constructed in the early 1970s. It is approximately 100 feet tall and contains 1.1 million gallons (MG). Approximately 0.64 MG of the water in the standpipe is considered dead storage because it is too low to provide the minimum water pressure of 20 pounds per square inch (psi) for fire flows via a gravity flow system as required by the Washington Department of Health (DOH) and the District.

Due to the inability to access dead storage within the standpipe, a booster pump station is required to utilize the full volume of the existing standpipe. This project was identified in the District's Comprehensive Water System Plan (2008) to meet the required level of service for residential service and fire flow requirements. The Plan was reviewed by local jurisdictions including the City of Kirkland, City of Woodinville, and King County, and was approved by the DOH.

Upon installation of the water booster pump station, the Kingsgate service area will meet DOH-mandated water storage requirements until approximately 2018, based upon growth predictions in the District's 2008 Comprehensive Water System Plan (Comp Plan, PACE Engineers, 2008).

Project elements of the Kingsgate booster pump station proposed at this time include the following:

- A new booster pump station on District property located west of 132nd Avenue NE in the City of Kirkland;
- Installation of approximately 450 feet of new transmission and supply pipeline along the north side of NE 144th Place in Kirkland;
- Replacement of pressure-reducing valve (PRV) No. 1 near the Tolt River Pipeline crossing of 124th Avenue NE in the City of Woodinville; and
- Rehabilitate PRV No. 16 located along NE 140th Street in Kirkland.

These elements are described below.

Booster Pump Station

The proposed booster pump station would be built on the same parcel as the existing Kingsgate Standpipe, on the north side of NE 144th Place at the intersection of 130th Avenue NE in the City of Kirkland annexation area. The District owns two parcels at this location. Parcel 2126059131 (1.2 acres in size) is the western parcel where the existing Kingsgate Standpipe is located and where the proposed project would occur. No work would occur on the adjacent District-owned parcel to the east as part of the proposed project.

The new booster pump station would be located southwest of the existing standpipe. The booster pumps, control valves, a generator, and a restroom for District employees would be

enclosed in a new building approximately 1,150 square feet in size. Additional facilities to be constructed onsite include an aboveground fuel storage tank to supply the generator, a transformer pad, vaults, and piping. A new stormwater detention pond would be located east of the new pump station building. The area around the existing standpipe and pump station building would be paved, as would the existing gravel site driveway and a short maintenance road for the detention pond. The new pump station building would be fenced and lit for security. Split rail fencing will be placed along the north, east and west perimeters of the parcels. No fencing will be placed along the south side of the parcel (NE 144th Place). Access to the site would continue to be from NE 144th Place as it is currently.

New Transmission Pipeline and Supply Pipeline

A new 12-inch water transmission pipeline and a new 12-inch supply pipeline would be installed along the north side of NE 144th Place to connect the new pump station to an existing pipeline located in 132nd Avenue NE. The pipe would be located at least four feet below the ground surface. Seattle Public Utilities (SPU) is also planning to replace the supply tap to its main water pipe in 132nd Avenue NE at this location to accommodate the District's new supply pipeline. A five-foot wide meandering concrete pathway will be installed along NE 144th Place across the frontage of both of the District parcels to provide a continuous pedestrian pathway.

Pressure-Reducing Valve (PRV) No. 16 Rehabilitation

The existing PRV No. 16 along NE 140th Street in the City of Kirkland annexation area would be rehabilitated. Work would occur within an existing underground vault, requiring no excavation.

PRV No. 1

PRV No. 1, located on the west side of 124th Avenue NE, north of the Tolt River Pipeline in the City of Woodinville, will be replaced. The new PRV No. 1 would be enclosed in an underground vault, and will include freeze protection measures.

City of Kirkland

Criteria for Variances

April 27, 2012

Project Description and Background

The Woodinville Water District's (District) Kingsgate service area receives water from Seattle Public Utilities (SPU) Tolt River Supply Lines Taps 76 and 77. Storage is provided by the Kingsgate Standpipe, which is a water tank or reservoir approximately 100 feet tall and containing 1.1 million gallons (MG) that was constructed in the early 1970s. Approximately 0.64 MG of the water in the standpipe is considered dead storage because it is too low to provide the minimum water pressure of 20 pounds per square inch (psi) for fire flows via a gravity flow system as required by the Washington State Department of Health (DOH) and the District.

Due to the inability to access dead storage within the standpipe, a booster pump station is required to utilize the full volume of the existing standpipe. This project was identified in the District's Comprehensive Water System Plan (2008) to meet the required level of service for residential service and fire flow requirements. The Plan was reviewed by local jurisdictions including the City of Kirkland and King County, and was approved by the DOH.

Upon installation of the water booster pump station, the Kingsgate service area will meet DOH-mandated water storage requirements until approximately 2018, based upon growth predictions in the District's 2008 Comprehensive Water System Plan (Comp Plan, PACE Engineers, 2008). A second storage facility may be constructed in the future as demand for water storage increases.

The new booster pump station would be located southwest of the existing standpipe. The booster pumps, control valves, a generator, and a restroom for District employees would be enclosed in a new building approximately 1,150 square feet in size. Additional facilities to be constructed onsite include an aboveground fuel storage tank to supply the back-up generator, a transformer pad, vaults, and piping. A new stormwater detention pond would be located southeast of the new pump station building. The area around the existing standpipe and pump station building would be paved, as would a short maintenance road for the detention pond. The new pump station building would be fenced and lit for security. Access to the site would continue to be from NE 144th Place as it is currently.

The project site is located in the area annexed by the City of Kirkland on June 1, 2011, and is zoned RSA-4. Because of restrictions in the residential zoning, the Woodinville Water District is seeking a variance from section 18.08 of the Kirkland Zoning Code (KZC) as described below. The project complies with section 18.08 regulations for utilities, with the exception of the

horizontal façade maximum dimension of 50 feet. Specifically, the District requests a variance to allow the proposed booster pump station building with a horizontal façade of 54 feet.

Public Involvement

The District has held two public meetings regarding development of this project. The first meeting was held the evening of Thursday, December 16, 2010. Comments and questions were gathered by the District. Issues of concern related to perimeter fencing and the resulting limited access to the site, tree retention, pump station façade type, plantings to soften security (chain link) fencing and building, adjustments of the lot line to move the District fencing away from neighboring properties, and the requested use of black vinyl coated chainlink fence for the security fencing.

A second meeting was held on the evening of Tuesday, January 31, 2012 and the current proposal was presented. There were three attendees, and questions and comments were gathered by the District. The issues and concerns raised at the meeting related to the 42-inch high split rail fence along the west, north, and east property boundaries, the type of chain link security fencing around the standpipe and pump station, the City of Kirkland permitting and notification process, and the possibility of security lighting cascading onto adjacent properties.

This project was presented at two public Woodinville Water District Board meetings. The first presentation to the Board was held on May 3, 2011. Issues identified by the public at that meeting included delineation fencing, lighting, vegetation, and the continued use of the site as a park. The second presentation of the Board was held on March 20, 2012. Issues raised at this meeting included the delineation fencing and the agreement between the District and the City of Kirkland to continue the use of the site as a park.

Variance Criteria

1. **How would the Variance not be materially detrimental to the property or improvements in the area of the subject property or to the city in part or as a whole?**

   The project would not be materially detrimental to the area of the subject property or any other part of the city. The project has been designed to minimize the visual and noise impacts inherent in a utility use, and the project will provide a direct public benefit by ensuring adequate fire flows.

   <u>Design Measures Incorporated in the Project</u>
   The booster pump station is being designed with the residential neighbors in mind and in accordance with the requirements of section 18 of the KZC with the exception of the horizontal façade dimension. Because the pump station will be set approximately 30 feet from the road, the 4-foot exceedance of the City's horizontal facade requirements will not be noticeable from adjoining properties.

The design also maintains the wooded nature of the lot to a large extent, which will allow it to continue to blend with surrounding residential community to greatest extent possible. The District retained a professional arborist who prepared a tree protection and retention plan in accordance with the requirements of KZC 95.30 for the booster pump station site. Most of the 87 trees on the site, and their drip lines, will be retained. An estimated 24 trees will be removed as part of construction activities, and all remaining 63 trees will be protected from damage during construction. A split rail fence will be constructed along the west and north property lines of the affected property, and along the north and east property lines of the adjacent District property to clearly delineate property boundaries. The south property line, closest to NE 144th Place, will not be delineated with a split rail fence.

