



CITY COUNCIL WORKSHOP MEETING AGENDA
Tuesday, February 17, 2015, 4:30 PM
City Municipal Center, 616 NE 4th Avenue

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMENTS

IV. SPECIAL PRESENTATION

- A. Recognition of 25-Year Anniversaries for Fire Department Employees
Details: Longtime firefighters Gene Marlow and Dale McKenzie have recently celebrated 25 years with the City of Camas. Their 25 years of service pins will be presented to them.
Presenter: Nick Swinhart, Fire Chief
Recommended Action: This item is for Council's information only.

V. WORKSHOP TOPICS

- A. Water System Distribution Modeling Services
Details: Gray & Osborne, Inc. (G&O) has submitted the attached professional services agreement in the amount of \$11,750 to provide water system distribution modeling services. The City will be constructing the new Water Treatment Plant in the Headworks Property and staff has requested that G&O complete hydraulic modeling to make recommendations on any system improvements necessary to fully utilize water from the treatment plant during low demand periods. Additionally, with pending development of the Green Mountain area, staff has asked G&O to confirm sizing of infrastructure needed to serve the new developments. The 2015 Budget includes sufficient funds to complete the work effort.
Presenter: Steve Wall, Public Works Director
Recommended Action: Staff proposes to place the Gray & Osborne Proposal on Consent at the March 2, 2015 Regular City Council Meeting.

 [Water System Modeling Gray & Osborne Proposal](#)

B. Proposed Watershed Property Boundary Line Agreement

Details: City staff has received a request from property owners with parcels located west of the City's watershed property to develop and enter into a boundary line agreement establishing a common property line. A memorandum with details regarding the request is attached for information. Staff will review the details of the memorandum with Council at the Workshop.

Presenter: Steve Wall, Public Works Director

Recommended Action: Provide direction for staff to develop a boundary line agreement with property owners to the west of the City's Watershed Property for future Council consideration.

 [Memo to Council - Watershed Boundary Line Agreement](#)

C. Public Works Miscellaneous and Updates

D. Renewal of "Three Party Agreement"

Details: Since approximately 1978 the cities of Camas and Washougal and East County Fire and Rescue, have had a continuous interlocal agreement to provide for emergency medical services response and transport in East Clark County. This document has provided the legal framework for Washougal and ECFR to forward their EMS levy revenue to Camas and for Camas to provide ambulance response and transport in return. The most recent iteration of this agreement expired at the end of 2014. Now, as a "Two Party Agreement," we are recommending Council approve a new agreement between the City of Camas and ECFR as prepared by counsel. This agreement will be for two years and will contain the same provisions between the parties as the previous version did. ECFR commissioners are also in favor of this new agreement and will be presenting it for approval at their second meeting in February.

Presenter: Nick Swinhart, Fire Chief

Recommended Action: This item has also been placed on the February 17, 2015 Regular Meeting agenda for Council's consideration.





 [ECFR Revised Agreement 2014-2020](#)

E. Application for the 2015 Staffing for Adequate Fire and Emergency Response (SAFER) Grant for Firefighter Staffing

Details: The application period for the 2015 SAFER grant for firefighter staffing is open February 9 through March 6. This grant would pay for the salary and benefits of three firefighters for two years. There would be no obligation to maintain the firefighters after that period of time. The only stipulation of all SAFER grants is that, if the grant is awarded and accepted, the department cannot lay off or attrition out any positions during that two year period. Council will recall that the Camas-Washougal Fire Department (CWFD) received a SAFER grant award in 2012 to hire three firefighters. That grant expired in 2014. Unfortunately the City did not have the funding to keep those positions after the grant expired, but due to some well-timed retirements, staff was able to avoid laying off any of those firefighters. The department is planning to apply for the 2015 SAFER grant and City Administration supports this effort. This is an informational report to Council to advise you of our plan to apply for the grant. Whenever staff has applied for any grant, staff takes the opportunity to remind Council that if the grant is awarded, Council maintains the final authority on whether it will be accepted.

Presenter: Nick Swinhart, Fire Chief

Recommended Action: This item is for Council's information only.

- F. Ordinance No. 15-004 Amending Section 15.04.030(D)(2)
Details: Currently the ordinance for the installation of fire alarm systems within the city limits of Camas is in conflict with Washington State Law. The purpose of the proposed revision is to modify the Camas Municipal Code to be aligned with Washington State Statutes.
Presenter: Ron Schumacher, Division Chief / Fire Marshal
Recommended Action: This item has also been placed on the February 17, 2015 Regular Meeting agenda for Council's consideration.
-  [ORD amending Section 15 04 030](#)
[NICET \(National Institute for Certification in Engineering Technologies\) determi](#)
- G. Zoning Code Text Change to Camas Municipal Code (CMC) Chapter 18.23 (File No. CMC14-05)
Details: The applicant proposes amendments to CMC Chapter 18.23 Planned Residential Developments to allow commercial land uses. At the Planning Commission public hearing on January 21, 2015, alternative amendments were proposed by Staff and agreed upon with the applicant. The Commission forwarded a recommendation of approval.
Presenter: Sarah Fox, Senior Planner
Recommended Action: Staff requests Council set a date for a public hearing to be held on March 2, 2015.
-  [Staff report to City Council - CMC 18.23](#)
[Application Narrative](#)
[Exhibit 1 - Email from applicant](#)
[Staff report to Planning Commission](#)
- H. Limited Amendments to the Camas Shoreline Master Program (File No. MC15-02)
Details: Proposed limited amendments to the Camas Shoreline Master Program, specifically Appendix C, Chapter 16.53 Wetlands, which are intended to comply with new mandates from the Department of Ecology. Planning Commission forwarded a recommendation of approval at a public hearing that was held on January 21, 2015.
Presenter: Sarah Fox, Senior Planner
Recommended Action: Staff requests Council set a date for a public hearing on March 2, 2015.
-  [Staff Report](#)
[Attachment A - Limited amendments to the SMP](#)
[Attachment B - Ecology 2014 Update Memo](#)
[Attachment C - Email correspondence](#)
- I. Final Plat for 7th Avenue Townhomes (File no. FP14-08)
Details: Seventh Avenue Townhomes Subdivision (File no. SUB06-10) is located at 722 NW 7th Avenue near the intersection of NW 7th Avenue and NW Greeley Street. Preliminary plat approval for 12 new lots was issued on December 14, 2006. A minor modification decision was issued on February 3, 2015, that reduced the subdivision to 11 lots (File no. MinMod15-02).
Presenter: Sarah Fox, Senior Planner
Recommended Action: Set a date to approve the final plat.
-  [Staff Report](#)
[7th Avenue Final Plat](#)

J. NW 6th and Norwood Improvements

Details: There has been some interest voiced by Council to explore the potential installation of a roundabout at 6th and Norwood in lieu of a traffic signal. Camas staff has consulted with HDJ Design Group regarding the feasibility of this proposal. Staff will bring a presentation and will discuss both signal and roundabout characteristics and costs with Council.

Presenter: James Carothers, Engineering Manager

Recommended Action: Staff is seeking guidance from Council to move forward on either a traffic signal or roundabout design.

 [6th & Norwood Gateway Presentation](#)

K. Water Treatment Plant Professional Services Contract

Details: This contract with S&B, Inc. is for instrumentation, data management, and integration services and hardware for the new Slow Sand Filter Water Treatment Plant, Project WS-709C. The contract amount is not to exceed \$189,130.00. This item is budgeted and will be funded by a Drinking Water State Revolving Fund (DWSRF) loan from the Washington State Department of Health.

Presenter: James Carothers, Engineering Manager

Recommended Action: Staff intends to place this item on the March 2, 2015 Consent Agenda.

 [Water Treatment Plant Instrumentation Contract](#)

L. Community Development Miscellaneous and Updates

M. City of Camas Utility Billing Proposed Changes - Phase II

Details: This presentation is to discuss proposed changes to be incorporated into an Ordinance for Public Hearing and City Council's consideration on March 2nd. The proposed changes include: budget billing, low income assistance, filing property tax liens, abandonment of service, new fees and elimination of payment extensions.

Presenter: Cathy Huber Nickerson, Finance Director

Recommended Action: Staff requests Council's direction on utility code changes to be incorporated into an Ordinance for consideration by City Council on March 2, 2015 following a public hearing.

 [Utility Code Changes Phase 2](#)

[Utility Code Changes Phase 2-Summary](#)

N. 2015 Limited General Obligation Bonds Discussion

Details: This presentation is to finalize the sizing of the 2015 Limited General Obligation Bonds approved by City Council by Ordinance No. 2710 on July 21, 2014.

Presenter: Cathy Huber Nickerson, Finance Director

Recommended Action: Staff requests Council's direction for the size of the bond sale.

 [2015 Limited General Obligation Bond-updated 7.3mil](#)

[2015 Limited General Obligation Bond-updated 8.3mil](#)

O. City Administrator Miscellaneous Updates and Scheduling

VI. COUNCIL COMMENTS AND REPORTS

VII. PUBLIC COMMENTS

VIII. ADJOURNMENT

NOTE: The City of Camas welcomes and encourages the participation of all of its citizens in the public meeting process. A special effort will be made to ensure that a person with special needs has the opportunity to participate. For more information, please call 360.834.6864.



February 5, 2015

Mr. Steve Wall, P.E.
Public Works Director
City of Camas
616 NE Fourth Avenue
Camas, Washington 98607

SUBJECT: ENGINEERING SERVICES PROPOSAL FOR DISTRIBUTION
SYSTEM MODELING
CITY OF CAMAS, CLARK COUNTY, WASHINGTON
G&O #12476.00

Dear Mr. Wall:

This letter is a scope of work designed to provide additional information regarding distribution system improvements and system operational changes required for when the new slow sand filter plant (SSFP) is constructed and brought online. The product of this scope of work will be a predesign technical memorandum outlining all of the distribution system improvements required including length, size, and estimated cost. The memorandum will also describe operational changes required for winter operation with the SSFP operational and summer operation when the SSFP is not producing.

We understand that the City would like to use water from the SSFP to the fullest extent possible while minimizing other capital improvements to the distribution system. This scope of work is intended to build upon previous memoranda including the memorandum dated December 19, 2012. Since that memorandum was prepared, the City has considered delaying construction of the West Prune Hill Reservoir, has reconsidered the timeline for eventually joining the 542 and 544 Zones into a single zone, and has expressed a desire to review possible development in the Green Mountain area. This scope of work will include updated information on the existing distribution system from City staff, reflect the current anticipated timeline for improvements, and include the recent distribution/transmission upgrades installed by the City. The discussion of improvements included in this scope of work will also include greater detail for each recommended improvement.

SCOPE OF WORK

Update Hydraulic Model

Gray & Osborne will update the existing hydraulic model including incorporating the recent distribution system improvements as well as information from City staff on the



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current distribution system configuration. Gray & Osborne personnel will also work with City staff to perform on-site hydrant testing to calibrate the model to ensure an accurate representation of existing conditions, especially in the area around the existing treatment plant.

Analyze System

Gray & Osborne will perform an analysis of system operation for both summer and winter at current and 2035 demands to identify system deficiencies. The analysis will identify immediate distribution system improvements required to fully use the anticipated production from the SSFP. The analysis will also identify future improvements required to fully realize the full water right flow from the SSFP and meet future system demands. In addition, anticipated development projects in the Green Mountain area will be compared with future distribution system operation.

Present Projects

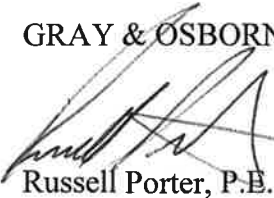
The technical memorandum will identify the required distribution system piping projects and will include size and length information. Each project will be shown on an aerial photographic map of the distribution system. A cost estimate including estimated valving, hydrants, and residential pressure reducing valves will be included for each project. The cost estimate will include estimated engineering and administration as well as a contingency appropriate for the level of design.

The not-to-exceed cost for the proposed scope of work is \$11,750. A detailed list of tasks and hours is attached.

Please contact the undersigned if you have any questions or desire further information.

Sincerely,

GRAY & OSBORNE, INC.



Russell Porter, P.E.

RLP/hhj
Encl.



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**CITY OF CAMAS – DISTRIBUTION PROJECTS PREDESIGN
MEMORANDUM**

Gray & Osborne, Inc. is hereby authorized to proceed with the engineering services as noted herein and under the terms and conditions of our current On-Call Water and Wastewater Engineering Services Contract dated December 2, 2013, for a cost not to exceed \$11,750 as noted herein without further written direction and authorization of the City.

Name (Print)

Title

Signature

Date



EXHIBIT B

ENGINEERING SERVICES SCOPE AND ESTIMATED COST

City of Camas - Distribution Projects Predesign Memorandum

Tasks	Project Manager Hours	Civil Eng. Hours
Hydraulic Model Update	2	16
Analysis	4	40
Technical Memorandum Update	6	32
Quality Assurance/Quality Control	2	2
Hour Estimate:	14	90
Fully Burdened Billing Rate Range:*	\$115 to \$178	\$75 to \$114
Estimated Fully Burdened Billing Rate:*	\$145	\$105
Fully Burdened Labor Cost:	\$2,030	\$9,450

Total Fully Burdened Labor Cost: \$ 11,480

Direct Non-Salary Cost:

Mileage & Expenses (Mileage @ \$0.57/mile) \$ 270

TOTAL ESTIMATED COST: \$ 11,750

* Actual labor cost will be based on each employee's actual rate. Estimated rates are for determining total estimated cost only. Fully burdened billing rates include direct salary cost, overhead, and profit.



MEMORANDUM

TO: Mayor and City Council

FROM: Steve Wall, Public Works Director

DATE: February 10, 2015

SUBJECT: Proposed Boundary Line Adjustment (BLA) for Watershed Property

Details

Property owners Towle and Lovell on the west line of the City's watershed property (see attached Figure 1) are requesting that the City acknowledge a boundary line that was surveyed and established in 1923 as the true and correct property line between their property and the City's. Two letters from Mr. Towle and Mr. Lovell are attached for reference.

The watershed property legal description utilizes the northwest section corner (Section 4) to establish the westerly boundary line between the City's watershed property and the private properties to the west. However, there is uncertainty concerning the correct location of the section corner and corresponding property line.

An iron pipe, set in or around 1923 in the northwest corner of the City's watershed property (establishing the "1920s Camas Survey Line" in Figure 1) was established around the time of the purchase of the watershed property by the City. This line has been used to establish fence lines in the past and was historically used in the platting of private property to the west of the watershed property. More recently, the 1923 line was used by the City as the boundary of the timber harvest that was completed in 2014.

Additional surveys have been completed since the 1920s to determine the location of the Section corner. One of significant note was completed by the Department of Natural Resources (DNR). DNR placed a monument in 2000 that was significantly west of the 1923 location (establishing the "DNR Removed" line in Figure 1). This monument has since been deemed incorrect and removed by DNR. Also of note, this area is also part the Bonneville Power Administrations (BPA) preferred alternative route. Preliminary surveys by BPA in 2014 (shown as the "HDR Line" in the attached Figure 1) proposed that the section corner was between the 1923 survey monument and the most westerly DNR corner that has been removed. This assumption has been rejected by DNR.

To remedy the boundary line issue, Staff recommends accepting the 1923 line as the boundary line between the watershed property and the Towle, Hoyt and Lovell parcels. This was the accepted line at the time of the watershed purchase, was historically fenced as the property line, and was used for the 2013-14 timber sale and harvest. Utilizing the 1923 line will eliminate

potential encroachment issues and potential boundary disputes for private owners to the west that recognize this line as control for their parcel legal descriptions.

As an additional item of interest, the petitioning property owners have a pending Forest Practices Act permit to log on their parcels. Staff would recommend that the petitioners, as part of the proposed BLA, agree to appropriate watershed protection measures. These would include the following:

- Acknowledgement that the City has the right to manage the water resource for public consumption;
- Use of only mechanical means for removal of underbrush (no herbicide use) on their property;
- Installation of a new fence between their parcels and the City property after logging is complete;
- Installation of No Trespassing signs along the fence line;
- Installation of signs marking the fence line as City of Camas Watershed Property (may be combined with the No Trespassing signs).

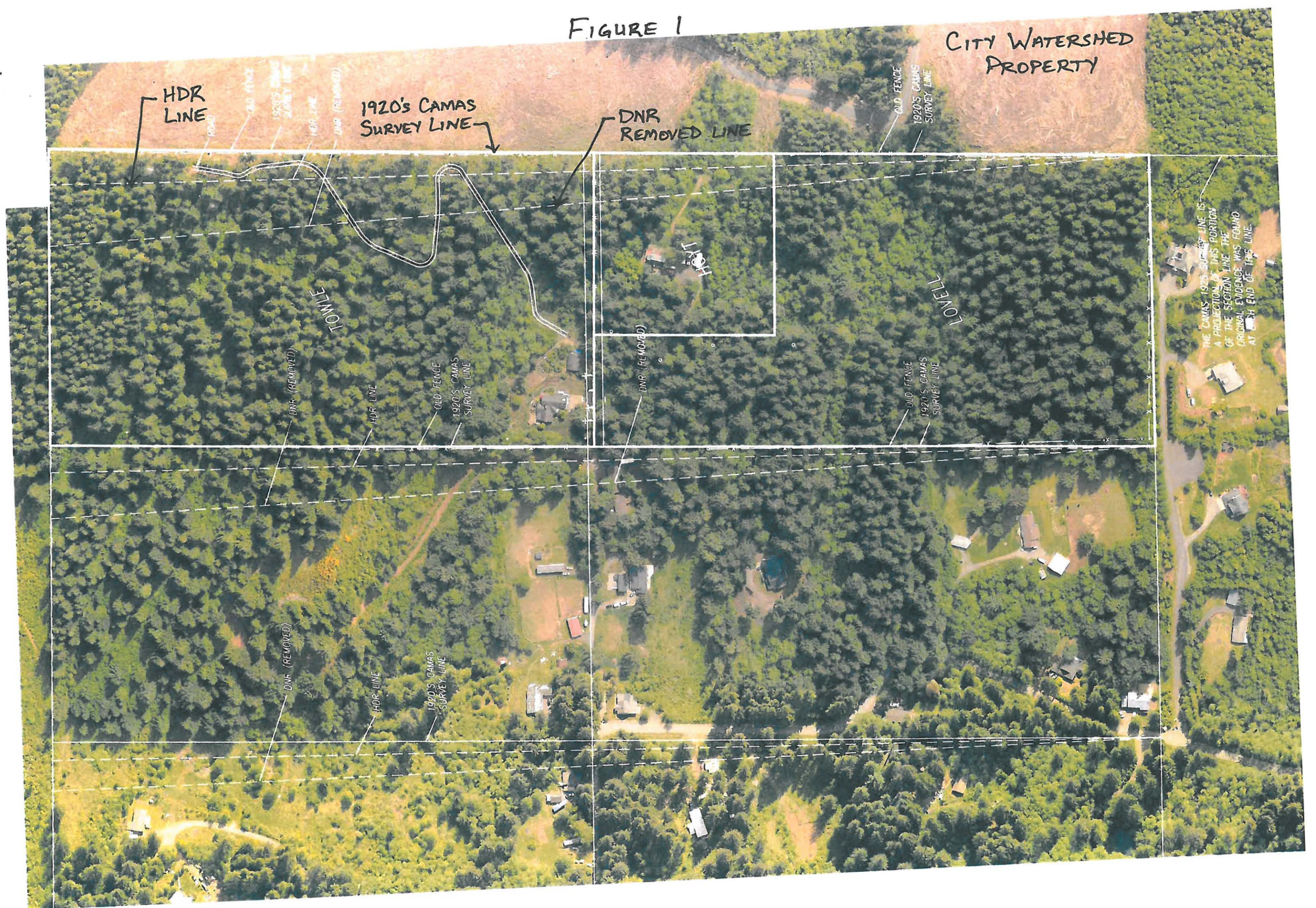
Recommended Action

Provide direction for staff to develop a boundary line agreement with property owners to the west of the watershed property for future Council consideration.

Attachments:

- Figure 1 – Location and Survey Line Map
- February 9, 2015 Property Owner Proposal
- October 31, 2014 Property Owner Request

FIGURE 1



February 9, 2015

Eric Levison
City of Camas
616 NE 4th Avenue
Camas, WA 98607

Re: Property Boundary Issues Section 4, T2N, R4E

Dear Eric,

I have attached a sketch showing the Camas (1920's) survey line, the new HDR line and the old DNR line that they have now removed the monument. This sketch doesn't show the Swart line, but it is about 10-12 feet East of the HDR line and extends north for 30 feet or so. The photo shown is the new 2014 Clark County aerial data.

The effect of the solution for this section corner has a ripple effect across the Northeast quarter of this section. From the photo you can see that the Camas iron pipe has been used to establish property use lines throughout the quarter section.

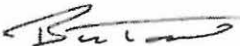
If Camas agrees to use the old pipe as the section corner we will:

- Have an attorney draft an agreement between us agreeing to use the 1920's survey line as our common property line.
- We will draft the legal description and exhibit maps to be included in the agreement.
- We will file a Record of Survey with Clark County showing that Camas has agreed to accept the 1920's survey solution as the line between Sections 4 and 5 surveying the lines of our properties as shown as bold white lines on the attached exhibit.

The timing of signing an agreement isn't critical. As you know we are in the queue to have our properties logged this spring and are planning to log between the old fence lines. The BPA right-of-way has just been marked. The west edge of this right-of-way doesn't follow the HDR line, but is maybe half way between the old fence line and the HDR line. I've also attached a photo showing the white right-of-way flag taken that the sharp switchback in the road and another slightly up the hill where you can also see the gate in the old fence between our properties.

If you need any other information, let us know.

Sincerely,



Bruce Towle
Bill Lovell

October 31, 2014

Eric Levison
City of Camas
616 NE 4th Avenue
Camas, WA 98607

Re: Property Boundary Issues Section 4, T2N, R4E

Dear Eric,

Bill Lovell and I own properties identified as tax serial numbers 136848-000 and 136865-000 respectively. This letter is to follow up our meeting concerning our common property boundary line with the City of Camas. As you are aware, there is uncertainty concerning the correct location of the section line that is our common property line. Below I have listed a general time line of the various solutions for the line:

1892 – General Land Office Surveyor Samuel W. Lackand surveyed and created the line by monumenting each end with a marked stone and witness trees.

1904 – Northern Pacific Railroad timber cruiser found both of these stones.

1923-1925 -- Sometime in this time frame the City of Camas or Camas Water Company had section 4 surveyed. The surveyor found the southwest corner and the west quarter corner of section 4 but did not find the stone at the north end of the section line. He set an iron pipe and witness tree for that point on a projection of the other two found monuments. The pipe and witness tree still exist today.

1985 – DNR did an intensive search for all of the stones along the north line of the T2N, R4E Township and found all of the stones except the northwest corner of Section 4. They spent about a week looking for this stone, removing all vegetation in the various search areas and examining stones and possible witness trees.

1988 – Local land surveyor Tom Swart determined a location for this section corner.

2000 – DNR decides not to accept the Swart location and establishes a new location.

2008 – DNR does some additional surveying in the area and finds evidence that their 2000 location is incorrect.

2014 – BPA contract surveyors agree that the DNR 2000 location is not correct and find a stone and remains of rotted trees that they feel are the location of the section corner. This evidence was examined by DNR in 1985 and 2000 and not accepted.

So as you can see, the true location of the line between our properties is uncertain. All of the property lines in the northeast quarter of Section 5 are affected by the location of this section corner. The 1925 location has been used over the years as fences, roads and houses have been built. When I bought my property in 1985 a fence existed between our properties that followed the 1925 line. At that time it was quite rotted although most of the posts were still standing and some wire was still strung. It was obvious that the fence was near 40-50 years of age at that time.

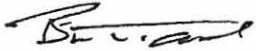
Bill Lovell and I would like to fix the line between the City ownership and our land so that our property boundaries are certain and fixed. We would like to sign a boundary line agreement to honor the line that has

been used for the past 90 years.

Picking another solution would probably require that we get easements from the City for old roads that would then cross over property lines and require that we grant easements to our neighbors for their roads. It's not feasible to move the roads due to the steep grades in the area.

If you would like more information concerning the history of this line between our properties or have any questions, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce Towle". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bruce Towle
Bill Lovell

SERVICE AGREEMENT

AGREEMENT made this day by and between EAST COUNTY FIRE and RESCUE (ECFR), and the CITY OF CAMAS, hereinafter referred to as "Taxing Districts",

WITNESSETH:

WHEREAS, the parties hereto and The City of Washougal entered into an agreement in 2006 for the provision, funding and administration of a Washington State Licensed Advanced Life Support (ALS) Emergency Medical Transport Services Program within their respective Taxing Districts, which agreement expires at the end of 2013, and

WHEREAS, the parties hereto and The City of Washougal renewed the Agreement for two additional years on November 15, 2012, and

WHEREAS, the fire departments of the City of Camas and the City of Washougal have merged and are under the administration of the City of Camas, and

WHEREAS, the parties hereto desire to continue to provide a Washington State licensed Advanced Life Support (ALS) Emergency Medical Transport Services Program within their respective Taxing Districts, and

WHEREAS, the parties hereto desire to continue to provide for administration of said ALS Emergency Medical Care and Services Program, and

WHEREAS, each of said Taxing Districts has obtained funding for such a program by means of an Emergency Care Property Tax Levy as provided for by RCW 84.52.069, and

WHEREAS, Camas renewed its levy beginning in 2013 at a new rate of forty-six cents (\$.46) per one thousand dollars (\$1,000.00) of the assessed valuation of property, and

WHEREAS, ECFR's levy of thirty-five cents (\$.35) per one thousand dollars (\$1,000.00) of assessed value was renewed at the end of 2014, and

WHEREAS, Washougal's current levy of fifty cents (\$.50) per one thousand dollars (\$1,000.00) of the assessed valuation of property expires at the end of 2016, and

WHEREAS, Washougal and Camas have entered into a separate agreement providing for Washougal to remit to Camas its share of the cost of the joint Advanced Life Support Emergency Medical Transport Services Program, and

WHEREAS, it is desired to extend the current agreement for the provision, funding and administration of a Washington State Licensed Advanced Life Support (ALS) Emergency Medical Transport Services Program through the end of 2020,

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein contained, it is hereby agreed as follows:

Section 1. EMERGENCY MEDICAL SERVICE:

On and after January 1, 2015 through December 31, 2020 the City of Camas shall furnish emergency medical rescue and licensed ALS ambulance transport service to all parties within the boundaries of the Taxing Districts which are parties to this Service Agreement. The City of Camas shall administer this contract, including employment of personnel required to perform such ALS Emergency Medical Transport Services and provide the transportation equipment; provide EMS training as required by Washington Department of Health; and provide all supplies required for such emergency services. No new separate legal or administrative entity shall be created to administer the provisions of this agreement.

Section 2. ADVISORY BOARD:

An Advisory Board is hereby created in which the City of Camas, the City of Washougal, and ECFR shall each be represented by two (2) members consisting of one (1) member of its legislative body, and its fire chief or other person as may be designated by its chief executive officer. The Board shall adopt by-laws for the administration of said body, and a written copy thereof shall be provided to each Taxing District. Unless otherwise designated, all meetings of the board shall be

held at the City of Camas. Regular meetings shall be held four times per year. Special meetings may be requested by any Taxing District upon timely notice to the Camas Fire Chief specifying the requested meeting date and the intended agenda for the meeting.

Said Advisory Board shall recommend and formulate written guidelines regarding fee rates, level of ambulance services, support of Taxing District medical first response programs, and for improving and coordinating said service throughout the respective districts.

Section 3. CONTRIBUTED FUNDS:

A. In consideration of the services to be rendered by the City of Camas pursuant to this Service Agreement, ECFR shall pay to the City of Camas each year during the term of this service Agreement all or a portion of the proceeds of their EMS or regular property tax levies as specifically described below. The obligation of each Taxing District is contingent on the other Taxing Districts' obtaining all necessary voter approvals for their contributions.

The City of Camas shall contribute an amount equal to the proceeds of their respective EMS levy at a rate of forty-six cents (\$0.46) per one thousand dollars (\$1,000) of the assessed valuation of property in the applicable Taxing District as collected, and as limited by Chapter 84.55, Revised Code of Washington (generally limited annual increases in the total dollar amount of the levy to one percent, adjusted for new construction and other exceptions). East County Fire and Rescue, shall contribute an amount equal to a rate of thirty-five cents (\$0.35) per one thousand dollars (\$1,000.00) of the assessed valuation of property in the applicable Taxing District as collected.

B. East County Fire and Rescue shall make such arrangement and do such other things as may be necessary so that the Clark County Treasurer's office shall remit all funds collected

pursuant to the Emergency Medical Care and Services levies in each district directly to the City of Camas.

C. The City of Camas agrees that all funds received pursuant to this Service Agreement shall be deposited in the City of Camas Emergency Rescue Fund and shall be used only for the provision of emergency medical care or emergency medical services, including related personnel costs, training for such personnel, administrative costs, and related equipment, supplies, vehicles and structures needed for the provision of emergency medical care or emergency medical service.

Section 4. OWNERSHIP OF PROPERTY: All equipment and supplies purchased by the City of Camas for purposes of performing its obligations under this agreement shall be owned by the City of Camas. Upon termination of this agreement by any Taxing District, however, such equipment and supplies held by the terminating party shall be the property of and remain with the terminating party at the time of termination. In the event of dissolution of the emergency medical rescue and licensed ALS ambulance transport service created by this agreement, assets purchased by the City of Camas with Emergency Rescue funds, shall be distributed consistent with a process decided by the Advisory Board and approved by the legislative bodies of each Taxing District at the time of dissolution.

Section 5. RATES: Notwithstanding the provisions in Section 3 hereof requiring financial contributions from ECFR, the City of Camas shall be allowed to charge for services to be rendered hereunder as per the prevailing rates established by resolution adopted by the Camas City Council from time to time. Any increases or adjustments to said rates shall be reviewed and approved by a majority of the members of the aforescribed Advisory Board for consistency with established rate guidelines prior to adoption by Camas City Council resolution.

Section 6. HOLD HARMLESS AND INSURANCE: The City of Camas shall defend, indemnify and hold ECFR, their officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees arising out of or in connection with the performance of this Agreement, except for injuries and damages caused by the sole negligence or wrongful conduct of the Taxing Districts. The City of Camas further agrees to maintain during the term of this agreement liability insurance in an amount as provided for in the WCIA Joint Protection Program (currently \$15,000,000 maximum per claim), protecting itself, its officers and employees, and the Taxing Districts, their officers and employees, from claims of all persons for damages arising out of negligence or wrongful conduct by the City of Camas, its officers and employees, in the providing of emergency medical services pursuant to this agreement.

Section 7. TERM: Unless earlier terminated pursuant to Section 9, this agreement shall commence on January 1, 2015, and terminated on December 31, 2020. At that time, if this agreement is not renewed all obligations of all parties to this agreement shall cease. All funds remaining in the City of Camas Emergency Rescue Fund as of December 31, 2020 shall be expended for ambulance and emergency aid services.

