CONTRACT DOCUMENTS

FOR

RE-BID: Surveillance Cameras and Access Controls

(DISTRICT PROJECT #C2602)

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RE-BID

Lake Whatcom Water & Sewer District
1220 Lakeway Drive
Bellingham, WA 98229
(360) 734-9224, (360) 738-8250 Fax

RE-BID: Request for Bid

Lake Whatcom Water & Sewer District

1220 Lakeway Drive
Bellingham, WA 98229
(360) 734-9224, (360) 738-8250 Fax

INSTRUCTIONS

Lake Whatcom Water and Sewer District ("District") has estimated the Work to be less than $350,000 and the District has chosen to solicit bids via the District's Small Works Roster in accordance with RCW 39.04.151 to perform the Work as defined in this Request for Bid. To be eligible to bid, the contractor must be listed on the District's Small Works Roster, which is managed by Municipal Research Service Center (MRSC) (https://mrscrosters.org/).

The District intends to contract with an experienced, qualified, Contractor for the **Surveillance Cameras and Access Controls**. The work will generally include providing and installing security cameras and access controls at various District-owned facilities throughout the District service area, including all necessary integration, electrical and communications improvements required for a fully operational system.

The District intends to execute a Small Works Contract with the Contractor that provides the best bid price for the defined Work. Lake Whatcom Water and Sewer District reserves the right to accept or reject any or all bids and to waive informalities or irregularities.

Estimated project cost: **$150,000 - $200,000** not including sales tax.

The Request for Bid includes the Contract Documents as listed on the Table of Contents.

Complete the Bid Proposal form and submit by email (greg.nicoll@lwwsd.org), mail (1220 Lakeway Drive, Bellingham, WA 98229), or to the District Office (using the exterior payment slot if delivered outside of business hours). The deadline for submittal of bids is **2:00 p.m. on November 3, 2026**. District will begin evaluation of bids and select a contractor soon after.

A Pre-Bid Meeting will be held on Thursday, October 22, 2026 at 10:00 a.m. The meeting will be held at the District Administration Office at 1220 Lakeway Drive, Bellingham, Washington and will be followed by site visits to each of the project sites. Interested bidders should plan for a minimum of 2 hours for the pre-bid meeting and site visits.

For questions on the project scope and bid process, contact Greg Nicoll at 360-734-9224 or e-mail greg.nicoll@lwwsd.org.

Name of Firm _____

BID PROPOSAL (Bid Submittal Page 1 of 2)

BASE BID

Schedule A: Work within the City of Bellingham

Item	Description	Quantity	Unit	Unit Price	Amount
A-1	Mobilization and Demobilization	1	LS	$	$
A-2	System Integration	1	LS	$	$
A-3	Administration Building Surveillance Cameras and Entrance Controls	1	LS	$	$
A-4	Technical Support	1	LS	$	$
				Total – Schedule A: (do not include Washington State Sales Tax)	**$**

Schedule B: Work in Unincorporated Whatcom County

Item	Description	Quantity	Unit	Unit Price	Amount
B-1	Mobilization and Demobilization	1	LS	$	$
B-2	Agate Heights Water Treatment Plant Surveillance Cameras and Entrance Controls	1	LS	$	$
B-3	Operation & Maintenance Campus Surveillance Cameras and Entrance Controls	1	LS	$	$
B-4	Sudden Valley Water Treatment Plant Surveillance Cameras and Entrance Controls	1	LS	$	$
				Total – Schedule B: (do not include Washington State Sales Tax)	**$**

TOTAL – BASE BID (do not include Washington State Sales Tax)	**$**

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The Owner reserves the right to accept or reject any or all Bid prices within sixty (60) days of the Bid date.

Receipt of Addenda

Receipt of the following addenda is acknowledged:

Addendum No. ____	Addendum No. ____	Addendum No. ____
Addendum No. ____	Addendum No. ____	Addendum No. ____

Applicable Prevailing Wage Rages

State of Washington prevailing wage rates for this public works project located in Whatcom County may be found at the following website address of the Department of Labor and Industries: https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx. Based on the Bid submittal deadline for this project, the applicable effective date for prevailing wages for this project is **the date that bids are due.**

RE-BID

Name of Firm _____

Non-Collusion Declaration: By signing below, I hereby declare that I, firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action restraining free competitive bidding for this project.

In addition, by signing below I hereby declare that: Within the three-year period immediately preceding the date of the bid solicitation, I, firm, association or corporation has (have) not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Check One: Sole Proprietorship ☐ Partnership ☐ Joint Venture ☐ Corporation ☐

State of Incorporation, or if not a corporation, State where business entity was formed:

_____

If a co-partnership, give firm name under which business is transacted:

_____

Signed by _____, Official Capacity _____

Print Name _____

Date of Execution _____

Place of Execution _____

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co-partnership, proposal must be executed by a partner.*

Address _____

City _____ State _____ Zip Code _____

Telephone _____ FAX _____

State of Washington Contractor's License No. _____

Federal Tax ID # _____ e-mail address: _____

Employment Security Department No. _____

RE-BID

PERFORMANCE BOND

KNOW ALL PEOPLE BY THESE PRESENTS, that _____ the CONTRACTOR, hereinafter known as PRINCIPAL, and _____, hereinafter known as SURETY, are held and firmly bound to the Lake Whatcom Water and Sewer District, hereinafter known as OWNER, in the penal sum of _____
_____ dollars (including Washington State Sales Tax) for the payment of which sum well and truly to be made, we do jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the PRINCIPAL entered into a Contract with the OWNER dated the _____ day of_____,20____ to construct the Surveillance Camera and Access Controls project, and which Agreement is on file at the OWNER's office and by this reference is made a part hereof.

WHEREAS, said PRINCIPAL is required under the terms of said Agreement to furnish a bond for the faithful **performance** of said Agreement:

NOW, THEREFORE, if the Principal shall well, truly, and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this BOND, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract, the specifications or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this BOND and notice to Surety is not required and is waived for such increased obligation.

PROVIDED, FURTHER, that no final settlement between the OWNER and the PRINCIPAL shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the duly authorized officers of PRINCIPAL and of SURETY execute this instrument in three counterparts, each one of which shall be deemed an original, this the_____ day of_____, 20____.

_____	_____
PRINCIPAL	SURETY
_____	_____
By	By
_____	_____
Title	Title
_____	_____
Address of PRINCIPAL	Address of SURETY

Note: Date of Bond must not be prior to date of Contract. If PRINCIPAL is a Partnership, all Partners should execute bond. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Washington. A power of attorney must be provided which appoints the SURETY's true and lawful attorney-in-fact to make, execute, seal and deliver this bond.

PAYMENT BOND

KNOW ALL PEOPLE BY THESE PRESENTS, that _____ the CONTRACTOR, hereinafter known as PRINCIPAL, and _____, hereinafter known as SURETY, are held and firmly bound to the Lake Whatcom Water and Sewer District, hereinafter known as OWNER, in the penal sum of _____
_____ dollars (including Washington State Sales Tax) for the payment of which sum well and truly to be made, we do jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the PRINCIPAL entered into a Contract with the OWNER dated the _____ day of_____, 20____ to construct Surveillance Camera and Access Controls project, and which Agreement is on file at the OWNER's office and by this reference is made a part hereof.

WHEREAS, said PRINCIPAL is required under the terms of said Agreement to furnish a bond for the faithful payment of all laborers, mechanics, subcontractors, materialmen and all persons who shall supply said Principal or said subcontractors with provisions and supplies for the carrying on of work under said Contract:

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said Contract and pay all laborers, mechanics, subcontractors, materialmen and all persons who shall supply said Principal or said subcontractors with provisions and supplies for the carrying on of such work during the original term of said Contract and any extension thereof that may be granted by the Owner, and during the life of any guaranty required under the Contract and shall well and truly perform and fulfill the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract and pay all laborers, mechanics, subcontractors, materialmen and all persons who supply said Principal or said subcontractors with provisions and supplies for the carrying on of such modifications which may hereafter be made, then this obligation to be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this BOND, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract, the specifications or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this BOND and notice to Surety is not required and is waived for such increased obligation.

PROVIDED, FURTHER, this Bond is executed pursuant to RCW Chapter 39.08.

IN WITNESS WHEREOF, the duly authorized officers of PRINCIPAL and of SURETY execute this instrument in three counterparts, each one of which shall be deemed an original, this the_____ day of_____, 20_____.

_____	_____
PRINCIPAL	SURETY
_____	_____
By	By
_____	_____
Title	Title
_____	_____
Address of PRINCIPAL	Address of SURETY

Note: Date of Bond must not be prior to date of Contract. If PRINCIPAL is a Partnership, all Partners should execute bond. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Washington. A power of attorney must be provided which appoints the SURETY's true and lawful attorney-in-fact to make, execute, seal and deliver this bond.

RETAINAGE BOND

KNOW ALL PEOPLE BY THESE PRESENTS, that _____ the CONTRACTOR, hereinafter known as PRINCIPAL, and _____, hereinafter known as SURETY, are held and firmly bound Lake Whatcom Water and Sewer District, hereinafter known as OWNER, and the State of Washington (STATE), and are similarly held and bound unto the beneficiaries of the trust fund created by Chapter 60.28 Revised Code of Washington (RCW), and their heirs, executors, administrators, successors and assigns in the penal sum of

_____

dollars, plus 5% of any increases in the Contract Sum that have occurred or may occur, due to change orders, increases in the quantities or the addition of any new item of work.

WHEREAS, the PRINCIPAL has executed Contract for Surveillance Camera and Access Controls project

WHEREAS, said Contract and Chapter 60.28 RCW require the OWNER to withhold from the PRINCIPAL the sum of five percent (5%) from monies earned by the PRINCIPAL on estimates during the progress of the Work, hereinafter referred to as earned retained funds; and

WHEREAS, the PRINCIPAL/SURETY has requested that the OWNER accept a bond in lieu of earned retained funds as allowed under Chapter 60.28 RCW.

NOW, THEREFORE, this obligation is such that the SURETY, its successors and assigns, are held and bound unto OWNER, STATE and unto all beneficiaries of the trust fund created by RCW 60.28.011(1) in the aforesaid sum. This bond, including any proceeds therefrom, is subject to all claims and liens and in the same manner and priority as set forth for retained percentages in Chapter 60.28 RCW. The condition of this obligation is such that if the PRINCIPAL shall satisfy all payment obligations to persons who may lawfully claim under the trust fund created pursuant to Chapter 60.28 RCW, to the STATE, and to the OWNER, and indemnify and hold the OWNER harmless from any and all loss, costs, and damages that the OWNER may sustain by release of said retainage to PRINCIPAL/SURETY, then this obligation shall be null and void provided the SURETY is notified by OWNER that the requirements of RCW 60.28.021 have been satisfied and the obligation is duly released by OWNER; otherwise it shall remain in full force and effect.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of the PRINCIPAL, the SURETY, the OWNER, STATE and, the beneficiaries of the trust fund created by Chapter 60.28, Revised Code of Washington (RCW) and their respective heirs, executors, administrators, successors and assigns.

The laws of the State of Washington shall be applicable in the determination of the rights and obligations of the parties hereunder. Venue for any dispute or claim hereunder shall be the superior court of Whatcom County.

SIGNED, SEALED AND DATED THIS _____ day of_____, 20____.

_____	_____
PRINCIPAL	SURETY
_____	_____
By	By
_____	_____
Title	Title
_____	_____
Address of PRINCIPAL	Address of SURETY

Note: Date of Bond must not be prior to date of Contract. If PRINCIPAL is Partnership, all Partners should execute bond. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Washington. A power of attorney must be provided which appoints the SURETY's true and lawful attorney-in-fact to make, execute, seal and deliver this bond.

SECTION 00710 – PROJECT INFORMATION AND SPECIFICATIONS
RE-BID: Surveillance Cameras and Access Controls

I. SUMMARY OF WORK

The District intends to contract with an experienced and qualified security system Contractor for the professional installation and integration of a surveillance camera and entrance control system at various District-owned facilities located in and around Bellingham, Washington, including:

Schedule A – Within City of Bellingham

- Administrative Building – 1220 Lakeway Drive

Schedule B - Unincorporated Whatcom County

- Operations & Maintenance Campus – 1010 Lakeview Street
- Sudden Valley Water Treatment Plant (WTP) – 26 Morning Beach Drive
- Agate Heights Water Treatment Plant – 3320 Sunny Cove Court

II. PROJECT SPECIFICATIONS

1.0 GENERAL REQUIREMENTS

The Project includes, but is not limited to, the following items of work:

1.1 Design Video Surveillance and Entrance Control System

Prior to the start of any work to procure or install any cameras, entrance control devices, equipment, or ancillary hardware, software, or materials, the Contractor shall prepare and submit a Video Surveillance and Entrance Control System Design Report and Drawings describing and depicting the proposed video surveillance and entrance control system, including:

i. hardware requirements, including any mounting hardware, door modifications, ancillary devices, or other equipment required for a complete and operable surveillance camera and entrance control system;

ii. all network improvements, connections, and integration required for communication with the proposed improvements;

iii. cable and conduit routing;

iv. required electrical and control improvements;

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v. installation details; and

vi. all other information required to describe the proposed complete and integrated video surveillance and entrance control system."

1.2 Furnish and Install Video Surveillance System –

i. Video surveillance cameras shall be installed at the locations as shown on the drawings. However, the Contractor shall provide recommendations for location revisions to improve coverage and effectiveness of the complete surveillance camera system.

ii. Contractor shall provide and install mounting hardware, enclosures, cable, conduit, electrical connections, environmental protection, and all other equipment and materials, as required for a complete and operable system, costs of which shall be incidental to the contractor's bid.

1.3 Furnish and Install Entrance Control System –

i. Provide and install network Bluetooth combined RFID card readers compatible for use with both key fobs/key cards and phone applications. Door controllers and credential readers shall be installed where shown on the contract drawings.

ii. Provide and install new door hardware at each access control location (excluding gates), including but not limited to:

a. Electrified locking hardware compatible with the proposed access control system meeting all local fire and building code requirements;

b. Request to exit (REX) devices

c. Manual key access bypass per item iii below.

iii. All doors to be equipped with entrance controls shall include manual key bypass to allow for entry by a manual key in the event of failure of the entrance control system.

iv. Configure role-based access permissions for staff and contractors.

v. Integrate entrance control events with video surveillance where applicable.

vi. Provide mobile phone applications and credential-based (cards/fobs) access hardware and software.

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vii. Ensure system design complies with applicable local, state, and federal regulations, including but not limited to critical infrastructure protection guidelines for water systems and emergency egress requirements.

1.4 Network Integration

i. Provide and install all storage systems, including servers, software and system improvements, if required, for on-premises storage at each of the four sites for a minimum of 720 hours of collected video footage per camera. Contractor shall integrate the installed cameras into the provided software and assist the District with installation and configuration of the software system.

ii. Configure secure network connectivity for all video surveillance and access control devices.

iii. Coordinate with Owner IT staff to ensure proper VLANs, bandwidth, and cybersecurity compliance.

iv. Implement locally-hosted software-based management platform for unified monitoring and control of both video surveillance and access control equipment.

v. Ensure encrypted communication between field devices and any cloud services, if used.

vi. Network switches, if required for the proposed system, shall be provided and installed and connected directly to District internet hardware (modem/router) by the Contractor.

vii. The four sites included in this contract do not have direct network connection to each other. Each site has internet access, but there is no physical or virtual connection currently configured. Any virtual connections required by security systems is the responsibility of the Contractor.

1.5 Cabling & Infrastructure

i. Provide and install all required conduit, cabling (Cat6/fiber), junction boxes, and terminations.

ii. Ensure installations meet NEC and local electrical codes.

iii. Provide surge protection and grounding for all outdoor and remote installations.

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1.6 Installation & Commissioning

i. Install all system components in accordance with manufacturer specifications.

ii. Label and document all equipment and cabling.

iii. Perform system testing, calibration, and commissioning.

iv. Verify full functionality of cameras, access points, and network connectivity.

1.7 Training & Documentation

i. Provide system training for District personnel (administrators and operators).

ii. Deliver as-built drawings, system diagrams, and equipment manuals.

iii. Provide user guides for cloud platform operation.

1.8 Support

i. Provide 24 hour per day, 7 day per week technical support to troubleshoot and assist the District in repairing the installed camera system.

ii. Two years of technical support shall be included in the contractors bid.

1.9 Existing Infrastructure

i. Server Rack Availability

a. Agate Heights Water Treatment Plant – No servers or associated racks exist at this location and any server(s) required to support the surveillance camera and access control system shall be stand-alone and the responsibility of the Contractor to provide, install and integrate as required. Installation locations shall be subject to approval by the District.

b. Administration Building – Rack space is available for installation of additional servers required to support the proposed installation. Contractor shall verify that the existing infrastructure is suitable for the proposed installation.

c. Operations & Maintenance Campus – Rack space is available for installation of additional servers required to support the proposed

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installation. Contractor shall verify that the existing infrastructure is suitable for the proposed installation.

d. Sudden Valley Water Treatment Plant – No servers or associated racks exist at this location and any server(s) required to support the surveillance camera and access control system shall be stand-alone and the responsibility of the Contractor to provide, install and integrate as required. Installation locations shall be subject to approval by the District.

ii. Backup Power

The District does not require new backup power for the proposed surveillance camera and access control system. However, if backup power other than the existing backup supplies described below is required for a fully functional system, the Contractor shall provide and install at no additional cost.

a. Agate Heights Water Treatment Plant – This location is fully backed up with a standby generator capable of providing backup power to the entire facility, including equipment installed by this project. The transfer delay is approximately 2 minutes. No uninterruptable power supplies (UPS) exist at the site.

b. Administration Building – This location is fully backed up with a standby generator capable of providing backup power to the entire facility, including equipment installed by this project. The transfer delay is approximately 2 minutes. The existing servers are currently backed up with a rack-mounted APC Smart UPS 2200VA uninterruptable power supplies (UPS) which may be used to back up the equipment installed as part of this project. Up to 20% of the UPS load capacity is available to provide backup power for the proposed equipment, if needed.

c. Operations & Maintenance Campus – This location is fully backed up with a standby generator capable of providing backup power to the entire facility, including equipment installed by this project. The transfer delay is approximately 2 minutes. The existing servers are currently backed up with a rack-mounted APC Smart UPS 2200VA uninterruptable power supplies (UPS) which may be used to back up the equipment installed as part of this project. Up to 20% of the UPS load capacity is available to provide backup power for the proposed equipment, if needed.

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d. Sudden Valley Water Treatment Plant – This location is fully backed up with a standby generator capable of providing backup power to the entire facility, including equipment installed by this project. The transfer delay is approximately 2 minutes. No uninterruptable power supplies (UPS) exist at the site.

iii. Intrusion Alarms

All four sites are equipped with existing intrusion alarms, which are and will continue to operate independently from the access control system to be installed by this project. Existing alarms shall not be impacted or modified by this project.

iv. Security Cameras

The Administration Building and Operations Campus are equipped with existing security cameras. Existing cameras and associated hardware shall be removed by the contractor after the new camera system is fully installed and operational unless prior removal is required to accommodate the installation of the new system. Existing cabling and conduit located behind walls or within attic or crawl spaces may be abandoned in place. Penetrations for attachments and wiring penetrations shall be repaired to eliminate any exterior openings and restore interior walls. All removed hardware shall be provided to the District.

v. Gate Operators

This project includes installation of new access controls for two rolling gates at the Administration Building and the Operations Campus, respectively. Existing gate operators are:

- Administration Building: HySecurity Slide Driver 40, Model 222 E ST.
- Operations Campus: Door King Model 9210-080

2.0 PRODUCTS

2.1 Video Surveillance Cameras

i. Multi-Directional PTRZ Cameras: Shall provide a minimum of 4x5 MP resolution with 360 degree view. Suitable for continuous outdoor operation in all weather conditions. Axis Communications Model P3748-PLVE or approved equal.

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ii. Fixed Outdoor Dome Cameras: Shall provide 2 MP resolution with low light capability and multi-focal lens. Suitable for continuous outdoor operation in all weather conditions. Axis Communications M4225-LVE or approved equal.

iii. Fixed Outdoor Dome Camera with Automatic Entrance Control: Shall provide 2 MP resolution with low light capability and license plate detection to facilitate automatic entrance control and gate activation. Axis Communications Model P3285-LVE or approved equal.

iv. Video Intercom: Shall provide two-way communication, video identification, and remote entry control, 5 MP resolution and 140 degree field of vision. Suitable for continuous outdoor operation in all weather conditions. Axis Communications Model I8016-LVE or approved equal.

v. 180-Degree Outdoor Panoramic Dome Camera: Shall provide 180 degree horizontal and 90 degree vertical field of view. Suitable for continuous outdoor operation in all weather conditions. Axis CommunicationsQ3839-PVE or approved equal.

vi. Fixed Interior Dome Camera: Shall provide 4 MP resolution, 130 degree field of vision, and low light resolution. Axis Communications Model M3086-V or approved equal.

vii. Two Sensor Multi-Directional Camera: Shall provide 180 degree horizontal and 55 degree vertical field of view. Suitable for continuous outdoor operation in all weather conditions. Axis Communications Model P4708-PLVE or approved equal.

viii. Hardware and Accessories: Contractor shall identify all additional hardware and accessories required for installation of the cameras as shown on the drawings and per the Contractor-prepared Video Surveillance System Design Report and Drawings.

2.2 Access Controls

i. Network Bluetooth Reader: Reader shall be capable of reading RFID cards/fobs and credential application loaded mobile devices. Shall be capable of being integrated into the District-wide entrance control system to be developed by the Contractor. Axis Communications Model A4612 or approved equal.

RFBD

ii. Door Controllers and Ancillary Devices: Contractor shall identify and submit to the District for review all associated controllers and ancillary devices required for a complete and operable access control system. All readers and controllers shall be integrated into a unified cloud-based access control system.

iii. Door Hardware: Contractor shall identify and submit to the District for review all new door hardware as required for the proposed entrance control system, including but not limited to:

a. Electrified locking hardware compatible with the proposed access control system meeting all local fire, building and all other applicable code requirements;

b. Request to exit (REX) devices

c. Manual key access bypass.

iv. The access control system shall be configurable for role-based access permissions for staff, vendors and contractors.

2.3 Surveillance Camera and Access Control Management Platform. Management Platform shall be a local server hosted software application capable of managing, viewing, integrating and controlling all surveillance cameras and access control devices in a single application. Axis Communications Camera Station Pro or equal.

The entire surveillance camera and access control system shall have zero recurring monthly, annual, or usage-based subscription costs. The management software shall provide secure remote access for authorized users from any location with internet connectivity to view, control and manage all components of the complete system.

All remote client connections and broker infrastructure dependencies must be covered entirely under the initial procurement. The system must record and store 100% of operational data, access logs, and video footage locally on an on-premises Video Management Server (VMS) or local Network Video Recorder (NVR). The solution must not use persistent cloud storage or force continuous stream uploads of raw data to a public cloud network. The system must include available system patches, firmware upgrades, and critical vulnerability updates free of charge for the operational life of the on-premise hardware platform. The system must be capable of retrieving these updates securely without requiring an active software maintenance agreement (SMA) or subscription license tier.

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The system must feature on-premise physical access control software capable of managing security personnel, door configurations, and cardholders under the same baseline interface as the video subsystem. The generation and distribution of dynamic/static mobile smartphone credentials must incur zero recurring seat or per-user subscription fees.

2.4 Equivalent Materials and Equipment All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of District, is equal to that named in the specifications, unless otherwise specifically provided in the Contract Documents.

i. Item equality will be determined by the District evaluating whether:
   a. the proposed item is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
   b. the proposed item will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
   c. operation and maintenance costs and requirements are reasonably similar; and
   d. the proposed item has a proven record of performance and comparable availability of service and parts.

ii. Contractor shall also certify that, if approved and incorporated into the Work:
   a. no increase in cost to the District or increase in contract times will result,
   b. the proposed item will conform to the detailed requirements of the item named in the Contract Documents

iii. If requested by the A/E, Contractor shall furnish additional information for the A/E's review and consideration. Insufficient or inadequate information to substantiate and or equal determination by the A/E will be grounds for rejection.

iv. The District will review proposed equivalent products during submittal review following execution of the contract.

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3.0 EXECUTION

3.1 Project Site Understanding. During bidding, interested Contractors will be provided an opportunity to visit the project site during the pre-bid meeting that is scheduled during the bidding period. The date of this meeting is included in the Advertisement for Bids. By submitting a bid, bidders confirm that they are sufficiently familiar with the project sites, existing buildings and site conditions, as well as the project requirements herein, to ascertain dimensions, quantities and as-built conditions to develop a complete and informed bid.

3.2 Progress and Completion. The project time for completion is **120 calendar days** to provide sufficient time to complete the required submittal reviews and to account for product lead times. All on-site work must be completed within a **maximum 30 consecutive calendar day work window**. The construction work window shall begin upon the Contractor's initial mobilization to any of the project sites and shall end once a complete, functional and fully-integrated video surveillance and entrance control system has been installed and started up.

3.3 Labor, Equipment and Materials. Contractor shall provide all labor, equipment, materials, supervision, tools, supplies, insurance, permits and all costs associated with all other items necessary to perform the work described in these Specifications and shown on the project drawings.

3.4 Pre-Construction Meeting. A preconstruction meeting is required with the Contractor and Lake Whatcom Water and Sewer District staff before the start of construction.

3.5 Permitting. The Contractor is responsible for identifying, paying for and obtaining all permits (if any) required for completion of the project. The District will reimburse the Contractor for all permit fees paid by the Contractor. Reimbursable permit fees shall be excluded from the contractor's bid amounts.

3.6 Temporary Utilities. Contractor will be permitted to utilize existing power, water and sanitary services that are available at the existing facilities. However, the Contractor's use of these facilities shall not reduce, impair or impede use of the existing facilities by the District or any other users of the facilities. Contractor shall be responsible for maintaining the cleanliness and functionality of the facilities throughout the duration of their use and, once their use of each facility is complete, the Contractor shall be responsible for cleaning and restoring the facility to the original condition. Contractor shall be responsible for furnishing, maintaining and providing all utility needs not available at the existing facility throughout the duration

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of the construction, including but not limited to water, portable sanitation services and portable power generation.

3.7 Work within Active Facilities. All facilities included in this contract are active and occupied facilities critical to continuous operation and administration of the District. Facilities are generally occupied Monday through Friday, 7:00 am through 5:30 pm. Contractor shall coordinate their work to avoid disrupting District staff or customers. Although the District will make every effort to reasonably accommodate the Contractor, operation of District facilities shall have precedence over work included in this contract.

3.8 Site control. Contractor is responsible for maintaining a neat, sanitary and safe work area throughout construction. The contractor shall take care to minimize damage to walls, flooring, ceilings, siding, roofing, and all other components impacted by installations and shall fully repair and restore to original condition and surfaces or materials impacted by construction. Any building penetrations installed by this project shall be fully sealed to maintain a weather-tight building envelope. The site shall be cleared of all rubbish, debris and equipment and shall be left in a neat condition with surfaces restored to pre-construction conditions.

3.9 Shop Drawings / Submittals. Contractor shall provide submittals for all equipment and materials installed on the project. The contractor shall submit Product Manufacturer's technical data, catalogue cuts or brochures and documentation of conformance with appropriate standards and these specifications. Submittal data shall include sufficient information to determine if it is in compliance with the project requirements. Submittal review does not relieve the Contractor from responsibility for errors or omissions, or responsibility for consequences due to deviations from the contract documents. Acceptable submittals will be reviewed as promptly as possible and transmitted to the Contractor no later than 14 calendar days after receipt.

By approving and submitting shop drawings, the Contractor warrants they have determined and verified all field measurements, field construction criteria, materials, catalog numbers, and similar data, and have checked and coordinated each shop drawing with required work and with the contract documents.

Additional submittals required for this project include:

- Video Surveillance and Access Control System Design Report per Section 1.1 of these Specifications.

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- Video Surveillance and Access Control Management Platform software, including a summary of all current and on-going charges.
- Site specific safety plan
- Project schedule.

3.10 Schedule. The contractor shall submit a detailed schedule of work to present at the preconstruction meeting.

3.11 System Design. Perform site assessments for each facility. Develop detailed system design for cable routing, camera mounting systems, server improvements, network integration requirements, and all other improvements required for a complete and operable system. Ensure system design complies with applicable local, state, and federal regulations, including critical infrastructure protection guidelines for water systems.

3.12 Interbuilding Communications. There are two separate stand-alone buildings at each of the Sudden Valley Water Treatment Plant and the Operations Campus sites as shown on the drawings. These buildings are not currently connected by communications infrastructure that can be used for the proposed surveillance camera and access control system. In addition, there is no spare conduit that can be used to route any new cabling between the two buildings. The Contractor shall provide and install all conduit and cable, if required, for a fully functional system, including all excavation, backfill and restoration at no additional cost.

4.0 SAFETY

In carrying out its responsibilities, Contractor shall protect the lives and health of employees performing the Work and other persons who may be affected by the Work; prevent damage to materials, supplies, and equipment whether on site or stored off-site; and prevent damage to other property at the site or adjacent thereto. Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss; shall erect and maintain all necessary safeguards for such safety and protection; and shall notify Districts of adjacent property and utilities when prosecution of the Work may affect them. For these purposes, the Contractor shall:

- Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall develop and submit a site-specific safety plan (SSSP) to the District's representative for review prior to the initial pre-construction meeting.

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District shall have up to 5 working days to review and comment on the SSSP. The District's review of the SSSP shall not alleviate the Contractor's sole responsibility for site safety throughout the project.

- Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, ventilation, air monitoring, necessary personal protective equipment for all employees, staging, runways, hoist, temporary lighting, grounded outlets, wiring, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.

5.0 MEASUREMENT AND PAYMENT

The following is a list of bid items for the project. It is the intention that performance of work under these bid items shall result in the complete construction of all work identified in the plans and specifications. Work and material not specifically listed in the proposal but required according to the plans and specifications and general practice, shall be included in the contractor's bid price. Payment for all work will be made at the contract unit price or lump sum prices as indicated in the Bid Proposal. The contract price for each item constitutes full compensation for furnishing all equipment, labor, materials, transportation, appurtenances, and incidentals and performing all work necessary to complete the various bid items in accordance with the Contract Documents. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein.

SCHEDULE A: WORK WITHIN THE CITY OF BELLINGHAM

Schedule A shall include all work to be completed at locations within and subject to the sales tax rate inside City Limits of the City of Bellingham.

BID ITEM NO. A-1: MOBILIZATION AND DEMOBILIZATION

Measurement. Will be measured lump sum (LS).

Payment. The lump sum price for this bid item shall cover the complete cost of providing all

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mobilization and demobilization relating to construction of improvements shown on the plans and specified herein. Work includes, but is not limited to: mobilization of labor, equipment and materials, necessary permits, temporary erosion and sedimentation control, site security, move all personnel and equipment off site after contract completion and cleanup site prior to final acceptance.

BID ITEM A-2: SYSTEM INTEGRATION

Measurement. Will be measured lump sum (LS).

Payment. Payment shall cover the complete cost of all work to design, develop and provide a fully integrated access control and surveillance camera management platform for all camera systems installed by this project. Work shall include but not be limited to all costs for the labor, equipment, materials, and mobilization and demobilization required to provide a complete and operable management platform as described in the Project Specifications.

BID ITEM NO. A-3: ADMINISTRATION BUILDING SURVEILLANCE CAMERAS AND ENTRANCE CONTROLS

Measurement. Will be measured lump sum per site (LS).

Payment. Payment shall cover the complete cost for designing, providing and installing a complete surveillance camera and access control system at the Administration Building as shown on the drawings and specified herein, including but not limited to cameras, scanners, mounting hardware, cable, conduit, communications equipment, and all other ancillary materials, equipment and labor required to install a complete and operable surveillance camera and access control system. All work to design the surveillance camera and entrance control system shall be incidental to this bid item.

BID ITEM NO. A-4: TECHNICAL SUPPORT

Measurement. Will be measured lump sum per site (LS).

Payment. Payment shall cover the complete cost for providing 24 hour per day, 7 day per week technical support of all cameras, access controls, hardware and software installed by the project, including all schedules of work, for a period of two years following issuance of final physical completion of the project by the District.

SCHEDULE B: WORK IN UNICORPORATED WHATCOM COUNTY

Schedule B shall include all work to be completed at locations within and subject to the sales tax rate in the Public Transportation Benefit Area of unincorporated Whatcom County.

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BID ITEM NO. B-1: MOBILIZATION AND DEMOBILIZATION

Measurement. Will be measured lump sum (LS).

Payment. The lump sum price for this bid item shall cover the complete cost of providing all mobilization and demobilization relating to construction of improvements shown on the plans and specified herein. Work includes, but is not limited to: mobilization of labor, equipment and materials, necessary permits, temporary erosion and sedimentation control, site security, move all personnel and equipment off site after contract completion and cleanup site prior to final acceptance.

BID ITEM NO. B-2: AGATE HEIGHTS WATER TREATMENT PLANT SURVEILLANCE CAMERAS AND ENTRANCE CONTROLS

Measurement. Will be measured lump sum (LS).

Payment. Payment shall cover the complete cost for designing, providing and installing a complete surveillance camera and access control system at the Agate Heights Water Treatment Plant as shown on the drawings and specified herein, including but not limited to cameras, scanners, mounting hardware, cable, conduit, communications equipment, and all other ancillary materials, equipment and labor required to install a complete and operable surveillance camera and access control system. All work to design the surveillance camera and entrance control system shall be incidental to this bid item.

BID ITEM NO. B-3: OPERATIONS AND MAINTENANCE CAMPUS SURVEILLANCE CAMERAS AND ENTRANCE CONTROLS

Measurement. Will be measured lump sum (LS).

Payment. Payment shall cover the complete cost for designing, providing and installing a complete surveillance camera and access control system at the Operations and Maintenance Campus as shown on the drawings and specified herein, including but not limited to cameras, scanners, mounting hardware, cable, conduit, communications equipment, and all other ancillary materials, equipment and labor required to install a complete and operable surveillance camera and access control system. All work to design the surveillance camera and entrance control system shall be incidental to this bid item.

BID ITEM NO. B-4: SUDDEN VALLEY WATER TREATMENT PLANT SURVEILLANCE CAMERAS AND ENTRANCE CONTROLS

Measurement. Will be measured lump sum (LS).

Payment. Payment shall cover the complete cost for designing, providing and installing a complete surveillance camera and access control system at the Sudden Valley Water

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Treatment Plant as shown on the drawings and specified herein, including but not limited to cameras, scanners, mounting hardware, cable, conduit, communications equipment, and all other ancillary materials, equipment and labor required to install a complete and operable surveillance camera and access control system. All work to design the surveillance camera and entrance control system shall be incidental to this bid item.

***** END OF PROJECT INFORMATION AND SPECIFICATIONS *****

RE-BID

LAKE WHATCOM WATER AND SEWER DISTRICT
SMALL WORKS CONTRACT

THIS AGREEMENT is made on **MONTH & DAY**, **2025**, between LAKE WHATCOM WATER AND SEWER DISTRICT ("DISTRICT"), a Washington special purpose district and **NAME OF CONTRACTOR** ("CONTRACTOR"). The District and the Contractor may be referred to herein individually as "Party" or collectively as "Parties."

In consideration of the terms and conditions contained in this Contract and attached to it, the parties agree as follows:

1. PROJECT

Contractor shall do all work and furnish all tools, materials, and equipment for the District's public works project known as **Surveillance Cameras and Access Controls (District Project #C2602)** ("Project") in accordance with and as more fully described in **Section 007100**.

2. WORK

The term Work means the entire, or any portion thereof, construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents..

3. PROJECT COST

The District shall pay Contractor not to exceed _____ ($_____.____) plus Washington State sales tax ("Project Cost"), subject to the terms herein. The Project Cost includes the cost of all Work, materials, fees, and expenses required for completion of the Project including without limitation labor, materials, overhead, administrative, and permit and regulatory costs, as stated in the Bid Proposal and attachments hereto, unless otherwise agreed to by the Parties in writing.

4. PAYMENT TERMS

The Project Cost shall be payable in the following manner: Contractor shall submit a detailed monthly pay application for all services provided describing in reasonable and understandable detail the Work completed during the previous month, the progress of the Work, and the requested payment in an amount proportionate to the Work completed. The District shall issue a warrant for payment of approved Work contained in the application within thirty (30) days after approval of the pay application, pursuant to the terms below:

a. In cases of single payment, the District shall make payment only after all appropriate releases are submitted.

b. In cases of multiple payments, the District shall retain monies as required by RCW 60.28 and pay the retainage as provided therein.

5. CHANGE IN THE WORK

Change in the Work, Project Cost, or Contract Time shall be incorporated into the Contract through the execution of Change Orders signed by the Contractor and District.

a. **Change Order Processing**. The District may at any time order additions, deletions, revisions, or other changes in the Work. The Contractor will prepare and submit a Change Order Proposal to the District for consideration that details changes to the Work, Project Cost or Contract Time. If the District approves the Change Order Proposal it shall be attached to a Change Order form signed first by the Contractor, then by the District.

b. **Changed or Unforeseen Conditions**. During the course of Work the Contractor may discover changed or unforeseen conditions not anticipated by either Party. If changed or unforeseen conditions are discovered that might affect the Work, Project Cost, or Contract Time, the Contractor shall immediately inform the District on the day of discovery. If District determines Work must continue, the District will authorize a Field Authorization allowing the Contractor to continue with Work on a time and materials basis not to exceed an estimated amount agreed to onsite by the Contractor and District. The Contractor shall submit detailed labor, equipment, and material cost documentation to the District for review within five (5) business days of the event to the District. If approved by the District, the District will prepare a Change Order form attaching Field Authorization with backup documentation for Change Order Processing. Contractor agrees to 15% overhead and 6% profit charged on Field Authorization labor, equipment, and material costs. Failure to provide Notice and cost documentation under the terms of this Contract constitutes a full and complete waiver of such claim. In no case shall a claim for equitable adjustment be allowed if submitted after the Project has reached final acceptance by the District.

6. COMPLETION DEADLINE/LIQUIDATED DAMAGES

Contractor shall commence Work under this Contract upon receipt of notice to proceed from the District. The Project must be completed no later than ninety (**90**) calendar days after receipt of notice to proceed. If the Project is not completed by

SAMPLE

such date, then, because of the difficulty in computing the actual damages to the District arising from any delay in completing the Project Work, it is agreed by the Parties that Contractor shall pay the District liquidated damages as computed below for each calendar day the Work remains incomplete after expiration of the specified completion date. The Parties agree that such amount represents a reasonable forecast of the actual damages the District will suffer by failure of the Contractor to complete the Work within the agreed upon time. The execution of this Contract constitutes acknowledgement by the Contractor that the Contractor has ascertained and agrees that the District will actually suffer damages as computed by the following formula:

LD = (0.15*C)/T

Where: LD = liquidated damages per calendar day (rounded to nearest dollar)
C = original Contract Award Amount
T = original Contract Time in calendar days for achieving Substantial Completion

7. WARRANTY

Contractor warrants that all materials and equipment shall be new unless otherwise specified, of good quality, and free from defective workmanship and materials. Contractor further warrants that the Work shall be free from defects in workmanship and material, and shall transfer to the District all written warranties related to the Work performed and equipment installed. The foregoing Contractor's warranty shall remain in effect for one (1) year following final acceptance.

8. PREVAILING WAGES

The Contractor shall pay prevailing wages as required and shall comply with RCW 39.12 and RCW 49.28. Notice of intent to pay prevailing wages and prevailing wage rates for the Project must be posted for the benefit of workers. The Contractor shall submit a statement of intent to pay prevailing wages, approved by the industrial statistician of the Department of Labor and Industries, with its first (or only) pay request. At the completion of the Project, the Contractor and its subcontractors shall also submit Affidavits of Wages Paid to the Department of Labor and Industries for certification. Final payment on the Contract shall be withheld until the District receives certification from the Department of Labor and Industries that prevailing wage requirements have been satisfied.

For public works projects of $5,000 or less, the District may authorize the alternative procedure set forth in RCW 39.12.040(2) in lieu of the procedure described above.

9. PAYROLL RECORDS

In accordance with RCW 39.12.120, each contractor, subcontractor, or employer shall keep accurate payroll records for three (3) years from the date of acceptance of the public works project by the contract awarding agency, showing the employee's full name, address, social security number, trade or occupation, classification, straight and overtime rates, hourly rate of usual benefits, and hours worked each day and week, including any employee authorizations executed pursuant to RCW 49.28.065, and the actual gross wages, itemized deductions, withholdings, and net wages paid, for each laborer, worker, and mechanic employed by the contractor for work performed on a public works project.

A contractor, subcontractor, or employer shall file a copy of its certified payroll records using the Department of Labor and Industries' online system at least once per month. If the Department of Labor and Industries' online system is not used, a contractor, subcontractor, or employer shall file a copy of its certified payroll records directly with the Department of Labor and Industries in a format approved by the Department of Labor and Industries at least once per month.

10. RETAINAGE AND BONDS

Except as otherwise provided herein, Contractor shall provide performance bond and payment bond for the faithful performance and payment of all its obligations under this Contract and in accordance with RCW 39.08.010. The performance bond shall remain in effect to guarantee the repair and replacement of defective equipment, materials, and workmanship and payment of damages sustained by the District on account of such defects, discovered within one (1) year after final acceptance by the District. In lieu of performance and payment bonds for Contracts up to $150,000, Contractor may authorize the District to retain 10%, instead of the maximum 5% as authorized under RCW 60.30.010, of the Contract amount for the period required under RCW 39.08.010.

11. INDEMNIFICATION

Contractor and its subcontractors shall defend, indemnify, and hold harmless the District, its commissioners, officers, managers, employees, engineers, agents, and volunteers from and against any and all demands, claims, losses, injuries, damages, liabilities, suits, judgment, reasonable attorneys' fees and costs, and other expenses of any kind on account of, relating to, or arising out of Contractor's Work under this Contract, except to the extent such injuries or damages are caused by the negligence of the District. For the purposes of this indemnification, Contractor specifically and expressly waives

SAMPLE

any immunity granted under the Washington Industrial Insurance Act, Title 51 RCW. This waiver has been mutually negotiated and agreed to by the parties. If a court of competent jurisdiction determines that this Contract is subject to RCW 4.24.115, Contractor's obligation to defend, indemnify, and hold harmless the District, its officers, employees, agents and volunteers shall be limited to the extent of the District's negligence. The provisions of this paragraph shall survive the expiration or termination of this Contract.

12. INSURANCE

Contractor shall obtain, and keep in force during the term of this Contract, insurance policies as follows:

a. **Commercial General Liability**. Limits no less than $1,000,000.00 combined single limit per occurrence and $2,000,000.00 aggregate for personal injury, bodily injury and property damage. Coverage shall be as broad as Insurance Services Office form number (CG 00 01) covering Commercial General Liability.

b. **Automobile Liability Insurance**. Limits no less than $1,000,000.00 combined single limit per accident for bodily injury and property damage. Coverage shall be as broad as Insurance Services Office form number (CA 00 01) covering Business Auto Coverage, symbol 1 "any auto"; or the combination of symbols 2, 8, and 9.

c. **Workers' Compensation**. Coverage shall be at least as broad as Workers' Compensation coverage, as required by the Industrial Insurance Act of the State of Washington, as well as any similar coverage required for this work by applicable Federal Law.

d. **Employer's Liability or "Washington Stop Gap".** Coverage shall be at least as broad as the protection provided by the Workers Compensation policy Part 2 (Employers Liability) or, in states with monopolistic state funds, the protection provided by the "Stop Gap" endorsement to the general liability policy.

e. The insurance policies shall specifically name the District, its elected or appointed officials, officers, employees, and volunteers as insureds with regard to damages and defense of claims arising from (1) activities performed by or on behalf of the Contractor; or (2) products and completed operations of the Contractor; or (3) premises owned, leased, or used by the Contractor.

f. The insurance policies (1) shall state that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability; (2) shall be primary insurance with regard to the District; and (3) shall state that the District will be given at least 45 days' prior written notice of any cancellation, suspension or material change in coverage.

g. Before commencing work and services, Contractor shall provide to the District a Certificate of Insurance evidencing the required insurance accompanied by endorsements as are necessary to comply with the requirements of this section. The District reserves the right to request and receive a certified copy of all required insurance policies.

h. Any payment of deductible or self-insured retention shall be the sole responsibility of Contractor.

13. JOB SAFETY/HOUSEKEEPING

All Work done shall be done in a manner that minimizes interruptions or inconvenience to the public and/or District staff. All Work shall be carried on with due regard for the safety of the public, and Contractor shall maintain strict compliance with the appropriate provisions relating to control of traffic and pedestrians through work areas as set forth in the Manual on Uniform Traffic and Control Devices (current edition) as adopted by the Washington State Department of Transportation. Property and streets adjacent to the Project site shall be kept free and clear at all times from accumulations of mud, dirt, gravel, rock, and other matters. Contractor shall be responsible for daily removal, clean up and disposal of refuse, waste and debris produced by its operation. Refuse shall not be permitted to accumulate to the extent that it interferes with free access to the Project site. Upon completion of Project, Contractor shall perform final cleanup and leave the Project site in a clean and orderly condition acceptable to the District. Should the District determine Contractor is not fulfilling its obligations under this Section, the District reserves the right to take such action as may be necessary, and to charge Contractor with any costs that may be incurred in any remedial action.

14. COMPLIANCE WITH CODES AND REGULATIONS

Contractor is expected to comply with all applicable statutes in performing Project Work, including, but not limited to all state and local laws, regulations, codes and standards that are applicable at the time Contractor performs Work.

15. PERMITS, TAXES, TEMPORARY FUNCTIONS

Contractor shall secure and pay for all permits, fees and licenses necessary for the performance of this Contract. Contractor shall pay any and all federal, state and municipal taxes, including sales taxes, if any, for which Contractor may be liable in carrying out this Contract. Contractor shall be responsible for all temporary functions associated with its Work, including but not limited to, lighting, wiring, protection, hoisting, scaffolding, rigging, flagman, drinking water, sanitation, storage, ventilation and heat.

SAMPLE

16. TERMINATION

If Contractor: (1) fails to provide a sufficient number of properly skilled workers or a sufficient quantity of suitable materials or adequate equipment; (2) fails to diligently prosecute Work according to the Project schedule; (3) causes, by act or omission, stoppage, delay, or interference of the Work; (4) fails to correct or repair any damaged or defective Work or materials; (5) fails to comply with any provisions of this Contract; (6) becomes insolvent or adjudged bankrupt; or (7) fails to make prompt payment to lower tier subcontractors or suppliers, then the District may terminate this Contract upon two (2) business days written notice to the Contractor. If Contractor fails to cure the default within the two (2) day notice period, then Owner may terminate this Contract for default.

17. GENERAL PROVISIONS

a. **Notices**. Any notice or demand desired or required to be given under this Contract shall be in writing and deemed given when personally delivered, sent by facsimile machine, or deposited in the United States Mail (or with an express courier), postage prepaid, sent certified or registered mail, and addressed to the Parties as set forth below or to such other address as either party shall have previously designated by such a notice:

District:	Contractor:
Attn: General Manager Lake Whatcom Water and Sewer District 1220 Lakeway Drive Bellingham, WA 98229	Attn: _____ _____ _____ _____
Phone: (360) 734-9224 Fax: (360) 738-8250	Phone: _____ Fax: _____

b. **Relationship Between Parties**. The Contractor is an independent Contractor with regard to performance of the details of the Work. The Contractor is responsible for its acts or omissions and acts or omissions of its agents, employees, servants, subcontractors, or otherwise during the performance of this Contract. Work in progress is subject to District inspection and review at any time.

c. **Entire Agreement**. This Contract and its attachments contain the entire understanding between the District and Contractor relating to the Project which is the subject of this Contract. This Contract merges all prior discussions, negotiations, letters of understanding or other promises whether oral or in writing. Subsequent modification or amendment of this Contract shall be in writing and signed by the parties to this Contract.

d. **Modification**. No modification of this Contract and no waiver of rights under this Contract shall be valid or binding on the parties unless the same is in writing.

e. **Waiver**. Waiver of any breach or default hereunder shall not constitute a continuing waiver or a waiver of any subsequent breach either of the same or of another provision of this Contract.

f. **Assignment**. Neither Party shall assign, transfer or otherwise dispose of this Contract in whole or in part to any individual, firm or corporation without the prior written consent of the other Party. Subject to the provisions of the preceding sentence, this Contract shall be binding upon and inure to the benefit of the respective successors and assigns of the Parties hereto: This Contract is made only for the benefit of the District and the Contractor and successors in interest and no third party or person shall have any rights hereunder whether by agency or as a third party beneficiary.

g. **Severability**. If any term, covenant or condition of this Contract is held by a court of competent jurisdiction to be invalid, the remainder of this Contract shall remain in effect.

h. **Dispute Resolution**. If any dispute, controversy, or claim arises out of this Contract, the Parties agree to first try to settle the dispute, controversy, or claim in non-binding mediation with the assistance of a recognized professional mediation service. The Parties shall each designate a representative with full settlement authority who will participate in the mediation. The Parties shall bear all expenses associated with the mediation equally, except for attorneys' fees. Any Claim subject to, but not resolved by, mediation shall be subject to a private arbitration which, unless the Parties mutually agree otherwise, shall be held in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement; however, irrespective of the size of the dispute, the arbitration proceedings will be conducted by a single arbitrator. A demand for arbitration shall be made in writing, and delivered to the other Party to the Contract. The Party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

SAMPLE

i. **Jurisdiction/Law**. This Contract shall be governed by and construed in accordance with the laws of the State of Washington. Any suit to enforce or relating to this Contract, including the enforcement of any arbitration award, shall be brought in Whatcom County Superior Court, Whatcom County, Washington.

j. **Attorneys' Fees**. In the event that any Party commences litigation against the other Party relating to the performance, enforcement or breach of this Contract, the prevailing Party in such action shall be entitled to all costs, including attorneys' fees, expert witness fees and costs and any such fees or costs incurred on appeal.