The booster pump station provides the minimum footprint necessary to serve the District's needs, and to house the equipment in a manner that is aesthetically pleasing and reduces noise. The new building approximately 1,150 square feet in size, which is smaller than most homes in the vicinity. The new pump station building would be fenced and lit for security. Access to the site would continue to be from NE 144th Place as it is currently, and the project would not substantially increase traffic to or from the site.

Reducing the horizontal facade while keeping all components within the structure would result in a larger footprint for the pump station building and either more intrusion in the sensitive and wooded areas of the site, or building closer to the front property line, which would make the structure more visually prominent. Reducing the building length without increasing the footprint would require moving the diesel back-up power generator outside of the building or building another building to house them. The generator is the noisiest component and the only component that does not need to be located indoors for operational reasons. Industrial piping and diesel back-up generators are not typically associated with residential development, so the design places these items inside the pump station building. Housing these items inside the facility also reduces a potential security concern.

The booster pump station and existing standpipe will be fenced with chain link fencing for security purposes. The fencing will be 8 feet above ground with 2 feet of barbed wire on top. For security reasons, trees and other vegetation of any height cannot be planted adjacent to the security fencing for the facility.

The project also will not result in increased housing density or traffic in the neighborhood.

Public Benefit of the Project

The purpose of the project is to construct a booster pump station on the site of the existing water reservoir standpipe to provide adequate fire flow rates and increased water pressure in the drinking water supply for the Kingsgate area, which includes both the immediate project area and a larger portion of the city.

2. **How is the Variance necessary because of special circumstances regarding the size, shape, topography, or location of the subject property; or the location of a pre-existing improvement on the subject property that conformed to the Zoning Code in effect when the improvement was constructed?**

   The proposed booster pump station would be built on the same property as the existing Kingsgate Standpipe, on the north side of NE 144th Place at the intersection of 130th Avenue NE. The Kingsgate Standpipe has been located on the 1.2 acre site since 1972. When the facility was built, it was located in unincorporated King County where it conformed to the zoning code in effect at the time. The project area was annexed by the City of Kirkland in June 2011. Since the Kingsgate Standpipe was originally constructed, considerable urban development has occurred in the area it serves, increasing the flow demands. The need for a booster pump to meet required fire flow rates needs of the community was not anticipated when the structure was built, nor was the annexation to Kirkland. The need to address this functional deficiency immediately adjacent to the standpipe necessitates a structure that has a façade slightly larger than the Code would currently allow.

3. **How would the Variance not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this Code allows to other property in the same area and zone as the subject property?**

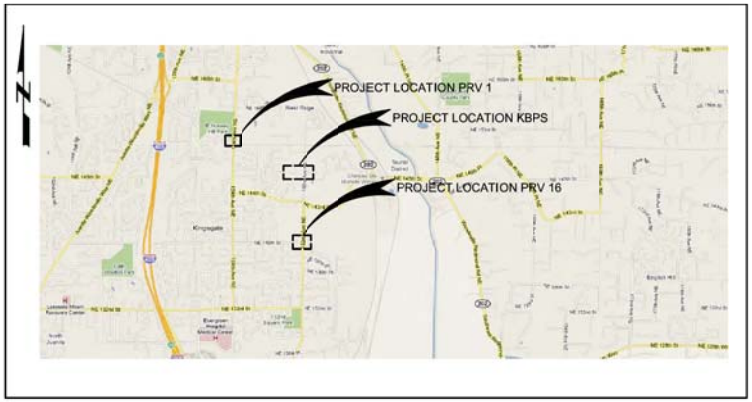
   This variance would not be a grant of special privilege. The site will be home to a booster pump station on property that has been the location of the existing water standpipe for 40 years. While it has been zoned residential as part of the recent annexation, it has never been developed for residential use. The facility provides drinking water to the surrounding Kingsgate area; neighboring properties do not serve the same purpose. If the project were a typical home in the area, a larger footprint would be allowed and the homeowner would not face community concern about the effects from noise or the visual character of the site. Because of the unique nature of the pre-existing development, granting this variance would not set a precedent that is likely to be repeated. In general, the Code allows existing uses to expand to the limits of the setbacks, but in this case, a greater benefit is proposed by keeping a 30-foot setback in the front of the building and keeping the footprint as small as possible, while enclosing the noisier components that could otherwise be located outside. The special duty of a public agency to respond to community concerns about its project has led to the proposed design. Although it exceeds the façade dimension requirement, the design minimizes the impacts of a necessary and critical utility upgrade on the community beyond the requirements of the Code.

WOODINVILLE WATER DISTRICT
13006 NE 144TH PLACE
KIRKLAND, WA 98034

KINGSGATE BOOSTER PUMP STATION AND PIPELINE

PROJECT NO. 6-11

PERMIT SUBMITTAL



VICINITY MAP
NO SCALE

APRIL 2012

WOODINVILLE WATER DISTRICT

carollo®

WWD SHEET NO.

WOODINVILLE WATER DISTRICT

APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY

DATE

The undersigned has approved this document for and on behalf of Carollo Engineers, P.C.

Vice President

JOB NO. 7763A.10
DRAWING NO. G-1
SHEET NO. 1 OF XXX

FILENAME: Last Saved By: mgobel 4-25-12 07:17pm C:\pw_working\projectwise\mgobel\dms91266\7763A10-G-001P XREFS: aerial1A; Woodinville Vic Map.tif; woodinvillewd logo;

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2	G-2	DRAWING INDEX
3	G-3	SYMBOLS AND LINETYPES
4	G-4	GENERAL INFORMATION, NOTES, DESIGN CRITERIA, AND SYSTEM SCHEMATIC
5	G-5	WATER AND SEWER GENERAL NOTES
6	G-6	GENERAL PROJECT SITE PLAN AND SPLIT RAIL FENCE ALIGNMENT
7	G-7	ABBREVIATIONS
8	G-8	PROJECT PHASING SCHEMATICS
		TYPICAL DETAILS
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		MECHANICAL
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SHEET NO	DWG NO	TITLE
		INSTRUMENTATION
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80	N-4	P&ID - STANDBY GENERATOR

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			PERMIT SUBMITTAL

DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012

PROJECT ENGINEER

WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
DRAWING INDEX

VERIFY SCALES
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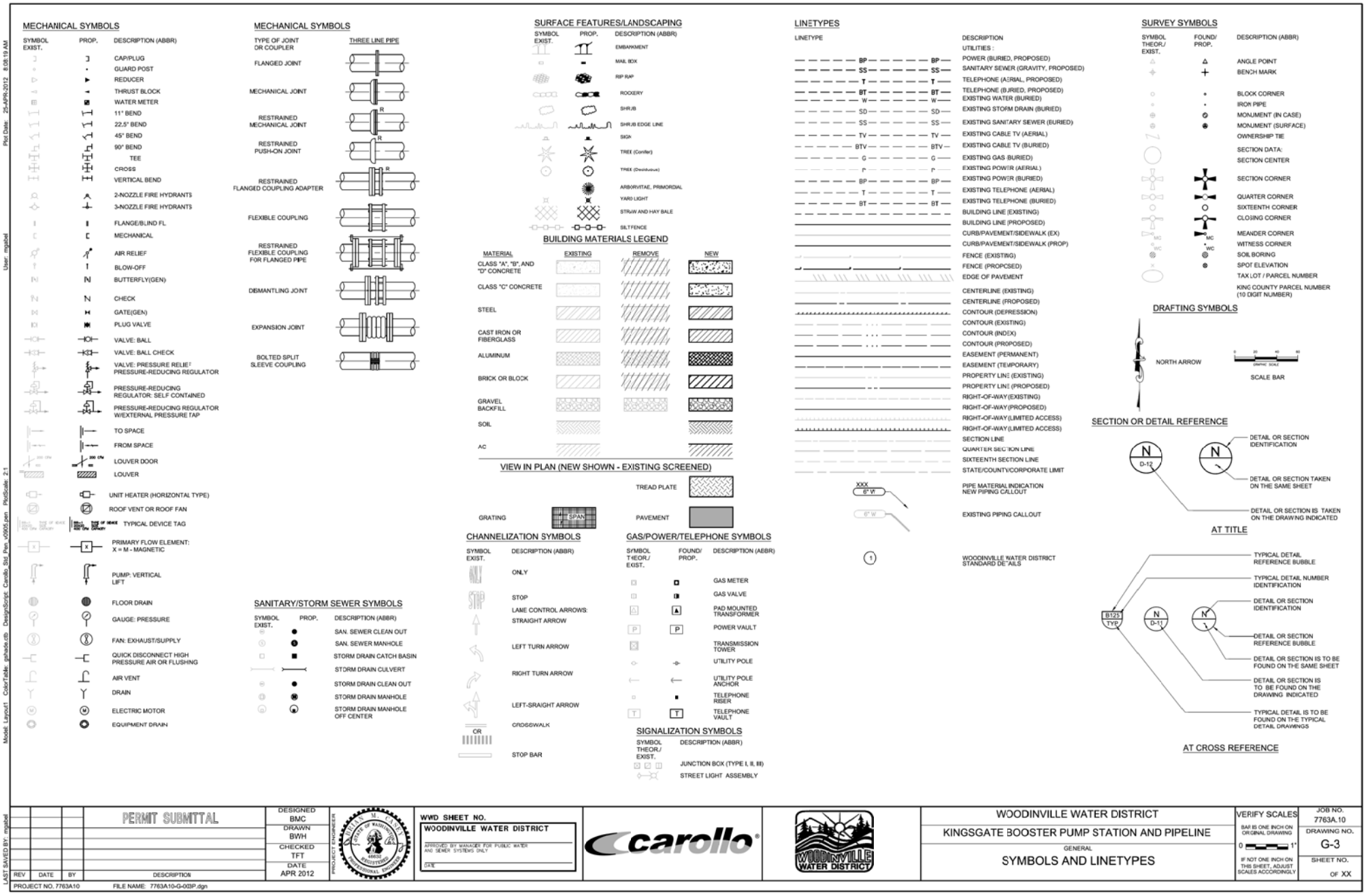
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7763A.10
DRAWING NO. G-2
SHEET NO. OF XX