Section 8. SEVERABILITY: If any section or part of this Service Agreement is held by a court to be invalid, such action shall not affect the validity of any other part of this Service Agreement.

Section 9. TERMINATION: Either party to this Service Agreement may terminate their participation in the Service Agreement by delivering a written notice of termination not less than six (6) months in advance of the desired termination date and by specifying in that notice both the facts of and the reason for that termination. The Taxing District terminating their contractual relationship shall continue to contribute funds in accordance with Section 3 of this agreement until

the desired termination date. All funds so contributed shall be expended only for the ambulance and emergency aid services. Termination by one party shall not affect the contractual status of the other parties. This Service Agreement may be terminated at any time upon unanimous written agreement of all parties to this agreement.

Section 10. AGREEMENT ON FILE: This agreement shall be filed with the City Clerks of the cities of Camas and Washougal, with the chief administrative officer or each fire protection district, with the Clark County Auditor, and with the State of Washington.

DATED this ____ day of _____, 2015.

EAST COUNTY FIRE AND RESCUE

Attest: _____
Secretary

By: _____
Commissioner

DATED this ____ day of _____, 2015.

CITY OF CAMAS

Attest: _____
Clerk

By: _____
Mayor S. Higgins

DATED this ____ day of _____, 2015.

CITY OF WASHOUGAL

Attest: _____
Clerk

By: _____
Mayor S. Guard

ORDINANCE NO. 15-004

AN ORDINANCE amending Section 15.04.030(D)(2) of the Camas Municipal Code by revising the training and certification requirements for fire alarm system installation.

The Council of the City of Camas do ordain as follows:

Section I

Camas Municipal Code 15.04.030(D)(2) is hereby amended to provide as follows:

A new subsection is added to Section 907.1.1 to provide as follows:

907.1.4. System Installation, Maintenance, and Testing. Fire alarm systems shall be installed by an electrician properly certified by the State of Washington or under the direct supervision of individuals that have factory training and certification on the system being installed or NICET Fire Protection-Fire Alarm Level II certification. Fire alarm systems shall be maintained and tested in accordance with this code by persons under the direct supervision of individuals that have factory training and certification on the system being maintained or NICET Fire Protection-Fire Alarm Level II certification.

Section II

This Ordinance shall take force and be in effect five (5) days from and after its publication according to law.

PASSED BY the Council and APPROVED by the Mayor this ____ day of _____, 2014.

SIGNED: _____
Mayor

ATTEST: _____
Clerk

APPROVED as to form:

City Attorney

Hi Ron –

You raised a question about whether the city could require an individual to have a NICET level II license for an electrician for the installation of a fire alarm system. In my opinion, the answer is “no” you cannot.

I primarily base my conclusion on the state statutory provisions in RCW 19.28.211, which you are aware of. This statute is concerned with the requirements for a certificate of competence for a master electrician, journey level electrician, or specialty electrician.

And this statute contains a pretty clear and comprehensive preemption clause in Section (4):

(4) The certificates of competency and temporary permits provided for in this chapter grant the holder the right to work in the electrical construction trade as a master electrician, journey level electrician, or specialty electrician in accordance with their provisions throughout the state and within any of its political subdivisions without additional proof of competency or any other license, permit, or fee to engage in such work.

In my opinion, this preemption clause overrides any local requirement adopted by a local jurisdiction for additional licensing or permits for electricians, even if those requirements are contained in a NFPA regulation. The NFPA regulations are not part of the state building code or fire code that must be adopted and enforced by every local government but are an additional code adopted by Camas. It is fine to adopt it, but specific provisions in that code cannot override the state statutory preemption which limits the ability of a local government to impose additional licensing or permitting requirements in this field.

So that is my conclusion. I actually was not able to locate the L and I decision that you refer to – it sounds like that decision reached a similar conclusion. However, if you have a citation for that decision, I would be glad to review it also in conjunction with this opinion.

I hope this provides some guidance.

Pat Mason

Senior Legal Consultant

pmason@mrsc.org

206.625.1300 | MRSC.org | Local Government Success



STAFF REPORT
AMENDMENTS TO CMC CHAPTER 18.23
PLANNED RESIDENTIAL DEVELOPMENT (PRD)
File #CMC14-05
February 11, 2015

To: Mayor Higgins
City Council

Applicant: Randy Printz, Landerholm

Owner: Green Mountain, LLC

Staff: Sarah Fox, Senior Planner on behalf of the Planning Commission

Agency Compliance: Notice of the public hearing before the Planning Commission was published in the Camas Post Record on January 13, 2015 (publication no. 526907). Public notice for City Council meeting will be sent as required when scheduled.

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SUMMARY

The applicant proposes to amend CMC§18.23.030 Scope, which currently reads, "**A PRD may be allowed in all R and MF zoning districts.**" The applicant proposed the following text be added:

"Commercially zoned property may be allowed within a PRD when it is part of an overall master plan that includes an Urban Village and which is subject to a Development Agreement. Where commercially zoned property becomes part of a PRD as provided for in this section, residential uses and commercial uses may be arranged in a manner that causes commercial uses to occur on residentially zoned land and residential units uses to occur on commercially zoned land. Nothing in this section shall allow the number of residential units to exceed the number of residential units that could otherwise occur in the residentially zoned portion of the PRD."

At the Planning Commission public hearing on January 21, 2015, alternative amendments to the applicant's proposal were presented by Staff. The following discussion supports the concept of incorporating limited commercial uses within a PRD project, based on the recommendations forwarded by the Commissioners.

DISCUSSION

The PRD code is intentionally discretionary and flexible, in order to “*facilitate the innovative development of land*” CMC§18.23.010-Purpose. The applicant’s proposal to amend the PRD code to include limited commercial uses is consistent with the “flexible” purpose of the code; however the construction of the applicant’s amendments created other complications within the code (e.g. use of term “Urban Village”), and these concerns were discussed at length at the Planning Commission hearing on January 21, 2015.

The following amendments were forwarded by the Planning Commission with collaboration from the applicant. The amendments are intended to maintain the flexibility of the PRD code, and provide for limited commercial uses.

Proposed amendments as forwarded by the Planning Commission¹

18.23.020 Definitions

"Planned residential development" (hereinafter referred to as a PRD) means a development constructed on land of at least ten acres in size, designed and consistent with an approved master plan. A PRD is comprised of two primary components: single-family and multifamily units. The single-family component shall contain only single-family detached residences on lots equal to or greater than four thousand square feet. The multifamily component may contain either attached or detached single-family residences on lots smaller than four thousand square feet, or it may contain, but may not be limited to, duplexes, rowhouses, apartments, and designated manufactured homes, all developed in accordance with Section 18.23.030(A) of this chapter. Secondary components include parks and recreational amenities, accessory uses, and limited commercial uses as provided in this Chapter.

18.23.030 - Scope.

Planned residential developments (PRDs) are optional. If proposed, it shall be established under the following criteria:

- A. A PRD may be allowed in all R and MF zoning districts. Where ~~residentially zoned land~~ is contiguous to lands ~~planned and~~ zoned for commercial uses, the City, may subject to a Development Agreement, provide for the inclusion of the commercial area into the PRD ~~master plan~~ for the purposes of establishing continuity community design, pedestrian and commercial circulation, streetscape standards and design, and effective transitions between commercial and residential uses.
- B. The minimum land area necessary to apply for a PRD shall be ten acres of contiguous land.
- C. All land in which a PRD is to be developed shall be held and maintained in a single ownership, including but not limited to an individual, partnership, corporation, or homeowner's association. Evidence of such ownership shall be provided to the Planning Commission and City Council before PRD approval.
- D. Permissible uses within a PRD include any use listed as a permitted use or conditional use in the applicable zones, as per CMC ~~Chapter 18.07.040~~ Table 2, when approved as part of a master plan. Notwithstanding an approved master plan, incidental accessory buildings, incidental accessory structures, and home occupations may be authorized on a case by case basis.
- E. A minimum of fifty percent to a maximum of seventy percent of the overall permitted residential density of the PRD must be single-family homes.
- F. The multifamily component (two or more attached dwelling units) of a PRD shall ideally be developed toward the interior of the tract, rather than the periphery, to ensure compatibility with

¹ Note that the blue and underlined text indicates the amendments that occurred at the public hearing on January 21, 2015, with the collaboration of the applicant.

existing single-family residences that border the surrounding properties. Deviation from this requirement shall be requested during the preliminary master plan review, and specifically approved by the Planning Commission and City Council.

- G. Density standards and bonuses for the residential portion of a PRD shall be in accordance with CMC Sections 18.23.040 and 18.23.050
- H. An equivalent amount of up to twenty percent of the developable area shall be set aside and developed as recreational open space in a PRD, and shall include the following:
 - 1. Passive or active recreation concentrated in large usable areas;
 - 2. Provide trails and open space for connection and extension with the city's open space and trail plan, if feasible; and
 - 3. Be held under one ownership, and maintained by the ownership; or be held in common ownership by means of homeowners' association, and maintained by the homeowners' association. The open space and recreation areas shall be dedicated for public use and be maintained by the ownership or homeowners' association.

FINDINGS

The following findings support the amendments as forwarded by the Planning Commission. The proposed amendments are also consistent with the requirements for approval of a zoning change. In this case, it will apply to the entire city, not a single site.

CMC§18.07.010(D) Site Specific Rezones

1. The use or change in zoning requested shall be in conformity with the adopted comprehensive plan, the provisions of this title, and the public interest.

FINDINGS: The proposed amendments to Title 18 Zoning, specifically to Chapter 18.23 Planned Residential Developments are consistent with the flexible purpose of that chapter. Also, the requirement for City Council approval of a development agreement, if commercial uses are proposed, will better protect the public interest.

2. The proposed zone change shall be compatible with the existing established development pattern of the surrounding area in terms of lot sizes, densities and uses.

FINDINGS: The compatibility of established neighborhoods would be a major consideration for approval of the project, as stated in the proposed text of the amendment; “the inclusion of the commercial area into the PRD” must be “for the purposes of establishing continuity community design, pedestrian and commercial circulation, streetscape standards and design, and effective transitions between commercial and residential uses.” The current requirements for compatibility, which is referenced throughout the PRD chapter, have been retained as well.

RECOMMENDATION

That City Council reviews the proposed amendments, conducts a public hearing, deliberates, and approves the amendments to CMC Chapter 18.23 Planned Residential Development.

Further that upon approval, that Council directs the City Attorney to prepare an ordinance for adoption.

ATTACHED:

- Applicant's Narrative
- Email from Randy Printz to Sarah Fox regarding staff proposed amendments (1/15/2015)



LANDERHOLM

Legal advisors. Trusted advocates.

Randall B. Printz
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Suite 1000
PO Box 1086
Vancouver, WA 98666

T: (360) 816-2524
T: (503) 283-3393
F: (360) 816-2529
E: randy.printz@landerholm.com

September 17, 2014

Robert Maul
Planning Manager
City of Camas
616 NE 4th Avenue
Camas, WA 98607

Re: Green Mountain Mixed Use Development-File PA 14-07

Dear Robert:

On behalf of the Applicant, Green Mountain Land, LLC, we are formally requesting approval of a text amendment to the City's Planned Residential Development ordinance. The Applicant is requesting that the City amend CMC 18.23.030A, to add the following language:

"Commercially zoned property may be allowed within a PRD when it is part of an overall master plan that includes an Urban Village and which is subject to a Development Agreement. Where commercially zoned property becomes part of a PRD as provided for in this section, residential uses and commercial uses may be arranged in a manner that causes commercial uses to occur on residentially zoned land and residential uses to occur on commercially zoned land. Nothing in this section shall allow the number of residential units to exceed the number of residential units that could otherwise occur in the residentially zoned portion of the PRD."

As you know, the Applicant and the City have been working together to achieve a master plan design of the Green Mountain mixed use development that we all can be proud of and that will further the City's goals for parks, trails and open space, density, view preservation, capital facilities, economic development, compatibility and aesthetically pleasing design. Part of this joint effort includes the adoption of a development agreement. In furtherance of these and other goals identified in the City's Comprehensive Plan, the Applicant's development agreement and master plan are designed to preserve a large majority of the heavily wooded upper portions of Green Mountain and to create large areas of open space and trails. To accomplish this, the master plan relocates the lots that could have been constructed in these sensitive areas to areas further down the hill that have far less view impacts or impacts to trees and steep slopes.

The property has multiple zoning designations including Multi Family, Single Family and Commercial. One of the foundational elements of the master plan is an urban village. The urban village is located at the bottom of the hill along Goodwin and Ingle Road. The goal of the urban village is to create an environment that is pedestrian friendly, accessible to future mass transit, provides a mix of uses that are compatible, easily accessible and functionally integrated in a manner that creates a vibrant place to live work, shop or play.

Re: Green Mountain Mixed Use Development
September 17, 2014
Page 2

While one of the purposes of the City's PRD code is to allow the blending of zoning designations in conjunction with the integration of open space, the code as currently written does not allow for commercially zoned land to be included in a PRD. When the City brought this property into its Urban Growth Boundary and annexed it, it is clear by the variety of zoning designations that were applied to this property that the City intended for this property to develop with a mix of uses and a mix of densities and home types.

If the property were to be developed under the current PRD ordinance, the commercial uses would be functionally separated from the remainder of the project. The commercial area would also likely develop as a standard "blank wall" commercial center that is auto oriented with large amounts of surface parking. By allowing the commercially zoned land to be included in the PRD, substantial opportunities are presented to create specialty retail and other commercial space that may have residential on the second floor. It would also allow some of the commercial uses to be located in the interior of the urban village to further enhance the pedestrian opportunities to access goods and services. Opportunities are also created to architecturally blend the commercial uses with the residential uses.

The proposed ordinance amendment has been drafted in a manner that requires close scrutiny by the City before these provisions can be applied to any PRD application. The proposed ordinance requires a concurrent development agreement approved by the City Council, and a master plan with an urban village area. The proposed ordinance creates design and functional integration opportunities that simply do not exist within the existing PRD code provisions. Because of the ordinance's requirements for a City Council approved master plan and development agreement, the City can assure that there are no unintended consequences caused by the proposed amendment.

The Applicant encourages the City to strongly consider adopting the proposed amendment or an amendment that would achieve the same result. We look forward to working with the City on this, the development agreement and the upcoming PRD process.

Sincerely,

LANDERHOLM, P.S.



RANDALL B. PRINTZ

RBP/ss

Enclosure

CC: Phil Bourquin

GREM15-000001 - Document in ProLaw

From: Randall B. Printz <randy.printz@landerholm.com>
Sent: Friday, January 16, 2015 5:39 PM
To: Sarah Fox
Cc: Phil Bourquin
Subject: Fwd: Attached Draft Language for PRD code
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Flagged

Here are the cements I sent to Phil on the text amendment. Let me know if you have any questions.

Sent from my iPhone

Begin forwarded message:

From: "Randall B. Printz" <randy.printz@landerholm.com>
Date: January 15, 2015 at 4:30:31 PM PST
To: Phil Bourquin <PBourquin@cityofcamas.us>
Subject: RE: Attached Draft Language for PRD code

Phil, sorry to not get back to you sooner, been in meetings all day. I am fine with the language that you are proposing. One question or clarification, the PRD code as currently written doesn't expressly provide for a use in one zone within the PRD to be placed on another portion of the PRD that may have different zoning. For example, in a normal PRD situation, where you had MF and single family zoning, or even different single family zones within the PRD, we move those collectively permitted uses all over the PRD regardless of the underlying zoning. That is one of primary mechanisms to achieve the desired design result. There is nothing in the current code that expressly allows that, but that certainly is the intent of the PRD code and certainly the practice in Camas and other jurisdictions. I don't know if we want/need to add anything to the proposed amendments that expressly provides for that, but I would not want to have the issue come up with respect to any of our zones during the PRD hearing. In any event, just food for thought.

One other small point, fire, police and library have at one time or another indicated a desire to at least explore the possibility of locating a public facility on the GM property. I know those uses are typically considered commercial uses, but it might be a good idea in section 020 to add the term public facilities to the list of secondary uses.

Thanks.

From: Phil Bourquin [mailto:PBourquin@cityofcamas.us]
Sent: Thursday, January 15, 2015 10:12 AM
To: Randall B. Printz
Subject: Attached Draft Language for PRD code

Randy – See attached. I will try to call to discuss shortly.

Phil Bourquin
Community Development Director
Ph. 360.817.1562 ext. 4254
Email: pbourquin@cityofcamas.us



STAFF REPORT
AMENDMENTS TO CMC CHAPTER 18.23
PLANNED RESIDENTIAL DEVELOPMENT (PRD)
File #ZC14-01
January 15, 2015

To: Bryan Beel, Chair
Planning Commission
Public Hearing: January 21, 2015

Applicant: Randy Printz, Landerholm
Owner: Green Mountain, LLC

Staff: Phil Bourquin, Community Development Director
Robert Maul, Planning Manager
Sarah Fox, Senior Planner

Agency Compliance: Notice of the public hearing was published in the Camas Post Record on January 13, 2015 (publication no. 526907).

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SUMMARY

The applicant proposes to amend CMC§18.23.030 Scope, which currently reads, ***“A PRD may be allowed in all R and MF zoning districts.”*** The applicant proposes the following text be added:

“Commercially zoned property may be allowed within a PRD when it is part of an overall master plan that includes an Urban Village and which is subject to a Development Agreement. Where commercially zoned property becomes part of a PRD as provided for in this section, residential uses and commercial uses may be arranged in a manner that causes commercial uses to occur on residentially zoned land and residential units uses to occur on commercially zoned land. Nothing in this section shall allow the number of residential units to exceed the number of residential units that could otherwise occur in the residentially zoned portion of the PRD.”

This staff report supports the concept of incorporating limited commercial uses within a PRD project. First, the report discusses specific concerns with the proposed modification as written, and then provides alternatives for Planning Commission consideration.

DISCUSSION

The proposed code amendment is namely to remedy a perceived barrier within the Planned Residential Development (PRD) code, which only allows for residential development, and restricts PRDs to residentially zoned lands. The applicant represents the owner, Green Mountain, LLC, of 283 acres of property at the northern end of the city. The 253 acre property as consolidated contains single-family, multi-family, and commercial zoning designations. Although the applicant represents a specific group of properties, and has developed a master plan for the area, the proposed code change would apply universally to all properties over ten acres in the city.

From this inclusive perspective, staff identified the following concerns with the amendment as proposed, given that the code change would apply to any future development proposals.

1. The term “urban village” is not defined in the CMC.
2. There is no control for the location of commercial uses, or the type of commercial uses.
3. Requiring a development agreement.
4. The calculation of land uses at CMC§18.23.030, subsections E, F, and H, for single family, multi-family and open space, could limit commercial land uses, regardless of density provisions.

(1) Urban village. The application does not define “urban village”. The PRD chapter contains a section for definitions that are applicable only to the PRD chapter and perhaps a definition for the term “urban village” should be added there, or the term should be replaced within the proposed amendment with another term that is defined throughout CMC, which would include other standards associated with that known term. For example, the term and zone of “mixed use” is subject to the use tables of CMC§18.07.030; density and development dimension standards of CMC§18.09.030; parking standards of CMC Chapter 18.11; landscaping standards of CMC Chapter 18.13; design review requirements for gateway areas of CMC Chapter 18.19; and where zoning is designated, Chapter 18.23 Mixed Use.

(2) Type of commercial uses. The commercially zoned land within the 283 acres property is located at the intersection of NE Goodwin Rd/NE 28th Street and NE Ingle Road. It is zoned Community Commercial (CC), and is subject to the use limitations within that zone. If approved as a PRD, then permitted uses per CMC§18.23.060, states, *“Permitted or conditional uses currently listed in the applicable zoning classification shall be considered permitted within a PRD. All proposed uses shall be reviewed in conjunction with the preliminary master plan review.”* If the amendment is approved, and the subject property contains commercially zoned land, then the code would allow any permitted and conditional use of that commercial zone outright. Given that commercial development often changes use over time, this provision restricts uses to those reviewed with the preliminary application. The code is silent as to a process for changing uses after a PRD has been approved.

Location of commercial uses. Regarding location, the proposed amendment reads, *“...residential uses and commercial uses may be arranged in a manner that causes commercial uses to occur on residentially zoned land...”* A plain reading would permit commercial uses to occur anywhere on the property (or nowhere), albeit the actual plans as presented in a development agreement to Council are more specific. However, a change to the code would apply to any PRD development. The city must ensure there is adequate land for economic development, and the proposed text should be more precise.

(3) Requiring a development agreement. A PRD must include a preliminary master plan per CMC§18.23.070 Preliminary master plan-requirements, which is subject to a public hearing before Planning Commission and final decision of council. Following that permit, the PRD must return to council with a Final Master Plan for approval (no hearing). Staff is concerned that adding a requirement for approval of a development agreement, would be duplicative, and overly burdensome to an applicant unless there is a qualifier included in this requirement, beyond what is already required within the existing code.

For example, should the development agreement include a list of allowed commercial uses, associated parking standards, and landscaping/buffer design?

(4) Land use allocation formula in a PRD. CMC§18.23.030, subsections E, F, and H, regulates the mix of uses in a PRD. Subsection “E” requires fifty percent to a “maximum” of seventy percent of the overall permitted density be single family homes. Subsection “F” requires multi-family development, which would not be between thirty and fifty percent of the density provisions. In general, the code is silent at “H” regarding the minimum amount of open space, other than it must include trails and passive open space areas. If commercial uses are allowed within a PRD, should the code provide a similar performance measure, such as specifying a minimum percentage of the total property, or provide a number of potential jobs within the project? If the code is silent regarding a minimum measure of commercial development, then how would the city ensure that there is no impact to the city’s employment forecast?

ALTERNATIVE

The PRD code is intentionally discretionary and flexible, in order to “*facilitate the innovative development of land*” CMC§18.23.010-Purpose. The applicant’s proposal to amend the PRD code to include limited commercial uses is consistent with the purpose statement. The alternative amendments are intended to address the concerns raised in the discussion section of this report, and maintain the flexibility of the PRD code as intended.

Proposed alternative

18.23.020 Definitions

"Planned residential development" (hereinafter referred to as a PRD) means a development constructed on land of at least ten acres in size, designed and consistent with an approved master plan. A PRD is comprised of two primary components: single-family and multifamily units. The single-family component shall contain only single-family detached residences on lots equal to or greater than four thousand square feet. The multifamily component may contain either attached or detached single-family residences on lots smaller than four thousand square feet, or it may contain, but may not be limited to, duplexes, rowhouses, apartments, and designated manufactured homes, all developed in accordance with [Section 18.23.030\(A\)](#) of this chapter. [Secondary components include parks and recreational amenities, accessory uses, and limited commercial uses as provided in this Chapter.](#)

18.23.030 - Scope.

Planned residential developments (PRDs) are optional. If proposed, it shall be established under the following criteria:

- A. A PRD may be allowed in all R and MF zoning districts. [Where a PRD is contiguous to lands planned and zoned for commercial uses, the City, may subject to a Development Agreement, provide for the inclusion of the commercial area into the PRD master plan for the purposes of establishing continuity community design, pedestrian and commercial circulation, streetscape standards and design, and effective transitions between commercial and residential uses.](#)
- B. The minimum land area necessary to apply for a PRD shall be ten acres of contiguous land.
- C. All land in which a PRD is to be developed shall be held and maintained in a single ownership, including but not limited to an individual, partnership, corporation, or homeowner's association. Evidence of such ownership shall be provided to the planning commission and city council before PRD approval.
- D. Permissible uses within a PRD include any use listed as a permitted use or conditional use in the applicable zones, as per CMC [Section Chapter 18.07.040 Table 2](#), when approved as part of a master plan. Notwithstanding an approved master plan, incidental accessory buildings, incidental accessory structures, and home occupations may be authorized on a case by case basis.

- E. A minimum of fifty percent to a maximum of seventy percent of the overall permitted [residential](#) density of the PRD must be single-family homes.
- F. The multifamily component (two or more attached dwelling units) of a PRD shall ideally be developed toward the interior of the tract, rather than the periphery, to ensure compatibility with existing single-family residences that border the surrounding properties. Deviation from this requirement shall be requested during the preliminary master plan review, and specifically approved by the planning commission and city council.
- G. Density standards and bonuses for [the residential portion of](#) a PRD shall be in accordance with CMC Sections [18.23.040](#) and [18.23.050](#)
- H. An equivalent amount of up to twenty percent of the developable area shall be set aside and developed as recreational open space in a PRD, and shall include the following:
 - 1. Passive or active recreation concentrated in large usable areas;
 - 2. Provide trails and open space for connection and extension with the city's open space and trail plan, if feasible; and
 - 3. Be held under one ownership, and maintained by the ownership; or be held in common ownership by means of homeowners' association, and maintained by the homeowners' association. The open space and recreation areas shall be dedicated for public use and be maintained by the ownership or homeowners' association.

FINDINGS

The following findings address the concerns raised in this report, and support the approval of the alternative amendments as proposed by staff.

(1) As discussed, the term “urban village” is not defined in the CMC.

Findings: The definition of PRD could be amended to include secondary uses, rather than introduce new terminology. See alternative CMC§18.32.020 above.

(2) As discussed, staff is concerned regarding the location of commercial uses being uncertain, and whether decision makers are comfortable with CMC§18.23.060 as adopted.

Findings: The proposed alternative text at 18.23.030(A) provides direction as to the manner for including commercial uses by requiring, “(E)ffective transitions between commercial and residential uses.” The current code at CMC§18.23.060 limits uses to those allowed by the underlying zone, and no amendments to this section are proposed by staff, if a development agreement is required.

(3) As discussed, requiring a development agreement may be duplicative if it does not include standards beyond what is required in the PRD Chapter.

Findings: The alternative text provides a purpose statement at CMC§18.23.030(A), which only applies to projects that include commercial land.

(4) As discussed, the calculation of land uses at CMC§18.23.030, subsections E, F, and H, for single family, multi-family and open space, could limit commercial land uses.

Findings: The alternative text inserted the term “residential portion” at subsections E and G to address those concerns.

RECOMMENDATION

That Planning Commission reviews the proposed amendments, conducts a public hearing, deliberates, refines amendment as necessary, and forwards a recommendation to City Council to approve the alternative amendments to CMC Chapter 18.23 Planned Residential Development.



STAFF REPORT
LIMITED AMENDMENT TO THE CAMAS SHORELINE MASTER PROGRAM
WETLAND REGULATIONS

File #MC 15-02
February 11, 2015

To: Mayor Higgins
City Council

From: Sarah Fox, Senior Planner, on behalf of the Planning Commission

Compliance with state agencies: Notice of the public hearing before Planning Commission was published in the Camas Post Record on January 13, 2015 (publication no. 526907). Notice will be published for the public hearing before City Council once it is scheduled.

SUMMARY

The proposed limited amendments to the Camas Shoreline Master Program (SMP), specifically Appendix C, Chapter 16.53 Wetlands, are intended to comply with new mandates from the Department of Ecology (Ecology), which went into effect on January 1, 2015. The memorandum that is attached to this report from the Department of Ecology entitled, 2014 Updates to the Washington State Wetland Rating Systems (Attachment B), provides a summary of the changes to the law and the purpose. Although the Camas Municipal Code wetland provisions were adopted on January 5, 2015, by Ordinance 15-001, those updates are not adopted by reference in the SMP.

Planning Commission held a public hearing on January 21, 2015, and forwarded a recommendation of approval as presented. No changes to the document were requested.

ANALYSIS

The proposed amendments to the SMP, Appendix C, Chapter 16.53 Wetlands, are intended to comply with state mandates. Ecology updated their wetland guidance manuals and method of scoring to be consistent with revised federal standards. The wetland scoring system is the most evident change to the regulations.

Staff also received guidance from Ecology (Attachment C), which was specific to the city's municipal code update. The critical area regulations within the city's municipal code are substantially similar (not identical) to the provisions within the SMP, which is why Attachment C is included with this report. The amendments that were adopted with Ordinance 15-001, are similar to the amendments that are proposed for the limited SMP amendment, however the process of amending the SMP differs from amending the municipal code. Ecology must ultimately approve the amendments to the SMP; after the city's final decision is rendered per RCW90.58.090 of the Shoreline Management Act (SMA). Washington Administrative Codes (WAC) Section 173.26.100, describes the process, and subsection 201, requires that the city provide evidence that the amendments will result in no net loss of ecological functions. The state code is in italics below.

WAC§173.26.201(c) *"Limited master program amendments may be approved by the department provided the department concludes:*

(i) The amendment is necessary to:

(A) Comply with state and federal laws and implementing rules applicable to shorelines of the state within the local government jurisdiction;

- (B) Include a newly annexed shoreline of the state within the local government jurisdiction;*
- (C) Address the results of the periodic master program review required by RCW 90.58.080(4), following a comprehensive master program update;*
- (D) Improve consistency with the act's goals and policies and its implementing rules; or*
- (E) Correct errors or omissions.*

Findings: The limited amendments to the SMP, Appendix C, Chapter 16.53 Wetlands are intended to comply with state and federal laws, per "A", and will be consistent with the SMA's goals and policies per "D". The city has not annexed new shoreline areas per "B". The amendments are limited to the wetland regulations, and is not a periodic updates of the SMP, per "C"

- (ii) The local government is not currently conducting a comprehensive shoreline master program update designed to meet the requirements of RCW 90.58.080, unless the limited amendment is vital to the public interest;*

Findings: True. The city is not conducting a comprehensive shoreline master program update.

- (iii) The proposed amendment will not foster uncoordinated and piecemeal development of the state's shorelines;*

Findings: True. The limited amendments to the SMP, Appendix C, Chapter 16.53 Wetlands will avoid inconsistencies with development standards.

- (iv) The amendment is consistent with all applicable policies and standards of the act;*

Findings: The limited amendments to the SMP will be consistent with the policies and standards of state and federal regulations.

- (v) All procedural rule requirements for public notice and consultation have been satisfied; and*

Findings: A public notice was published and distributed on January 13, 2015, prior to the public hearing that will be held on January 21, 2015. The city will send notices to the Department of Commerce and Ecology as required 60-days prior to the anticipated final decision of Council. The city will also issue a SEPA determination and distribute it to the applicable agencies.

- (vi) Master program guidelines analytical requirements and substantive standards have been satisfied, where they reasonably apply to the limited amendment. All master program amendments must demonstrate that the amendment will not result in a net loss of shoreline ecological functions."*

Findings: The limited amendment will be consistent with changes required by state mandate, and no local ecological analysis has been conducted.

RECOMMENDATION

That City Council reviews the proposed amendments, conducts a public hearing, deliberates, and approves the limited amendments to the Camas Shoreline Master Program.

Further, that upon approval, Council directs the City Attorney to prepare an ordinance for adoption.