_____
("CONTRACTOR")

Contractor Registration Number: _____

Unified Business Identifier (UBI #): _____

Employment Security Department Number: _____

State Excise Tax Registration Number: _____

_____
(Signature)

_____
(Printed Name and Title)

Dated: _____

Lake Whatcom Water and Sewer District
("DISTRICT")

_____
Justin Clary, General Manager

Dated: _____

SAMPLE

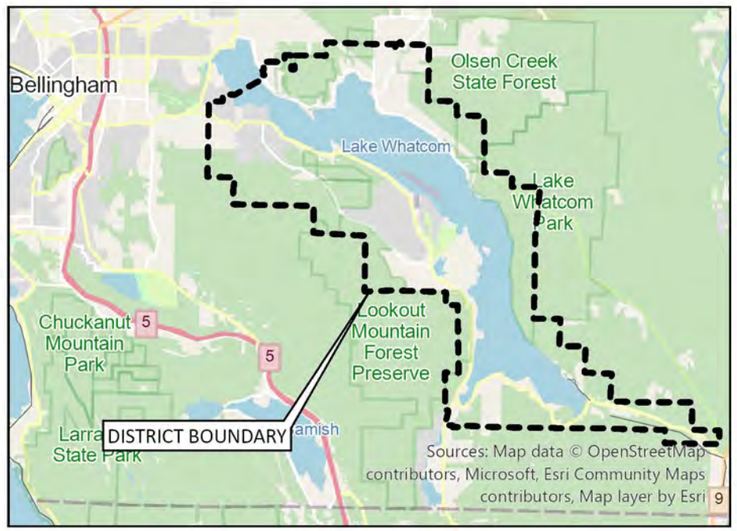
ATTACHMENT A

DRAWINGS

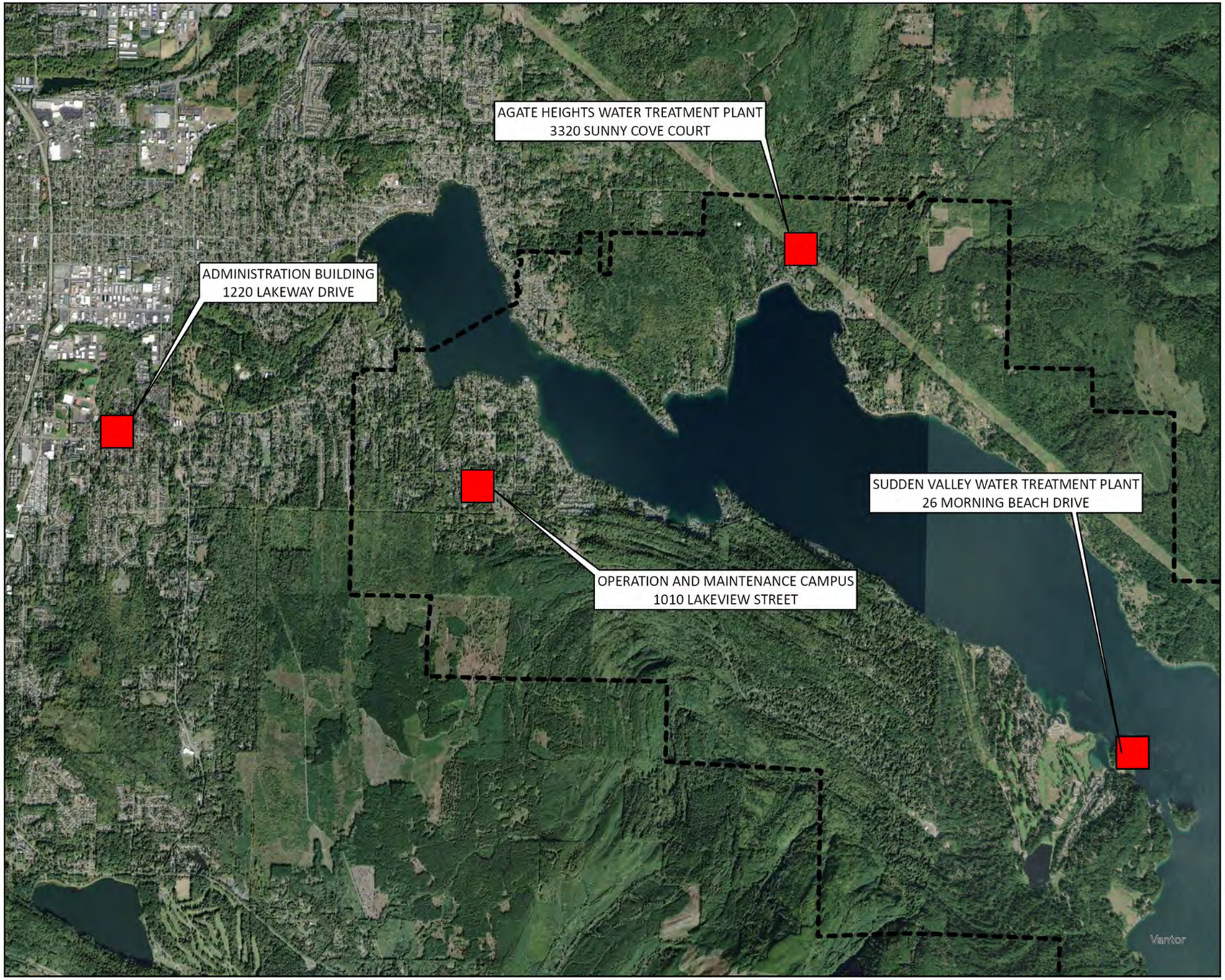
RE-BID



LOCATION



VICINITY



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DRAWN BY:	SECURITY CAMERAS AND ACCESS CONTROLS- RE-BID	SHEET NO.:
GAN 7/1/2026 1 of 1	LWWSD Project #C2602	1

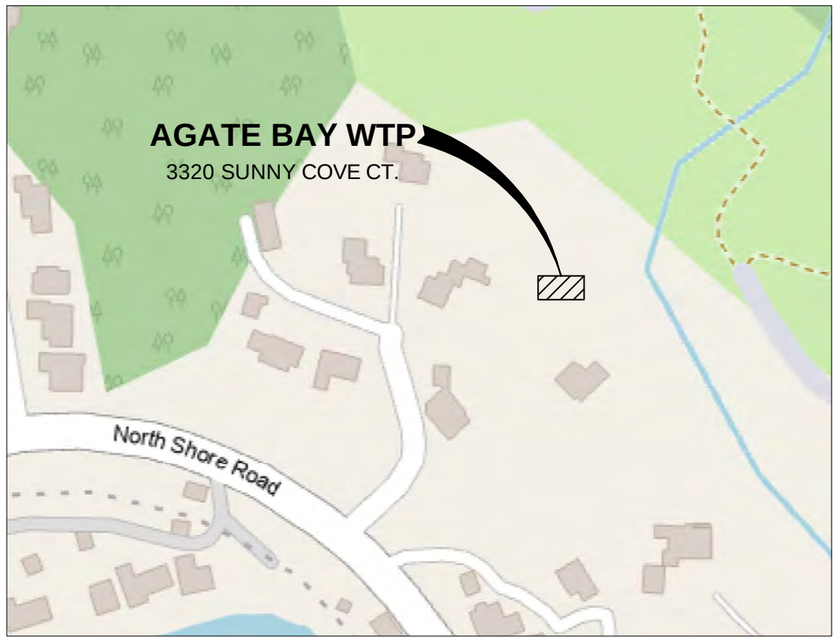
Lake Whatcom Water & Sewer District | 1220 Lakeway Drive | Bellingham, WA 98229 | (360) 734-9224

LEGEND:

- (1) MULTI-DIRECTIONAL PTRZ CAMERA
- (2) FIXED OUTDOOR DOME CAMERA
- (3) FIXED OUTDOOR DOME CAMERA WITH AUTOMATIC ENTRANCE CONTROL
- (4) VIDEO INTERCOM
- (5) 180-DEGREE OUTDOOR PANORAMIC DOME CAMERA
- (6) NETWORK/BLUETOOTH CARD READER
- (7) FIXED INTERIOR DOME CAMERA
- (8) TWO SENSOR MULTI-DIRECTIONAL CAMERA
- VIDEO SURVEILLANCE AREA

LOCATION/PHOTO TAGS:

- (A) MAIN (WEST) PERSONNEL DOOR
- (B) CHLORINE ROOM PERSONNEL DOOR



LOCATION MAP



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DISTRICT PROJECT #: C2602

DRAWN BY:

GAN
7/7/2026
Rev: 10/14/26
3 OF 5

SSECURITY CAMERAS AND ACCESS CONTROLS - RE-BID

Agate Heights Water Treatment Plant Site Plan

SHEET #:

2

Lake Whatcom Water and Sewer District | 1220 Lakeway Drive | Bellingham, WA 98229 | (360) 734-9224

LEGEND:

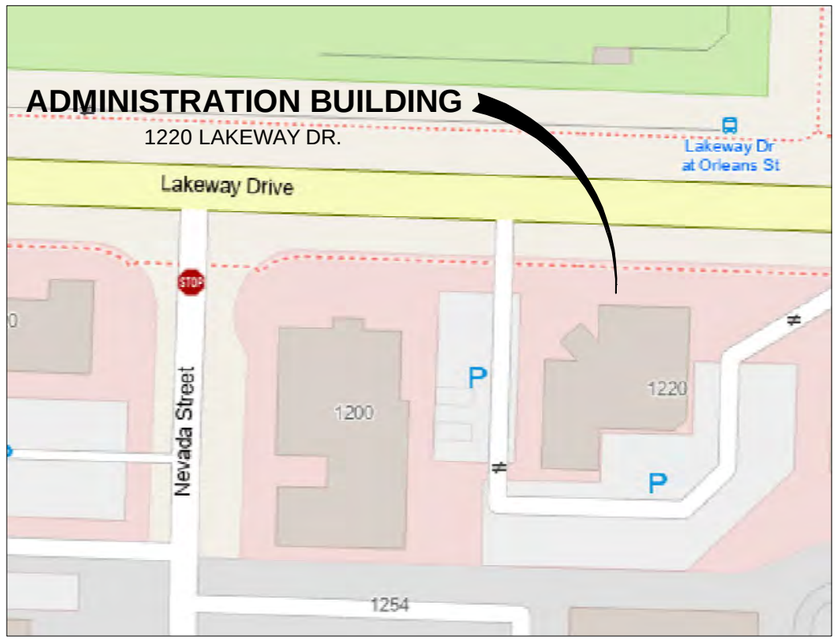
- (1) MULTI-DIRECTIONAL PTRZ CAMERA
- (2) FIXED OUTDOOR DOME CAMERA
- (3) FIXED OUTDOOR DOME CAMERA WITH AUTOMATIC ENTRANCE CONTROL
- (4) VIDEO INTERCOM
- (5) 180-DEGREE OUTDOOR PANORAMIC DOME CAMERA
- (6) NETWORK/BLUETOOTH CARD READER
- (7) FIXED INTERIOR DOME CAMERA
- (8) TWO SENSOR MULTI-DIRECTIONAL CAMERA
- VIDEO SURVEILLANCE AREA
- (9) EXISTING SURVEILLANCE CAMERA TO BE REMOVED

LOCATION/PHOTO TAGS:

- (A) MAIN PERSONNEL DOOR
- (B) EAST PERSONNEL DOOR
- (C) SOUTH PERSONNEL DOOR
- (D) INTERIOR PERSONNEL DOOR
- (E) MECHANICAL CLOSET DOOR
- (F) 25' ROLLING VEHICLE GATE

NOTES:

1. INSTALL CARD READER ON EXISTING CARD READER PEDESTAL. CONTRACTOR SHALL MODIFY PEDESTAL AS NEEDED TO ACCOMMODATE NEW CARD READER.



LOCATION MAP



N

DISTRICT PROJECT #: C2602

DRAWN BY:

GAN
7/7/2026
Rev: 10/14/26
3 OF 5

SECURITY CAMERAS AND ACCESS CONTROLS - RE-BID

Administration Building Site Plan

SHEET #:

3

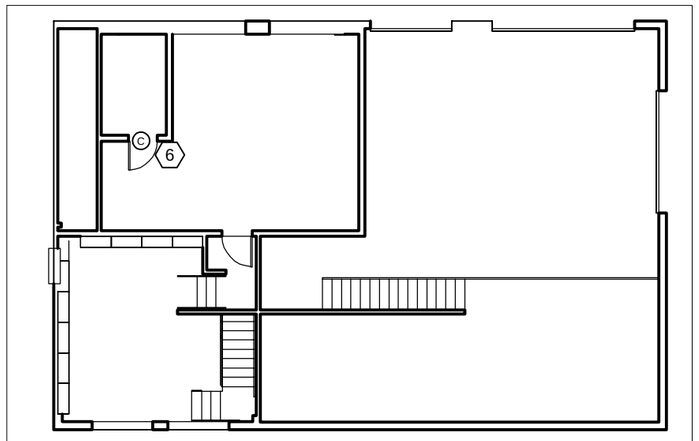
Lake Whatcom Water and Sewer District | 1220 Lakeway Drive | Bellingham, WA 98229 | (360) 734-9224

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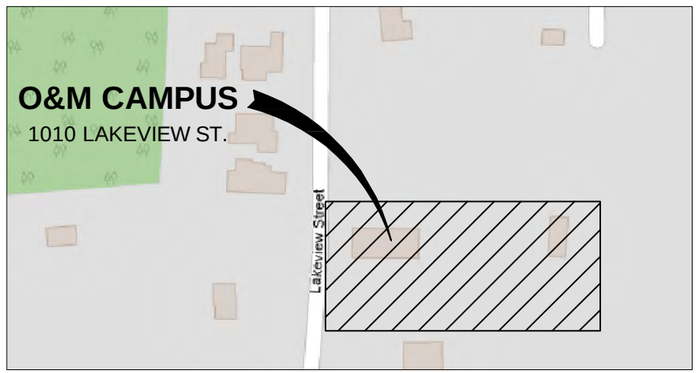
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- (7) FIXED INTERIOR DOME CAMERA
- (8) TWO SENSOR MULTI-DIRECTIONAL CAMERA
- VIDEO SURVEILLANCE AREA
- (9) EXISTING SURVEILLANCE CAMERA TO BE REMOVED

LOCATION/PHOTO TAGS:

- (A) MAIN (NORTH) PERSONNEL DOOR
- (B) EAST PERSONNEL DOOR
- (C) INTERIOR PERSONNEL DOOR
- (D) 25' ROLLING VEHICLE GATE



SECOND FLOOR PLAN



LOCATION MAP



POLE BUILDING ELECTRICAL PHOTOS

BREAKER PANEL LOCATION

BREAKER PANEL

N

DISTRICT PROJECT #: C2602

DRAWN BY:

GAN
7/7/2026
Rev: 10/14/26
3 OF 5

SECURITY CAMERAS AND ACCESS CONTROLS - RE-BID

Operations & Maintenance Campus Site Plan

SHEET #:

4

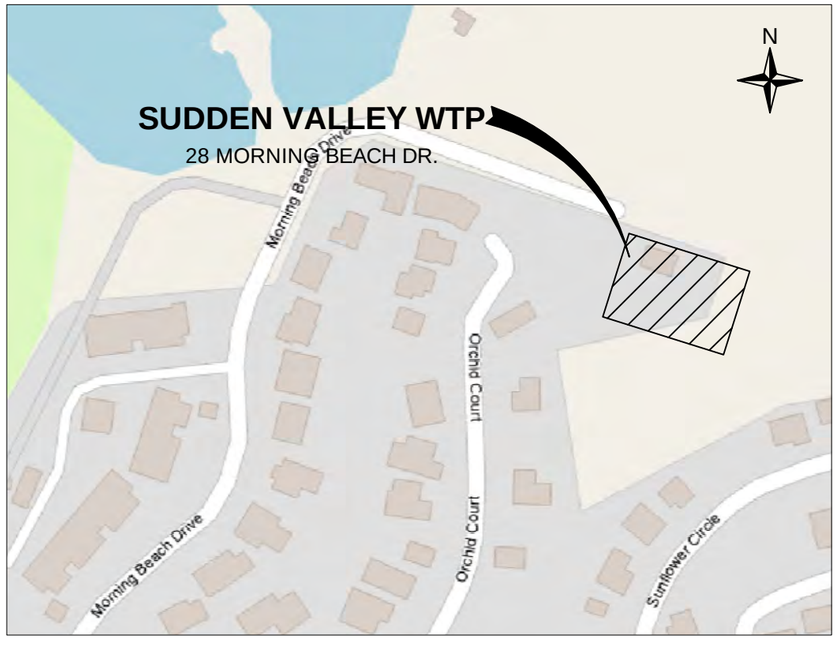
Lake Whatcom Water and Sewer District | 1220 Lakeway Drive | Bellingham, WA 98229 | (360) 734-9224

LEGEND:

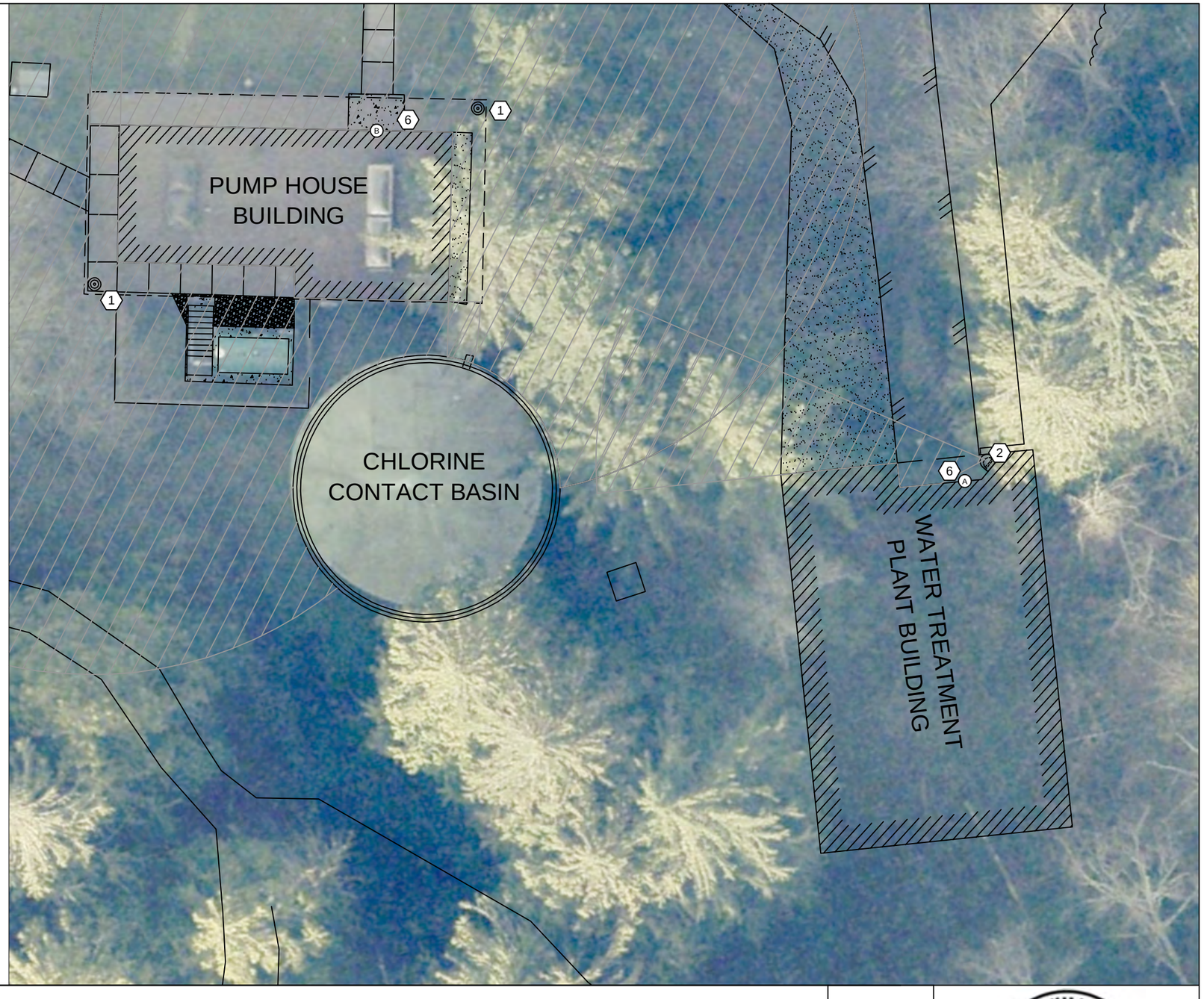
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- (7) FIXED INTERIOR DOME CAMERA
- (8) TWO SENSOR MULTI-DIRECTIONAL CAMERA
- VIDEO SURVEILLANCE AREA

LOCATION/PHOTO TAGS:

- (A) WTP PERSONNEL DOOR
- (B) PUMP HOUSE PERSONNEL DOOR



LOCATION MAP



DRAWN BY:
GAN
7/7/2026
Rev: 10/14/26
3 OF 5

SECURITY CAMERAS AND ACCESS CONTROLS - RE-BID

Sudden Valley WTP Site Plan

SHEET #: 5

DISTRICT PROJECT #: C2602

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ATTACHMENT B

REFERENCE DOCUMENTS

RE-BID

Administrative Building

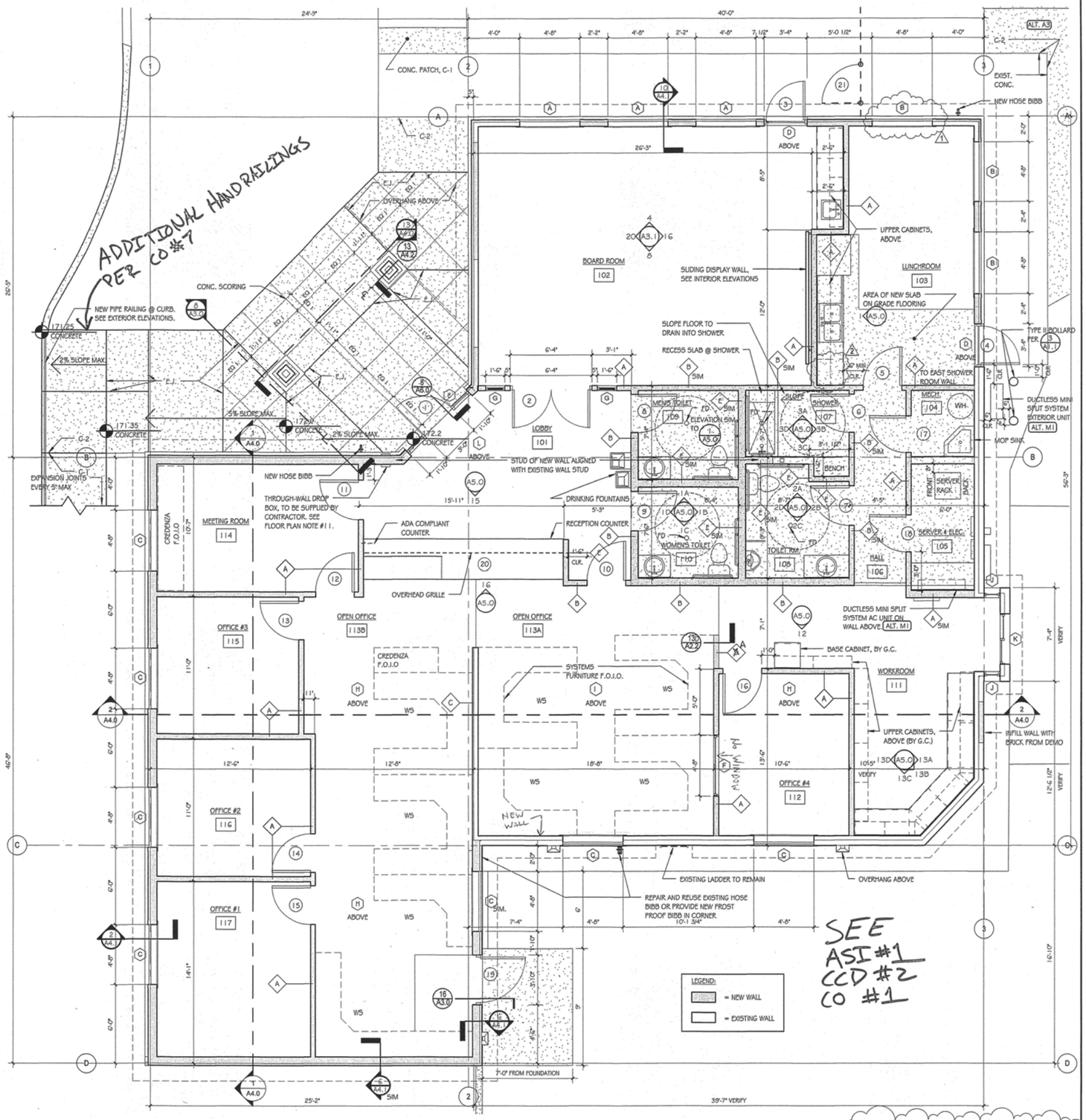
1. FOR DOOR INFORMATION, SEE (1 / A6.0)
2. FOR WINDOW INFORMATION, SEE (1 / A6.1)
3. FOR DETAILS OF WALL TYPES SEE DETAIL (13 / A2.2)
4. FOR WALLS WITH ACOUSTICAL INSULATION, PROVIDE 3" MIN. ACOUSTICAL INSULATION UP WALLS TO STRUCTURE OR ACROSS CEILING OF THE SPACE TO BE ISOLATED. PROVIDE COMPLETE ACOUSTICAL SEPARATION & SEAL ALL JOINTS ACOUSTICALLY. PROVIDE ACOUSTICAL SEALANT FOR ALL OPENINGS AND @ BASE OF WALLS. ACOUSTICALLY ISOLATE THE FOLLOWING ROOMS FROM EACHOTHER & OTHER ROOMS & AREAS: ALL FOUR OFFICES, LUNCH ROOM, BOARD ROOM, MEETING ROOM, ALL THREE TOILET ROOMS AND SHOWER ROOM.
5. OFFICE FURNITURE AND SYSTEMS FURNITURE ARE F.O.I.C.
6. PROVIDE FIRE EXTINGUISHERS AND CABINET AS REQUIRED BY THE FIRE MARSHALL. COORDINATE AND RECEIVE APPROVAL FROM ARCHITECT PRIOR TO INSTALLATION.
7. FOR CASEWORK FINISHES, SEE FINISH AND FURNITURE PLAN (1 / A2.3)
8. FOR INTERIOR FINISH AND MATERIAL SELECTIONS SEE MATERIAL AND ROOM FINISH SCHEDULES SHEET A6.2
9. PROVIDE BARRIER FREE SIGNS & ROOM SIGNS WHERE REQUIRED BY LOCAL JURISDICTION. PROVIDE SIGNS AT ALL TOILET ROOMS, SHOWER RDOM, ELECTRICAL ROOM AND MECHANICAL ROOM.
10. OFFICE FURNITURE, SYSTEMS FURNITURE AND COMPUTER EQUIPMENT IS F.O.I.O.
11. PROVIDE FOR NIGHT DEPOSITORY (DROP BOX), HAMILTON MODEL 125-SED/3 H SLOT WITH STAINLESS STEEL EXTERIOR AND BLACK POWDER COATED INTERIOR. DETAILS PER (10 / A8.0)
12. EXISTING WALLS TO RECEIVE NEW FINISHES AND PAINT.
13. COLORED CONCRETE C-2 IS PER ALTERNATE A3.
14. VERIFY ALL EXISTING DIMENSIONS TO WALLS & COMPONENTS. DIMENSIONS MAY OR MAY NOT REFLECT EXISTING CONDIDITONS. BRING CONFLICTS & VARIENCES TO THE ATTENTION OF ARCHITECT BEFORE PROCEEDING W NEW CONSTRUCTION.
15. SLOPE NEW CONCRETE SLAB TO ALL NEW FLOOR DRAINS.
16. PROVIDE HYDRAULIC CEMENT UNDERLAYMENT OVER ALL EXISTING FLOORS THAT DO NOT HAVE NEW CONCRETE.

ALTERNATE A3: PROVIDE COLORED CONCRETE C-2 FOR CONC. WALL, PAVING AND SIDEWALK AT THE PATIO AND FRONT ENTRANCE.

ALTERNATE M1: ADD DUCTLESS MINI SPLIT SYSTEM TO ELECTRICAL ROOM.

1 FLOOR PLAN NOTES — SCALE 1 1/2" = 1'-0" — 13

DETAIL 14 ADDED PER CCD#2
SKYLIGHT FRAMING PLAN



1 FLOOR PLAN — N — SCALE 1/4" = 1'-0" — 1

PLOTTED AT REDUCED SIZE, DO NOT SCALE

The Driftmier Architects, P.S.
7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506
mail@driftmier.com

LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WA 98229

LAKEWAY OFFICE REMODEL/ADDITION

FLOOR PLAN

REGISTERED ARCHITECT — Frank Driftmier — STATE OF WASHINGTON

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2	ADDENDUM #2	12-11-09

ISSUE DATE:	11/18/09
DRAWN BY:	LRD
CHECKED BY:	DRS

PROJECT NUMBER 20908

SHEET NUMBER A2.0

11/12/2010 3:32:59 PM

1) THE CONTRACT FOR CONSTRUCTION CONTAINS ALL DEMOLITION WORK REQUIRED TO PREPARE THE BUILDINGS AND SITE FOR THE CONTRACTED CONSTRUCTIONS WORK. THE DEMOLITION DRAWINGS AND NOTES ARE PROVIDED TO OUTLINE THE GENERAL SCOPE OF WORK ONLY. THE CONTRACTOR MUST VISIT THE SITE PRIOR TO BIDDING AND DETERMINE THE FULL EXTENT OF THE WORK AND BE RESPONSIBLE FOR SAME.

2) THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL UTILITIES AND SERVICES TO THE SITE PRIOR TO BEGINNING ANY DEMOLITION OR SITE IMPROVEMENTS.

3) VERIFY ALL EXISTING UTILITIES AND EQUIPMENT. RELOCATE EXISTING UTILITIES AS REQUIRED FOR NEW WORK. NOTIFY OWNER & ARCHITECT OF CONFLICTS. (1)

4) PROTECT ALL EXISTING CONSTRUCTION THAT IS TO REMAIN FROM DAMAGE DURING DEMOLITION. BRACE AND SUPPORT ALL WORK UNTIL IT IS PROPERLY REMOVED OR INCORPORATED INTO NEW CONSTRUCTION.

5) NO MATERIALS FROM THE DEMOLITION ARE TO BE STOCK PILED ON PLANTING AREAS OR PUBLIC RIGHT-OF-WAYS. ALL RUBBISH AND PRODUCTS OF DEMOLITION ARE TO BE REMOVED FROM THE SITE.

6) ADJACENT PROPERTIES, STREETS AND WALKS ARE TO BE PROTECTED FROM DAMAGE AT ALL TIMES.

7) ALL ITEMS THAT ARE DEMOLISHED OR REMOVED FROM THE SITE AND ARE NOT TO BE SALVAGED OR REINCORPORATED INTO THE CONSTRUCTION BELONG TO THE CONTRACTOR.

8) DURING THE COURSE OF WORK IF THE EXISTENCE OF ASBESTOS IN THE STRUCTURE OR BUILDING IS OBSERVED, THEN CONTRACTOR SHALL PROMPTLY NOTIFY OWNER AND ARCHITECT REGARDING REMOVAL OR ENCAPSULATION OF THE ASBESTOS MATERIAL AND CONTRACTOR SHALL NOT PERFORM ANY WORK PERTINENT TO THE ASBESTOS MATERIAL PRIOR TO RECEIPT OF SPECIAL INSTRUCTIONS FROM OWNER THROUGH THE ARCHITECT.

9) REMOVE AND RELOCATE ALL ELECTRICAL AND MECHANICAL AND PLUMBING WORK ATTACHED TO WALLS TO BE REMOVED. PATCH THE FLOOR SLAB AS REQUIRED.

10) REMOVE EXISTING INTERIOR WALLS, PARTITIONS AND DOORS AS SHOWN.

11) REMOVE ALL EXISTING CEILING TILES, LIGHT FIXTURES, TRACT LIGHTS, SOFFITS, CEILING FINISHES, INCLUDING SUPPORT SYSTEMS.

12) REMOVE ALL LIGHT FIXTURES IN AREAS OF WORK. RETAIN HANGER WIRES AS NEEDED.

13) REMOVE EXISTING FIRE ALARM SYSTEM, HOSE CABINETS AND FIRE EXTINGUISHERS. RETAIN FOR REINSTALLATION.

15) REMOVE EXISTING HVAC BRACH SUPPLY DUCTS, DIFFUSERS AND EQUIPMENT NOT REQUIRED FOR NEW WORK.

16) REMOVE ALL HVAC EQUIPMENT NOT REQUIRED FOR NEW SYSTEM.

17) IDENTIFY AND TAG ALL ELECTRICAL WIRING & DEVICES, PHONE WIRING AND DEVICES, COMPUTER CABLING, ETC. THAT IS TO BE RETAINED. REMOVE ALL OTHER WIRING & DEVICES NOT REQUIRE FOR NEW WORK.

18) REMOVE ALL EXISTING FLOOR FINISH TO EXISTING CONCRETE SLAB OR SUBFLOOR AND PREPARE SLAB OR SUBFLOOR FOR NEW FLOORING.

19) REMOVE ALL EXISTING PLUMBING FIXTURES. SAWCUT CONCRETE AND REMOVE FOR NEW UNDER SLAB PLUMBING AND UTILITY WORK.

20) PATCH EXISTING CONCRETE SLAB AND DEMISING WALLS AS REQUIRED.

21) REMOVE EXISTING FURNISHINGS, EQUIPMENT AND FIXTURES NOT REQUIRED FOR NEW WORK.

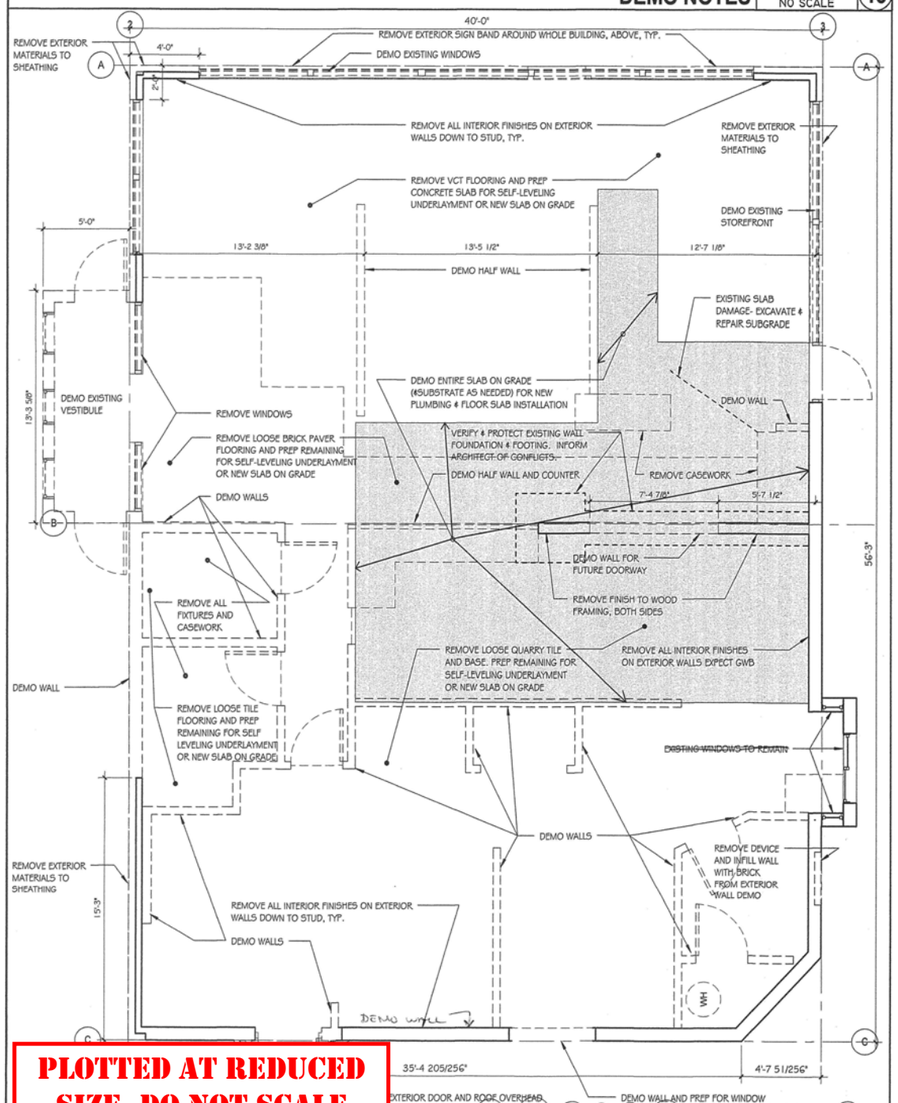
22) MAINTAIN ACCESS TO EXISTING PLUMBING CLEAN-OUTS ON PLUMBING TO REMAIN. VERIFY EXISTING LOCATIONS.

23) EXISTING BRICK: BRICK TO BE REMOVED & CLEANED FOR REUSE TO EXTENT NEEDED. THE REST OF THE FACE BRICK TO BE SALVAGED & GIVEN TO OWNER IF DESIRED, OR REMOVED & DISPOSED OF REST (1)

ALTERNATE A10: INSTALL A CEILING MOUNTED PROJECTION SCREEN IN THE BOARDROOM.

DEMO NOTES

SCALE NO SCALE | 13



PLOTTED AT REDUCED SIZE, DO NOT SCALE

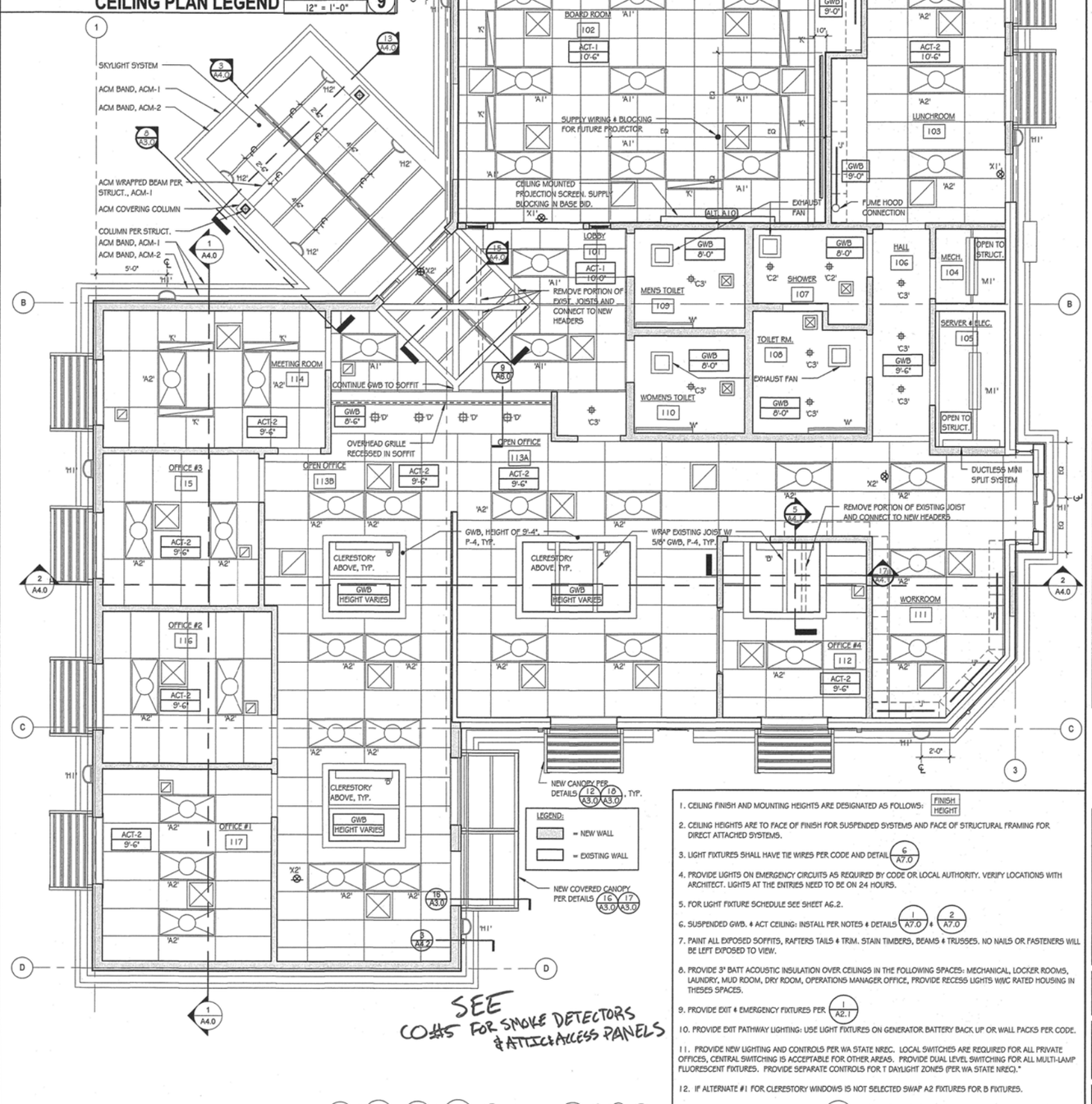
DEMOLITION FLOOR PLAN

SCALE 1/4" = 1'-0" | 14

2x4 RECESSED TROFFER FLUORESCENT
SURFACE MOUNTED 2-LAMP FLUORESCENT
1x4 RECESSED PARABOLIC FLUORESCENT
WALL WASH LIGHT
2 LAMP UTILITY LIGHT
2 LAMP UTILITY LIGHT
WALL MOUNTED LIGHT
UNDER COUNTER LIGHT
PENDENT HID LIGHT
CEILING MOUNTED LIGHT
EXTERIOR WALL LIGHT
ELEVATOR PIT LIGHT
EXTERIOR WALL LIGHT
EXHAUST FAN
SUPPLY AIR DIFFUSER
RETURN AIR GRILL

CEILING PLAN LEGEND

SCALE 12" = 1'-0" | 9



SEE CO#5 FOR SMOKE DETECTORS & ATTIC ACCESS PANELS

RELECTED CEILING PLAN

SCALE 1/4" = 1'-0" | 1

1. CEILING FINISH AND MOUNTING HEIGHTS ARE DESIGNATED AS FOLLOWS: FINISH / HEIGHT
2. CEILING HEIGHTS ARE TO FACE OF FINISH FOR SUSPENDED SYSTEMS AND FACE OF STRUCTURAL FRAMING FOR DIRECT ATTACHED SYSTEMS.
3. LIGHT FIXTURES SHALL HAVE TIE WIRES PER CODE AND DETAIL 6 A7.0
4. PROVIDE LIGHTS ON EMERGENCY CIRCUITS AS REQUIRED BY CODE OR LOCAL AUTHORITY. VERIFY LOCATIONS WITH ARCHITECT. LIGHTS AT THE ENTRIES NEED TO BE ON 24 HOURS.
5. FOR LIGHT FIXTURE SCHEDULE SEE SHEET AG.2.
6. SUSPENDED GWB. & ACT CEILING: INSTALL PER NOTES & DETAILS 1 A7.0 & 2 A7.0
7. PAINT ALL EXPOSED SOFFITS, RAFTERS TAILS & TRIM. STAIN TIMBERS, BEAMS & TRUSSES. NO NAILS OR FASTENERS WILL BE LEFT EXPOSED TO VIEW.
8. PROVIDE 3" BATT ACOUSTIC INSULATION OVER CEILINGS IN THE FOLLOWING SPACES: MECHANICAL, LOCKER ROOMS, LAUNDRY, MUD ROOM, DRY ROOM, OPERATIONS MANAGER OFFICE, PROVIDE RECESS LIGHTS W/C RATED HOUSING IN THESES SPACES.
9. PROVIDE EXIT & EMERGENCY FIXTURES PER 1 A2.1
10. PROVIDE EXIT PATHWAY LIGHTING: USE LIGHT FIXTURES ON GENERATOR BATTERY BACK UP OR WALL PACKS PER CODE.
11. PROVIDE NEW LIGHTING AND CONTROLS PER WA STATE NREC. LOCAL SWITCHES ARE REQUIRED FOR ALL PRIVATE OFFICES, CENTRAL SWITCHING IS ACCEPTABLE FOR OTHER AREAS. PROVIDE DUAL LEVEL SWITCHING FOR ALL MULTI-LAMP FLUORESCENT FIXTURES. PROVIDE SEPARATE CONTROLS FOR 1 DAYLIGHT ZONES (PER WA STATE NREC)."
12. IF ALTERNATE #1 FOR CLERESTORY WINDOWS IS NOT SELECTED SWAP A2 FIXTURES FOR B FIXTURES.

CEILING PLAN NOTES

SCALE NO SCALE | 4

The Driftmier Architects, P.S.
7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506
mail@driftmier.com

LAKE WHATCOM WATER & SEWER DISTRICT

1220 LAKEWAY DRIVE
BELLINGHAM, WA 98229

LAKEWAY OFFICE REMODEL/ADDITION

REFLECTED CEILING & DEMO PLAN

REGISTERED ARCHITECT
Richard W. Driftmier
STATE OF WASHINGTON

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ISSUE DATE: 11/18/09
DRAWN BY: LRD
CHECKED BY: DRS

PROJECT NUMBER 20908

SHEET NUMBER A2.1

1/22/2010 3:33:56 PM

- SINGLE RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- DUPLEX RECEPTACLE
  - X" = HEIGHT ABOVE FINISHED FLOOR
  - B = CLOCK HANGER
  - C = FLUSH CEILING MOUNTED
  - D = DEDICATED
  - F = ARC FAULT PROTECTED BY BREAKER
  - G = GROUND FAULT CIRCUIT INTERRUPTER
  - H = HOSPITAL GRADE
  - K = CHILD RESISTANT COVER
  - L = ISOLATED GROUND
  - P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH
  - S = SPLIT WIRED
  - T = TAMPER RESISTANT SHUTTERED RECEPTACLE
  - W = WEATHER PROOF CONTINUOUS COVER AND GFCI PROTECTED
  - ? = DESIGNER DEFINED
- DUPLEX RECEPTACLE, 1/2 SWITCHED. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- QUADRAPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- SPECIAL PURPOSE RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- DUPLEX RECEPTACLE, FLUSH FLOOR
- TVICABLE OUTLET
- SINGLE TELEPHONE OUTLET
- COMB. COMM. OUTLET TELE./DATA
- J-BOX
- COMM. CONTROLS
- PLUG MOLD UNDER COUNTER
- T TRANSFORMER
- T THERMOSTAT
- EXIT SIGN, CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN, WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- RECESSED EXHAUST FAN, 60 CFM V.T.O.S.
- FE FIRE EXTINGUISHER
- ALARM BUTTON
- CLOSED CIRCUIT CAMERA
- GB GATHERING BOX
- GROMMET HOLE (VERIFY LOCATIONS W/ OWNER)
- ALARM ENUNCIATOR
- MD MOTION DETECTOR
- DOOR CONTACT
- FA FIRE EXTINGUISHER- SIZE 2A: 10BC MOUNTED IN CABINET
- 1 KP SECURITY SYSTEM KEY PAD

ELECTRICAL LEGEND

SCALE: NO SCALE — 13

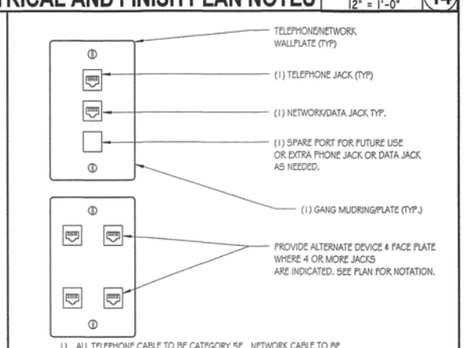
1. FOR DOOR INFORMATION, SEE DOOR SCHEDULE SHEET A6.0.
2. FOR WINDOW INFORMATION, SEE WINDOW SCHEDULE SHEET A6.1.
3. OFFICE FURNITURE AND SYSTEMS FURNITURE ARE F.O.I.O.
4. PROVIDE FIRE EXTINGUISHERS AND CABINETS AS REQUIRED BY THE FIRE MARSHALL. COORDINATE AND RECEIVE APPROVAL FROM ARCHITECT PRIOR TO INSTALLATION.
5. FOR CASEWORK FINISHES, SEE INTERIOR ELEVATION SHEET A5.0.
6. FOR INTERIOR FINISH AND MATERIAL SELECTIONS SEE MATERIAL AND ROOM FINISH SCHEDULES SHEET A6.2.
7. PROVIDE FLUSH FLOORING TRANSITIONS PER DETAIL 14/A6.2
8. PROVIDE ALL BLOCKING AND BRACING IN WALLS FOR F.O.I.O. FURNITURE AND EQUIPMENT.
9. PROVIDE ALL NECESSARY ELECTRICAL FOR F.O.I.O. FURNITURE AND CASEWORK INCLUDING UNDER COUNTER LIGHTS WHERE SHOWN.
10. BASE BID: WOOD TRIM IN LOBBY, RECEPTION AND BOARD ROOM TO BE STAINED WD-1, U.N.O. ALL OTHER WOOD TRIM TO BE PAINTED P-1, U.N.O.
11. ALL WINDOWS MARKED BL-# ON ELECTRICAL AND FINISH PLAN TO RECEIVE BLINDS OR ROLLER SHADES . BLIND TYPE PER 1/A2.3
12. ALL BLINDS IN THE BOARD ROOM TO BE "BLACKOUT" TYPE.
13. PLUMBING FIXTURES AND EQUIPMENT ARE LABELED PER PLUMBING FIXTURE SCHEDULE 13/A6.0. FIXTURE AND EQUIPMENT ARE LABLED W/ TEXT MATCHING SCHEDULE AND NOT A UNIQUE TAG.
14. B-1 TO BE INSTALLED THROUGHOUT BUILDING ON EXPOSED GWB. EXCEPTIONS: LOBBY BASE TO BE B-1, BOARD ROOM TO BE B-3, TOILET AND SHOWER ROOM TO BE L-1.
15. ELECTRICAL RECEPTACLES AND OUTLETS TO BE AT A HEIGHT OF 18" U.N.O.

ALTERNATE A11: SUBSTITUTE SHEET CARPET FOR CARPET SQUARES.

ALTERNATE A13: ADD WOOD TRIM STAINED IN ALL OFFICE AREAS.

ELECTRICAL AND FINISH PLAN NOTES

SCALE: 12" = 1'-0" — 14



1) ALL TELEPHONE CABLE TO BE CATEGORY 5E. NETWORK CABLE TO BE CATEGORY 5E OR BETTER. VIDEO CONNECTION CABLE TO BE SHIELDED CATEGORY 5E.

2) GENERAL CONTRACTOR TO PROVIDE A SINGLE MUD RING W/ PULL STRING AT EACH LOCATION FOR TELE/DATA OUTLETS. STUB CONDUIT INTO CEILING SPACE. ALL NON-ACCESSIBLE AREAS TO BE IN CONDUIT.

TYP. PHONE/DATA WALLPLATE

SCALE: 1 1/2" = 1'-0" — 15

PLUMBING FIXTURE COUNT (PER IBC TABLE 2902.1):

OCCUPANCY:

GROUP A - CONFERENCE ROOMS
- PLUMBING OCCUPANT LOAD FACTOR: 30 S.F.
- PLUMBING OCCUPANT LOAD: 538/ 30 = 18 OCCUPANTS
- MALE WATER CLOSETS: 1
- FEMALE WATER CLOSETS: 1
- MALE LAVATORIES: 1
- FEMALE LAVATORIES: 1

GROUP B - CLERICAL OR ADMINISTRATIVE
- PLUMBING OCCUPANT LOAD FACTOR: 200 S.F.
- PLUMBING OCCUPANT LOAD: 2,838 / 200 = 14 OCCUPANTS
- WATER CLOSETS: 1
- LAVATORIES: 1

(PER SEC2902.3.1 ONLY ONE TOILET FACILITY IS REQUIRED FOR 15 OR FEWER PERSONS.)

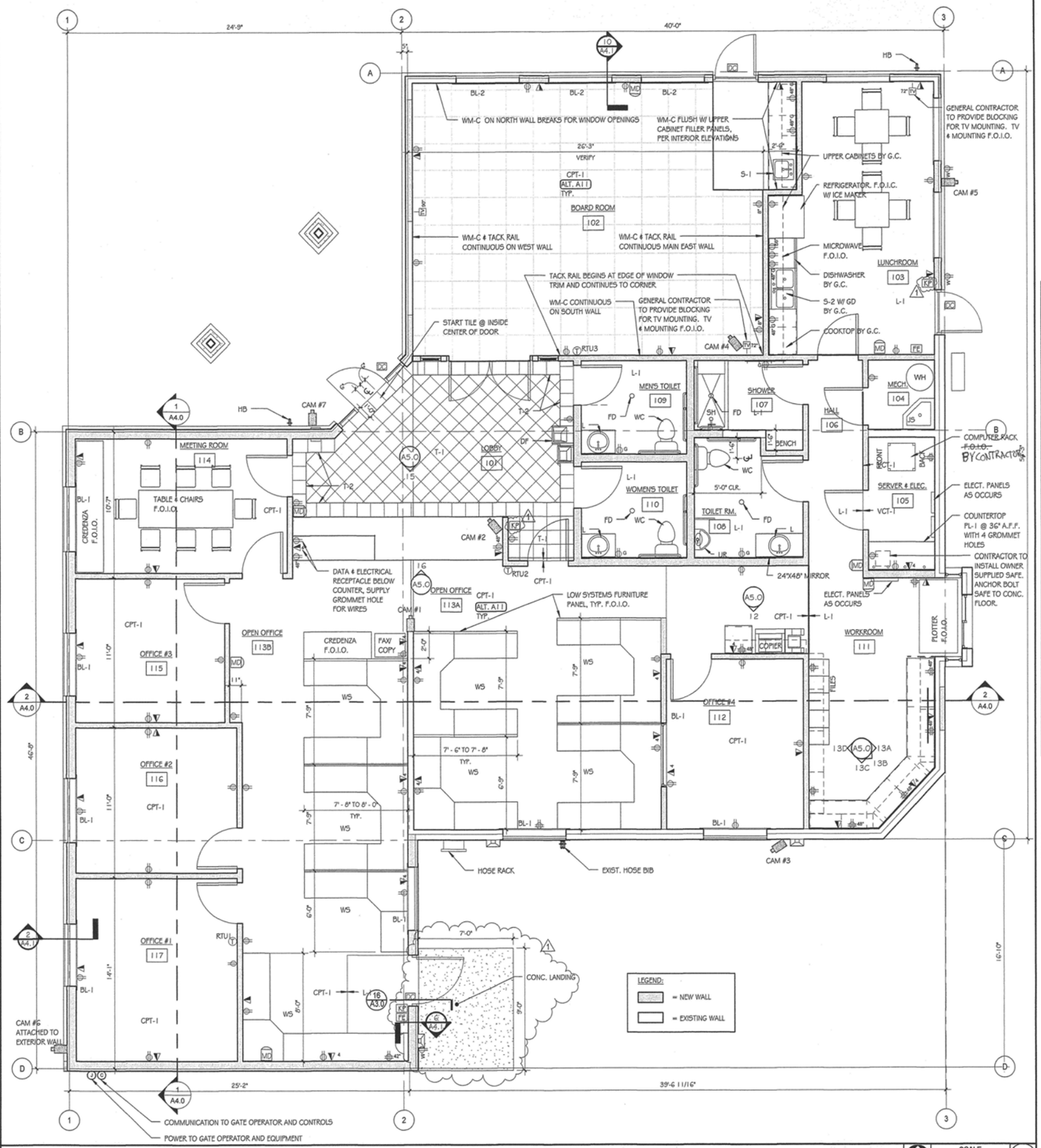
PLUMBING FIXTURES	REQUIRED	PROVIDED
MALE WATER CLOSETS:	1	1
FEMALE WATER CLOSETS:	1	1
UNISEX WATER CLOSETS:	1	1 + 1 URINAL
MALE LAVATORIES:	1	1
FEMALE LAVATORIES:	1	1
UNISEX LAVATORIES:	1	1

DRINKING FOUNTAINS (PER IBC2903.4):	REQUIRED	PROVIDED
	1	2 (1 + 1 ACCESSIBLE)

PLUMBING FIXTURE COUNT

SCALE: NO SCALE — 16

PLOTTED AT REDUCED SIZE, DO NOT SCALE



ELECTRICAL AND FINISH PLAN

SCALE: 1/4" = 1'-0" — 1

The Driftmier Architects, P.S.
7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506
mail@driftmier.com

LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WA 98229

LAKEWAY OFFICE REMODEL/ADDITION

FINISH, FURNITURE, ELECT. PLAN

REGISTERED ARCHITECT Charles Driftmier STATE OF WASHINGTON

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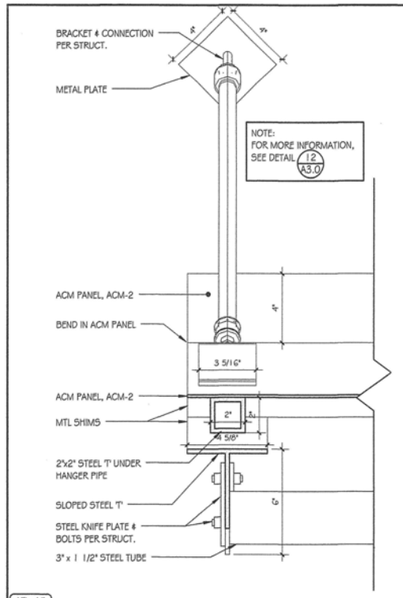
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ISSUE DATE:	11/18/09
DRAWN BY:	LRD
CHECKED BY:	DRS

PROJECT NUMBER 20908

SHEET NUMBER A2.3

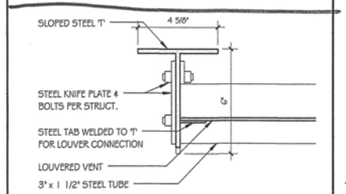
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ATL. A5

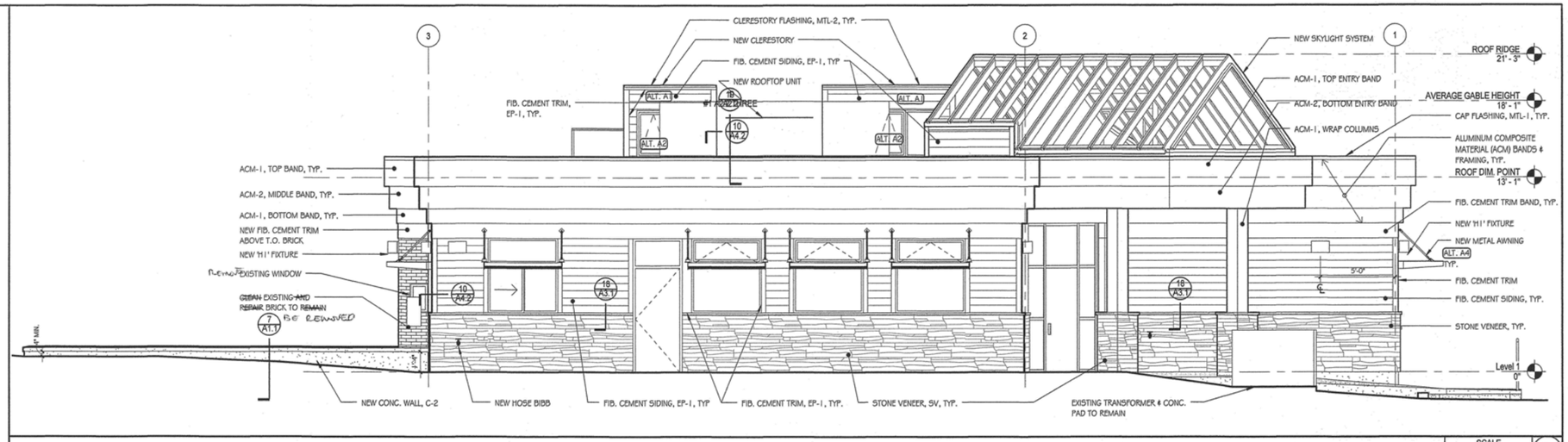
COVERED AWNING SEC. 2 | SCALE 3" = 1'-0" | 17

DETAIL 20 ADDED PER ASI #5
AWNING EXTENTION PLATE

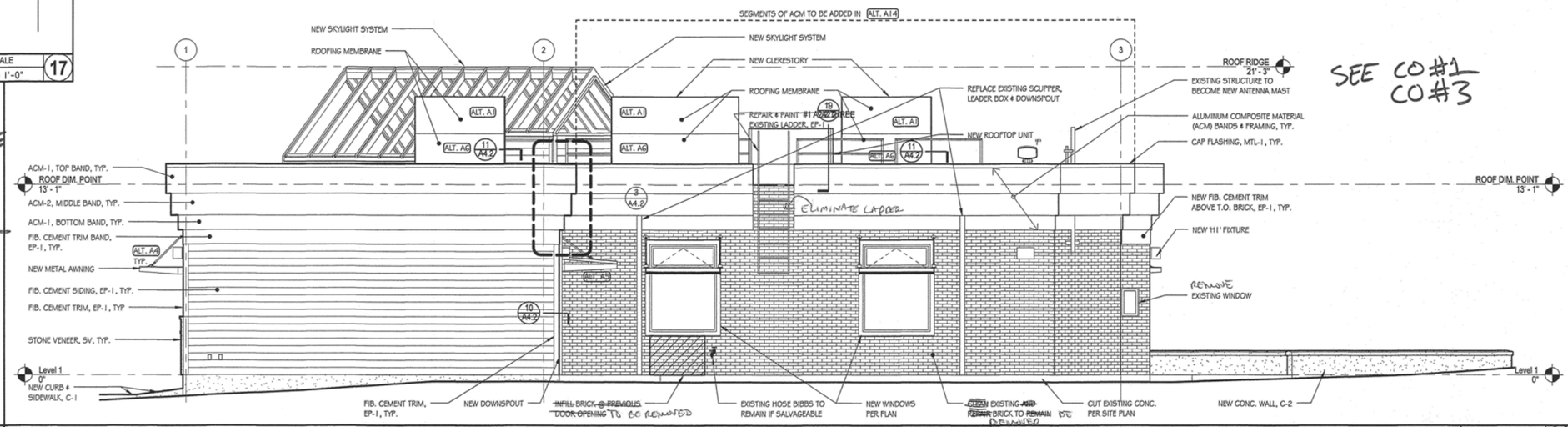


ATL. A4

AWNING SECION 2 | SCALE 3" = 1'-0" | 18

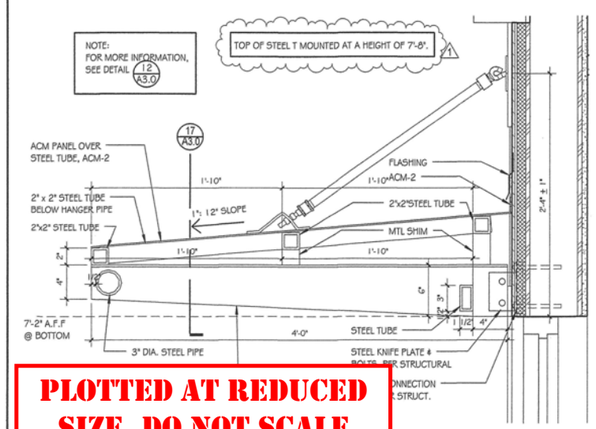


NORTH ELEVATION | SCALE 1/4" = 1'-0" | 1



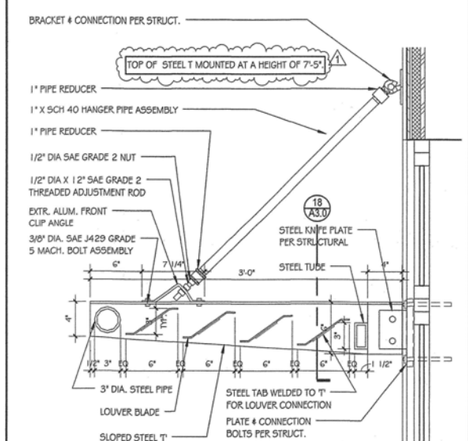
SEE CO #1
CO #3

SOUTH ELEVATION | SCALE 1/4" = 1'-0" | 2

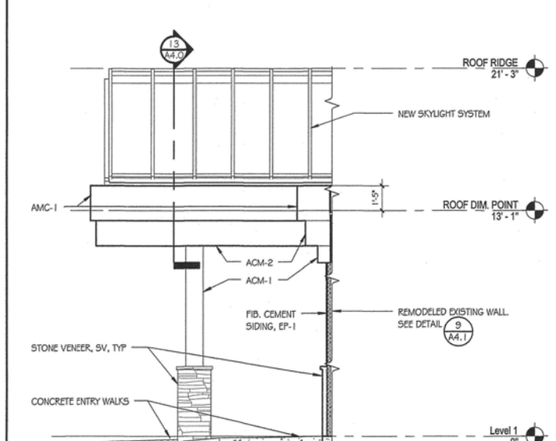


PLOTTED AT REDUCED SIZE, DO NOT SCALE

SECTION 1 | SCALE 1 1/2" = 1'-0" | 16



ATL. A4 **AWNING SECTION 1** | SCALE 1 1/2" = 1'-0" | 12



ENTRY SIDE ELEVATION | SCALE 1/4" = 1'-0" | 8

1. FOR EXTERIOR MATERIALS, FINISHES, & COLORS SEE 9 A6.2

2. PAINT ALL SURFACES THAT ARE NOT FACTORY PREFINISHED. COLORS ARE AS INDICATED ON THIS SHEET OR AS DIRECTED BY ARCHITECT. GENERALLY, THE FOLLOWING APPLIES:
   - FIBER CEMENT SIDING: EP-X (LOW WALL ACCENT)
   - FIBER CEMENT HORIZONTAL TRIM, WINDOW AND DOOR TRIM: EP-X
   - SOFFITS, OVERHANGS: EP-X (WOOD STAIN @ TRELLISED ENTRIES)
   - METAL AND STEEL: EP-X
     FASCIAS AND GABLES: EP-X

3. USE EXIST. SALVAGED BRICK FOR PATCHING EXIST. WALL OPENING IN BRICK AREAS TO REMAIN.

ALTERNATE A1: PROVIDE ALL WORK ASSOCIATED WITH THE CONSTRUCTION OF THE FOUR CLERESTORIES, INCLUDING AWNING WINDOWS WITH POLE CRANK.