PROJECT NO. 7763A10 FILE NAME: 7763A10-G-002P.dgn


MECHANICAL SYMBOLS
SYMBOL EXIST.
PROP.
DESCRIPTION (ABBR)
CAP/PLUG
GUARD POST
REDUCER
THRUST BLOCK
WATER METER
11° BEND
22.5° BEND
45° BEND
90° BEND
TEE
CROSS
VERTICAL BEND
2-NOZZLE FIRE HYDRANTS
3-NOZZLE FIRE HYDRANTS
FLANGE/BLIND FL
MECHANICAL
AIR RELIEF
BLOW-OFF
BUTTERFLY(GEN)
CHECK
GATE(GEN)
PLUG VALVE
VALVE: BALL
VALVE: BALL CHECK
VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR
PRESSURE-REDUCING REGULATOR: SELF CONTAINED
PRESSURE-REDUCING REGULATOR W/EXTERNAL PRESSURE TAP
TO SPACE
FROM SPACE
LOUVER DOOR
LOUVER
UNIT HEATER (HORIZONTAL TYPE)
ROOF VENT OR ROOF FAN
TYPICAL DEVICE TAG
PRIMARY FLOW ELEMENT: X = M - MAGNETIC
PUMP: VERTICAL LIFT
FLOOR DRAIN
GAUGE: PRESSURE
FAN: EXHAUST/SUPPLY
QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING
AIR VENT
DRAIN
ELECTRIC MOTOR
EQUIPMENT DRAIN
MECHANICAL SYMBOLS
TYPE OF JOINT OR COUPLER
THREE LINE PIPE
FLANGED JOINT
MECHANICAL JOINT
RESTRAINED MECHANICAL JOINT
RESTRAINED PUSH-ON JOINT
RESTRAINED FLANGED COUPLING ADAPTER
FLEXIBLE COUPLING
RESTRAINED FLEXIBLE COUPLING FOR FLANGED PIPE
DISMANTLING JOINT
EXPANSION JOINT
BOLTED SPLIT SLEEVE COUPLING
SANITARY/STORM SEWER SYMBOLS
SYMBOL EXIST.
PROP.
DESCRIPTION (ABBR)
SAN. SEWER CLEAN OUT
SAN. SEWER MANHOLE
STORM DRAIN CATCH BASIN
STORM DRAIN CULVERT
STORM DRAIN CLEAN OUT
STORM DRAIN MANHOLE
STORM DRAIN MANHOLE OFF CENTER
SURFACE FEATURES/LANDSCAPING
SYMBOL EXIST.
PROP.
DESCRIPTION (ABBR)
EMBANKMENT
MAIL BOX
RIP RAP
ROCKERY
SHRUB
SHRUB EDGE LINE
SIGN
TREE (Conifer)
TREE (Deciduous)
ARBORVITAE, PRIMORDIAL
YARD LIGHT
STRAW AND HAY BALE
SILT FENCE
BUILDING MATERIALS LEGEND
MATERIAL
EXISTING
REMOVE
NEW
CLASS "A", "B", AND "D" CONCRETE
CLASS "C" CONCRETE
STEEL
CAST IRON OR FIBERGLASS
ALUMINUM
BRICK OR BLOCK
GRAVEL BACKFILL
SOIL
AC
VIEW IN PLAN (NEW SHOWN - EXISTING SCREENED)
TREAD PLATE
GRATING
SPAN
PAVEMENT
CHANNELIZATION SYMBOLS
SYMBOL EXIST.
DESCRIPTION (ABBR)
ONLY
STOP
LANE CONTROL ARROWS:
STRAIGHT ARROW
LEFT TURN ARROW
RIGHT TURN ARROW
LEFT-STRAIGHT ARROW
CROSSWALK
OR
STOP BAR
GAS/POWER/TELEPHONE SYMBOLS
SYMBOL THEOR./ EXIST.
FOUND/ PROP.
DESCRIPTION (ABBR)
GAS METER
GAS VALVE
PAD MOUNTED TRANSFORMER
POWER VAULT
TRANSMISSION TOWER
UTILITY POLE
UTILITY POLE ANCHOR
TELEPHONE RISER
TELEPHONE VAULT
SIGNALIZATION SYMBOLS
SYMBOL THEOR./ EXIST.
DESCRIPTION (ABBR)
JUNCTION BOX (TYPE I, II, III)
STREET LIGHT ASSEMBLY
LINETYPES
LINETYPE
DESCRIPTION
UTILITIES :
POWER (BURIED, PROPOSED)
SANITARY SEWER (GRAVITY, PROPOSED)
TELEPHONE (AERIAL, PROPOSED)
TELEPHONE (BURIED, PROPOSED)
EXISTING WATER (BURIED)
EXISTING STORM DRAIN (BURIED)
EXISTING SANITARY SEWER (BURIED)
EXISTING CABLE TV (AERIAL)
EXISTING CABLE TV (BURIED)
EXISTING GAS (BURIED)
EXISTING POWER (AERIAL)
EXISTING POWER (BURIED)
EXISTING TELEPHONE (AERIAL)
EXISTING TELEPHONE (BURIED)
BUILDING LINE (EXISTING)
BUILDING LINE (PROPOSED)
CURB/PAVEMENT/SIDEWALK (EX)
CURB/PAVEMENT/SIDEWALK (PROP)
FENCE (EXISTING)
FENCE (PROPCSED)
EDGE OF PAVEMENT
CENTERLINE (EXISTING)
CENTERLINE (PROPOSED)
CONTOUR (DEPRESSION)
CONTOUR (EXISTING)
CONTOUR (INDEX)
CONTOUR (PROPOSED)
EASEMENT (PERMANENT)
EASEMENT (TEMPORARY)
PROPERTY LINE (EXISTING)
PROPERTY LINE (PROPOSED)
RIGHT-OF-WAY (EXISTING)
RIGHT-OF-WAY (PROPOSED)
RIGHT-OF-WAY (LIMITED ACCESS)
RIGHT-OF-WAY (LIMITED ACCESS)
SECTION LINE
QUARTER SECTION LINE
SIXTEENTH SECTION LINE
STATE/COUNTY/CORPORATE LIMIT
PIPE MATERIAL INDICATION NEW PIPING CALLOUT
EXISTING PIPING CALLOUT
WOODINVILLE WATER DISTRICT STANDARD DETAILS
SURVEY SYMBOLS
SYMBOL THEOR./ EXIST.
FOUND/ PROP.
DESCRIPTION (ABBR)
ANGLE POINT
BENCH MARK
BLOCK CORNER
IRON PIPE
MONUMENT (IN CASE)
MONUMENT (SURFACE)
OWNERSHIP TIE
SECTION DATA:
SECTION CENTER
SECTION CORNER
QUARTER CORNER
SIXTEENTH CORNER
CLOSING CORNER
MEANDER CORNER
WITNESS CORNER
SOIL BORING
SPOT ELEVATION
TAX LOT / PARCEL NUMBER
KING COUNTY PARCEL NUMBER (10 DIGIT NUMBER)
DRAFTING SYMBOLS
NORTH ARROW
SCALE BAR
SECTION OR DETAIL REFERENCE
DETAIL OR SECTION IDENTIFICATION
DETAIL OR SECTION TAKEN ON THE SAME SHEET
DETAIL OR SECTION IS TAKEN ON THE DRAWING INDICATED
AT TITLE
TYPICAL DETAIL REFERENCE BUBBLE
TYPICAL DETAIL NUMBER IDENTIFICATION
DETAIL OR SECTION IDENTIFICATION
DETAIL OR SECTION REFERENCE BUBBLE
DETAIL OR SECTION IS TO BE FOUND ON THE SAME SHEET
DETAIL OR SECTION IS TO BE FOUND ON THE DRAWING INDICATED
TYPICAL DETAIL IS TO BE FOUND ON THE TYPICAL DETAIL DRAWINGS
AT CROSS REFERENCE
PERMIT SUBMITTAL
REV
DATE
BY
DESCRIPTION
DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012
PROJECT ENGINEER
WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE
carollo
WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
SYMBOLS AND LINETYPES
VERIFY SCALES
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DRAWING NO. G-3
SHEET NO. OF XX
PROJECT NO. 7763A10
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GENERAL INFORMATION:

SITE DATA
ADDRESS 13006 NE 144TH PLACE
KIRKLAND, WA 98034
AREA: 2.48 ACRES

LEGAL DESCRIPTION

KING COUNTY PARCEL NUMBER
212605-9136;212605-9131

PROPERTY OWNER/OWNER
WOODINVILLE WATER DISTRICT
ADDRESS: 17238 NE WOODINVILLE - DUVALL RD
WOODINVILLE, WA 98072

ENGINEER
CAROLLO ENGINEERS
CONTACT: BRIAN CASEY
206-684-6532
ADDRESS: 1218 THIRD AVE, SUITE 1600
SEATTLE, WA 98101

SURVEYOR

ADDRESS: HAMMOND COLLIER WADE LIVINGSTONE
4010 STONE WAY NORTH, STE 300
SEATTLE, WA 98103

DATUM
HORIZONTAL: NAD 83-91
VERTICAL: NAD D88

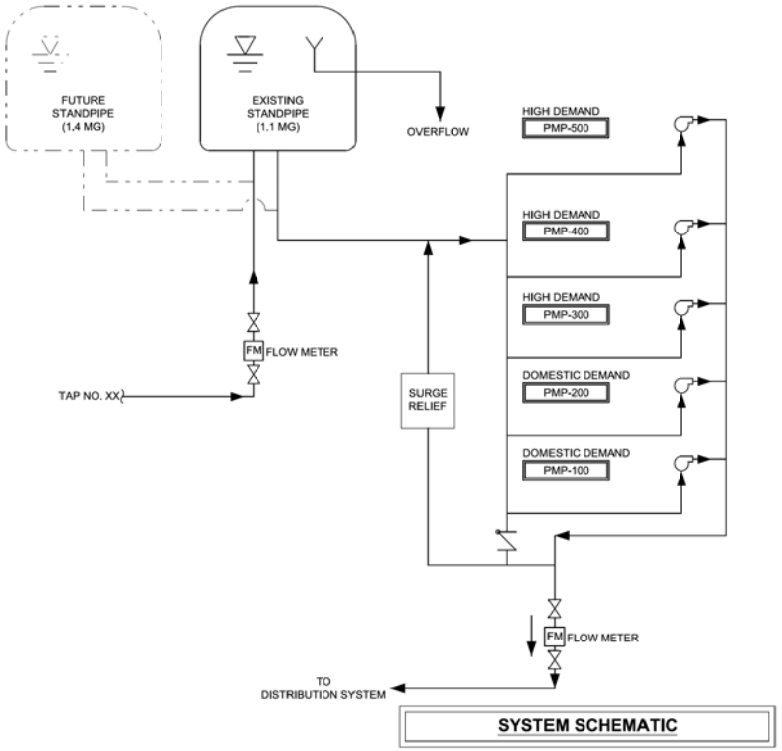
BENCHMARK
468 (ID 3422) ELEV=323.61

UTILITIES
KBPS SITE
ADDRESS: 13006 NE 144TH PLACE
SEWER: WOODINVILLE WATER DISTRICT.... 425-487-4100
POWER: PUGET SOUND ENERGY..... 888-225-5773
TELEPHONE: VERIZON..... 877-213-1053
CABLE: COMCAST..... 866-774-3128
GAS: PUGET SOUND ENERGY..... 888-225-5773

DESIGN CRITERIA

DESCRIPTION	UNITS	VALUE	NOTES
MIN SERVICE PRESSURE	PSI	30 (EL 480)	MAX DAY DEMAND MIN PRESSURE
MAX SERVICE PRESSURE	PSI	43 (EL 510)	
MIN FIRE PRESSURE	PSI	20	
MDD	GPM	1,450	
MIN FIRE DEMAND FLOW (2028)	GPM	3,500	
DOMESTIC DEMAND PUMPS	NO.	2 (1 DUTY, 1 STANDBY)	
HIGH CAPACITY DEMAND PUMPS	NO.	3 (2 DUTY, 1 STANDBY)	
PUMP DRIVE, DOMESTIC DEMAND	TYPE	CONSTANT SPEED	
PUMP DRIVE, HIGH CAPACITY DEMAND	TYPE	CONSTANT SPEED	
DOMESTIC DEMAND PUMP RATED CAPACITY	GPM	500	
DOMESTIC DEMAND PUMP RATED HEAD	FT	45	
HIGH DEMAND PUMP RATED CAPACITY	GPM	2,085	
HIGH DEMAND PUMP RATED HEAD	FT	120	
GENERATOR	TYPE	DIESEL	
GENERATOR SIZE	KW	250	
GENERATOR FUEL TANK CAPACITY	GAL	1,000	
BUILDING		SEE BUILDING CODE DATA TABLE	

BUILDING CODE DATA TABLE	
BUILDING CODE	2009 IBC
OCCUPANCY GROUP	F-2
SEISMIC DESIGN CATEGORY	C
TYPE OF CONSTRUCTION	IIB
MAXIMUM STORIES ALLOWED (PER CODE)	2
ACTUAL NUMBER OF STORIES	1
MAXIMUM HEIGHT ALLOWED (PER CODE)	55
ACTUAL HEIGHT	19'-2"
MAXIMUM AREA ALLOWED PER FLOOR (PER CODE)	14,000 SF
ACTUAL AREA PER FLOOR	988
ALLOWABLE NUMBER OF OCCUPANTS (PER CODE)	5
ACTUAL NUMBER OF OCCUPANTS	NOT NORMALLY OCCUPIED
TRAVEL DISTANCE ALLOWED (MAX PER CODE)	300 FT
OCCUPANCY SEPARATION / FIRE RATING	0 HRS
FIRE SUPPRESSION SYSTEM	HAND HELD FIRE EXTINGUISHERS
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS	
STRUCTURAL FRAME	NOT RATED
BEARING WALLS	NOT RATED
NONBEARING WALLS, INTERIOR	NOT RATED
FLOOR CONSTRUCTION	NOT RATED
EXTERIOR WALL FIRE RESISTANCE BASED ON FIRE SEPARATION DISTANCE	NOT RATED