ATTACHED:

- A. Proposed limited amendments to the Camas Shoreline Master Program
- B. Ecology 2014 Update Memo
- C. Email correspondences between the Department of Ecology and Sarah Fox

Camas Shoreline Master Program
Appendix C
Chapter 16.53 - WETLANDS

16.53.020 - Rating system

A. Designating Wetlands. Wetlands are those areas, designated in accordance with the approved federal wetland delineation manual and applicable regional supplements, that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. All areas within the City of Camas meeting the wetland designation criteria in the approved federal wetland delineation manual and applicable regional supplements, regardless of any formal identification, are hereby designated critical areas and are subject to the provisions of this title.

B. Wetland Rating System. Wetlands shall be rated according to the Washington State Department of Ecology (Ecology) wetland rating system found in Washington State Wetlands Rating System for Western Washington-2014 Update, (Revised, Ecology publication No. 14-06-029, October 2014) or most current edition. The rating system document contains the definitions and methods for determining if the criteria below are met:

1. Wetland Rating Categories.

a. Category I. Category I wetlands are those that meet one or more of the following criteria:

- i. Wetlands that are identified by scientists of the Washington Natural Heritage Program, Department of Natural Resources (DNR) as wetlands with high conservation value;
- ii. Bogs;
- iii. Mature and old growth forested wetlands larger than one acre;
- iv. Wetlands that perform many functions well, as indicated by scoring twenty-three points or more in the rating system.

Category I wetlands represent a unique or rare wetland type, are more sensitive to disturbance than most wetlands, are relatively undisturbed and contain some ecological attributes that are impossible to replace within a human lifetime, or provide a very high level of functions.

b. Category II. Category II wetlands are those with a moderately high level of functions, as indicated by scoring twenty and twenty-two points in the Ecology rating system.

Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but they still need a relatively high level of protection.

c. Category III. Category III wetlands are those with a moderate level of functions, as indicated by scoring between sixteen and nineteen points in the Ecology rating system. Generally, wetlands in this category have been disturbed in some way and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

d. Category IV. Category IV wetlands have the lowest levels of functions and are often heavily disturbed. They are characterized by a score of fewer than

sixteen points in the rating system. These are wetlands that should be replaceable, and in some cases may be improved. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

2. Date of Wetland Rating. Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system by the local government, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modifications.

16.53.030 - Critical area report—Additional requirements for wetlands

A. Prepared by a Qualified Professional. A critical areas report for wetlands shall be prepared by a qualified professional who is a wetland biologist with experience preparing wetland reports.

B. Area Addressed in Critical Area Report. In addition to the requirements of Appendix C - Chapter 16.51, the following areas shall be addressed in a critical area report for wetlands:

1. Within a subject parcel or parcels, the project area of the proposed activity;
2. All wetlands and recommended buffer zones within three hundred feet of the project area within the subject parcel or parcels;
3. All shoreline areas, water features, floodplains, and other critical areas, and related buffers within three hundred feet of the project area within the subject parcel or parcels;
4. The project design and the applicability of the buffers based on the proposed layout and the level of land use intensity; and
5. Written documentation from the qualified professional demonstrating compliance with the requirements of this chapter.

C. Wetland Determination. In conjunction with the submittal of a development permit application, the responsible official shall determine the probable existence of a wetland on the subject parcel. If wetland or wetland buffers are found to be likely to exist on the parcel, wetland delineation is required.

D. Wetland Delineation

1. Methodology. Wetland Delineation shall be determined in accordance with the approved federal wetland delineation manual and applicable regional supplements.
2. Information Requirements. Wetland boundaries shall be staked and flagged in the field and a delineation report shall be submitted to the department. The report shall include the following information:
 - a. USGS quadrangle map with site clearly defined;
 - b. Topographic map of area;
 - c. National wetland inventory map showing site;
 - d. Soil conservation service soils map showing site;
 - e. Site map, at a scale no smaller than one inch equals one hundred feet (a scaling ratio of one is to one thousand two hundred), if practical, showing the following information:
 - i. Wetland boundaries,
 - ii. Sample sites and sample transects,
 - iii. Boundaries of forested areas,

- iv. Boundaries of wetland classes if multiple classes exist;
- f. Discussion of methods and results with special emphasis on technique used from the approved federal wetlands delineation manual and applicable regional supplements;
- g. Acreage of each wetland on the site based on the survey if the acreage will impact the buffer size determination or the project design;
- h. All completed field data sheets per the approved federal wetlands delineation manual and applicable regional supplements, numbered to correspond to each sample site.

E. Wetland Analysis. In addition to the minimum required contents of subsection D of this section, and in addition to Section 16.51.140, a critical area report for wetlands shall contain an analysis of the wetlands including the following site- and proposal-related information at a minimum:

1. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing wetlands and restore any wetlands that were degraded prior to the current proposed land use activity.
2. Proposed mitigation, if needed, including a written assessment and accompanying maps of the mitigation area, including the following information at a minimum:
 - a. Existing and proposed wetland acreage;
 - b. Vegetative, faunal, and hydrologic conditions;
 - c. Relationship within watershed, and to existing water bodies;
 - d. Soil and substrate conditions, topographic elevations;
 - e. Existing and proposed adjacent site conditions;
 - f. Required wetland buffers; and
 - g. Property ownership.
3. A discussion of ongoing management practices that will protect wetlands after the project site has been developed; including proposed monitoring and maintenance programs.

When deemed appropriate, the director may also require the critical area report to include an evaluation by the Department of Ecology or an independent qualified expert regarding the applicant's analysis, and the effectiveness of any proposed mitigating measures or programs, and to include any recommendations as appropriate.

16.53.040 - Standards

A. Activities and uses shall be prohibited from wetlands and wetland buffers, except as provided for in this chapter.

B. Wetland Buffers. Wetland buffer widths shall be determined by the responsible official in accordance with the standards below:

1. All buffers shall be measured horizontally outward from the delineated wetland boundary or, in the case of a stream with no adjacent wetlands, the ordinary high water mark as determined in consultation with Ecology.
2. Buffer widths are established by comparing the wetland rating category and the intensity of land uses proposed on development sites per Tables 16.53.040-1, 16.53.040-2, 16.53.040-3 and 16.53.040-4. For Category IV wetlands, the required water quality buffers, per Table 16.53.040-1, are adequate to protect habitat functions.

Table 16.53.040-1**Buffers Required to Protect Water Quality Functions**

Wetland Rating	Low Intensity Use	Moderate Intensity Use	High Intensity Use
Category I	50 ft.	75 ft.	100 ft.
Category II	50 ft.	75 ft.	100 ft.
Category III	40 ft.	60 ft.	80 ft.
Category IV	25 ft.	40 ft.	50 ft.

Table 16.53.040-2 Buffers**Required to Protect Habitat Functions in Category I and II Wetlands**

Habitat Score in the Rating Form	Low Intensity Use	Moderate Intensity Use	High Intensity Use
4 points or less	See Table 16.53.040-1	See Table 16.53.040-1	See Table 16.53.040-1
5	70	105	140
6	90	135	180
7	110	165	220
8	130	195	260
9 points or greater	150	225	300

Table 16.53.040-3 Buffers Required to Protect Habitat Functions in Category III Wetlands

Habitat Score in the Rating Form	Low Intensity Use	Moderate Intensity Use	High Intensity Use
4 points or less	See Table 16.53.040-1	See Table 16.53.040-1	See Table 16.53.040-1
5	60	90	120
6	65	100	135
26	70	105	140
7	75	110	150
8	130	195	260
9	150	225	300

Table 16.53.040-4 Land Use Intensity Matrix¹

	Parks and Recreation	Streets and Roads	Stormwater Facilities	Utilities	Commercial/Industrial	Residential ²
Low	Natural fields and grass areas, viewing areas, split rail fencing	NA	Outfalls, spreaders, constructed wetlands, bioswales, vegetated detention basins, overflows	Underground and overhead utility lines, manholes, power poles (without footings)	NA	Density at or lower than 1 unit per 5 acres
Moderate	Impervious trails, engineered fields, fairways	Residential driveways and access roads	Wet ponds	Maintenance access roads	NA	Density between 1 unit per acre and higher than 1 unit per 5 acres
High	Greens, tees, structures, parking, lighting, concrete or gravel pads, security fencing	Public and private streets, security fencing, retaining walls	Maintenance access roads, retaining walls, vaults, infiltration basins, sedimentation fore bays and structures, security fencing	Paved or concrete surfaces, structures, facilities, pump stations, towers, vaults, security fencing, etc.	All site development	Density higher than 1 unit per acre

1. The responsible official shall determine the intensity categories applicable to proposals should characteristics not be specifically listed in Table 16.53.060-4.

2. Measured as density averaged over a site, not individual lot sizes.

3. Where a residential plats and subdivisions is proposed within shoreline jurisdiction, wetlands and wetland buffers shall be placed within a non-buildable tract unless creation of a tract would result in violation of minimum lot depth standards.

4. Adjusted Buffer Width in shoreline jurisdiction.

a. Adjustments Authorized by Wetland Permits. Adjustments to the required buffer width are authorized by Section 16.53.050(D) of this section upon issuance of a wetland permit.

b. Functionally Isolated Buffer Areas. Areas which are functionally separated from a wetland and do not protect the wetland from adverse impacts shall be treated as follows:

i. Preexisting roads, structures, or vertical separation shall be excluded from buffers otherwise required by this chapter;

ii. Distinct portions of wetlands with reduced habitat functions that are components of wetlands with an overall habitat rating score greater than

five points shall not be subject to the habitat function buffers designated in Tables 16.53.040-2 and 16.53.040-3 if all of the following criteria are met:

(A) The area of reduced habitat function is at least one acre in size,

(C) The area does not meet any WDFW priority habitat or species criteria, and

(D) The required habitat function buffer is provided for all portions of the wetland that do not have reduced habitat function.

(E) The buffer reduction afforded by this subsection shall not exceed 75% of the required buffer width of Category I and II wetlands.

C. Standard Requirements. Any action granting or approving a development permit application shall be conditioned on all the following:

1. Marking Buffer During Construction. The location of the outer extent of the wetland buffer shall be marked in the field and such markings shall be maintained throughout the duration of the permit.

2. Permanent Marking of Buffer Area. A permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official. In addition, small signs shall be posted at an interval of one per lot or every one hundred feet, whichever is less, and perpetually maintained at locations along the outer perimeter of the wetland buffer as approved by the responsible official, and worded substantially as follows:

Wetland and Buffer—Please retain in a natural state.

3. A conservation covenant shall be recorded in a form approved by the City as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland permit prior to engaging in regulated activities within a wetland or its buffer.

4. In the case of plats, short plats, and recorded site plans, include on the face of such instrument the boundary of the wetland and its buffer, and a reference to the separately recorded conservation covenant provided for in subsection (C)(3) of this section.

D. Standard Requirements—Waivers. The responsible official shall waive the requirements of Section 16.53.030(D) and subsection B of this section in certain cases described below if the applicant designates development envelopes which are clearly outside of any wetland or buffer. The responsible official may require partial wetland delineation to the extent necessary to ensure eligibility for this waiver:

1. Residential building permits and home businesses;

2. Site plan reviews where the responsible official determines that all development is clearly separated from the wetlands and wetland buffers:

a. Development envelopes shall be required for a fully complete preliminary application,

b. Development envelopes shall be shown on the final site plan, and

c. A note referencing the development envelopes shall be placed on the final site plan.

16.53.050 - Wetland permits

A. General.

1. A wetland permit is required for any development activity that is not exempt pursuant to Section 16.53.010(C) within wetlands and wetland buffers.
2. Standards for wetland permits are provided in subsections B, C and D of this section.
3. All wetland permits require approval of a preliminary and final enhancement/mitigation plan in accordance with the provisions of subsection E of this section unless the preliminary enhancement/mitigation plan requirement is waived under the provisions of subsection (E)(2) of this section.
4. Wetland permit application, processing, preliminary approval, and final approval procedures are set out in subsections F through I of this section.
5. Provisions for programmatic permits are provided by subsection K of this section.
6. Provisions for emergency wetland permits are provided by subsection L of this section.

B. Standards—General. Wetland permit applications shall be based upon a mitigation plan and shall satisfy the following general requirements:

1. The proposed activity shall not cause significant degradation of wetland functions;
2. The proposed activity shall comply with all state, local, and federal laws, including those related to sediment control, pollution control, floodplain restrictions, stormwater management, and on-site wastewater disposal.

C. Buffer Standards and Authorized Activities. The following additional standards apply for regulated activities in a wetland buffer to ensure no net loss of ecological functions and values:

1. Buffer Reduction Incentives. Standard buffer widths may be reduced under the following conditions, provided that functions of the post-project wetland are equal to or greater after use of these incentives.
 - a. Lower Impact Land Uses. The buffer widths recommended for proposed land uses with high-intensity impacts to wetlands can be reduced to those recommended for moderate-intensity impacts if both of the following criteria are met:
 - i. A relatively undisturbed, vegetated corridor at least one hundred feet wide is protected between the wetland and any other priority habitats that are present as defined by the Washington State Department of Fish and Wildlife*; and
 - ii. Measures to minimize the impacts of the land use adjacent to the wetlands are applied, such as infiltration of stormwater, retention of as much native vegetation and soils as possible, direction of noise and light away from the wetland, and other measures that may be suggested by a qualified wetlands professional.
 - b. Restoration. Buffer widths may be reduced up to twenty-five percent if the buffer is restored or enhanced from a pre-project condition that is disturbed (e.g., dominated by invasive species), so that functions of the post-project wetland and buffer are equal or greater. To the extent possible, restoration should provide a vegetated corridor of a minimum one hundred feet wide between the wetland and any other priority habitat areas as defined by the Washington State Department of

Fish and Wildlife. The habitat corridor must be protected for the entire distance between the wetland and the priority habitat area by some type of permanent legal protection such as a covenant or easement. The restoration plan must meet requirements in subsection D of this section for a mitigation plan, and this section for a critical area report.

c. Combined Reductions. Buffer width reductions allowed under subsections (C)(1)(a) and (C)(1)(b) of this section may be added provided that minimum buffer widths shall never be less than seventy-five percent of required buffer width for all Categories I and II, or less than fifty feet for Category III wetlands, and twenty-five feet for all Category IV wetlands.

2. Buffer Averaging. Averaging buffers is allowed in conjunction with any of the other provisions for reductions in buffer width (listed in subsection (C)(1) of this section) provided that minimum buffer widths listed in subsection (C)(1)(c) of this section are adhered to. The community development department shall have the authority to average buffer widths on a case-by-case basis, where a qualified wetlands professional demonstrates, as part of a critical area report, that all of the following criteria are met:

a. The total area contained in the buffer after averaging is no less than that contained within the buffer prior to averaging;

b. Decreases in width are generally located where wetland functions may be less sensitive to adjacent land uses, and increases are generally located where wetland functions may be more sensitive to adjacent land uses, to achieve no net loss or a net gain in functions;

c. The averaged buffer, at its narrowest point, shall not result in a width less than seventy-five percent of the required width, provided that minimum buffer widths shall never be less than fifty feet for all Category I, Category II, and Category III wetlands, and twenty-five feet for all Category IV wetlands; and

d. Effect of Mitigation. If wetland mitigation occurs such that the rating of the wetland changes, the requirements for the category of the wetland after mitigation shall apply.

3. Stormwater Facilities. Stormwater facilities are only allowed in buffers of wetlands with low habitat function (less than four points on the habitat section of the rating system form); provided, the facilities shall be built on the outer edge of the buffer and not degrade the existing buffer function, and are designed to blend with the natural landscape. Unless determined otherwise by the responsible official, the following activities shall be considered to degrade a wetland buffer when they are associated with the construction of a stormwater facility:

a. Removal of trees greater than four inches diameter at four and one-half feet above the ground or greater than twenty feet in height;

b. Disturbance of plant species that are listed as rare, threatened, or endangered by the City, county, or any state or federal management agency;

c. The construction of concrete structures, other than manholes, inlets, and outlets that are exposed above the normal water surface elevation of the facility;

d. The construction of maintenance and access roads;

e. Slope grading steeper than four to one horizontal to vertical above the normal water surface elevation of the stormwater facility;

- f. The construction of pre-treatment facilities such as fore bays, sediment traps, and pollution control manholes;
 - g. The construction of trench drain collection and conveyance facilities;
 - h. The placement of fencing; and
 - i. The placement of rock and/or riprap, except for the construction of flow spreaders, or the protection of pipe outfalls and overflow spillways; provided, that buffer functions for areas covered in rock and/or riprap are replaced.
 - 4. Road and Utility Crossings. Crossing buffers with new roads and utilities is allowed provided all the following conditions are met:
 - a. Buffer functions, as they pertain to protection of the adjacent wetland and its functions, are replaced; and
 - b. Impacts to the buffer and wetland are minimized.
 - 5. Other Activities in a Buffer. Regulated activities not involving stormwater management, road and utility crossings, or a buffer reduction via enhancement are allowed in the buffer if all the following conditions are met:
 - a. The activity is temporary and will cease or be completed within three months of the date the activity begins;
 - b. The activity will not result in a permanent structure in or under the buffer;
 - c. The activity will not result in a reduction of buffer acreage or function;
 - d. The activity will not result in a reduction of wetland acreage or function.
- D. Standards—Wetland Activities. The following additional standards apply to the approval of all activities permitted within wetlands under this section:
 - 1. Sequencing. Applicants shall demonstrate that a range of project alternatives have been given substantive consideration with the intent to avoid and minimize impacts to wetlands. Documentation must demonstrate that the following hierarchy of avoidance and minimization has been pursued:
 - a. Avoid impacts to wetlands unless the responsible official finds that:
 - i. For Categories I and II wetlands, avoiding all impact is not in the public interest or will deny all reasonable economic use of the site;
 - ii. For Categories III and IV wetlands, avoiding all impact will result in a project that is either:
 - (A) Inconsistent with the City of Camas comprehensive plan,
 - (B) Inconsistent with critical area conservation goals, or
 - (C) Not feasible to construct.
 - b. Minimize impacts to wetlands if complete avoidance is infeasible. The responsible official must find that the applicant has limited the degree or magnitude of impact to wetlands by using appropriate technology and by taking affirmative steps to reduce impact through efforts such as:
 - i. Seeking easements or agreements with adjacent land owners or project proponents where appropriate;
 - ii. Seeking reasonable relief that may be provided through application of other City zoning and design standards;
 - iii. Site design; and
 - iv. Construction techniques and timing.
 - c. Compensate for wetland impacts that will occur, after efforts to minimize have been exhausted. The responsible official must find that:

- i. The affected wetlands are restored to the conditions existing at the time of the initiation of the project;
 - ii. Unavoidable impacts are mitigated in accordance with this subsection; and
 - iii. The required mitigation is monitored and remedial action is taken when necessary to ensure the success of mitigation activities.
2. Location of Wetland Mitigation. Wetland mitigation for unavoidable impacts shall be located using the following prioritization:
 - a. On-Site. Locate mitigation according to the following priority:
 - i. Within or adjacent to the same wetland as the impact,
 - ii. Within or adjacent to a different wetland on the same site;
 - b. Off-Site. Locate mitigation within the same watershed or use an established wetland mitigation bank; the service area determined by the mitigation bank review team and identified in the executed mitigation bank instrument;
 - c. In-Kind. Locate or create wetlands with similar landscape position and the same hydro-geomorphic (HGM) classification based on a reference to a naturally occurring wetland system; and
 - d. Out-of-Kind. Mitigate in a different landscape position and/or HGM classification based on a reference to a naturally occurring wetland system.
3. Types of Wetland Mitigation. The various types of wetland mitigation allowed are listed below in the general order of preference.
 - a. Restoration. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into:
 - i. Re-Establishment. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in a gain in wetland acres (and functions). Activities could include removing fill material, plugging ditches, or breaking drain tiles.
 - ii. Rehabilitation. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a degraded wetland. Re-establishment results in a gain in wetland function, but does not result in a gain in wetland acres. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland.
 - b. Creation (Establishment). The manipulation of the physical, chemical, or biological characteristics of a site with the goal of developing a wetland on an upland or deepwater site where a wetland did not previously exist. Establishment results in a gain in wetland acres. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species.
 - c. Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify, or improve the specific function(s), or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality

improvement, floodwater retention, or wildlife habitat. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations, or the proportion of open water to influence hydroperiods, or some combination of these activities.

d. Protection/Maintenance (Preservation). Removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation.

Preservation does not result in a gain of wetland acres, but may result in improved wetland functions.

4. Wetland Mitigation Ratios.

a. Standard Wetland Mitigation Ratios. The following mitigation ratios for each of the mitigation types described in subsections (D)(3)(a) through (D)(3)(c) of this section apply:

Table 16.53.050-1. Standard Wetland Mitigation Ratios (In Area)

Wetland to be Replaced	Reestablishment or Creation	Rehabilitation	Reestablishment or Creation and Rehabilitation	Reestablishment or Creation and Enhancement	Enhancement
Category IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1
Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II	3:1	6:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I, Forested	6:1	12:1	1:1 R/C and 10:1 RH	1:1 R/C and 20:1 E	24:1
Category I, Based on Score for Functions	4:1	8:1	1:1 R/C and 6:1 RH	1:1 R/C and 12:1 E	16:1
Category I, Natural Heritage Site	Not considered possible	6:1 Rehabilitate a natural heritage site	N/A	N/A	Case-by-case

b. Preservation. The responsible official has the authority to approve preservation of existing wetlands as wetland mitigation under the following conditions:

- i. The wetland area being preserved is a Category I or II wetland, or is within a WDFW priority habitat or species area;
- ii. The preservation area is at least one acre in size;
- iii. The preservation area is protected in perpetuity by a covenant or easement that gives the City clear regulatory and enforcement authority to

protect existing wetland and wetland buffer functions with standards that exceed the protection standards of this chapter;

iv. The preservation area is not an existing or proposed wetland mitigation site; and

v. The following preservation/mitigation ratios apply:

Table 16.53.050-2. Wetland Preservation Ratios for Categories I and II Wetlands (In Area)

Habitat Function of Wetland to be Replaced	In Addition to Standard Mitigation		As the Only Means of Mitigation	
	Full and Functioning Buffer	Reduced and/or Degraded Buffer	Full and Functioning Buffer	Reduced and/or Degraded Buffer
Low (3-4 points)	10:1	14:1	20:1	30:1
Moderate (5-7 points)	13:1	17:1	30:1	40:1
High (8-9 points)	16:1	20:1	40:1	50:1

c. The responsible official has the authority to reduce wetland mitigation ratios under any of the following circumstances:

i. Documentation by a qualified wetland specialist demonstrates that the proposed mitigation actions have a very high likelihood of success based on prior experience;

ii. Documentation by a qualified wetland specialist demonstrates that the proposed actions for compensation will provide functions and values that are significantly greater than the wetland being affected;

iii. The proposed actions for compensation are conducted in advance of the impact and are shown to be successful;

iv. In wetlands where several HGM classifications are found within one delineated wetland boundary, the areas of the wetlands within each HGM classification can be scored and rated separately and the mitigation ratios adjusted accordingly, if all the following apply:

(A) The wetland does not meet any of the criteria for wetlands with "Special Characteristics," as defined in the rating system,

(B) The rating and score for the entire wetland is provided, as well as the scores and ratings for each area with a different HGM classification,

(C) Impacts to the wetland are all within an area that has a different HGM classification from the one used to establish the initial category, and

(D) The proponents provide adequate hydrologic and geomorphic data to establish that the boundary between HGM classifications lies at least fifty feet outside of the footprint of the impacts.

5. Alternate Wetland Mitigation.

a. Wetland Mitigation Banks.

i. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:

- (A) The bank is certified under state rules;
- (B) The Administrator determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and
- (C) The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.

- ii. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument.

- iii. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

b. In-Lieu Fee. To aid in the implementation of off-site mitigation, the City may develop an in-lieu fee program. This program shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:

- i. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.

- ii. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.

- iii. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.

- iv. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale.

- v. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.

- vi. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

c. Compensatory mitigation credits may be issued for unavoidable impacts in the following cases:

- i. Residential building permits where on-site enhancement and/or preservation is not adequate to meet the requirements of subsection (D)(4) of this section;

- ii. Approved reasonable use exceptions where sufficient on-site wetland and wetland buffer mitigation is not practical;

- iii. Small impacts affecting less than 0.10 acre of wetland where on-site enhancement and/or preservation is not adequate to meet the requirements of subsection (D)(4) of this section; or

- iv. As an additional mitigation measure when all other mitigation options have been applied to the greatest extent practicable.
- 6. Stormwater Facilities in shoreline jurisdiction. Stormwater facilities shall follow the specific criteria in this Program, Chapter 6 at Section 6.3.15 Utilities Uses.
- 7. Utility Crossings. Crossing wetlands by utilities is allowed, provided the activity is not prohibited by subsection (D)(1) of this section, and provided all the following conditions are met:
 - a. The activity does not result in a decrease in wetland acreage or classification;
 - b. The activity results in no more than a short-term six month decrease in wetland functions; and
 - c. Impacts to the wetland are minimized.
- 8. Other Activities allowed in a Wetland. Activities not involving stormwater management, utility crossings, or wetland mitigation are allowed in a wetland, provided the activity is not prohibited by subsection (D)(1) of this section and if it is not subject to a shoreline permit as listed in Chapter 2 of this Program, and provided all the following conditions are met:
 - a. The activity shall not result in a reduction of wetland acreage or function; and
 - b. The activity is temporary and shall cease or be completed within three months of the date the activity begins.

E. Mitigation Plans.

1. General. Mitigation plans are required for activities in a buffer or wetland. Content requirements which are inappropriate and inapplicable to a project may be waived by the responsible official upon request of the applicant at or subsequent to the pre-application consultation provided for in subsection (F)(1) of this section.

2. Preliminary Mitigation Plan. The purpose of the preliminary plan is to determine the feasibility of the project before extensive resources are devoted to the project. The responsible official may waive the requirement for a preliminary mitigation plan when a wetland permit is not associated with a development permit application (listed in Section 16.53.010(B)). The preliminary mitigation plan consists of two parts: baseline information for the site and a conceptual plan. If off-site wetland mitigation is proposed, baseline information for both the project site and mitigation site is required.

a. Baseline information shall include:

- i. Wetland delineation report as described in Section 16.53.030(D)(2);
- ii. Copies of relevant wetland jurisdiction determination letters, if available, such as determinations of prior converted crop lands, correspondence from state and federal agencies regarding prior wetland delineations, etc.;
- iii. Description and maps of vegetative conditions at the site;
- iv. Description and maps of hydrological conditions at the site;
- v. Description of soil conditions at the site based on a preliminary on-site analysis;
- vi. A topographic map of the site; and
- vii. A functional assessment of the existing wetland and buffer.

(A) Application of the rating system in Section 16.53.020(B) will generally be considered sufficient for functional assessment,

(B) The responsible official may accept or request an alternate functional assessment methodology when the applicant's proposal requires detailed consideration of specific wetland functions,

(C) Alternate functional assessment methodologies used shall be scientifically valid and reliable.

b. The contents of the conceptual mitigation plan shall include:

i. Goals and objectives of the proposed project;

ii. A wetland buffer width reduction plan, if width reductions are proposed, that includes:

(A) The land use intensity, per Table 16.53.040-4, of the various elements of the development adjacent to the wetlands,

(B) The wetland buffer width(s) required by Tables 16.53.040-1, 16.53.040-2 and 16.53.040-3,

(C) The proposed buffer width reductions, including documentation that proposed buffer width reductions fully protect the functions of the wetland in compliance with subsection C of this section;

iii. A wetland mitigation plan that includes:

(A) A sequencing analysis for all wetland impacts,

(B) A description of all wetland impacts that require mitigation under this chapter, and

(C) Proposed mitigation measures and mitigation ratios;

iv. Map showing proposed wetland and buffer. This map should include the existing and proposed buffers and all proposed wetland impacts regulated under this chapter;

v. Site plan;

vi. Discussion and map of plant material to be planted and planting densities;

vii. Preliminary drainage plan identifying location of proposed drainage facilities including detention structures and water quality features (e.g., swales);

viii. Discussion of water sources for all wetlands on the site;

ix. Project schedule;

x. Discussion of how the completed project will be managed and monitored; and

xi. A discussion of contingency plans in case the project does not meet the goals initially set for the project.

3. Final Mitigation Plan. The contents of the final mitigation plan shall include:

a. The approved preliminary mitigation plan and all conditions imposed on that plan. If the preliminary mitigation plan requirement is waived, the final plan shall include the content normally required for the preliminary plan listed in this section.

b. Performance Standards. Specific criteria shall be provided for evaluating whether or not the goals and objectives of the mitigation project are

being met. Such criteria may include water quality standards, survival rates of planted vegetation, species abundance and diversity targets, habitat diversity indices, or other ecological, geological, or hydrological criteria.

c. Detailed Construction Plans. Written specifications for the mitigation project shall be provided. The specifications shall include: the proposed construction sequence, grading and excavation details, water and nutrient requirements for planting, specification of substrate stockpiling techniques, and planting instructions, as appropriate. These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

d. Monitoring Program. The mitigation plan shall include a description of a detailed program for monitoring the success of the mitigation project.

i. The mitigation project shall be monitored for a period necessary to establish that the mitigation is successful, but not for a period of less than five years. Creation of forested wetland mitigation projects shall be monitored for a period of at least ten years;

ii. Monitoring shall be designed to measure the performance standards outlined in the mitigation plan and may include but not be limited to:

(A) Establishing vegetation plots to track changes in plant species composition and density over time,

(B) Using photo stations to evaluate vegetation community response,

(C) Sampling surface and subsurface waters to determine pollutant loading, and changes from the natural variability of background conditions (pH, nutrients, heavy metals),

(D) Measuring base flow rates and stormwater runoff to model and evaluate water quality predictions, if appropriate,

(E) Measuring sedimentation rates, if applicable, and

(F) Sampling fish and wildlife populations to determine habitat utilization, species abundance and diversity;

iii. A monitoring protocol shall be included outlining how the monitoring data will be evaluated by agencies that are tracking the progress of the project;

iv. Monitoring reports shall be submitted annually, or on a pre-arranged alternate schedule, for the duration of monitoring period;

v. Monitoring reports shall analyze the results of monitoring, documenting milestones, successes, problems, and recommendations for corrective and/or contingency actions to ensure success of the mitigation project.

e. Associated Plans and Other Permits. To ensure consistency with the final mitigation plan, associated plans and permits shall be submitted, including, but not limited to:

- i. Engineering construction plans;
- ii. Final site plan or proposed plat;
- iii. Final landscaping plan;
- iv. Habitat permit;
- v. WDFW HPA;
- vi. USACE Section 404 permit; and
- vii. WDOE Administrative Order or Section 401 certification.

f. Evidence of Financial and Scientific Proficiency. A description of how the mitigation project will be managed during construction and the scientific capability of the designer to successfully implement the proposed project. In addition, a demonstration of the financial capability of the applicant to successfully complete the project and ensure it functions properly at the end of the specific monitoring period.

g. Contingency Plan. Identification of potential courses of action, and any corrective measures to be taken when monitoring or evaluation indicates project performance standards are not being met.