ALTERNATE A2: IN ADDITION TO THE FOUR CLERESTORIES, PROVIDE ELECTRIC OPERATORS FOR AWNING WINDOWS IN CLERESTORIES.

ALTERNATE A4: ADDITION OF ALL AWNINGS TO EXTERIOR WINDOWS ONLY.

ALTERNATE A5: ADDITION OF LARGER AWNING TO SOUTH ENTRANCE AND ADJACENT WINDOW.

ALTERNATE A14: ADDITION OF ACM BANDS TO EXISTING SOUTH AND SOUTHEAST EXTERIOR WALLS.

EXTERIOR ELEVATION NOTES | SCALE 12" = 1'-0" | 4

The Driftmier Architects, P.S.
7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506
mail@driftmier.com

LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WA 98229

LAKEWAY OFFICE REMODEL/ADDITION

EXTERIOR BUILDING ELEVATIONS

3560 REGISTERED ARCHITECT STATE OF WASHINGTON

THIS DOCUMENT REPRESENTS A PROPRIETARY DESIGN OWNED BY THE ARCHITECT AND SHALL NOT BE USED ON OTHER PROJECTS FOR ADDITIONS TO THIS PROJECT OR FOR COMPLETION OF THIS PROJECT BY OTHERS EXCEPT BY PRIOR AGREEMENT IN WRITING.

Revision Schedule		
NO.	TYPE REVISION	DATE
1	ADDENDUM #1	12-08-09
2	ADDENDUM #2	12-11-09

ISSUE DATE:	11/18/09
DRAWN BY:	LRD
CHECKED BY:	DRS

PROJECT NUMBER 20908

SHEET NUMBER A3.0

1/12/2010 3:33:31 PM

1. FOR EXTERIOR MATERIALS, FINISHES, & COLORS SEE 9/A6.2

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   - METAL AND STEEL: EP-X
   - FASCIAS AND GABLES: EP-X

3. USE EXIST. SALVAGED BRICK FOR PATCHING EXIST. WALL OPENING IN BRICK AREAS TO REMAIN.

4. ALTERNATE A1: PROVIDE ALL WORK ASSOCIATED WITH THE CONSTRUCTION OF THE FOUR CLERESTORIES, INCLUDING AWNING WINDOWS WITH POLE CRANK.

5. ALTERNATE A2: IN ADDITION TO THE FOUR CLERESTORIES, PROVIDE ELECTRIC OPERATORS FOR AWNING WINDOWS IN CLERESTORIES.

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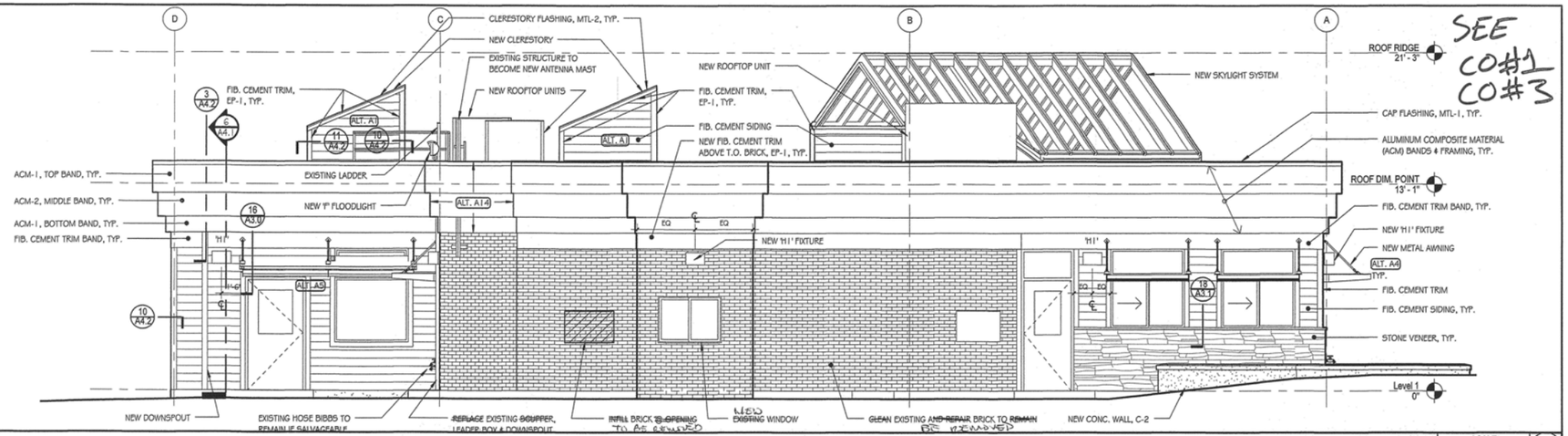
ALTERNATE A4: ADDITION OF ALL AWNINGS TO EXTERIOR WINDOWS ONLY.

ALTERNATE A5: ADDITION OF LARGER AWNING TO SOUTH ENTRANCE AND ADJACENT WINDOW.

ALTERNATE A14: ADDITION OF ACM BANDS TO EXISTING SOUTH AND SOUTHEAST EXTERIOR WALLS

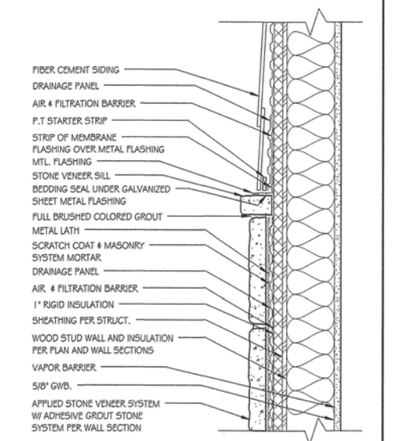
EXTERIOR ELEVATION NOTES

SCALE 12" = 1'-0" | 17



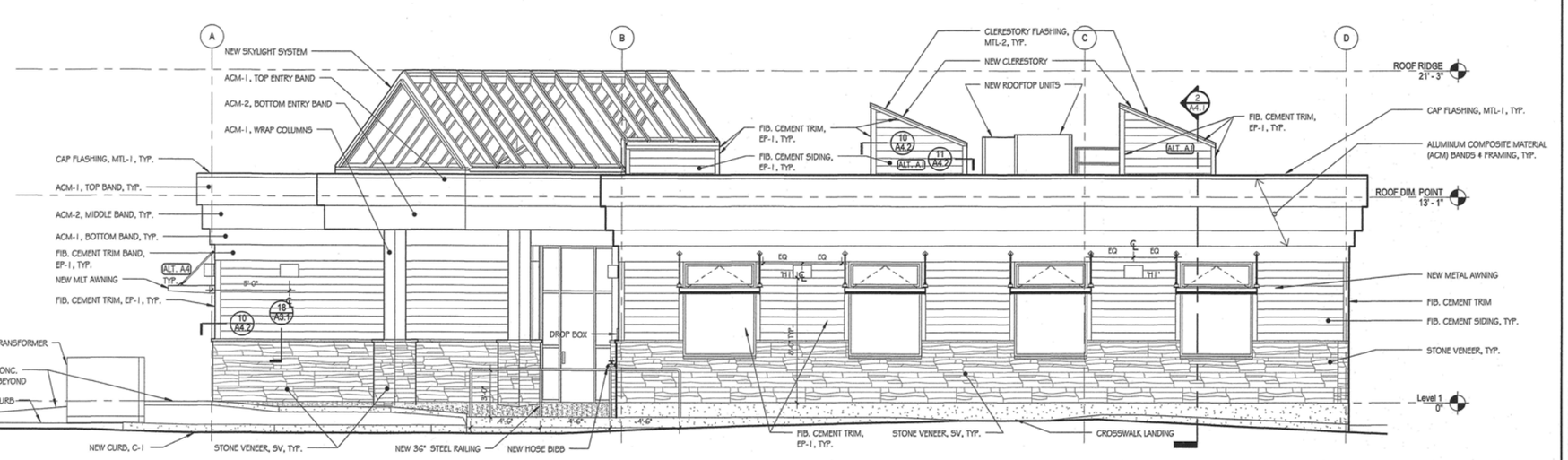
EAST ELEVATION

SCALE 1/4" = 1'-0" | 1



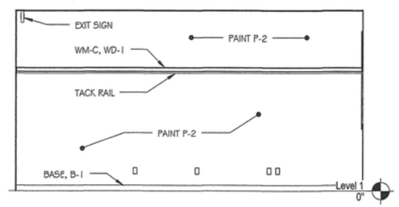
STONE/ SIDING TRANS.

SCALE 1 1/2" = 1'-0" | 18



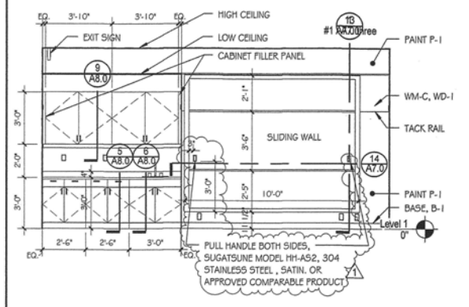
WEST ELEVATION

SCALE 1/4" = 1'-0" | 2



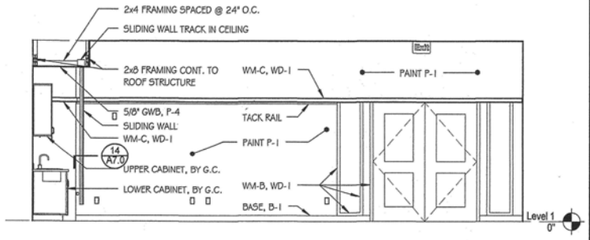
BOARDROOM- EAST WALL

SCALE 1/4" = 1'-0" | 16



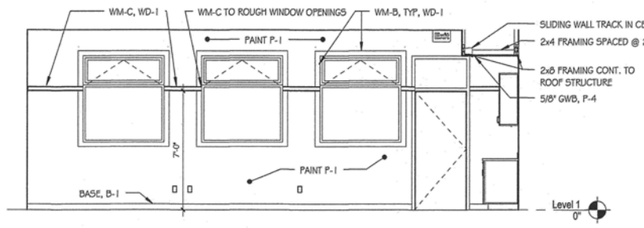
BOARDROOM- SOUTH WALL

SCALE 1/4" = 1'-0" | 8



BOARDROOM- NORTH WALL

SCALE 1/4" = 1'-0" | 4



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The Driftmier Architects, P.S.
7983 Leary Way NE
Redmond, WA 98052
(425) 881-7506
mail@driftmier.com

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LAKEWAY OFFICE REMODEL/ADDITION

EXTERIOR BUILDING ELEVATIONS

REGISTERED ARCHITECT
Richard Driftmier
STATE OF WASHINGTON

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2	ADDENDUM #2	12-11-09

ISSUE DATE:	11/18/09
DRAWN BY:	LRD
CHECKED BY:	DRS

PROJECT NUMBER 20908

SHEET NUMBER A3.1

7/12/2010 3:38:40 PM

Operations & Maintenance Buildings

ELECTRICAL LEGEND

LIGHTING

- Aa — RECESSED FLUORESCENT TROFFER (Aa = FIXTURE TYPE A CONTROLLED BY SWITCH Sa, TYPICAL. NL = NIGHTLIGHT)
- FLUORESCENT LUMINAIRE, SURFACE MTD.
- INCANDESCENT OR CFL, RECESSED DOWNLIGHT
- LUMINAIRE, WALL MTD
- FLOODLIGHT, WALL MTD
- FLOODLIGHT, WALL MTD
- LIGHTED EXIT SIGN
- LIGHTED EXIT SIGN (ARROWS SHOW DIRECTIONAL INDICATION WHERE REQUIRED)

SWITCHING

- S — SINGLE-POLE SWITCH
- S_3 — THREE-WAY SWITCH
- S_M — MANUAL MOTOR STARTER
- S_{PIR} — MOTION SENSOR SWITCH, DUAL POLE
- T — THERMOSTAT
- P — PHOTOCELL
- M — LIGHTING MOTION DETECTOR, CEILING MTD.

ANCILLARIES

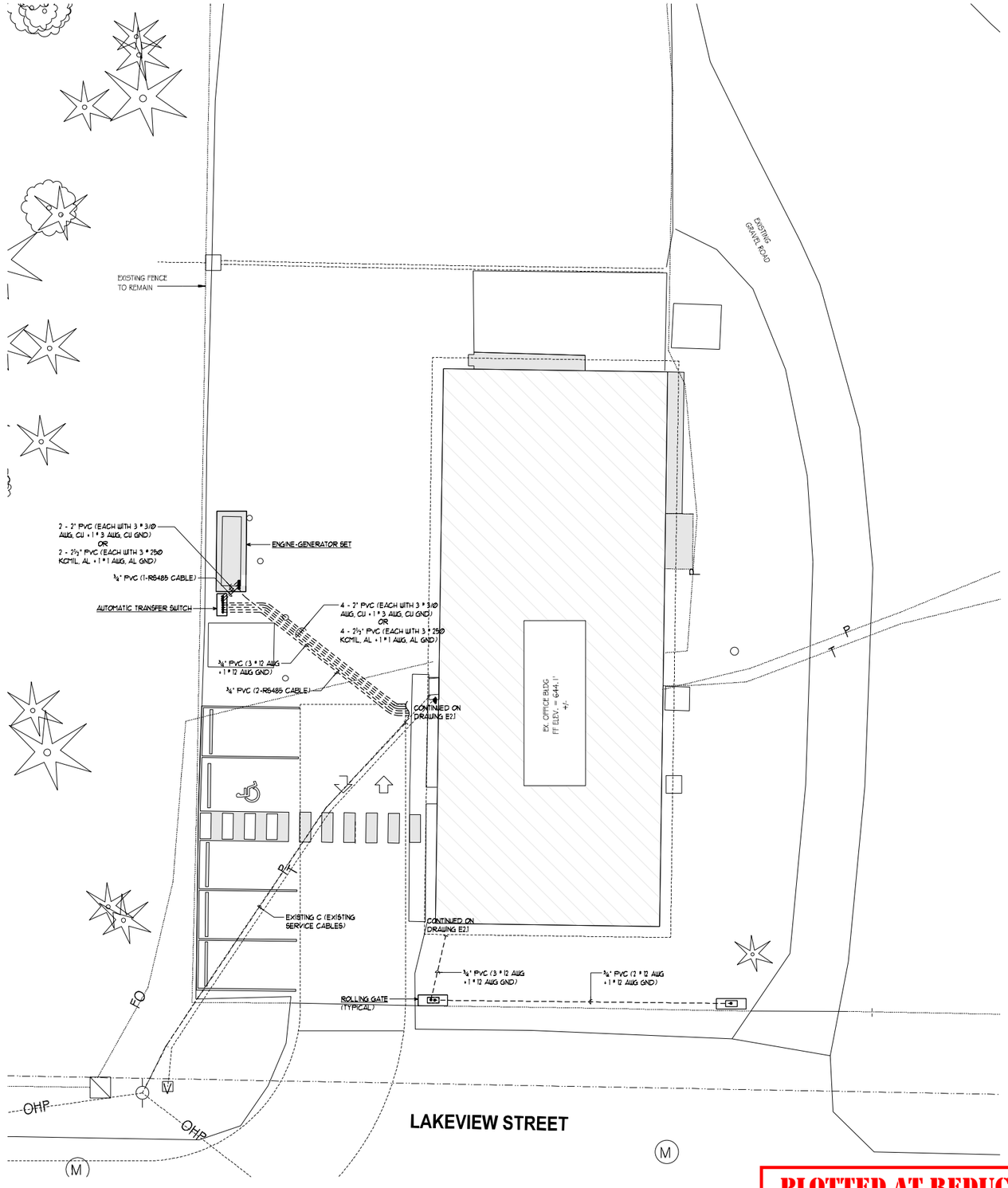
- SECURITY SYSTEM CONTACT SWITCH
- MD — SECURITY SYSTEM MOTION DETECTOR, WALL MTD.
- C-3 — SECURITY CAMERA, WALL MTD. (C-3 = CAMERA NUMBER, TYPICAL)

OUTLETS

- DUPLEX OUTLET
- DOUBLE DUPLEX OUTLET
- $_C$ — DUPLEX OUTLET, CEILING MTD.
- $_{GFI}$ — DUPLEX OUTLET, GROUND FAULT INTERRUPTING
- $_{IG}$ — DUPLEX OUTLET, ISOLATED GROUND
- $_{WP}$ — DUPLEX OUTLET, WEATHERPROOF
- SPECIAL PURPOSE OUTLET
- SPECIAL PURPOSE CONNECTION
- 4C — TELECOMMUNICATIONS OUTLET, FLUSH MOUNTED (4C = 2 VOICE & 2 DATA CABLES, TYPICAL)

MISCELLANEOUS

- BRANCH CIRCUIT, ABOVE GRADE, CONCEALED (OR SIMILAR, SLASHES = NO. OF CIRCUIT CONDUCTORS WHERE APPLICABLE)
- BRANCH CIRCUIT, ABOVE GRADE, EXPOSED (OR SIMILAR, SLASHES = NO. OF CIRCUIT CONDUCTORS WHERE APPLICABLE)
- HOMERUN TO LOCATION INDICATED, CONCEALED (TYPICAL)
- HOMERUN TO LOCATION INDICATED, EXPOSED (TYPICAL)
- BRANCH CIRCUIT, CONDUIT BODY
- BELOW FLOOR/GRADE CONDUIT
- GROUND CABLE
- J — JUNCTION BOX
- DISCONNECT SWITCH
- PANELBOARD
- EF — EXHAUST FAN
- WP — WEATHER PROOF
- EX — EXISTING TO REMAIN



ELECTRICAL - SITE PLAN

SCALE: 1" = 10'-0"

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISIONS	BY

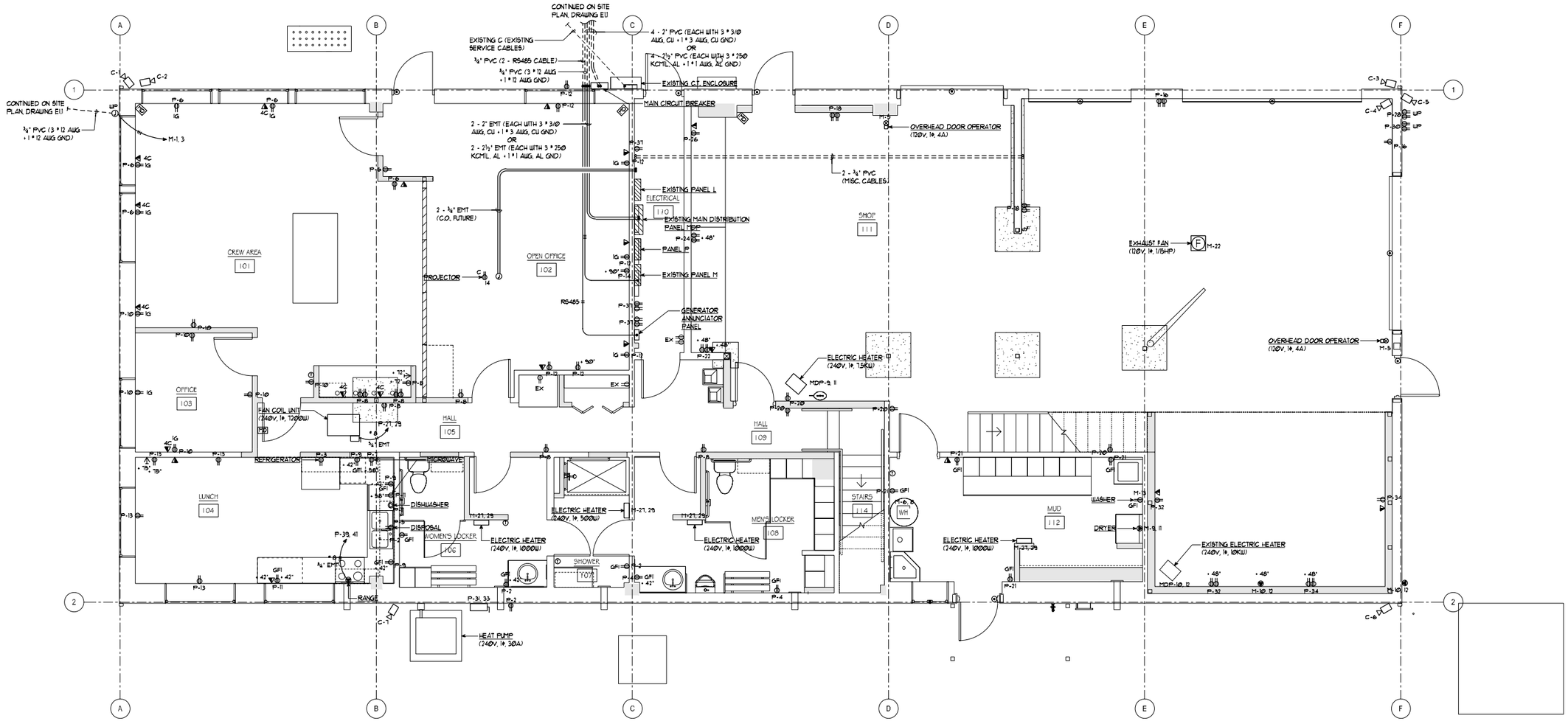
KENNETH KOEHLER — STATE OF WASHINGTON — 17175 — REGISTERED — 4/11/11 — PROFESSIONAL ENGINEER

K ENGINEERS INC.
208 Third Street
Lynden, WA 98264
Bus.: (360) 354-4757
FAX (360) 354-6794

LAKE WHATCOM WATER & SEWER DISTRICT
1010 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

ELECTRICAL - SITE PLAN

DATE: 21 APRIL 2011
SCALE: 1" = 10'-0"
DRAWN: KL
DESIGNED: KK
JOB No: 1463
SHEET E1.1
OF . SHEETS



ELECTRICAL - MAIN FLOOR POWER PLAN

SCALE: ¼" = 1'-0"

NORTH

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISIONS	BY

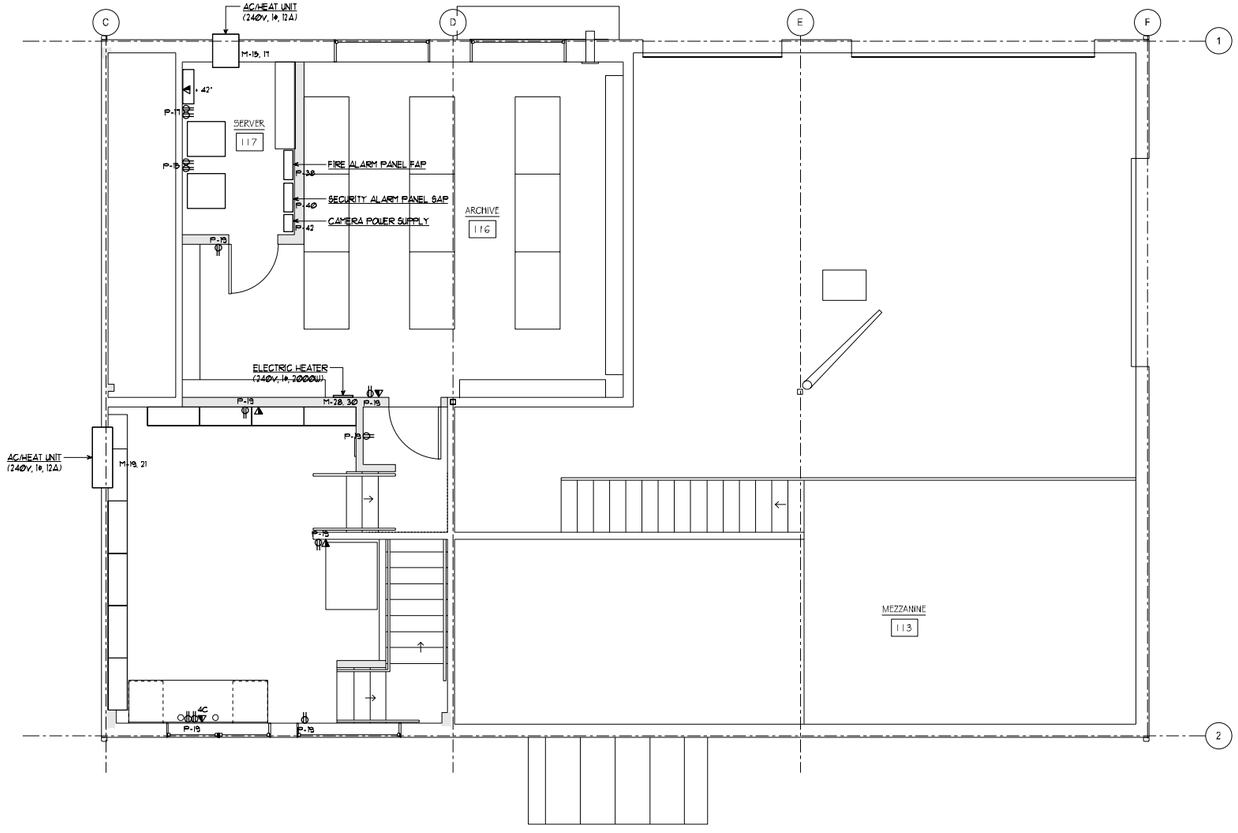
KENNETH [illegible] — STATE OF WASHINGTON — 11775 — REGISTERED — 4/11 — PROFESSIONAL ENGINEER

K ENGINEERS INC.
208 Third Street
Lynden, WA 98264
Bus.: (360) 354-4757
FAX (360) 354-6794

LAKE WHATCOM WATER & SEWER DISTRICT
1010 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

ELECTRICAL - MAIN FLOOR POWER PLAN

DATE: 21 APRIL 2011
SCALE: ¼" = 1'-0"
DRAWN: KL
DESIGNED: KAKA
JOB No: 1463
SHEET E2.1
OF · SHEETS



ELECTRICAL - UPPER FLOOR POWER PLAN

SCALE: ¼" = 1'-0"

NORTH

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISIONS	BY

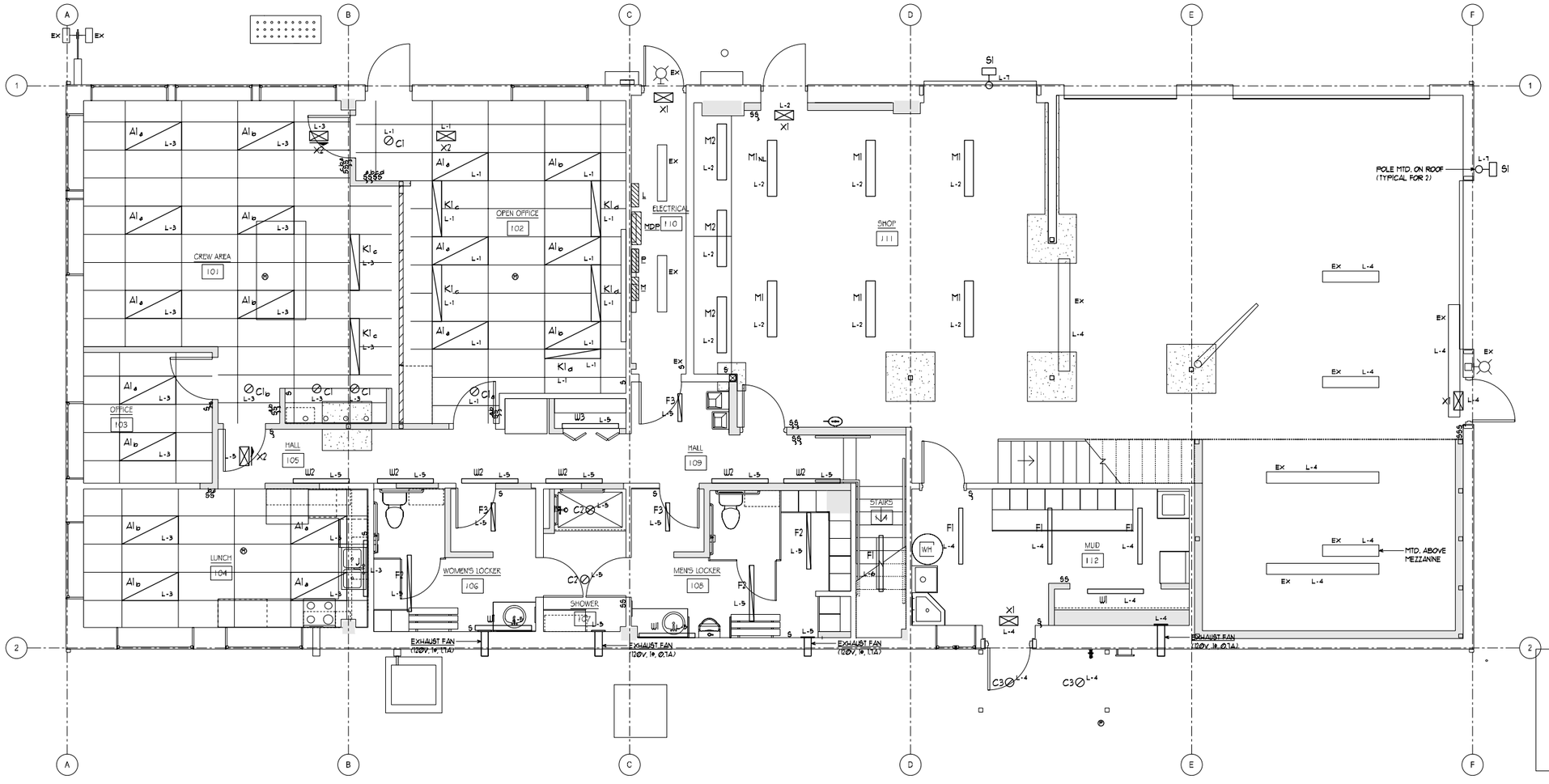
KENNETH KOEHLER — STATE OF WASHINGTON — 17275 — REGISTERED — 4/21/11 — PROFESSIONAL ENGINEER

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208 Third Street
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Bus. (360) 354-4757
FAX (360) 354-6794

LAKE WHATCOM WATER & SEWER DISTRICT
1000 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

ELECTRICAL - UPPER FLOOR POWER PLAN

DATE: 21 APRIL 2011
SCALE: ¼" = 1'-0"
DRAWN: KL
DESIGNED: KK
JOB No: 1463
SHEET E22
OF · SHEETS



ELECTRICAL - MAIN FLOOR LIGHTING PLAN

SCALE: ¼" = 1'-0"

NORTH

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISIONS	BY

KENNETH STATE OF WASHINGTON 11275 REGISTERED 4/27/11 PROFESSIONAL ENGINEER

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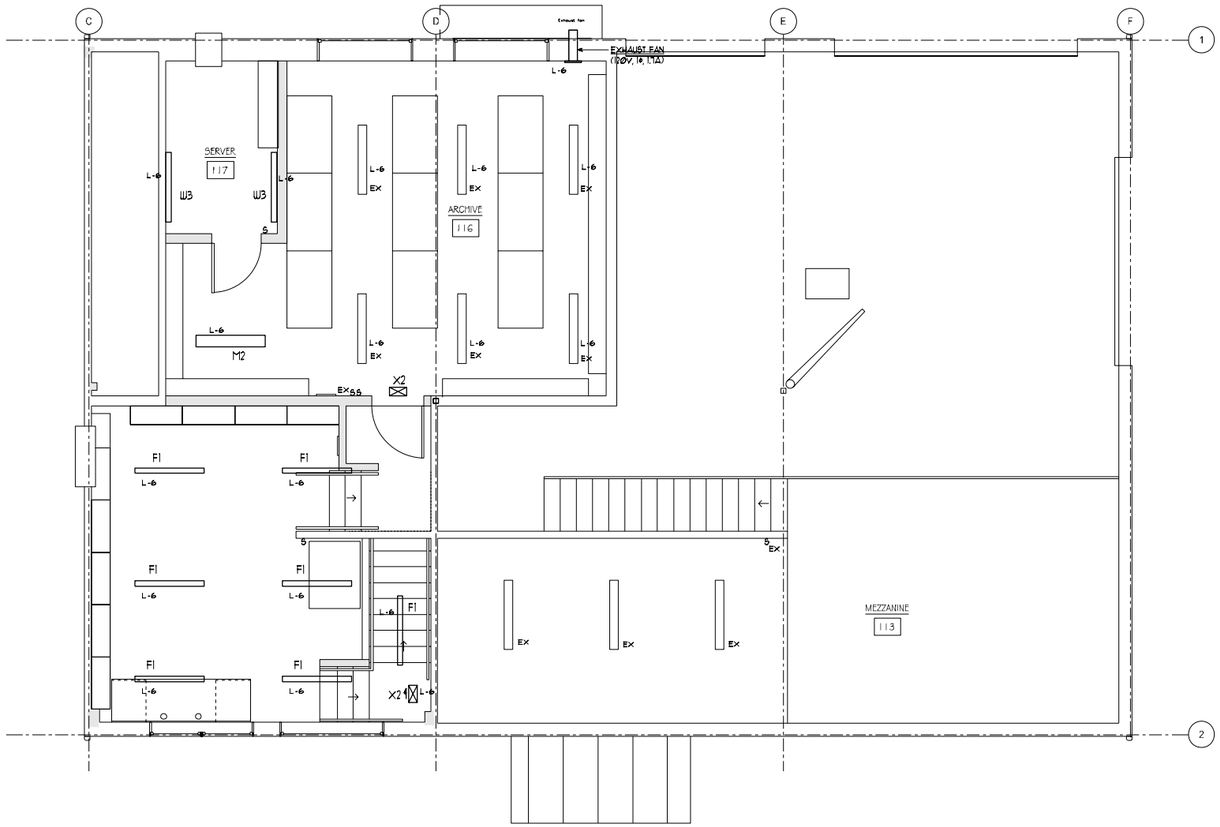
LAKE WHATCOM WATER & SEWER DISTRICT
1220 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

ELECTRICAL - MAIN FLOOR LIGHTING PLAN

DATE: 21 APRIL 2011
SCALE: ¼" = 1'-0"
DRAWN: KL
DESIGNED: KAKA
JOB No: 1463
SHEET E3.1
OF · SHEETS

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTS	MANUFACTURER & CAT. NO. (OR APPROVED EQUAL)	LAMP(S)	LOADS WATTS	LOADS VA
A1	FLUORESCENT DIRECT/INDIRECT TROFFER, GRID MTD., 3 LAMP, 2' x 4' x 6", STATIC, WITH 2 ELECTRONIC BALLASTS, SWING-DOWN PERFORATED LAMP COVER AND WHITE INTERIOR REFLECTOR.	120	LITHONIA 2AV-G-232-SLB-MVOLT METALUX 2RDI-232-RP-TWB-UNV	(2) F32T8/SP35 (2) FO32/735 (2) F32T8/TL735	59	60
C1	RECESSED FLUORESCENT DOWNLIGHT, 1 @ 26W VERTICAL LAMP, 6" APERTURE x 9" HIGH, SUITABLE FOR DAMP LOCATIONS, WITH ELECTRONIC BALLAST & LOW RIDESCENT CLEAR REFLECTOR.	120	PORTFOLIO C6042-E-600-HJ-WF	(1) F26DBXT4/SPX35 (1) CF26DD/835 (1) PL-C26W/35	26	26
C2	RECESSED FLUORESCENT DOWNLIGHT, 2 @ 26W LAMPS, 11" SQUARE x 6" HIGH, SUITABLE FOR DAMP LOCATIONS, WITH ELECTRONIC BALLAST & GASKETED TRIM WITH PRISMATIC LENS.	120	GOTHAM LAF-2/32TRT-11RW-T73 SPECTRUM SP11-2SQ226TRT-TE-WW-WL	(2) F26DBXT4/SPX35 (2) CF26DD/835 (2) PL-C26W/35	52	52
C3	FLUORESCENT CEILING MTD. GLOBE, 1 @ 26W LAMP, SUITABLE FOR WET LOCATIONS, GLASS ENCLOSURE.	120	SPECTRUM SJ1CF-26-EX-GJ-CH1-CP9-EG	(1) F26DBXT4/SPX35 (1) CF26DD/835	26	26
F1	FLUORESCENT LINEAR MODULAR, SURFACE MTD. 1 LAMP, 4" x 4' x 4", WITH 1 ELECTRONIC BALLAST EXTRUDED ALUMINUM HOUSING (WHITE) & SATIN LENS.	120	FOCAL POINT FAVCS-FL-1T5-1C-120-S-SM-WH-4'	(1) F54WT5/835/ECO (1) FP54/835/HO/ECO (1) F54T5/835/HO/ALTO	59	60
F2	FLUORESCENT LINEAR TROFFER, FLANGE MTD. 1 LAMP, 4' x 4' x 4", WITH 1 ELECTRONIC BALLAST EXTRUDED ALUMINUM HOUSING (WHITE) & FROSTED LENS.	120	FOCAL POINT FAVB-FL-1T5-1C-120-S-F-WH-4'	(1) F54WT5/835/ECO (1) FP54/835/HO/ECO (1) F54T5/835/HO/ALTO	59	60
F3	FLUORESCENT LINEAR TROFFER, FLANGE MTD. 1 LAMP, 4' x 2' x 4", WITH 1 ELECTRONIC BALLAST EXTRUDED ALUMINUM HOUSING (WHITE) & FROSTED LENS.	120	FOCAL POINT FAVB-FL-1T5-1C-120-S-F-WH-2'	(1) F24WT5/835/ECO (1) FP24/835/HO/ECO (1) F24T5/835/HO/ALTO	30	30
J	FLUORESCENT UNDERCABINET, 1 LAMP, 4' x 5.5" x 1.75", WITH 1 ELECTRONIC BALLAST & ACRYLIC WRAP-AROUND PRISMATIC LENS.	120	LITHONIA 2UC-32-GEB10IS METALUX 8632-REB	(1) F32T8/SP35 (1) FO32/735 (1) F32T8/TL735	30	31
K	FLUORESCENT WALLWASH TROFFER, GRID MTD, 1 LAMP, 8" x 4' x 6", WITH 1 ELECTRONIC BALLAST, SPECULAR ANODIZED ALUMINUM REFLECTOR.	120	PRUDENTIAL P-5900-1T8-04'-UNV-X1 DAY-O-LITE WPP-1027-132T8-G-4-W	(1) F32T8/SP35 (1) FO32/735 (1) F32T8/TL735	30	31
M1	FLUORESCENT INDUSTRIAL, SURFACE MOUNTED (UNLESS NOTED OTHERWISE), 2 LAMP, 4' LONG, WITH 1 ELECTRONIC BALLAST	120	LITHONIA ELSA-232	(2) F32T8/SP35 (2) FO32/735 (2) F32T8/TL735	59	60
M2	FLUORESCENT INDUSTRIAL, SURFACE MOUNTED (UNLESS NOTED OTHERWISE), 2 LAMP, 4' LONG, WITH 1 ELECTRONIC BALLAST	120	LITHONIA ELS-232	(2) F32T8/SP35 (2) FO32/735 (2) F32T8/TL735	59	60
S1	FLOODLIGHT, HEAVY-DUTY, KNUCKLE SLIPFITTER MTD (ADJUSTABLE), 400W MH (VERTICAL MOUNT), SUITABLE FOR WET LOCATIONS WITH MULTI-TAP 20F BALLAST, ONE-PIECE DIECAST ALUMINUM HOUSING & DOOR FRAMES (DARK BRONZE FINISH) & SPECULAR ALUMINUM REFLECTOR.	120	COOPER MPWR-65-S-400-TYSXX	(1) MXR400/UMOG/O (1) MP400/UMOG	454	457
W1	FLUORESCENT WALL BRACKETED, WALL MTD., 1 LAMP, 4' LONG, WITH 1 ELECTRONIC BALLAST.	120	LITHONIA WP-132-MVOLT METALUX BE-132-UNV	(1) F32T8/SP35 (1) FO32/735 (1) F32T8/TL735	30	31
W2	FLUORESCENT LINEAR, WALL MTD., ADA COMPLIANT, 1 LAMP, 4' x 4' x 4", WITH 1 ELECTRONIC BALLAST, MATTE WHITE HOUSING WITH WHITE FROSTED ACRYLIC LENS.	120	PRUDENTIAL WAL14-WFA-1T8-04'-TMW-SC-UNV-WH	(1) F32T8/SP35 (1) FO32/735 (1) F32T8/TL735	30	31
W3	FLUORESCENT WALL BRACKETED, WALL MTD., 1 LAMP, 4' LONG, WITH 1 ELECTRONIC BALLAST.	120	METALUX BC-132-UNV-EB81-U	(1) F32T8/SP35 (1) FO32/735 (1) F32T8/TL735	30	31
X1	LIGHTED EXIT SIGN, LED TYPE, SINGLE FACE, WALL MTD., WHITE WITH GREEN LETTERS, POLYCARBONATE OR THERMOPLASTIC HOUSING.	120	DUAL-LITE LXUGW SURELIGHT LPX-7-G-WH	(INCLUDED)	5	8
X2	LIGHTED EXIT SIGN, LED TYPE, SINGLE FACE, CEILING MTD., WHITE WITH GREEN LETTERS, POLYCARBONATE OR THERMOPLASTIC HOUSING.	120	DUAL-LITE LXUGW SURELIGHT LPX-7-G-WH	(INCLUDED)	5	8



ELECTRICAL - UPPER FLOOR LIGHTING PLAN

SCALE: ¼" = 1'-0"

NORTH

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISIONS	BY

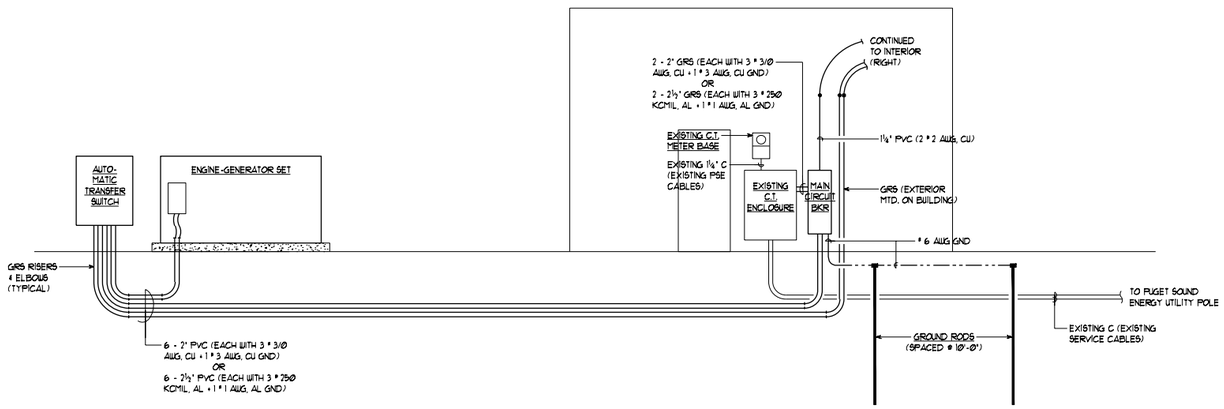
K ENGINEERS INC.
208 Third Street
Lynden, WA 98264
Bus. (360) 354-4757
FAX (360) 354-6794

LAKE WHATCOM WATER & SEWER DISTRICT
1010 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

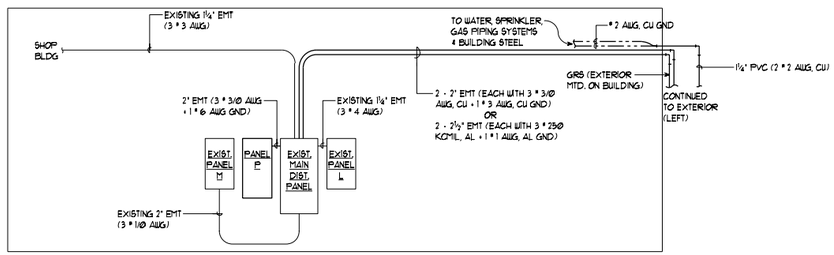
ELECTRICAL - UPPER FLOOR LIGHTING PLAN & LIGHTING FIXTURE SCHEDULE

DATE: 21 APRIL 2011
SCALE: ¼" = 1'-0"
DRAWN: KL
DESIGNED: KK
JOB No: 1463
SHEET E3.2
OF · SHEETS

EXTERIOR



INTERIOR



ELECTRICAL - POWER SYSTEM RISER DIAGRAM

NO SCALE

EXISTING CURRENT TRANSFORMER ENCLOSURE — EXTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
ENCLOSURE: NEMA 3R
MOUNTING: SURFACE
CONTINUOUS RATING: 400 A
PER PUGET SOUND ENERGY REQUIREMENTS
SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	3206.0	4912.0	8118.0	1.25	10147.5
Gen. Purpose Outlets (First 10 KVA)	6120.0	3880.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	6920.0	6920.0	0.50	3460.0
Special Purpose Outlets	0.0	11840.0	11840.0	1.00	11840.0
Mechanical Equipment	11656.0	31290.0	42946.0	1.00	42946.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	1014.0	5040.0	6054.0	1.00	6054.0
25% Largest Motor					460.0
TOTAL LOAD	21996.0	75278.0	97274.0		92314.9
TOTAL AMPS	91.7	313.7	405.3		384.6

MAIN CIRCUIT BREAKER — EXTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: CIRCUIT BREAKER
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
CONTINUOUS RATING: 400 A
FULL A/C RATING: 42,000 A
SERIES A/C RATING: NONE
SPECIAL PROVISIONS: NAMEPLATE; GROUND BAR; SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	3206.0	4912.0	8118.0	1.25	10147.5
Gen. Purpose Outlets (First 10 KVA)	6120.0	3880.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	6920.0	6920.0	0.50	3460.0
Special Purpose Outlets	0.0	11840.0	11840.0	1.00	11840.0
Mechanical Equipment	11656.0	31290.0	42946.0	1.00	42946.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	1014.0	5040.0	6054.0	1.00	6054.0
25% Largest Motor					460.0
TOTAL LOAD	21996.0	75278.0	97274.0		92314.9
TOTAL AMPS	91.7	313.7	405.3		384.6

ENGINE-GENERATOR SET — EXTERIOR/GENERATOR

VOLTAGE: 120/240V, 1 PH, 3 W
RATING: 80 KW, 80 KVA
TYPE: DIESEL
ENCLOSURE: SEE SUBMITTAL
HEATER: SEE SUBMITTAL
FUEL TANK: SEE SUBMITTAL
CONTROLS: SEE SUBMITTAL
MAIN CIRCUIT BREAKER: 400A, 2P, 3W
REMOTE ALARM ANNUNCIATOR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	3206.0	4912.0	8118.0	1.00	8118.0
Gen. Purpose Outlets (First 10 KVA)	6120.0	3880.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	6920.0	6920.0	0.50	3460.0
Special Purpose Outlets	0.0	11840.0	11840.0	1.00	11840.0
Mechanical Equipment	11656.0	31290.0	42946.0	0.50	21473.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	1014.0	5040.0	6054.0	1.00	6054.0
25% Largest Motor					460.0
TOTAL LOAD (SEE NOTE 1)	21996.0	75278.0	97274.0		68812.4
TOTAL AMPS	91.7	313.7	405.3		286.7

NOTES
(1) ENGINE-GENERATOR LOAD SHEDDING CONTACTS SHALL BE PROVIDED TO INTERLOCK WITH THE MECHANICAL CONTROL SYSTEM TO LIMIT MECHANICAL EQUIPMENT LOAD WHEN THE DEMAND ON THE GENERATOR IS HIGH.