SYSTEM SCHEMATIC

PERMIT SUBMITTAL

REV	DATE	BY	DESCRIPTION

DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012

PROJECT ENGINEER

WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
GENERAL INFORMATION, NOTES, DESIGN CRITERIA, AND SYSTEM SCHEMATIC

VERIFY SCALES
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JOB NO. 7763A.10
DRAWING NO. G-4
SHEET NO. OF XX

PROJECT NO. 7763A10 FILE NAME: 7763A10-G-001P.dgn

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WOODINVILLE WATER DISTRICT GENERAL WATER NOTES

1. ALL WORK SHALL CONFORM TO THE RULES AND REGULATIONS OF THE WOODINVILLE WATER DISTRICT, (pick one) THE CITY OF WOODINVILLE / KING COUNTY, THESE DRAWINGS, AND THE STANDARD WATER SPECIFICATIONS FOR THE DEVELOPER EXTENSIONS AND THE WATER STANDARD PLANS.
2. THE CONTRACTOR SHALL ARRANGE AND ATTEND A PRECONSTRUCTION CONFERENCE PRIOR TO THE START OF CONSTRUCTION.
3. WATER MAINS SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON, SIZE AS NOTED ON THE PLANS. ALL MECHANICAL JOINTS SHALL BE MEGALUGED.
4. PLAN INFORMATION IS AS FURNISHED BY THE DEVELOPER.
5. NO CONSTRUCTION WILL BE ALLOWED UNTIL THE RIGHT-OF-WAY PERMIT HAS BEEN ISSUED. CONTRACTOR TO CONTACT DISTRICT FOR STATUS OF PERMIT.
6. MINIMUM SEPARATION OF POTABLE WATER MAINS AND SANITARY SEWER LINES SHALL BE TEN (10) FEET HORIZONTALLY FOR PARALLEL PIPE AND EIGHTEEN (18) INCHES VERTICALLY FOR PERPENDICULAR OR OBLIQUE CROSSINGS, MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE. SITUATIONS OCCURRING WITH LESS THAN MINIMUM SEPARATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION C1-9 OF THE "CRITERIA FOR SEWAGE WORKS DESIGN"PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY AS REVISED DECEMBER 1998.
7. THE DEVELOPER SHALL NOTIFY THE DISTRICT INSPECTOR AT LEAST SEVEN (7) DAYS IN ADVANCE AND MAKE THE NECESSARY ARRANGEMENTS WITH THE WATER DISTRICT INSPECTOR FOR CONNECTION TO EXISTING WATER SYSTEM. WATER SHUT OFFS REQUIRE A MINIMUM OF 72 HOURS PRIOR NOTIFICATION. SHUT OFFS ARE ONLY ALLOWED TUESDAY THROUGH THURSDAY, 9 A.M. TO 3 P.M.
8. LOCATION SHOWN OF EXISTING UTILITIES IS APPROXIMATE. IDENTIFICATION, LOCATION MARKING AND RESPONSIBILITY FOR UNDERGROUND FACILITIES OR UTILITIES IS GOVERNED BY THE PROVISIONS OF CHAPTER 19.122 REVISED CODE OF WASHINGTON. VERIFY LOCATIONS PRIOR TO INSTALLATION OF NEW WATER MAIN.
9. WHERE CONFLICTS EXIST, INSTALL WATER MAIN BELOW PROPOSED STORM LINES UNLESS OTHERWISE INDICATED ON PLAN. MINIMUM VERTICAL SEPARATION BETWEEN UTILITIES SHALL BE 12-INCHES WITH A SAND CUSHION AND HAND COMPACTION. AS REQUIRED, PROVIDE VERTICAL BENDS AND THRUST BLOCKING IN ACCORDANCE WITH THE STANDARD PLANS.
10. ALL OPERATING NUTS ON GATE VALVES ARE TO BE EXTENDED TO WITHIN 18 TO 24 INCHES OF FINAL GRADE IF DEEPER THAN 30 INCHES. MINIMUM COVER OVER WATER MAIN SHALL BE 36 INCHES UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR IS CAUTIONED THAT OVER HEAD ELECTRICAL LINES SHOWN ON THE DRAWINGS ARE LOCATED BY POINT-TO-POINT, POWER POLETO-POWER POLE CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF ANY HAZARD CREATED BY OVERHEAD ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATIONS.
12. NEW WATER MAINS AND HYDRANTS ARE TO BE TESTED IN ACCORDANCE WITH WOODINVILLE WATER DISTRICT SPECIFICATIONS PRIOR TO CONNECTING TO THE EXISTING WATER SYSTEM. THE USE OF AN APPROVED BACKFLOW DEVICE IS REQUIRED TO PREVENT CROSS CONNECTION DURING TESTING.
13. TRENCH RESTORATION AND PAVING IN RIGHT-OF-WAY SHALL CONFORM TO (pick one) THE CITY OF WOODINVILLE "ROADWAY SECTION TYPICAL OPEN CUT STANDARD DETAIL"AND RIGHT-OF-WAY PERMIT / KING COUNTY RIGHTOF-WAY PERMIT CONDITIONS.
14. DEVELOPER SHALL BE RESPONSIBLE FOR ALL FIRE MARSHALL PERMITS.
15. DEVELOPER SHALL PROVIDE DISTRICT WITH A COPY OF NORTHSHORE UTILITY DISTRICT'S FINAL ACCEPTANCE OF THE SEWER SYSTEM PRIOR TO WATER METER PURCHASE.
16. EXISTING SERVICE SHALL BE ABANDONED AT THE MAIN BY SHUTTING THE CORPORATION STOP, CUTTING THE SERVICE LINE AND CAPPING THE CORPORATION STOP WITH A BRASS CAP.
17. FIRE SPRINKLER VAULT SHALL BE REQUIRED TO HAVE A GRAVITY DRAIN. IF NO STORM DRAIN SYSTEM EXISTS, AN ELECTRIC SUMP PUMP SHALL BE PROVIDED.
18. CONTRACTOR REQUIRED TO FOLLOW ALL CONFINED SPACE ENTRY REGULATIONS PRIOR TO ENTERING ANY CONFINED SPACE.
19. CONTRACTOR REQUIRED TO PROVIDE A COMPETENT PERSON(S) TRAINED TO IDENTIFY EXISTING OR PREDICTABLE HAZARDS RELATED TO TRENCH SAFETY, SOIL CONDITIONS, AND SHORING REQUIREMENTS, IN ACCORDANCE WITH WAC 296-155 PART N. REPRESENTATIVES OF THE DISTRICT SHALL NOT BE REQUIRED TO PERFORM THE ROLE OF COMPETENT PERSON FOR THIS PROJECT. NO WORKERS SHALL ENTER A TRENCH OR OTHER EXCAVATION FOUR FEET OR MORE IN DEPTH WITHOUT TRENCH SAFETY SYSTEM IN PLACE.
20. CONTRACTOR TO NOTIFY NORTHSHORE UTILITY DISTRICT (425) 398-4400 EXTENSION 135 A MINIMUM OF 2 WORKING DAYS PRIOR TO WORKING AROUND THE NORTHSHORE SEWER/WATER MAIN. (INSERT THIS NOTE IF APPLICABLE)