F. Wetland Permit—Application.

1. Pre-Permit Consultation. Any person intending to apply for a shoreline permit in combination with a wetland permit is encouraged, but not required, to meet with the department during the earliest possible stages of project planning in order to discuss wetland impact avoidance, minimization, compensatory mitigation, and the required contents of a mitigation plan before significant commitments have been made to a particular project design. Effort put into pre-permit consultations and planning will help applicants create projects which will be more quickly and easily processed.

2. Applications. Applications for wetland permits shall be made to the department on forms furnished by the department and in conformance with Section 16.53.030

3. Fees. At the time of application, the applicant shall pay a filing fee in accordance with the most current fee schedule adopted by the City.

G. Wetland Permit—Processing.

1. Procedures. Wetland permit applications within shoreline jurisdiction shall be processed using the application procedures in this Program, Appendix B – Administration and Enforcement, unless specifically modified herein:

a. Type I Wetland Permit. The following wetland permits shall be reviewed under the Type I review process in accordance with CMC Chapter 18.55

- i. Buffer modification only;
- ii. Wetland permits associated with single-family building permits, regardless of impact;
- iv. Re-authorization of approved wetland permits;
- iv. Programmatic wetland permits that are SEPA exempt.
- v. Programmatic wetland permits that are exempt from a shoreline substantial development permit.

2. Consolidation. The department shall, to the extent practicable and feasible, consolidate the processing of wetland permits with other City regulatory programs

which affect activities in wetlands, such as SEPA review, subdivision, grading, and site plan approval, so as to provide a timely and coordinated permit process. Where no other City permit or approval is required for the wetland activity, the wetland permit shall be processed in accordance with a Type II process under CMC Chapter 18.55 Administration.

3. Notification. In addition to notices otherwise required, notice of application shall be given to federal and state agencies that have jurisdiction over, or an interest in, the affected wetlands. This notice may be incorporated into a SEPA comment period.

H. Wetland Permit—Preliminary Approval.

1. Decision Maker. A wetland permit application which has been consolidated with another permit or approval request which requires a public hearing (e.g., preliminary plat) shall be heard and decided in accordance with the procedures applicable to such other request. Any other wetland permit application shall be acted on by the responsible official within the timeline specified in Appendix B or CMC Chapter 18.55 for the required permit type.

2. Findings. A decision preliminarily approving or denying a wetland permit shall be supported by findings of fact relating to the standards and requirements of this chapter.

3. Conditions. A decision preliminarily approving a wetland permit shall incorporate at least the following as conditions:

- a. The approved preliminary mitigation plan;
- b. Applicable conditions provided for in subsection (E)(3) of this section;
- c. Posting of a performance assurance pursuant to subsection J of this section; and
- d. Posting of a maintenance assurance pursuant to subsection J of this section.

4. Duration. Wetland permit preliminary approval shall be valid for a period of three years from the date of issuance or termination of administrative appeals or court challenges, whichever occurs later, unless:

- a. A longer period is specified in the permit; or
- b. The applicant demonstrates good cause to the responsible official's satisfaction for an extension not to exceed an additional one year.

I. Wetland Permit—Final Approval.

1. Issuance. The responsible official shall issue final approval of the wetland permit authorizing commencement of the activity permitted thereby upon:

- a. Submittal and approval of a final mitigation plan pursuant to subsection (E)(3) of this section;
- b. Installation and approval of field markings as required by Section 16.53.040(C)(2);
- c. The recording of a conservation covenant as required by Section 16.53.040(C)(3) and included on the plat, short plat, or site plan as required by Section 16.53.040(C)(4);
- d. The posting of a performance assurance as required by subsection (H)(3) of this section.

2. Duration.

a. Wetland or Wetland Buffer Impacts. Final approval shall be valid for the period specified in the final wetland permit, or the associated development approval. Extension of the permit shall only be granted in conjunction with extension of an associated permit.

b. Compensatory Mitigation. The compensatory mitigation requirements of the permit shall remain in effect for the duration of the monitoring and maintenance period specified in the approval.

J. Wetland Permit Financial Assurances.

1. Types of Financial Assurances. The responsible official shall accept the following forms of financial assurances:

a. An escrow account secured with an agreement approved by the responsible official;

b. A bond provided by a surety for estimates that exceed five thousand dollars;

c. A deposit account with a financial institution secured with an agreement approved by the responsible official;

d. A letter of commitment from a public agency; and

e. Other forms of financial assurance determined to be acceptable by the responsible official.

2. Financial Assurance Estimates. The applicant shall submit itemized cost estimates for the required financial assurances. The responsible official may adjust the estimates to ensure that adequate funds will be available to complete the specified compensatory mitigation upon forfeiture. In addition the cost estimates must include a contingency as follows:

a. Estimates for bonds shall be multiplied by one hundred fifty percent;

b. All other estimates shall be multiplied by one hundred ten percent.

3. Waiver of Financial Assurances. For Type I wetland permits, the responsible official may waive the requirement for one or both financial assurances if the applicant can demonstrate to the responsible official's satisfaction that posting the required financial assurances will constitute a significant hardship.

4. Acceptance of Work and Release of Financial Assurances.

a. Release of Performance Assurance. Upon request, the responsible official shall release the performance assurance when the following conditions are met:

i. Completion of construction and planting specified in the approved compensatory mitigation plan;

ii. Submittal of an as-built report documenting changes to the compensatory mitigation plan that occurred during construction;

iii. Field inspection of the completed site(s); and

iv. Provision of the required maintenance assurance.

b. Release of Maintenance Assurance. Upon request, the responsible official shall release the maintenance assurance when the following conditions are met:

- i. Completion of the specified monitoring and maintenance program;
- ii. Submittal of a final monitoring report demonstrating that the goals and objectives of the compensatory mitigation plan have been met as demonstrated through:

- (A) Compliance with the specific performance standards established in the wetland permit, or

- (B) Functional assessment of the mitigation site(s), and

- (C) Field inspection of the mitigation site(s).

- c. Incremental Release of Financial Assurances. The responsible official may release financial assurances incrementally only if specific milestones and associated costs are specified in the compensatory mitigation plan and the document legally establishing the financial assurance.

5. Transfer of Financial Assurances. The responsible official may release financial assurances at any time if equivalent assurances are provided by the original or a new permit holder.

6. Forfeiture. If the permit holder fails to perform or maintain compensatory mitigation in accordance with the approved wetland permit, the responsible official may declare the corresponding financial assurance forfeit pursuant to the following process:

- a. The responsible official shall, by registered mail, notify the wetland permit holder/agent that is signatory to the financial assurance, and the financial assurance holder of nonperformance with the terms of the approved wetlands permit;

- b. The written notification shall cite a reasonable time for the permit holder, or legal successor, to comply with provisions of the permit and state the City's intent to forfeit the financial assurance should the required work not be completed in a timely manner;

- c. Should the required work not be completed timely, the City shall declare the assurance forfeit;

- d. Upon forfeiture of a financial assurance, the proceeds thereof shall be utilized either to correct the deficiencies which resulted in forfeiture or, if such correction is deemed by the responsible official to be impractical or ineffective, to enhance other wetlands in the same watershed or contribute to an established cumulative effects fund for watershed scale habitat and wetland conservation.

K. Programmatic Permits for Routine Maintenance and Operations of Utilities and Public Facilities. The responsible official may issue programmatic wetland permits for routine maintenance and operations of utilities and public facilities within wetlands and wetland buffers, and for wetland enhancement programs. It is not the intent of the programmatic permit process to deny or unreasonably restrict a public agency or utility's ability to provide services to the public. Programmatic permits only authorize activities specifically identified in and limited to the permit approval and conditions.

1. Application Submittal Requirements. Unless waived by the responsible official with specific findings in the approval document in accordance with subsection (K)(2) of this section, applications for programmatic wetland permits shall include a programmatic permit plan that includes the following:

- a. A discussion of the purpose and need for the permit;
 - b. A description of the scope of activities in wetlands and wetland buffers;
 - c. Identification of the geographical area to be covered by the permit;
 - d. The range of functions and values of wetlands potentially affected by the permit;
 - e. Specific measures and performance standards to be taken to avoid, minimize, and mitigate impacts on wetland functions and values including:
 - i. Procedures for identification of wetlands and wetland buffers,
 - ii. Maintenance practices proposed to be used,
 - iii. Restoration measures,
 - iv. Mitigation measures and assurances,
 - v. Annual reporting to the responsible official that documents compliance with permit conditions and proposes any additional measures or adjustments to the approved programmatic permit plan,
 - vi. Reporting to the responsible official any specific wetland or wetland buffer degradations resulting from maintenance activities when the degradation occurs or within a timely manner,
 - vii. Responding to any department requests for information about specific work or projects,
 - viii. Procedures for reporting and/or addressing activities outside the scope of the approved permit, and
 - ix. Training all employees, contractors and individuals under the supervision of the applicant who are involved in permitted work.
2. Findings. A decision preliminarily approving or denying a programmatic wetland permit shall be supported by findings of fact relating to the standards and requirements of this chapter.
3. Approval Conditions. Approval of a programmatic wetland permit shall incorporate at least the following as conditions:
- a. The approved programmatic permit plan;
 - b. Annual reporting requirements; and
 - c. A provision stating the duration of the permit.
4. Duration and Re-authorization.
- a. The duration of a programmatic permit is for five years, unless:
 - i. An annual performance based re-authorization program is approved within the permit; or
 - ii. A shorter duration is supported by findings.
 - b. Requests for re-authorization of a programmatic permit must be received prior to the expiration of the original permit.
 - i. Re-authorization is reviewed and approved through the process described in subsection (K)(1) of this section.
 - ii. Permit conditions and performance standards may be modified through the re-authorization process.
 - iii. The responsible official may temporarily extend the original permit if the review of the re-authorization request extends beyond the expiration date.

L. Wetland Permit—Emergency.

1. Authorization. Notwithstanding the provisions of this chapter or any other laws to the contrary, the responsible official may issue prospectively or, in the case of imminent threats, retroactively a temporary emergency wetlands permit if:

a. The responsible official determines that an unacceptable threat to life or loss of property will occur if an emergency permit is not granted; and

b. The anticipated threat or loss may occur before a permit can be issued or modified under the procedures otherwise required by this act and other applicable laws.

2. Conditions. Any emergency permit granted shall incorporate, to the greatest extent practicable and feasible, but not inconsistent with the emergency situation, the standards and criteria required for nonemergency activities under this act and shall:

a. Be limited in duration to the time required to complete the authorized emergency activity, not to exceed ninety days; and

b. Require, within this ninety-day period, the restoration of any wetland altered as a result of the emergency activity, except that if more than the ninety days from the issuance of the emergency permit is required to complete restoration, the emergency permit may be extended to complete this restoration.

3. Notice. Notice of issuance of an emergency permit shall be mailed to Ecology and published in a newspaper having general circulation in the City of Camas not later than ten days after issuance of such permit.

4. Termination. The emergency permit may be terminated at any time without process upon a determination by the responsible official that the action was not or is no longer necessary to protect human health or the environment.

M. Revocation. In addition to other remedies provided for elsewhere in this chapter, the responsible official may suspend or revoke wetland permit(s) issued in accordance with this chapter and associated development permits, pursuant to the provisions of Appendix B – Administration and Enforcement, if the applicant or permittee has not complied with any or all of the conditions or limitations set forth in the permit, has exceeded the scope of work set forth in the permit, or has failed to undertake the project in the manner set forth in the permit.

N. Enforcement. At such time as a violation of this chapter has been determined, enforcement action shall be commenced in accordance with the enforcement provisions of Appendix B – Administration and Enforcement, and may also include the following:

1. Applications for City land use permits on sites that have been cited or issued an administrative notice of correction or order under Title 18, or have been otherwise documented by the City for activities in violation of this chapter, shall not be processed for a period of six years provided:

a. The City has the authority to apply the permit moratorium to the property;

b. The City records the permit moratorium; and

c. The responsible official may reduce or wave the permit moratorium duration upon approval of a wetland permit under this section.

2. Compensatory mitigation requirements under subsections C and D of this section may be increased by the responsible official as follows:

- a. All or some portion of the wetland or wetland buffer impact cannot be permitted or restored in place; and
- b. Compensatory mitigation for the impact is delayed more than one year from the time of the original citation or documentation of the violation.

ATTACHMENT B

2014 Updates to the Washington State Wetland Rating Systems

Ecology has updated the Washington State Wetland Rating Systems for eastern and western Washington that were published in 2004 and annotated in 2006. The categorization and scoring in the 2014 updates were calibrated at 211 wetland sites that we use as a reference. Both updates were reviewed by peers outside of Ecology and by the public. The 2014 publications are the third update of the rating system for eastern Washington and the fourth update for the western Washington version since they were first published in 1991.

Why did we update the rating systems?

The need to update the rating systems published a decade ago has become apparent as we continue to expand our understanding of how wetlands function and what is needed to protect them. By updating the rating systems, we hope to provide a more accurate characterization of the functions performed by individual wetlands: one that is based on the most recent science.

In these updates, we kept:

- The four categories of wetlands (Category I, II, III, IV)
- The three functions that are rated (Improving Water Quality, Hydrologic Functions, Habitat Functions)
- About two-thirds of the questions found on the field forms in the 2004 versions.

What changed?

The substantive differences between the 2004 versions and the draft updates are:

1. Changing the scale of scores from 1 – 100 to 9 -27 to better reflect the scientific accuracy of the tools (see below for [score conversion tables](#)).
2. Starting with a qualitative rating of High, Medium, or Low for different aspects of functions before assigning a score to them.
3. Keeping the questions for the Site Potential found in the 2004 versions, but replacing the Opportunity section with two new sections called Landscape Potential and Value.

The new sections on Landscape Potential and Value were developed as part of the Credit-Debit Method ([Calculating Credits and Debits for Compensatory Mitigation in Wetlands](#)) developed by Ecology in 2012. The Credit-Debit Method underwent peer and public review and was field tested for one year prior to publication in 2012.

Other changes include:

1. The addition of interdunal wetlands with very high habitat scores to the list of Category I wetlands. This is based on our field work during the last decade on barrier beaches along the coast. In the 2004 version, all interdunal wetlands were categorized only as Category II and III.
2. The addition of calcareous fens to Category I peat wetlands in eastern Washington. These peat systems are extremely rare in the state and sensitive to disturbance. As of 2014 only five calcareous fens have been found in the Okanogan region by the Natural Heritage Program at the Department of Natural Resources.
3. Incorporating the annotations that were added in 2006 directly into the text.
4. Including current definitions used by the Washington State Department of Fish and Wildlife for Priority Habitats and by the Natural Heritage Program at the Department

of Natural Resources for Natural Heritage Wetlands. These wetlands are now called Wetlands with a High Conservation Value.

When do I need to start using the 2014 updated versions?

The effective date of the 2014 rating systems is January 1, 2015.

As of July 15, 2014, we are currently addressing some typographical errors in the June 2014 version of this document. We expect to have the corrected rating systems posted by mid-September (with a new published date and publication numbers). Users will then have a chance to get familiar with the updates and to attend training. Also, local governments will have some time to determine and address how the updates may affect parts of their CAO. We will send an email to [Ecology's wetlands information email listserv](#) when the corrected versions are posted. In the meantime, please use the annotated versions of the 2004 wetland rating system, which can be found below.

The January 1, 2015, effective date means that if you rate a wetland on or after that date, you will be required to use the 2014 updates for projects needing Ecology authorization. An applicant applying for a local permit will need to consult with that specific local government if its CAO requires the use of the rating system. If a CAO contains the language "2004 rating system or as revised," it is likely that an applicant will need to use the 2014 updates, as of January 1, 2015, to address local government requirements.

- [Eastern Washington \(Publication #0406015\)](#)
- [Western Washington \(Publication #0406025\)](#)

How do the changes affect Ecology's guidance on buffers?

June 2014 Webinar on Updated Rating Systems and Wetland Buffer Guidance

On June 3, 2014, Ecology wetland staff hosted a one-hour webinar on Ecology's 2014 updates to the wetland rating systems and how they apply to Ecology's wetland buffer guidance. Additional information about integrating the rating system updates into Critical Areas Ordinance (CAO) updates was also provided.

> [View Presentation only](#) (PDF)

> [Listen to Recorded Audio version](#) (YouTube)

Ecology is not changing the recommended buffer widths found in the following documents:

- Appendices 8-C and 8-D of [Wetlands in Washington State – Volume 2: Guidance for Protecting and Managing Wetlands](#) (2005 guidance).
- [Wetlands and CAO Updates: Guidance for Small Cities](#)
- [Wetland Mitigation in Washington State, Part 1: Agency Policies and Guidance](#) (mitigation guidance)

Ecology's recommendations for buffers are based in part on the category of the wetland and the scores for functions. The update of the rating systems keeps the same four wetland categories, but the scale of scores has been adjusted. Therefore, any buffer guidance based on scores for functions needs to be adjusted to reflect the new range of scores (for example, in the 2004 version the medium score range for habitat was 20-28 and it is now 5-7). See below for score conversion tables.

Many local jurisdictions have included language on buffers in their critical areas ordinances based on Ecology's buffer guidance. For the 2015-2019 critical areas ordinance update cycle, we are not proposing any changes to the recommended buffer widths, however, any buffer strategy that uses function scores to determine buffer widths will need to be adjusted to use the new scores.

For those jurisdictions that have adopted Alternative 3 or 3A from Appendices 8-C or 8-D in the 2005 guidance, or Table XX.1 from the guidance for small cities, we will post modified appendices and Table XX.1 to incorporate the 2014 score range when we post the corrected versions of the rating systems.

You can compare the old and new score ranges in the tables below. (Note: The tables below can be used to adjust the scores in Tables 3, 4, 5a, 5b, 6a, and 6b in the mitigation guidance.)

Converting scores for categories and function scores between the 2004 and 2014 rating systems

Tables for converting category scores

2004	Western WA	2014	2004	Eastern WA	2014
≥ 70	Category I	23-27	≥ 70	Category I	22-27
51-69	Category II	20-22	51-69	Category II	19-21
30-50	Category III	16-19	30-50	Category III	16-18
<30	Category IV	9-15	<30	Category IV	9-15

Tables for converting function scores

2004	Final Habitat Score	2014	2004	Final Water Quality Score	2014
29-36	High	8-9	24-32	High	8-9
20-28	Medium	5-7			
≤ 19	Low	3-4			

More Information

For more information, contact:

- [Amy Yahnke](#), Senior Ecologist, (360) 407-6527
- The [regional wetland specialist](#) for your area.

ATTACHMENT C – Correspondence from the Department of Ecology to Staff

From: Bunten, Donna (ECY) [mailto:DBUN461@ECY.WA.GOV]

Sent: Tuesday, August 19, 2014 2:51 PM

Subject: Updating your CAO wetland buffer tables

Greetings,

You are receiving this email because:

- Your CAO adopted wetland buffer tables that use habitat scores to determine the buffer width, AND
- Your CAO adopted the 2004 rating system as revised, AND
- Your buffer tables appear to be slightly different from the recommendations in Appendix 8-C of Wetlands in Washington State, Volume 2: Managing and Protecting Wetlands (Publication # 05-06-008, April 2005).

As many of you know, Ecology is updating the Washington state wetland rating systems for eastern and western Washington. One of the changes associated with the updates are that the scale of scores changed to better reflect the scientific accuracy of the tools. As a result, the range of scores for individual functions, including habitat, have also changed. For example, the updated rating systems produce a smaller range of habitat scores: 3-9 rather than $\leq 19-36$.

Due to the implications of these changes for CAOs, we have decided to make the 2014 updates effective on January 1, 2015. Since your CAO contains the “as revised” language, you will be using the new habitat scores as of the first of the year.

Because your CAO assigns buffers based on groupings of habitat scores that differ from those in Appendix 8-C, we will need to work together to revise your buffer tables. We are working on some recommendations that I will be able to share with you individually by mid-September.

In the meantime, below are some tables that convert the 2004 category and function scores into the 2014 scores. Please call or email me if you have any questions about this email or why I am contacting you. If you are not the best contact for this information, please forward this email to your associates with a copy to me so I can update my list.

For more information on the 2014 updates to the wetland rating systems go to:

<http://www.ecy.wa.gov/programs/sea/wetlands/ratingsystems/2014updates.html>.

Tables for converting category scores

2004	Western WA	2014
≥ 70	Category I	23-27
51-69	Category II	20-22
30-50	Category III	16-19
<30	Category IV	9-15

2004	Eastern WA	2014
≥ 70	Category I	22-27
51-69	Category II	19-21
30-50	Category III	16-18
<30	Category IV	9-15

Tables for converting function scores

2004	Final Habitat Score	2014
29-36	High	8-9
20-28	Medium	5-7
≤ 19	Low	3-4

2004	Final Water Quality Score	2014
24-32	High	8-9

Donna J. Bunten
 CAO Coordinator
 Shorelands and Environmental Assistance Program
 Department of Ecology
 PO Box 47600
 Olympia, WA 98504
 360-407-7172

From: Bunten, Donna (ECY) [mailto:DBUN461@ECY.WA.GOV]
 Sent: Thursday, October 16, 2014 3:53 PM
 To: Sarah Fox; Robert Maul
 Cc: Schroeder, Rebecca (ECY)
 Subject: CAO Update

Hi, Sarah,

Here are my edits regarding the rating system update and the delineation manual. I'm also mentioning the banking and ILF language, even though it might be out of the scope of this particular action. We want to make sure that jurisdictions have the tools in place to use mitigation options. Your CAO does already allow banking and the cumulative effects fund; I'm just wondering if you need to add some more specifics. See the language below.

Let me know if you have questions about the buffer table. We tried to “shrink” your habitat point buckets into the new smaller buckets created by the rating system update. There may be some confusion about the large Category III buffers. In the past we assumed it was not possible for a Category III wetland to score high for habitat, and so the largest buffers we recommended for Category III’s were 75-110-150 (low-moderate-high land-use intensity).

However, it is conceivable that a Category III wetland could score 8-9 habitat points, although it’s not very likely. That high habitat function would need to be protected with wider buffers, as are the Category I and II wetlands with 8-9 points in your table, not the 75-110-150 as implied by the “27 or greater” in that row in your existing CAO.

So we are recommending that you either add rows for 8 and 9 as shown in our recommended table, or delete them and don’t add “or greater” after the 7 score. If a high-habitat Category III wetland were to be discovered in Camas, we recommend you contact us so that we can work together to determine the appropriate buffer.

Cowlitz County just submitted their CAO amendments under an “expedited review”, so it looks like Commerce is allowing that option.

Wetland Mitigation Banks.

1. Credits from a wetland mitigation bank may be approved for use as compensation for unavoidable impacts to wetlands when:
 - a. The bank is certified under state rules;
 - b. The Administrator determines that the wetland mitigation bank provides appropriate compensation for the authorized impacts; and
 - c. The proposed use of credits is consistent with the terms and conditions of the certified bank instrument.
2. Replacement ratios for projects using bank credits shall be consistent with replacement ratios specified in the certified bank instrument.
3. Credits from a certified wetland mitigation bank may be used to compensate for impacts located within the service area specified in the certified bank instrument. In some cases, the service area of the bank may include portions of more than one adjacent drainage basin for specific wetland functions.

In-Lieu Fee.

To aid in the implementation of off-site mitigation, the City may develop an in-lieu fee program. This program shall be developed and approved through a public process and be consistent with federal rules, state policy on in-lieu fee mitigation, and state water quality regulations. An approved in-lieu-fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor, a governmental or non-profit natural resource management entity. Credits from an approved in-lieu-fee program may be used when paragraphs 1-6 below apply:

1. The approval authority determines that it would provide environmentally appropriate compensation for the proposed impacts.
2. The mitigation will occur on a site identified using the site selection and prioritization process in the approved in-lieu-fee program instrument.

3. The proposed use of credits is consistent with the terms and conditions of the approved in-lieu-fee program instrument.
4. Land acquisition and initial physical and biological improvements of the mitigation site must be completed within three years of the credit sale.
5. Projects using in-lieu-fee credits shall have debits associated with the proposed impacts calculated by the applicant's qualified wetland scientist using the method consistent with the credit assessment method specified in the approved instrument for the in-lieu-fee program.
6. Credits from an approved in-lieu-fee program may be used to compensate for impacts located within the service area specified in the approved in-lieu-fee instrument.

Donna J. Buntен
CAO Coordinator
Shorelands and Environmental Assistance Program
Department of Ecology
PO Box 47600
Olympia, WA 98504
360-407-7172

From: Sarah Fox [<mailto:SFox@cityofcamas.us>]
Sent: Wednesday, November 12, 2014 12:36 PM
To: Buntен, Donna (ECY)
Subject: Estuarine wetlands in the CAO Update

Donna,
I am finally getting a chance to review the red-lines. I was wondering about the addition of the word "estuarine" wetlands to page 21 under wetland rating categories? Could you define this term, since I thought that it was associated with the coast? I wouldn't imagine that our city would have any within that category. Would you suggest that we omit (b)(i) altogether?

Thank you,
Sarah

From: Buntен, Donna (ECY)
Sent: Wednesday, November 12, 2014 1:06 PM
To: Sarah Fox; Schroeder, Rebecca (ECY)
Subject: RE: Estuarine wetlands in the CAO Update

Hi, Sarah,
Here is the definition of "estuarine" from the rating system. I know that a lot of jurisdictions omit from their category definitions the types of wetlands that definitely don't occur within their boundaries (e.g., interdunal). Then again, there's no down side to including them if you're not sure, except for extra lines of text. If you think there's a possibility of ever discovering such a wetland in Camas or its UGA, I'd go

ahead and include the text. I'm cc-ing Rebecca Schroeder, who is more familiar with the actual physical circumstances in Camas. Rebecca, do you have any thoughts on this?

I've also pasted in below the category definitions in their entirety.

SC 1.0 Estuarine wetlands

SC 1.1 Estuarine wetlands are vegetated, Tidal Fringe, wetlands where the concentration of salt in the water is greater than 0.5 parts per thousand. Estuarine wetlands of any size within National Wildlife Refuges, National Parks, National Estuary Reserves, Natural Area Preserves, State Parks, or Educational, Environmental or Scientific Reserves designated under WAC 332-30-151 are rated a Category I.

SC 1.2 Estuarine wetlands in which the salt marsh vegetation extends over more than 1 ac, and that meet at least two of the following three criteria are rated a Category I.

☑ The wetland is relatively undisturbed. This means it has no ditching, filling, cultivation, or grazing, and the vegetation has less than 10% cover of non-native plant species. NOTE: If non-native *Spartina* species cover more than 10% of the wetland, then the wetland can be given a dual rating (I/II). The area of *Spartina* would be rated a Category II, while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of *Spartina* in determining the size threshold of 1 ac.

☑ At least $\frac{3}{4}$ of the landward edge of the wetland has a 100-ft buffer of ungrazed pasture, shrub, forest, or relatively undisturbed freshwater wetland. A relatively undisturbed dike with vegetation that is not cut or grazed annually can count as an undisturbed buffer.

☑ The vegetated areas of the wetland have at least two of the following structural features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Any estuarine wetland that does not meet the criteria above for a Category I is a Category II wetland.

NOTE: Eelgrass beds do not fall within the definition of vegetated wetlands used in the rating system. They are an important aquatic resource but they do not fall within the purview of this rating system.

Category I. Category I wetlands are: (1) relatively undisturbed estuarine wetlands larger than 1 acre; (2) wetlands of high conservation value that are identified by scientists of the Washington Natural Heritage Program/DNR; (3) bogs; (4) mature and old-growth forested wetlands larger than 1 acre; (5) wetlands in coastal lagoons; (6) interdunal wetlands that score 8 or 9 habitat points and are larger than 1 acre; and (7) wetlands that perform many functions well (scoring 23 points or more). These wetlands: (1) represent unique or rare wetland types; (2) are more sensitive to disturbance than most wetlands; (3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or (4) provide a high level of functions.

Category II. Category II wetlands are: (1) estuarine wetlands smaller than 1 acre, or disturbed estuarine wetlands larger than 1 acre; (2) interdunal wetlands larger than 1 acre or those found in a mosaic of wetlands; or (3) wetlands with a moderately high level of functions (scoring between 20 and 22 points).

Category III. Category III wetlands are: (1) wetlands with a moderate level of functions (scoring between 16 and 19 points); (2) can often be adequately replaced with a well-planned mitigation project; and (3) interdunal wetlands between 0.1 and 1 acre. Wetlands scoring between 16 and 19 points generally have been disturbed in some ways and are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.

Category IV. Category IV wetlands have the lowest levels of functions (scoring fewer than 16 points) and are often heavily disturbed. These are wetlands that we should be able to replace, or in some cases to improve. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions, and should be protected to some degree.

From: Schroeder, Rebecca (ECY)
Sent: Wednesday, November 12, 2014 3:53 PM
To: Sarah Fox
Cc: Bunten, Donna (ECY)
Subject: RE: CAO Update

I've checked around here and gotten a consensus that the salt wedge doesn't go up that far, so you are fine not to address estuarine wetlands in your CAO.

Rebecca Schroeder

Wetlands/Shorelands Specialist
Shorelands and Environmental Assistance Program
WA Department of Ecology | Southwest Regional Office | 360-407-7273
300 Desmond Drive SE, Lacey, WA 98503 | PO Box 47775 Olympia, WA 98504-7775

This communication is a public record and may be subject to disclosure per RCW 42.56.

From: Sarah Fox [<mailto:SFox@cityofcamas.us>]
Sent: Wednesday, November 12, 2014 2:19 PM
To: Schroeder, Rebecca (ECY); Bunten, Donna (ECY)
Cc: Robert Maul
Subject: RE: CAO Update

I am not the subject matter expert by any stretch. For what it is worth, within my nine years in Camas, I have not read any information in any report that mentioned salt water or wedges in our area. Would that mean that we do not need to include references to estuarine?
-Sarah

From: Bunten, Donna (ECY)
Sent: Thursday, November 13, 2014 12:36 PM
To: Schroeder, Rebecca (ECY); Sarah Fox
Subject: RE: CAO Update

Hi, Sarah,

I also asked around and uncovered an additional question. I have not encountered this situation before but wanted to mention it.

In a more general sense, because you are requiring the use of the rating system, it doesn't really matter whether or not you include the category definitions in your CAO. If a rating determined that a particular wetland is estuarine, that would be the case whether or not you defined it in your CAO. The bigger question would be whether your CAO would protect an estuarine wetland if one were found, because your buffer table doesn't include wetlands with special characteristics (estuarine, forested, bogs, wetlands of high conservation value). So while it is unlikely that there are any of these in Camas, is there a mechanism in your CAO that would allow you to determine the appropriate buffer to use, since these wetlands are not specifically called out in your buffer table? While these wetlands would still be scored for functions, plugging the resulting habitat scores into your buffer tables wouldn't necessarily provide adequate protection according to our guidance in Volume 2, Appendix 8C <http://www.ecy.wa.gov/programs/sea/wetlands/pdf/2014Appendix8C.pdf>.