AUTOMATIC TRANSFER SWITCH — EXTERIOR/GENERATOR

VOLTAGE: 120/240V, 1 PH, 3 W
RATING: 400 AMPS, 3 POLE, 4 WIRE
APPLICATION: UTILITY TO GENERATOR
ENCLOSURE: NEMA 3R
MOUNTING: SURFACE
METERS (DOOR MOUNTED): SEE SUBMITTAL
STATUS INDICATORS: SEE SUBMITTAL
MASTER NAMEPLATE: SEE SUBMITTAL

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	3206.0	4912.0	8118.0	1.25	10147.5
Gen. Purpose Outlets (First 10 KVA)	6120.0	3880.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	6920.0	6920.0	0.50	3460.0
Special Purpose Outlets	0.0	11840.0	11840.0	1.00	11840.0
Mechanical Equipment	11656.0	31290.0	42946.0	1.00	42946.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	1014.0	5040.0	6054.0	1.00	6054.0
25% Largest Motor					460.0
TOTAL LOAD	21996.0	75278.0	97274.0		92314.9
TOTAL AMPS	91.7	313.7	405.3		384.6

EXISTING MDP — ELECTRICAL ROOM

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: PANELBOARD
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
BUSSING: MANUFACTURER'S STANDARD
CONTINUOUS RATING: 400 A
FULL A/C RATING: 22,000 A
SERIES A/C RATING: NONE
MAIN: LUGS ONLY
LOCATION: TOP
FEEDER/BRANCH CIRCUIT DEVICES: BOLT-ON CIRCUIT BREAKERS
FULL A/C RATING: 10,000 A
SERIES A/C RATING: 22,000 A
SPECIAL PROVISIONS: MASTER NAMEPLATE; GROUND BAR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	3206.0	4912.0	8118.0	1.25	10147.5
Gen. Purpose Outlets (First 10 KVA)	6120.0	3880.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	6920.0	6920.0	0.50	3460.0
Special Purpose Outlets	0.0	11840.0	11840.0	1.00	11840.0
Mechanical Equipment	11656.0	31290.0	42946.0	1.00	42946.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	1014.0	5040.0	6054.0	1.00	6054.0
25% Largest Motor					460.0
TOTAL LOAD	21996.0	75278.0	97274.0		92314.9
TOTAL AMPS	91.7	313.7	405.3		384.6

CONN. LOAD (VA)	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	BKR AMP/P	CKT NO	BUS (PHASE)	CKT NO	BKR AMP/P	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	CONN LOAD (VA)
MAIN LUGS										
3217.0	STORAGE BUILDING PANEL		70/2	1	A	2	70/2	PANEL L		4321.0
2700.0			|	3	B	4	|			2920.0
16466.0	PANEL M		125/2	5	A	6	200/2	PANEL P		18526.0
13104.0			|	7	B	8	|			18520.0
3750.0	SHOP HEATER		50/2	9	A	10	50/2	EXISTING SHOP HEATER		5000.0
3750.0			|	11	B	12	|			5000.0
0.0			SPACE	13	A	14	SPACE			0.0
0.0			|	15	B	16	|			0.0

PANEL P — ELECTRICAL ROOM

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: PANELBOARD
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
BUSSING: MANUFACTURER'S STANDARD
CONTINUOUS RATING: 225 A
FULL A/C RATING: 22,000 A
SERIES A/C RATING: NONE
MAIN: LUGS ONLY
LOCATION: TOP
FEEDER/BRANCH CIRCUIT DEVICES: BOLT-ON CIRCUIT BREAKERS
FULL A/C RATING: 10,000 A
SERIES A/C RATING: 22,000 A
SPECIAL PROVISIONS: MASTER NAMEPLATE; GROUND BAR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	0.0	0.0	0.0	1.25	0.0
Gen. Purpose Outlets (First 10 KVA)	1090.0	8920.0	10000.0	1.00	10000.0
Gen. Purpose Outlets (Remainder)	0.0	1880.0	1880.0	0.50	940.0
Special Purpose Outlets	0.0	5220.0	5220.0	1.00	5220.0
Mechanical Equipment	0.0	7200.0	7200.0	1.00	7200.0
Kitchen Equipment & Appliances	0.0	11396.0	11396.0	0.65	7407.4
Miscellaneous	150.0	1200.0	1350.0	1.00	1350.0
25% Largest Motor					460.0
TOTAL LOAD	1230.0	35816.0	37046.0		32577.4
TOTAL AMPS	5.1	149.2	154.4		135.7

CONN. LOAD (VA)	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	BKR AMP/P	CKT NO	BUS (PHASE)	CKT NO	BKR AMP/P	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	CONN LOAD (VA)
MAIN LUGS										
1200.0	DISHWASHER - KITCHEN		20/1	1	A	2	20/1	OUTLETS - WOMEN'S LOCKER		720.0
1140.0	REFRIGERATOR - KITCHEN		20/1	3	B	4	20/1	OUTLETS - MEN'S LOCKER		360.0
1176.0	DISPOSAL - KITCHEN		20/1	5	A	6	20/1	OUTLETS - CREW AREA		1080.0
1440.0	MICROWAVE - KITCHEN		20/1	7	B	8	20/1	OUTLETS - CREW AREA, OPEN OFFICE & HALL		1440.0
540.0	OUTLETS - KITCHEN COUNTER		20/1	9	A	10	20/1	OUTLETS - CREW AREA & OFFICE		1260.0
1620.0	OUTLETS - KITCHEN COUNTER & MICROWAVE		20/1	11	B	12	20/1	OUTLETS - OPEN OFFICE AREA		1440.0
720.0	OUTLETS - KITCHEN		20/1	13	A	14	20/1	PROJECTOR - OPEN OFFICE AREA		750.0
360.0	OUTLETS - SERVER ROOM		20/1	15	B	16	20/1	OUTLETS - SHOP, NORTHEAST		540.0
360.0	OUTLETS - SERVER ROOM		20/1	17	A	18	20/1	OUTLETS - SHOP, NORTHWEST		720.0
1440.0	OUTLETS - MEZZANINE		20/1	19	B	20	20/1	OUTLETS - SHOP, SOUTH		540.0
720.0	OUTLETS - MUD ROOM		20/1	21	A	22	20/1	OUTLETS - SHOP, SOUTHWEST		360.0
540.0	OUTLETS - EXISTING		20/1	23	B	24	20/1	OUTLETS - SHOP, WEST		360.0
540.0	OUTLETS - EXISTING		20/1	25	A	26	20/1	OUTLETS - SHOP, NORTHWEST		180.0
3600.0	FAN COIL UNIT	(1) (2) (3)	50/2	27	B	28	20/1	OUTLETS - EXTERIOR, EAST		360.0
3600.0		(3)	|	29	A	30	20/1	OUTLETS - EXTERIOR, EAST		360.0
0.0	HEAT PUMP	(1) (2)	30/2	31	B	32	20/1	OUTLETS - SHOP, SOUTHEAST		540.0
0.0			|	33	A	34	20/1	OUTLETS - SHOP, SOUTHEAST		540.0
150.0	TELEMETRY POWER SUPPLY		20/1	35	B	36	20/1	SPARE		0.0
900.0	OUTLETS - ELECTRICAL ROOM		20/1	37	A	38	15/1	FIRE ALARM PANEL		150.0
2500.0	RANGE - KITCHEN		50/2	39	B	40	15/1	SECURITY ALARM PANEL		150.0
2500.0			|	41	A	42	15/1	CAMERA POWER SUPPLIES		150.0

NOTES:
(1) FAN COIL UNIT AND HEAT PUMP SHALL BE INTERLOCKED TO ALLOW FOR ONLY THE FAN COIL UNIT OR HEAT PUMP TO OPERATE AT ONE TIME.
(2) CIRCUITS RELOCATED FROM PANEL M (CURCUITS 1, 3, 23 & 25)
(3) EXISTING CIRCUITS TO BE RELOCATED TO PANEL M (CIRCUITS 23 & 25)

EXISTING PANEL L — ELECTRICAL ROOM

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: PANELBOARD
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
BUSSING: MANUFACTURER'S STANDARD
CONTINUOUS RATING: 125 A
FULL A/C RATING: 22,000 A
SERIES A/C RATING: NONE
MAIN: LUGS ONLY
LOCATION: TOP
FEEDER/BRANCH CIRCUIT DEVICES: PLUG-ON CIRCUIT BREAKERS
FULL A/C RATING: 10,000 A
SERIES A/C RATING: 22,000 A
SPECIAL PROVISIONS: MASTER NAMEPLATE; GROUND BAR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	2096.0	4455.0	6461.0	1.25	9076.3
Gen. Purpose Outlets (First 10 KVA)	0.0	0.0	0.0	1.00	0.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	0.0	780.0	780.0	1.00	780.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	0.0	0.0	0.0	1.00	0.0
25% Largest Motor					0.0
TOTAL LOAD	2096.0	5235.0	7241.0		8856.3
TOTAL AMPS	8.4	21.8	30.2		36.9

CONN. LOAD (VA)	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	BKR AMP/P	CKT NO	BUS (PHASE)	CKT NO	BKR AMP/P	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	CONN LOAD (VA)
MAIN LUGS										
599.0	LTG - OPEN OFFICE		20/1	1	A	2	20/1	LTG - SHOP		776.0
899.0	LTG - CREW AREA, OFFICE & KITCHEN		20/1	3	B	4	20/1	LTG - SHOP		1107.0
1153.0	LTG - HALL & LOCKERS		20/1	5	A	6	20/1	LTG - MEZZANINE		1360.0
514.0	LTG - EXTERIOR FLOOD LIGHTS		20/1	7	B	8	20/1	SPARE		0.0
432.0	LTG - EXTERIOR LIGHTS		20/1	9	A	10	20/1	SPARE		0.0
0.0	SPARE		20/1	11	B	12	20/1	SPARE		0.0

EXISTING PANEL M — ELECTRICAL ROOM

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: PANELBOARD
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
BUSSING: MANUFACTURER'S STANDARD
CONTINUOUS RATING: 225 A
FULL A/C RATING: 22,000 A
SERIES A/C RATING: NONE
MAIN: LUGS ONLY
LOCATION: BOTTOM
FEEDER/BRANCH CIRCUIT DEVICES: BOLT-ON CIRCUIT BREAKERS
FULL A/C RATING: 10,000 A
SERIES A/C RATING: 22,000 A
SPECIAL PROVISIONS: MASTER NAMEPLATE; GROUND BAR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	0.0	0.0	0.0	1.25	0.0
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	6620.0	6620.0	1.00	6620.0
Mechanical Equipment	1656.0	15810.0	17466.0	1.00	17466.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	864.0	3840.0	4704.0	1.00	4704.0
25% Largest Motor					264.5
TOTAL LOAD	3240.0	26270.0	29510.0		29774.5
TOTAL AMPS	13.5	109.5	123.0		124.1

CONN. LOAD (VA)	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	BKR AMP/P	CKT NO	BUS (PHASE)	CKT NO	BKR AMP/P	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	CONN LOAD (VA)
MAIN LUGS										
600.0	GATE - EXTERIOR ENTRANCE	(2) (3)	20/1	1	A	2	20/1	GENERATOR BLOCK HEATER		1500.0
600.0	GATE - EXTERIOR ENTRANCE	(2) (3)	20/1	3	B	4	20/1	GENERATOR BATTERY CHARGER		180.0
960.0	OVERHEAD DOOR OPERATORS - SHOP		20/1	5	A	6	30/2	WATER HEATER - MUD ROOM		2250.0
0.0	SPARE	(3)	20/1	7	B	8	|			2250.0
2500.0	DRYER - MUD ROOM		30/2	9	A	10	20/2	OUTLETS - SHOP & EXTERIOR 240V RECEPTACLE		720.0
2500.0			|	11	B	12	|			720.0
180.0	WASHER - MUD ROOM		20/1	13	A	14	20/1	SPARE		0.0
1440.0	A/C HEAT UNIT - SERVER ROOM		15/2	15	B	16	20/1	SPARE		0.0
1440.0			|	17	A	18	30/1	AIR COMPRESSOR		1656.0
1440.0	A/C HEAT UNIT - MANUALS ROOM		15/2	19	B	20	20/1	GAS PUMP		864.0
1440.0			|	21	A	22	20/1	EXHAUST FAN - SHOP		50.0
360.0	OUTLETS - EXISTING	(1)	20/1	23	B	24	20/1	SPARE		0.0
360.0	OUTLETS - EXISTING	(1)	20/1	25	A	26	20/1	SPARE		0.0
1750.0	HEATERS - MUD ROOM & LOCKERS		30/2	27	B	28	15/2	HEATER - ARCHIVE ROOM		1000.0
1750.0			|	29	A	30	|			1000.0
MAIN LUGS										

NOTES:
(1) CIRCUIT RELOCATED FROM PANEL P (CIRCUITS 27 & 29)
(2) EXISTING CIRCUITS TO BE RELOCATED TO PANEL P (CIRCUITS 27 & 29).
(3) EXISTING GATE CIRCUIT TO BE RELOCATED TO CIRCUIT 1, ADD ADDITIONAL GATE CIRCUIT ON CIRCUIT NUMBER 3

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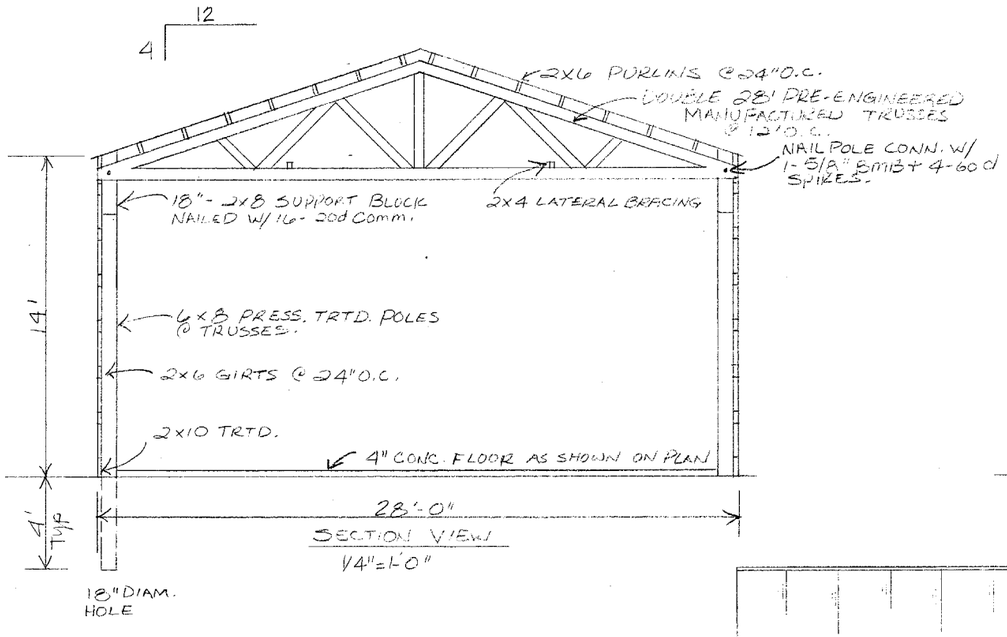
REVISIONS	BY

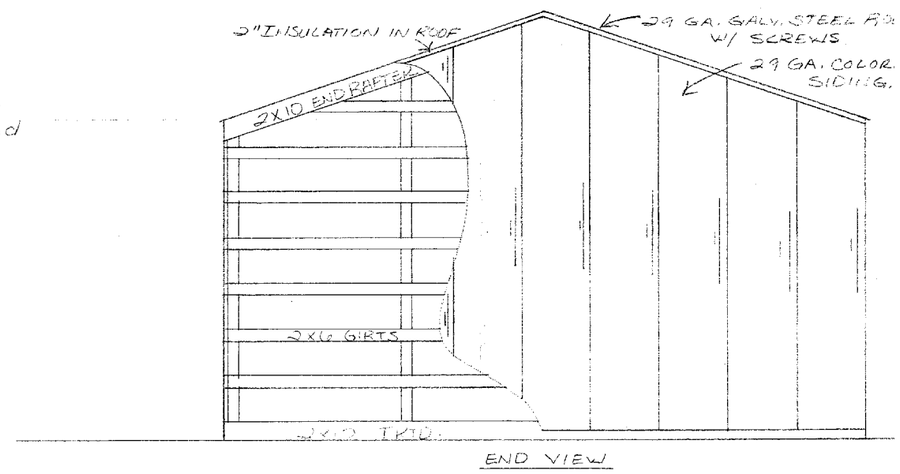
K ENGINEERS INC.
208 Third Street
Lynden, WA 98264
Bus. (360) 354-4757
FAX (360) 354-6794

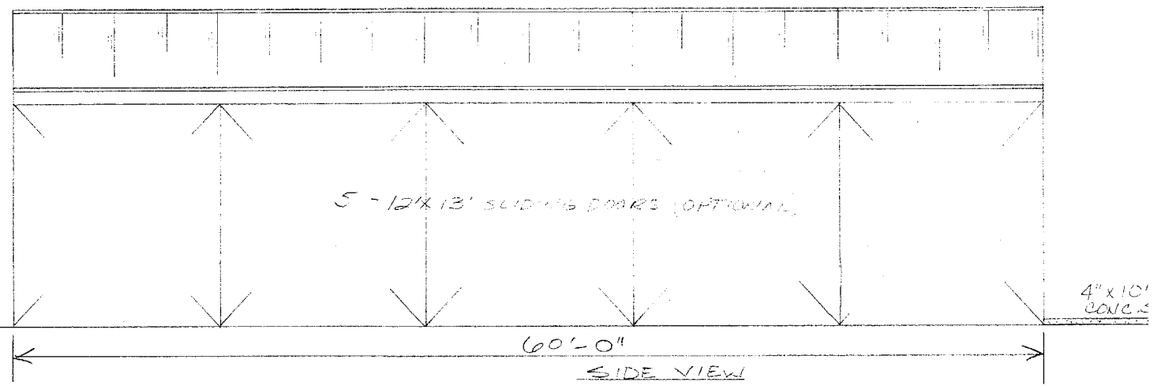
LAKE WHATCOM WATER & SEWER DISTRICT
1010 LAKEVIEW STREET BELLINGHAM, WA 98229
OPERATIONS CENTER REMODEL

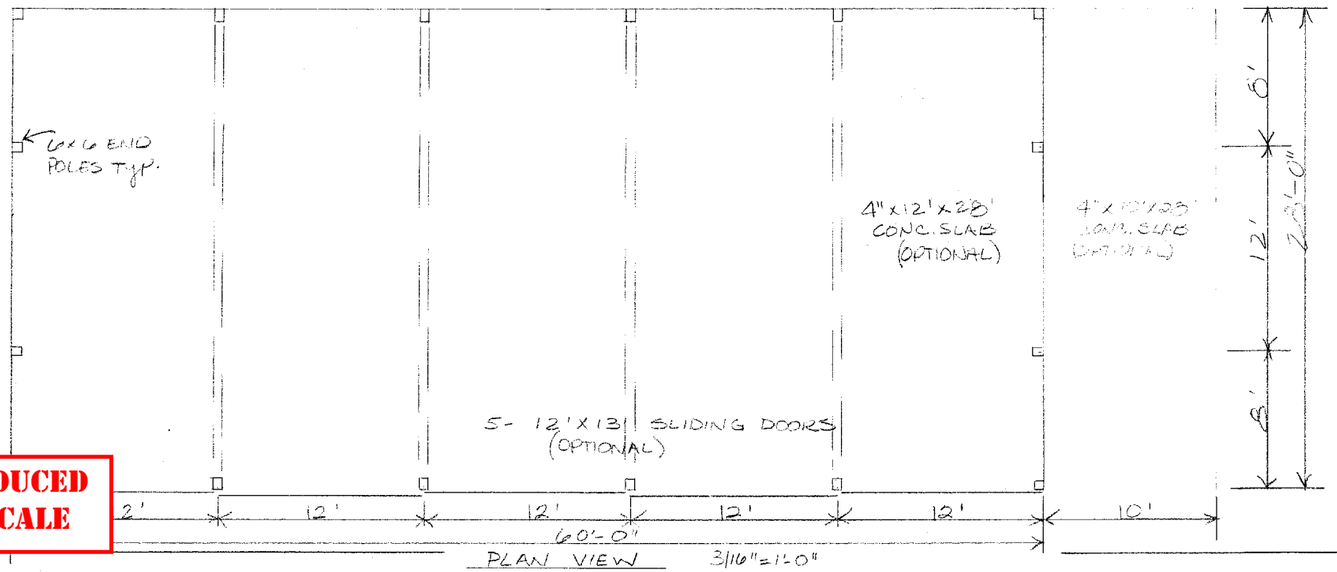
ELECTRICAL - POWER SYSTEM RISER DIAGRAM & PANEL SCHEDULES

DATE: 21 APRIL 2011
SCALE: NO SCALE
DRAWN: KL
DESIGNED: KK
JOB No: 1463
SHEET E6.1
OF . SHEETS









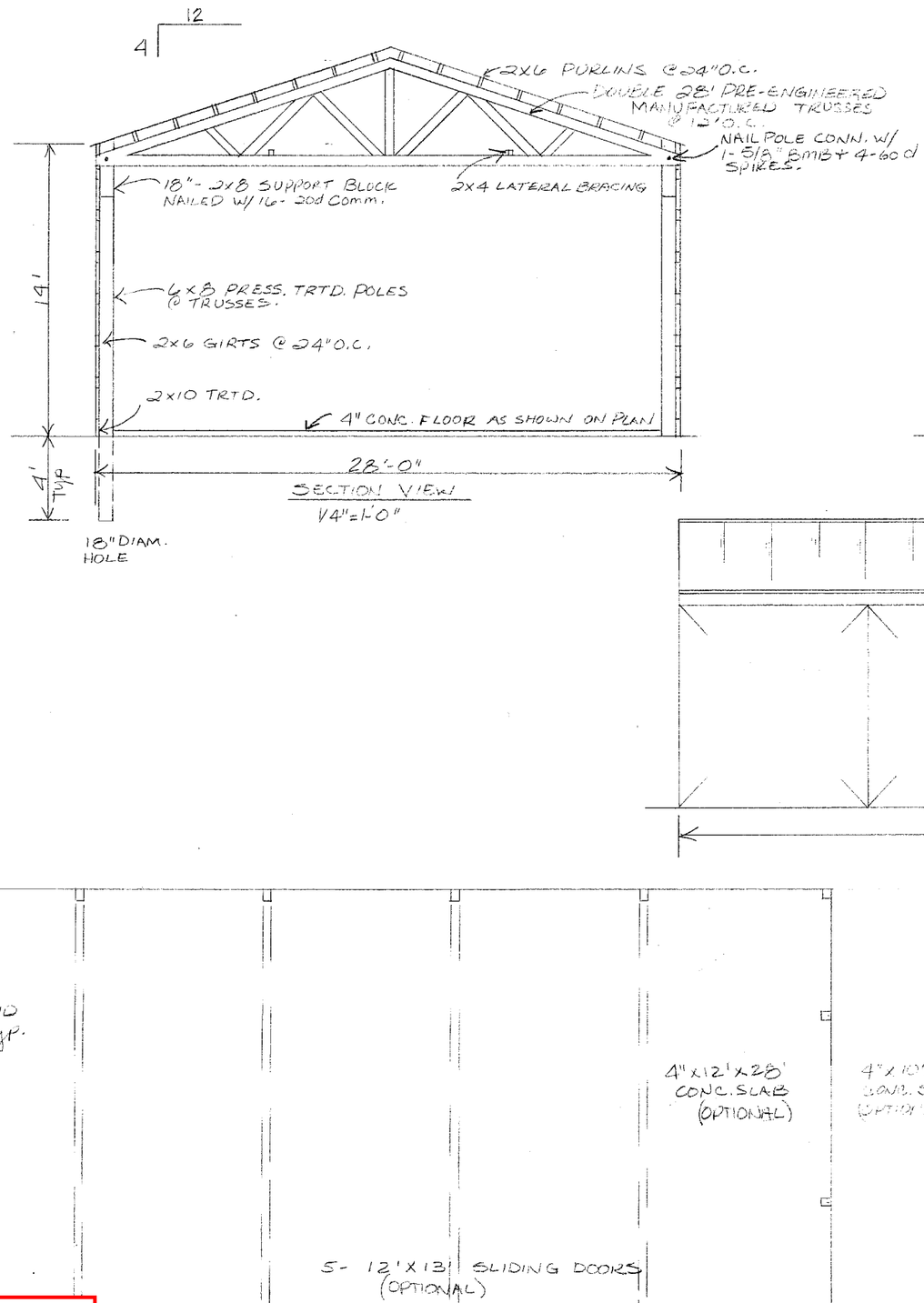
TEXMO BUILDINGS
ELWOOD-
CONST.
P. O. BOX 876 BELL
734-3466

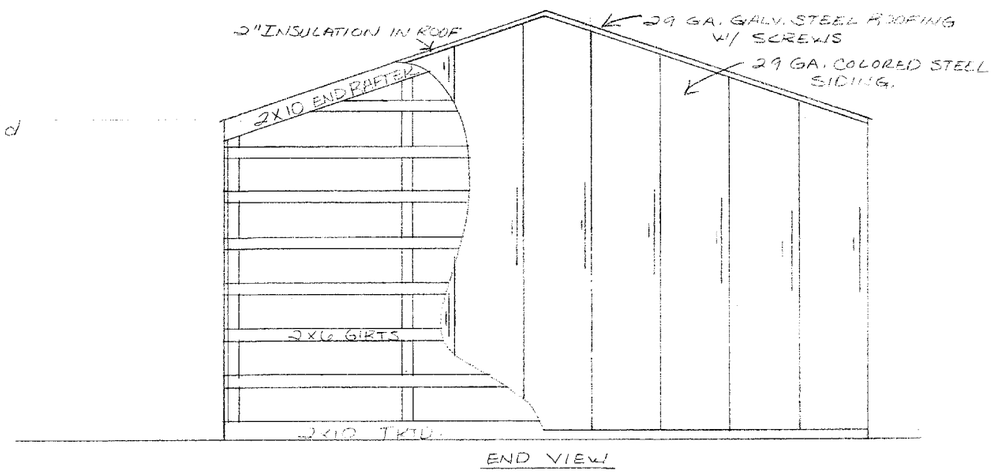
28'X 60' BUILDING

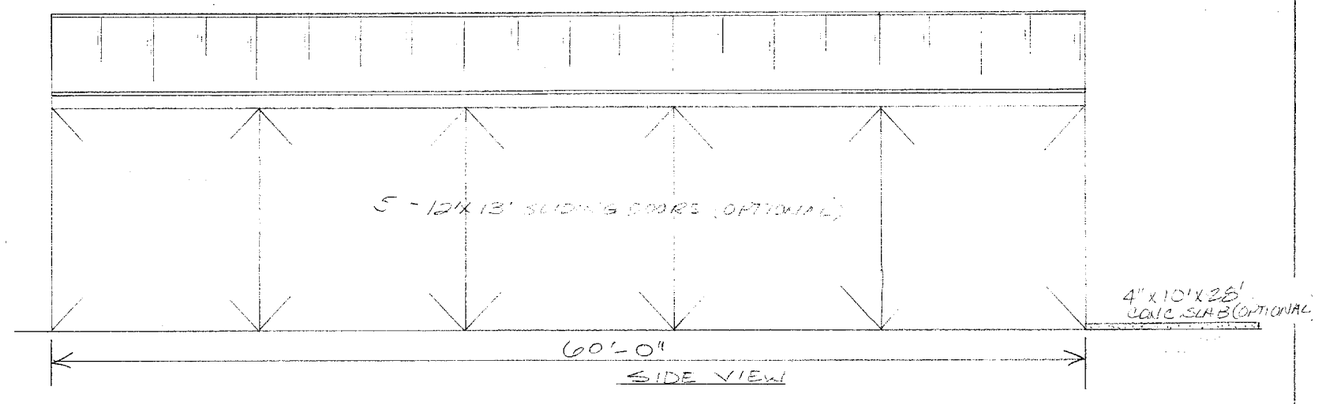
FOR: WATER DISTRICT #1C
1010 LAKEVIEW ST.
BELLINGHAM, WA.

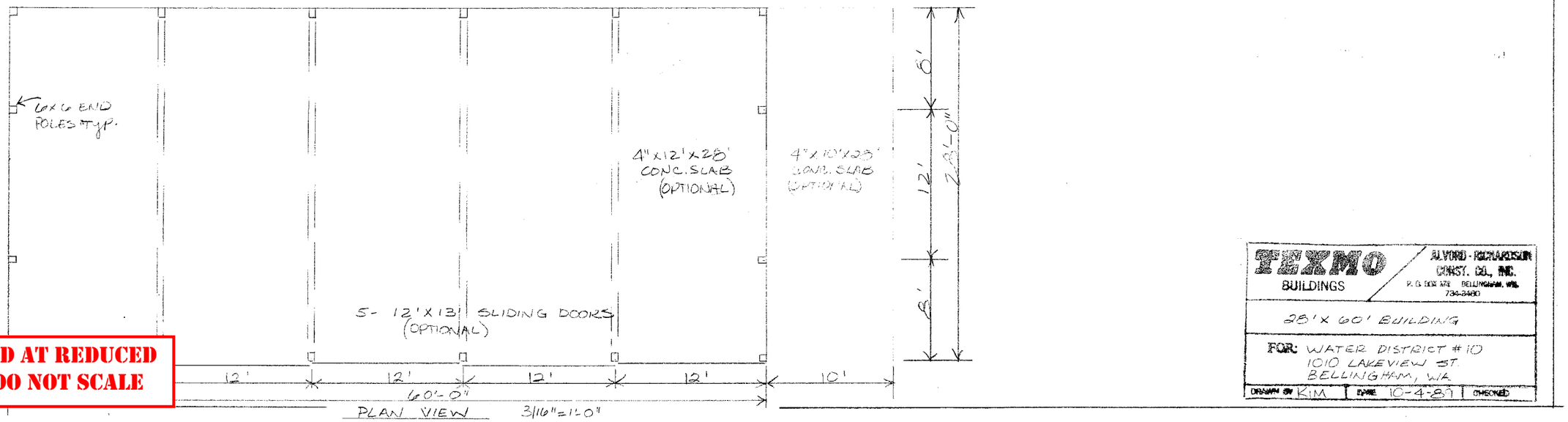
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PLOTTED AT REDUCED SIZE, DO NOT SCALE









TEXMO BUILDINGS

ALVORD-FITCHPATRICK CONST. CO., INC.
P. O. BOX 478 BELLINGHAM, WA. 734-3480

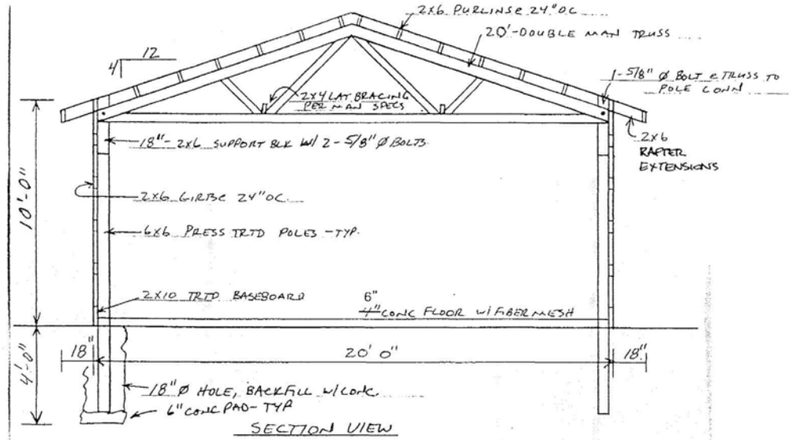
28'X 60' BUILDING

FOR: WATER DISTRICT #10
1010 LAKEVIEW ST.
BELLINGHAM, WA

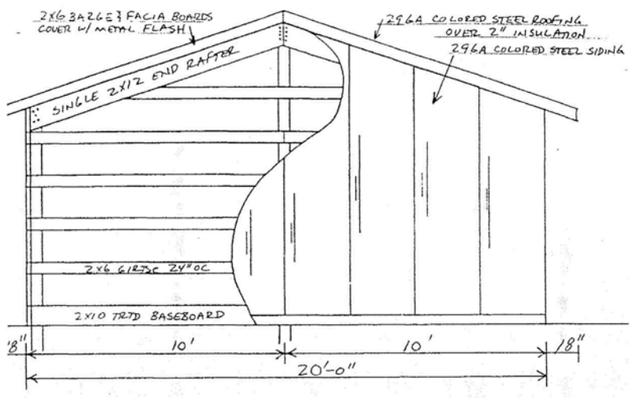
DRAWN BY KIM | DATE 10-4-87 | CHECKED

PLOTTED AT REDUCED SIZE, DO NOT SCALE

Agate Heigts Water Treatment Plant



NOTE: DETAIL FROM TEXMO BUILDINGS DESIGN AS PROVIDED BY ALVORD-RICHARDSON CONST.



NOTE: DETAIL FROM TEXMO BUILDINGS DESIGN PROVIDED BY ALVORD-RICHARDSON CONST.

WATER TREATMENT SYSTEM/ WELL BOOSTER PUMP BUILDING (5)
(SEE NOTES)

NOTES:

1. HEATING, INSULATION, AND LIGHTING OF THE BUILDING SHALL COMPLY WITH THE WASHINGTON STATE NON-RESIDENTIAL ENERGY CODE. BUILDING WALLS SHALL BE INSULATED WITH R-19 RATED INSULATION.

2. THE BUILDING SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES ADOPTED BY WHATCOM COUNTY AND THE GENERAL REQUIREMENTS FOR GROUP S-2 OCCUPANCY PER SECTION 311 OF THE UNIFORM BUILDING CODE (CURRENT EDITION).

3. A BUILDING PERMIT SHALL BE OBTAINED FROM WHATCOM COUNTY PRIOR TO CONSTRUCTION.

4. STANDARD STRUCTURAL AND MATERIAL SPECIFICATIONS IN DETAIL 5 TO BE USED FOR 12'x16' POLE BUILDING AT THE TANK SITE AND 20'x20' POLE BUILDING AT THE WATER TREATMENT SYSTEM/WELL SITE.

5. THE SLAB SUBGRADE SHALL CONSIST OF 6" STRUCTURAL FILL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY (ASTM 1557-D).

1	REVISED PER WC & WD#10 REVIEW	TEB	3/22/00
2	REVISED PER WC & WD#10 2nd REVIEW	TEB	4/13/00
3	AS-BUILT RECORD DRAWINGS	TEB/ KRK	APR. 2001
			DATE

THOMAS E. BENNETT — STATE OF WASHINGTON — 20906 — REGISTERED PROFESSIONAL ENGINEER — 4-1-01
EXPIRES 11/07/02

BEK ENGINEERING & ENVIRONMENTAL, INC.
CIVIL GEOTECHNICAL ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
Ph: (360) 676-9589
Ph: (800) 859-5597
Fax: (360) 676-4625

JOB NO.:	98236
DWG. NAME:	200043-MECHI
DESIGNED BY:	MLI
DRAWN BY:	KRK
CHECKED BY:	TEB

RICHALOU ESTATES
S 1/2, SEC. 24, T 38 N, R 03 E
WHATCOM COUNTY, WASHINGTON

AS-BUILT WATER TREATMENT SYSTEM DETAILS
PLS89-0009/ VAR93-0017

DATE: 12/10/99 SCALE: H: AS SHOWN V: N/A

DRAWING: M-5
SHEET: 26 of 29

0731

PLOTTED AT REDUCED SIZE, DO NOT SCALE

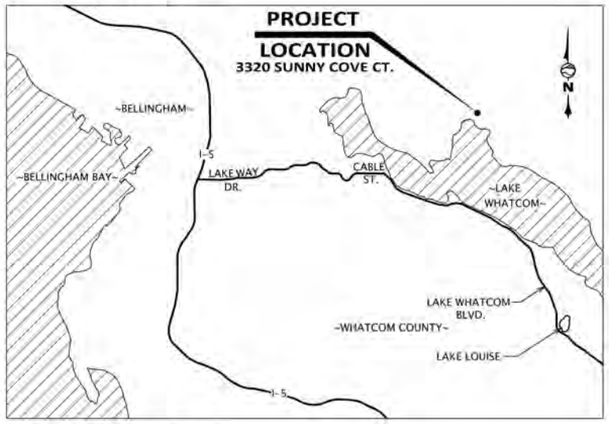
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LAKE WHATCOM WATER & SEWER DISTRICT

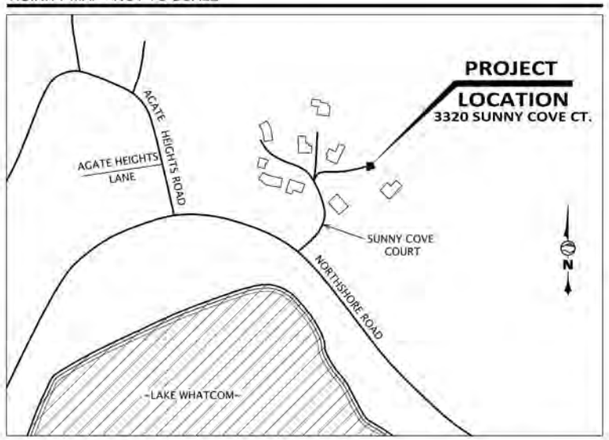
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES

DISTRICT PROJECT #C1814-CON

AREA MAP - NOT TO SCALE



VICINITY MAP - NOT TO SCALE



INDEX TO DRAWINGS

1.	SHEET C0.1	COVER SHEET
2.	SHEET C0.2	LEGEND & ABBREVIATIONS
3.	SHEET C0.3	OVERALL SITE PLAN
4.	SHEET C0.4	LWWSD STANDARD NOTES
5.	SHEET C1.1	DEMOLITION PLAN
6.	SHEET C2.1	WATER PROCESS SCHEMATIC
7.	SHEET C3.1	TEMPORARY BYPASS PLAN
8.	SHEET C4.1	MECHANICAL PIPING
9.	SHEET C4.2	MECHANICAL DETAILS
10.	SHEET C4.3	MECHANICAL DETAILS
11.	SHEET C4.4	SECTIONS
12.	SHEET C5.1	CIVIL DETAILS
13.	SHEET E1.0	ELECTRICAL - NOTES & LEGEND
14.	SHEET E2.0	ELECTRICAL - DEMOLITION PLAN
15.	SHEET E2.1	ELECTRICAL - POWER & CONTROLS PLAN
16.	SHEET E6.1	ELECTRICAL - POWER SYSTEM RISER DIAGRAM & PANEL SCHEDULES
17.	SHEET E7.1	ELECTRICAL - CONTROL DRAWINGS
18.	SHEET E7.2	ELECTRICAL - CONTROL DRAWINGS
19.	SHEET E7.3	ELECTRICAL - BILL OF MATERAILS

PROJECT SPECIFIC NOTES

1. ALL PIPE AND FITTINGS SHALL BE FULLY RESTRAINED.
2. CUSTOMERS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY SERVICE INTERRUPTION.
3. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER FOR ANY PROPOSED CHANGES IN PLANS PRIOR TO CONSTRUCTION OF THAT CHANGE. CONTRACTOR SHALL KEEP RECORD OF DEVIATIONS AND FORWARD TO THE ENGINEER AND DISTRICT.
4. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. ANY DAMAGE TO EXISTING EQUIPMENT SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER.

CONTACT INFORMATION

CIVIL ENGINEER

WILSON ENGINEERING, LLC

BRIAN SMITH, PE
bsmith@wilsonengineering.com
AND
MELANIE MANKAMYER, PE
mmankamyer@wilsonengineering.com
360-733-6100

OWNER

LAKE WHATCOM WATER & SEWER DISTRICT:

JUSTIN CLARY, PE
GENERAL MANAGER
justin.clary@lwwsd.org
360-734-9224

BILL HUNTER, PE
bill.hunter@lwwsd.org
360-734-9224
CELL: 360-296-4577

ELECTRICAL ENGINEER:
K ENGINEERS, INC.
STEVE TEVELDE, PE
steveteveldе@k-engineers.com
360-354-4757

SYSTEM INTEGRATION:
QUALITY CONTROLS CORPORATION
JAMES CROSS
jamesc@quality-controls.com
425-778-8280

EMERGENCY CONTACTS

PUGET SOUND ENERGY:
REPAIR DEPARTMENT 888-225-5773
CONST. SERVICES 888-321-7779

PLOTTED AT REDUCED SIZE, DO NOT SCALE

811 Call 811 two business days before you dig

AS-BUILT

WILSON ENGINEERING
WILSONENGINEERING.COM

MARTIN SMITH — BRIAN SMITH — 22321 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY	DRAWN BY	CHECKED BY
BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
COVER SHEET

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C0.1 — PAGE 1 OF 19

PLOT SETTINGS: DWG To PDF.pc3, Previous paper size (17.00 x 11.00 inches), Portrait, 1:2, WE_ARMA_LANDSCREEN.ctb
W:\2018\2018-110 LWWSD AGATE WTP UPGRADES\DWG\AS-BUILT\A8_2018-110 C0.1 COVER SHEET_VER2019.DWG — 7/23/2021 8:41 AM — Joseph Ford

LEGEND & ABBREVIATIONS– SIZE & SCALE MAY VARY

EXISTING HATCH PATTERNS

	DESCRIPTION
	EXIST. CONCRETE
	EXIST. BUILDING
	EXIST. EARTH
	EXIST. GRAVEL
	EXIST. SAND

PROPOSED HATCH PATTERNS

	DESCRIPTION
	PROP. CONCRETE
	PROP. TOP COURSE GRAVEL
	PROP. GRAVEL
	PROP. SAND
	PROP. QUARRY SPALLS
	WETLAND HATCH

SURFACE FEATURES
EXISTING PLAN LINETYPES

	DESCRIPTION
	BRIDGE
	BUILDING LINE
	BUILDING COLUMN
	BUILDING OVERHANG
	BULKHEAD
	CONCRETE EDGE
	CREEK EDGE
	CROWN OF ROAD
	CURB
	DITCH CENTERLINE
	DECK
	DOCK
	EDGE OF SAWCUT
	EDGE OF PAVEMENT
	FENCE
	GATE
	GRADE
	GRAVEL
	GUARDRAIL
	JERSEY BARRIER
	LAKE/POND WATER EDGE
	LIP OF CURB
	MISC SURFACE FEATURE
	MISC TRAFFIC
	PLANTER
	PATH
	RAILROAD
	RAMP (WOOD)
	HANDRAIL
	RETAINING WALL
	ROAD STRIPING
	ROCKERY
	RIVERBANK/SHORELINE
THW THW	THALWAG LINE
	TOP OF BANK/SLOPE
	TOE OF BANK/SLOPE
	VEGETATION/SHRUB LINE
	WETLAND/SWAMP PERIMETER
	WETLAND BUFFER

SURFACE FEATURES
PROPOSED PLAN LINETYPES

	DESCRIPTION
	BRIDGE
	BUILDING LINE
	CONCRETE
	CURB
	DITCH CENTERLINE
	EDGE OF BIKE LANE
	EDGE OF PAVEMENT
X X	FENCE
	GATE
	GRAVEL
	GUARDRAIL
	JERSEY BARRIER
	LIP OF CURB
	REBAR
	RETAINING WALL
	ROCKERY
	ROAD STRIPING
	HANDRAIL

UTILITIES
EXISTING PLAN LINETYPES

	DESCRIPTION
TV TV	CABLE TELEVISION (AERIAL)
TV TV	CABLE TELEVISION (BURIED)
C	SURVEILLANCE CAMERA (BURIED
FO FO	FIBER OPTIC/COMMUNICATIONS LINE (AERIAL)
FO FO	FIBER OPTIC/COMMUNICATIONS LINE (BURIED)
OHT OHT	TELEPHONE/COMMUNICATIONS (AERIAL)
T T	TELEPHONE/COMMUNICATIONS (BURIED)
SC SC	TRAFFIC SIGNAL CONDUIT LINE
OHP OHP	POWER (AERIAL)
P P	POWER (BURIED)
UT UT	UTILITY (AERIAL)
UT UT	UTILITY (BURIED)
PDB PDB	POWER DUCT BANK (BURIED)
DF DF	DRAIN FIELD
S S	SANITARY SEWER
S S S S S	APPROXIMATE SANITARY SEWER
FM FM	SANITARY SEWER (FORCE MAIN)
FM FM FM FM FM	APPROXIMATE SANITARY SEWER (FORCE MAIN)
SD SD	STORM DRAINAGE
SD SD SD SD SD	APPROXIMATE STORM DRAINAGE
	CULVERT (Ø WIDTH)
	CULVERT
RW RW	RECLAIMED WATER
IRR IRR	IRRIGATION
W W	WATER
W W W W W	APPROXIMATE WATER
8W 8W	8" WATER
OF OF OF	OVERFLOW
STE STE	STEAM
G G	GAS
	GAS TANK/STRUCTURE
O O	OIL
AIR AIR	AIR LINE
	BURIED UTILITY APPROX. EXTENTS
	MISC. UTILITY (BURIED)

PROPOSED PLAN UTILITY LINETYPES

	DESCRIPTION
WATER	
W W	WATER
8W 8W	8" WATER
IRR IRR	IRRIGATION
RW RW RW RW	RECLAIMED WATER
PW PW PW PW	POTABLE WATER
W W W W W	WATER SERVICE
	WATER STRUCTURE
FDC FDC	FIRE DEPARTMENT CONNECTION
FP FP	FIRE PROTECTION LINE
SANITARY SEWER	
S S	SEWER
8S 8S	8" SEWER
FM FM	FORCE MAIN
DF DF	DRAIN FIELD
S S S S S	SEWER SERVICE
	SEWER STRUCTURE
STORM DRAIN	
D D	STORM DRAIN
SD SD	STORM DRAIN
	STORM DRAIN
D D D D D	STORM SERVICE
FD FD FD FD FD	FOOTING DRAIN
	STORM STRUCTURE
MISC. UTILITIES	
G G	GAS
P P	POWER
T T	TELEPHONE/COMMUNICATIONS
EROSION CONTROL	
TSD TSD	EROSION TRIANGULAR SILT DIKE
CB CB	EROSION CONTROL COMPOST BERM
	EROSION CONTROL MINOR CONTOUR
100	EROSION CONTROL MAJOR CONTOUR
OB OB	ORANGE BARRIER FENCE
SF SF	SILT FENCE
SW SW	STRAW WATTLE
> >	EROSION CONTROL FLOWLINE
SB	STRAW BALE
IP	INLET PROTECTION
CD	CHECK DAM

SURVEY
PLAN LINETYPES

	DESCRIPTION
	CENTERLINE (EXISTING)
	CENTERLINE (CONSTRUCTION)
	CENTERLINE (PROPOSED)
	CONTOUR (EXISTING MINOR)
100	CONTOUR (EXISTING INDEX)
100	HYDRO CONTOUR (EXISTING INDEX)
	CONTOUR (PROPOSED INDEX)
	CONTOUR (PROPOSED MINOR)
	DONATION LAND CLAIM (EXIST.)
	EASEMENT (PROPOSED)
	EASEMENT (EXISTING)
	MEANDER LINE
OHW OHW	ORDINARY HIGH WATER LINE
MLW MLW	MEAN LOW LEVEL WATER LINE
	OWNERSHIP LINE
	PROPERTY LINE (RECORD OR ADJACENT) PROPERTY LINE
	QUARTER SECTION LINE
	RANGE/TOWNSHIP LINE
	RESERVATION/PARK/FOREST (EX)
	RIGHT-OF-WAY ℄ (EXISTING)
(RIGHT OF WAY & CONSTRUCTION PLANS)	RIGHT-OF-WAY (EXISTING)
(RIGHT OF WAY & CONSTRUCTION PLANS)	RIGHT-OF-WAY (EXISTING USED)
(RIGHT OF WAY PLANS)	RIGHT-OF-WAY (PROPOSED)
(RIGHT OF WAY PLANS) (RIGHT OF WAY PLANS)	RIGHT-OF-WAY (EX. RECORD) (RECORD OR ADJACENT)
	RIGHT-OF-WAY (LIMITED ACCESS)
	RIGHT-OF-WAY (LIMITED ACCESS)
	SECTION LINE
	SETBACK LINE (EXISTING)
	SIXTEENTH SECTION LINE
	STATE/COUNTY/CORPORATE LIMIT
	VACATED RIGHT-OF-WAY
	EASEMENT (RECORD)
	RIGHT-OF-WAY CENTER (RECORD)
	DONATION LAND CLAIM (RECORD)
	MEANDER LINE (RECORD)
	PARK LINE (RECORD)
	SECTION LINE (RECORD)
	QUARTER SECTION LINE (RECORD)
	SIXTEENTH SECTION LINE (RECORD)
	STATE LINE (RECORD)
	RANGE LINE (RECORD)

PROFILE LINETYPES

	DESCRIPTION
	PROFILE EX. GRND ℄
	PROFILE FINISH GRND ℄
	PROFILE GRID
	PROFILE VERTICAL GRID
	PROFILE EX. GROUND LEFT
	PROFILE EXISTING GROUND RIGHT
	FIBER OPTIC PROFILE (EXISTING)
	GAS PROFILE (EXISTING)
	POWER PROFILE (EXISTING)
	RAILROAD PROFILE (EXISTING)
	SANITARY PROFILE (EXISTING)
	SANITARY PROFILE (PROPOSED)
	STORM PROFILE (EXISTING)
	TELEPHONE PROFILE (EXISTING)
	STORM PROFILE (PROPOSED)
	TV PROFILE (EXISTING)
	UTILITY PROFILE (EXISTING)
	WATER PROFILE (EXISTING)
	WATER PROFILE (PROPOSED)

DEMOLITION

	DESCRIPTION
	SURFACE FEATURE OR UTILITY TO BE REMOVED
	SAWCUT
CLR CLR	CLEARING LIMIT
	TREE OR BUSH TO BE REMOVED

GRADING

	DESCRIPTION
GB GB GB	GRADE BREAK
CAT CAT CAT	CATCHLINE
Cut Cut	CUT LINE
Fill Fill	FILL LINE
or	SLOPE ARROWS

SECTION/DETAIL CALL-OUTS

B(A) / CX.XC(B) — **SECTION CALL-OUTS:** (A) REPRESENTS THE SECTION LABEL, (B) INDICATES THE SHEET ON WHICH THE SECTION APPEARS.

1(A) / CX.XC(B) — **DETAIL CALL-OUTS:** (A) REPRESENTS THE DETAIL LABEL, (B) INDICATES THE SHEET ON WHICH THE DETAIL APPEARS.

MISC. SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		SOIL BORING
		MONITORING WELL
		TEST WELL
		TEST PIT
		EMBANKMENT
		MAIL BOX
		SIGN
		RIP RAP
		BOULDER
		SHRUB
		TREE (Conifer)*
		TREE (Deciduous)*
		STUMP–PLAN VIEW
		YARD LIGHT
		WELL
		PILE
		ROCKERY
		WHEEL STOP
		SPLASH BLOCK
		GAS METER
		GAS VALVE
		PAD MOUNTED TRANSFORMER
		POWER VAULT
		TRANSMISSION TOWER
		POWER METER
		GUY POLE
		UTILITY POLE
		UTILITY POLE ANCHOR
		TELE RISER
		CABLE RISER
		FIBER OPTIC RISER
		FIBER OPTIC MANHOLE
		TELEPHONE MANHOLE
		TELEPHONE VAULT
		STEAM MANHOLE
		PARKING METER
		POST
		PUMP

SANITARY SEWER SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		SAN. SEWER CLEAN OUT
		SAN. SEWER MANHOLE

STORM DRAIN SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		STORM DRAIN CB TYPE 1
		STORM DRAIN CB TYPE 2
		STORM DRAIN CB TYPE 2 W/CB LID
		STORM DRAIN WITH OVERFLOW GRATE
		STORM DRAIN CLEAN–OUT
		STORM DOWNSPOUTS

PIPE CALL-OUT

(A) (B) / 36–SS / XXXLF / (C)

PIPE CALL–OUTS: (A) REPRESENTS THE PIPE SIZE IN INCHES, (B) INDICATES THE UTILITY TYPE (C) REPRESENTS THE PIPE LENGTH IN LINEAL FEET

SYMBOLS

°	=DEGREES
±	=PLUS/MINUS
ø	=DIAMETER
Δ	=DELTA
℄	=CENTERLINE
℄	=FLOWLINE
℄	=PROPERTY LINE

SPOT ELEVATIONS

190.00 ① TBC ② — ① = ELEVATION
② = DESCRIPTION– SEE DEFINED ABBREVIATIONS ABOVE

DIRECTIONAL ABBREVIATIONS

N	=NORTH
NE	=NORTHEAST
E	=EAST
SE	=SOUTHEAST
S	=SOUTH
SW	=SOUTHWEST
W	=WEST
NW	=NORTHWEST

B(A) / CX.XC(B) — **SECTION SHEET LABELS:** (A) REPRESENTS THE SECTION LABEL, (B) INDICATES THE SHEET ON WHICH THE SECTION IS CALLED OUT.

1(A) / CX.XC(B) — **DETAIL SHEET LABELS:** (A) REPRESENTS THE DETAIL LABEL, (B) INDICATES THE SHEET(S) ON WHICH THE DETAIL IS CALLED OUT.