WOODINVILLE WATER DISTRICT GENERAL SEWER NOTES

1. ALL WORK SHALL CONFORM TO THE RULES AND REGULATIONS OF THE WOODINVILLE WATER DISTRICT, (pick one) THE CITY OF WOODINVILLE / KING COUNTY, THESE DRAWINGS, AND THE STANDARD WATER SPECIFICATIONS FOR THE DEVELOPER EXTENSIONS AND THE WATER STANDARD PLANS.
2. THE CONTRACTOR SHALL ARRANGE AND ATTEND A PRECONSTRUCTION CONFERENCE PRIOR TO THE START OF CONSTRUCTION.
3. SEWER MAINS SHALL BE 8-INCH DIAMETER PVC, SDR 35, UNLESS OTHERWISE NOTED ON THE PLANS OR AS A CONDITION OF THE SPECIFICATIONS.
4. NO CONSTRUCTION WILL BE ALLOWED UNTIL THE RIGHT-OF-WAY PERMIT HAS BEEN ISSUED. CONTRACTOR TC CONTACT DISTRICT FOR STATUS OF PERMIT.
5. MINIMUM SEPARATION OF POTABLE WATER MAINS AND SANITARY SEWER LINES SHALL BE TEN (10) FEET HORIZONTALLY FOR PARALLEL PIPE AND EIGHTEEN (18) INCHES VERTICALLY FOR PERPENDICULAR OR OBLIQUE CROSSINGS, MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE. SITUATIONS OCCURRING WITH LESS THAN MINIMUM SEPARATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION C1-9 OF THE "CRITERIA FOR SEWAGE WORKS DESIGN"PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY AS REVISED DECEMBER 1998.
6. THE DEVELOPER SHALL NOTIFY THE ENGINEER AT LEAST SEVEN (7) DAYS IN ADVANCE AND MAKE THE NECESSARY ARRANGEMENTS WITH THE WATER DISTRICT INSPECTOR FOR CONNECTION TO EXISTING SEWER MANHOLE.
7. LOCATION SHOWN OF EXISTING UTILITIES IS APPROXIMATE. IDENTIFICATION, LOCATION MARKING AND RESPONSIBILITY FOR UNDERGROUND FACILITIES OR UTILITIES IS GOVERNED BY THE PROVISIONS OF CHAPTER 19.122 REVISED CODE OF WASHINGTON. VERIFY LOCATIONS PRIOR TO INSTALLATION OF NEW SEWER MAIN.
8. THE CONTRACTOR IS CAUTIONED THAT OVER HEAD ELECTRICAL LINES SHOWN ON THE DRAWING ARE LOCATED BY POINT-TO-POINT, POWER POLE-TO-POWER POLE CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF ANY HAZARD CREATED BY OVERHEAD ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW THE PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATIONS.
9. SIDE SEWER STUBS ARE TO BE EXTENDED TO THE EDGE OF THE SEWER EASEMENT AT A 2% MINIMUM SLOPE PER THE STANDARD PLAN. CONNECTION FROM THE BUILDING TO THE SIDE SEWER STUB REQUIRES A SIDE SEWER PERMIT FROM THE WOODINVILLE WATER DISTRICT ISSUED AFTE PROJECT ACCEPTANCE.
10. HOUSES WITH FINISH FLOOR ELEVATIONS LOWER THAN THE RIM OF THE NEXT UPSTREAM MANHOLE SHALL REQUIRE A BACKWATER VALVE INSTALLED AT THE HOUSE PRIOR TO RECEIVING A SIDE SEWER PERMIT.
11. CONTRACTOR SHALL EXCAVATE AROUND EXISTING MH XXX AS REQUIRED TO PREVENT UNEQUAL SOIL LOADING DURING CONSTRUCTION. CORE DRILL AND RECHANNEL MANHOLE BASE AS REQUIRED.
12. CONTRACTOR SHALL INSTALL A PLUG IN THE OUTLET OF MH XXX TO ISOLATE THE NEW SYSTEM. THIS PLUG SHALL NOT BE REMOVED UNTIL AUTHORIZED BY THE DISTRICT INSPECTOR. END OF EACH PIPE SHALL BE PLUGGED AFTER PLACING ON GRADE BETWEEN EXISTING MH XXX AND MH XXX.
13. TRENCH RESTORATION AND PAVING IN RIGHT-OF-WAY SHALL CONFORM TO (pick one) THE CITY OF WOODINVILLE "ROADWAY SECTION TYPICAL OPEN CUT STANDARD DETAIL"AND RIGHT-OF-WAY PERMIT / KING COUNTY RIGHTOF-WAY PERMIT CONDITIONS.
14. PROVIDE EAST JORDAN IRON WORKS WATERTIGHT MH FRAME AND COVERS, MODEL NO. 370014, FOR MANHOLE XXX. DISTRICT MAY REQUIRE CONTRACTOR TO INSTALL DISTRICT-FURNISHED WATERTIGHT MANHOLE COVER ON EXISTING MH XXX.
15. A ONE-TENTH FOOT (0.1 FOOT) DROP IS MINIMUM ALLOWABLE DROP ACROSS MANHOLES. CONSIDERATION NEEDS TO BE GIVEN TO CORED LOCATIONS ON STEEPER RUNS. AT LOCATIONS WHERE SIDE SEWER ENTERS A MANHOLE, SIDE SEWER AND MAIN LINE CROWN ELEVATIONS SHALL BE EQUAL AS A MINIMUM OR AS SHOWN ON THE PLANS.
16. DEVELOPER IS RESPONSIBLE FOR PERMIT AND COORDINATION WITH OLYMPIC PIPELINE COMPANY FOR CROSSING OF PETROLEUM LINES.
17. CONTRACTOR REQUIRED TO FOLLOW ALL CONFINED SPACE ENTRY REGULATIONS PRIOR TO ENTERING ANY CONFINED SPACE.
18. CONTRACTOR REQUIRED TO PROVIDE A COMPETENT PERSON(S) TRAINED TO IDENTIFY EXISTING OR PREDICTABLE HAZARDS RELATED TO TRENCH SAFETY, SOIL CONDITIONS, AND SHORING REQUIREMENTS, IN ACCORDANCE WITH WAC 296-155 PART N. REPRESENTATIVES OF THE DISTRICT SHALL NOT BE REQUIRED TO PERFORM THE ROLE OF COMPETENT PERSON FOR THIS PROJECT. NO WORKERS SHALL ENTER A TRENCH OR OTHER EXCAVATION FOUR FEET OR MORE IN DEPTH WITHOUT TRENCH SAFETY SYSTEM IN PLACE.

REV	DATE	BY	DESCRIPTION
			PERMIT SUBMITTAL

DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012
PROJECT ENGINEER

WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
WATER AND SEWER GENERAL NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7763A.10
DRAWING NO. G-5
SHEET NO. OF XX

PROJECT NO. 7763A10 FILE NAME: 7763A10-G-005P.dgn

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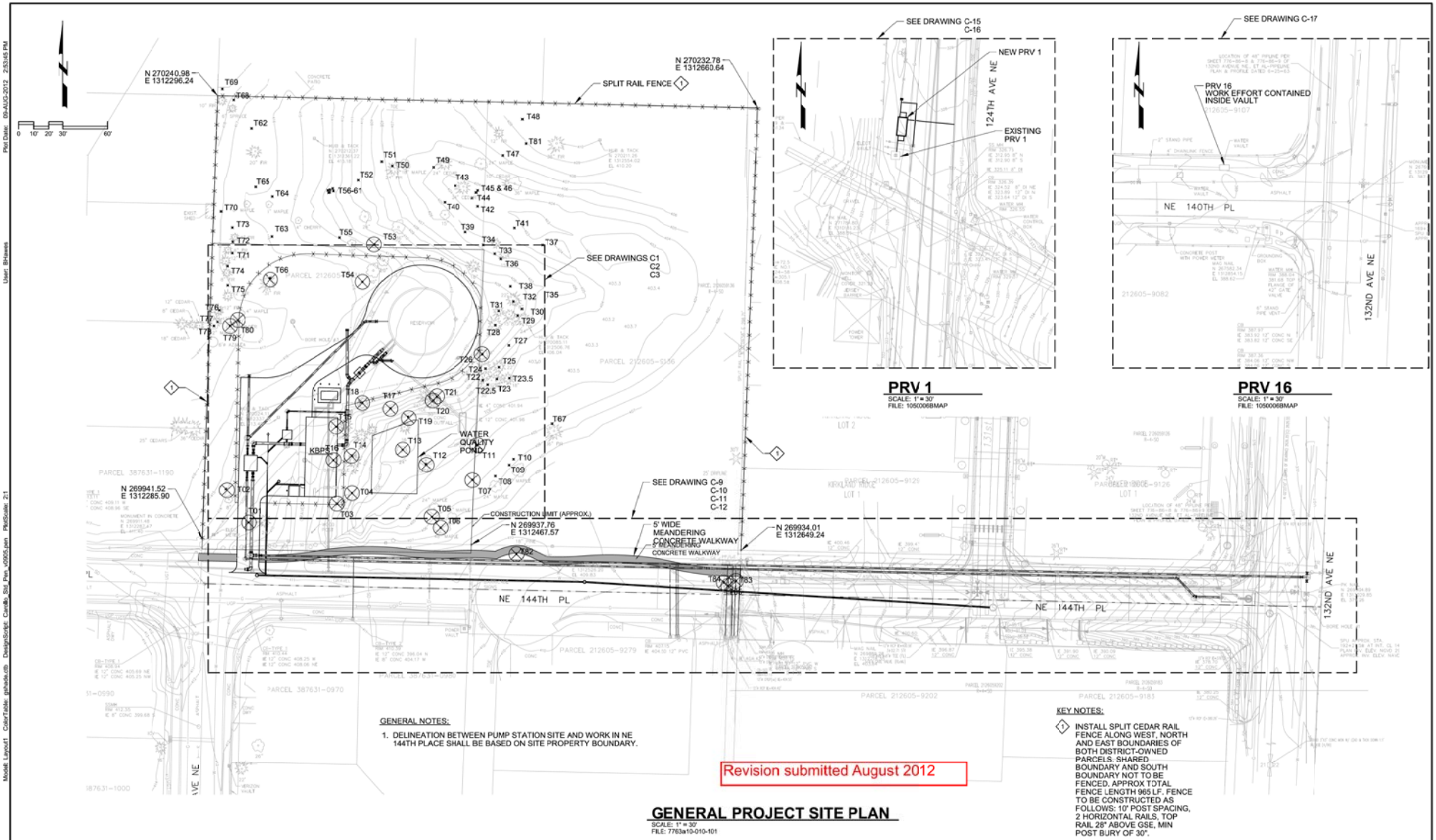

REV	DATE	BY	DESCRIPTION
			PERMIT SUBMITTAL

DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012

PROJECT ENGINEER: BRIAN N. CASEY, STATE OF WASHINGTON, 46632, REGISTERED PROFESSIONAL ENGINEER

WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
GENERAL PROJECT SITE PLAN AND SPLIT RAIL FENCE ALIGNMENT

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7763A.10
DRAWING NO. G-6
SHEET NO. OF XX