As you said, this probably isn't a real issue, nor does it specifically need to be addressed in this CAO amendment. However, it might be a good idea for you and Rebecca to have an understanding about how such a circumstance would be handled IF it ever came up. I wasn't sure whether the language in 16.53.040.B.4.a would allow the city to apply a larger buffer if needed.

Donna J. Bunten
CAO Coordinator
Shorelands and Environmental Assistance Program
Department of Ecology
PO Box 47600
Olympia, WA 98504
360-407-7172

From: Schroeder, Rebecca (ECY) [mailto:rebs461@ECY.WA.GOV]
Sent: Friday, November 14, 2014 8:18 AM
To: Bunten, Donna (ECY); Sarah Fox
Subject: RE: CAO Update

Donna, thanks for this additional information. It makes a lot of sense to have language in place in the CAO that would address protection for wetland types that are not thought to exist in a particular area. In this case, however, I am assured that the salt water doesn't go anywhere near Camas, and therefore there is no possibility that there would be an estuarine wetland in that jurisdiction. We're talking many tens of miles, so we're safe in this instance not to address estuarine wetlands.

Rebecca Schroeder
Wetlands/Shorelands Specialist, Shorelands and Environmental Assistance Program
WA Department of Ecology | Southwest Regional Office | 360-407-7273



STAFF REPORT

Final Plat for Seventh Avenue Townhomes

File No. FP14-08

(Related Files: SUB06-10, MinMod15-02, and DR14-05)

February 11, 2015

TO: Mayor Higgins
City Council

FROM: Wes Heigh, Project Manager
Sarah Fox, Senior Planner

LOCATION: 722 NW 7th Avenue also described as Tax Parcel numbers 085169-000, 085136-000, and 08140-000.

OWNER: Doug Campbell, Seventh Avenue Townhomes, LLC

APPLICABLE LAW: The application was submitted on November 5, 2014, and the applicable codes are those codes that were in effect at the date of application. Camas Municipal Code Chapters (CMC): Title 18 Zoning (not exclusively): CMC Chapter 17.21 Procedures for Public Improvements; and CMC Chapter 18.55 Administration and Procedures; and RCW Chapter 58.17.

BACKGROUND INFORMATION

- | | |
|---|---|
| <ul style="list-style-type: none">• 11 Lots (Size range: 2,100 to 7,432 sq. ft.)• Zoning: Multi-family residential (MF-18) | <ul style="list-style-type: none">• Total area: 0.83 acres• Recreational open space: 0.015 acres |
|---|---|

Seventh Avenue Townhomes Subdivision (SUB06-10) was granted preliminary plat approval for 12 new townhome lots, and lot line adjustments to an existing single family home on a separate lot. A minor modification decision was issued on February 3, 2015, that reduced the subdivision to 11 lots (File #MinMod15-02). No decisions have been issued for design review; however a Design Review Committee meeting is scheduled for February 24, 2015.

Staff found that the application met the requirements of Final Plat approval in accordance with CMC§17.21.060. This staff report addresses compliance with the conditions of approval of SUB06-10, MinMod15-02, and the criteria for final plat approval.

Conditions of Approval for SUB06-10	Findings
1. Stormwater treatment and control facilities shall be designed in accordance with the 1992 Puget Sound Stormwater Manual design guidelines. Final stormwater calculations shall be submitted at the time of final construction plan submittal.	Designed as required and approval granted.
2. All construction plans will be prepared in accordance with City of Camas standards. The plans will be prepared by a licensed civil engineer in Washington State and submitted to the City for review and approval.	Complies
3. Underground (natural gas, CATV, power, street light and telephone) utility plans shall be submitted to the City for	Complies

review and approval prior to approval of the construction plans.	
4. The applicant will be required to purchase all permanent traffic control signs, street name signs, street lighting and traffic control markings and barriers for the improved subdivision. The City will supply the list of required signs, markings and barriers at the time paving is scheduled.	Installed as required.
5. A 3% construction plan review and inspection fee shall be required for this development. The fee will be based on an engineer's estimate or construction bid. The specific estimate will be submitted to the City for review and approval. The fee will be paid prior to the construction plans being signed and released to the applicant. Under no circumstances will the applicant be allowed to begin construction prior to approval of the construction plans.	Fees paid as required.
6. Any entrance structures or signs proposed or required for this project shall be reviewed and approved by the City. All designs will be in accordance with applicable City codes. The maintenance of the entrance structure will be the responsibility of the homeowners.	No entrance structures or signs have been submitted for review.
7. A homeowner's association (HOA) will be required for this development. The applicant will be required to furnish a copy of the final C.C. & R.'s for the development to the City for review.	CC&R's are approved.
8. Building permits shall not be issued until this subdivision is deemed substantially complete and the final plat is recorded and approved by the Planning, Engineering, Building and Fire Departments.	Will comply
9. The applicant shall remove all temporary erosion prevention and sediment control measures from the site at the end of the two-year warranty period, unless otherwise directed by the Public Works Director.	Will comply
10. Final plat and final as-built construction drawing submittals shall meet the requirements of the CMC 17.11.060, CMC 17.01.050 and the Camas Design Standards Manual for engineering as-built submittals.	Will comply
11. In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease and the applicant shall notify the Public Works Department and OAHF.	Complied
Planning:	
12. Prior to final plat approval the applicant will provide building envelopes that do not encroach into the required driveway length of 18-feet.	Setbacks reflect this requirement, along with notes on the plat for attached and individual units.
13. Final grading plans shall show a flat front yard of Lots 1-4 to the sidewalk grade of NW 7 th Avenue; however, the fill or	Grading of site complies with

grading itself may be delayed until the building construction process or a date fixed by the design review process.	condition.
14. Landscaping and irrigation along the private roads shall be installed prior to final plat approval and provisions for maintenance and or replacement of plantings is required until final occupancy permits are issued. Appropriate provisions shall be acceptable to the city engineer.	Will be installed prior to certificate of occupancy for each lot per Planning Manager.
15. The design of townhomes and rowhouses are subject to Design Review in accordance with §18.19CMC. The applicant shall be required to receive Design Review approval prior to the submittal of building plans for review.	Design Review meeting is scheduled for 2/24/15
Engineering:	
16. The applicant shall enter into a Developers Agreement with the City of Camas to specify each party's responsibilities for the necessary sewer realignment design, installation, easement granting and relinquishment and other associated work prior to commencement of any site improvements.	Complied Recorded #442567AGR
17. The applicant shall record access and utility easements for the water and sanitary sewer systems within the private roadway and shared drives acceptable to the City at the time of final platting.	Complied
18. The applicant shall provide fencing consistent with 18.17.050 or landscaping (such as a thick hedge) that equally or better serves the same function as determined by design review, a paved pedestrian path from the interior private roadways south to NW 6th Avenue and adequate provisions in the CC&R's for the maintenance of this tract that are acceptable to the City; or relocate the proposed stormwater facility in accordance with the requirements of CMC 17.19.030(F)(6).	Path has been constructed and is noted on the plat.
19. All lots shall provide drainage for stormwater runoff from roof drains to an approved storm drainage system.	Plat note 8 concerns Lots 5 and 6 only
20. No construction spoils shall be placed on building lots. Any fill material placed on lots must be engineered structural fill, unless placed in the front or rear setback to a maximum of 6 inches in total depth.	Will comply
21. The development shall comply with Camas Municipal Code (CMC) 15.32 for any land disturbing activity. The applicant shall submit an erosion prevention sediment control plan in accordance with CMC 15.32 for any land disturbing activity that disturbs an acre or more or adds 5000 square feet or more of impervious surface.	Complied
Plat Notes were Conditions 22 – 26	Plat notes are consistent with conditions.

SEPA Mitigation Measures:	
27. An Erosion Control Plan consistent with City requirements to include compliance with the Stormwater Management Manual for Western Washington, February 2005 shall be prepared and submitted for review and approval, and implemented prior to any earth disturbing activities. Additional erosion control measures shall be implemented consistent with best available practices as necessary to control erosion. From May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days. Soil stabilization measures must be appropriate for the time of year, site conditions, estimated duration of use, and potential water quality impacts that stabilization agents may have on downstream waters.	Complied
28. Fugitive emissions associated with construction must be controlled at the excavation site, during transportation of excavated material, and at any disposal site.	Complied
29. Surface water treatment and conveyance systems shall be designed in accordance with the 1992 Puget Sound Stormwater Manual or as revised. Stormwater runoff shall be treated for quality and controlled in quantity prior to discharge.	Complied
30. Storm water treatment and control facilities shall be designed in accordance with the 1992 Puget Sound Storm Water Manual design guidelines (or as revised). Final storm water calculations shall be submitted at the time of final construction plan submittal.	Complied
31. To help minimize noise impacts to the adjacent residential neighborhoods, equipment shall be properly muffled and construction regarding site improvements shall be confined from 8:00 a.m. to 7:00 p.m., Monday through Friday; 8:00 a.m. to 5:00 p.m. on Saturday, excluding city observed holidays and Sundays.	In compliance
Conditions of approval for MinMod15-02	
1. Lot 11 must provide a building setback of twenty feet from SE 6 th Avenue, or ten-foot landscape tract or easement, or a combination of both to achieve twenty-feet of depth between the residential building and the traffic arterial.	Lot 11 setbacks comply and are reflected on final plat
2. No sight-obscuring obstructions higher than 42" (sheds or solid masonry walls) may be constructed within the twenty-feet of landscaped area (or combination as described at Condition 1) between the arterial and the structure setback at Lot 11. Chain-link, wrought-iron, or other fencing style that provides visibility may be approved by the Design Review Commission to be up to six feet in height.	Will comply

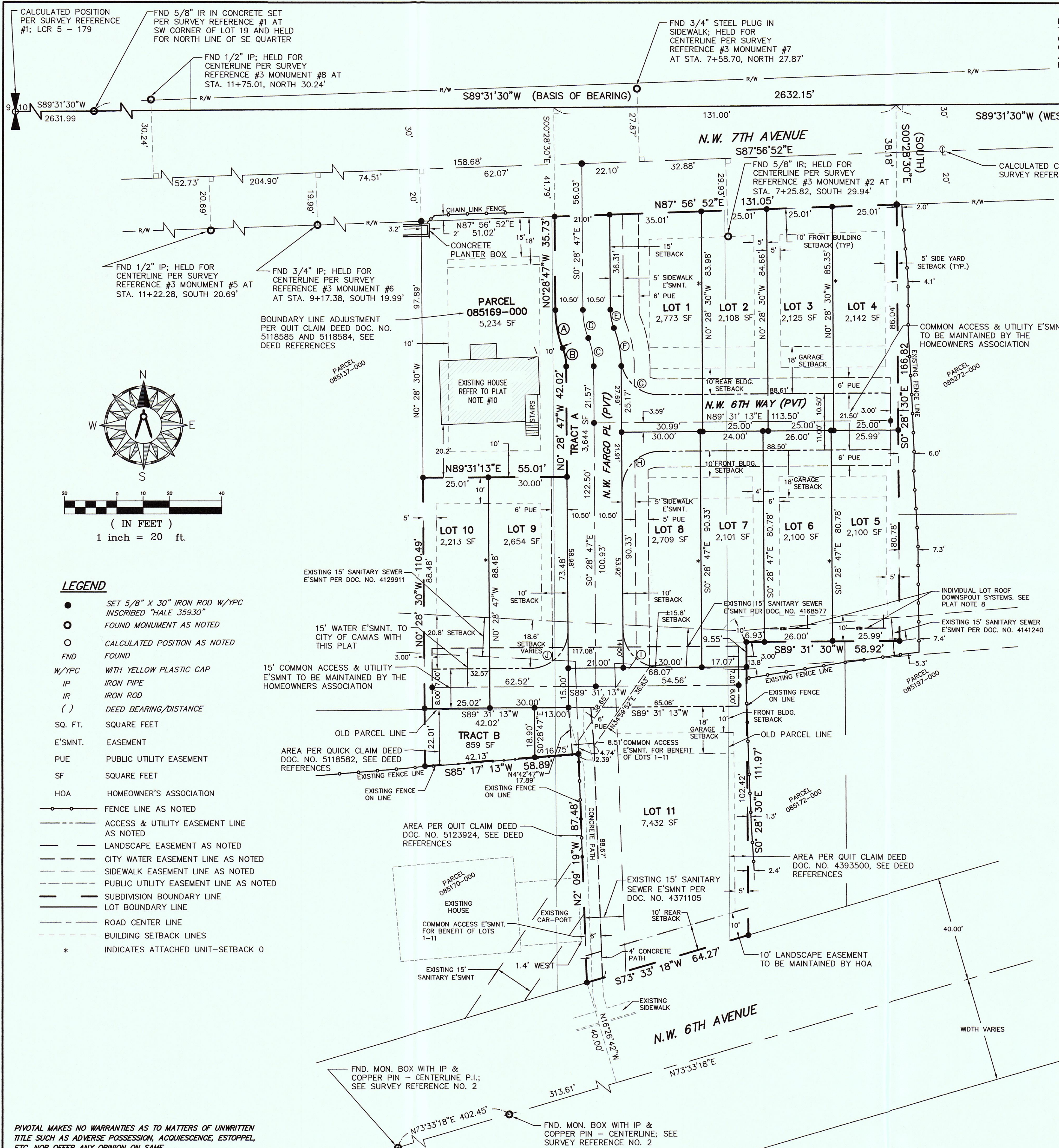
Final Plat Criteria for Approval (CMC 17.21.060-C)

1. That the proposed final plat bears the required certificates and statements of approval;
2. That the title insurance report furnished by the developer/owner confirms the title of the land, and the proposed subdivision is vested in the name of the owner(s) whose signature(s) appears on the plat certificate;
3. That the facilities and improvements required to be provided by the developer/owner have been completed or, alternatively, that the developer/owner has submitted with the proposed final plat an improvement bond or other security in conformance with CMC 17.21.040;
4. That the plat is certified as accurate by the land surveyor responsible for the plat;
5. That the plat is in substantial conformance with the approved preliminary plat; and
6. That the plat meets the requirements of Chapter 58.17 RCW and other applicable state and local laws which were in effect at the time of preliminary plat approval.

Findings: The submitted plat meets the requirements of CMC 17.21.060-C, is consistent with the applicable conditions of approval, and with the applicable state and local regulations.

Recommendation

Staff recommends that Council **APPROVE** the final plat of Seventh Avenue Townhomes (File #FP14-08) as submitted.

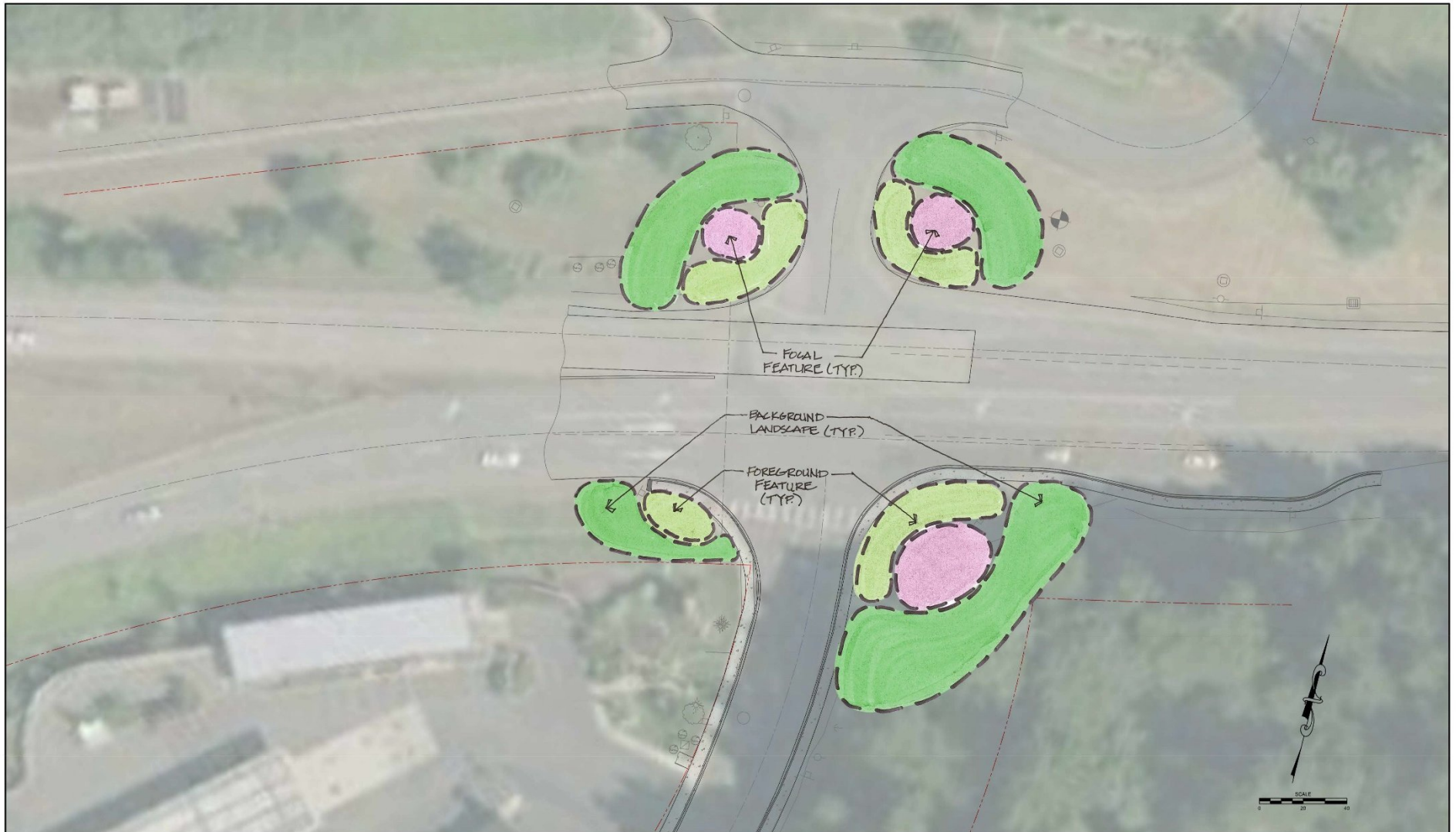


City of Camas

NW 6th and Norwood Intersection Options

Existing Intersection





NW 6TH AND NORWOOD - SIGNALIZED INTERSECTION LAYOUT

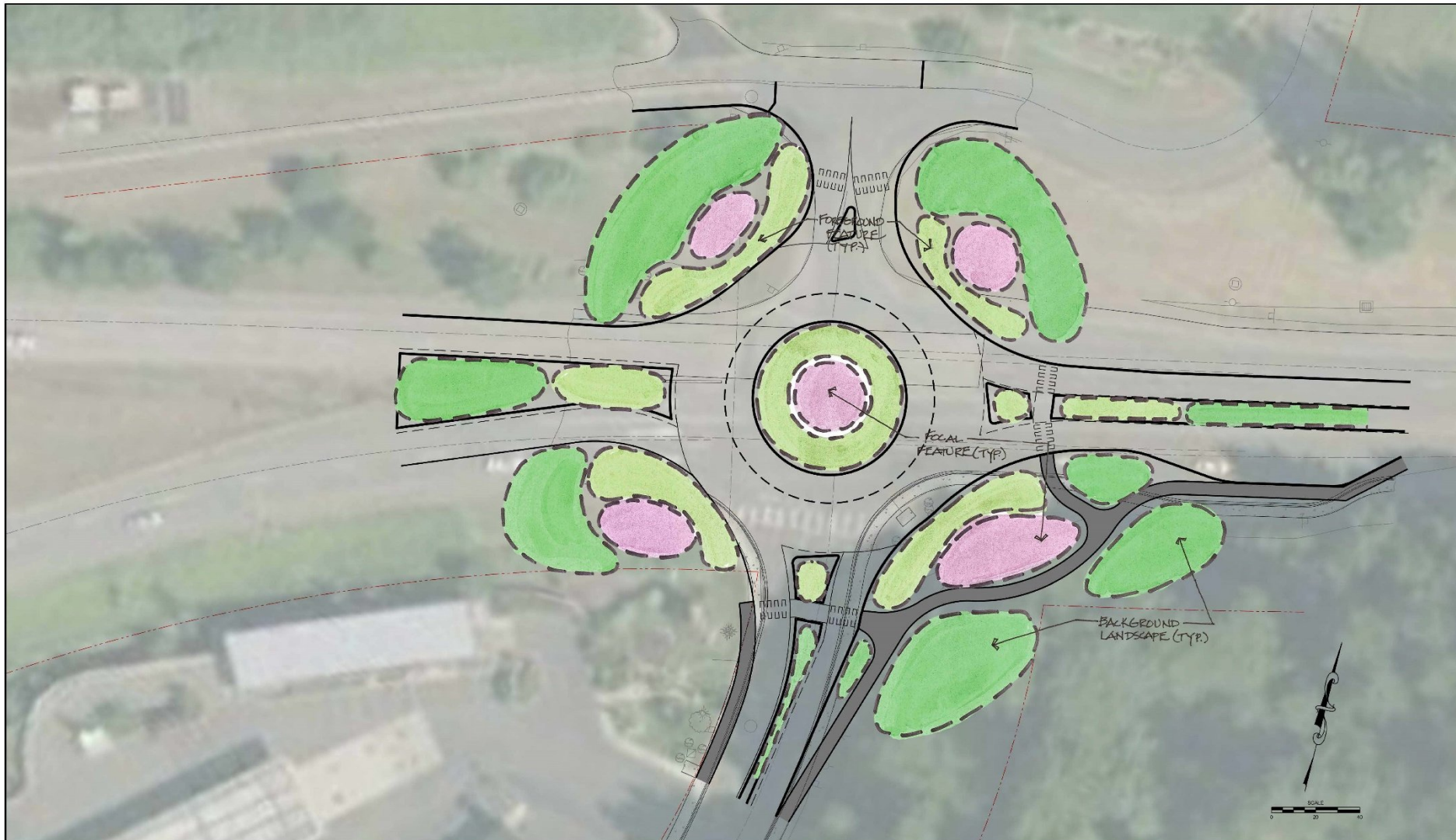
Signalized Intersection

- Construction Cost - \$300,000
- Design/Construction Support - \$60,000
- Signal Total - \$360,000

Optional

- Gateway Feature Construction - \$150,000
- Design/Construction Support - \$20,000
- Signalized Gateway Total - \$170,000

- Signal Grand Total - \$530,000



NW 6TH AND NORWOOD - POTENTIAL ROUNDABOUT LAYOUT

CITY OF CAMAS GATEWAY

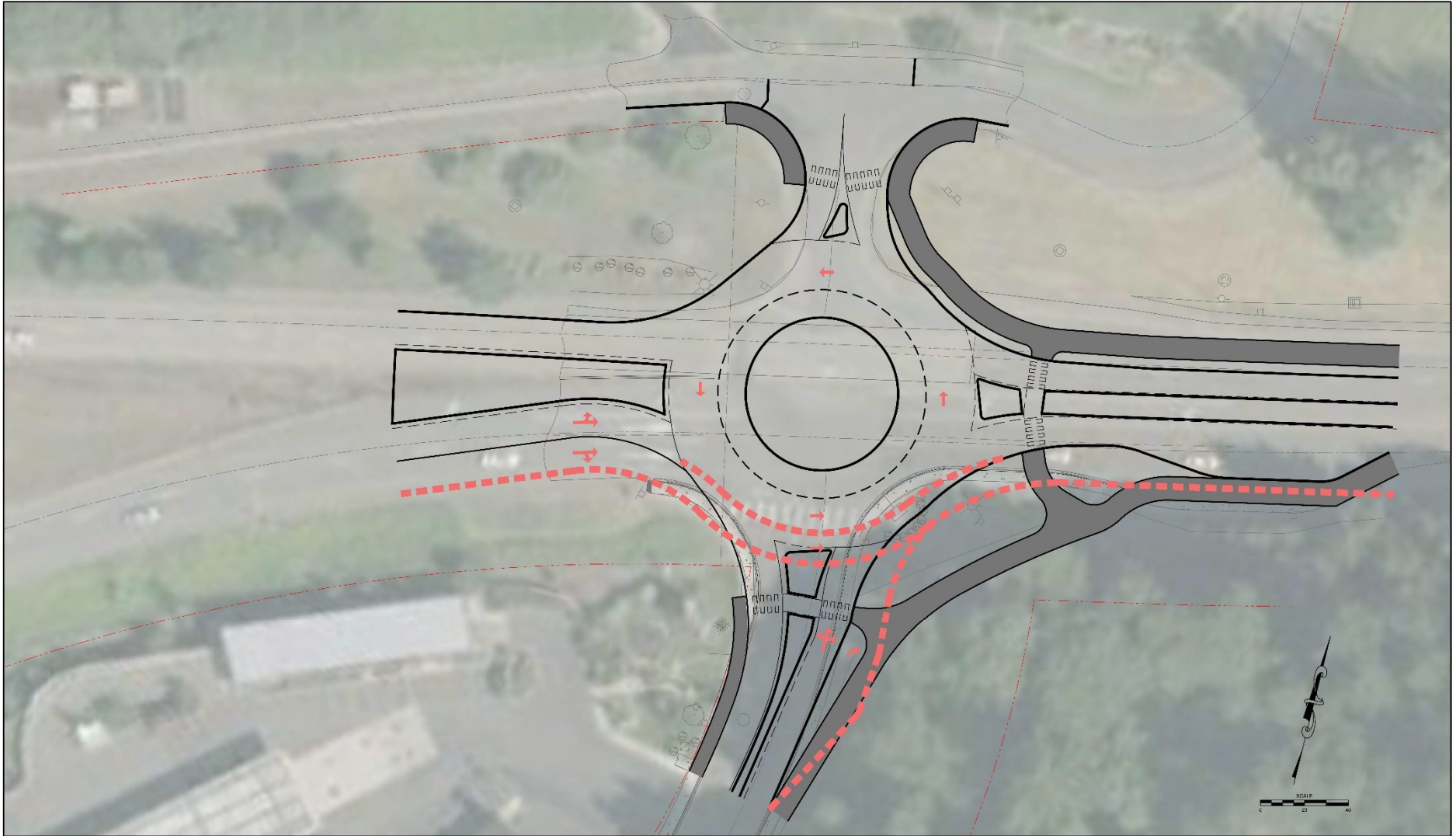


Roundabout Intersection

- Construction Cost - \$975,000
- Design/Construction Support - \$150,000
- Roundabout Total - \$1,125,000

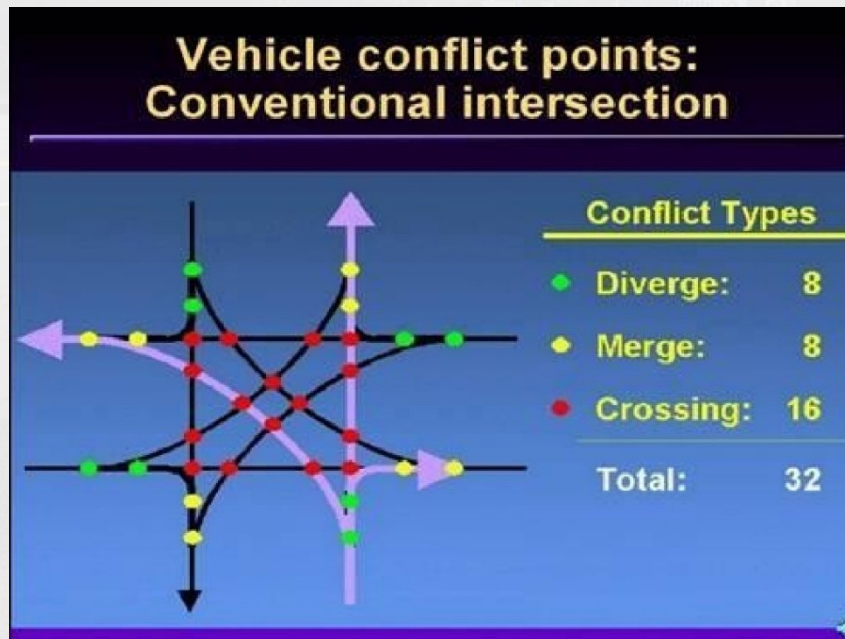
Optional

- Gateway Feature Construction - \$325,000
 - Design/Construction Support - \$50,000
 - Roundabout Gateway Total - \$375,000
- Roundabout Grand Total - \$1,500,000

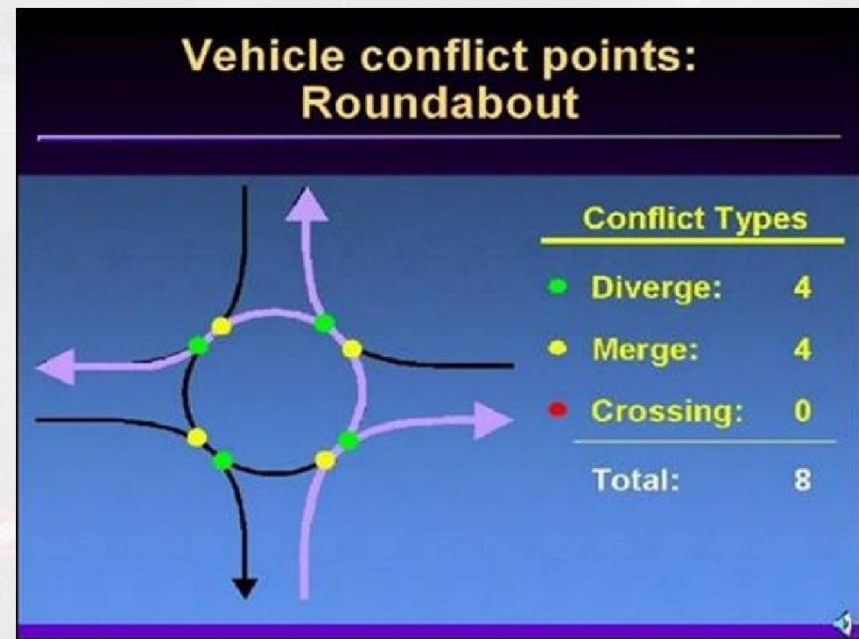


Safety

Signal

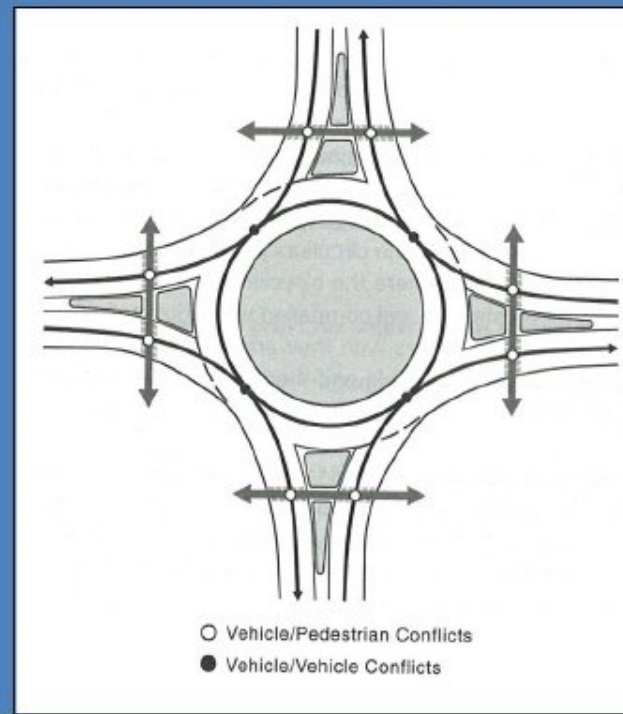
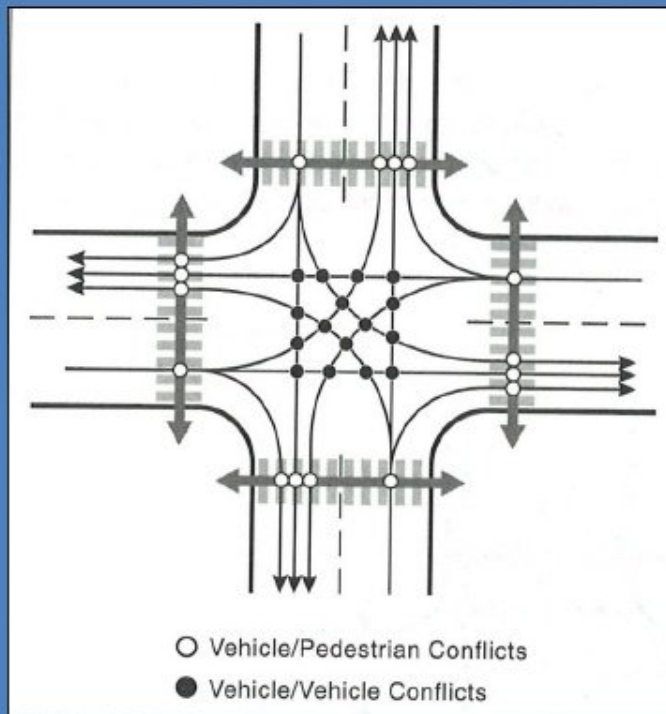


Roundabout



SAFETY

- Roundabouts reduce the number of vehicle to pedestrian conflicts
- 8 conflict points in Roundabout
vs. 16 conflict points in a signalized intersection



Roundabout Benefits

Safety

- Reduce Total Crashes by 35% and Injury Crashes by 76%
- Traffic Calming Effect
- Pedestrian safety:
 - Reduced Speeds
 - Focus on one traffic stream
 - Refuge Island

Operations

- Lower Overall Delay
- Improves Access
- Lower Operating Costs
- Lower Maintenance Costs
- Always Works (*Power Outage*)

Roundabout Benefits

Environmental Factors

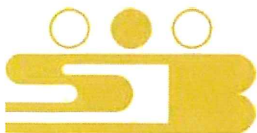
- Less Noise
- Less Fuel Consumption
- Better Air Quality
- Less Pavement

Land Use and Aesthetics

- Provides Transition
- Gateway Opportunities
- Improved Access to Businesses and Neighborhoods

CITY OF CAMAS GATEWAY





S&B inc. 13200 SE 30th St., Bellevue, Washington 98005 (425) 644-1700 FAX (425) 746-9312

February 3, 2015

City of Camas
616 NE 4th Ave
Camas Washington 98607

Subject: Slow Sand Water Treatment Plant
Bid Proposal for Section 40 90 00, updated
Instrumentation and Control for Process Systems
Design Specifications and Plans dated January 2015

Mr. Jim Hodges:

We are pleased to quote the control panels, wired instrumentation, wired field devices, PLC programming, and system integration work defined in the Engineer's documents for Section 40 90 00. Installation is not included and the equipment supplied by this proposal are designated for installation by the successful bidding Contractor. Startup and field acceptance testing for this system shall be executed by our firm in full compliance with the project documents. Work at the project site, described for the System Integrator will be performed by our field engineer.