CX.XC (B)

WATER SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		ARV VALVE
		GLOBE VALVE, FL
		BALL CHECK VALVE, FL
		BLOW–OFF VALVE
		SWING CHECK VALVE, FL
		BUTTERFLY VALVE, FL
		HOSE BIB/SPIGOT
		DOUBLE LEAF CHECK VALVE
		PLUG VALVE
		BALL VALVE
		FLOAT VALVE
		PINCH VALVE
		PRESSURE & VACUUM RELIEF VALVE
		VACUUM RELIEF VALVE
		PRESSURE RELIEF VALVE
		PRESSURE REGULATING VALVE (SELF CONTAINED)
		BACK PRESSURE REGULATING VALVE (SELF CONTAINED)
		IN–LINE SPRING LOADED RELIEF VALVE
		CAP/PLUG
		GUARD POST
		THRUST BLOCK
		WATER METER
		FIRE DEPARTMENT CONNECTION
		WATER VALVE
		FIRE HYDRANT
		WATER MANHOLE
		POST INDICATOR VALVE
		11–1/4 BEND, MJ–FL
		22–1/2 BEND, MJ–FL
		45 BEND, MJ–FL
		90 BEND, MJ–FL
		FLxMJ ADAPTER
		COUPLER
		BLIND FLANGE
		GATE VALVE, FLxMJ
		GATE VALVE, MJ
		REDUCER, MJxFL
		REDUCER, MJ
		TEE, FL
		TEE, MJ
		TEE, MJxFL
		TEE, FLxMJ
		CROSS, FL
		CROSS, MJ

SURVEY SYMBOLS

	BRASS SURFACE MONUMENT
	CONCRETE MONUMENT
	FOUND REBAR
	SET REBAR
	MONUMENT IN CASE
	TRAVERSE POINT

ABBREVIATIONS

AB	=AS–BUILT (RECORD)
AC	=ASBESTOS CEMENT
AL	=ALIGNMENT
ANC	=UTILITY POLE ANCHOR
APPROX	=APPROXIMATE
ASPH or AC	=ASPHALT
ASSY	=ASSEMBLY
ASTM	=AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	=BUILDING
BMP	=BEST MANAGEMENT PRACTICE
BVCS	=BEGIN VERTICAL CURVE STATION
BVCE	=BEGIN VERTICAL CURVE ELEVATION
CB	=CATCH BASIN
CK	=CHECK VALVE
C/L ℄	=CENTERLINE
CESCL	=CERTIFIED EROSION SEDIMENT CONTROL LEAD
COL	=COLUMN
CMP	=CORRUGATED METAL PIPE
C.O. or CO	=CLEAN OUT
CONC, C	=CONCRETE
COR	=CORNER
CRSI	=CONCRETE REINFORCING STEEL INSTITUTE
CPP	=CORRUGATED POLYETHYLENE PIPE
CSBC	=CRUSHED SURFACING BASE COURSE
CSTC	=CRUSHED SURFACING TOP COURSE
DCVA	=DOUBLE CHECK VALVE ASSEMBLY
DI	=DUCTILE IRON
DIAM	=DIAMETER
DO	=DISSOLVED OXYGEN
DR	=DIMENSION RATIO
DS	=DOWNSPOUT
EB	=EXPLORATION BORING
EFFL	=EFFLUENT
EG	=EXISTING GRADE
ELEV, EL	=ELEVATION
EOG	=EDGE OF GRAVEL
EOP	=EDGE OF PAVEMENT
EP	=EXPLORATION PIT
EXIST, EX	=EXISTING
EVCS	=END VERTICAL CURVE STATION
EVCE	=END VERTICAL CURVE ELEVATION
FDC	=FIRE DEPARTMENT CONNECTION
FF	=FINISH FLOOR
FG	=FINISH GRADE
FL	=FLOWLINE OR FLANGE (CONNECTION)
℄	=FLOWLINE
FLC	=FLOWLINE OF CURB
FM	=FORCEMAIN
FNC	=FENCE
FRP	=FIBERGLASS REINFORCED PIPE
GB	=GRADE BREAK
GMET	=GAS METER
GP	=GUY POLE
GPM	=GALLONS PER MINUTE
GRVL, G	=GRAVEL
GV	=GATE VALVE
HB	=HOSE BIB
HDG	=HOT–DIP GALVANIZED
HDPE	=HIGH DENSITY POLYETHYLENE
HSS	=HOLLOW STRUCTURAL SECTION
H:V	=HORIZONTAL:VERTICAL
HWL	=HIGH WATER LEVEL
HYD	=HYDRANT
IBC	=INTERNATIONAL BUILDING CODE
IE	=INVERT ELEVATION
INFO	=INFORMATION
INV	=INVERT
IPS	=IRON PIPE SIZE
LF	=LINEAR FEET
LUM	=LUMINAIRE
LT	=LEFT
MAX	=MAXIMUM
MB	=MAIL BOX
MBR	=MEMBRANE BIO–REACTOR
MC	=MAINTENANCE CLEANING
MFR	=MANUFACTURER
MH	=MANHOLE
MIN	=MINIMUM
MISC	=MISCELLANEOUS
MJ	=MECHANICAL JOINT
MLSS	=MIXED LIQUOR SUSPENDED SOLIDS
MW	=MONITORING WELL
NPDES	=NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
O.C.	=ON CENTER
O.C.E.W.	=ON CENTER EACH WAY
OD	=OUTSIDE DIAMETER
OHP	=OVERHEAD POWER
OHT	=OVERHEAD TELEPHONE
OSHA	=OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	=POINT OF CURVATURE
PCC	=POINT OF CONTINUING CURVATURE
PE	=POLYETHYLENE or PLAIN END
PIV	=POST INDICATOR VALVE
P/L ℄	=PROPERTY LINE
PLC	=PROGRAMMABLE LOGIC CONTROLLER
PLTR	=PLANTER
POL	=POINT ON LINE
PROP	=PROPOSED
PS	=PUMP STATION
PSI	=POUNDS PER SQUARE INCH
PT	=POINT OF TANGENCY
PVC	=POLYVINYL CHLORIDE
PVI	=POINT OF VERTICAL INTERSECTION
PW	=POTABLE WATER
R	=RADIUS
RCK	=ROCK/BOULDER
RET	=RETAINING
REC	=RECORD
REINF	=REINFORCEMENT
REQ'D.	=REQUIRED
RI	=RAPID INFILTRATION
RPBA	=REUSE PRESSURE BACKFLOW ASSEMBLY
RR	=RAILROAD
RT	=RIGHT
R/W or ROW	=RIGHT–OF–WAY
RW	=REUSE WATER
SCADA	=SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	=SCHEDULE
SDCB	=STORM DRAIN CATCH BASIN
SD	=STORM DRAIN
SDMH	=STORM DRAIN MANHOLE
SFH	=SINGLE FAMILY HOUSING
SN	=SIGN
SPD	=STANDARD PROCTOR DENSITY
SPK	=SPIKE
SS	=SANITARY SEWER
SSCO	=SANITARY SEWER CLEAN–OUT
SSMH	=SANITARY SEWER MANHOLE
STA	=STATION
STEP	=SEPTIC TANK EFFLUENT PUMP
S/W	=SIDEWALK
SYMM	=SYMMETRY/SYMMETRICAL
TBC	=TOP BACK OF CURB
TBD	=TO BE DETERMINED
TBM	=TEMPORARY BENCH MARK
T.O.W.	=TOP OF WALL
TYP	=TYPICAL
UNK	=UNKNOWN
UP	=UTILITY POLE
VAC	=VACATED
VC	=VERTICAL CURVE
VCI	=VOLATILE CORROSION INHIBITOR
VEG	=VEGETATION
VFD	=VARIABLE FREQUENCY DRIVE
WA	=WATER
WAS	=WASTE ACTIVATED SLUDGE
WL	=WATERLINE
WM	=WATER METER
WS	=WATER SURFACE
WSDOT	=WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WV	=WATER VALVE
YD	=YARD DRAIN
YL	=YARD LIGHT

PLOTTED AT REDUCED SIZE, DO NOT SCALE

AS–BUILT

811 Call 811 – two business days before you dig

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MARRIN SMITH WASHINGTON 22641 JAMES C. GRANT REGISTERED PROFESSIONAL ENGINEER 7/23/21

DESIGNED BY	DRAWN BY	CHECKED BY
BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
LEGEND & ABBREVIATIONS

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C0.2 — PAGE 2 OF 19

PLOT SETTINGS: DWG To PDF.pc3, Previous paper size (17.00 x 11.00 inches), Portrait, 1-2, WC APWA_UNSCREENED.ctb
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NO.	REVISIONS	BY	DATE

DESIGNATED CONTRACTOR LAYDOWN/STORAGE SPACE. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO SEDIMENT FROM DISTURBED AREAS LEAVES THE SITE. EFFORTS SHALL INCLUDE STANDARD BMPS SUCH AS USE OF STRAW WATTLE, ETC. CONTRACTOR SHALL RESTORE ANY IMPACTED AREAS TO PRE-PROJECT CONDITIONS.

NEW 6-INCH BURIED GATE VALVE PER DETAIL 2, SHEET C5.1. CONTRACTOR TO POTHOLE TO LOCATE PIPE. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO SEDIMENT LEAVES THE SITE. EFFORTS SHALL INCLUDE STANDARD BMPS SUCH AS USE OF STRAW WATTLE AROUND THE EXCAVATION, COVERING STOCKPILES, ETC. CONTRACTOR SHALL REMOVE AND DISPOSE OF SURPLUS MATERIAL OFF-SITE AT A LEGAL DUMP FACILITY. SEE PHOTO.

AB: 6" GATE VALVE ORIGINALLY WAS TO BE INSTALLED AT THIS LOCATION BUT WAS MOVED BECAUSE OF EXISTING FIBER OPTIC, POWER, WATER SERVICE, AND CONCRETE THRUST BLOCK

BUILDING IMPROVEMENTS:
1. REMOVE AND REPLACE BOTTOM 4 FEET OF DRYWALL ON NORTH AND EAST WALLS OF BUILDING INTERIOR PER DETAIL 1, THIS SHEET.
2. PAINT ALL INTERIOR WALLS PER SPECIFICATIONS.

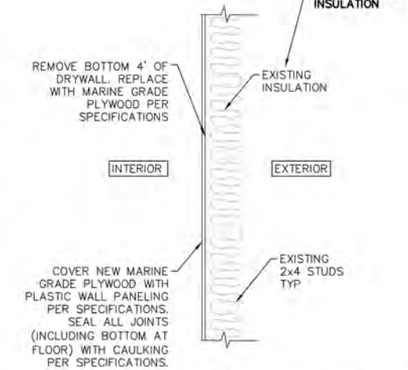
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SCALE 5 0 5 10 FEET
HORIZONTAL SCALE



1 WALL IMPROVEMENT DETAIL
NOT TO SCALE



2 6" GATE VALVE - AS-BUILT
NOT TO SCALE

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AS-BUILT

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MARTIN SMITH BRENNEMAN STATE OF WASHINGTON 21452 REGISTERED PROFESSIONAL ENGINEER 9/15/21

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
OVERALL SITE PLAN

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C0.3
PAGE 3 OF 19

PLOT SETTINGS: Adobe PDF.pa3, Ledger, Portrait, \2, WE AFWA_SCREENED.ctb
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GENERAL NOTES

1. All work and materials shall meet the requirements of the most current editions of the Lake Whatcom Water and Sewer District (District) Design and Construction Standards, Lake Whatcom Water and Sewer District Construction Contract Documents and Project Specifications (for Public Works Projects), the instructions and recommendations of the Manufacturer of the material concerned and select specifications within the Standard Specifications for Road, Bridge and Municipal Construction as prepared by Washington State Department of Transportation (WSDOT) and with all other regulatory agency requirements and permits including but not limited to work within Whatcom County right-of-way shall meet Whatcom County (County) design and construction requirements. In case of a conflict between the above standards, the more stringent shall apply. All work and materials shall be subject to the approval of the District Engineer.

2. Contractor shall obtain encroachment permits or other permissions which may be required from the County, Sudden Valley Community Association, or other entity having jurisdiction over roads and streets, prior to commencing work.

3. Contractor shall provide and maintain all Temporary Erosion Control and Sedimentation (TESC) in accordance with the most current edition of the Storm Water Management Manual for Western Washington (SWMMWW), Volume II, by the Washington State Department of Ecology, Publication Number 14-10-055. Contractor shall use required and necessary Best Management Practices (BMPS) described therein and as may be further described or detailed on the project drawings.

4. Contractor shall call 1-800-424-5555 48 hours before construction for utility locations. Contractor shall not begin excavation until utility notification period is complete.

5. A preconstruction meeting is required with the District and Contractor performing the work a minimum of 2-days before the start of construction.

6. Authority of Engineer, its appointees, assistants and inspectors, shall be per WSDOT 1-05.1. All references to the Engineer or District Engineer shall also mean its appointees, assistants and inspectors as per WSDOT 1-05.2.

7. The Contractor shall be responsible for the safety of all workers and shall comply with all appropriate state safety and health standards, codes, rules, and regulations, including, but not limited to, those promulgated under the Washington Industry Safety and Health Act ROW 49.17 (WISHA) and as set forth in Title 296 WAC (Department of Labor and Industries). In particular the Contractor's attention is drawn to the requirements of WAC 296.800 which requires employers to provide a safe and healthful workplace.

8. Inspection of work and materials shall be in accordance with WSDOT 1-05.6. Removal of unauthorized or defective work shall be in accordance with WSDOT 1-05.7.

9. The Contractor shall take all steps necessary to ensure that the existing facilities remain fully operational during all stages of construction, including but not limited to providing bypass pumping, standby storage, emergency generators and pump trucks, as necessary during service interruptions or outages.

10. No inspections or tie-ins to District's facilities shall be performed on a Friday, Weekend or District Holiday.

GENERAL NOTES | STANDARD DETAIL G1 | 3/11/2020

11. All pipe shall be bedded in bedding material meeting the requirements of WSDOT 9-03.12(3). The bedding cross-section shall be blocked with Control Density Fill (CDF) per WSDOT 2-09.3(1)E a minimum of every 800 feet and the trench drained to daylight or to a storm drain in accordance with District Standard Detail G11.

12. Backfill above the pipe zone bedding within County ROW, within the roadway section or at driveway crossings shall consist of crushed surfacing top course material meeting the requirements of WSDOT 9-03.9(3). Backfill within private roadways shall consist of material meeting the requirements of WSDOT 9-03.19 Backfill in other areas shall consist of material meeting the requirements of WSDOT 9-03.15, except as shown on the plans or details. Backfilling of trenches shall be in accordance with WSDOT 7.08.3(3).

13. Pea gravel shall not be used for pipe bedding or trench/excavation backfill material. The District may approve limited use of pea gravel where hazardous site conditions exist that pose an immediate threat to workers or public. Pea gravel, if approved for use by the Engineer, shall be a clean mixture free from organic matter meeting the following gradation (passing by weight a US standard sieve): 100% passing 1/2", 95-100% passing 3/8", 0-10% passing #8, and 0-3% passing #200.

14. Backfill shall be compacted to minimum 95% modified Proctor within traffic areas and minimum 90% modified Proctor in landscape and open areas.

15. Tracer wire installation is required on all District owned pipe, electrical conduits and communication lines/conduits. Tracer wire is also required on private side sewers. Install tracer wire per District Standard Detail E6. In addition to tracer wire, install 2-inch wide detectable marking tape 8 to 12 inches below the finish surface. Detectable marking tape shall meet the requirements of WSDOT 9-15.18 and be color coded blue for water, green for sewer, red for electrical and orange for telecommunication.

16. Public water lines and any sanitary sewer line or other non-potable conveyance system shall maintain a minimum of 10-feet horizontal separation (parallel alignment) and a minimum 18-inch vertical separation (parallel alignment and crossings at angles including perpendicular with the sewer line below the water line), measured as the closest distance between outside of pipes, in accordance with the most current editions of the Washington State Department of Health (DOH) Water System Design Manual Section 8.4.4 and the Department of Ecology (DOE) Criteria for Sewage Works Design Section C1-9.

When local conditions prevent these separations, with the approval of the District Engineer, installations shall follow the requirements outlined for unusual conditions in the referenced DOH and DOE manuals which includes details for specific pipe materials, pipe segment lengths, joint separation requirements, concrete encasement and/or pipe casings. If a pressure sewer cannot be installed with a minimum 18-inch separation from a water line at a crossing, then the pressure sewer shall be constructed only under the water line with ductile iron pipe or standard sewer pipe in a casing (casing material per the DOE manual) extending at least 10-feet on each side of the crossing.

17. Control Density Fill (CDF), if required, shall meet the requirements of WSDOT 2-09.3(1)E.

18. From the main to the property line, sewer pipes and water pipes shall maintain a minimum horizontal separation of 10-feet. When local conditions prevent the 10-feet separation, separation shall be per District Standard Detail G10, Water Line and Sewer Line Trench Detail, Unusual Conditions. Separation of water service lines and sewer pipes within private property shall be per District Standard Detail G9.

GENERAL NOTES | STANDARD DETAIL G2 | 3/11/2020

19. Contractor shall remove all debris and excess excavation; repair all damage, and restore the site, public or private, to pre-construction conditions.

20. Where mains or service lines are placed within a ditch area, the buried depth shall be at least 30-inches below the bottom of the ditch, measured from the crown of the pipe to the bottom of the ditch.

21. All work within Whatcom County Right Of Way (ROW) shall meet the requirements of the most current edition of the Whatcom County Development Standards, Section 512.

22. The Lake Whatcom Water and Sewer District is located within the Lake Whatcom Watershed where seasonal clearing activity limitations established by Whatcom County Code 20.51.410 are in force. Clearing activity, which includes trench excavation/backfill and other land disturbance, that will result in exposed soils exceeding 500 square feet are not permitted from October 1 through May 31.

23. References to the Uniform Plumbing Code (UPC) shall be to the edition, amendments standards and exemptions adopted by Whatcom County, as detailed in the most current edition of the Whatcom County Code, Chapter 15.04, Building Codes.

GENERAL NOTES | STANDARD DETAIL G3 | 3/11/2020

WATER SYSTEM NOTES

1. Water distribution system materials, trenching, bedding, installation, backfilling, disinfection, and testing shall meet the requirements of WSDOT 7-09.

2. All water piping and appurtenances in contact with potable water shall be certified under NSF-61 for potable water use in accordance with WAC 246-290-220.

3. Water main pipe shall be class 52 ductile iron per WSDOT 9-30.1(1) and encased in polyethylene encasement per WSDOT 9-30.1(2). Fittings for ductile iron pipe shall meet the requirements of WSDOT 9-30.2 (1).

4. Water Main Appurtenances. Valves shall have a minimum pressure rating of 200 psi. Gate valve installation shall conform to WSDOT 7-12. Gate valves shall be resilient-seated gate valves conforming to WSDOT 9-30.3(1) and AWWA C515 Standard for Resilient Seated Gate Valves. A cast iron valve box with a commercial concrete collar (18" x 18" x 6") shall be installed with each valve. An approved marking post shall be installed with each valve in accordance with WSDOT 7-12.3(1) for all valves not installed in pavement. Valves not in pavement shall have a 24" x 24" x 6" concrete collar cast around the valve box. Where a valve operating nut is more than 4-feet lower than grade, an American Flow Control Trench Adapter valve box and stem extension combination (or approved equal) must be installed.

5. Pressure reducing valves (2" and larger) shall be manufactured by Cla-Val, Watts, or approved alternate.

6. Service connections shall be installed per WSDOT 7-15. Lot corners shall be staked prior to service connection installations to assure services are installed in correct locations as shown on the approved plans.

7. The District Engineer shall witness pressure testing. Bacteriological sampling shall be conducted by a District certified operator (employee). Contractor shall provide the District Engineer 48-hours notice prior to conducting tests or sampling.

8. Water lines and appurtenances shall be pressure tested in accordance with WSDOT 7-09.3(23).

9. Before being placed into service, new water mains and repaired portions of, or extensions to, existing mains shall be flushed and disinfected by the Contractor in accordance with WSDOT 7-09.3(24) and the most current edition of the American Water Works Association (AWWA) Standard C651, Disinfecting Water Mains. As stated therein, the District requires two set of samples, either a) taken 16 hours apart or b) two samples are taken 15 minutes apart after a 16 hour rest period, satisfactorily passing bacteriological testing requirements (testing includes but is not limited to testing for total coliforms, fecal coliforms and E.coli found in the water sample) meeting current Washington State Department of Health (DOH) Standards, before connecting the new or repaired portion of main. Costs of bacteriological testing shall be borne by the Contractor. In addition, Contractor shall provide two chlorine concentration test reports to show the initial chlorine concentration is at least 50 mg/L, and to show the 24-hour residual chlorine concentration is at least 25 mg/L. All tests must be performed by a DOH-certified testing laboratory and sample-taking shall be performed by a District certified operator (employee). Bacteriological samples must be collected by the District. Chlorinated flush water must be dechlorinated and disposed of in accordance with WSDOT 7-09.3(24)A. If disposal is to the District's sanitary sewer system, Contractor shall coordinate with District staff to ensure

STANDARD DETAIL W1 | 3/11/2020

the rate of disposal does not overload the District's sewer system.

10. New services shall be pressure tested along with the new main. No use of water through a newly installed service shall be allowed until water main and service installation has been inspected, pressure tested, chlorinated and a satisfactory bacteria test received. After installation, the service connection shall be flushed prior to connecting the meter. No service is to be covered until the District's inspector has inspected the initial installation. All corporations must be in an ON position and all angle valves must be in the OFF position.

11. Service flow testing shall be done after water main pressure testing. During the inspection, every service shall be turned on to its full capacity to check flow and guarantee that each service line has been flushed.

12. Water service lines on the customer side of the water meter shall meet the requirements of the Uniform Plumbing Code (UPC).

13. In accordance with District Administrative Code Section 4.3.6, all customers are required to install a Pressure Reducing Valve (PRV) downstream of the meter and dual check valve on the customer side of service to protect their plumbing systems from high pressure surges. A PRV inspection by District personnel is required prior to occupancy. See detail W11.

14. In accordance with WAC 246-290-490 and District Resolution No. 858, all cross-connections between the District's water distribution system and a consumer's water system shall be eliminated or controlled by the installation of a District approved backflow preventer commensurate with the degree of hazard. The District's Cross-Connection Control Program is available for review at the District office or on the District website (www.lwwsd.org).

WATER SYSTEM NOTES | STANDARD DETAIL W2 | 3/11/2020

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AS-BUILT

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MARRIN M. SMITH — 21931 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 7/23/21

DESIGNED BY	DRAWN BY	CHECKED BY
BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM, WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
LWWSD STANDARD NOTES

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C0.4 | PAGE 4 OF 19

PLOT SETTINGS: DWG To PDF.pc3, (Previous paper size: (17.00 x 11.00 inches), Portrait, 1:2, WE #PWA_LW(SCREEN).ctb)
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NO	REVISIONS	BY	DATE

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REMOVE PIPE TO EXISTING 4-INCH CAP WITH 2-INCH THREADED TAP

EXISTING ONLINE CHLORINE ANALYZER, TO BE RELOCATED

REMOVE ALL EXISTING TREATMENT EQUIPMENT & ASSOCIATED PIPING AND PIPE SUPPORTS

EXISTING RAW WATER INTAKE LINE – TO REMAIN IN PLACE

EXISTING RAW AND FINISHED WATER SAMPLE TAPS AND DRAIN. RAW SAMPLE TAP AND 1" PVC DRAIN LINE TO REMAIN FUNCTIONAL DURING CONSTRUCTION. CONTRACTOR TO RE-ROUTE 1" PVC DRAIN LINE AS NEEDED TEMPORARILY DURING CONSTRUCTION AND FOR PERMANENT INSTALLATION AND MAINTAIN POSITIVE DRAINAGE.

AB: KEPT EXISTING PRESSURE TRANSDUCER, CONNECTED TO NEW SYSTEM

NOTES:
1. SEE SHEET E2.0 FOR ELECTRICAL DEMOLITION PLAN
2. PROTECT ALL EXISTING EQUIPMENT THAT IS TO REMAIN
3. REMOVE THE BOTTOM 4 FT OF INTERNAL BUILDING DRYWALL ON THE ENTIRE NORTH AND EAST WALLS (1/C0.3)

REMOVE EXISTING PRESSURE SUSTAINING VALVE AND DOWNSTREAM PIPING AS SHOWN

EXISTING OVERHEAD DOOR FOR ACCESS: 107" WIDE BY 95" TALL



DECOMMISSION AND REMOVE EXISTING SODIUM SULFITE INJECTION SYSTEM (TANK, DOSING PUMP, TUBING, INJECTION QUILL, PLUG INJECTION POINT)

SODIUM HYPOCHLORITE STORAGE (TO REMAIN)

N

SCALE 1 0 1 2 FEET
HORIZONTAL SCALE

PLOTTED AT REDUCED SIZE, DO NOT SCALE

PLOT SETTINGS: DWG To PDF.pc3, Previous paper size (17.00 x 11.00 inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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MARRIN SMITH BRENNEMAN STATE OF WASHINGTON 24321 REGISTERED PROFESSIONAL ENGINEER 7/23/21

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BMS	JCS	MMM/EAS

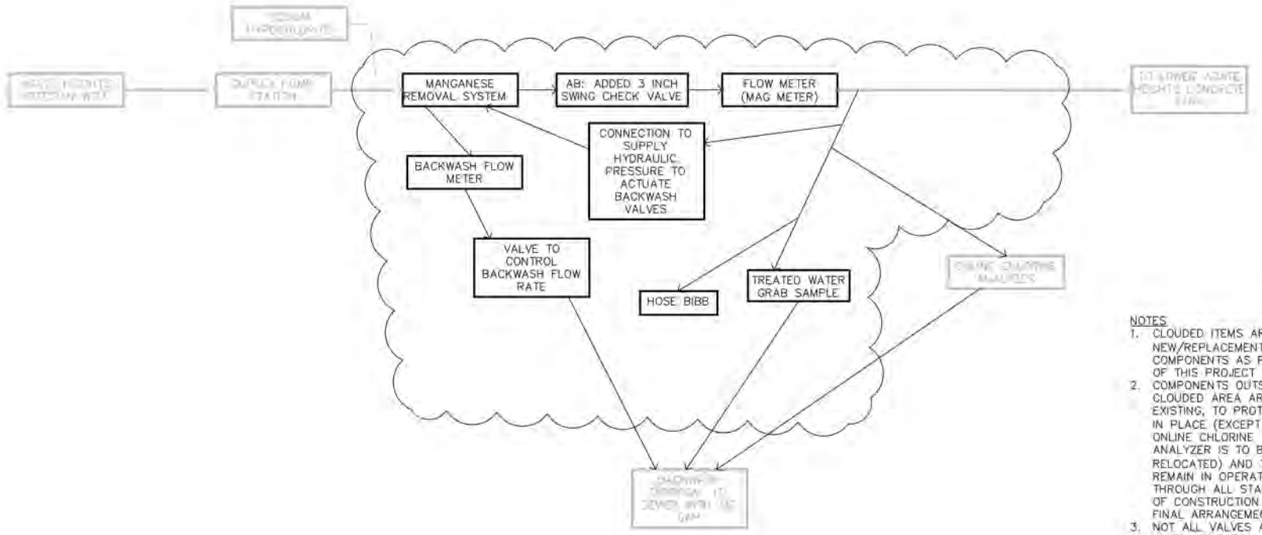
LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
DEMOLITION PLAN

SHEET	DATE	JOB NUMBER
C1.1	7-20-2021	2018-110
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5 OF 19	AS SHOWN	

NO	REVISIONS:	BY	DATE

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AS-BUILT



NOTES
1. CLOUDED ITEMS ARE NEW/REPLACEMENT COMPONENTS AS PART OF THIS PROJECT
2. COMPONENTS OUTSIDE CLOUDED AREA ARE EXISTING, TO PROTECT IN PLACE (EXCEPT THAT ONLINE CHLORINE ANALYZER IS TO BE RELOCATED) AND TO REMAIN IN OPERATION THROUGH ALL STAGES OF CONSTRUCTION TO FINAL ARRANGEMENT.
3. NOT ALL VALVES AND INSTRUMENTATION ARE SHOWN

PROPOSED

DESIGN PARAMETERS
- DESIGN CAPACITY OF TREATMENT EQUIPMENT = 60 GPM
- AFTER PROPOSED REPLACEMENTS/IMPROVEMENTS, PLANT PRODUCTION CAPACITY ANTICIPATED TO BE 34 GPM
- FUTURE PUMP REPLACEMENT PROJECT WILL BRING SYSTEM PRODUCTION CAPACITY TO 60 GPM

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BRIAN MARRIN SMITH — 7/23/21

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
WATER PROCESS SCHEMATIC

SHEET	DATE	SCALE	JOB NUMBER
C2.1	7-20-2021	AS SHOWN	2018-110

PAGE 6 OF 19

PLOT SETTINGS: DWG To PDF.pc3 (Previous paper size (17.00 x 11.00 inches)_Portrait_1:2, WE #PWA_LANDSCREENED.ctb
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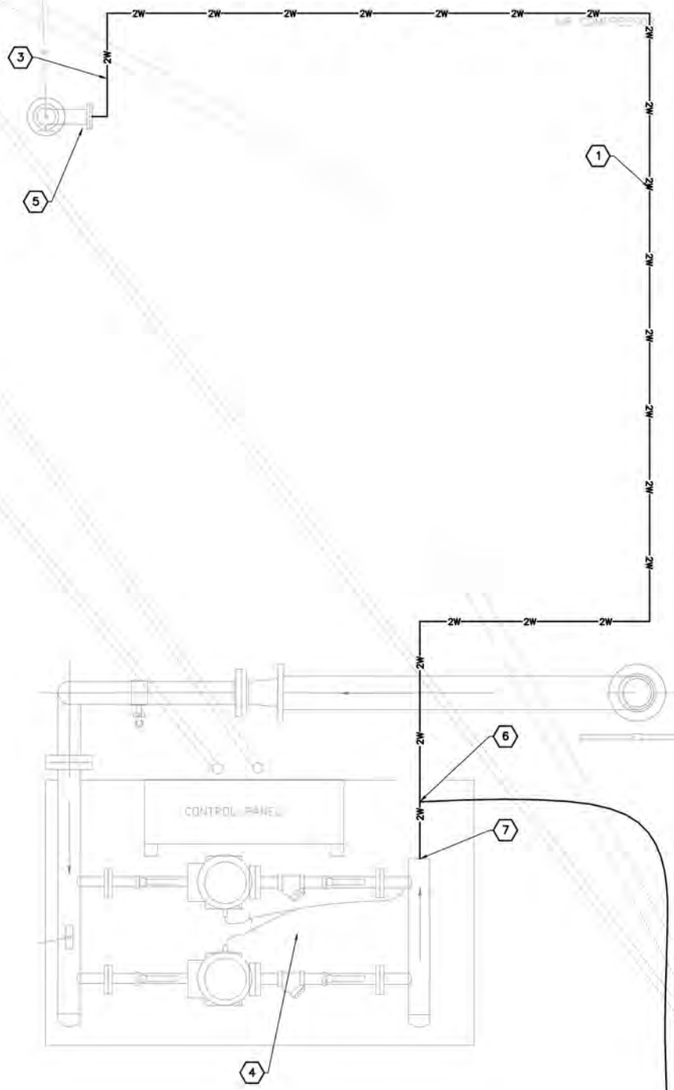
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811 Call 811 two business days before you dig

AS-BUILT

N

SCALE 1 0 1 2 HORIZONTAL SCALE FEET



KEYED NOTES

1. = APPROXIMATE LOCATION OF 2" SCH40 PVC TEMPORARY BYPASS PIPE TO BYPASS MANGANESE REMOVAL SYSTEM, FITTINGS AS NEEDED. FIELD FIT TO ALLOW FOR INSTALLATION OF TREATMENT IMPROVEMENTS DEPICTED ON SHEET C4.1
2. = TEMPORARY TUBING FOR CHLORINE INJECTION DURING MANGANESE REMOVAL SYSTEM BYPASS
3. = SAMPLE TAP ON TEMPORARY BYPASS PIPE
4. = EXISTING DUPLEX PUMP SYSTEM TO REMAIN IN OPERATION
5. = END TEMPORARY BYPASS PIPE AT 2-INCH FLANGE FITTING
6. = FITTINGS FOR TEMPORARY SODIUM HYPOCHLORITE INJECTION POINT
7. = START TEMPORARY BYPASS PIPE AT FLANGE FITTING WITH FITTINGS AS NEEDED.

NOTE: CONTRACTOR TO FIELD VERIFY ALL COMPONENTS, COMPONENT LOCATIONS, AND DIMENSIONS AND ADJUST AS NECESSARY.

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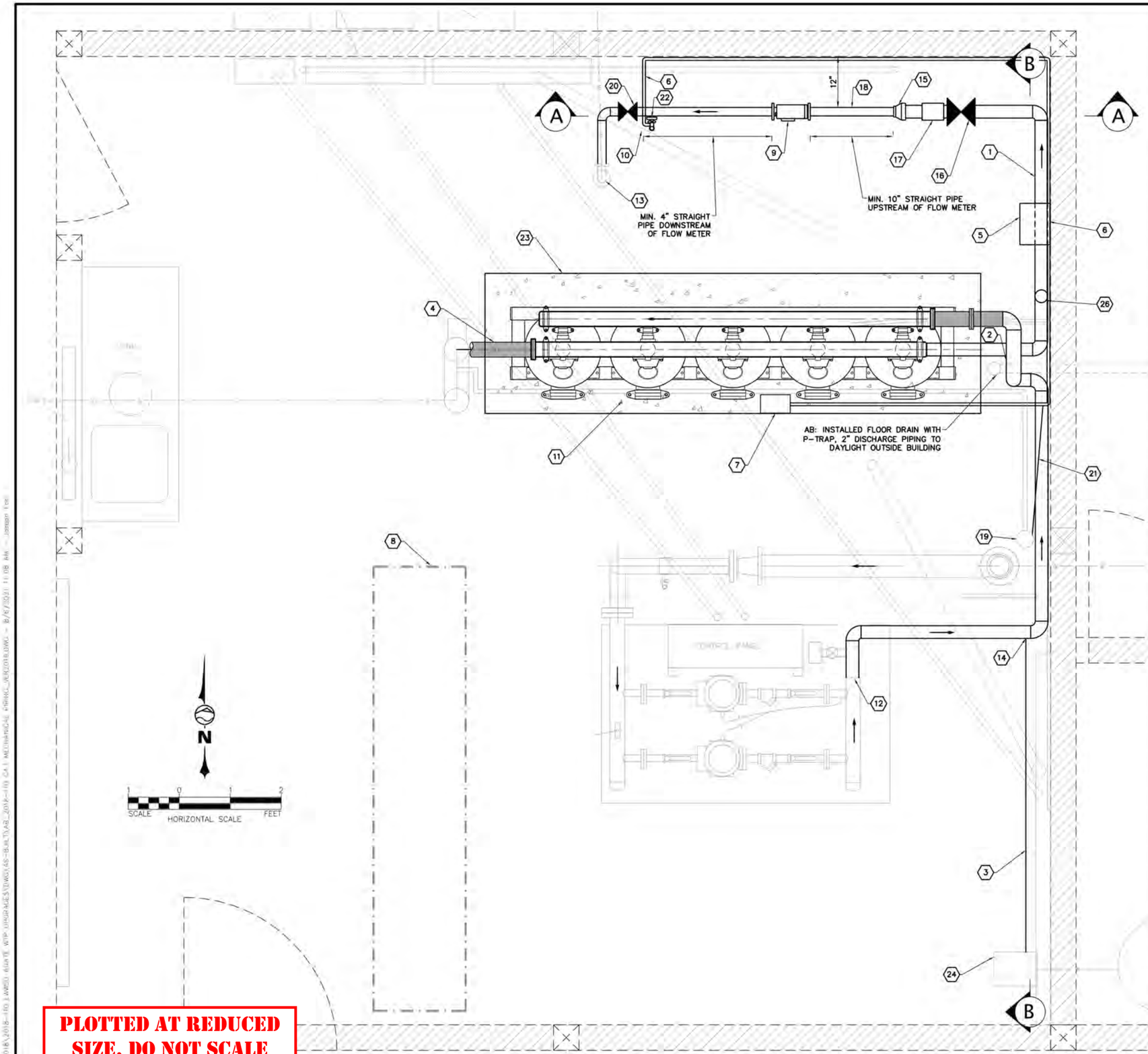
LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
TEMPORARY BYPASS PLAN

SHEET	DATE	SCALE	JOB NUMBER
C3.1	7-20-2021	AS SHOWN	2018-110

PAGE 7 OF 19

PLOT SETTINGS: DWG To PDF.pc3, Previous paper size (17.00 x 11.00 inches), Portrait, 1:2, WE APWA_LINSCREENED.ctb
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NO.	REVISIONS	BY	DATE



KEYED NOTES

1. = ATEC DISCHARGE PIPE. 3" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
2. = ATEC INFLUENT PIPE. 3" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
3. = SODIUM HYPOCHLORITE TUBING & DOSING PUMP. 1/4" OR LARGER TUBING, WITH FITTINGS AS NEEDED. TUBING AND FITINGS SHALL BE RATED TO 150 PSI MINIMUM. RE-USE EXISTING DOSING PUMP
4. = BACKWASH PIPING TO SEWER 3" HDPE PIPE, WITH FITTINGS AS NEEDED. SEWER DISCHARGE MODIFICATIONS ON SHEET C4.2.
5. = ONLINE CHLORINE ANALYZER MOUNTED TO WALL. RE-USE EXISTING CHLORINE ANALYZER AND APPURTENANCES & RELOCATE AS SHOWN.
6. = 3/4" STAINLESS STEEL PIPE. PROVIDES WATER TO CHLORINE ANALYZER, RAW WATER SAMPLE TAP (AT KEYED NOTE 19), AND PROVIDES HYDRAULIC PRESSURE TO ATEC UNIT TO ACTUATE BACKWASH VALVES HYDRAULICALLY
7. = CONNECTION TO ATEC CONTROLLER SUPPLY HYDRAULIC PRESSURE TO ACTUATE BACKWASH VALVES.
8. = POTENTIAL LOCATION FOR FUTURE PHASE 2 TREATMENT EXPANSION
9. = FLOW METER, ENDRESS & HAUSER PROLINE PROMAG W300, 2-INCH DIA, OR APPROVED EQUAL, FLxFL WITH HDPE FLANGE ADAPTERS BOTH SIDES
10. = 2"x2"x1" TEE. OFF 1" SIDE, 1"x1"x1" TEE TO HOSE BIB WITH VACUUM BREAKER. FITTINGS AS NEEDED TO SUPPLY WATER TO HYDRAULIC ACTUATION LINES FOR EACH OF THE 5 ATEC BACKWASH VALVES, THE ONLINE CHLORINE ANALYZER SAMPLE LINE, AND THE FINISHED WATER GRAB SAMPLE LINE. TREATED WATER GRAB SAMPLE LINE TO DISCHARGE TO GRAVITY DRAIN SHOWN IN KEYED NOTE 19.
11. = ATEC TREATMENT SYSTEM, SEE DETAILS SHEET C4.2
12. = CONNECT TO EXISTING 3 INCH FLANGE FITTING
13. = CONNECT TO EXISTING 2 INCH THREADED HOLE IN EXISTING CAP USING 304 STAINLESS STEEL 90 DEGREE BEND WITH 304 SS BY HDPE TRANSITION FITTING
14. = SODIUM HYPOCHLORITE INJECTION QUILL, SAF-T-FLO MODEL EB-162-C-C-6-0-V, OR APPROVED EQUAL. INSTALL ON 3" HDPE PIPE WITH THREADED ELECTROFUSION BRANCH SADDLE, INTEGRITY FUSION 1" 316SS FEMALE NPT, WITH CPVC 3/4" X 1" BUSHING REDUCER. INSTALL SUCH THAT END OF INJECTION QUILL IS APPROXIMATELY CENTERED IN 3" PIPE.
15. = 3"x2" REDUCER, HDPE
16. = 3" GATE VALVE, FLxFL WITH HDPE FLANGE ADAPTERS BOTH SIDES
17. = ~~3" DISMANTLING JOINT (ROMAG DJ400 OR APPROVED EQUAL)~~
18. = 2" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
19. =EXISTING RAW WATER SAMPLE TAP AND DRAIN TO REMAIN. RE-ROUTE PVC DRAIN LINE AROUND NEW ATEC UNIT AS NEEDED AND MAINTAIN SLOPE TO DRAIN.
20. = 2" GATE VALVE, FL X FL WITH HDPE FLANGE ADAPTERS BOTH SIDES
21. = 1/4" COPPER TUBING WITH 1/4" VALVE FOR FINISHED WATER GRAB SAMPLE TAP
22. = PRESSURE GUAGE
23. = CONCRETE HOUSEKEEPING PAD (1 / C5.1)

    DIMENSIONS: 117" X 34", CONTRACTOR TO FIELD VERIFY PRIOR TO INSTALLATION.
24. = EXISTING SODIUM HYPOCHLORITE DOSING PUMP (TO REMAIN)
25. = EXISTING SODIUM HYPOCHLORITE STORAGE (TO REMAIN)
26. = 1" AIR RELEASE VALVE

Call 811 two business days before you dig

AS-BUILT

PLOTTED AT REDUCED SIZE, DO NOT SCALE

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BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
MECHANICAL PIPING

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

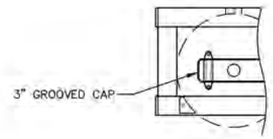
SHEET C4.1
PAGE 8 OF 19

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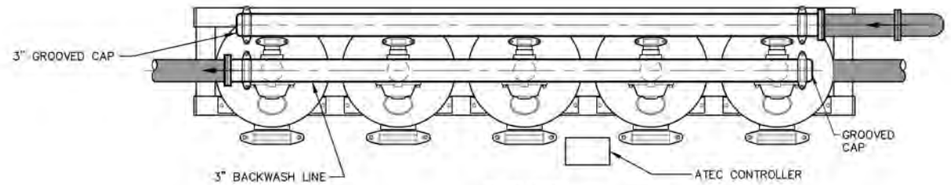
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811 Call 811 two business days before you dig

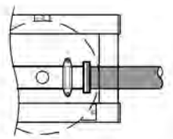
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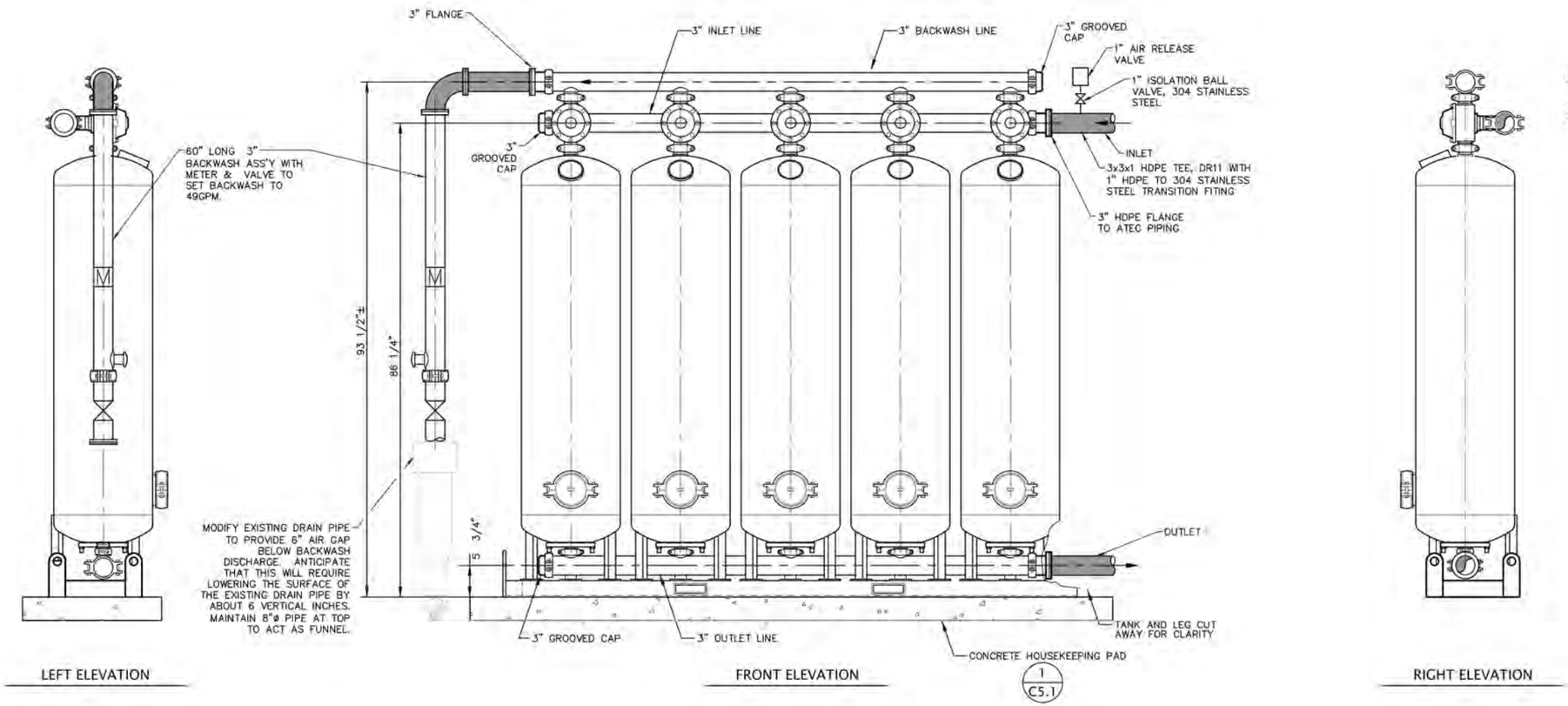
LEFT SIDE
FILTERS REMOVED



PLAN VIEW



RIGHT SIDE
FILTERS REMOVED



LEFT ELEVATION

FRONT ELEVATION

RIGHT ELEVATION

LEGEND

= CONTRACTOR SUPPLIED PIPE

ATEC TREATMENT SYSTEM
NOT TO SCALE

PLOTTED AT REDUCED SIZE, DO NOT SCALE

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
MECHANICAL DETAILS

SHEET	DATE	SCALE	JOB NUMBER
C4.2	7-20-2021	AS SHOWN	2018-110

PAGE 9 OF 19

PLOT SETTINGS: DWG To PDF.pc3, Arch full bleed D (24.00 x 36.00 Inches), Portrait, 1:2, MONOCHROME.ctb
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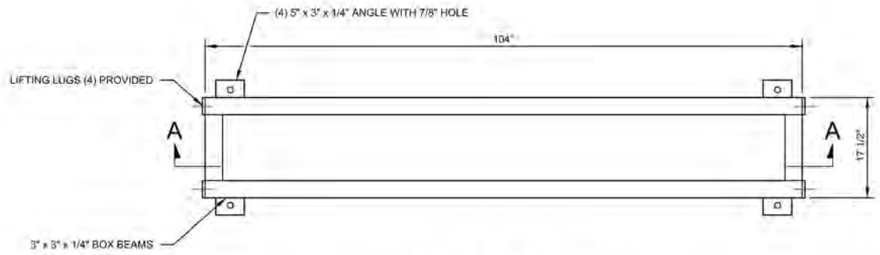
NO	REVISIONS	BY	DATE

NOTES:
1. ANCHOR BOLT HOLES ARE TO BE DRILLED INTO CONCRETE FOUNDATION THROUGH OVERSIZED DRILL HOLES IN GUSSETS IN SKID ASSEMBLY BY CONTRACTOR.
2. 1/4" THICK STAINLESS STEEL PADS ARE PROVIDED UNDER SKIDS FOR CLEARANCE BETWEEN SKIDS AND CONCRETE FOUNDATION.

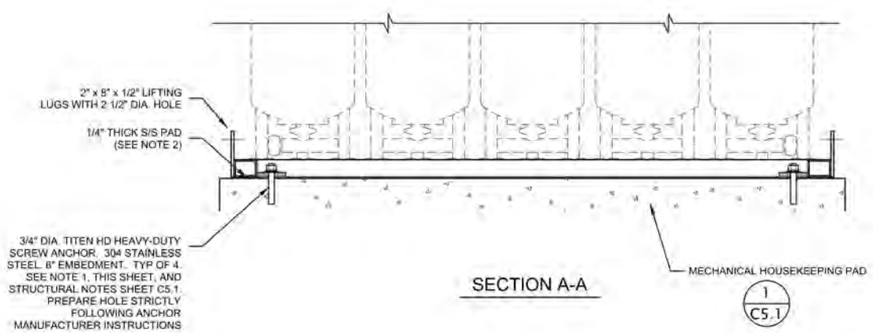
BILL OF MATERIALS

ITEM			
1	4	PFS-CPL02	3" GROOVED COUPLING, CAST IRON W/ BOLTS & GASKET
2	1	PFS-CAP05	3" GROOVED COUPLING
3	1	PFS-HHP6	6"x8" HAND HOLE PLATE
4	1	PFS-HHG6	6"x8" HAND HOLE GASKET
5	1	PFS-HHBS6	6"x8" HAND HOLE BOLT SET
6	1	PFS-HHCR6	6"x8" HAND HOLE HOLD DOWN CRAB
7	1	V-BBF2	2"x2"x2" BACKFLUSH VALVE, BERMAD
8	1	UASS16	UNDER-DRAIN ASSEMBLY 316L-S.S. W/ SCH 80 CAP COMPLETE.
9	1	73PPBYZCM24VAC	SOLENOID VALVE, PETER PAUL(NOT SHOWN)
10	1	PFS-CPL05	8" GROOVED COUPLING, CAST IRON, W/BOLTS & GASKET
11	1	PFS-CA08	8" GROOVED END CAP

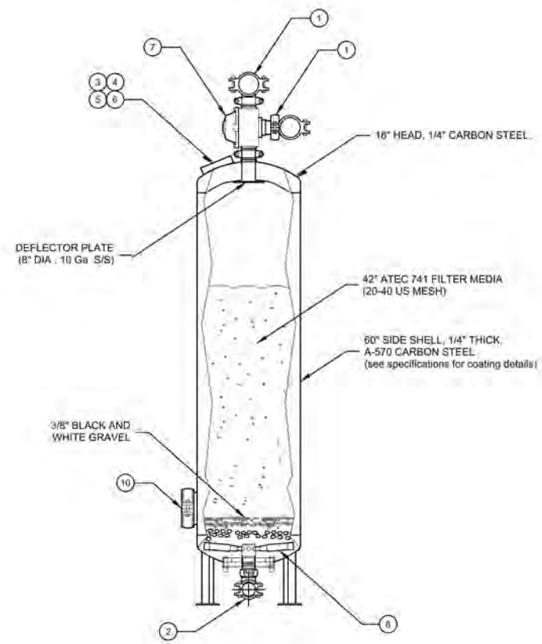
NOTE: QUANTITIES SHOWN ARE FOR (1) ONE TANK



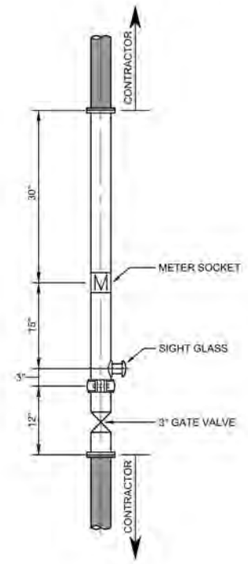
5-FILTER SKID PLAN
ONE REQUIRED



SECTION A-A



SECTION THROUGH TANK



BACKWASH ASSEMBLY
INCLUDED IN ATEC PACKAGE

MECHANICAL DETAILS
NOT TO SCALE

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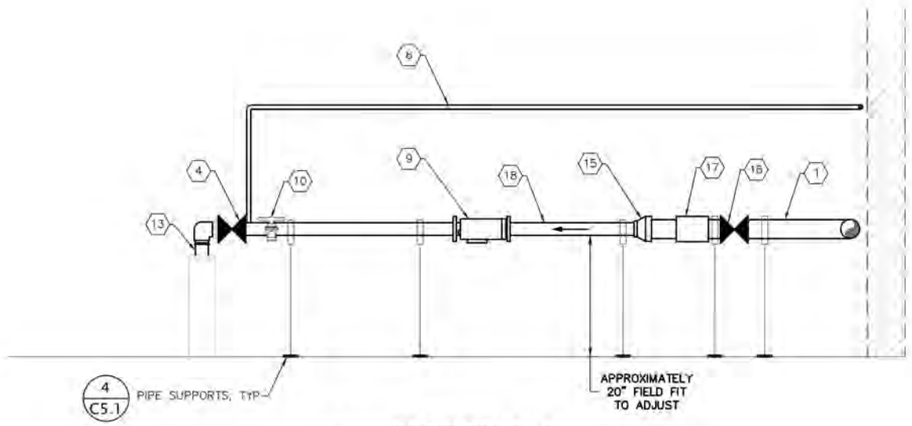
DESIGNED BY	DRAWN BY	CHECKED BY
BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
MECHANICAL DETAILS

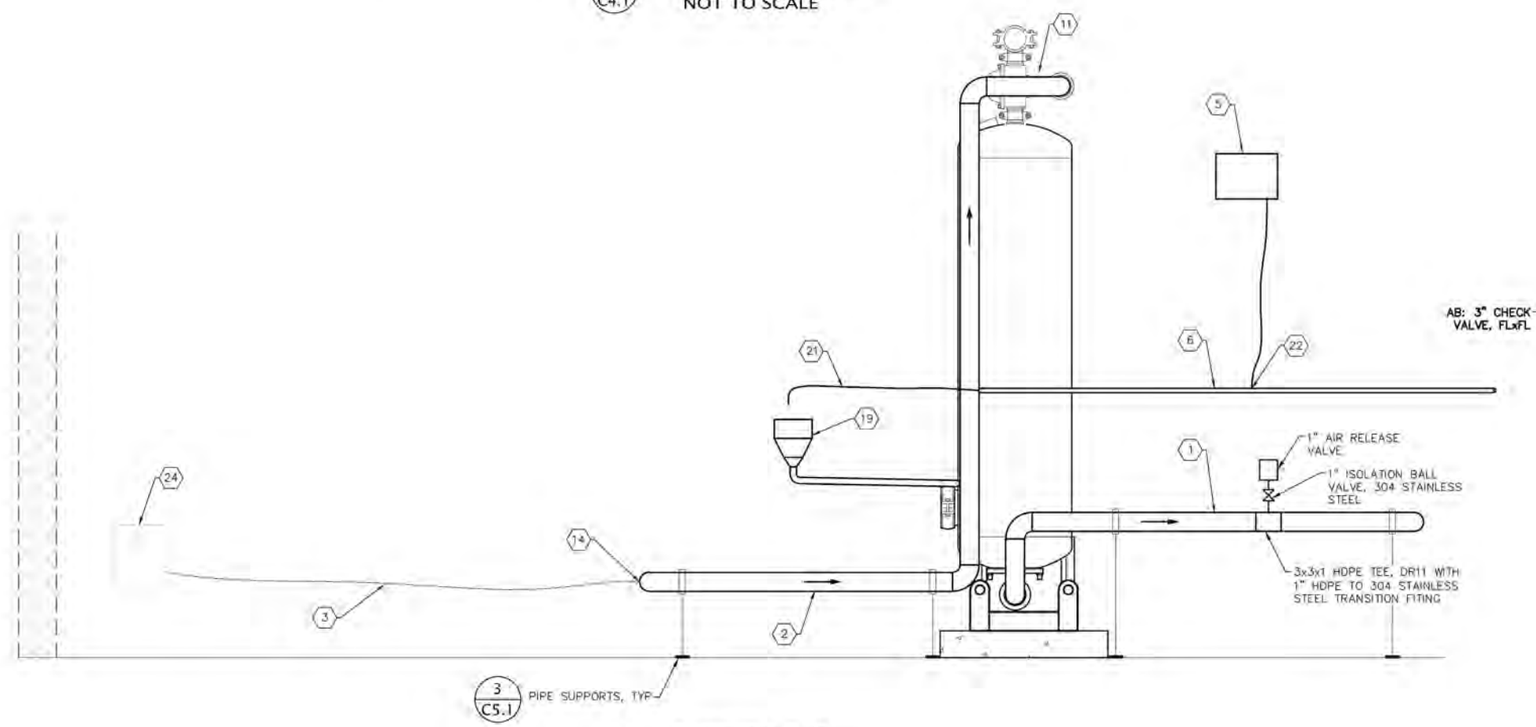
DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C4.3
PAGE 10 OF 19

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A C4.1 SECTION A-A
NOT TO SCALE



B C4.1 SECTION B-B
NOT TO SCALE

KEYED NOTES

1. = ATEC DISCHARGE PIPE. 3" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
2. = ATEC INFLUENT PIPE. 3" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
3. = SODIUM HYPOCHLORITE TUBING, FASTEN TO WALL WITH PLASTIC TUBING SUPPORTS
4. = 2" GATE VALVE
5. = ONLINE CHLORINE ANALYZER MOUNTED TO WALL. RE-USE EXISTING CHLORINE ANALYZER AND APPURTENANCES & RELOCATE AS SHOWN.
6. = 3/4" STAINLESS STEEL PIPE. PROVIDES WATER TO CHLORINE ANALYZER, TREATED WATER SAMPLE TAP (AT KEYED NOTE 19), AND PROVIDES HYDRAULIC PRESSURE TO ATEC UNIT TO ACTUATE BACKWASH VALVES HYDRAULICALLY". FASTEN TO WALL WITH STAINLESS STEEL PIPE SUPPORTS EVERY 5 FT.
7. = NOT USED
8. = NOT USED
9. = FLOW METER, ENDRESS & HAUSER PROLINE PROMAG W300, 2-INCH DIA. OR APPROVED EQUAL
10. = 2"x2"x1" TEE. OFF 1" SIDE, 1"x1"x1" TEE TO HOSE BIBB WITH VACUUM BREAKER. FITTINGS AS NEEDED TO SUPPLY WATER TO PIPE SHOWN AT KEYED NOTE 6.
11. = ATEC TREATMENT SYSTEM, SEE DETAILS SHEET C4.2
12. = NOT USED
13. = CONNECT TO EXISTING 2 INCH THREADED HOLE IN EXISTING CAP
14. = SODIUM HYPOCHLORITE INJECTION QUILL, SAF-T-FLO MODEL EB-162-C-C-6-0-V, OR APPROVED EQUAL. INSTALL ON 3" HDPE PIPE WITH THREADED ELECTROFUSION BRANCH SADDLE, INTEGRITY FUSION 1" 316SS FEMALE NPT, WITH CPVC 3/4" X 1" BUSHING REDUCER. INSTALL SUCH THAT END OF INJECTION QUILL IS APPROXIMATELY CENTERED IN 3" PIPE.
15. = 3"x2" REDUCER
16. = 3" GATE VALVE
17. ~~= 3" DISMANTLING JOINT (ROMAC DJ400 OR APPROVED EQUAL)~~
18. = 2" HDPE PIPE, WITH BUTT FUSION WELDED JOINTS PER SPECIFICATIONS
19. =EXISTING RAW WATER SAMPLE TAP AND DRAIN TO REMAIN. RE-ROUTE PVC DRAIN LINE AROUND NEW ATEC UNIT AS NEEDED AND MAINTAIN SLOPE TO DRAIN.
20. = NOT USED
21. = 1/4" COPPER TUBING WITH 1/4" VALVE FOR FINISHED WATER SAMPLE TAP
22. = TEE TO SUPPLY WATER TO CHLORINE ANALYZER, WITH ISOLATION VALVE
23. = NOT USED
24. = EXISTING SODIUM HYPOCHLORITE DOSING PUMP TO REMAIN

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AS-BUILT

PLOTTED AT REDUCED SIZE, DO NOT SCALE

NO	REVISIONS	BY	DATE

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
SECTIONS

SHEET	DATE	SCALE	JOB NUMBER
C4.4	7-20-2021	AS SHOWN	2018-110

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W:\2018\2018-110 LWWD AGATE WTP UPGRADES\Civil\Plan sheets (12x36 & 11x17 inches)\Exhibit 11 x 17.dwg, 7/20/2021 8:42 AM, mmw, 1:1

STRUCTURAL NOTES

01000 GENERAL

1. EMPLOY GOOD STANDARDS OF WORKMANSHIP THROUGHOUT. PROVIDE ALL MATERIALS AND PERFORM ALL CONSTRUCTION AS INDICATED. SECURE THE APPROVAL OF THE ENGINEER OF RECORD FOR SUBSTITUTIONS.
2. SEE THE SPECIFICATIONS FOR DETAILED MATERIAL AND METHODS NOT CALLED OUT HERE. IN CASE OF CONFLICT BETWEEN APPLICABLE CODES, THESE NOTES, THE SPECIFICATIONS, AND THE DRAWINGS, THE MOST SPECIFIC WILL GOVERN. IN CASES WHERE CONFLICTS EXIST BETWEEN EQUALLY SPECIFIC PROVISIONS, THE MOST STRINGENT WILL GOVERN.
3. VERIFY ALL DIMENSIONS IN THE FIELD, AND UPON DISCOVERY OF ANY DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND FIELD CONDITIONS OR OTHER DRAWINGS, NOTIFY THE PROJECT MANAGER.
4. USE THESE DRAWINGS IN CONJUNCTION WITH THE OTHER DISCIPLINES DRAWINGS. THEY ARE NOT TO STAND ALONE. THESE DRAWINGS AND THE DESIGNS HEREIN ARE FOR USE ON THIS PROJECT ONLY.
5. DO NOT SCALE DRAWINGS.
6. USE TYPICAL DETAILS AND SCHEDULES WHEREVER APPLICABLE. SPECIFIC NOTES AND DETAILS SHALL GOVERN OVER TYPICAL DETAILS, BUT ANY PARTS OF TYPICAL DETAILS NOT SO ALTERED WILL STILL APPLY.
7. THE STRUCTURE AS SHOWN ON THESE DRAWINGS IS DESIGNED TO BE STABLE AND TO RESIST IT'S LOADS IN THE COMPLETED CONDITION. THE DRAWINGS DO NOT INDICATE THE METHOD OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR TEMPORARY BRACING AND SHORING, AND FOR SAFETY PROGRAMS, METHODS, AND PROCEDURES OF OPERATION FOR THE CONSTRUCTION OF THE DESIGN.