PROJECT NO. 7763A10 FILE NAME: 7763A10-G-006Pla.dgn

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ABBREVIATIONS

AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASPHALT CONCRETE PAVEMENT
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
ADD	AVERAGE DAY DEMAND
AFF	ABOVE FINISHED FLOOR
AHR	ANCHOR
AI	ANALOG INPUT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
Ald	ALDER
ALM	ALARM
AL, ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AO	ANALOG OUTPUT
AP	ACCESS PANEL
AP	ANGLE POINT
APPROX	APPROXIMATE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUX	AUXILIARY
AVE	AVENUE
AWS	AUBURN WAY SOUTH
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BEGINNING OF CURVATURE
BCV	BALL CHECK VALVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BH	BORE HOLE
BLDG	BUILDING
BM	BENCH MARK
BMPS	BEST MANAGEMENT PRACTICES
BND	BEND
BOP	BEGINNING OF PROJECT
BOT, BOTT	BOTTOM
BOW	BACK OF WALK
BP	BURIED POWER
BPS	BOOSTER PUMP STATION
BSP	BLACK STEEL PIPE
BT	BURIED TELEPHONE
BTWN	BETWEEN
BV	BALL VALVE
BYP	BYPASS
C	CONDUIT, CIVIL
C TO C	CENTER TO CENTER
CA	CONCRETE ANCHOR
CAV	COMBINATION AIR VALVE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CEM. CONC.	CEMENT CONCRETE
CFM	CUBIC FOOT PER MINUTE
CG	CURB & GUTTER
CHAN	CHANNEL
CI	CAST IRON
CISP	CAST IRON SOIL PIPE
CITY	CITY OF AUBURN
CL, C/L	CLASS, CENTER LINE
CLP	CONTROL PANEL
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CO	CLEANOUT
CoK	CITY OF KIRKLAND
CONC	CONCRETE
CONN	CONNECT
CONST	CONSTRUCT, CONSTRUCTION
CONT	CONTINUED/CONTINUOUS
COORD	COORDINATE
COR	CORNER
CoW	CITY OF WOODINVILLE
CPLG	COUPLING
CRV	CURVE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CTL	BASELINE CONTROL POINT, CONTROL
CU	COPPER
CV	CHECK VALVE
CY	CUBIC YARD
D	DRAIN, DIAMETER
DBQ	DOUBLE BROKEN WHITE
DEG	DEGREE
DEMO	DEMOLISH
DET	DETAIL, DETECTOR/DETECTION LOOPS
DI	DUCTILE IRON
DIA, Ø	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DR	DRIVE
DSW	DOUBLE SOLID WHITE
DSY	DOUBLE SOLID YELLOW
DWG	DRAWING
E	EAST OR DISTANCE BETWEEN PVI & VERTICAL, ELECTRICAL CURVE
EA	EACH
EC	END OF CURVATURE
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EE	ENGINE EXHAUST
EF	EXHAUST FAN, EACH FACE
ELL	ELBOW
ELEC	ELECTRIC
EL, ELEV	ELEVATION
EMBED	EMBEDMENT
EMH	ELECTRICAL MANHOLE
ENG	ENGINE
ENGR	ENGINEER
EOP	END OF PROJECT, EDGE OF PAVEMENT
EQL, EQ	EQUAL
EQPT	EQUIPMENT
EVP	EMERGENCY VEHICLE PREEMPTION
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EX, EXIST, EXST	EXISTING
EXP	EXPANSION
EXPO	EXPOSE (D)
EXT	EXTERIOR
FC	FLEXIBLE CONNECTION OR FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTOR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDN	FOUNDATION
FE	FLOW ELEMENT
FF	FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISH GRADE
FH	FIRE HYDRANT
FIN	FINISH
FIN FL	FINISH FLOOR
FL	FLOW LINE/CURB GUTTER PAN, FLANGE
FLEX	FLEXIBLE
FLG	FLANGE
FLGA	FLANGE ADAPTER
FM	FLOW METER
FN	FENCE
FO	FIBER OPTIC
FOC	FACE OF CURB
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET/FOOT
FTG	FOOTING
FW	FIRE WATER
G	GAS LINE
GA	GAGE OR GAUGE
GALV	GALVANIZED
GEN	GENERATOR
GIS	GEOGRAPHICAL INFORMATION SYSTEMS
GL	GLASS
GND	GROUND
GN	GENERAL INSTRUMENTATION
GPM	GALLONS PER MINUTE
GR	GRADE
GSE	GROUND SURFACE ELEVATION
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	HEIGHT
HMA	HOT MIX ASPHALT
HOA	HAND-OFF-AUTO
HORZ, HORIZ	HORIZONTAL
HP	HIGH POINT
HRS	HOURS
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HWY	HIGHWAY
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN, "	INCH/INCHES
INT	INTERSECTION
INTER	INTERCONNECT CABLES
INVT	INVERT
IR	IRRIGATION
I/O	INPUT/OUTPUT MODULE
JB, J-BOX	JUNCTION BOX
JT	JOINT
K	RATE OF VERTICAL CURVE
KBPS	KINGSGATE BOOSTER PUMP STATION
KSI	KIP PER SQUARE INCH
KW	KILOWATT
L, LENGTH,	LENGTH OF ARC
LB(S)	POUND, POUNDS
LC	LOCK CLOSE
LCP	LOCAL CONTROL PANEL
LCPE	LINED, CORRUGATED POLYETHYLENE (PIPE)
LED	LIGHT EMITTING DIODE
LF	LINEAL FOOT/FEET
LHBPS	LAKELAND HILLS BOOSTER PUMP STATION
LHR	LEFT HAND REVERSED
LIM	SW LIMIT SWITCH
LOC	LOCATION
LO	LOCK OUT
LOP	LOCK OPEN
LOR	LOCAL-OFF-REMOTE
LOS	LOCKOUT-STOP
LP	LOW POINT
LR	LONG RADIUS
LRA	LOCAL-REMOTE-AUTO
LS	LIMIT SWITCH
LT	LEFT
LUMIN	LUMINAIRE
LVR	LOUVER
L/L	LEAD/LAG
L/L/L	LEAD/LAG/LAG-LAG
L/R	LOCAL-REMOTE
M	MECHANICAL
MAX	MAXIMUM
MB	MAILBOX
MCC	MOTOR CONTROL CENTER
MDD	MAXIMUM DAY DEMAND, MAXIMUM DRY DENSITY
MECH	MECHANICAL
MFR	MANUFACTURER
MG	MILLION GALLON (S)
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MK	MARK
MO	MASONRY OPENING
MON	MONUMENT
MPC	MIDPOINT OF CURVE
NA	NOT APPLICABLE
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NE	NORTHEAST
NO	NORMALLY OPEN
NO.	NUMBER OR NORTH
NOM	NOMINAL
NST	NO STEEPER THAN
NTS	NOT TO SCALE
NW	NORTHWEST
O.C.,	OC ON CENTER
OCL	OPEN-CLOSE
OD	OUTSIDE DIAMETER
OH&NT	OVERHEAD INTERCONNECT
OP	OPEN
OPP	OPPOSITE
OSC	OPEN-STOP-CLOSE
OVFL	OVERFLOW
P	POWER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.E.	PROFESSIONAL ENGINEER
PED	PEDESTRIAN
PG	PRESSURE GAUGE
PHD	PEAK HOUR DEMAND
P.I.	POINT OF INTERSECTION
PK	POINT KNOWN
PL	PLATE, PROPERTY LINE
PMP	PUMP
PNL	PANEL
PNT	POINT
POC	POINT ON CURB
PPB	PEDESTRIAN PUSH BUTTON
PRC	POINT OF REVERSED CURVATURE
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PS	PUMP STATION
PSE	PUGET SOUND ENERGY
PSF	POUNDS PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
PV	PLUG VALVE
PVMT	PAVEMENT
R	RADIUS, RESTRAINED
RAD	RADIUS
RCRD	RECORD
RD	ROOF DRAIN
RD	ROAD
RDCR, RED	REDUCER
REF	REFERENCE
REINF	REINFORCE (D)(ING)(MENT)
REQD	REQUIRED
RFCA	RESTRAINED FLANGE COUPLING ADAPTER
RHR	RIGHT HAND REVERSED
RMT	REMOTE
RPM	RAISED PAVEMENT MARKER
RPO	RESTRAINED PUSH-ON
RR	RAILROAD
RT	RIGHT
RUD	ROLL UP DOOR
R/W, ROW	RIGHT OF WAY
S	SOUTH, SLOPE, STRUCTURAL
D, SD	STORM DRAIN
SCH, SCHED	SCHEDULE
SCV	SWING CHECK VALVE
SDMH	STORM DRAIN MANHOLE
SDR	PLASTIC PIPE
SE	SOUTHEAST
SEC	SECTION
SECT	SECTION
SF	SUPPLY FAN, SQUARE FEET/ FOOT
SHT	SHEET
SIG	SIGNAL
SIM	SIMILAR
SLOS	START-LOCKOUT-STOP
SLR	SILENCER
SMH	SANITARY SEWER MANHOLE
SMIC	MONUMENT (IN CASE)
SMON	MONUMENT (SURFACE)
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSP	SEWER STANDARD PLAN
SS/S	SANITARY SEWER, SIZE IN INCHES
SST	STAINLESS STEEL
SSW	SINGLE SOLID WHITE
SSY	SINGLE SOLID YELLOW
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRL	STRUCTURAL
S/W	SIDEWALK
SV	SURVEY
SW	SOUTHWEST
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
S/W	SIDEWALK
T	THICKNESS
TB	THRUST BLOCK
TC	TOP OF CURB
TEMP	TEMPERATURE OR TEMPORARY
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TFR	TRANSFORMER
THK	THICK
THRU	THROUGH
TNK	TANK
TMH	TELEPHONE MANHOLE
T.O.	TOP OF
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
TR	TRACT
TRB	TRANSFER BOX
TSP	TRAP SEAL PIPING
TSPL	TRAFFIC SIGNAL POLE W/ LUMINAIRE
TYP	TYPICAL
T&B	TOP AND BOTTOM
U/G	UNDERGROUND
UNKN	UNKNOWN
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UPA	UTILITY POLE ANCHOR
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VENT
VAL	VALVE
VC	VICTAULIC COUPLER
VERT	VERTICAL
VEH	VEHICLE
VFD	VARIABLE FREQUENCY DRIVE
VLV	VALVE
VN	VENT
VOL	VOLUME
VP	VENT PIPE
VTR	VENT THROUGH ROOF
W	WEST, WATER, WATER SERVICE, WIDTH
WA	WASHINGTON
WD	WOOD
W/	WITH
W.M.	WILLAMETTE MERIDIAN
W/O	WITHOUT
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WSP	WATER STANDARD PLAN
WWF	WELDED WIRE FABRIC
WV	WATER VALVE
XFMR	TRANSFORMER
YCO	YARD CLEANOUT
YD	YARD