Note that our scope of work does not include sensors that do not connect to the control system with wires, or any packaged control systems specifically called out in Section 40 90 99. This is mentioned as this quote excludes all hand valves and pressure gages that are external to the control panels.

SCOPE OF SUPPLY

Our firm will provide the following list of deliverables as outlined in the referenced specifications. Note the attached block diagram drawings indicate these items with black diamond ♦ icons as well. The control panel pricing also includes seismic bracing per Section 01 88 15.

Control Panel Schedule (per 40 90 01 supplement-1)

TAG	DESCRIPTION
PCP	Plant Control Panel (PLC-1)
RIO	Remote IO Panel (PLC-2)
WQP	Water Quality Monitoring Panel (PRV Station PLC-3)
LP-420	Sodium Hypochlorite Feed Pump VFD Panel
LP-520	Fluoride Feed Pump VFD Panel
MTU	Modifications to SCADA master system at City Shops
Control Panel Sub-Total: \$ 128,452	

Instrument scope of work listed below includes equipment and documentation necessary for integration with the control system and in full compliance with the project specifications. Physical parameter instruments are included in our base scope of work, analytical parameter measurements at the Slow Sand plant are offered as an additive option.

Instrument List (per 40 90 00 supplement-1- physical parameters)

TAG	DESCRIPTION
FE/FIT-111	Raw Water Flow - 12" Mag Meter
FE/FIT-221	Filter 1 Water - 12" Mag Meter
FE/FIT-222	Filter 2 Water - 12" Mag Meter
FE/FIT-301	Finished Water - 12" Mag Meter
FE/FIT-524	Fluoride saturator makeup water Meter, 5/8"
FE/FIT-631	Domestic Water – 1.5" Mag Meter
LE/LIT-201	Roughing Filter Level Transmitter
LE/LIT-231	Filter 1 Level Transmitter
LE/LIT-232	Filter 2 Level Transmitter
LSH-281	Filter Area Flood
LSH-511	Chemical Feed Area Flood
PIT-111	Raw Water Pressure
PIT-633	Domestic Water Pressure
QS-061	Motion Detector (2 total)
TT-07x	Air Temperature Transmitter (3 total)
YS-021	Smoke Detector
YS-022	Smoke Detector
YS-023	Smoke Detector
ZS-062	Limit Switch (3 total)
ZS-063	Limit Switch (2 total)

Physical Sensors and Instruments Sub-Total: \$ 38,157

Spares and Expendables Summary

Spares and Expendables include basic control system parts.

Spares Sub-Total: \$ 476

Start up Summary

Our startup plan calls for a four day cycle of commissioning and validation. This is critical time required to interface with the installing contractor, answer questions, validate field installation wiring and process operation.

Start-up Sub-Total: \$ 6,118

Testing and Documentation Summary

Testing and documentation includes the specified certificate of proper installation, field calibration and verification of instruments, witnessed control loop tests, loop status reports and an overall performance acceptance test. Breakouts are provided

Testing Sub-Total: \$ 5,101

February 3, 2015
City of Camas
Bid Proposal Update
Subject: Slow Sand Water Treatment Plant
Bid Proposal for Section 40 90 00
Instrumentation and Control for Process Systems
Design Specifications and Plans dated January 2015

Page 3 of 5

Coordination Meeting Summary

Five separate meetings with the consulting engineer are specified. Since the instrumentation engineer we met with during the design was located in Bellevue, we estimated these meetings based on meeting at CH2M's Bellevue office or our facility during the course of the project. Meetings include: schedule, initial software review, 50% software review, final software review and training coordination review.

Coordination Sub-Total: \$ 3,120

Training Summary

Five days of on-site testing are required by the specification for management and O&M. We anticipate 1.5 days of preparation time for this training in addition to the onsite training. We priced this based on three consecutive days in one session and two consecutive days on a separate session.

Training Sub-Total: \$ 7,706

Total Price: \$ 189,130.00

The Hach analyzers, reagents, supporting parts and service required for operation are quoted below as an additive option to the base scope listed above. This scope together with the base scope was included in our January 20 scope and is broken out in response to the City's decision to supply the analytical instruments and startup services direct from Hach. We recommend the City review the quantities of spare parts and reagents with Hach based on the expected startup date and seasonal operation schedule prior to purchase. Confirming our telephone conversations regarding this approach, we will coordinate the control panel testing of the instruments while the Hach service technician is on site to ensure that required test forms showing proper interface with the control system are completed and signals calibrated for consistent readings. In this procedure, we will meet the functional startup and testing requirements.

Instrument List (per 40 90 00 supplement-1- analytical parameters)

TAG	DESCRIPTION
AE/AIT-10	Raw Water Turbidimeter, low range, w/ SC200
AE/AIT-203	Settled Water Turbidimeter, low range, w/ SC200
AE/AIT-261	Filter 1 Turbidimeter, low range, w/ SC200
AE/AIT-262	Filter 2 Turbidimeter, low range, w/ SC200
AE/AIT-311	Finished Water pH Analyzer
AE/AIT-312	Finished Water Free Chlorine Analyzer
AE/AIT-313	Finished Water Fluoride Analyzer
AE/AIT-314	Finished Water Turbidimeter, low range, w/ SC200
AE/AIT-632	Domestic Water Free Chlorine Analyzer
	First year reagents
	Second year reagents (prev listed under expendables)

Analytical Instruments per spec: \$ 57,298

Project Specific Exclusions:

Section 40 90 00 contains specifications for process hand valves and pressure gages that are not directly related to the control system and are not included in this proposal. Our scope of supply is focused on devices that are directly wired to the control system. Unless the device is specifically listed in this proposal, it is excluded from the scope of supply.

Standard Inclusions:

- Award based on a supply purchase order.
- Equipment is factory tested and shipped FOB factory with freight allowed, common carrier, destination.
- Shop Drawings, instruction manuals and software documentation via electronic media.
- Submittal Documentation per specifications
- Field Engineering Services for technical support of installation questions, start-up, and acceptance testing of equipment supplied by this quotation. S&B is a designer and supplier of control system equipment, providing technical support and engineering services to review installation of our equipment, commission and attest to its compliance with the project specifications.
- Quote is valid for sixty days from date of bid

Standard Exclusions:

Unless specifically included as a line item in this quotation's scope of supply the following are excluded from our scope of deliverables:

- Installation costs and any associated permits
- Stamped seismic calculations for Seismic Zone compliance for devices not listed above
- Arc Flash studies and/or labeling
- Short Circuit and circuit breaker trip coordination studies
- 3rd party circuit breaker certification testing and certification
- Piping, tubing, valves, fittings between the instruments and the process
- Process appurtenances: Pumps, pressure gauges, manifolds, bushings, thermowells, diaphragms, annular seals, purge assemblies, stilling wells, valves, pump overtemp sensors, pump moisture sensors, or solenoids that are not an integral part of the listed scope.
- Conduit, wire or cable external to the control system panels listed in this scope
- Mounting brackets, stanchions, supports, pads that are not integral to the control system panels or process instruments listed in this scope.
- Liquidated damages (available upon request and definition of scope)
- Subcontract (available for additional cost). This includes costs associated with certified payroll submission, EEO reports, completion of Affidavit of Wages paid.
- Bonding (service available for additional fee)
- Credit Card payment (service available for additional fee)

All pricing is based on the January 12, 2015 set of plans and specifications provided by CH2M. Our attached set of block diagram drawings dated January 20, 2015 provides details into the control system design that we propose. Testing, coordination meetings and training conforms to specification requirements. These hours represent a reasonable time needed for the Engineer and Owner to gain

February 3, 2015
City of Camas
Bid Proposal Update
Subject: Slow Sand Water Treatment Plant
Bid Proposal for Section 40 90 00
Instrumentation and Control for Process Systems
Design Specifications and Plans dated January 2015

Page 5 of 5

confidence with the System Integrator. Due to our long term relationship, we may mutually agree that less meetings and less training are required. Since we bill for progress, in the meetings and training sub-tasks, any unused time and preparation will not be invoiced.

We look forward to the opportunity to work on this important project and will contribute to making this successful by delivering the highest quality of materials and startup services according to the agreed schedule. Please feel free to contact us regarding any questions that you may have regarding our quotation.

Price quoted is net fob factory with freight allowed to jobsite. The control panels are fully tested at our facility in Bellevue prior to shipment to jobsite. Delivery of the longest lead system components are estimated at twelve weeks after receipt of order and submittal approval. Field start-up services will be performed by our Field Application Engineer. Terms are net 30 days with interest of 1-1/2% per month charged for overdue invoices. Progress payments shall be made for work completed and/or equipment shipped to jobsite. Reference attached copy of our Form 977 – General Terms and Conditions. .

Yours truly,

City of Camas



Randall T. Stead
President
S&B Inc.

Mayor

Date



S&B inc. 13200 SE 30th St., Bellevue, Washington 98005 (425) 644-1700 FAX (425) 746-9312

GENERAL TERMS AND CONDITIONS – INSTRUMENT/CONTROL SYSTEMS

1. SCOPE

These terms and conditions apply to the sale of all instrument/control (I/C) systems assembled by S&B Inc. (Seller) and any inconsistent terms and conditions in Purchaser's purchase order are not binding on Seller, unless accepted, or these terms and conditions are modified by an authorized S&B Inc. representative.

2. ACCEPTANCE

Purchase orders received from Purchaser do not bind Seller unless accepted by an Officer of Seller, either by acknowledgment, written acceptance, promise to ship, or shipment of the I/C systems communicated to Purchaser. Acceptance is expressly made conditional on Purchaser's assent to Seller's Material Terms and Conditions, which are additional to or different from Purchaser's terms, unless Seller agrees otherwise in writing.

3. PRICE AND PAYMENT

Unless otherwise specified, quoted selling prices are FOB Seller's factory or its supplier's shipping point, with freight allowed to destination and are subject to change if not accepted within 30 days from the quotation date. The quotation may be withdrawn at any time prior to acceptance or extended beyond 30 days. Invoices are due and payable NET 30 days, unless otherwise specified, at the company offices at 13200 S.E. 30th Street, Bellevue, WA. 98005. Late payment of invoices is subject to interest. Invoices shall be rendered according to the following schedule.

Benchmark	% of Total Price
Upon notice from Seller that all drawings have been submitted for approval.	20%
Upon notice from Seller that the instrument system is ready for factory tests.	Additional 50%
Upon notice from Seller that the instrument system has been shipped or that factory tests are complete and equipment is being held for convenience of customer.	Additional 25%
Upon notice of acceptance from Purchaser or 180 days from notice of shipment, whichever occurs first.	Final 5%

If Purchaser defaults in any payment when due, Seller may at its option, and in addition to its remedies under the U.C.C. without incurring any liability thereof to Purchaser or Purchaser's customers, declare all payments for work completed immediately due and payable with maximum legal interest thereon from due date and stop all further work and shipments until all past due payments have been made and/or require that any further deliveries be paid for prior to shipment.

4. ITEMS INCLUDED

The price quoted includes only the I/C system specified, and does not include actual installation, accessory or associated materials such as wiring, piping, etc., not specifically included. Equipment prices quoted include installation information and start-up assistance provided by the Seller's field engineer or technician. Such services will be provided in a mutually agreeable manner and time. Seller will provide, upon request, at Seller's established current rates, an experienced Project Engineer or Service Technician to provide on-site superintendence of the equipment installation. Responsibility for proper operation of equipment, if not installed by Seller or installed in accordance with Seller's instructions, rests entirely with Purchaser.

5. TAXES

Any federal, state or local sales, or use or other taxes applicable to this transaction are not included in the price quoted, and unless a valid certificate of exemption is provided, any such tax shall be added to the price and is for the Purchaser's account.

6. SHIPMENTS AND DELIVERY

Any shipment or delivery dates recited herein represent Seller's best estimate. No liability, direct or indirect, is assumed by Seller for failure to ship or deliver on such dates. In any event, delivery dates are based upon the effective date of the contract and prompt receipt by Seller of all necessary information and instructions from Purchaser, including approved submittal drawings. Seller shall have the right to make partial shipments, and invoices covering the same shall be due and payable by Purchaser in accordance with the payment terms hereof.

In the event that the I/C system specified herein is to be shipped outside the United States, Purchaser shall obtain all necessary import licenses and permits required to clear the shipment for entry into the foreign country and pay all duties, tolls and imports.

If Purchaser requests postponement of shipments or causes a delay in shipment, the entire purchase price shall be due and payable upon notice from Seller that the I/C system is ready for shipment, and thereafter any storage, or other charge Seller incurs, shall be for Purchaser's account, including interest on any unpaid balance at the maximum legal rate. All claims for damage, delay or storage for FOB Seller's plant shall be made directly against the carrier of the Purchaser. When shipments are FOB destination, Purchaser shall inspect the I/C system shipped and notify Seller of any damage or shortage within 5 days of receipt. Failure to notify Seller shall constitute acceptance of Purchaser, relieving Seller of any liability for shipping damages or shortages.

7. RISK OF LOSS AND SECURITY INTEREST

Unless shipments of I/C systems are made FOB destination, all risk of loss or damage shall pass to the Purchaser upon delivery to a carrier for shipment. Purchaser shall protect and maintain Seller's title, including adequate insurance for Seller's benefit, and right of repossession to the I/C system specified herein or in any change order until the full purchase price has been paid in full and will not encumber or permit others to encumber such systems by any security instruments.

Purchaser acknowledges that as security for payment of the purchase price, Seller will retain and Purchaser has granted, a security interest in all I/C systems sold to Purchaser. Seller shall have all of its rights and remedies as a Seller and a secured party under the U.C.C. or other appropriate law. No waiver by Seller or any default shall constitute a waiver of any subsequent or further default. Seller may retain as liquidated damages any partial payments made and may peaceably repossess the equipment from the Purchaser's premises without prejudice to any further claims it may have. In the event legal action be brought to enforce the provisions of any order accepted by it, Seller shall be entitled to recover its court costs and reasonable attorney fees.

8. WARRANTY

Seller warrants that for a period of one year after test and acceptance by the Purchaser, or 18 months from date of shipment, whichever occurs first, all products assembled by Seller shall be free from defects in material and workmanship. Seller will at its sole option either repay the purchase price, or repair or replace at a location to be designated by it, any product defects, which develop within such period under normal and proper use, provided it receives prompt written notice of claimed warranty period. This warranty shall not apply to any products altered or repaired outside Seller's factory or with other than Seller's replacement parts, unless such repair was authorized in writing by Seller, or to products or parts subject to misuse, abuse, neglect or accident or damaged by improper installation or application. In no event shall Seller be liable for normal wear and tear, nor for any incidental or consequential damages due to inoperability of its products. The foregoing are Seller's sole warranties and guarantees, and all express or implied warranties, including all implied warranties or merchantability and fitness for a particular purpose, which exceed the above obligation, are hereby disclaimed by Seller.

9. CANCELLATION, SUSPENSION AND DELAYS

After acceptance by Seller, this contract shall not be subject to cancellation, suspension or delay. Orders may be cancelled only with Seller's written consent and upon payment of reasonable cancellation charges, which shall include all costs incurred and work done pursuant to the contract to date of cancellation, suspension or a delay plus reasonable overhead and profit. Additionally, all risks incident to and charges related to storage and/or resumption of work, at Seller's plant or elsewhere, shall be for Purchaser's sole account.

10. LIMITATION OF LIABILITY

Seller shall not be responsible or liable in any way for any failure to perform due to Acts of God, fire or flood, serious explosions or accidents, foreign or United States embargoes, war or riots, serious shortages, unavailability or significant price increases in commodities, materials or components, labor disputes, interruption of transportation, loss of essential production services, acts of any U.S. or foreign governmental authority, or by any other event beyond the reasonable control of Seller or its subcontractors. Seller shall not be liable to Purchaser for any incidental or consequential damages for any reason whatsoever.

11. CHANGES AND BACKCHARGES

Any changes in or any additions to the scope of work herein described or initiated by the Purchaser or resulting from any circumstances beyond Seller's control shall be for the account of and paid by the Purchaser. Written change orders shall initiate changes, and shall be considered as individual modifications and shall not delay payment to the Seller for the original order.

Seller will not approve or accept returns or backcharges for labor, materials or other costs incurred by Purchaser or others in modification or adjustment, service or repair of Seller furnished materials unless such return or backcharges are pursuant to Seller's warranty and have been authorized in writing by an Officer of Seller or by assigned purchase order or work requisition.

12. PROPRIETARY INFORMATION

All information furnished by Seller is submitted solely for Purchaser's consideration in connection with this job and shall be not be used by Purchaser nor disclosed to any third party without Seller's written consent.

13. DRAWINGS AND DESIGN

All drawings, descriptive matter, etc. submitted with this proposal are merely intended to give a general idea of the equipment described and a set of drawings may be supplied for approval after acceptance. Seller reserves the right to change or modify the design and construction of any equipment in order to incorporate improvements or to substitute material equal to or superior to that originally specified, and upon request, will assist with suggestions without liability for any resulting loss or damage to Purchaser.

14. SOFTWARE AND LICENSE AGREEMENT

All software is provided under a non-transferable, non-exclusive license for its use. The purchaser, and if different, the end-user, shall be required to sign Seller's End-User License Agreement upon accepting Seller's software documentation and using the software provided. All software and documentation are copyrighted by Seller and contain valuable trade secrets. No copies of this software or documentation may be made except as authorized under the terms of the license agreement except as required by law. The software and documentation are warranted against functional defects found during a period of one year after delivery. Seller's sole obligation shall be to correct any such defect in a manner chosen by Seller in its sole discretion. Seller shall have no liability for any lost profits or direct, indirect, incidental, consequential, or other damages arising from use of the software and documentation or any associated hardware.

15. NON-ASSIGNMENT

Purchaser shall not assign this contract, nor any interest herein or rights hereunder, without the written consent of Seller and any attempted assignment shall be voidable at Seller's sole option.

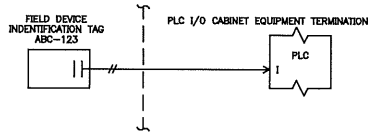
16. ENTIRE AGREEMENT

The contract expresses the entire agreement between the parties hereto and supersedes any previous communications, representations or agreements, whether oral or written, and is not subject to modification except by a writing signed by an authorized Officer of each party.

17. GOVERNING LAW

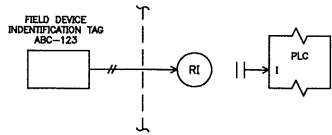
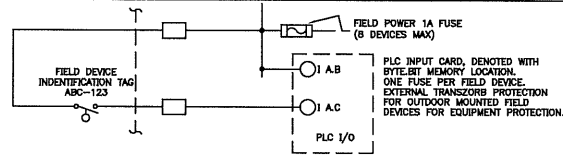
The contract shall be interpreted and governed by the laws of the State of Washington, including but not limited to any dispute, controversy or claim arising out of the contract.

BLOCK DIAGRAM INTERFACE DEPICTION

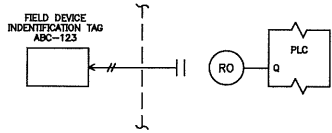
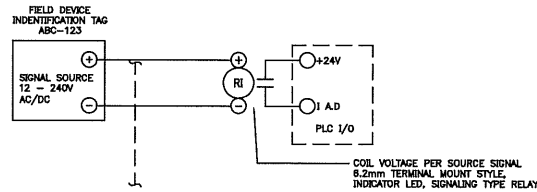


DISCRETE INPUT: DRY CONTACT IN FIELD DEVICE
+24VDC SUPPLY VOLTAGE FROM PLANT I/O SYSTEM.

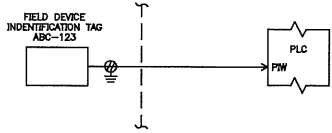
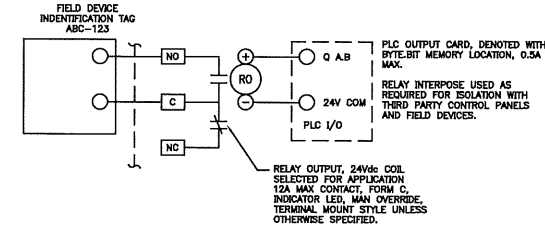
PLC I/O CABINET WIRING INTERFACE



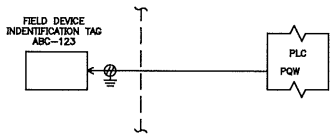
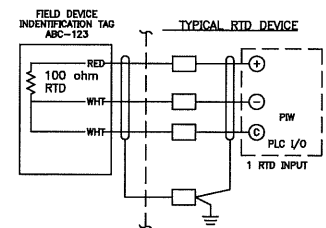
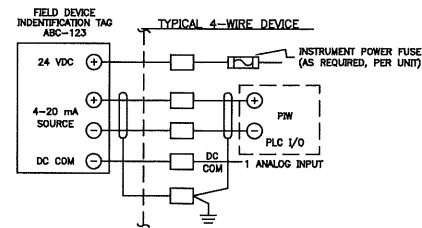
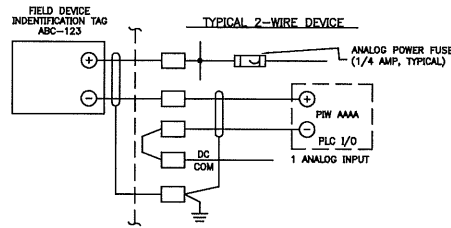
FOREIGN VOLTAGE INPUT: FIELD DEVICE SOURCE VOLTAGE MATCHED BY RELAY INPUT COIL SPECIFICATION.
PLANT I/O SYSTEM SIGNALLED BY INTERNAL 24Vdc SUPPLY.



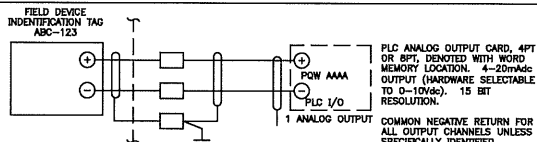
PLC OUTPUT SHOWN AS RELAY OUTPUT: +24VDC SOURCE FROM OUTPUT CARD TO CONTROL RELAY IN I/O PANEL. RELAY CONTACT TO FIELD DEVICE RATED 24-120V AT 10A MAX.



ANALOG INPUT: 4-20mAdc SIGNAL (0-10Vdc OPTIONAL). TWO-WIRE FIELD TRANSMITTERS HAVE NEGATIVE SIGNAL COMMON WITH 24Vdc POWER SYSTEM.



ANALOG OUTPUT: 4-20mAdc (0-10Vdc OPTIONAL) PROPORTIONAL TO 0-100% COMMAND. NEGATIVE IS COMMON REFERENCED TO 24Vdc POWER SYSTEM.



REUSE OF DOCUMENT				REVISION DESCRIPTION				APP	DATE
DRWN	RTS	8-3-14	ASMB	ENGR					
The document contains information, ideas and designs proprietary to S&B Inc. This may not be reproduced in any form without written consent of S&B Inc. Copyright 2014, S&B Inc.				S&B System Specialists 1300 S.E. 30th St. Salem, Oregon 97306 S&B Inc. (425)244-1700 Fax (425)748-8312				PROJECT CITY OF CAMAS, WASHINGTON SLOW SAND FILTER WTP	
FILE: 11639-000-01 LAST 06/05/14 MODIFIED: 10:34 AM				TITLE INTERFACE WIRING DISCRETE AND ANALOG DEVICES				DRAWING NUMBER D 11639 000 1 of 3 SIZE JOB NUMBER KEY SHEET REV	

KEY PLAN

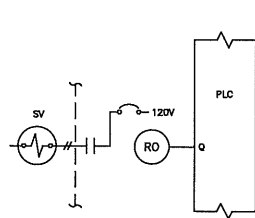
WIRE TYPE SPECIFICATIONS

- // DENOTES 2 SINGLE CONDUCTORS
- ⊗ DENOTES SHIELDED PAIR CABLE
- PROFIBUS DENOTES PROFIBUS CABLE, SIEMENS 6XV1830EH10
- FIBER
- CAT5e/CAT5 COPPER
- PROFIBUS

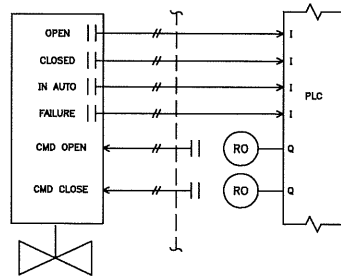
GENERAL SHEET NOTES

- WIRING CONNECTIONS ARE SHOWN AS SYMBOLIC INTERCONNECTIONS IN THE INSTRUMENTATION BLOCK DIAGRAM DRAWINGS. WIRE TYPE AND COUNT ARE DEFINED IN THE ELECTRICAL SPECIFICATION SECTION. BLOCK DIAGRAMS PROVIDE INTERCONNECTION REQUIREMENTS BETWEEN FIELD EQUIPMENT AND CONTROL PANELS AND ARE NOT INTENDED TO PROVIDE DIRECTION ON CONDUIT SIZE OR ROUTING.
- FIELD AND PANEL TERMINATION OF NETWORK, DISCRETE AND ANALOG SIGNAL WIRING SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR AND VERIFIED BY THE SYSTEM INTEGRATOR PRIOR TO ENERGIZATION.
- FIELD WIRING CONDUCTORS ARE IDENTIFIED BY PERMANENT MARKING METHODS DEFINED IN THE ELECTRICAL SPECIFICATIONS.
- PLC/SCADA SYSTEM ABBREVIATIONS:
 I: DIGITAL INPUT (24Vdc UNLESS OTHERWISE DENOTED)
 Q: DIGITAL OUTPUT (24Vdc), TYP 0.5A MAX
 PIW: ANALOG INPUT (PERIPHERY INPUT WORD), 4-20mA
 PQW: ANALOG OUTPUT (PERIPHERY OUTPUT WORD), 4-20mA
 PB: PROFIBUS NETWORK CONNECTION
 ETH: PROFINET INDUSTRIAL ETHERNET CONNECTION
 HMI: HUMAN MACHINE INTERFACE, TOUCH SCREEN FOR PROCESS VISUALIZATION

SOLENOID VALVE

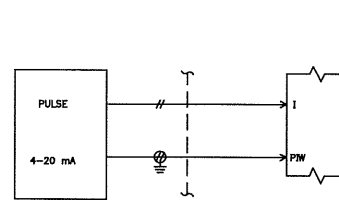


DISCRETE VALVE



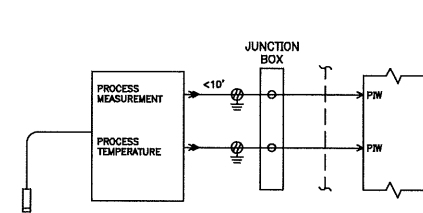
APPLICATION: SPECIAL PURPOSE MOTORIZED BALL VALVES. PLC SYSTEM POSITIONS VALVE IN AUTOMATIC MODE, PROVIDES ALARM NOTIFICATION ON FAILURE TO REACH POSITION WITHIN ALLOTTED TIME, AND FOR A PROCESS FLOW VIOLATION. SCADA PROVIDES VISUALIZATION OF VALVE STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL, OVERRIDE OF VALVE.