03100 FORMWORK

1. CHAMFER ALL ABOVE GRADE EDGES 3/4" X 3/4".
2. BUILD FORMWORK TO STANDARDS CALLED OUT IN THE SPECIFICATIONS SO AS TO MINIMIZE FINS OR BULGES.

03200 REINFORCING

1. REINFORCING BARS SHALL BE ASTM A615, GRADE 60
2. BAR DETAILING AND SUPPORT OF REINFORCING BARS SHALL CONFORM TO THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE. REBAR WHICH IS MARKED "CONTINUOUS" ON DRAWINGS SHALL EXTEND AS FAR AS POSSIBLE AND TERMINATE IN A 12-DIAMETER BEND OR PER TYPICAL DETAILS. SHOP-FABRICATE ALL BENDS.
3. WELDING OF REINFORCING IS NOT PERMITTED.
4. PROVIDE THE FOLLOWING MINIMUM COVER FROM FACE OF BAR TO FACE OF CONCRETE, AS DETAILED; PROVIDE NECESSARY ACCESSORIES TO MAINTAIN CLEARANCES.

03300 CONCRETE

1. MATERIALS SHALL BE:
   AGGREGATE: STONE (NOT GRAVEL) AGGREGATE PER ASTM C33
   CEMENT: TYPE I OR II PER ASTM C150
   ADMIXTURES: AIR: ASTM C260 HRWDA: ASTM C494 TYPE A
   ALL CONCRETE SHALL BE READY-MIX. COMPLY WITH ASTM C 94 AND AS SPECIFIED.
2. PROPERTIES INCLUDING 28-DAY STRENGTHS SHALL BE AS FOLLOWS:

APPLICATION	F'C (PSI)	W/C (MAX)	AGG (MAX)
MECHANICAL HOUSEKEEPING PAD:	3500	0.55	1"

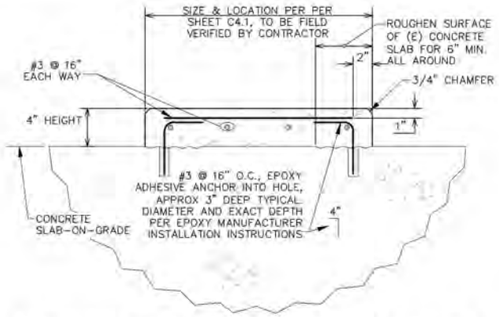
NOTE: CONTRACTOR SHALL DEMONSTRATE THAT CONCRETE STRENGTH HAS ACHIEVED 75% OF SPECIFIED COMPRESSIVE STRENGTH PRIOR TO INSTALLATION OF EQUIPMENT ON TOP OF MECHANICAL HOUSEKEEPING PAD

3. DRYPACK: PORTLAND CEMENT, ASTM C150, TYPE I, AND CLEAN, NATURAL SAND, ASTM C404. MIX AT RATIO OF 1.0 PART CEMENT TO 3.0 PARTS SAND, BY VOLUME, WITH MINIMUM WATER REQUIRED FOR PLACEMENT AND HYDRATION. MINIMUM STRENGTH OF GROUT, 5000 PSI AT 28 DAYS.
4. ALL CONSTRUCTION JOINTS, INCLUDING CONNECTIONS TO PRE-EXISTING CONCRETE, SHALL BE CLEAN AND FREE FROM FOREIGN SUBSTANCES, LOOSE MATERIAL OR LAITANCE. WHERE NOTED ON DRAWINGS AS "ROUGHENED," MECHANICALLY ROUGHEN TO FRACTURE COARSE AGGREGATE ON THE ENTIRE SURFACE TO AT LEAST 1/4" AMPLITUDE AND REMOVE ALL LOOSE MATERIAL. DAMPEN JOINTS FOR AT LEAST ONE-HALF HOUR PRIOR TO CONCRETE PLACEMENT BUT LEAVE NO STANDING WATER.
5. PLACE CONSTRUCTION JOINTS PERPENDICULAR TO MAIN REINFORCEMENT. CONTINUE REINFORCEMENT ACROSS CONSTRUCTION JOINTS. DO NOT PLACE CONSTRUCTION JOINTS IN HORIZONTAL PLANE IN SLABS.
6. HOLD BOLTS, ANCHORS, DOWELS, REINFORCING, AND METAL INSERTS FIRMLY AND ACCURATELY IN PLACE BEFORE CONCRETE IS PLACED; DO NOT INSERT ("STAB") AFTER PLACING CONCRETE.
7. SEE MECHANICAL DRAWINGS FOR ALL SLAB FINISH DETAILS, EXACT LOCATION OF DEPRESSED AREAS, DRAINS, AND SLOPES.
8. DO NOT PLACE HORIZONTAL RUNS OF CONDUIT IN SLABS.

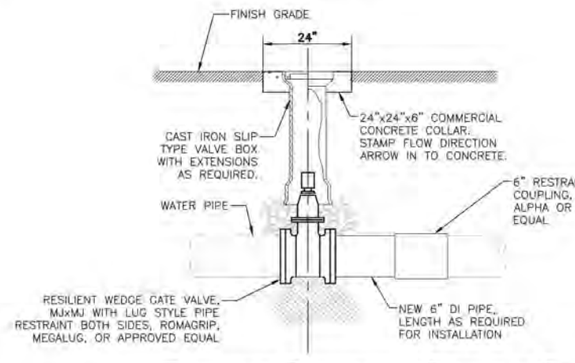
03150 POST-INSTALLED CONCRETE ANCHOR BOLTS & REINFORCING

1. POST-INSTALLED ADHESIVE ANCHORS BOLTS SHALL BE OF STEEL CONFORMING TO THE REQUIREMENTS OF THE APPLICABLE ICC-ES REPORT FOR THE ADHESIVE SYSTEM. MAKE AND CLEAN HOLES WITH EQUIPMENT PER THE ICC-ES REPORT. DO NOT PLACE ANY ANCHOR WITHIN SIX INCHES (6") OF A FREE EDGE OF CONCRETE. SEE THE DRAWINGS FOR EMBEDMENT.
   ACCEPTED ADHESIVE PRODUCTS INCLUDE:
   A. ITW-RAMSET COMPANY: EPCON C6 SYSTEM
   B. HILTI INC: RE-500 SD SYSTEM
   C. SIMPSON STRONG-TIE COMPANY: SET-XP EPOXY
   D. OTHER SYSTEMS WITH WRITTEN APPROVAL OF THE ENGINEER OF RECORD

ACCEPTED NON-ADHESIVE ANCHOR PRODUCTS INCLUDE SIMPSON TITEN HD, PER ICC ES REPORT ER-493.

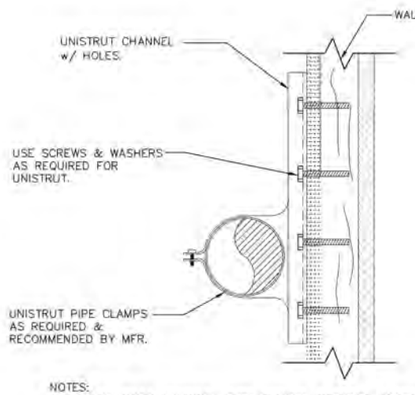


1 TYPICAL MECHANICAL HOUSEKEEPING PAD
NOT TO SCALE



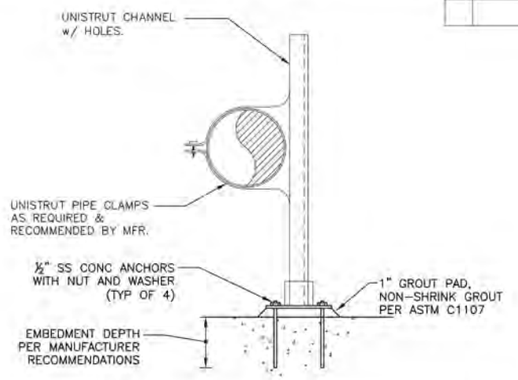
NOTES:
1. FOR SURFACE RESTORATION AND TYPICAL TRENCH DETAIL SEE LWWSD STANDARD DETAIL G4

2 BURIED GATE VALVE DETAIL
NOT TO SCALE



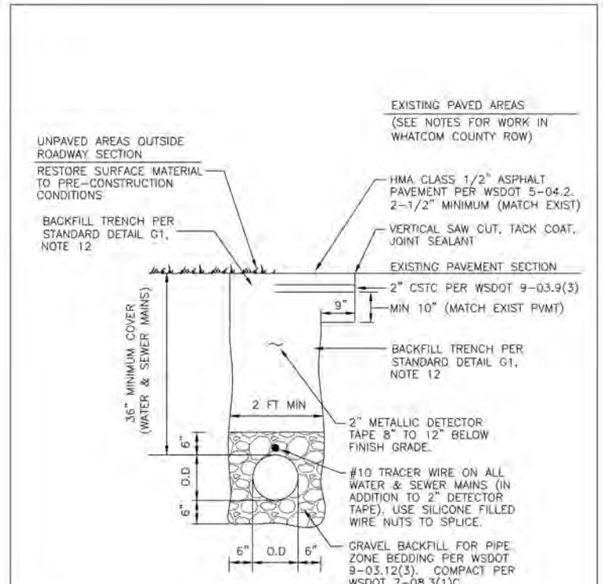
NOTES:
1. ALL HARDWARE (CHANNEL, PIPE CLAMPS, WASHERS, SCREWS, NUTS, BOLTS, ETC.) SHALL BE OF THE SAME MATERIAL AND FROM THE SAME MANUFACTURER. UNISTRUT DEFENDER PRODUCT LINE OR APPROVED EQUAL.
2. PIPE SUPPORT SPACING SHALL BE PER SPECIFICATIONS.

3 TYPICAL PIPE SUPPORT TO WALL
NOT TO SCALE



NOTES:
1. ALL HARDWARE (CHANNEL, PIPE CLAMPS, WASHERS, SCREWS, NUTS, BOLTS, ETC.) SHALL BE OF THE SAME MATERIAL AND FROM THE SAME MANUFACTURER. UNISTRUT DEFENDER PRODUCT LINE OR APPROVED EQUAL.
2. PIPE SUPPORT SPACING SHALL BE PER SPECIFICATIONS.

4 TYPICAL SELF-SUPPORTED PIPE SUPPORT
NOT TO SCALE



NOTES:

1. With respect to trench repairs and pavement overlays, in the event of conflict between this detail and Whatcom County Standard Drawing Numbers 512.F-1 and 512.F-2, the more stringent standard shall apply.

2. Standard utility locations within county-maintained public road prisms as shown in the 2012.09.25 version of Whatcom County Standard Drawing No. 512.D-1 shall apply.

TYPICAL TRENCH AND BACKFILL DETAIL

STANDARD DETAIL G4 3/11/2020

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MARVIN SMITH BRENNEMAN PROFESSIONAL ENGINEER STATE OF WASHINGTON 7/23/21

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BMS	JCS	MMM/EAS

LAKE WHATCOM WATER & SEWER DISTRICT
WASHINGTON
BELLINGHAM
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
CIVIL DETAILS

DATE	SCALE	JOB NUMBER
7-20-2021	AS SHOWN	2018-110

SHEET C5.1 PAGE 12 OF 19

PLOT SETTINGS: DWG To PDF.pc3, Previous paper size (17.00 x 11.00 inches), Portrait, 1:2, WE #PWA_UNSCREENED.ctb
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NOTES (APPLICABLE TO ALL ELECTRICAL DRAWINGS):

1. ALL SYSTEMS, EQUIPMENT, DEVICES, RACEWAYS, CABLES, ETC. INDICATED ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING.
2. THE ELECTRICAL WORK SHALL INCLUDE ALL WORK SHOWN ON THE DRAWINGS, DETAILS, DIAGRAMS, SCHEDULES, ETC., AND AS DESCRIBED IN THE SPECIFICATIONS.
3. PLAN DRAWINGS ARE DIAGRAMMATIC IN FORM AND DO NOT ATTEMPT TO SHOW COMPLETE DETAILS OR LIST EVERY ITEM OF THE ELECTRICAL SYSTEM, EQUIPMENT, OR BUILDING CONSTRUCTION; HOWEVER, THE ROUTING OF RACEWAYS AND CIRCUITS, THE LOCATIONS OF EQUIPMENT, DEVICES AND FIXTURES REPRESENT THE DESIRED FINISHED ARRANGEMENT.
4. OBTAIN APPROVAL FROM ENGINEER PRIOR TO PROCEEDING WITH ALTERNATE CONDUIT ROUTES.
5. DETAIL DRAWINGS SHALL BE CONSIDERED APPLICABLE TO ALL PLAN DRAWINGS AND SIMILAR CONDITIONS EVEN IF THE DETAILS ARE NOT SPECIFICALLY REFERENCED
6. RACEWAYS AND CABLES THROUGHOUT THE FACILITY SHALL BE RUN CONCEALED IN THE WALLS, ABOVE THE CEILING OR BELOW THE FLOOR WHERE POSSIBLE, EXCEPT, EXPOSED WITHIN UTILITY & OTHER NON-PUBLIC SPACES. WITHIN PUBLIC SPACES, WHERE DUE TO THE BUILDINGS CONSTRUCTION, IT IS NOT POSSIBLE TO ROUTE RACEWAYS & CABLES CONCEALED, RACEWAYS MAY BE RUN EXPOSED. (EXPOSED CABLES ARE NOT ALLOWED EXCEPT IN TELECOMMUNICATIONS ROOMS.) EXPOSED RACEWAYS SHALL BE RUN AS NEATLY & UNOBTRUSIVELY AS POSSIBLE, SUPPORTED AS REQUIRED, PARALLEL OR AT RIGHT ANGLES TO CEILINGS, WALLS & STRUCTURAL MEMBERS.
7. RACEWAYS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   A. INTERIOR ACCESSIBLE CONCEALED SPACES - ELECTRICAL METALLIC TUBING (EMT).
   B. INTERIOR EXPOSED - ELECTRICAL METALLIC TUBING (EMT) WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC) FOR FINAL CONNECTIONS TO VIBRATING EQUIPMENT. LIQUIDTIGHT FLEX SHALL TRANSITION TO A PVC CORED GRIP BASE FITTING (CGB0)
   C. INTERIOR NON-ACCESSIBLE CONCEALED SPACES - FLEXIBLE METAL CONDUIT (FLEX) MAY BE "FISHED" FROM ONE POINT OF CONNECTION TO ANOTHER.
   D. INTERIOR, EXPOSED IN TELECOM ROOMS, UTILITY ROOMS & OTHER NON-PUBLIC SPACES - ELECTRICAL METALLIC TUBING (EMT).
   E. INTERIOR, EXPOSED IN ROOMS, CORRIDORS & THE LIKE WHERE READILY VISIBLE TO BUILDING OCCUPANTS - SURFACE METAL RACEWAY (SMR).
   F. EXTERIOR ABOVE GRADE - PVC COATED GALVANIZED RIGID STEEL CONDUIT (GRS).
8. RACEWAYS SHALL BE SIZED SO THAT THE CABLE FILL DOES NOT EXCEED 40%, EXCEPT, MINIMUM CONDUIT SIZES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   A. 3/4" - BRANCH CIRCUITS AND SYSTEM RACEWAYS, EXCEPT AS NOTED BELOW.
   B. 1/2" - RUNS WITH #12 AWG OR SMALLER CIRCUIT CABLE TERMINATING IN A SINGLE DEVICE.
   C. 1" - POWER & LIGHTING HOMERUNS.
   D. 1" - UNDERGROUND CONDUITS.
9. DEVICE BOX SIZES SHALL BE SIZED IN ACCORDANCE WITH NEC FOR BOX FILL, EXCEPT MINIMUM SHALL BE AS FOLLOWS, UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. POWER & LIGHTING - 4" x 4" x 1 1/2"
10. DEVICE MOUNTING HEIGHTS SHALL BE AS FOLLOWS, UNLESS SPECIFICALLY NOTED OTHERWISE. MOUNTING HEIGHTS SHOWN ON THE DRAWINGS ARE TO THE CENTER OF THE BACK BOX FROM THE INTERIOR FINISHED FLOOR.
    A. POWER, TELECOMMUNICATIONS, ETC. RECEPTACLES - 18"
    B. LIGHTING SWITCHES, CONTROL STATIONS, ETC. - 46"
11. TELECOMMUNICATIONS CONDUITS SHALL BE PROVIDED WITH PULL ROPES BELOW GRADE AND PULL STRINGS ABOVE GRADE. EXISTING CONDUITS TO BE USED SHALL BE FISHED AND CLEANED PRIOR TO INSTALLATION OF CABLES.
12. BELOW GRADE SERVICE & FEEDER CABLE SHALL BE 1/C COPPER (UNLESS SPECIFICALLY NOTED OTHERWISE) WITH 600V TYPE XHHW INSULATION.
13. BRANCH CIRCUIT CABLES, EQUIPMENT GROUND CABLES AND ABOVE GRADE FEEDER CABLES SHALL BE 1/C COPPER, #12 AWG UNLESS NOTED OTHERWISE, WITH 600V TYPE XHHW OR THHN/THWN INSULATION.
14. IN ADDITION TO THE CIRCUIT CONDUCTORS INDICATED, CONTRACTOR SHALL PROVIDE AN EQUIPMENT GROUND CABLE (SIZED THE SAME AS THE LARGEST CIRCUIT CONDUCTOR UNLESS SPECIFICALLY NOTED OTHERWISE) WITHIN EACH RACEWAY WITH THE CIRCUIT CONDUCTORS.
15. SEE ELECTRICAL SPECIFICATION FOR SYSTEMS CABLE TYPES.
16. ALL WIRING SHALL BE ENCLOSED WITHIN THE RACEWAY SYSTEM.
17. FLOOR, WALL AND CEILING PENETRATIONS BY OPEN CABLES WILL NOT BE ALLOWED. PROVIDE CONDUIT SLEEVES WHERE OPEN CABLES PASS THROUGH WALLS, DRAFTSTOPS, CEILINGS, FLOORS, ETC.
18. VERIFY ALL EQUIPMENT, DEVICE, ETC. LOCATIONS WITH THE ENGINEER PRIOR TO ROUGH-IN. SEE MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT, DRAWINGS FOR SPECIALTY EQUIPMENT, CASEWORK, ETC. THE OWNER RESERVES THE RIGHT TO RELOCATE OUTLETS, ETC. WITHIN 10' OF THE LOCATION INDICATED, PRIOR TO INSTALLATION, WITHOUT INCREASE IN COST.
19. CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE MOUNTING HEIGHT FOR ALL WALL MOUNTED AND PENDANT MOUNTED LIGHTING FIXTURES PRIOR TO ROUGH-IN.
20. SEE ENGINEER SPEC. SECTIONS (E.G. DOOR HARDWARE, APPLIANCES, DOORS, ETC.), ENTIRE DIVISION 11 - EQUIPMENT, & ENTIRE DIVISION 15 - MECHANICAL, FOR ADDITIONAL REQUIREMENTS, FURTHER CLARIFICATIONS, ETC. OF EQUIPMENT ELECTRICAL REQUIREMENTS.
21. CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE FIRE RESISTIVE RATINGS FOR WALLS, PARTITIONS AND OTHER BUILDING STRUCTURES. INSTALLATION OF SYSTEM COMPONENTS AND RACEWAYS MUST MAINTAIN THE FIRE RESISTIVE RATING OF THE BUILDING.
22. POWER, FIRE ALARM, SECURITY & TELECOMMUNICATIONS SYSTEMS INTERRUPTIONS (WHETHER TO THE ENTIRE SYSTEM OR TO INDIVIDUAL PANELS, EQUIPMENT, ROOMS, DEVICES, ETC.) SHALL BE KEPT TO AN ABSOLUTE MINIMUM, AND SHALL NOT BE DONE WITHOUT PRIOR APPROVAL & SCHEDULING WITH THE OWNER & ENGINEER A MINIMUM OF 14 DAYS IN ADVANCE AND CONFIRMED 48 HOURS IN ADVANCE.
23. LABELING & NAMEPLATES:
    A. OUTLETS SHALL BE LABELED WITH THE PANEL AND CIRCUIT NUMBER FROM WHICH ITS FED. LABELS SHALL BE HEAVY DUTY ADHESIVE TYPE, CLEAR TAPE WITH BLACK LETTERING, MADE WITH A LABEL PRINTING DEVICE.
    B. JUNCTION BOXES SHALL BE LABELED WITH THE PANEL AND CIRCUIT NUMBER CONTAINED WITHIN. MARKING SHALL BE LEGIBLY HAND-WRITTEN WITH BLACK INDELIBLE MARKER.
    C. REFER TO SPECIFICATIONS FOR PANELS, DISCONNECT SWITCHES, STARTERS, ETC. NAMEPLATES AND LABELING.
24. CONTRACTOR SHALL VERIFY THAT ALL EXISTING EQUIPMENT TO BE RE-USED IS SECURELY ATTACHED TO THE BUILDING STRUCTURE. EQUIPMENT THAT IS NOT SECURELY ATTACHED SHALL BE RE-ATTACHED WITH MOUNTING SCREWS.

DEMOLITION NOTES (APPLICABLE TO ALL ELECTRICAL DRAWINGS):

1. CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT, DEVICES, ETC. WHERE INDICATED. EXISTING DEVICES NOT SHOWN ON THE DRAWINGS SHALL REMAIN. ALL ASSOCIATED CONDUIT, BOXES, CABLES, ETC. SHALL BE REMOVED TO THEIR POINT OF ORIGIN &/OR DESTINATION, EXCEPT, CONDUITS MAY BE RE-USED IF IN GOOD CONDITION & SUITABLE FOR THE NEW INSTALLATION, &/OR CONCEALED CONDUITS MAY BE LABELED & ABANDONED IN PLACE. EXISTING CABLES SHALL BE REMOVED OR REPLACED. EXISTING FLUSH BOXES SHALL BE PROVIDED WITH SUITABLE COVERS OR WALLPLATES.
2. EXISTING EQUIPMENT, FIXTURES, DEVICES, ETC. TO BE RE-USED IN THE NEW WORK SHALL BE REMOVED CAREFULLY, & PROTECTED FROM DAMAGE AS REQUIRED DURING DEMOLITION & CONSTRUCTION.
3. EXISTING EQUIPMENT, FIXTURES, DEVICES, ETC. TO REMAIN SHALL BE PROTECTED AS REQUIRED DURING DEMOLITION AND CONSTRUCTION.
4. EXISTING CIRCUITS, CONDUITS, CABLES, ETC. INTERRUPTED DUE TO THE REMODEL SHALL BE RE-CONNECTED AS REQUIRED TO MAINTAIN THE CIRCUIT.
5. ALL SURPLUS MATERIAL REMOVED DURING THE DEMOLITION SHALL BE INSPECTED BY THE OWNER, AND THOSE ITEMS SELECTED SHALL REMAIN THE PROPERTY OF THE OWNER. ALL REMAINING SURPLUS MATERIALS SHALL BE REMOVED FROM THE SITE & DISPOSED OF BY THE CONTRACTOR.

ELECTRICAL LEGEND

LIGHTING
- LUMINAIRE, SURFACE MTD.
- LUMINAIRE, WALL MTD

SWITCHING
- S SINGLE-POLE SWITCH
- S_L LOW VOLTAGE SWITCH
- S_3 THREE WAY SWITCH
- S_{2P} DOUBLE POLE SWITCH
- S_{MS} MOTION SENSOR SWITCH (SEE SPECIFICATIONS FOR TYPE)
- (P) PRESSURE SWITCH

OUTLETS
- DUPLEX OUTLET
- DOUBLE DUPLEX OUTLET
- $_{GFI}$ DUPLEX OUTLET, GROUND FAULT INTERRUPTING
- $_{WP}$ DUPLEX OUTLET, WEATHERPROOF

ANCILLARIES
- DOOR CONTACT OR FLOOD SWITCH
- (S) SMOKE DETECTOR
- (R) RATE OF RISE HEAT DETECTOR

MISCELLANEOUS
- BRANCH CIRCUIT, ABOVE GRADE, CONCEALED (OR SIMILAR, SLASHES = NO. OF CIRCUIT CONDUCTORS WHERE APPLICABLE)
- BRANCH CIRCUIT, ABOVE GRADE, EXPOSED (OR SIMILAR, SLASHES = NO. OF CIRCUIT CONDUCTORS WHERE APPLICABLE)
- HOMERUN TO LOCATION INDICATED, CONCEALED (TYPICAL)
- HOMERUN TO LOCATION INDICATED, EXPOSED (TYPICAL)
- BELOW FLOOR/GRADE CONDUIT
- GROUND CABLE
- CABLE RUN 'OPEN' IN ACCESSIBLE CEILING SPACE (SLASHES = No. 4 TYPE OF CABLES WHERE APPLICABLE)
- EXISTING CONDUIT, NEW CABLE
- (J) JUNCTION BOX
- (J)◇ JUNCTION BOX WITH EXPLOSION PROOF SEAL OFF LOCATED BELOW
- ◇ EXPLOSION PROOF SEAL OFF
- PANELBOARD
- DISCONNECT SWITCH
- COMBINATION MOTOR STARTER
- PUSHBUTTON OR CONTROL STATION
- MOTORIZED LOUVER
- EXHAUST FAN
- FIRE ALARM MONITOR MODULE
- FIRE ALARM CONTROL MODULE
- SOLENOID
- PRESSURE VALVE
- THERMOSTAT
- WP WEATHER PROOF
- EX EXISTING TO REMAIN
- REX REPLACE EXISTING WITH NEW
- REL RELOCATE EXISTING
- FUT FUTURE
- XP EXPLOSION PROOF
- SHLD SHIELDED CABLE
- EPO EMERGENCY POWER OFF

DEMOLITION
(DASHED INDICATES EXISTING TO BE REMOVED)
- S SWITCH
- S_T TIMER SWITCH
- DUPLEX OUTLET
- DOUBLE DUPLEX OUTLET
- BRANCH CIRCUIT CONDUIT, SURFACE MTD.
- BRANCH CIRCUIT CONDUIT, CONCEALED

PLOTTED AT REDUCED SIZE, DO NOT SCALE

AS BUILT

NO.	REVISIONS	BY	DATE
1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

K ENGINEERS INC.
208 Third Street
Lynden, WA. 98264
Bus. (360) 354-4757
FAX (360) 354-6794

STEVEN B. TEVIS — STATE OF WASHINGTON — 41903 — REGISTERED PROFESSIONAL ENGINEER

WILSON ENGINEERING
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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – NOTES & LEGEND

DATE 11-13-2020 | SCALE AS SHOWN | JOB NUMBER 2069

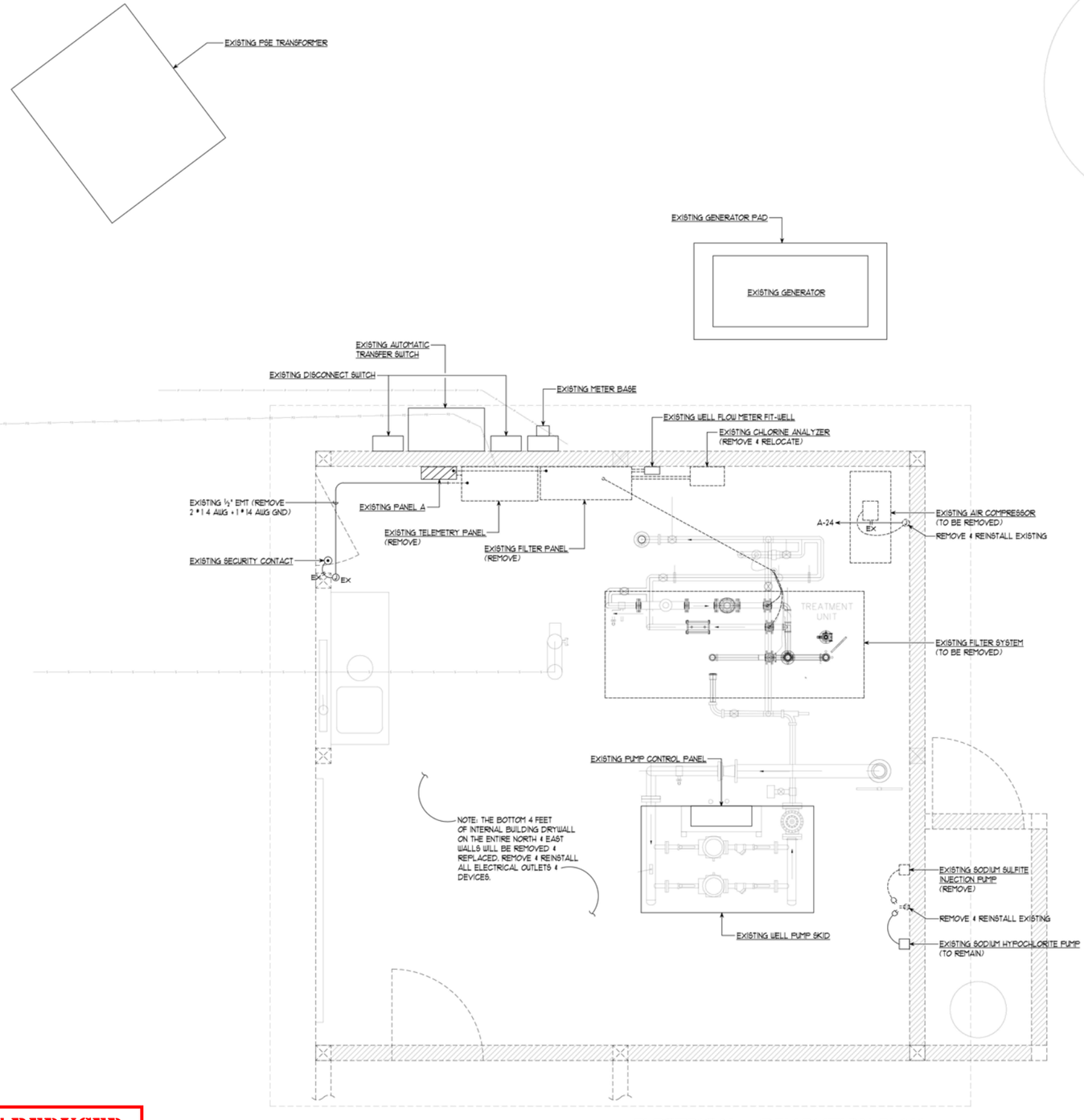
SHEET E1.0 R1 | PAGE 13 OF 19

NO.	REVISIONS	BY	DATE
1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

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ELECTRICAL – DEMOLITION PLAN
SCALE: 1/2" = 1'-0"

N

6 0 6 12
SCALE HORIZONTAL SCALE FEET

AS BUILT

PLOTTED AT REDUCED SIZE, DO NOT SCALE

DESIGNED BY STV
DRAWN BY KL
CHECKED BY STV

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – DEMOLITION PLAN

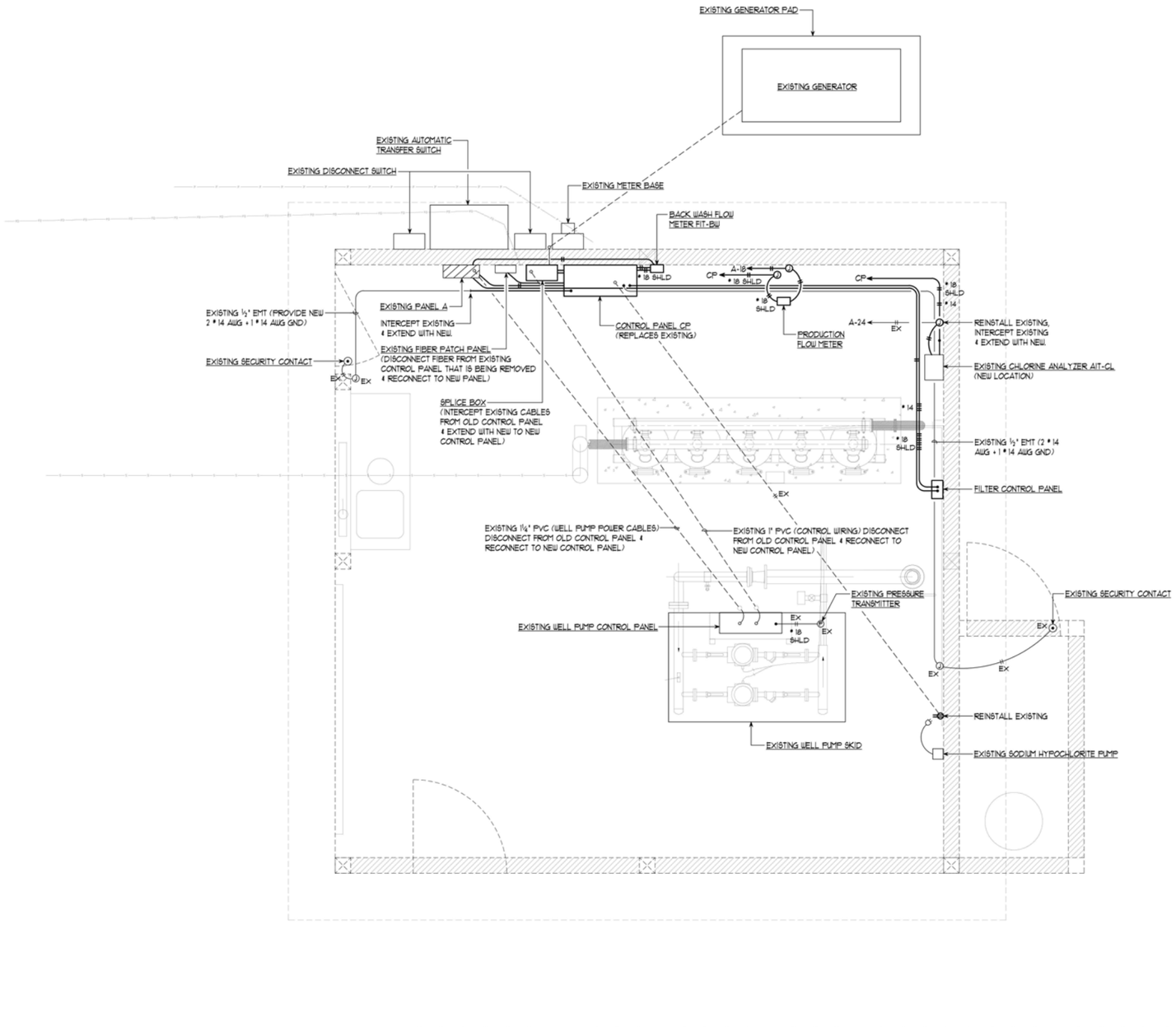
DATE 11-13-2020
SCALE 1/2" = 1'-0"
JOB NUMBER 2069

SHEET E2.0 R1
PAGE 14 OF 19

NO.	REVISIONS	BY	DATE
1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

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208 Third Street
Lynden, WA. 98264
Bus. (360) 354-4757
FAX (360) 354-6794

STEVEN B. TEVIS — STATE OF WASHINGTON — 41903 — REGISTERED PROFESSIONAL ENGINEER



ELECTRICAL – POWER & CONTROLS PLAN
SCALE: 1/2" = 1'-0"

AS BUILT

PLOTTED AT REDUCED SIZE, DO NOT SCALE

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BELLINGHAM WASHINGTON
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ELECTRICAL – POWER & CONTROLS PLAN

DATE 11-13-2020 | SCALE AS SHOWN | JOB NUMBER 2069

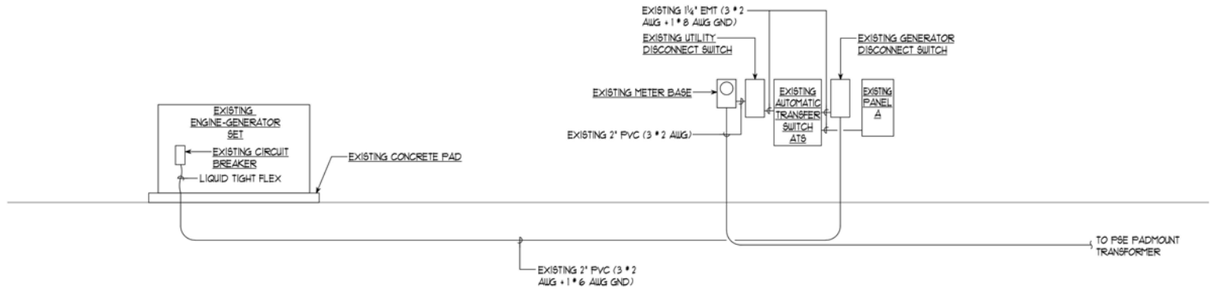
SHEET E2.1 R1 | PAGE 15 OF 19

NO.	REVISIONS	BY	DATE
1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

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ELECTRICAL – POWER SYSTEM RISER DIAGRAM

SCALE: NONE

EXISTING METER BASE — BUILDING EXTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
ENCLOSURE: NEMA 3R
MOUNTING: SURFACE
CONTINUOUS RATING: 100 A
PER PUGET SOUND ENERGY REQUIREMENTS
SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

EXISTING DISCONNECT SWITCH — BUILDING EXTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
SWITCH TYPE: GENERAL DUTY, FUSIBLE SIEMENS
FUSES TYPE: DUAL ELEMENT, CLASS RK5
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
SWITCH RATING: 100 A
FUSES RATING: 100 A
FULL AIC RATING: 10,000 A
SERIES AIC RATING: NONE

SPECIAL PROVISIONS:
NAMEPLATE
GROUND BAR
SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

EXISTING ENGINE-GENERATOR SET — BUILDING EXTERIOR

VOLTAGE: 240/120V, 1 PH, 3 W
RATING: 20 KW, 25 KVA
TYPE: PROPANE
ENCLOSURE: OUTDOOR WEATHERPROOF SKID MOUNTED SOUND ATTENUATED
HEATER: ENGINE COOLANT (120V)
FUEL TANK: REMOTE PROPANE TANK

CONTROLS:
RUN-STOP-REMOTE SWITCH
COOLANT TEMP. GAUGE
FIELD CIRCUIT BREAKER
DC VOLTMETER
RUNNING TIME METER
OIL PRESSURE GAUGE
FAULT RESET SWITCH
CYCLE CRANKING
ENGINE FAULT & PRE-FAULT INDICATION PER NFPA 110

CIRCUIT BREAKER:
1 @ X0A, 2 POLE

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

EXISTING AUTOMATIC TRANSFER SWITCH — BUILDING EXTERIOR

VOLTAGE: 240/120V, 1 PH, 3 W
RATING: 100 AMPS, 2 POLE, 3 WIRE
APPLICATION: UTILITY TO GENERATOR
ENCLOSURE: NEMA 3R
MOUNTING: SURFACE

EXERCISER CLOCK
BATTERY CHARGER
MASTER NAMEPLATE

METERS (DOOR MOUNTED):
VOLTMETER
AMMETER
FREQUENCY METER
PHASE SELECTOR SWITCH

STATUS INDICATORS:
SOURCE 1 OK
SOURCE 2 OK
GENERATOR SET SIGNAL
TRANSFER TIMING
TRANSFER COMPLETE
RETRANSFER TIMING
TIMING FOR STOP

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

EXISTING DISCONNECT SWITCH — BUILDING EXTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
SWITCH TYPE: GENERAL DUTY, FUSIBLE SIEMENS
FUSES TYPE: DUAL ELEMENT, CLASS RK5
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
SWITCH RATING: 100 A
FUSES RATING: 100 A
FULL AIC RATING: 10,000 A
SERIES AIC RATING: NONE

SPECIAL PROVISIONS:
NAMEPLATE
GROUND BAR
SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

EXISTING PANEL A (MODIFY) — BUILDING INTERIOR

VOLTAGE: 120/240V, 1 PH, 3 W
TYPE: LOAD CENTER SQUARE D
ENCLOSURE: NEMA 1
MOUNTING: SURFACE
BUSSING: MANUFACTURER'S STANDARD
CONTINUOUS RATING: 100 A
FULL AIC RATING: 10,000 A
SERIES AIC RATING: NONE
MAIN: LUGS ONLY
LOCATION: BOTTOM

FEEDER/BRANCH CIRCUIT DEVICES:
BOLT-ON CIRCUIT BREAKERS
FULL AIC RATING: 10,000 A
SERIES AIC RATING: 22,000 A

SPECIAL PROVISIONS:
MASTER NAMEPLATE
GROUND BAR

ELECTRICAL LOAD CALCULATION	CONN. LOAD (VA) EXIST.	NEW	TOTAL	DEMAND FACTOR	DEMAND LOAD (VA)
Lighting	322.0	0.0	322.0	1.25	402.5
Gen. Purpose Outlets (First 10 KVA)	720.0	0.0	720.0	1.00	720.0
Gen. Purpose Outlets (Remainder)	0.0	0.0	0.0	0.50	0.0
Special Purpose Outlets	0.0	0.0	0.0	1.00	0.0
Mechanical Equipment	8692.0	0.0	8692.0	1.00	8692.0
Kitchen Equipment & Appliances	0.0	0.0	0.0	1.00	0.0
Miscellaneous	6010.0	600.0	6610.0	1.00	6610.0
25% Largest Motor					977.5
TOTAL LOAD	15744.0	600.0	16344.0		17402.0
TOTAL AMPS	65.6	2.5	68.1		72.5

CONN. LOAD (VA)	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	BKR AMP/P	CKT NO	BUS (PHASE)	CKT NO	BKR AMP/P	FEEDER/BRANCH CIRCUIT DESCRIPTION	NOTE	CONN. LOAD (VA)
300.0	CONTROL PANEL CP	(3)	20/1	1	A	2	20/1	SPARE	(5)	0.0
0.0	SPARE	(5)	20/1	3	B	4	20/1	SPARE	(5)	0.0
750.0	WALL HEATER - BATHROOM		15/2	5	A	6	15/1	SPARE	(5)	0.0
750.0				7	B	8	15/1	BACKWASH FLOW METER FIT-BW	(3)	300.0
750.0	WATER HEATER - BATHROOM		20/2	9	A	10	20/1	LTG, OUTLET & EXHAUST FAN - BATHROOM		292.0
750.0				11	B	12	20/1	CHEMICAL FEED PUMPS		300.0
600.0	GENERATOR BATTERY CHARGER		15/1	13	A	14	30/2	HEATER - PUMP ROOM		1500.0
1100.0	LTG & HEAT - CHEMICAL ROOM		15/1	15	B	16				1500.0
300.0	RESIDUAL ANALYZER		15/1	17	A	18	40/2	PUMP CONTROL PANEL - PUMP ROOM	(1)	1955.0
300.0	SPARE (FORMERLY TELEMETRY PANEL)	(4)	15/1	19	B	20				1955.0
842.0	LTG & OUTLETS		20/1	21	A	22	20/1	SPARE (FORMERLY) FILTRONICS PANEL)	(4)	300.0
1500.0	HOT WATER TANK		20/1	23	B	24	20/1	CHLORINE ANAL. AIT-CL (FORMERLY AIR COMPRE	(2)	300.0
			MAIN LUGS							

NOTES:
(1) ONLY 1 PUMP RUNS AT A TIME. 2ND PUMP IS A BACKUP PUMP ONLY.
(2) REMOVE EXISTING AIR COMPRESSOR AND RENAME CIRCUIT.
(3) PROVIDE NEW CIRCUIT AND CIRCUIT BREAKER IN EXISTING SPACE.
(4) REMOVE EXISTING CIRCUIT AND MAKE CIRCUIT BREAKER SPARE.
(5) PROVIDE NEW SPARE CIRCUIT BREAKER IN EXISTING SPACE.

PLOTTED AT REDUCED SIZE, DO NOT SCALE

AS BUILT

DESIGNED BY STV | DRAWN BY KL | CHECKED BY STV

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – POWER SYSTEM RISER DIAGRAM & PANEL SCHEDULES

DATE 11-13-2020 | SCALE AS SHOWN | JOB NUMBER 2069

SHEET E6.1 R1 | PAGE 16 OF 19

NO.	REVISIONS	BY	DATE
1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

DRAWING NAME	DESCRIPTION		DRAWING TYPE
N-00	COMMUNICATIONS LAYOUT		NETWORK WIRING DIAGRAM
P-00	TELEMETRY PANEL		PANEL LAYOUT DIAGRAM
E-00	TELEMETRY PANEL	POWER DISTRIBUTION	CONTROL WIRING DIAGRAM
E-01	TELEMETRY PANEL	PLC DIGITAL INPUTS	CONTROL WIRING DIAGRAM
E-02	TELEMETRY PANEL	PLC DIGITAL OUTPUTS	CONTROL WIRING DIAGRAM
E-03	TELEMETRY PANEL	PLC ANALOG INPUTS	CONTROL WIRING DIAGRAM
E-04	TELEMETRY PANEL	PLC ANALOG OUTPUTS	CONTROL WIRING DIAGRAM

WIRING SPECIFICATIONS

(MAIN SUPPLY SOURCE)

VAC POWER	STRANDED COPPER, MTW, BLACK W/ PHASES COLORED
VAC CONTROL	STRANDED COPPER, MTW, RED
VAC NEUTRAL	STRANDED COPPER, MTW, WHITE
GROUND	STRANDED COPPER, MTW, GREEN
VDC CONTROL	STRANDED COPPER, MTW, BLUE
VDC COMMON	STRANDED COPPER, MTW, WHITE W/ BLUE STRIPE
VDC ANALOG	TWISTED SHIELDED PAIR, BLACK AND CLEAR

(EXTERNAL SUPPLY SOURCE, ENERGIZED WITH MAIN DISCONNECT OFF)

FOREIGN CONTROL	STRANDED COPPER, MTW, YELLOW
FOREIGN GROUNDED NEG.	STRANDED COPPER, MTW, WHITE W/ YELLOW STRIPE

WIRE SIZED AT MINIMUM PER UL508A, TABLES 28.1 AND 38.1
FIELD WIRING SHALL BE COPPER WIRE WITH MINIMUM 60 DEG. C INSULATION RATING UNDER 100 AMPS, 75 DEG. C INSULATION RATING 100 AMPS OR MORE
TORQUE SCREWS AT FIELD WIRING AND FUSED TERMINAL BLOCKS TO 7 LB. IN., TORQUE SCREWS AT CIRCUIT BREAKERS TO 21 LB. IN., OR TORQUE AS INDICATED ON LABEL NEAR TERMINALS.

CONTROL PANEL LABELS

THE FOLLOWING LABELS WILL BE PLACED WITHIN THE CONTROL PANEL IF LISTED IN THE CONTROL PANEL LAYOUT (P) DRAWING:

1. QCC NAMEPLATE (FRONT DOOR)
2. MAIN POWER NAMEPLATE (INTERIOR)
3. FIELD WIRING SPECIFICATION (INTERIOR)
4. NON-UL COMPONENT (NEAR NON-UL ITEM)
5. MULTIPLE POWER SOURCES (FRONT DOOR)
6. INSTANTANEOUS TRIP CIRCUIT BREAKER (2 LABELS NEAR DEVICE)
7. HIGH FAULT SCCR BRANCH CIRCUIT TRIP (NEAR CB)
8. INTRINSICALLY SAFE FIELD WIRING (NEAR I.S. FIELD TERMINALS)
9. INTERFACE TO HAZARDOUS LOCATIONS (2 LABELS ON FRONT DOOR)
10. ARC FLASH (FRONT DOOR)
11. UPS POWER (FRONT DOOR)
12. NON-UL LOW VOLTAGE COMPONENT, EXTERNALLY POWERED (NEAR FUSE)

LEGEND

- (##) BILL OF MATERIALS ITEM NO.
- WIRING BY OTHERS.
- ▲ EQUIPMENT BY OTHERS.
- ⚠ MAIN DISCONNECT AND BRANCH CIRCUIT PROTECTION PROVIDED IN THE FIELD BY OTHERS.
- ⚠ INSTALL IN ACCORDANCE WITH ARTICLE 504 OF THE N.E.C. CABLE LENGTH SHALL NOT EXCEED 1,000 FT.