PERMIT SUBMITTAL

REV	DATE	BY	DESCRIPTION

DESIGNED BMC
DRAWN BWH
CHECKED TFT
DATE APR 2012

PROJECT ENGINEER

WWD SHEET NO.

WOODINVILLE WATER DISTRICT

APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY

DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
ABBREVIATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7763A.10
DRAWING NO. G-7
SHEET NO. OF XX

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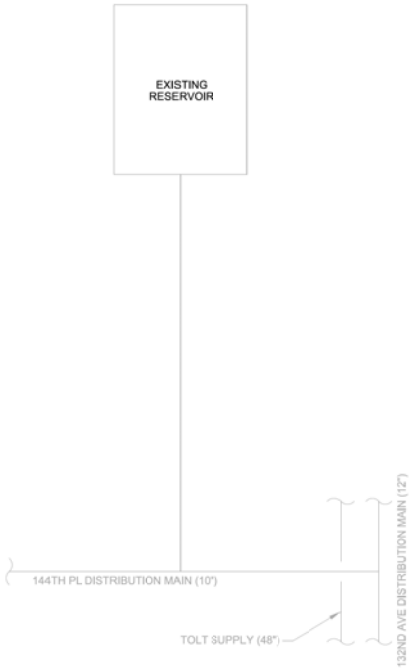

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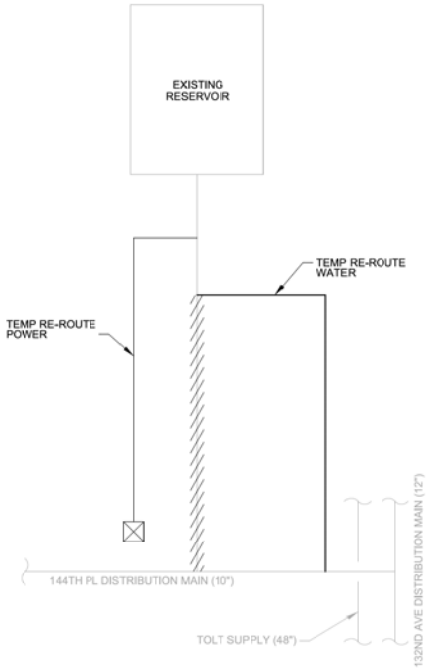
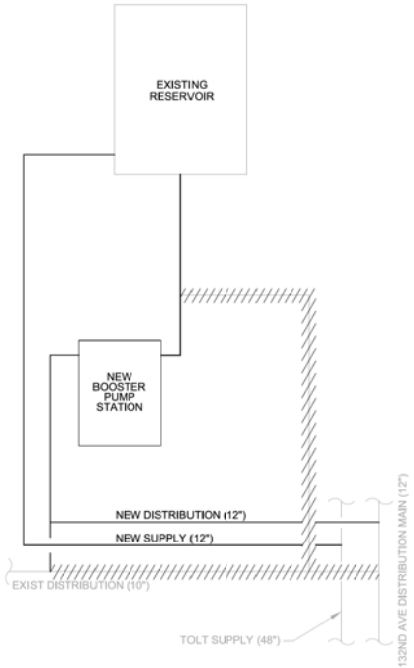


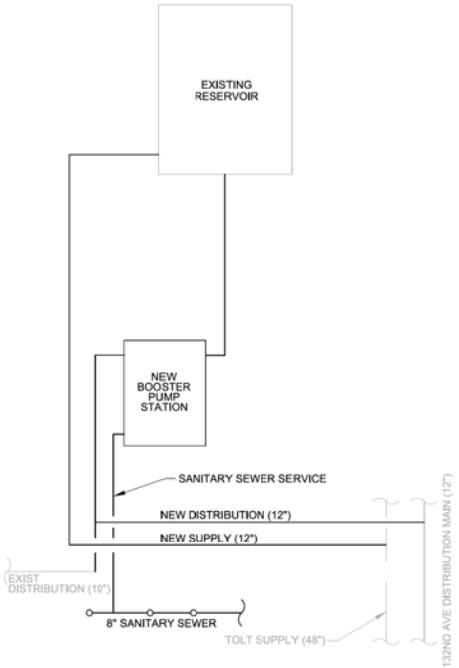
NOTES:
1. RELOCATE EXIST WATER TO MAINTAIN CONTINOUS SERVICE TO/FROM RESERVOIR AND SERVICE CONNECTIONS.
2. RELOCATE UNDERGROUND POWER/CONTROL.
3. ABANDON/REMOVE ON-SITE WATER LINE.

PHASE 1



NOTES:
1. CONSTRUCT BOOSTER PUMP STATION AND ON-SITE PIPING.
2. CONSTRUCT NEW DISTRIBUTION AND SUPPLY PIPES IN NE 144TH PLACE.
3. TEST NEW PIPING.
4. ABANDON EXISTING DISTRIBUTION PIPE IN NE 144TH PLACE AND CONNECT NEW DISTRIBUTION PIPING TO EXISTING SYSTEM.
5. REMOVE TEMPORARY WATER PIPE.

PHASE 2



NOTES:
1. CONSTRUCT SANITARY SEWER IN NE 144TH PLACE.

PHASE 3

REV	DATE	BY	DESCRIPTION
			PERMIT SUBMITTAL

DESIGNED BMC
DRAWN MJG
CHECKED TFT
DATE APR 2012

PROJECT ENGINEER

WWD SHEET NO.
WOODINVILLE WATER DISTRICT
APPROVED BY MANAGER FOR PUBLIC WATER AND SEWER SYSTEMS ONLY
DATE

carollo

WOODINVILLE WATER DISTRICT

WOODINVILLE WATER DISTRICT
KINGSGATE BOOSTER PUMP STATION AND PIPELINE
GENERAL
PHASING SCHEMATICS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7763A.10
DRAWING NO. G-8
SHEET NO. OF XX

PROJECT NO. 7763A10 FILE NAME: 7763A10-G-008P.dgn

LAST SAVED BY: mgabel Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 User: mgabel Plot Date: 25-APR-2012 8:28:35 AM