DISCRETE FLOW METER



APPLICATION: SPECIAL PURPOSE FLOWS. PLC SYSTEM MONITORS FLOW RATE AND ACCUMULATES FLOW TOTAL. RATE IS CONTINUOUSLY ANALYZED FOR CONSISTENCY. ALARMS CALCULATED FOR INVALID mA SIGNAL AND RAPID CHANGE IN FLOW. PLC STORES DAILY FLOW TOTAL, LIFETIME ACCUMULATED TOTAL, AND INSTANTANEOUS FLOW RATE. SCADA PROVIDES INDICATION OF VALUES, HISTORICAL TREND AND DAILY TOTAL FLOW ARCHIVE.

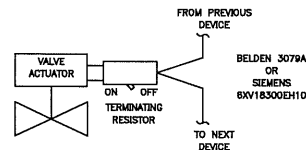
DISCRETE ANALYZER



APPLICATION: WATER QUALITY MONITORING. PLC SYSTEM MONITORS ANALYZER VALUES AND PROVIDES ALARMS FOR INVALID mA SIGNAL, HH, HL, LO AND LL ALARM STATES. SCADA PROVIDES INDICATION OF VALUES, ALARM SETPOINT ENTRY, HISTORICAL TREND AND DAILY MIN/AVE/MAX ARCHIVE.

>> WIRING NOTE: ANALYZERS SHALL CONNECT VIA PLUG AND CORD FOR EASE OF FIELD SERVICE. ANALOG CABLE IS REMAKE 103CD100AP TERMINATING IN ADJACENT MOUNT TERMINAL JUNCTION BOX AND INSTRUMENT MOUNTED MALE PLUG IS REMAKE 50892.

NETWORKED VALVE ACTUATOR



VIRTUAL I/O
VALVE POSITION XXX.X %
TORQUE APPLIED XXX FT-LBS
ACTUATOR TEMP XXX DegF
FULLY CLOSED
FULLY OPEN
VALVE SELECTOR IN STOP
VALVE SELECTOR IN REMOTE
VALVE SELECTOR IN LOCAL
VALVE IN PLC CONTROL
VALVE MOTOR RUNNING
VALVE TORQUE STOPPED
VALVE OVERLOAD
CMD ERROR

SHOWN FOR
REDUNDANT
PROFIBUS
NETWORK
CONNECTIVITY

PROFIBUS NETWORK CABLING NOTES

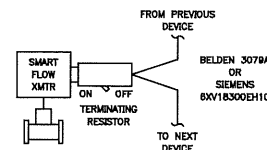
GENERAL PLANT CABLING CAN CARRY HIGH VOLTAGES AND CURRENTS. RUNNING PROFIBUS CABLES PARALLEL TO SUCH CABLES CAN LEAD TO INTERFERENCE PICKUP AND DATA TRANSMISSION ERRORS. MINIMIZE RISK OF INTERFERENCE BY FOLLOWING "INSTALLATION GUIDELINE FOR CABLING AND ASSEMBLY" AVAILABLE ONLINE AT WWW.PROFIBUS.ORG.

USE CARE TO AVOID COMMON PROFIBUS INSTALLATION PROBLEMS INCLUDING: OVERSTRESSED PULL TENSION, FAILURE TO FOLLOW END OF LINE TERMINATION REQUIREMENTS, FAILURE TO FOLLOW POLARITY, TAP LENGTHS IN EXCESS OF 1 METER AND FAILURE TO FOLLOW GROUNDING SPECIFICATIONS.

PROFINET / INDUSTRIAL ETHERNET CABLING REQUIRES HOME RUN TO NETWORK SWITCH FOR EACH DEVICE AND USE OF INDUSTRIAL CABLING AND CONNECTOR ASSEMBLIES.

APPLICATION: ALL VALVES UNLESS SPECIFICALLY IDENTIFIED. PLC SYSTEM POSITIONS VALVE IN AUTOMATIC MODE, PROVIDES ALARM NOTIFICATION ON FAILURE TO MEET SETPOINT, PROCESS FLOW VIOLATION, AND ALL VALVE INITIATED ALARM STATES. SCADA PROVIDES VISUALIZATION OF VALVE STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL, OVERRIDE OF VALVE.

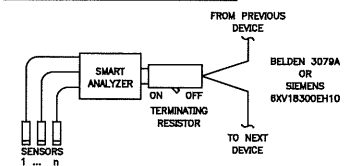
NETWORKED FLOW METER



VIRTUAL I/O
FLOW RATE
FLOW TOTAL-CONTINUOUS ACCUMULATION
FLOW TOTAL #2-BATCH (RESETTABLE)

APPLICATION: ALL MAGMETERS. PLC SYSTEM MONITORS FLOW RATE, TOTALIZERS, DIRECTION AND DIAGNOSTIC DATA. RATE IS CONTINUOUSLY ANALYZED FOR CONSISTENCY AND SMOOTHED BY PLC. ALARMS CALCULATED FOR INVALID DATA SIGNAL AND RAPID CHANGE IN FLOW. PLC READS AND RESETS DAILY FLOW TOTAL, READS LIFETIME ACCUMULATED TOTAL, AND INSTANTANEOUS FLOW RATE FROM FLOWMETER. SCADA PROVIDES INDICATION OF VALUES, HISTORICAL TREND AND DAILY TOTAL FLOW ARCHIVE.

NETWORKED ANALYZER TYPE 1

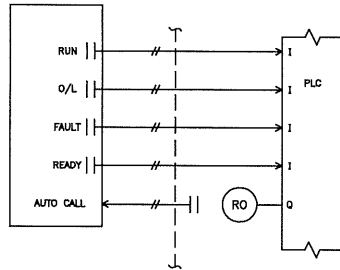


VIRTUAL I/O (UP TO EIGHT PROCESS MEASUREMENTS)
PROBE 1 - SCALED SIGNAL AT FLUID JUNCTION
PROBE 1 - TEMPERATURE AT FLUID JUNCTION
.
PROBE n - SCALED ANALYZER SIGNAL
PROBE n - TEMPERATURE AT FLUID JUNCTION
SYSTEM HEALTH / ERROR

APPLICATION: WATER QUALITY MONITORING. PLC SYSTEM MONITORS ANALYZER VALUES AND PROVIDES ALARMS FOR INVALID mA SIGNAL, HH, HL, LO AND LL ALARM STATES. SCADA PROVIDES INDICATION OF VALUES, ALARM SETPOINT ENTRY, HISTORICAL TREND AND DAILY MIN/AVE/MAX ARCHIVE.

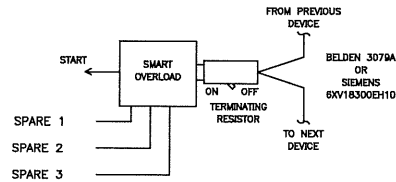
REUSE OF DOCUMENT				REV.				REVISION DESCRIPTION				APP	DATE
This document contains information, ideas and designs proprietary to S&B Inc. This may not be reproduced in any form without written consent of S&B Inc. Copyright 2014 S&B Inc.				DRWN	RTS	8-3-14	ASMB		ENGR				SCALE NONE
FILE: 11639-000-02				LAST				MODIFIED: 10:35 AM				PROJECT	
CITY OF CAMAS, WASHINGTON				SLOW SAND FILTER WTP				DRAWING NUMBER				D 11639	
TYPICAL MOTOR CONTROL				INTERFACE WIRING				VALVES, METERS AND ANALYZERS				SIZE	
JOB NUMBER				KEY				SHEET				2 OF 3	

DISCRETE STARTER



APPLICATION: SPECIAL PURPOSE MOTOR STARTERS FOR FRACTIONAL HORSEPOWER INSTALLATIONS. PLC SYSTEM MONITORS AUTOMATIC MODE, PROVIDES CONTROL (WHERE DEFINED BY P&ID), PROVIDES ALARM NOTIFICATION ON FAILURE TO COMMAND WITHIN ALLOTTED TIME, AND FOR A PROCESS LOGIC VIOLATION. SCADA PROVIDES VISUALIZATION OF MOTOR STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL OVERRIDE.

NETWORKED STARTER, NON-SUBMERSIBLE

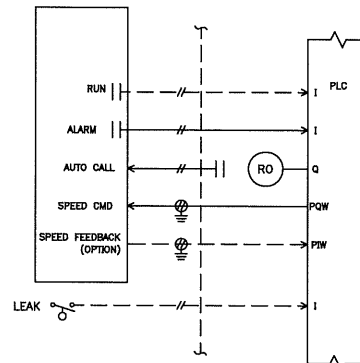


VIRTUAL I/O

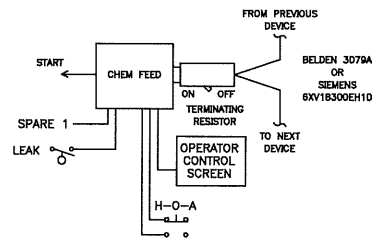
IN AUTO / IN HAND	HIGH CURRENT
RUN	COOL DOWN
READY	WARNING CURRENT H/L
HAND	CURRENT % OF FULL LOAD
COMM FAULT	# OF STARTS
LOCKOUT	

APPLICATION: FVNR MOTOR STARTERS. PLC SYSTEM MONITORS MOTOR STARTER VIA PROFIBUS NETWORK. MOTOR STARTER OVERLOAD DEVICE PROVIDES ON BOARD LOGIC FOR LOCAL (HAND) AND REMOTE AUTO CONTROL, PROVIDES CONTROL (AS DEFINED BY P&ID), PROVIDES ALARM NOTIFICATION ON FAILURE TO COMMAND WITHIN ALLOTTED TIME, FOR A PROCESS LOGIC VIOLATION AND ALL ALARM CONDITIONS GENERATED BY MOTOR STARTER. POWER INFORMATION IS MONITORED FOR OVER AND UNDER LOAD CONDITIONS AS EARLY WARNING INDICATION OF PROCESS ABNORMALITIES. SCADA PROVIDES VISUALIZATION OF MOTOR STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL OVERRIDES. SCADA PROVIDES INDICATION OF ALL NETWORK DERIVED INFORMATION, ARCHIVES RUNTIME, KW LOAD AND ALARM CONDITION.

DISCRETE CHEMICAL FEEDER



NETWORKED CHEMICAL FEEDER AND VFD CONTROLLED DIAPHRAGM CHEM PUMPS

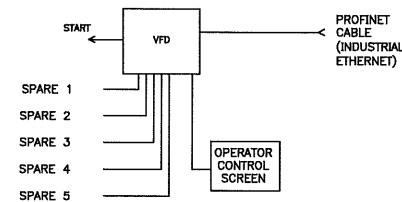


VIRTUAL I/O

IN AUTO / IN HAND	SPEED FEEDBACK
CALL	SPEED COMMAND
RUNNING	FLOW RATE - CURRENT
ANTI-CAVITATE	FLOW TOTAL
DIAPHRAGM BREAK/LEAK	DC LINK VOLTAGE (VFD TYPE)
SENSOR FAULT	MOTOR HP (VFD TYPE)
LOW LIQUID / RUN DRY	MOTOR VOLTS (VFD TYPE)
OVERLOAD-MOTOR OVERLOAD	MOTOR AMPS (VFD TYPE)
CALIBRATE MODE	MOTOR TORQUE (VFD TYPE)

APPLICATION: VARIABLE FEED RATE CHEMICAL FEEDER. PLC SYSTEM MONITORS MOTOR CONTROLLER VIA PROFIBUS NETWORK. CONTROLLER PROVIDES ON BOARD LOGIC FOR LOCAL (HAND) AND REMOTE AUTO CONTROL, PROVIDES CONTROL (AS DEFINED BY P&ID), PROVIDES ALARM NOTIFICATION ON FAILURE TO COMMAND WITHIN ALLOTTED TIME, FOR A PROCESS LOGIC VIOLATION AND ALL ALARM CONDITIONS GENERATED BY THE CONTROL UNIT. IF FEED UNIT IS VFD CONTROLLED, NETWORK PROVIDES INFORMATION IDENTIFIED FOR NETWORK VFD UNITS (LEFT). IF UNIT IS TIME OR FREQUENCY DRIVEN, PLC SYSTEM MONITORS STROKE COUNT AND VOLUME TO DETERMINE COMPLIANCE WITH PROCESS FEED SIGNAL. SCADA PROVIDES VISUALIZATION OF FEEDER STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL OVERRIDES (HAND/OFF/AUTO). SCADA PROVIDES INDICATION OF ALL NETWORK DERIVED INFORMATION, ARCHIVES RUNTIME, SPEED, DOSAGE, VOLUME AND ALARM CONDITION.

NETWORKED VFD, NON-SUBMERSIBLE



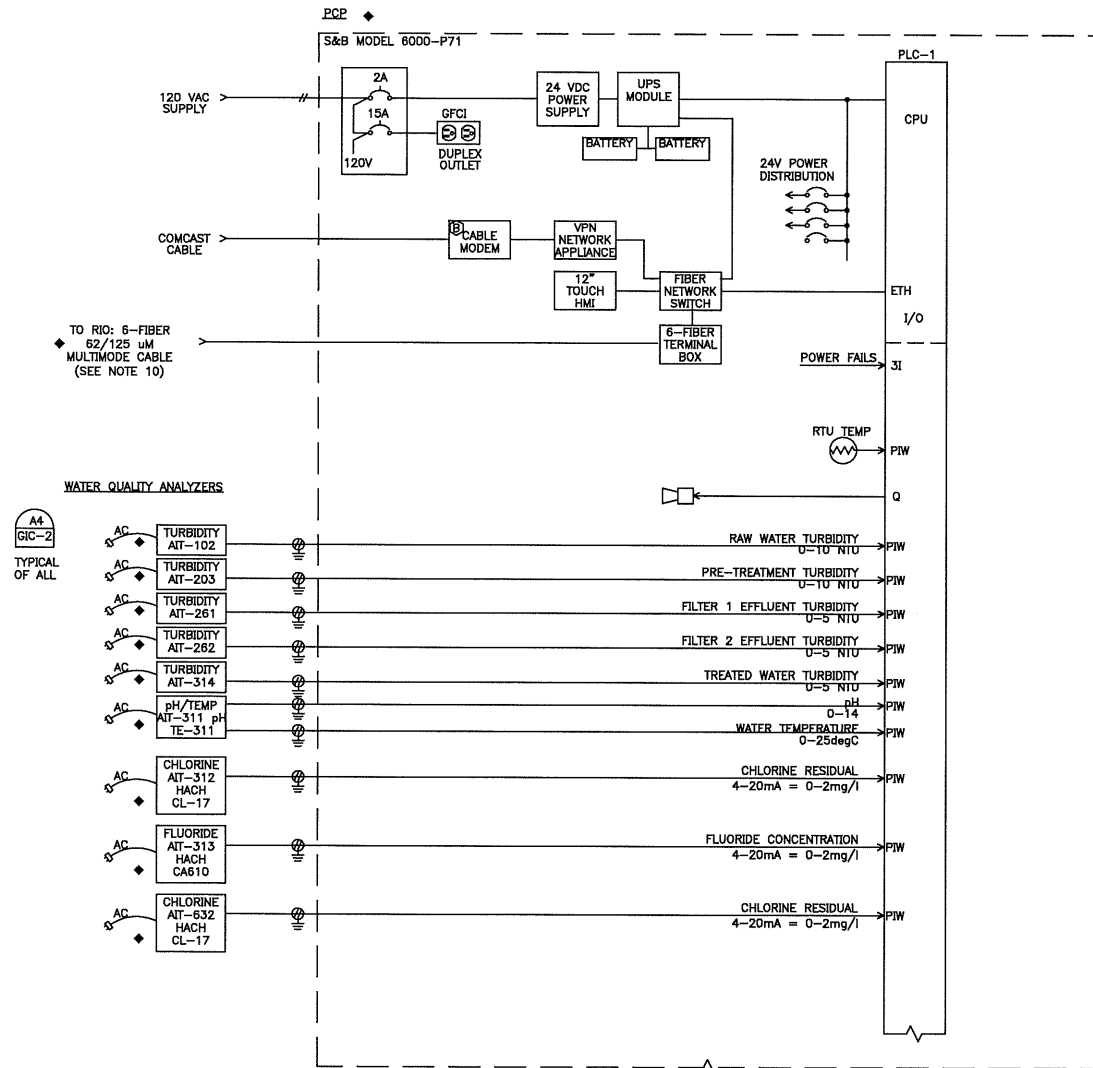
VIRTUAL I/O

IN AUTO / IN HAND	SPEED FEEDBACK
CALL	SPEED COMMAND
RUNNING	DC LINK VOLTAGE
READY	MOTOR HP
AT SPEED	MOTOR VOLTS
FAULT-VFD FAULT ALARM	MOTOR AMPS
ALARM-VFD WARNING	MOTOR TORQUE
OVERLOAD-MOTOR OVERLOAD	LAST FAULT CODE
TEMPERATURE-VFD/MOTOR OVERTEMP	LAST ALARM CODE

APPLICATION: VARIABLE FREQUENCY DRIVE MOTOR STARTERS. PLC SYSTEM MONITORS MOTOR CONTROLLER VIA PROFIBUS NETWORK. VFD CONTROLLER PROVIDES ON BOARD LOGIC FOR LOCAL (HAND) AND REMOTE AUTO CONTROL, PROVIDES CONTROL (AS DEFINED BY P&ID), PROVIDES ALARM NOTIFICATION ON FAILURE TO COMMAND WITHIN ALLOTTED TIME, FOR A PROCESS LOGIC VIOLATION AND ALL ALARM CONDITIONS GENERATED BY THE VFD CONTROL UNIT. POWER INFORMATION IS MONITORED FOR OVER AND UNDER LOAD CONDITIONS AS EARLY WARNING INDICATION OF PROCESS ABNORMALITIES. SCADA PROVIDES VISUALIZATION OF MOTOR STATUS AND ALARM CONDITIONS, AUTO OPERATION SETTINGS, AND SUPERVISORY CONTROL OVERRIDES (HAND/OFF/AUTO). SCADA PROVIDES INDICATION OF ALL NETWORK DERIVED INFORMATION, ARCHIVES RUNTIME, SPEED, KW LOAD AND ALARM CONDITION.

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TYPICAL MOTOR CONTROL NETWORK CONNECTED DEVICES		SIZE	JOB NUMBER	KEY	SHEET	REV	

INTERFACE
DETAIL
SHEET



OPERATIONAL FEATURES:

1. PLANT CONTROL PANEL (PCP) PROVIDES LOCAL CONTROL OF FILTRATION OPERATION AND SERVES REMOTE TELEMETRY UNIT (RTU) FUNCTION. PCP CONNECTS TO CITY MASTER SCADA SYSTEM. PCP PROVIDES AUTOMATIC CONTROL FOR CONNECTED PUMPS AND VALVES, MONITORS PHYSICAL AND ANALYTICAL FILTRATION PARAMETERS, PROVIDES ALARM CONDITIONS FROM ALL CRITICAL SYSTEMS. THE PCP CONNECTS VIA FIBER LINK TO THE REMOTE INPUT/OUTPUT PANEL (RIO) LOCATED IN THE FILTER GALLERY.
2. LOCAL HUMAN MACHINE INTERFACE (HMI) 12" TOUCH SCREEN IS USED BY OPERATORS WHEN ONSITE TO VIEW AND ADJUST OPERATING SETPOINTS, OBSERVE TRENDS AND HISTORICAL EVENTS/ALARMS. HMI PROVIDES GRAPHIC DEPICTION OF PROCESS WITH COLOR ANIMATION AND DETAILS REGARDING OPERATION OF DEVICES. KEY PROCESS VARIABLES ARE LOGGED LOCALLY EVERY 5 SECONDS, WITH MINIMUM 60 DAY RETENTION. THE HMIs ARE LOCATED ON BOTH THE PCP AND THE RIO PANELS.
3. MASTER SCADA SYSTEM ACQUIRES DATA VIA NETWORK CONNECTION. SCADA SYSTEM WORKSTATION PROVIDES GRAPHIC ANIMATION OF FILTRATION SYSTEM, TRENDING, ALARM NOTIFICATION AND HISTORICAL ARCHIVING OF THIS INFORMATION.
4. PROFIBUS AND PROFINET NETWORKS PROVIDE CONTROL AND MONITORING OF MOTOR CONTROLLERS, VALVES AND PROCESS INSTRUMENTS AS SHOWN.
5. BATTERY BACKUP PROVIDED FOR 6 HOURS OPERATION WITHOUT AC POWER. ALL DIGITAL INPUTS ARE 24VDC AND SUITABLE FOR MONITORING AND OPERATION WITHOUT UTILITY POWER AVAILABLE.
6. PLC BASED ON SIEMENS S7-300 SERIES PROCESSOR IN ET200S FORM FACTOR FOR ALL PLC AND I/O EQUIPMENT. SPARES PROVIDED IN RACK FOR 20% EXPANSION. NETWORK IP ADDRESSING AND PASSWORDS PER CITY SCADA STANDARD, CONFIGURATION PROVIDED TO OWNER AT TIME OF STARTUP. DETAILS REGARDING NETWORK CONFIGURATION ARE NOT PUBLISHED FOR SECURITY REASONS.
7. VALVE CONTROL VIA PROFIBUS PROVIDES FEEDBACK AND CONTROL FEATURES DEFINED ON I&C GENERAL INFORMATION SHEETS. VALVES REQUIRE AC POWER TO PROVIDE CONTROL AND FEEDBACK OVER PROFIBUS NETWORK.
8. WATER QUALITY ANALYZER VALUES ARE 4-20mA SIGNALS. PROVIDE HIGH AND LOW ALARM SETPOINTS AND ALARM PROCESSING FOR EACH VARIABLE AT THE MASTER SCADA SITE. DELAY WATER QUALITY ALARMS FOR 3 MINUTES FOLLOWING A POWER FAILURE RECOVERY TO ALLOW ANALYZERS TO COMPLETE POWER UP CYCLE, AND RESPOND ACURATELY TO PROCESS CONDITIONS.
9. AUTOMATION PROVIDES FOR CLOSED LOOP FEEDBACK FOR CHEMICAL PACING SIGNALS AS AN OPERATOR SELECTION. FAILURE OF ANALYZER SIGNAL DISABLES CLOSED LOOP FEEDBACK FEATURE.
10. 250' PRE-TERMINATED FIBER CABLE WITH PULL LOOP ON SPOOL INCLUDED IN SYSTEM INTEGRATOR SCOPE OF WORK FOR FIELD INSTALLATION BY ELECTRICAL CONTRACTOR TO CONNECT PCP WITH RIO. CABLE HAS TYPE SC CONNECTIONS ON OM1 OUTDOOR RATED 6 COUNT FIBER CABLE.

♦ DENOTES EQUIPMENT SUPPLIED AS PART OF SECTION 40 90 00 BY SYSTEM INTEGRATOR

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BLOCK DIAGRAM PLANT CONTROL PANEL WATER QUALITY MEASUREMENT				CITY OF CAMAS, WA SLOW SAND FILTRATION PROJECT				1 OF 11	
				SIZE	JOB NUMBER	KEY	SHEET	REV	
				D	11639	008	1		

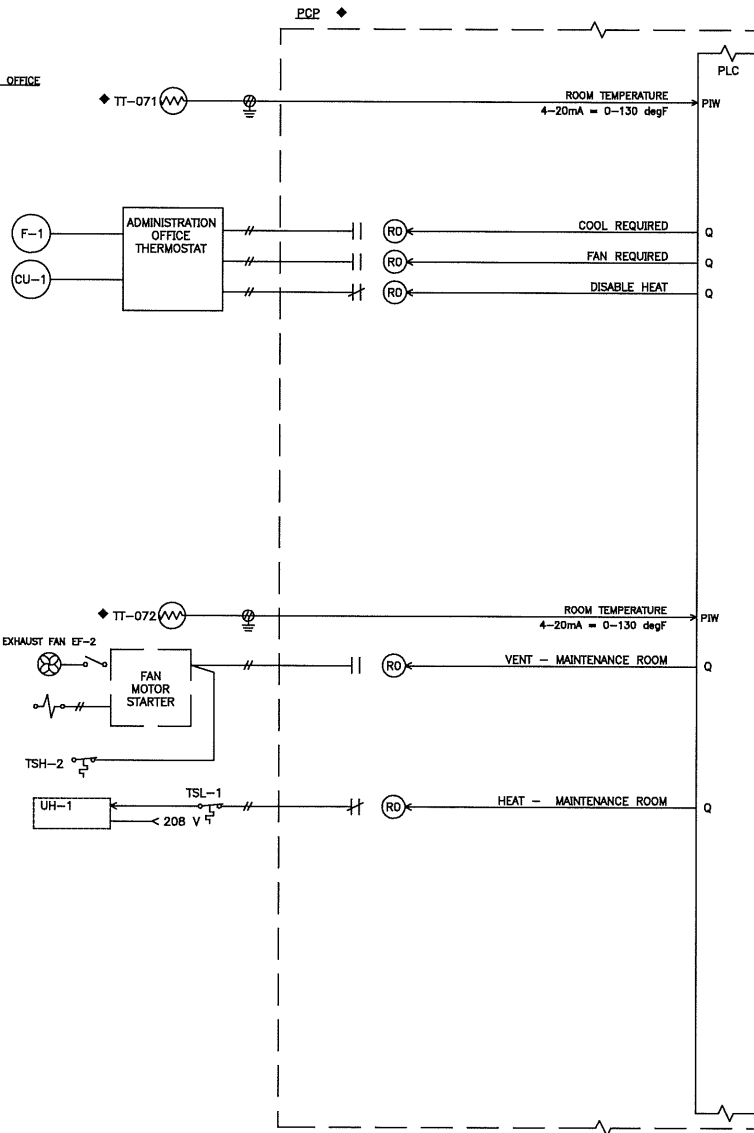
INTERFACE
DETAIL
SHEET

J
IC144

C
IC146

E
IC144

PROCESS ROOM AND OFFICE



OPERATIONAL FEATURES:

1. RTU SENSED AIR TEMPERATURE USED FOR OCCUPIED / UNOCCUPIED CONTROL OF HEATING UNITS. TEMPERATURE SETPOINTS FOR OCCUPIED / UNOCCUPIED ARE PROVIDED FOR OPERATOR ENTRY VIA TOUCH PANEL. UNOCCUPIED TEMPERATURE SETPOINT ADJUSTED FOR FREEZE PROTECTION, INITIALLY SET FOR 40degF. OCCUPIED TIME PERIOD DEFINED BY INTRUSION SYSTEM IN DISARMED STATUS. RTU LOGIC ALLOWS FOR OPERATOR TO REQUEST OCCUPIED TEMPERATURE SETPOINT FROM MASTER TELEMETRY UNIT TO BRING STATION UP TO TEMPERATURE PRIOR TO THE OPERATOR ARRIVING. RTU RETURNS TO UNOCCUPIED TEMPERATURE SETPOINT ONE HOUR AFTER RECEIVING COMMAND OR FOLLOWING TRANSITION COMMAND FROM INTRUSION STATUS. RTU PROVIDES HIGH AND LOW ROOM TEMPERATURE ALARMS TO MTU FOR OPERATOR RESPONSE.
2. TSH COOLING SWITCH MOUNTED IN MAINTENANCE ROOM IS CONNECTED IN PARALLEL TO RIO START CONTACT. TSL HEATING THERMOSTAT CONTACT WIRED IN SERIES WITH RIO CONTACT.
3. PCP PROVIDES HEAT, COOL AND FAN CONTACTS FOR CONTROL OF CU-1 AND F-1 HEATING SYSTEM.

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		TITLE: BLOCK DIAGRAM PLANVIEW/RYGIER PANEL		D 11639 006 2 OF 11		SIZE JOB NUMBER KEY SHEET REV	

INTERFACE
DETAIL
SHEET

A1
GI-1

GEN
35 kW

GENERATOR
CONTROL PANEL

GEN-041

START

AUTOMATIC
TRANSFER SWITCH

ATS-051

GENERATOR RUN
GENERATOR FAIL
GENERATOR LOW FUEL
GENERATOR NOT IN AUTO

ON GENERATOR
ON UTILITY
UTILITY AVAILABLE

YS-021
SMOKE
DETECTOR

YS-022
SMOKE
DETECTOR

YS-023
SMOKE
DETECTOR

ZS-062-1 ZS-062-2 ZS-062-3

SMOKE / AIR QUALITY SENSOR

SMOKE / AIR QUALITY SENSOR

SMOKE / AIR QUALITY SENSOR

DOOR AJAR

QS-061-1
MOTION
DETECTOR

QS-061-2
MOTION
DETECTOR

OFFICE AREA MOTION

OFFICE AREA MOTION

SHUTDOWN
HS-011

ZS-031

SEISMIC ALARM

PCP

PLC

OPERATIONAL FEATURES:

1. GENERATOR STARTS FOLLOWING LOSS OF UTILITY POWER AS REQUIRED FOR OPERATION OF THE TREATMENT FACILITY. THE RTU BATTERY BACKUP SYSTEM MONITORS LEVEL, PRESSURES, TEMPERATURES AND STATION STATUS. ATS PROVIDES INDICATION OF UTILITY POWER AVAILABILITY AND CURRENT TRANSFER SWITCH POSITION.
2. GENERATOR AND ATS PROVIDE DATA TO PLC SYSTEM VIA DISCRETE RELAY CONTACT CLOSURES AS DESCRIBED ON THIS SHEET.
3. SMOKE/AIR QUALITY INPUTS, MOTION AND DOOR STATUS USED FOR PROCESS CONTROL RESPONSES. PLANT CONTROL PANEL ACTS AS A PROCESS CONTROL SYSTEM AND IS NOT A LIFE SAFETY DEVICE. SHUTDOWN MUSHROOM BUTTON HS-011 ON PANEL FACE PROVIDES OVERALL SHUTDOWN OF SITE. SHUTDOWN HERE AND WHERE REFERENCED ELSEWHERE ON THE IC SHEETS REFERS TO A SEQUENCED STOP OF FILTER SYSTEMS, CLOSES PROCESS VALVES, STOPS CHEMICAL FEED SYSTEMS AND NOTIFIES OPERATOR OF EVENT. ANY SHUTDOWN CONDITION REQUIRES OPERATOR RESET PRIOR TO RESTORATION OF AUTOMATIC CONTROLS.
4. SEISMIC SENSOR IS LOCATED INSIDE PCP, MECHANICALLY DRIVEN AND REQUIRES MECHANICAL RESET ACTION BY AN OPERATOR. A TRIP CONDITION INITIATES AN OPERATOR PRE-ARRANGED RESPONSE FOR MOTORIZED VALVE POSITIONING AND PUMP OPERATION. OPERATOR MAY SELECT VALVES TO MOVE FOR FULL RESERVOIR ISOLATION, PARTIAL OPEN CONDITION OR REMAIN IN FULL AUTOMATIC OPERATION. VALVES MAY BE SET TO SEQUENCE OFFLINE OR TO REMAIN IN FULL AUTOMATIC OPERATION.