REV	DESCRIPTION	BY	DATE
A	SHOP AS BUILT	N. DEBOLDT	4/15/21

Quality Controls Corporation
5015 208th St. SW, Suite 1-B
Lynnwood, WA 98036
(425) 778-8280
www.Quality-Controls.com

DRAWN BY: N. DEBOLDT
APPD. BY: J. YAO
DATE: 1/22/21
END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
INSTRUMENTATION & CONTROLS

DRAWING LIST

QCC PROJECT NO. P2009
DWG. NO. D-00

K ENGINEERS INC.
208 Third Street
Lynden, WA. 98264
Bus. (360) 354-4757
FAX (360) 354-6794

STEVEN B. TEVIS — STATE OF WASHINGTON — #19803 — REGISTERED PROFESSIONAL ENGINEER

TELEMETRY PANEL

COMPACTLOGIX (1769-L24ER-QBFC1B)
16-PT I/O MODULE (1769-IQ16)
4-PT AI MODULE (1769-IF4)
ETHERNET SWITCH
OPERATOR INTERFACE
DOOR-MOUNTED PORT

REV	DESCRIPTION	BY	DATE
A	SHOP AS BUILT	N. DEBOLDT	4/15/21

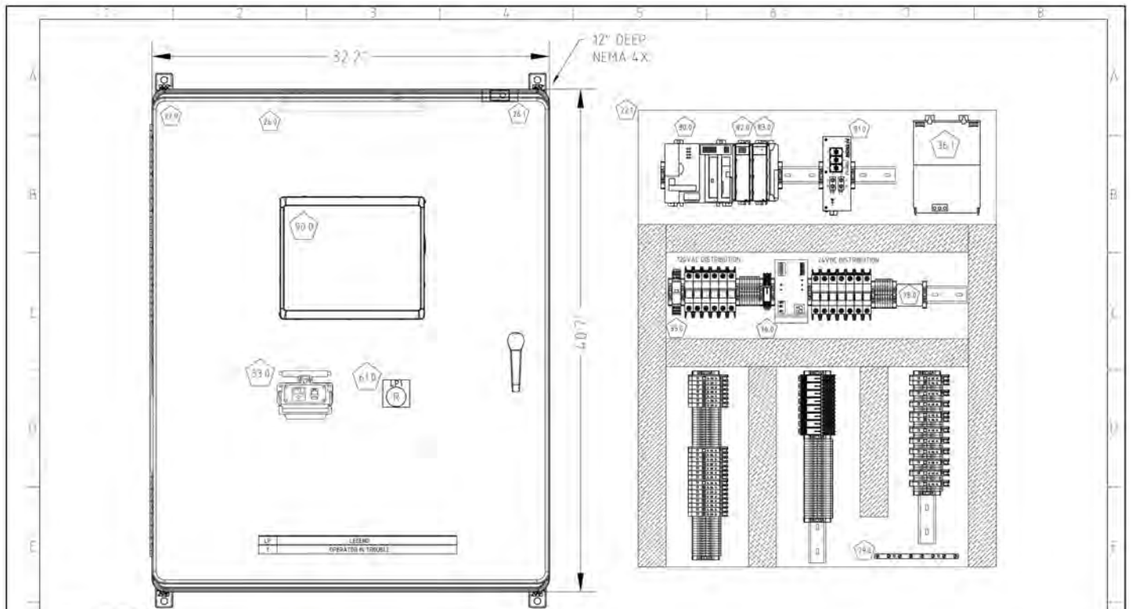
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5015 208th St. SW, Suite 1-B
Lynnwood, WA 98036
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CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
COMMUNICATIONS LAYOUT

NETWORK WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. N-00



REV	DESCRIPTION	BY	DATE
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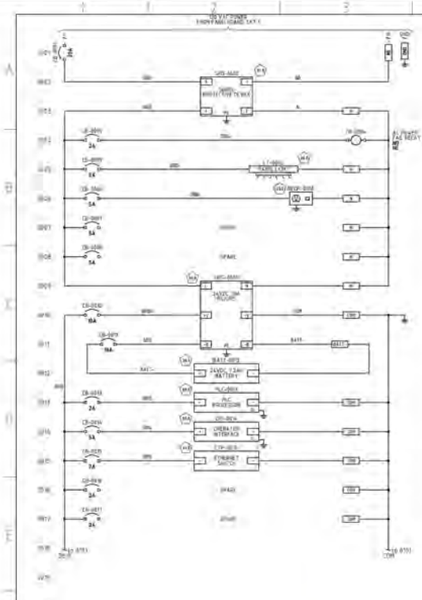
DRAWN BY: N. DEBOLDT
APPD. BY: J. YAO
DATE: 1/22/21
END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL

PANEL LAYOUT DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. P-00

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REV	DESCRIPTION	BY	DATE
A	SHOP AS BUILT	N. DEBOLDT	4/15/21

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APPD. BY: J. YAO
DATE: 1/22/21
END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL
POWER DISTRIBUTION
CONTROL WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. E-00

AS BUILT

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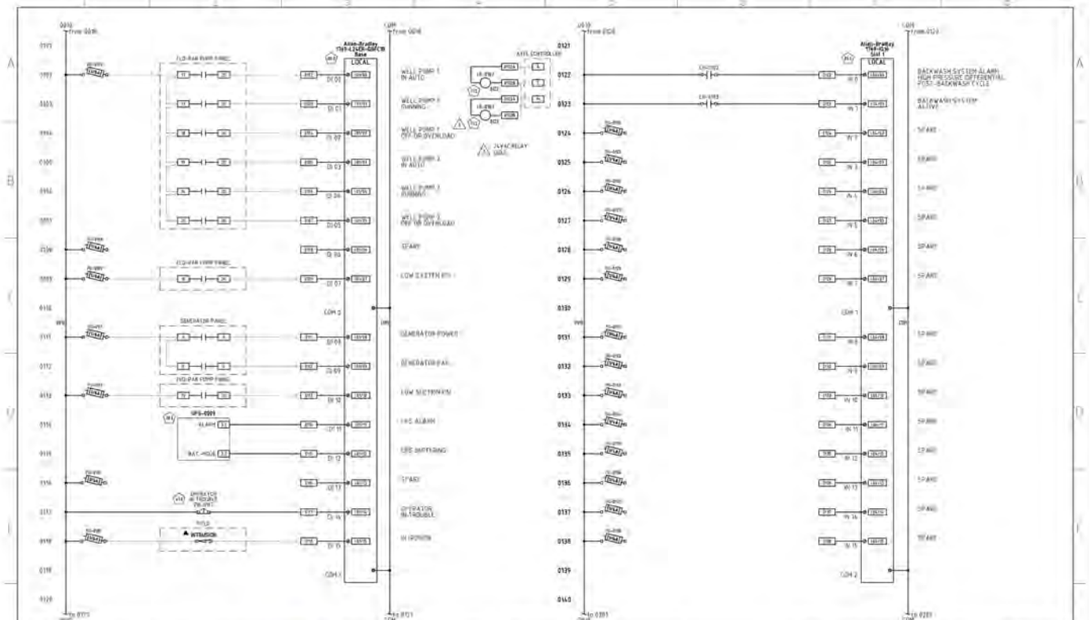
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CHECKED BY: STV

LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM, WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – CONTROL DRAWINGS

DATE: 11-13-2020
SCALE: AS SHOWN
JOB NUMBER: 2069

SHEET: E7.1 R1
PAGE: 17 OF 19

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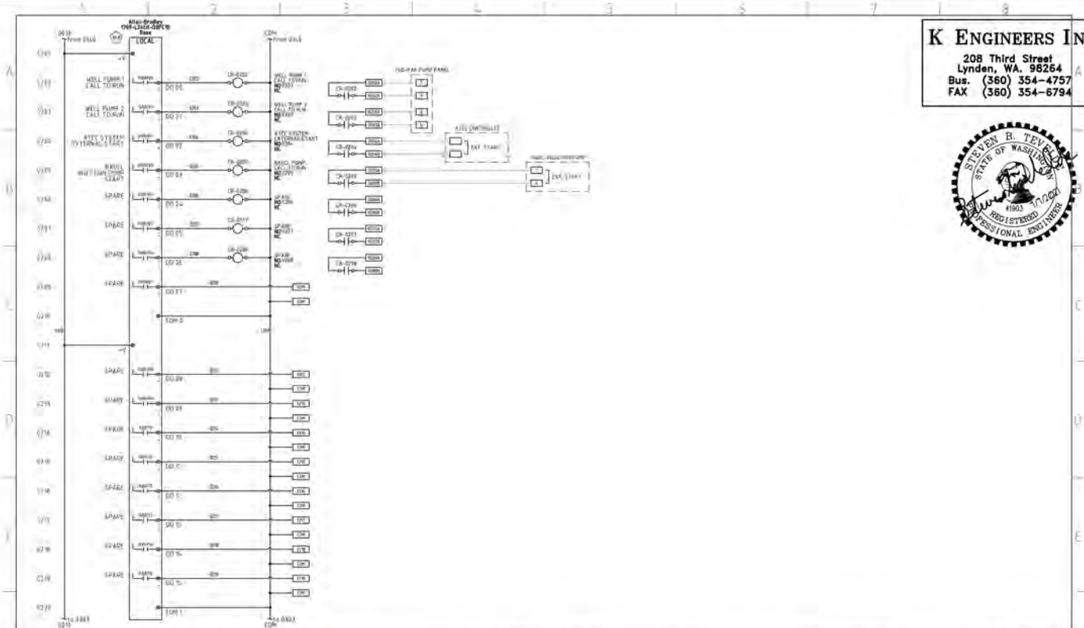
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END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL
PLC DIGITAL INPUTS
CONTROL WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. C-01



K ENGINEERS INC.
208 Third Street
Lynden, WA. 98264
Bus. (360) 354-4757
FAX (360) 354-6794

STEVEN R. TEVIS — STATE OF WASHINGTON — 41903 — REGISTERED PROFESSIONAL ENGINEER

Quality Controls Corporation
5015 208th St. SW, Suite 1-B
Lynnwood, WA 98036
(425) 778-8280
www.Quality-Controls.com

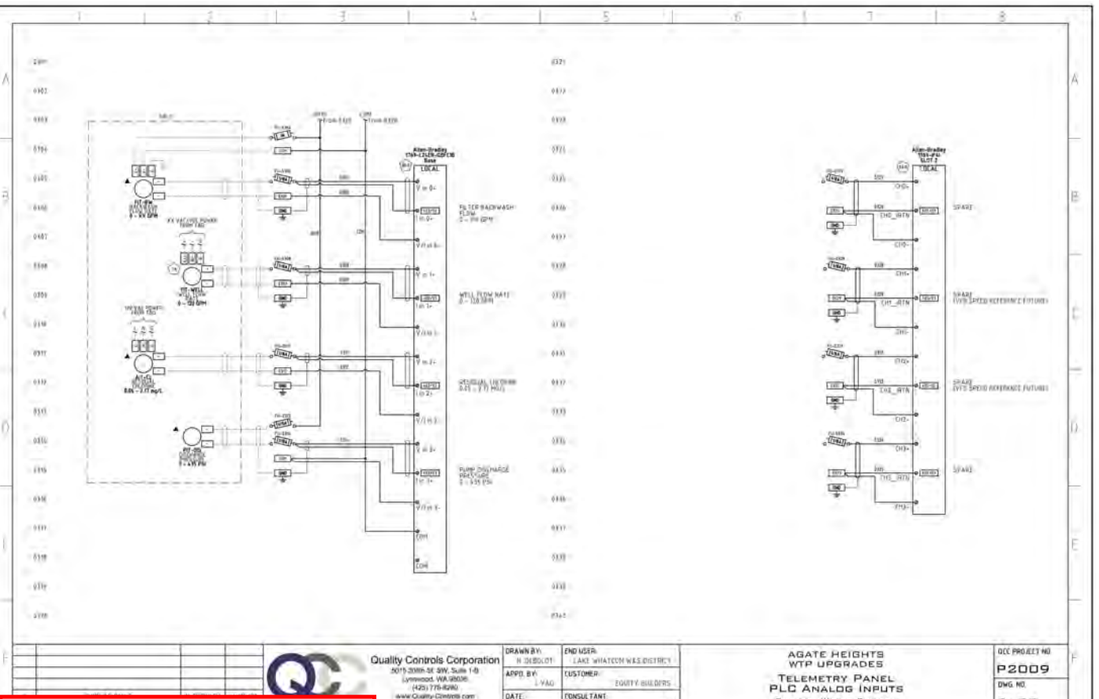
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DATE: 1/22/21

END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL
PLC DIGITAL OUTPUTS
CONTROL WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. C-02



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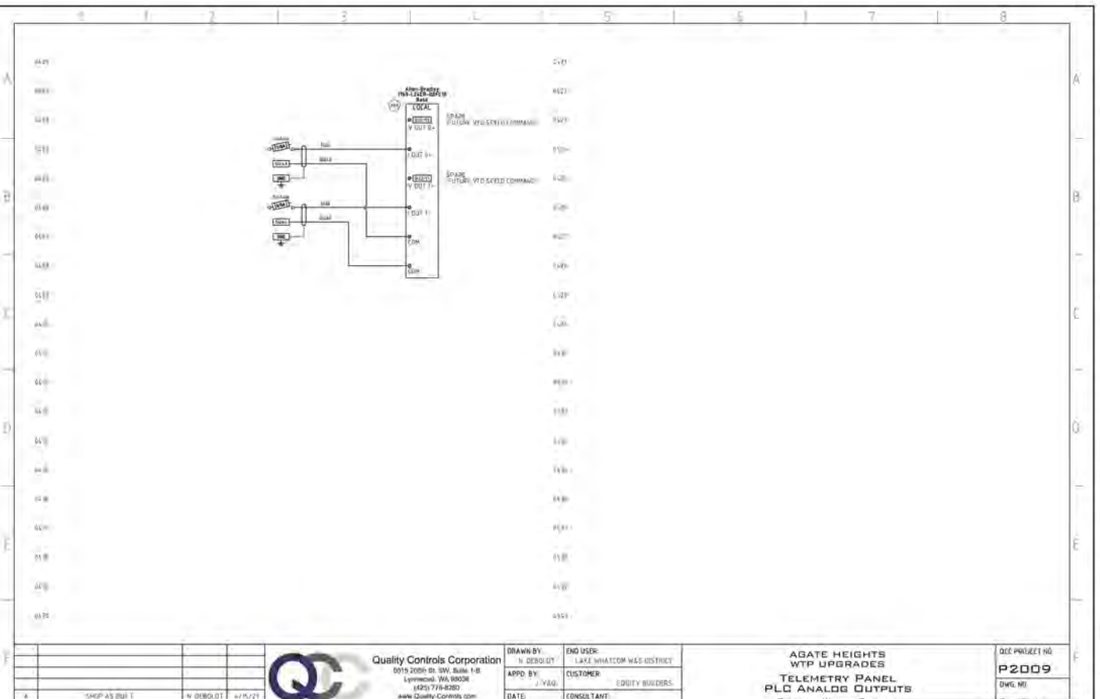
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DATE: 1/22/21

END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL
PLC ANALOG INPUTS
CONTROL WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. C-03



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5015 208th St. SW, Suite 1-B
Lynnwood, WA 98036
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REV	DESCRIPTION	BY	DATE
A	SHOP AS BUILT	N. DEBOLDT	4/15/21

DRAWN BY: N. DEBOLDT
APPD. BY: J. YAO
DATE: 1/22/21

END USER: LAKE WHATCOM WAS DISTRICT
CUSTOMER: EQUITY BUILDERS
CONSULTANT: QCC

AGATE HEIGHTS
WTP UPGRADES
TELEMETRY PANEL
PLC ANALOG OUTPUTS
CONTROL WIRING DIAGRAM

QCC PROJECT NO. P2009
DWG. NO. C-04

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM, WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – CONTROL DRAWINGS

DATE: 11-13-2020
SCALE: AS SHOWN
JOB NUMBER: 2069

SHEET: E7.2 R1
PAGE: 18 OF 19

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1	AS BUILT PER CONTRACTOR FIELD NOTES	STV	7/7/2021

K ENGINEERS INC.
208 Third Street
Lynden, WA. 98264
Bus. (360) 354-4757
FAX (360) 354-6794

STEVEN B. TEVIS — STATE OF WASHINGTON — 41903 — REGISTERED PROFESSIONAL ENGINEER

Bill of Materials — **Quality Controls Corporation** 5015 208th St. SW, Unit 1-B, Lynnwood, WA 98036 (425)778-8280

PROJECT NAME: LWWSD Agate Heights Water Treatment Plant Upgrades
QCC PROJECT NO.: P2009

Item No	Name / Tag No.	Qty.	Description	Manufacturer	Man. Part No.	Vendor
CONTROL PANEL INSTRUMENTATION						
1.0	FE/FIT-PROD	1	Magnetic Inductive Flowmeter, DN50 | 2" PROMAG W 300 Cl. 150, carbon steel flange ASME B16.5 Hard Rubber Lining St. Steel 1.4435/316L Electrodes	Endress + Hauser	5W3B50-CSEIBADDFADHA 1KGAA1+AAL4	Field Instruments & Controls
1.1	Flow Meter - Magnetic Grounding Rings	1	Grounding Rings: 2", 150#, 316SS, Pair	ENCO Manufacturing	GRSS-2	ENCO Manufacturing
CONTROL PANEL INSTRUMENTATION						
22.0	Enclosure - Wall Mount Type 4X Fiberglass	1	Enclosure: NEMA 4X, Fiberglass, Gray, 3-Point Latching Hardware, 40"H x 32"W x 12"D	Allied Moulded Products	AMXL403212L3PT	Platt Electric
22.1	Enclosure - Wall Mount Type 4X Fiberglass	1	Backpanel: 37.0"H x 29.0"W, Steel, White	Allied Moulded Products	P4032	Platt Electric
26.0	LT-0005	1	Light Fixture: LED, 285 mm (11.2"), **with** Power Cable, On/Off Switch	Banner	WLB32ZC285PBQ MB	WESCO
26.1	ZS-0005	1	Light Switch: Door Activated	Hoffman	ALFSWD	North Coast Electric
33.0	RECP-0006	1	Receptacle: Panel Interface Port, Type 12/4/4X, 120VAC Outlet and RJ-45	Automation Direct	ZP-PSA-16-101	Quantum Automation
35.0	SPD-0002	1	Surge Suppressor: 120 VAC Nominal Voltage, Status Indication, Base Included	Phoenix	2907918	Stoneway
36.0	UPS-0009	1	Uninterruptible Power Supply: TRIO Series, Integrated 24VDC Power Supply, 120VAC Input, 10A, Battery Required	Phoenix	2907161	Stoneway
36.1	BATT-0012	1	UPS Battery: 24VDC, 7.2 AH	Phoenix	2320319	Stoneway
40.0	CB-0001	1	Circuit Breaker: 20A, 1 Pole, Thermal Magnetic UL489	Eaton	FAZ-C20/1-NA-SP	Platt Electric
40.1	CB-0010 CB-0011	2	Circuit Breaker: 10A, 1 Pole, Thermal Magnetic UL489	Eaton	FAZ-C10/1-NA-SP	Platt Electric

Page 1 of 3 — 2/1/20213:00 PM

Bill of Materials — **Quality Controls Corporation** 5015 208th St. SW, Unit 1-B, Lynnwood, WA 98036 (425)778-8280

PROJECT NAME: LWWSD Agate Heights Water Treatment Plant Upgrades
QCC PROJECT NO.: P2009

Item No	Name / Tag No.	Qty.	Description	Manufacturer	Man. Part No.	Vendor
40.2	CB-0006 CB-0007 CB-0008 CB-0014	4	Circuit Breaker: 5A, 1 Pole, Thermal Magnetic UL489	Eaton	FAZ-C5/1-NA-SP	Platt Electric
40.3	CB-XXXX	6	Circuit Breaker: 2A, 1 Pole, Thermal Magnetic UL489	Eaton	FAZ-C2/1-NA-SP	Platt Electric
61.0	PB-0117	1	Pushbutton: Mushroom Head, 30.5 mm, Maintained, Red, NEMA 4X, 1 N.C. Contact	Allen-Bradley	800H-FRXT6D4	North Coast Electric
71.0	CR-0004	1	Control Relay: 120VAC, DPDT, Indicator Light	Idec	RJ2S-CL-A120	Industrial Controls Supply
71.1	CR-XXXX	7	Control Relay: 24VDC, DPDT, Indicator Light	Idec	RJ2S-CL-D24	Industrial Controls Supply
71.2	CR-0121	2	Control Relay: 24VAC, DPDT, Indicator Light	Idec	RJ2S-CL-A24	Industrial Controls Supply
71.3	Control Relay - DPDT Slim	10	Relay Socket: DPDT Blade, DIN Rail Mount	Idec	SJ2S-07LW	Industrial Controls Supply
75.0	Terminals	90	Terminals: 600V, 25A, #12-#30 AWG	Allen-Bradley	1492-J3	North Coast Electric
75.1	Terminals	11	Terminals: Grounding, #12-#30 AWG	Allen-Bradley	1492-JG3	North Coast Electric
76.0	Terminals - Fused	34	Terminal: Fused, 1/4" x 1-1/4", Indicating 24 VDC LED	Allen-Bradley	1492-H5	North Coast Electric
76.1	Fuses	22	Fuses: 1/4 Amp, 1/4"x 1-1/4", Glass, Fast Acting	Bussmann	AGC-1/4-R	Industrial Controls Supply
76.2	Fuses	12	Fuses: 1/8 Amp, 1/4"x 1-1/4", Glass, Fast Acting	Bussmann	AGC-1/8-R	Industrial Controls Supply
78.0	Fuses - Drawer	1	Utility Box: DIN Mount, Drawer	Wago	709-591	Industrial Controls Supply
79.0	Ground Bar	1	Ground Bar: 12 terminal, copper alloy, Wire range #6 - #14 AWG.	Electric Motion	EM4251-12-SS-O	Electric Motion

Page 2 of 3 — 2/1/20213:00 PM

Bill of Materials — **Quality Controls Corporation** 5015 208th St. SW, Unit 1-B, Lynnwood, WA 98036 (425)778-8280

PROJECT NAME: LWWSD Agate Heights Water Treatment Plant Upgrades
QCC PROJECT NO.: P2009

Item No	Name / Tag No.	Qty.	Description	Manufacturer	Man. Part No.	Vendor
80.0	PLC-0013	1	Programmable Logic Controller: CompactLogix, 2 Ethernet and 1 USB Ports, 24VDC Embedded 16 DC Inputs, 16 DC Digital Outputs, 4 High-Speed Counters, 4 High-Speed Counter Outputs, 4 Universal Analog Inputs, 2 Analog Outputs 8 I/O Expansion	Allen-Bradley	1769-L24ER-QBFC1B	North Coast Electric
82.0	PLC DI	1	Digital Input Module: 16 Inputs, 24 VDC	Allen-Bradley	1769-IQ16	North Coast Electric
83.0	PLC AI	1	Analog Input Module: 4 Isolated Inputs, 0/4-20 mA	Allen-Bradley	1769-IF4I	North Coast Electric
90.0	OIT-0014	1	Operator Interface: PanelView Plus 7 Standard Terminal, 10.4", Touch, 24VDC	Allen-Bradley	2711P-T10C21D8S	North Coast Electric
91.0	ETH-0015	1	Ethernet Switch: Managed, 24VDC Powered, 6 10/100base TX RJ 45, 2 Fiber Optic Multimode ST	N-tron	708FX2-ST	Industrial Controls Supply

Page 3 of 3 — 2/1/20213:00 PM

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LAKE WHATCOM WATER & SEWER DISTRICT
BELLINGHAM WASHINGTON
AGATE HEIGHTS WATER TREATMENT PLANT UPGRADES
ELECTRICAL – BILL OF MATERIALS

DATE 11-13-2020 | SCALE AS SHOWN | JOB NUMBER 2069

SHEET E7.3 R1 | PAGE 19 OF 19

Sudden Valley Water Treatment Plant

FND. BENT REBAR

REBAR MARKED "H. DENNING L.S. 10957"

MORNING BEACH DRIVE

N 80°13'34" E 50.00'

S 71°13'53" E 253.62'

E 0+00

S 0+00

E 0+50

E 1+00

E 1+50

E 2+00

E 2+50

PUNCH MARK IN BRASS DISC S 0.00, E 0.00

S 71°13'53" E

EXISTING DRIVE

8" DIVISION 22 TRANSMISSION LINE

8" WATER LINE

8" SANITARY SEWER

WATER METER

EXIST. WATER VALVE

EXIST. WATER VALVE

BENCHMARK TOP ⊗ FIRE HYDRANT ELEV. = 331.14

8" D.I.

N 12°13'14" E 50.00'

R.O.W.

S 0+50

T.O.C. 331.70

F.G. 331.50

I.E. 327.00

F.G. 331.50

60" CEDAR STUMP

8" DIVISION 22 TRANSMISSION LINE

EXISTING HOLDING TANKS

RESTROOM

PUMP BUILDING F.F. 332.00

TRANSMISSION PUMPS (SEE SHEET C4)

6" BACKWASH

T.O.C. 331.70

F.G. 331.50

T.O.C. 331.70

I.E. 326.92

F.G. 331.50

I.E. 327.00

F.G.-332

10" D.I.

SHELL MANHOLE

10" D.I.

F.G. 334

8" D.I.

I.E. 332.00

F.F. 336.00

10" DIA. OUTLET

10" OVERFLOW PIPE

I.E. 332.00

F.G. 334.00

F.G. 335.00

8" DRAIN PIPE

F.G. 335.00

I.E. 334.00

WATER STORAGE TANK 160,000 GAL. (SEE SHT. C3)

S 1+00

10" DIA. INLET

PVC

10" D.I.

I.E. 332.00

BAFFLES

EDGE OF CONCRETE

ROOF HATCH

LADDER

F.G. 336.00

F.G. 338

TRANSFER PUMPS (400 GPM EACH)

RAW WATER PUMPS (1460 GPM EACH) & DISCHARGE PIPING (SEE SHEET C2)

STATIC MIXER (SEE SHT. C2)

NEW SODA ASH TANK (SEE SHT. C2)

FLOC. TANK

NEW ALUM TANK (SEE SHT. C2)

EXIST. TANKS

EXIST. WATER PLANT BUILDING F.F. EL. 328.22

FILTERS 3 & 4

FILTERS 1 & 2

FILTER PIPING MODIFICATIONS (SEE SHT. C2)

8" DIVISION 7 TRANSMISSION LINE

N 30°41'09" E 32.69'

N 30°41'07" W 95.24'

S 1+50

LEGEND

	PIPE & FITTINGS
	GATE VALVES
	EXISTING PIPE & EQUIPMENT
—F.G.-332—	FINISHED GRADE
338	EXISTING CONTOUR
F.F. 332.00	FINISHED FLOOR ELEVATION
T.O.C. 331.70	TOP OF CONCRETE
I.E. 331.80	PIPE INVERT ELEVATION
FD	FOOT DRAIN

SCALE 10 0 10 20 FEET

AS-BUILT

DwgSerial#: 485

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Wilson Engineering
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805 DUPONT STREET #7
BELLINGHAM, WA 98225
(206) 733-6100
FAX: (206) 647-9061

MARC A. CURTIS STATE OF WASHINGTON 21831 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/26/95

DESIGNED BY:	MAC
DRAWN BY:	RAM
CHECKED BY:	MAC

WHATCOM CO. WATER DIST NO. 10
WATER TREATMENT PLANT AS-BUILT
SITE PLAN

DATE	FEB 94
SCALE	AS SHOWN
JOB NUMBER	92006
SHEET	A01
OF	4



PERSPECTIVE SKETCH

WATER TREATMENT PLANT CONTROL BUILDING

Morning Beach Drive, Sudden Valley, Washington

ARCHITECTURAL ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS

∠	angle
℄	centerline
⌴	channel
d	penny
⊥	perpendicular
▱	plate
ø	round, diameter

ABBREVIATIONS

ABV	above
AFF	above finished floor
ACC	access
AC, ACOUS	acoustical
ACT	acoustical tile
ADD	addendum
ADJ	adjacent, adjustable
AGG	aggregate
ALT	alternate
AL, ALUM	aluminum
AB	anchor bolt
ANOD	anodized
APPROVAL	written approval by the Architect
APPROX	approximate
ARCH	architect
ASB	asbestos
ASPH	asphalt
AUTO	automatic
BSMT	basement
BRG	bearing
BM	bench mark
BETW	between
BVL	beveled
BLK, BLKG	block, blocking
BD	board
BOT, BTM	bottom
BRK	brick
BLDG	building
BUR	built up roofing
CAB	cabinet
CPT	carpet
CSMT	casement
CLR	clear
COL	column
COMB	combination
COMPOS	composition, (composite)
COMP	compress (ed), (ion), (ible)
CONC	concrete
CMU	concrete masonry unit
CONST	construction
CONT	continuous or continue
CONTR	contract (or)
CJ	control joint
C G	corner guard
CORR	corrugated, corridor
CTR	counter
CTSK	countersunk
CRS	course (s)
DEMO	demolish, demolition
DTL	detail
DIAG	diagonal
DIAM	diameter
DIMEN	dimension
DR	door
DS	downspout
D	drain
DWR	drawer
DWG	drawing
DF	drinking fountain
EF	each face
EW	each way
E	east
ELEC	electric (al)
EWC	electric water cooler
EL, ELEV	elevation
ELEV	elevator
EMER	emergency
EQ	equal
EQUAL	equal in the opinion of the Architect, equipment
EQMT	exhaust
EXH	existing
EXIST	exposed bolt
FE	fire extinguisher
FEC	fire extinguisher cabinet
FPL	fireplace
FP	fireproof
FLG, FLASH	flashing
FLR	floor (ing)
FD	floor drain
FTG, FOOT	footing
FND, FOUND	foundation
FR, FRM	frame (d), (ing)
FURNISH	supply only
GA	gauge
GALV	galvanized
G I	galvanized iron
GL	glass, glazing
GLBLK	glass block
GB	grab bar
GVL	gravel
GT	grout
GWB	gypsum wall board
HBD	hardboard
HDW	hardware
HDW	hardwood
HDR	header
HTG	heating
HVAC	heat/ventilating air conditioning
HT	height
HC	hollow core
H M	hollow metal
HOR, H, HORIZ	horizontal
HB	hose bibb
HWH, HWT	hot water heater, tank
I D	inside diameter
INSTALL	supply or Install only
INS, INSUL	insulate (d), (ion)
INT	interior
INV	invert
JC	janitor's closet
JT, J	joint
J	joist
KPL	kickplate
KIT	kitchen
KO	knockout
LAB	laboratory
LAD	ladder
LB	lag bolt
LAM	laminate (d)
LAV	lavatory
LH	left hand
L	length
LT, LITE	light
LW	lightweight
LP	low point
M B	machine bolt
M H	manhole
M FR	manufacture (er)
M RB	marble
M KBD	marker board
MAS	masonry
MO	masonry opening
MTL	material (s)
MAX	maximum
MECH	mechanic (al)
MC	medicine cabinet
MED	medium
MBR	member, membrane
MET	metal
MWK	millwork
MIN	minimum
MIR	mirror
MISC	miscellaneous
MOD	modular
MLD	molding
MT	mount (ed), (ing)
MULL	mullion
NAT	natural
NR	noise reduction
NRC	noise reduction coefficient
NOM	nominal
N	north
NIC	not in contract
NTS	not to scale
OBS	obscure
OC	on center (s)
OPP	opposite
OPH	opposite hand
OD	outside diameter
OH	overhead
PNL	panel
PB	panic bar
PTD	paper towel dispenser
PTR	paper towel receptacle
PAR	parallel
PBD	particle board
PTN	partition
PVMT	pavement
PERF	perforate (d)
PLAS	plaster
PLAM	plastic laminate
PL	plate
PWD, PLYW	plywood
PT	point
PVC	polyvinyl chloride
PCF	pounds per cubic foot
PFL	pounds per lineal foot
PSF	pounds per square foot
PSI	pounds per square inch
PFN	prefinished
PL	property line
PROVIDE	furnish & install
QT	quarry tile
RBT	rabbet
RAD	radius
REF	reference
RFL	reflect (ed), (ive), (or)
REFR, RFR	refrigerator
REG	register
RE, REINF	reinforce (d), (ing)
RES	resilient
RET	return
RA	return air
RH	right hand
ROW	right of way
R	riser
RD	roof drain
RFH	roof hatch
RFG	roofing
RM	room
RO	rough opening
RB	rubber base
SCH	schedule
SNT, SEAL	sealant
SEC	section
SELECTED	as selected by the Architect
SHTH	sheathing
SHT	sheet
SH, SHLV	shelf, shelving
SHOWN	as shown or noted on the drawings
SIM	similar
SKL, SKLT	skylight
SC	solid core
SP	soundproof
S	south
SPK	speaker
SPEC	specification (s)
SQ	square
SST	stainless steel
STD	standard
STA	station
ST, STL	steel
SD	storm drain
STR	structural
SUSP	suspended
SYM	symmetry (cal)
SYS	system
TKBD	tackboard
TEL	telephone
TV	television
THK	thick (ness)
THR	threshold
TP	toilet partition
TPD	toilet paper dispenser
T & G	tongue and groove
TOS	top of slab
TB	towel bar
T	tread
TYP	typical
UNFIN	unfinished
UR	urinal
VJ	v-joint (ed)
VB	vapor barrier
VAR	varnish
VNR	veneer
VERT, V	vertical
VG	vertical grain
VIN	vinyl
VCT	vinyl composition tile
VB	vinyl base
VF	vinyl fabric
VT	vinyl tile
WSCT	wainscot
WC	water closet
WP	waterproofing
WWF	welded wire fabric
W	west
W	width, wide
W/	with
WIN, WDW	window
WM	wire mesh
WD	wood

Abbreviations and graphic symbols shown are in general compliance with building industry standards. Request clarifications, if necessary, before proceeding with the Work.

REFERENCE SYMBOLS

- North / True North (if not called North)
- Finish Grade Elevation
- Existing Contour
- New Contour
- Level Line
- Center Line
- Match Line, Cut Line
- Property Line
- Project Limit Line
- Grid Number/Letter
- Building Section Letter / Sheet Where Shown
- Wall Section Letter / Sheet Where Shown
- Detail Number / Sheet Where Shown
- DETAIL — Detail Number & Title; SCALE: 3/4"= 1'-0" — Dash on Sheet Where Shown (and Sheet Where Called If Both on Same Sheet), Scale
- Interior Elevation Key Numbers / Sheet Where Shown
- Room Number
- Door Number
- Window/Reite Letter
- Revision

MATERIALS

- Acoustic Tile or Board
- Brick
- Ceramic Tile or
- Concrete
- Concrete Masonry
- Earth
- Glass
- Gypsum Wall Board
- Batt Insulation
- Rigid Insulation
- Metal
- Plaster on Metal Lath
- Mortar, Plaster or Grout
- Plywood
- Rock Fill
- Sand
- Stone
- Finish Wood
- Framing Lumber
- Blocking Lumber

The Drawings, Specifications and other portions of the Contract Documents are instruments of the Architect's service for use solely with respect to this Project and , unless otherwise authorized in writing by the Architect, any use or re-use is strictly prohibited. Written Dimensions have precedence over scaled measurements. Dimensions and datail conditions shall be verified by the Contractor with the Architect before proceeding with the Work.

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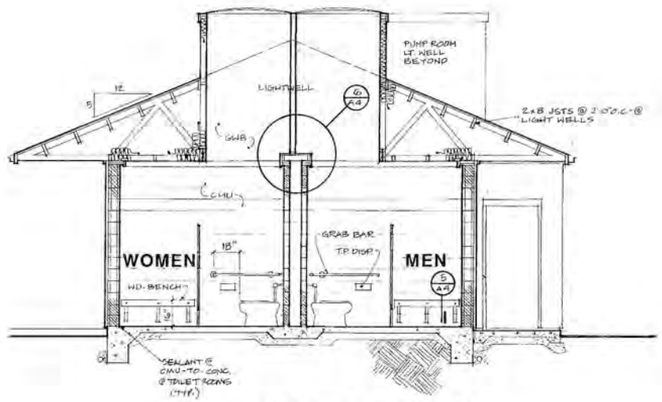
ARCHITECTS
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Bellingham, Washington 98225
(206) 676-7733

Water District 10
Water Treatment Plant
Morning Beach Drive

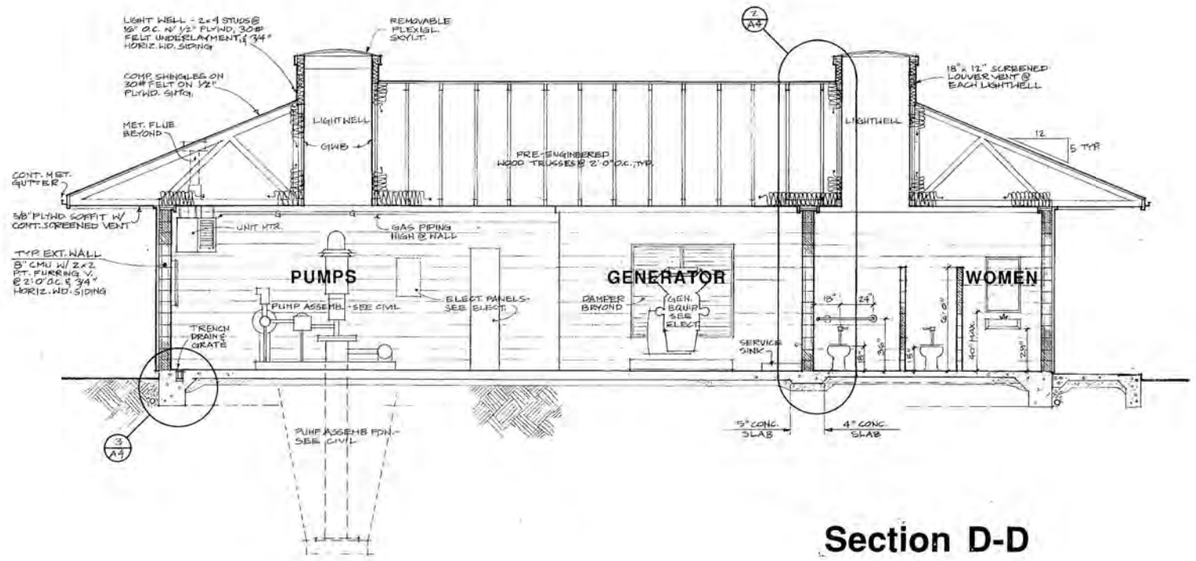
Sudden Valley
Plant Control Bldg.
Sudden Valley, WA

Job Number	9210
Drawn By	KCG
Checked By	RCR
Date	6-15-92
Revisions	

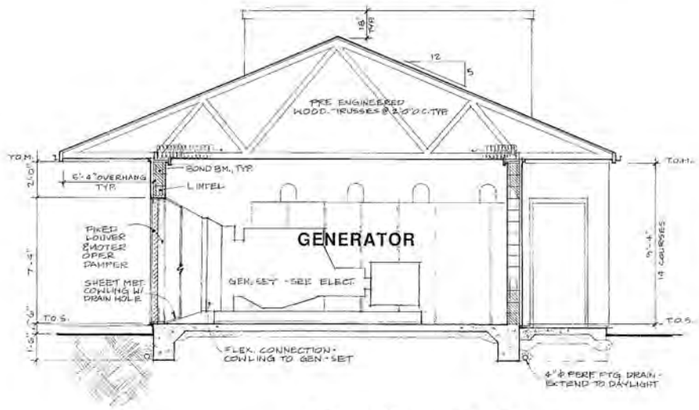
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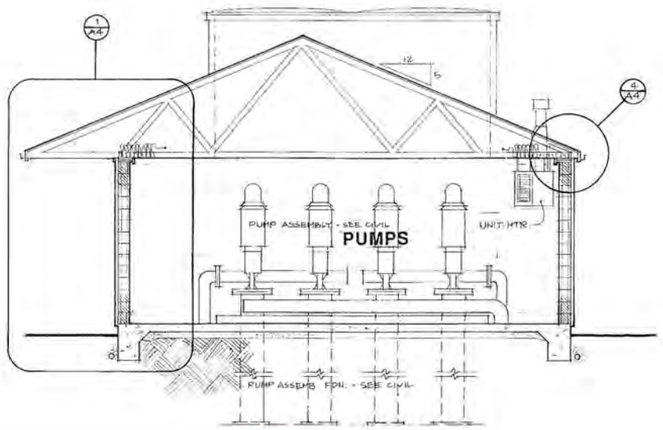
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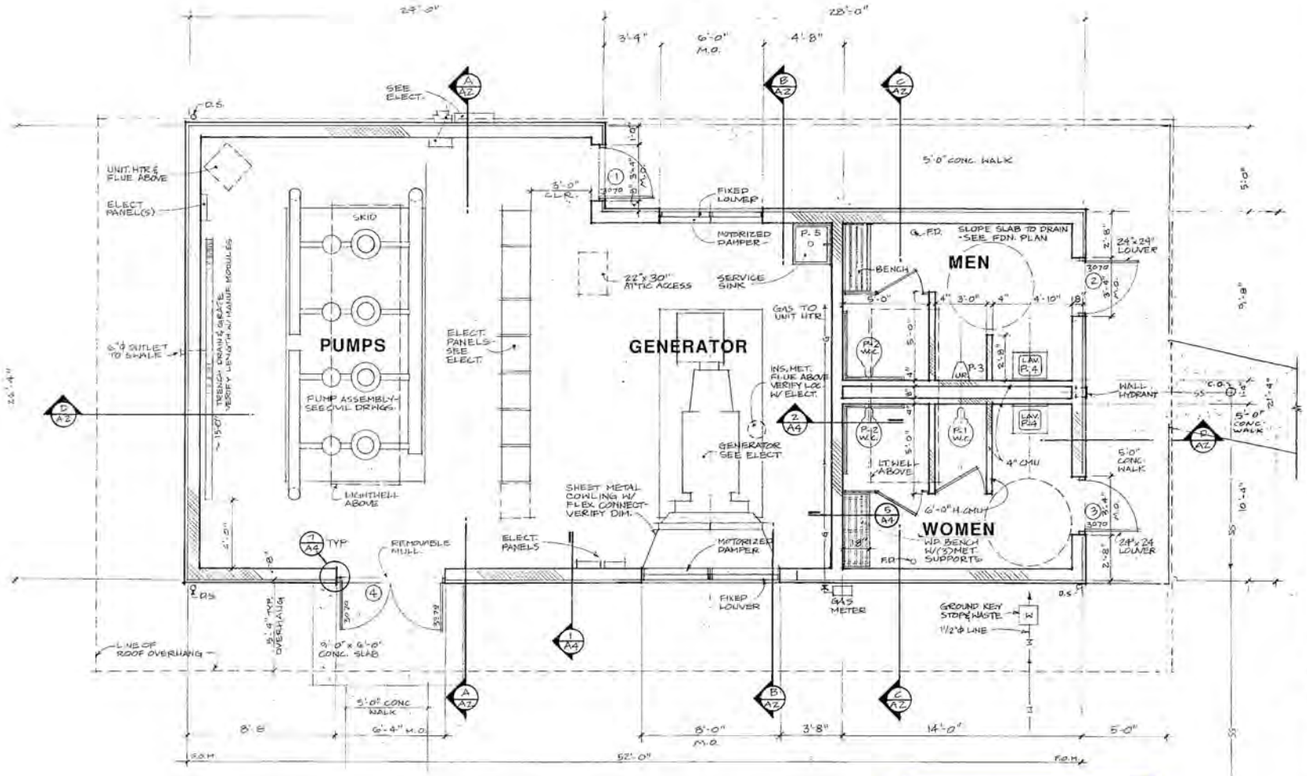
Section D-D



Section B-B



Section A-A



Floor Plan

SCALE: 1/4" = 1'-0"
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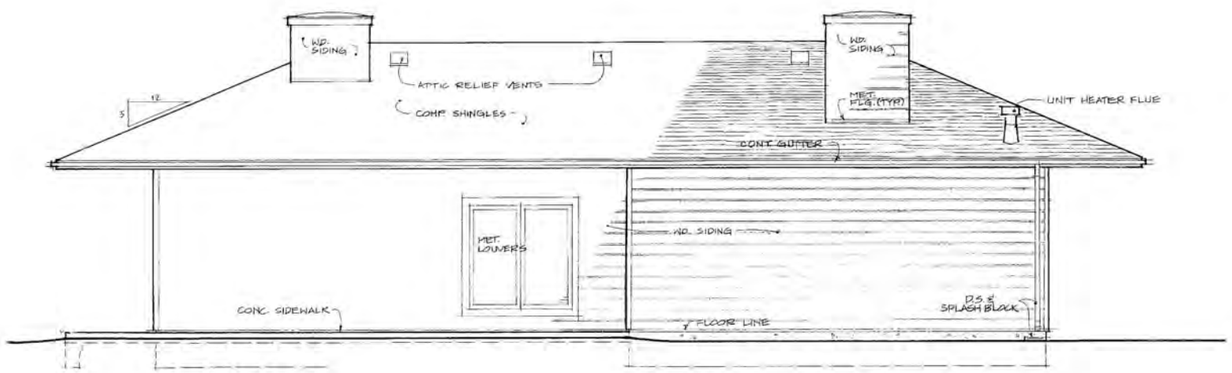
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2708 REGISTERED ROBERT C. ROSS STATE OF WASHINGTON 6/19/02

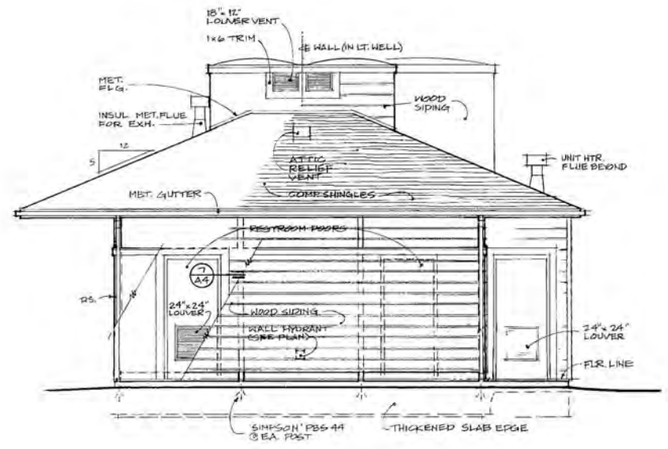
Water District 10
Water Treatment Plant Control Bldg.
Morning Beach Drive
Sudden Valley
Sudden Valley, WA

Job Number	9210
Drawn By	KCG
Checked By	RCR
Date	6/19/02
Revisions	

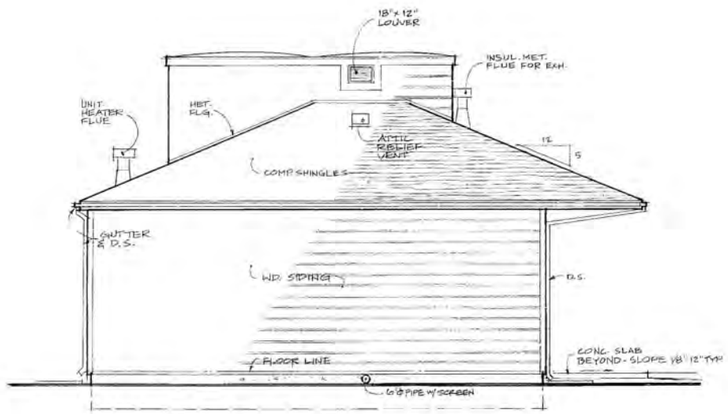
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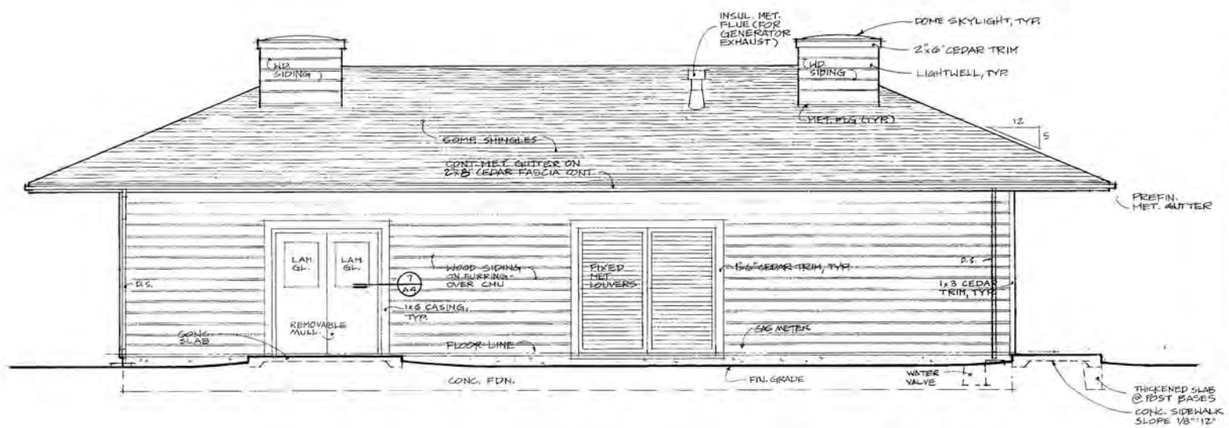
South



West



East



North

Elevations

SCALE: 1/4" = 1'-0"
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ROSS & Mc CLURE
Bellingham, Washington 98225
(206) 676-7733

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Water District 10
Water Treatment Plant Control Bldg.
Morning Beach Drive
Sudden Valley
Sudden Valley, WA

Job Number	9210
Drawn By	KCG
Checked By	RCR
Date	6/15/92
Revisions	

A3

EXISTING SWITCH

E

E T

E T

MORNING BEACH DRIVE

INTERCEPT EXISTING TELEPHONE

INTERCEPT EXISTING POWER

EXISTING UNDERGROUND TELEPHONE & POWER

P1

NEW PUGET POWER TRANSFORMER

TEMPORARY POWER SERVICE, 3-500 MCM AL & 1-1/0 (DIRECT BURIED)(ABANDONED)

T1

1 HH 2'x3'x3' FOR PULLING-UTILITY VAULT LA-233 WITH H-20 LOADING COVER OR EQUAL

DRIVEWAY

RESTROOM

GENERATOR

TRANSMISSION PUMPS

MCC 1

PUMP BUILDING (PB)

P2

P13

SEE SHEET E2 FOR HH DETAILS.

CABLE PULL HH - RACK CABLE & MAINTAIN SEPARATION AS GIVEN IN TRENCH SECTION A.

P13 C5 C5A

C5B S1

A E5

(2) 1" SPARE C.O. TO HANDHOLE FROM BLDG.

(1) 3/4" SPARE C.O. TO EACH J.B. FROM HANDHOLE

10 0 10 20

SCALE FEET

INTERCEPT EXISTING TELEPHONE

WATER TREATMENT PLANT RESERVOIR

1"C., 3#12

LSHH-501 LSLL-501

4½" LEVEL SWITCH ACCESS HOLE SEE DETAIL ON SHEET E02

RESERVOIR LIGHT

3'x3' HATCH

C15

D E5

INTERCEPT EXISTING POWER VAULT

B E5

RAW WATER PUMPS

CLEARWELL TRANSFER PUMPS

CLEARWELL

MCC-2

C E5

FLOC TANK

TELEMETRY

MCP

EXISTING PUGET XFMR

WATER TREATMENT PLANT (WTP) BLDG

POLE MOUNTED LIGHT. SEE LIGHTING SCHEDULE F5 SHEET E9. MOUNT 8'-0" ABOVE TOP OF TANK.

HATCH

1¼" CONDUIT LIGHT SUPPORT POLE

TACK WELD LIGHT POLE TO RAILING CROSS BARS.

SWITCH HOUSING

4½" FLOAT SWITCH ACCESS HOLE. SEE DETAIL SHEET E2.

GALV. STEEL UNISTRUT TACK WELD TO TANK FOR CONDUIT SUPPORT (TYPICAL)

C16

¾"C., 3#12

1"C. TO WTP

1"C. TO PUMP BLDG

D WTP RESERVOIR DETAIL

E5 N.T.S.

WARNING TAPE

1"C. TO RES. LIGHT

24" MIN.

C5A SPARE

C5B TELEMETRY

2" (TYP.)

120V CONTROL C5

6" 6"

S1 SIGNAL

12" MIN

18" MIN

P13

24"

WATER PIPE

A TRENCH SECTION

E5 N.T.S.

WEST WTP WALL

L.B.

CORE DRILL THROUGH WALL & SEAL.

PENETRATE WALL MIN 10" ABOVE GRADE

CAP 2-1" SPARE CONDUITS INSIDE WALL.

WTP BLDG

PVC CONDUIT, TRANSITION TO PVC GRS FOR SWEEP & RISER.

TO PUMP BLDG.

PVC

PVC GRS

MCP

C WTP BLDG CONDUIT PENETRATION

E5 N.T.S.

WARNING TAPE

TO PB C5B

TO PB S1

24" MIN.

C16 TO RES.

C5A SPARE TO PB

C5 TO PB

6" 6"

18" MIN

12" MIN

P13 480V POWER TO MCC 1

B TRENCH SECTION

E5 N.T.S.

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1	RECORD DRAWING	5/20/94

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CONSULTING ENGINEERS & SURVEYORS
805 DUPONT STREET #7
BELLINGHAM, WA 98225
(206) 733-6100
FAX: (206) 647-9061

CASNE ENGINEERING, INC.
P.O. BOX 7207
BELLEVUE, WA 98008
(206) 454-3555

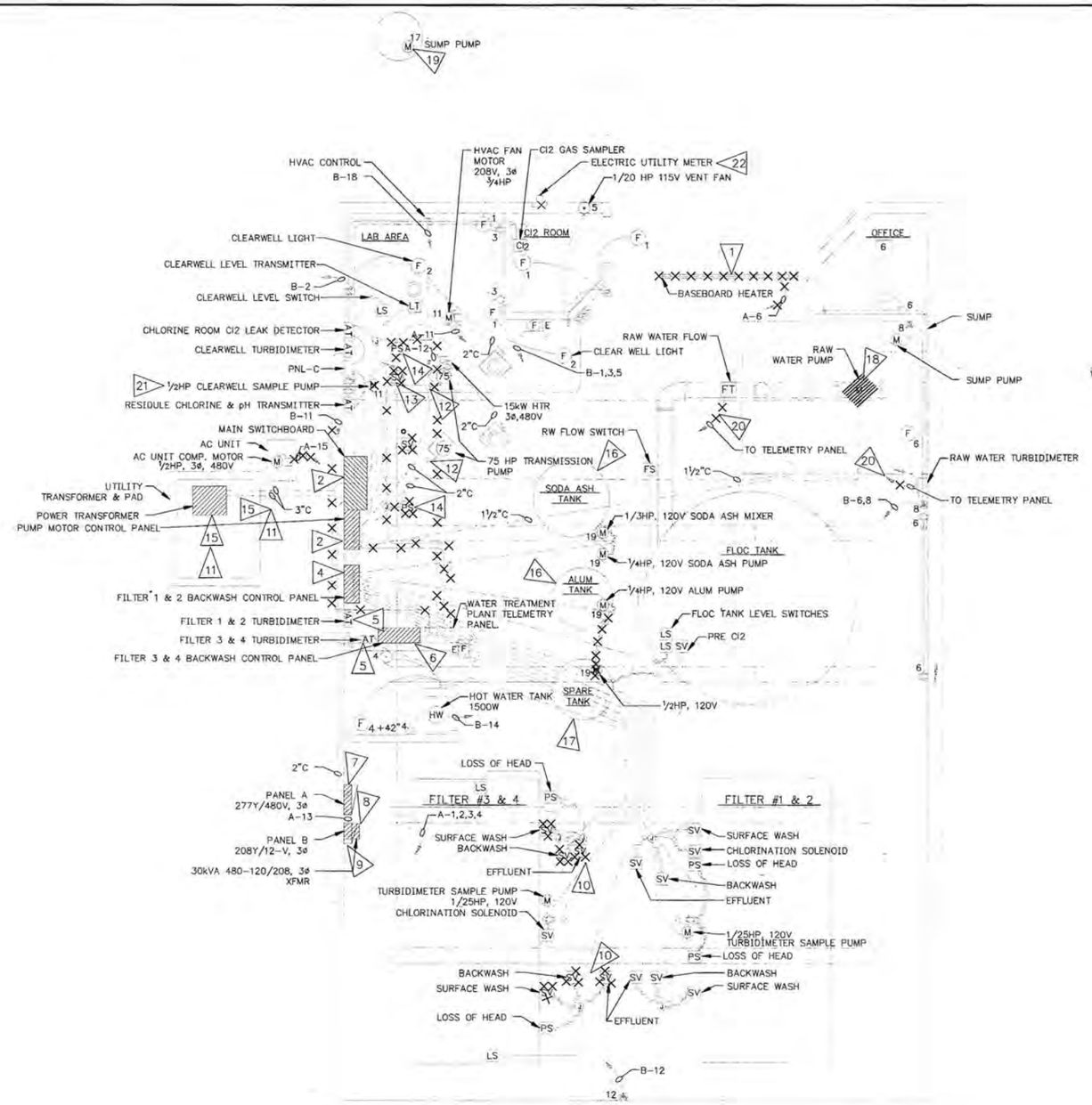
DESIGNED BY:	DMB/VMF
DRAWN BY:	TEO
CHECKED BY:	KLA

WHATCOM COUNTY
WATER TREATMENT PLANT
SITE PLAN

DATE	July 1992
SCALE	1"=10'
JOB NUMBER	92021A
92021E05 SHEET	E05
OF	14

C:\Tmp\92\92021A\92021E05

Steve Palmer



DEMOLITION PLAN
EXISTING POWER CONTROL, REC. & LIGHTING
SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. REMOVE BASE BOARD HEATER AND ASSOCIATED WIRE. CAP CONDUIT.
2. REMOVE SERVICE ENTRANCE SWITCHBOARD AND SERVICE CONDUCTORS.
3. REMOVE MOTOR CONTROL CENTER – DISCONNECT AND STARTER MOUNTED ABOVE MCC.
4. REMOVE FILTER 1 & 2 BACKWASH CONTROL PANEL.
5. REMOVE FILTER 1 & 2 AND 3 & 4 TURBIDIMETERS, CONDUIT, & WIRE TO BE REUSED.
6. REMOVE FILTER 3 & 4 BACKWASH CONTROL PANEL AND ALL ASSOCIATED CONDUIT AND WIRE.
7. REMOVE PANEL A.
8. REMOVE PANEL B TRANSFORMER AND SERVICE CONDUIT/WIRE TRANSFORMER TO BE REUSED. MOUNT ABOVE NEW MCC.
9. REMOVE PANEL B.
10. REMOVE FILTER 3 & 4 SOLONOID VALVES – REUSE CONDUIT & WIRE
11. SEE SWITCH-OVER SEQUENCE IN THE SPECIFICATIONS.
12. REMOVE CONDUCTORS & FLEX CONDUIT FOR 75 HP TRANSMISSION PUMPS.
13. REMOVE TRANSMISSION PUMP SOLENOID VALVES, FLEX CONDUIT AND WIRE. (2 SOLENOIDS PER PUMP)
14. REMOVE TRANSMISSION PUMP, PRESSURE SWITCHES, CONDUIT AND WIRE.
15. REMOVE SERVICE CONDUCTORS FROM POWER XFMR. TO SWITCHBOARD PUGET POWER TO REMOVE XFMR.
16. EXISTING SODA ASH & ALUM TANKS TO BE REMOVED AND REPLACED. ASSOCIATED MIXER & METERING PUMPS TO BE REMOVED AND REINSTALLED ON NEW TANKS.
17. REMOVE ½HP PUMP AND ASSOCIATED CONDUCTORS & FLEX CONDUIT.
18. DISCONNECT RAW WATER PUMP AND REMOVE CONDUCTERS.
19. EXISTING SUMP PUMP IS NOT OPERATIONAL – TO REMAIN AS IS.
20. EXISTING CONDUIT & WIRE TO TELEMETRY PANEL TO BE REMOVED.
21. SAMPLE PUMP TO BE REMOVED AND TURNED OVER TO OWNER.
22. REMOVE EXISTING METER, BASE, AND ASSOCIATED CONDUIT & WIRE TO C.T. ENCLOSURE.

ROBERT J. CASNE STATE OF WASHINGTON 12547 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/17/94

DAVID M. THARP-BLOOM STATE OF WASHINGTON 0020642 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/17/93

92021E06

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805 DUPONT STREET #7
BELLINGHAM, WA 98225
(206) 733-6100
FAX: (206) 647-9061

CASNE ENGINEERING, INC.
P.O. BOX 7207
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(206) 454-3555

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CHECKED BY:	KLA

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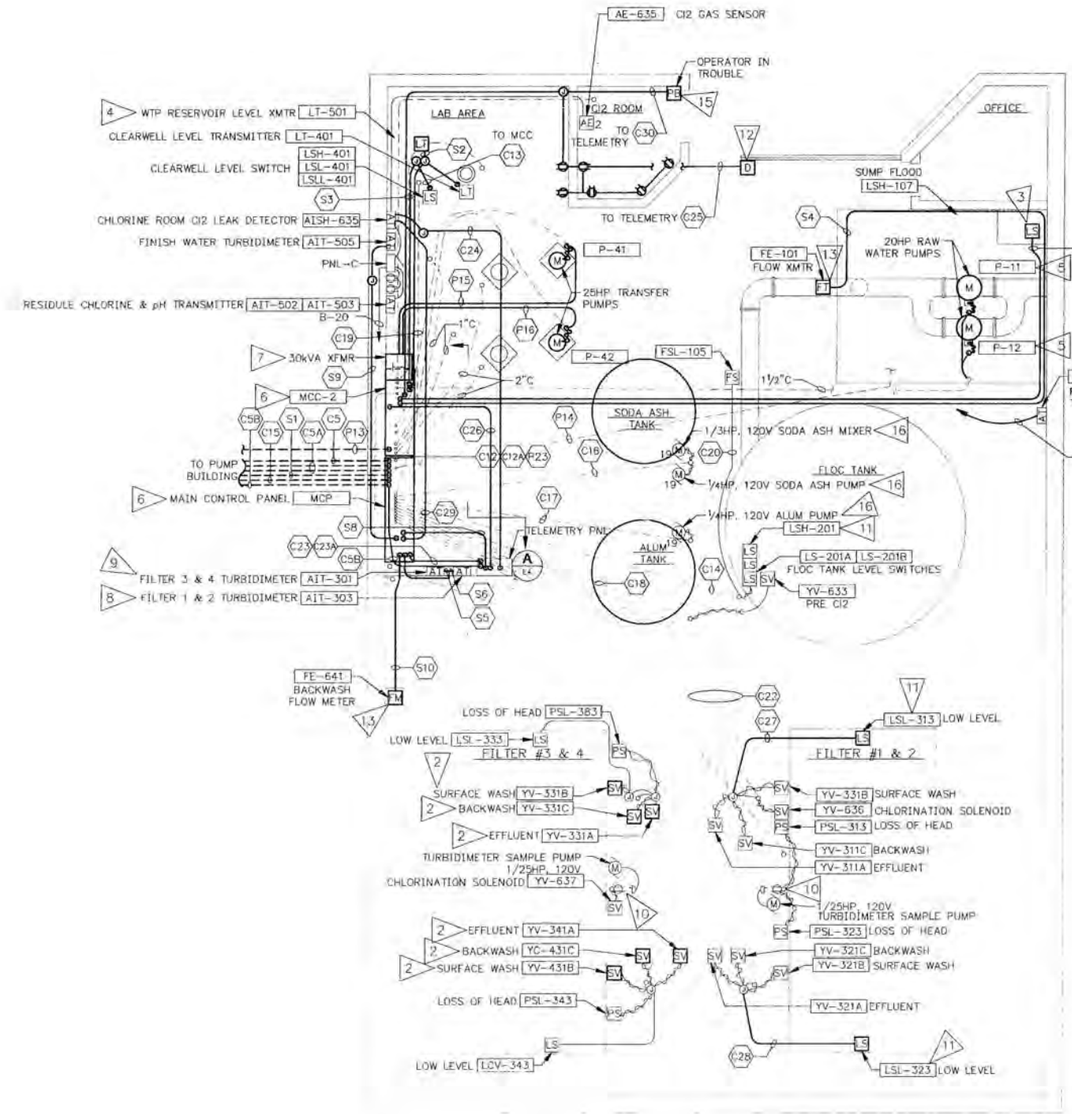
WHATCOM COUNTY
WATER TREATMENT PLANT
EXIST. POWER & CONTROL DEMO. PLAN

DATE	July 1992
SCALE	AS SHOWN
JOB NUMBER	92021A
SHEET	E06
OF	16

0955

FLAG NOTES:

1. RECONNECT ALL EXISTING EQUIPMENT REUSE EXISTING CONDUIT AND WIRE WHEN POSSIBLE.
2. PROVIDE SIX NEW SOLONOID VALVES AND TWO LEVEL SWITCHES FOR FILTERS.
3. PROVIDE SUMP FLOOD SWITCH.
4. PROVIDE RESERVOIR LEVEL TRASMITTER.
5. PROVIDE CONDUCTORS TO NEW RAW WATER PUMPS AND NEW TRANSFER PUMPS.
6. PROVIDE NEW MCP & MCC-2.
7. RELOCATE EXISTING 30kVA 480-120/208, 3ø, XFMR. MOUNT ABOVE MCC.
8. RELOCATE FILTER 1 & 2 TURBIMETER.
9. RELOCATE FILTER 3 & 4 TURBIMETER.
10. SEE CONTROL PANEL SCHEMATICS FOR CIRCUIT DESIGNATIONS.
11. PROVIDE NEW LEVEL SWITCH
12. PROVIDE NEW DOOR SWITCH
13. PROVIDE NEW ROCKWELL "HSP" HEAD FOR EXISTING FLOW METER
14. CAP ALL UNUSED RACEWAYS AT FLOOR STUB-UP.
15. NEMA 4X, NON-METALIC, MAINTAINED CONTACT RED MUSCHROOM HEAD PUSHBUTTON TO SEND CLOSED CONTACT TO TELEMETRY WHEN PUSHED.
16. EXISTING MOTORS TO BE DISCONNECTED FOR REMOVAL OF EXISTING TANKS. RECONNECT AFTER INSTALATION OF NEW TANK.



WATER TREATMENT PLANT
NEW POWER & CONTROL PLAN

SCALE: ¼"=1'-0"

N

DwgSerial#: 499

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805 DUPONT STREET #7
BELLINGHAM, WA 98225
(206) 733-6100
FAX: (206) 647-9061

CASNE ENGINEERING, INC.
P.O. BOX 7207
BELLEVUE, WA 98008
(206) 454-5555

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DRAWN BY:	TEO
CHECKED BY:	KLA

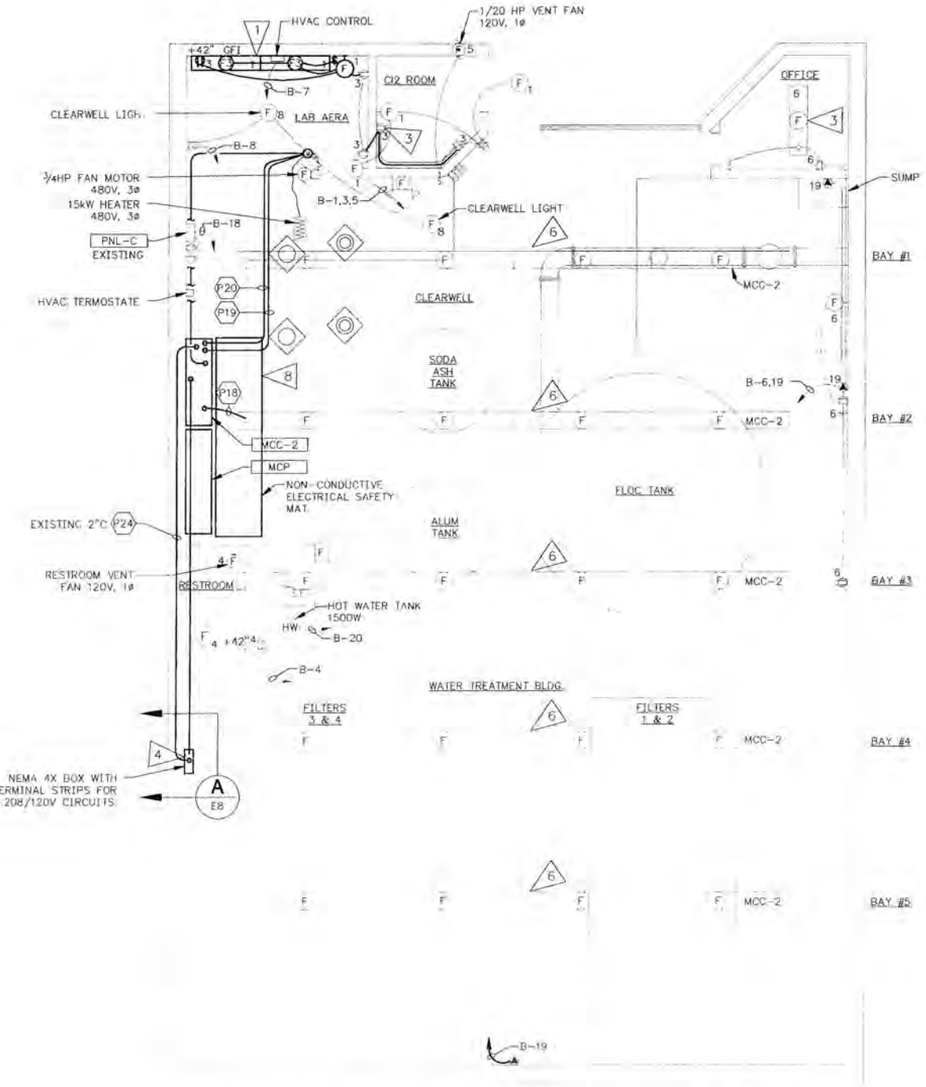
WHATCOM COUNTY
WATER TREATMENT PLANT
NEW POWER & CONTROL PLAN

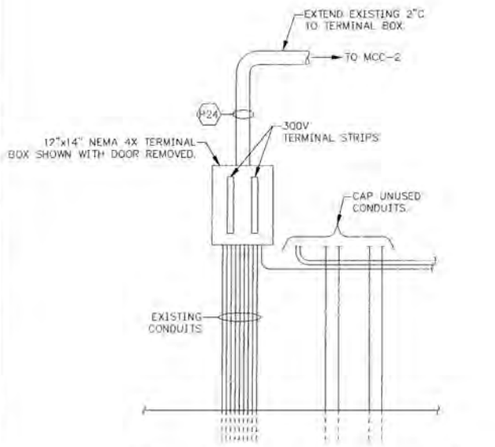
DATE	July 1992
SCALE	AS SHOWN
JOB NUMBER	92021A
SHEET	E07
OF	14

92021E07

5/20/94 16:26:49 Steve Palmer G:\DWG\92\92021A\92021E07

N





A E8 TERMINAL BOX ELEVATION

LIGHTING, RECEPTACLE AND HVAC POWER PLAN

SCALE: 1/4"=1'-0"

GENERAL NOTES:

1. PROVIDE LAB AREA LIGHTS & RECEPTACLE.
2. PROVIDE CI2 ROOM RECEPTACLES.
3. HARD WIRE EXISTING LIGHT IN OFFICE TO EXISTING SWITCH.
4. PROVIDE TERMINAL BOX FOR EXISTING CIRCUITS TO 120/208V. LOADS. LAND ALL EXISTING CIRCUITS ON TERMINALS IN BOX. EXTEND EXISTING 2"C AND PULL NEW CONDUCTORS FROM MCC/PNL-B TO TERMINAL BOX. CIRCUITS AS SHOWN ON DRAWING AND PANEL SCHEDULE B.
5. EXTEND ALL OTHER HOME RUN CONDUITS (NOT INCLUDED IN NOTE #4) TO NEW MCC - REUSE EXISTING CONDUCTORS IF POSSIBLE.
6. REWIRE EXISTING 277V BAY LIGHTS - SEE MCC LAYOUT & ONE - LINE FOR DETAILS.
7. SEE FIXTURE SCHEDULE SHEET E4.
8. PROVIDE NON-CONDUCTIVE SAFETY MAT IN FRONT OF ENTIRE CONTROL PANEL AND MCC.

PANEL SCHEDULE

NO. B | LOCATION: WTP BUILDING MCC2 | SERVING: - | 120/208 VOLTS 3 PHASE 4 WIRE | 100 AMP with MAIN CB 80/3

CKT NO.	LOAD DESCRIPTION	KVA	TRIP AMPS		TRIP AMPS	KVA	LOAD DESCRIPTION	CKT NO.	
1	WALL LIGHTS	0.6	20		20	-	SPARE	2	
3	REC. LAB AREA/CI2 ROOM	0.6	20		20	0.4	RESTROOM	4	
5	FAN CHLORINE ROOM	0.3	20		20	0.8	OFFICE/SUMP LIGHTS & REC.	6	
7	HVAC CONTROL	0.2	20		20	0.2	CLEAR WELL LIGHTS	8	
9	MCP	0.5	20		20	-	SPARE	10	
11	TELEMETRY CONTROL POWER	0.3	20		20	1.4	SODA ASH METER PUMP & MIXER	12	*
13	MCP	0.5	20		20	0.7	ALUM METER PUMP	14	*
15	MCP	0.5	20		20	1.0	MCP SPARE	16	*
17	TURBIITY ANALYSERS	0.2	20		20	0.6	PANEL C FEED	18	
19	208V RECEPTACLES	1.4	20/2		20	1.5	HOT WATER TANK	20	
21								22	
23	SPARE	-	20		3			24	
25		-	20		20	-	SPARE	26	
27		-	20		20			28	
29		-	20		20			30	
31		-	20		20			32	
33		-	20		20			34	
35	SPACE	-				-	SPACE	36	
37		-						38	
39		-						40	
41		-						42	

DESCRIPTION		CONNECTED LOAD	DEMAND FACTOR	DEMAND
LARGEST MOTOR		0.7	1.25	0.9
OTHER MOTORS		1.9	1.00	1.9
LIGHTS		1.3	1.25	1.7
MISC.		6.8	1.00	6.8
*VIA STARTERS IN MCP	TOTAL	10.7 KVA 29 AMPS		11.3 KVA 31 AMPS

DwgSerial#: 500

92021E08

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PLOTTED AT REDUCED SIZE, DO NOT SCALE

Wilson Engineering
CONSULTING ENGINEERS & SURVEYORS
805 DUPONT STREET #7
BELLINGHAM, WA 98225
(206) 733-6100
FAX: (206) 647-9061

CASNE ENGINEERING, INC.
P.O. BOX 7207
BELLEVUE, WA 98008
(206) 454-3552

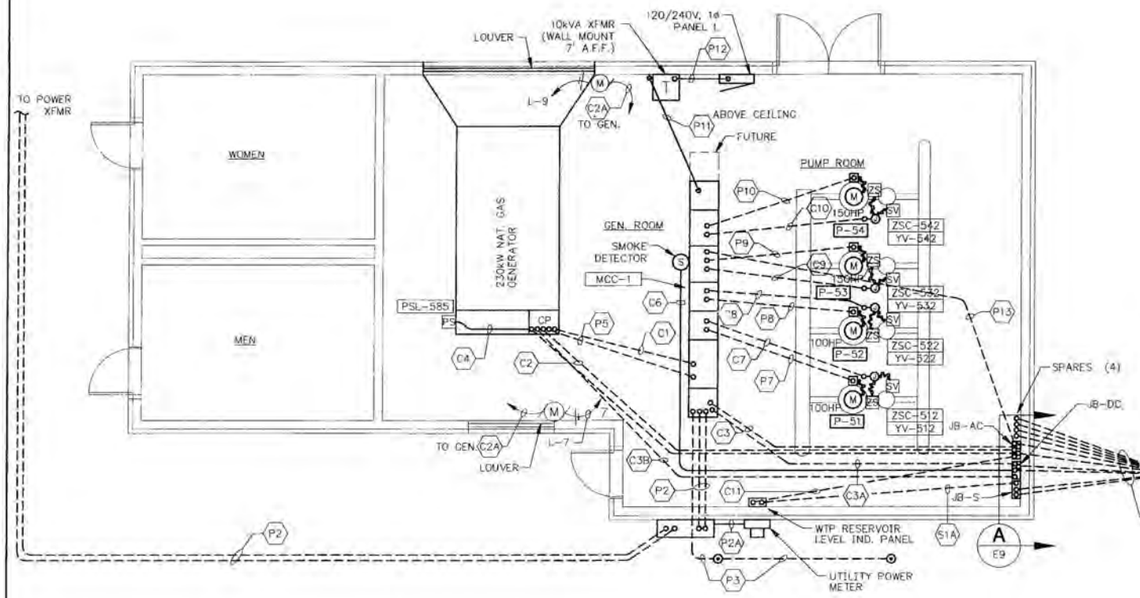
DESIGNED BY:	DMB/VMF
DRAWN BY:	TEO
CHECKED BY:	KLA

WHATCOM COUNTY
WATER TREATMENT PLAN
LIGHTING, RECPT., & HVAC POWER PLAN
PANEL B SCHEDULE

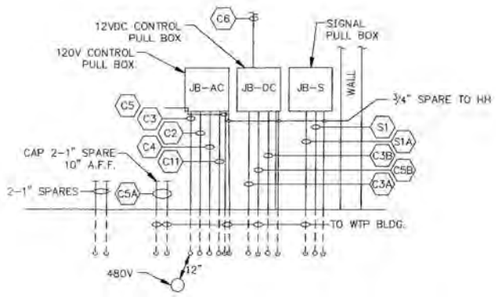
DATE	July 1992
SCALE	AS SHOWN
JOB NUMBER	92021A
SHEET	E08
OF	14

G:\PWS\92\92021A\92021E08

Steve Palmer



PUMP BUILDING
CONDUIT & EQUIP. PLAN
SCALE: 1/4"=1'-0"



PUMP BUILDING
A EAST WALL ELEVATION
E9

GENERAL NOTES:

1. CONDUITS SHOWN SOLID SHALL BE ROUTED ABOVE CEILING OR WITHIN WALLS WHEN EVER POSSIBLE.

FLAG NOTES:

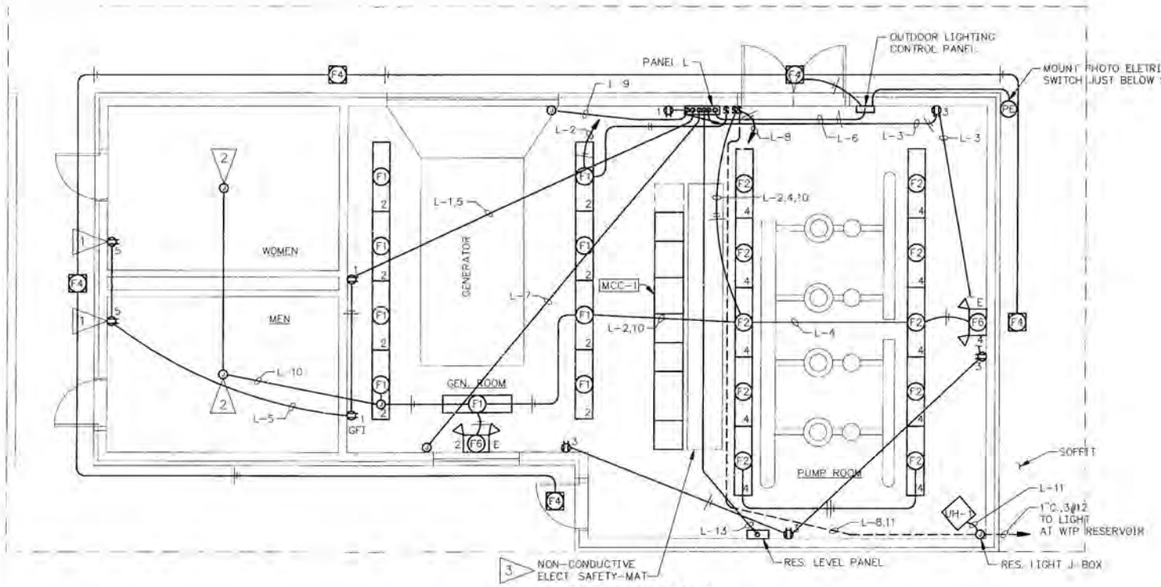
1. PROVIDE RESTROOM RECEPTACLES WITH LOCKING COVER. PASS & SEYMOUR LEGRAND #WP-26L OR EQUAL.
2. PROVIDE CONDUCTORS AND JUNCTION BOX FOR FUTURE LIGHTS.
3. PROVIDE NON-CONDUCTIVE MAT ENTIRE LENGTH OF MOTOR CONTROL CENTER.

PANEL SCHEDULE

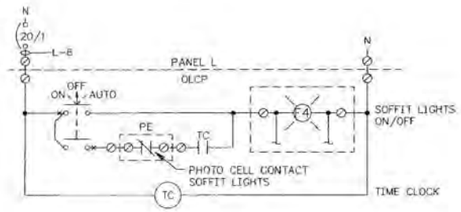
NO. L | LOCATION: WTP PUMP BLDG. | 120/208 VOLTS 1 PHASE 3 WIRE 100 AMP WITH 50/2

CKT NO.	LOAD DESCRIPTION	KVA	TRIP AMPS		TRIP AMPS	KVA	LOAD DESCRIPTION	CKT NO.
1	REC. GEN ROOM	0.6	20		20	1.0	LIGHTS GEN ROOM	2
3	REC. PUMP ROOM	0.8	20		20	0.9	LIGHTS PUMP ROOM	4
5	RESTROOM	0.4	20		20	0.5	LIGHTS EXTERIOR	6
7	LOUVER MOTORS	1.0	20		20	0.1	RESERVOIR FLOOD LIGHT	8
9	LOUVER MOTORS	1.0	20		20	1.0	(FUTURE RESTROOM LIGHTS)	10
11	UNIT HEATER CONTROL/FAN	0.2	20		20		SPARE	12
13	WTP RES LV IND. PNL	0.1	20		20		SPARE	14
15	SPARE	-	20		20		SPARE	16
17	SPACE				20		SPARE	18
19	SPACE				20		SPARE	20

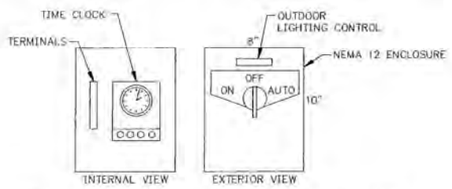
DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR	DEMAND
LARGEST MOTOR - (LOUVER)	1.0	1.25	1.3
OTHER MOTORS:	1.2	1.00	1.2
LIGHTS	2.5	1.25	3.2
MISC.	1.9	1.00	1.9
TOTAL	6.6 KVA 55 AMPS		7.6 KVA 64 AMPS



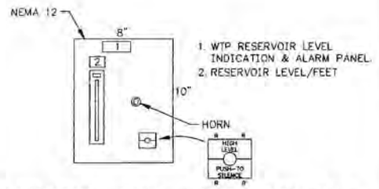
PUMP BUILDING
120V RECEPT. & LIGHTING PLAN
SCALE: 1/4"=1'-0"



OUTDOOR LIGHT CONTROL DIAGRAM
N.T.S.



OUTDOOR LIGHTING CONTROL PNL
N.T.S.



WTP RESERVOIR LEVEL INDICATION PNL
N.T.S.

DwgSerial#: 501

92021E09

1	RECORD DRAWING	5/20/94

PLOTTED AT REDUCED SIZE, DO NOT SCALE

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BELLEVUE, WA 98008
(206) 454-3555

DESIGNED BY:	DMB/VMF
DRAWN BY:	TMC/SKM
CHECKED BY:	KLA

WHATCOM COUNTY
WATER TREATMENT PLANT
PUMP BUILDING POWER & LTG. PLANS

DATE	July 1992
SCALE	AS SHOWN
JOB NUMBER	92021A
SHEET	E09
OF	14

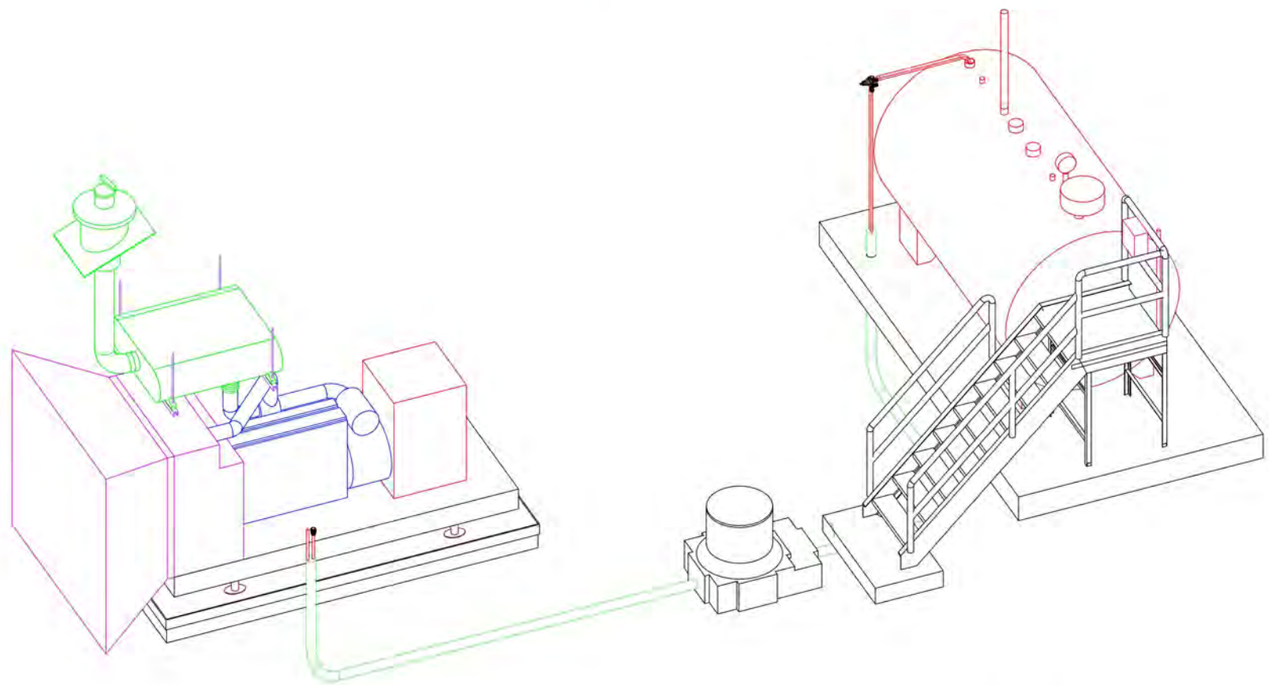
D:\DWG\92A\92021A\92021E09 Steve Palme

LAKE WHATCOM WATER AND SEWER DISTRICT

SUDDEN VALLEY WATER TREATMENT PLANT GENERATOR SET REPLACEMENT

SUMMER - FALL 2013

CONFORMED FOR CONSTRUCTION



GENERATOR SET

FUEL TANK

DISTRICT PROJECT #C1303 SVWTP GENERATOR

REVISED TO CONFORM TO CONSTRUCTION RECORDS

05/10/14

RH2 ENGINEERING INC. DATE

DANIEL W. BUEHLER — 38308 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 05/09/14

RICHARD L. BALLARD — 32878 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 05/09/14

CHRISTOPHER M. ROBERTS — 45317 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 05/09/14

JON M. CONNER — 44672 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 05/09/14

RH2 ENGINEERS PLANNERS

PLOTTED AT REDUCED SIZE, DO NOT SCALE

EXISTING EXHAUST LOUVER AND DAMPER. LOUVER AND DAMPER SHALL BE REMOVED AND STORED IN DRY, SECURED LOCATION DURING EXISTING GENERATOR REMOVAL AND REPLACEMENT. LOUVER AND DAMPER SHALL BE REINSTALLED WITH FINISH TO MATCH PRE-CONSTRUCTION CONDITION OR BETTER. IF LOUVER OR DAMPER IS DAMAGED CONTRACTOR SHALL REPAIR UNITS OR REPLACE THEM AS DIRECTED BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER.

ENTRANCE LANDING

EXISTING BUILDING EAVE

CONTRACTOR SHALL REPLACE EXISTING DAMPER ACTUATOR AS PART OF BASE BID.

SECURE BUILDING EACH DAY WITH TEMPORARY PLYWOOD WALL OR REINSTALL LOUVER

FIRE EXTINGUISHER, SEE SPECIFICATIONS. MOUNT TO WALL 4' ABOVE FINISHED FLOOR.

PROPOSED GENERATOR

EXISTING CONCRETE FLOOR

EXISTING MOTOR CONTROL CENTER

PROPOSED EG EQUIPMENT PAD (501/S02)

WOMEN'S LAVATORY

MEN'S LAVATORY

WASHER AND DRYER, SEE DWG NO. E04.

EXISTING EG EXHAUST TO BE REMOVED AND PENETRATIONS PATCHED. PATCH ROOF SHINGLES, FELT AND SHEATHING, CEILING INSULATION AND GYPSUM TO MATCH EXISTING. COAT GYPSUM PER SPECIFICATIONS

BOOSTER PUMP STATION

EXISTING CONCRETE SIDEWALK

FLOOR SINK, REMOVE AND REINSTALL (S02/S02)

EXISTING BENCH TO BE RELOCATED BY CONTRACTOR TO LOCATION ON SITE SPECIFIED BY OWNER

2'-0"

1'-4"

FIRE EXTINGUISHER, SEE SPECIFICATIONS. MOUNT TO WALL 4' ABOVE FINISHED FLOOR.

WOOD FURRING AND SIDING OVER CMU, TYP

8" CMU WALLS, TYP

EXISTING CMU BLOCK, LOUVER, AND CEDAR SIDING/TRIM TO BE REMOVED FOR INSTALLATION OF LOUVER (A/S02) (B/S02) (1)

4'-6"

2'-6"

ROOF OUTLINE, TYP

CONCRETE WALKWAY

PROPOSED CONCRETE LANDING

5'-0"

ALIGN CORNER OF FUEL TANK PAD WITH CORNER OF BUILDING

NOTE:
IF TANK SHAPE CHANGES, CONTRACTOR SHALL PROVIDE PAD WITH WIDTH 1' EACH SIDE LARGER THAN TANK AND WILL ADJUST LENGTH OF SEGMENTAL BLOCK WALL TO FIT TANK.

PROPOSED DIESEL FUEL TANK PAD. TOP ELEVATION OF PAD TO BE 2.5' HIGHER THAN CONCRETE WALKWAY ON SOUTH SIDE OF BUILDING.

9'-0"

17'-0"

FACILITY PLAN

3/8" = 1'-0"

ABANDONED NATURAL GAS LINE NOTE

FOR ALL ABANDONED NATURAL GAS LINES CHIP AND REMOVE CONCRETE TO EXPOSE CONDUIT IN FLOOR THAT IS TO BE ABANDONED. CUT GAS LINE TO BELOW FINISHED FLOOR AND CAP SO THAT TOP OF CAP IS AT FINISHED FLOOR ELEVATION. FILL VOID AROUND AND BELOW CAP WITH 1 KSF GROUT BRUSHED FINISH TO FINISHED FLOOR ELEVATION.

LOUVER & DAMPER SCHEDULE

NO.	FLOW	FLOW RATE	MANUFACTURER	LOUVER	DIMENSIONS W x H	ACCESSORIES	DAMPER	ACTUATOR
(1)	INTAKE	25,000 SCFM	POTTORFF	ACOUSTICAL EAA-645	128" x 96"	BIRD & RODENT SCREEN	CD-51 CONTROL DAMPER MOTORIZED	SIZED TO OPERATE DAMPER FULLY OPEN TO FULLY CLOSED; FAIL TO OPEN
(2) (ADDITIVE ALTERNATE)	EXHAUST	25,000 SCFM	POTTORFF	ACOUSTICAL EAA-645	96" x 78"	BIRD & RODENT SCREEN	CD-51 CONTROL DAMPER MOTORIZED	SIZED TO OPERATE DAMPER FULLY OPEN TO FULLY CLOSED; FAIL TO OPEN

NOTE:
LOUVER/DAMPER COMBINATION SHALL COME WITH FRAME TO HOLD UNITS IN PLACE AND ATTACH FRAME TO CMU AND STEEL WITH ANCHORAGE AS REQUIRED BY MANUFACTURER.

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISED TO CONFORM TO CONSTRUCTION RECORDS
05/10/14
RH2 ENGINEERING INC. DATE

RH2 ENGINEERING, INC.
www.rh2.com 1.800.720.0052
Bellingham, WA Kirkland, WA
4104 Meridian Street, Suite 202

SIGNED: 07/17/13

SIGNED: 07/17/13

LAKE WHATCOM WATER AND SEWER DISTRICT
SUDDEN VALLEY WATER TREATMENT
PLANT GENERATOR SET REPLACEMENT

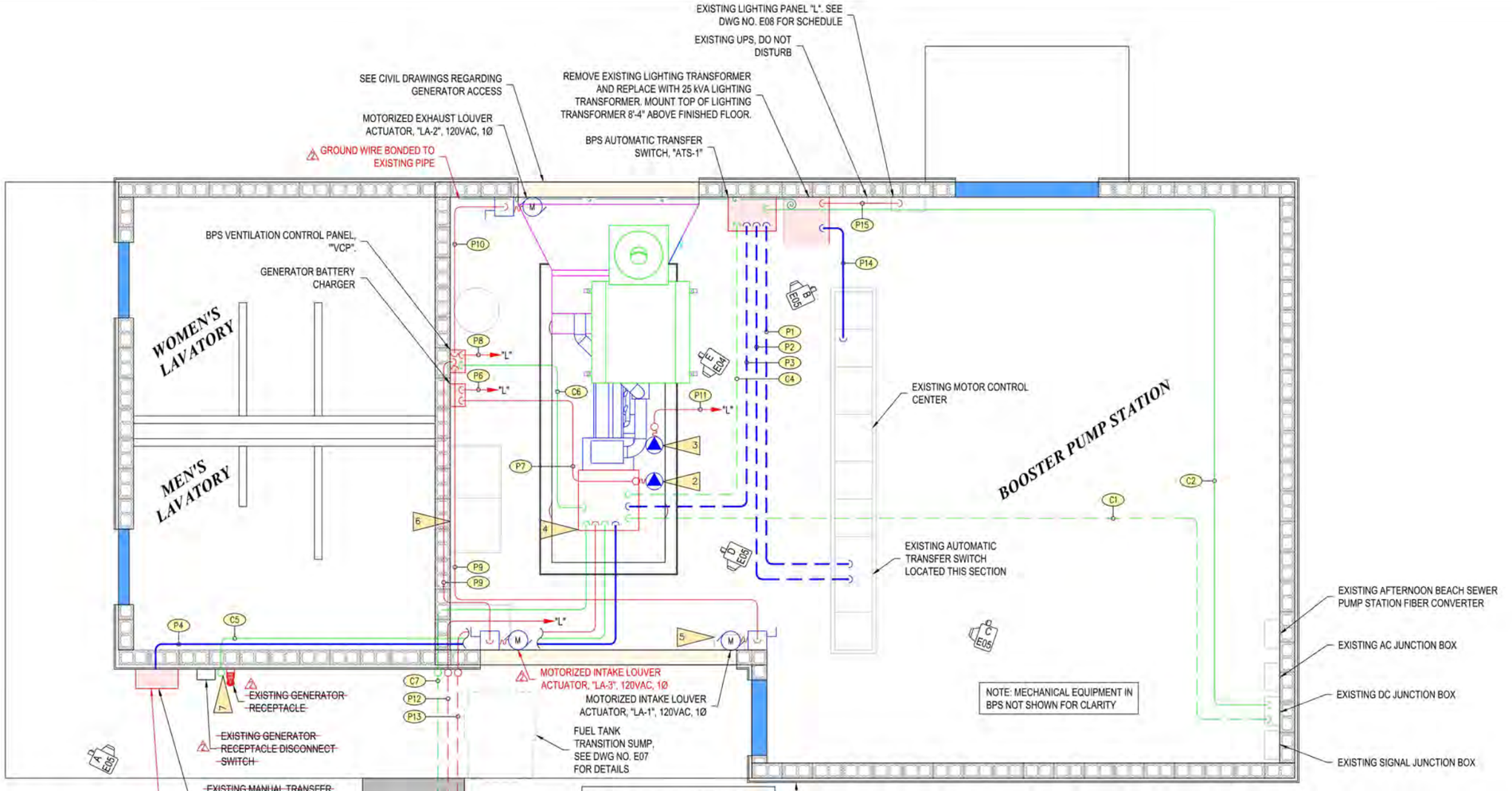
FACILITY PLAN

NO.	DESCRIPTION	DATE	BY
1	CONSTRUCTION REVIEW EDITS	7/17/13	AHF
2	CONFORMED FOR CONSTRUCTION	5/10/14	JCC
			DJB
			DWB

JOB NO: 419-059
DATE: May 5, 2014
PLOT DATE: May 9, 2014
FILENAME: GEN-D-STR01.DWG
CLIENT: LWWSD
ENGINEER: JMC
REVIEWED: DWB

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S01
SHEET NO.: 7 17



ELECTRICAL NOTES

XX	1. SEE DWG NO. E08 FOR CONDUIT AND CONDUCTOR SCHEDULES.
2	2. GENERATOR BATTERY CONNECTION, CONTRACTOR TO CONFIRM LOCATION.
3	3. GENERATOR BLOCK HEATER CONNECTION, CONTRACTOR TO CONFIRM LOCATION
4	4. 450KW STANDBY GENERATOR, SEE DWG NO. E06 FOR DETAILS
5	5. EXISTING GENERATOR BATTERY CHARGER TO BE REMOVED AND DISCARDED
6	6. EXISTING WASHER AND DRYER. CONTRACTOR MAY REMOVE AND STORE WASHER AND DRYER AS NEEDED FOR CONSTRUCTION. WASHER AND DRYER MAY BE OUT OF SERVICE FOR UP TO TEN (10) CALENDAR DAYS.
7	7. CIRCUIT (C5) TRANSITIONS INTO EXISTING UNDERGROUND CONDUIT TO AFTERNOON BEACH SEWER PUMP STATION. SEE ELECTRICAL SITE PLAN, DWG NO. E03, FOR CONTINUATION.

POWER DISTRIBUTION AND SIGNAL PLAN

3/8" = 1'-0"

PLOTTED AT REDUCED SIZE, DO NOT SCALE

REVISED TO CONFORM TO CONSTRUCTION RECORDS
RH2 ENGINEERING INC. 05/10/14 DATE

CHRISTOPHER M. ROBERTS — STATE OF WASHINGTON — 21600 — PROFESSIONAL ENGINEER — SIGNED: 05/09/14

RICHARD D. BALLARD — STATE OF WASHINGTON — 21600 — PROFESSIONAL ENGINEER — SIGNED: 05/09/14

RH2 ENGINEERING, INC.
www.rh2.com 1.800.720.6052
Bellevue, WA Wenatchee, WA Yakima, WA
4104 Meridian Street, Suite 202

LAKE WHATCOM WATER AND SEWER DISTRICT
SUDDEN VALLEY WATER TREATMENT
PLANT GENERATOR SET REPLACEMENT

POWER DISTRIBUTION AND SIGNAL PLAN

JOB NO: 413-059
CLIENT: LWWSD
FILENAME: GEN-D-ELE04.DWG
SAVE DATE: May 9, 2014
PLOT DATE: May 9, 2014
ENGINEER: MWB
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW
1	CONFORMED FOR CONSTRUCTION	5/10/14	JCG	DWB

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E04
SHEET NO.: 12 17

ATTACHMENT C

REFERENCE PHOTOS

RE-BID

Agate Heights Water Treatment Plant – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.



Exterior – Main Building





Main Personnel Door

(Location A)

RE-BID: Surveillance Cameras and Access Controls

Agate Heights Water Treatment Plant – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





Chlorine Room Personnel Door

(Location B)

RE-B

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.



Exterior from northwest



Exterior from southeast

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.

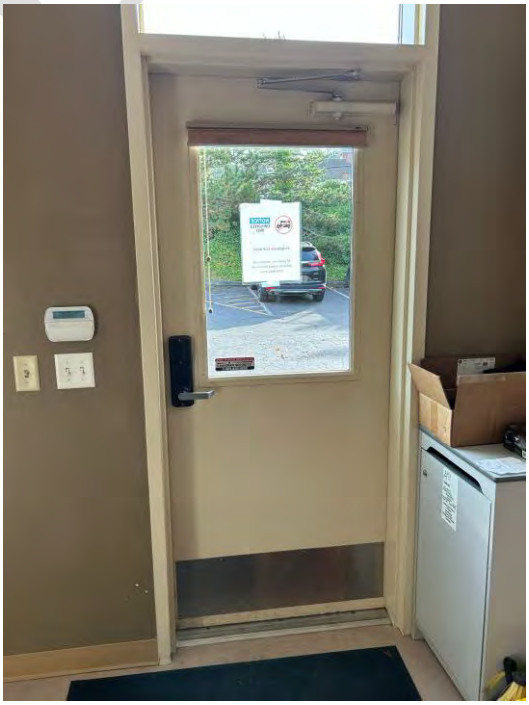




Main Personnel Door

(Location A)



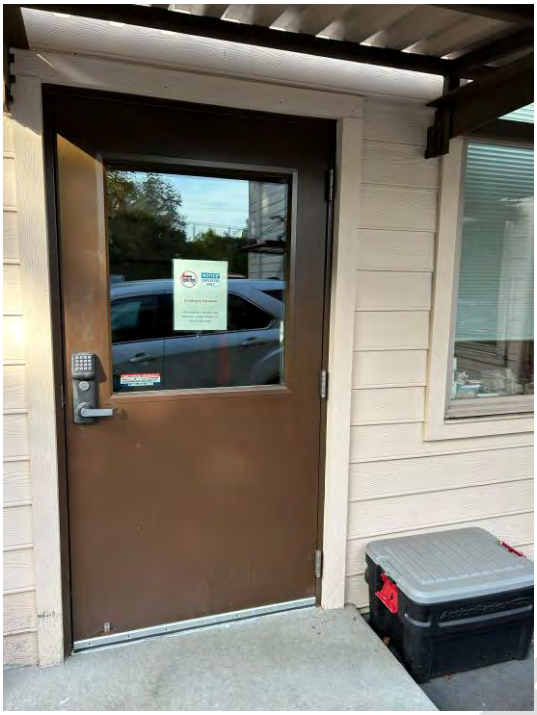


East Personnel Door

(Location B)

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





South Personnel Door

(Location C)





Interior Personnel Door

(Location D)

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





Electrical Closet Door
(Location E)





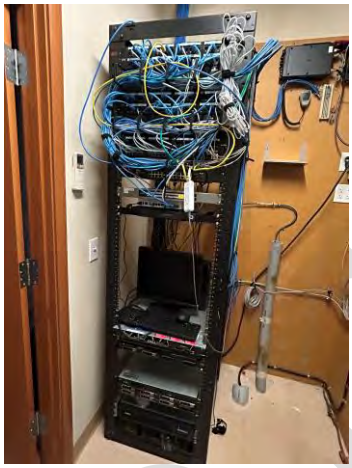
Rolling Gate
(Location F)

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.



Rolling Gate Operator Controls
(Location F)





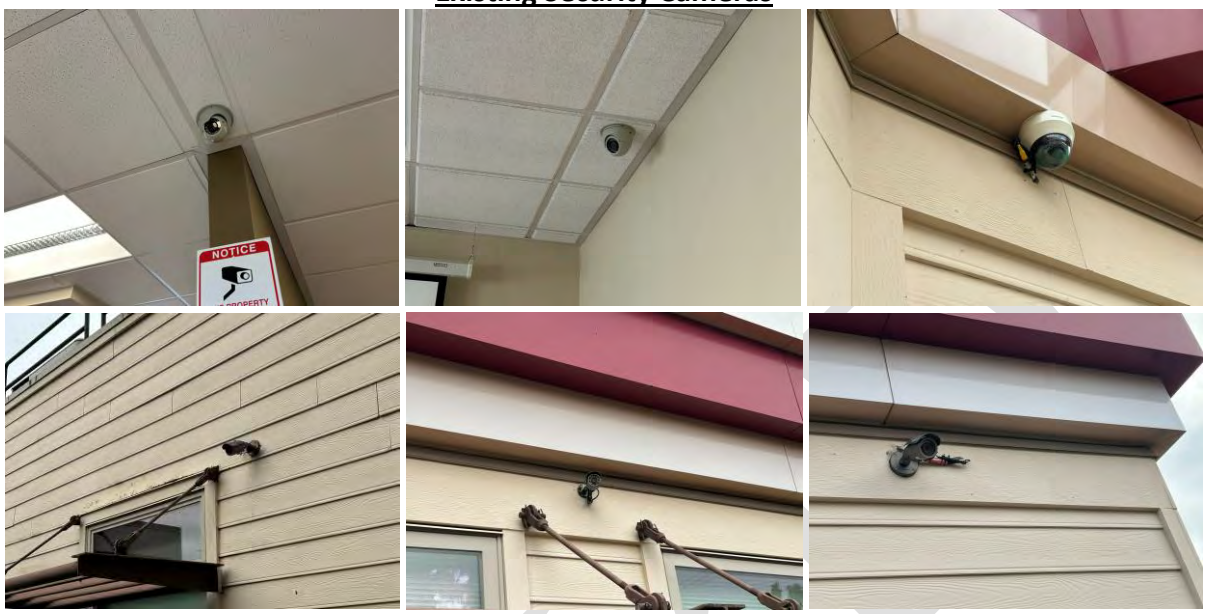
Server Rack and UPS

RE-BID

Administration Building– SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.

Existing Security Cameras



RE-BI

Operations & Maintenance Campus – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.



Exterior from northwest

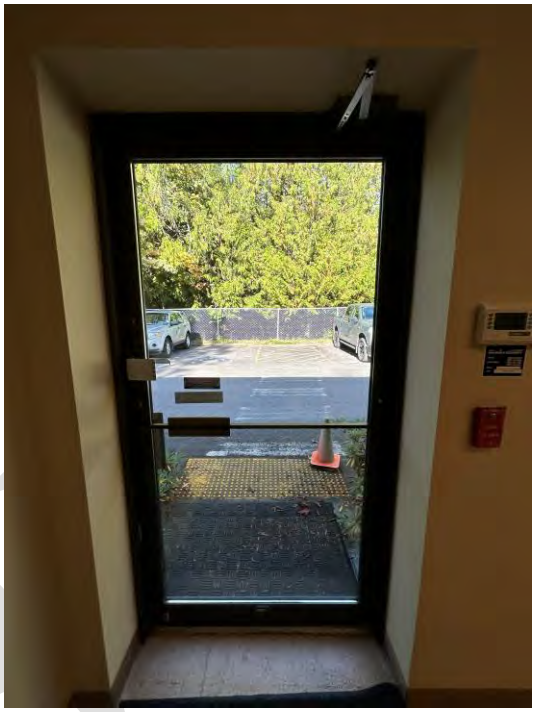


Exterior from northwest

Operations & Maintenance Campus – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





Main (North) Personnel Door

(Location A)





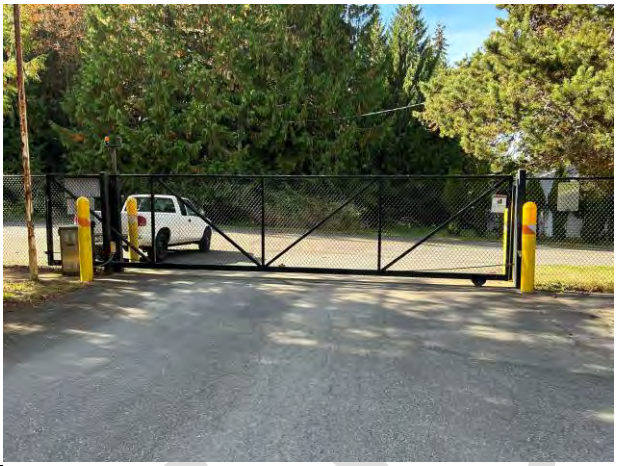
East Personnel Door

(Location B)

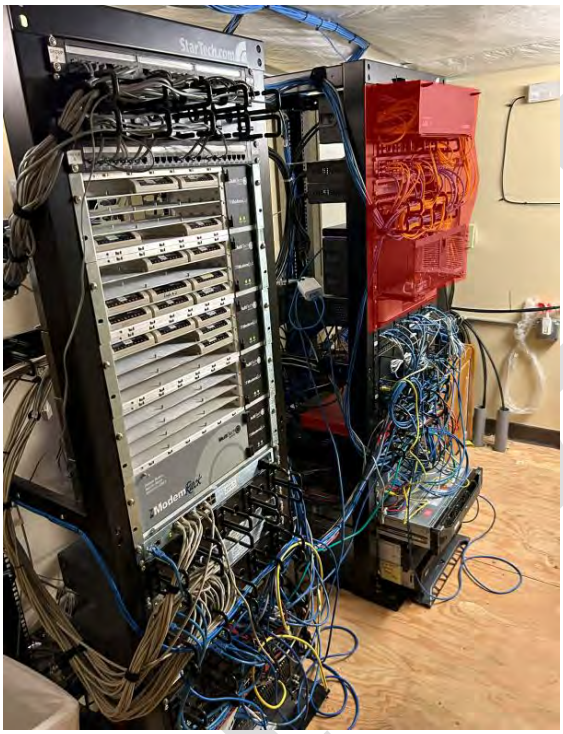
Operations & Maintenance Campus – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





Rolling Gate
(Location D)





Server Rack and UPS

NOTE: *Equipment in red shaded area will be removed and space will be available for installation of servers for this project.*

RE-BID

Operations & Maintenance Campus – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.

Existing Security Cameras









REPORT

Sudden Valley Water Treatment Plant – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.



Exterior – Water Treatment Plant Building



Exterior – Pump House Building

RE-BID: Surveillance Cameras and Access Controls

Sudden Valley Water Treatment Plant – SITE PHOTOS

Provided for reference only. Contractor responsible for verifying actual conditions.





WTP Personnel Door

(Location A)





Pump House Personnel Door

(Location B)

RE-BID: Surveillance Cameras and Access Controls