A1
GI-1

A1
GI-1

A1
GI-1

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TITLE BLOCK DIAGRAM PLANT/CONTROL SYSTEM PANEL		SIZE		JOB NUMBER		KEY	
						SHEET	
						REV	

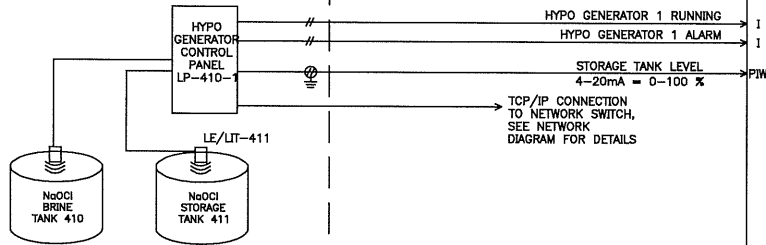
INTERFACE
DETAIL
SHEET

HYPOCHLORITE GENERATION SYSTEM
SUPPLY TO FEEDERS

A1
GIC-1

A1
GIC-2

D1
GIC-1



CHLORINE METERING PUMP SKID

B3
GIC-3

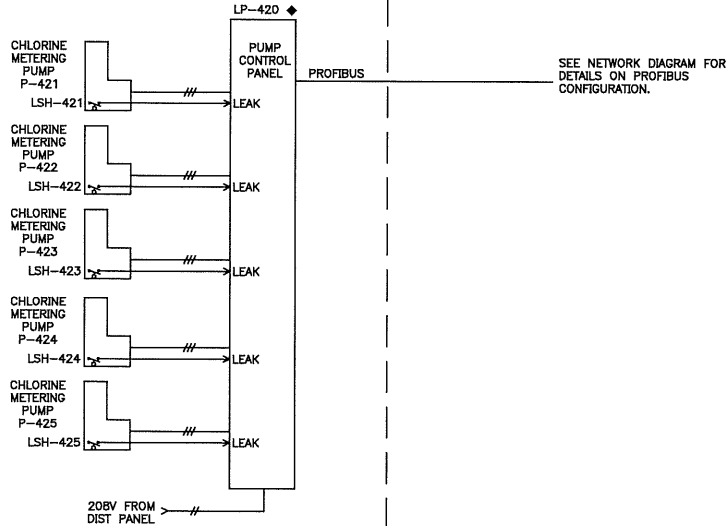
B3
GIC-3

B3
GIC-3

B3
GIC-3

B3
GIC-3

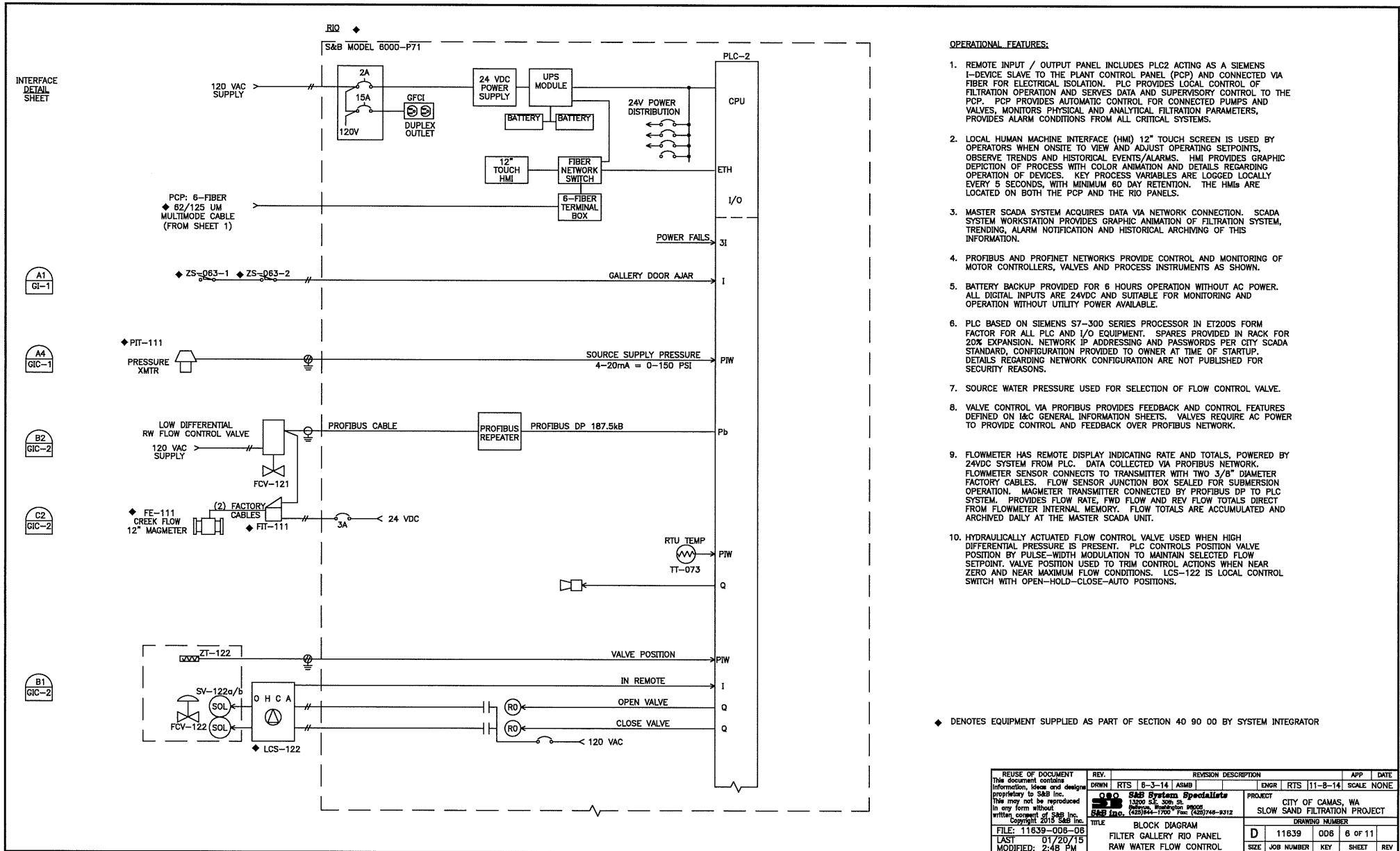
ONSITE USE



OPERATIONAL FEATURES:

1. PLC SYSTEM CALCULATES FEED PUMP FLOW AND DISPLAYS REMAINING STORAGE TIME BASED ON CURRENT FLOW RATE IF THE HYPO-CHLORITE GENERATOR WERE TO STOP PRODUCTION.
2. OPERATOR ENTERS CHLORINE SOLUTION CONCENTRATION, FULL SPEED PUMP RATING AND DESIRED DOSAGE. PLC CALCULATES PUMP SPEED BASED ON FINISHED WATER FLOW RATE. ALARMS PROVIDED FOR LOCAL AND REMOTE DISPLAY.
3. DOSAGE PUMP CONTROL AND MONITORING FEATURES: CONTROL PANEL DESIGNED FOR INTERFACE WITH DIAPHRAGM TYPE CHEM PUMP CONTROLLERS. WITH PUMP SWITCH IN AUTO POSITION, PLC CONTROL PANEL WILL COMMAND START OF MOTOR / PUMP OPERATION. HAND CONTROL IS INDEPENDENT OF PLC SYSTEM. CHEM PUMP ALARMS MONITORED VIA NETWORK CONNECTION. ALARM IS DISPLAYED ON OPERATOR INTERFACE MODULE ON PANEL FACE AND TRANSMITTED TO MASTER SCADA SYSTEM.
4. CHLORINE RESIDUAL ANALYZER PROVIDES LO-LO AND HI-HI SHUTDOWN OF FEED SYSTEM. HIGH AND LOW ALARMS ARE ADVISORY CONDITION FOR IMMEDIATE OPERATOR NOTIFICATION, BUT NOT PROCESS SHUTDOWN. ANALYZER PROVIDES UP TO 20% (ADJUSTABLE) CORRECTION OF FEED SIGNAL IN CLOSED LOOP CONTROL MODE.

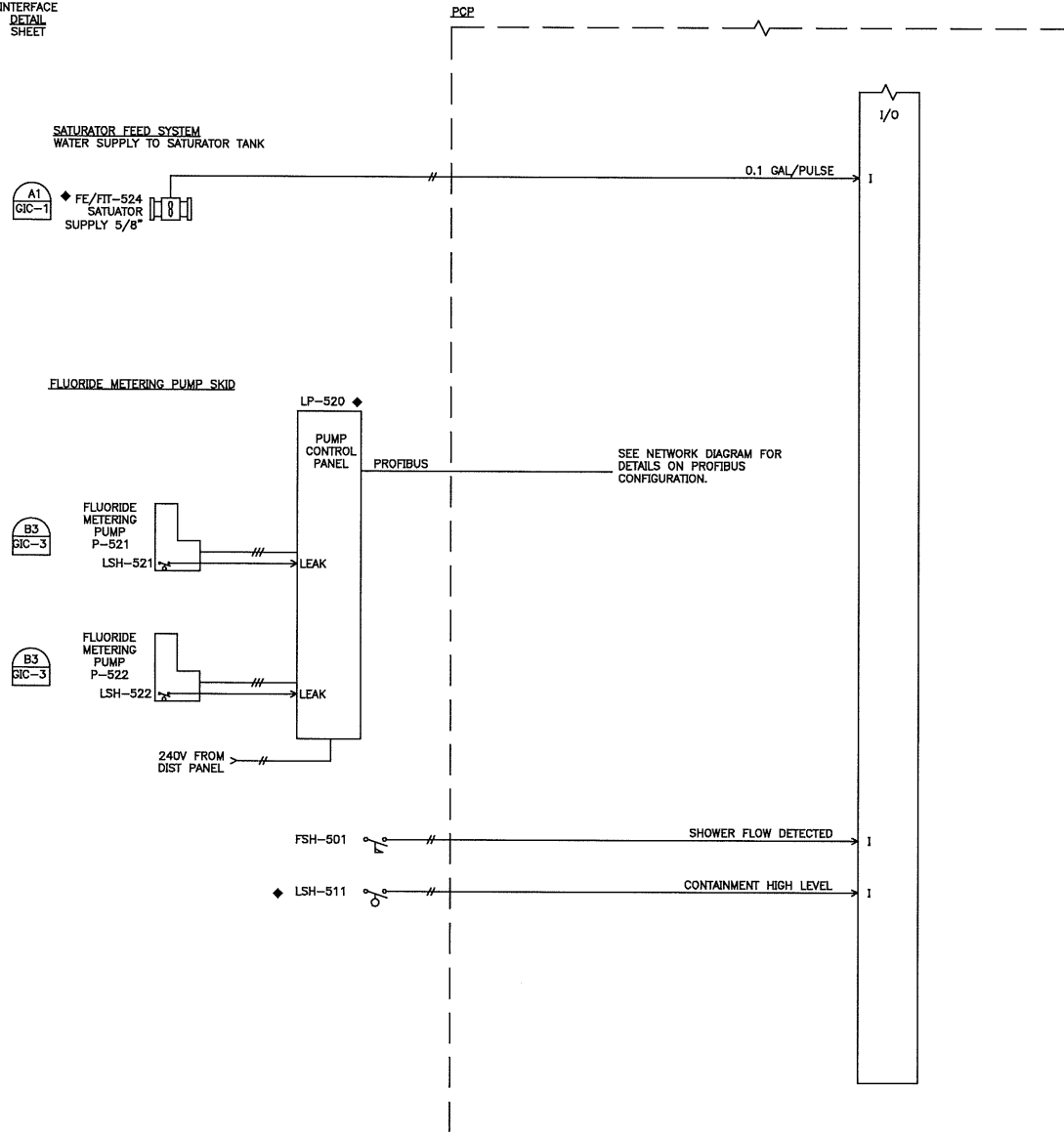
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TITLE BLOCK DIAGRAM PLANT CONTROL PANEL HYPOCHLORITE SYSTEMS				DRAWING NUMBER D 11639 008 4 OF 11				SIZE	JOB NUMBER	KEY	SHEET	REV



OPERATIONAL FEATURES:

1. REMOTE INPUT / OUTPUT PANEL INCLUDES PLC2 ACTING AS A SIEMENS I-DEVICE SLAVE TO THE PLANT CONTROL PANEL (PCP) AND CONNECTED VIA FIBER FOR ELECTRICAL ISOLATION. PLC PROVIDES LOCAL CONTROL OF FILTRATION OPERATION AND SERVES DATA AND SUPERVISORY CONTROL TO THE PCP. PCP PROVIDES AUTOMATIC CONTROL FOR CONNECTED PUMPS AND VALVES, MONITORS PHYSICAL AND ANALYTICAL FILTRATION PARAMETERS, PROVIDES ALARM CONDITIONS FROM ALL CRITICAL SYSTEMS.
2. LOCAL HUMAN MACHINE INTERFACE (HMI) 12" TOUCH SCREEN IS USED BY OPERATORS WHEN ON SITE TO VIEW AND ADJUST OPERATING SETPOINTS TO OBSERVE TRENDS AND HISTORICAL EVENTS/ALARMS. HMI PROVIDES GRAPHIC DEPICTION OF PROCESS WITH COLOR ANIMATION AND DETAILS REGARDING OPERATION OF DEVICES. KEY PROCESS VARIABLES ARE LOGGED LOCALLY EVERY 5 SECONDS, WITH MINIMUM 60 DAY RETENTION. THE HMIs ARE LOCATED ON BOTH THE PCP AND THE RIO PANELS.
3. MASTER SCADA SYSTEM ACQUIRES DATA VIA NETWORK CONNECTION. SCADA SYSTEM WORKSTATION PROVIDES GRAPHIC ANIMATION OF FILTRATION SYSTEM, TRENDDING, ALARM NOTIFICATION AND HISTORICAL ARCHIVING OF THIS INFORMATION.
4. PROFIBUS AND PROFINET NETWORKS PROVIDE CONTROL AND MONITORING OF MOTOR CONTROLLERS, VALVES AND PROCESS INSTRUMENTS AS SHOWN.
5. BATTERY BACKUP PROVIDED FOR 6 HOURS OPERATION WITHOUT AC POWER. ALL DIGITAL INPUTS ARE 24VDC AND SUITABLE FOR MONITORING AND OPERATION WITHOUT UTILITY POWER AVAILABLE.
6. PLC BASED ON SIEMENS S7-300 SERIES PROCESSOR IN ET200S FORM FACTOR FOR ALL PLC AND I/O EQUIPMENT. SPARES PROVIDED IN RACK FOR 20% EXPANSION. NETWORK IP ADDRESSING AND PASSWORDS PER CITY SCADA STANDARD, CONFIGURATION PROVIDED TO OWNER AT TIME OF STARTUP. DETAILS REGARDING NETWORK CONFIGURATION ARE NOT PUBLISHED FOR SECURITY REASONS.
7. SOURCE WATER PRESSURE USED FOR SELECTION OF FLOW CONTROL VALVE.
8. VALVE CONTROL VIA PROFIBUS PROVIDES FEEDBACK AND CONTROL FEATURES DEFINED ON I&C GENERAL INFORMATION SHEETS. VALVES REQUIRE AC POWER TO PROVIDE CONTROL AND FEEDBACK OVER PROFIBUS NETWORK.
9. FLOWMETER HAS REMOTE DISPLAY INDICATING RATE AND TOTALS, POWERED BY 24VDC SYSTEM FROM PLC. DATA COLLECTED VIA PROFIBUS NETWORK. FLOWMETER SENSOR CONNECTS TO TRANSMITTER WITH TWO 3/8" DIAMETER FACTORY CABLES. FLOW SENSOR JUNCTION BOX SEALED FOR SUBMERSION OPERATION. MAGMETER TRANSMITTER CONNECTED BY PROFIBUS DP TO PLC SYSTEM. PROVIDES FLOW RATE, FWD FLOW AND REV FLOW TOTALS DIRECT FROM FLOWMETER INTERNAL MEMORY. FLOW TOTALS ARE ACCUMULATED AND ARCHIVED DAILY AT THE MASTER SCADA UNIT.
10. HYDRAULICALLY ACTUATED FLOW CONTROL VALVE USED WHEN HIGH DIFFERENTIAL PRESSURE IS PRESENT. PLC CONTROLS POSITION VALVE POSITION BY PULSE-WIDTH MODULATION TO MAINTAIN SELECTED FLOW SETPOINT. VALVE POSITION USED TO TRIM CONTROL ACTIONS WHEN NEAR ZERO AND NEAR MAXIMUM FLOW CONDITIONS. LCS-122 IS LOCAL CONTROL SWITCH WITH OPEN-HOLD-CLOSE-AUTO POSITIONS.

INTERFACE
DETAIL
SHEET

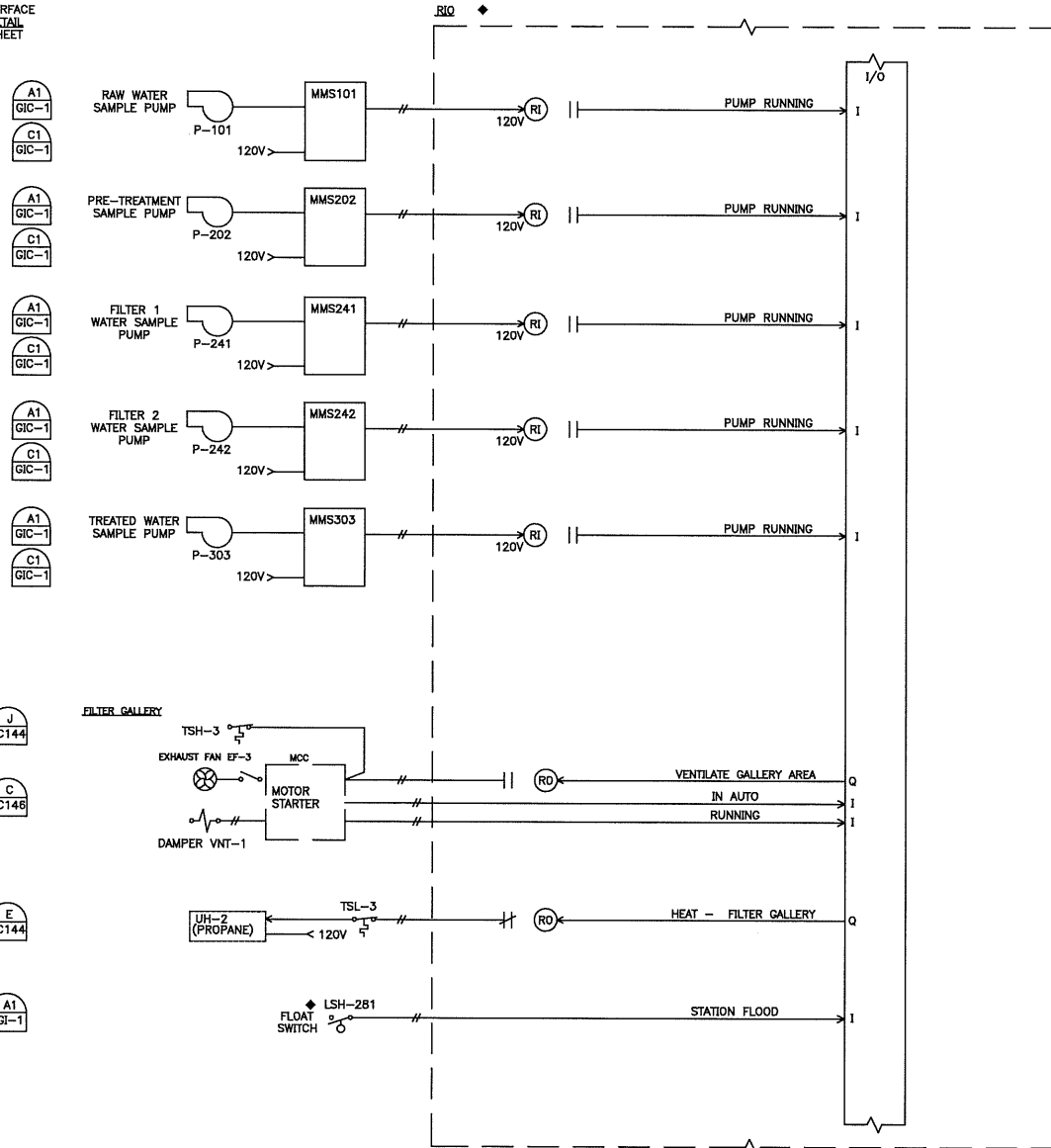


OPERATIONAL FEATURES:

1. PLC SYSTEM CALCULATES DAILY FLOW TO SATURATOR USING FLOW TOTAL PULSES FROM FLOWMETER. RATE SIGNAL AVERAGED DURING FILL CYCLE. DAILY TOTAL AND LIFETIME TOTAL ARE DISPLAYED LOCALLY. FLOWMETER TOTAL AND LIFETIME TOTAL ARE DISPLAYED LOCALLY AND TRANSMITTED TO MASTER SCADA FOR LOGGING ON HISTORIAN.
2. DOSAGE PUMP CONTROL AND MONITORING FEATURES: CONTROL PANEL DESIGNED FOR INTERFACE WITH DIAPHRAGM TYPE CHEM PUMP CONTROLLERS. WITH PUMP SWITCH IN AUTO POSITION, PLC CONTROL PANEL WILL COMMAND START OF MOTOR / PUMP OPERATION. HAND CONTROL IS INDEPENDENT OF PLC SYSTEM. CHEM PUMP ALARMS MONITORED VIA NETWORK CONNECTION. ALARM IS DISPLAYED ON OPERATOR INTERFACE MODULE ON PANEL FACE AND TRANSMITTED TO MASTER SCADA SYSTEM.
3. FLUORIDE CONCENTRATION ANALYZER PROVIDES LO-LO AND HI-HI SHUTDOWN OF FEED SYSTEM. HIGH AND LOW ALARMS ARE ADVISORY CONDITION FOR IMMEDIATE OPERATOR NOTIFICATION, BUT NOT PROCESS SHUTDOWN. ANALYZER PROVIDES UP TO 20% (ADJUSTABLE) CORRECTION OF FEED SIGNAL IN CLOSED LOOP CONTROL MODE.

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TITLE BLOCK DIAGRAM PLANT CONTROL PANEL FLUORIDE SYSTEM				DRAWING NUMBER D 11639 008 5 of 11				SIZE JOB NUMBER KEY SHEET REV				

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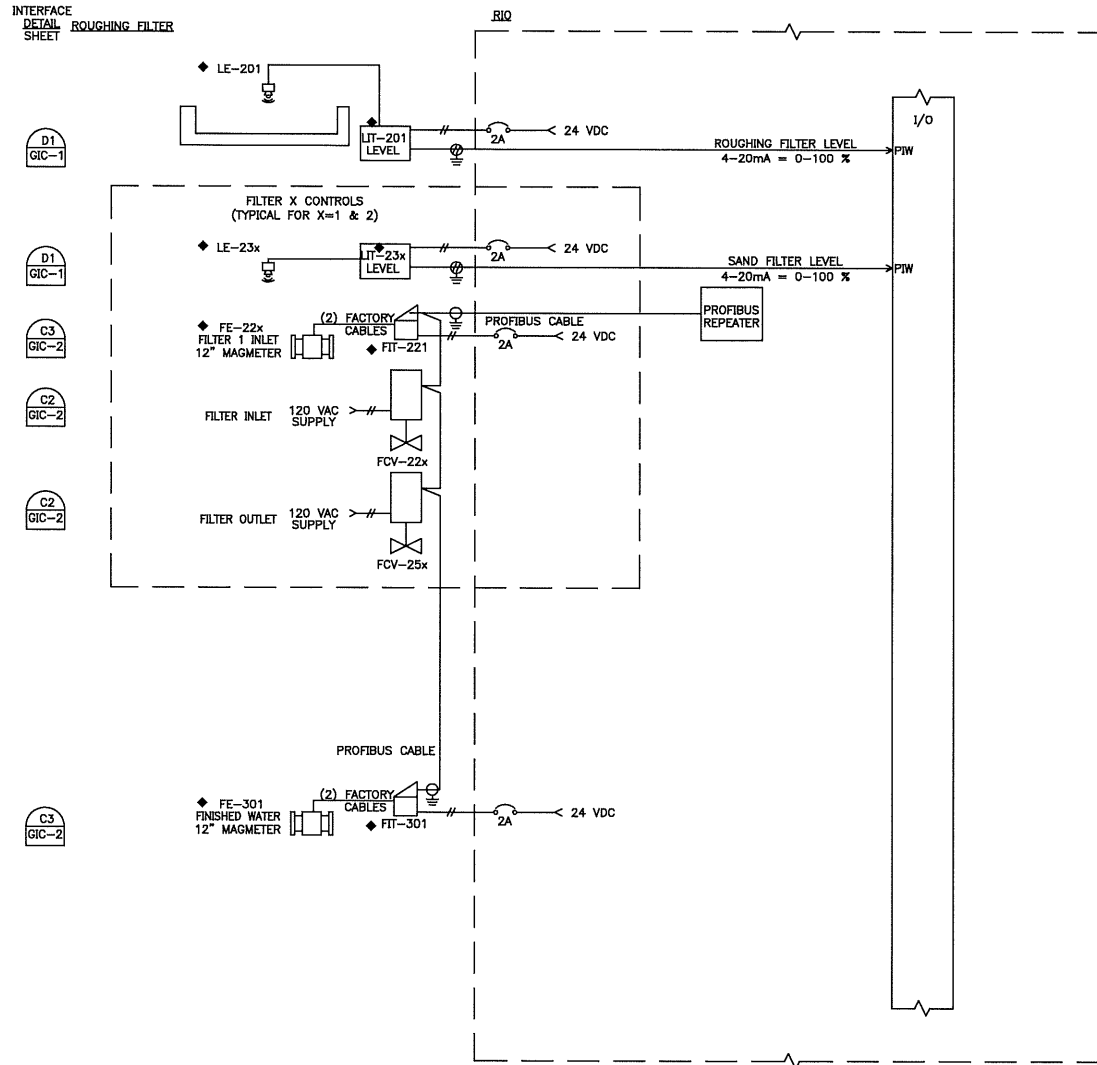


OPERATIONAL FEATURES:

1. SAMPLE PUMPS RUN CONTINUOUSLY WHEN WTP IS IN OPERATION AND ARE MANUALLY CONTROLLED. RIO MONITORS 120V POWERING MOTOR AT RI TYPE RELAY. SCADA GENERATES FAILURE ALARM FOR EACH SAMPLE PUMP WHEN RUN STATUS IS LOST FOR MORE THAN 30SEC.
2. RTU SENSED AIR TEMPERATURE USED FOR OCCUPIED / UNOCCUPIED CONTROL OF HEATING UNITS. TEMPERATURE SETPOINTS FOR OCCUPIED / UNOCCUPIED ARE PROVIDED FOR OPERATOR ENTRY VIA TOUCH PANEL. UNOCCUPIED TEMPERATURE SETPOINT ADJUSTED FOR FREEZE PROTECTION, INITIALLY SET FOR 40degF. OCCUPIED TIME PERIOD DEFINED BY INTRUSION SYSTEM IN DISARMED STATUS. RTU LOGIC ALLOWS FOR OPERATOR TO REQUEST OCCUPIED TEMPERATURE SETPOINT FROM MASTER TELEMETRY UNIT TO BRING STATION UP TO TEMPERATURE PRIOR TO THE OPERATOR ARRIVING. RTU RETURNS TO UNOCCUPIED TEMPERATURE SETPOINT ONE HOUR AFTER RECEIVING COMMAND OR FOLLOWING TRANSITION COMMAND FROM INTRUSION STATUS. RTU PROVIDES HIGH AND LOW ROOM TEMPERATURE ALARMS TO MTU FOR OPERATOR RESPONSE.
3. TSL COOLING SWITCH MOUNTED IN ROOM IS CONNECTED IN PARALLEL TO RIO START CONTACT. TSH HEATING THERMOSTAT CONTACT WIRED IN SERIES WITH RIO CONTACT.

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TITLE: BLOCK DIAGRAM FILTER GALLERY RIO PANEL SAMPLE PUMPS		DRAWING NUMBER		D 11639 008 7 OF 11			
		SIZE	JOB NUMBER	KEY	SHEET	REV	

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OPERATIONAL FEATURES:

1. PLC SYSTEM MONITORS LEVEL IN ROUGHING FILTER. LEVEL IS DISPLAYED LOCALLY AND TRANSMITTED TO MASTER SCADA FOR LOGGING ON HISTORIAN.
2. FILTERS MONITORED FOR FLOW, LEVEL AND CURRENT OPERATIONAL STATUS. VALVES FOR INLET AND OUTLET MAY BE CONTROLLED BY OPERATOR LOCALLY OR AT MASTER STATION TO ENABLE FILTER OPERATION. HI-HI TURBIDITY IN THE FILTER EFFLUENT CLOSSES FILTER OUTLET VALVES AND REQUIRES OPERATOR RESET TO RESTORE OPERATION. FILTER FLOW AND LEVEL PARAMETERS ARE TRENDED LOCALLY AND STORED ON MASTER SCADA HISTORIAN.
3. FINISHED WATER FLOW RATE AND TOTAL ARE LOGGED ON HISTORIAN. ANNUAL PRODUCTION DISPLAYED ON SCREEN.
4. FILTER PRODUCTION IS FLOW RATE CONTROLLED. FLOW SETPOINT PROVIDED VIA MASTER SCADA LINK. IN AUTOMATIC, LEVEL IN THE 544 ZONE LACAMAS RESERVOIR WILL ADJUST FLOW INVERSELY PROPORTIONAL TO LEVEL TO MAINTAIN CONSTANT OPERATION. A HIGH LEVEL IN THE RESERVOIR WILL STOP FLOW AND IT WILL RESUME WHEN LEVEL DROPS AN OPERATOR PRESCRIBED VOLUME.
5. FILTER OPERATION IS STOPPED WHEN CHLORINE RESIDUAL IS AT LO-LO OR HI-HI. ALARM LEVELS, IF FLUORIDE REACHES HI-HI LEVEL OR IF CHEMICAL FEED EQUIPMENT PREVENTS INJECTION TO THE EFFLUENT LINE.
6. WATER QUALITY MEASURED AT THE COMPLIANCE POINT PRV STATION WILL STOP FLOW IF CHLORINE RESIDUAL IS AT LO-LO OR HI-HI LEVELS DETECTED EITHER LOCAL TO THE PLANT OR REMOTELY AT THE PRV SITE.

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		DRAWING NUMBER		D		11639 006 8 OF 11	
		SIZE		JOB NUMBER		KEY	
		SHEET		REV			

INTERFACE
DETAIL
SHEET

A1
GIC-1

A1
GIC-1

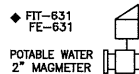
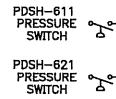
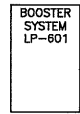
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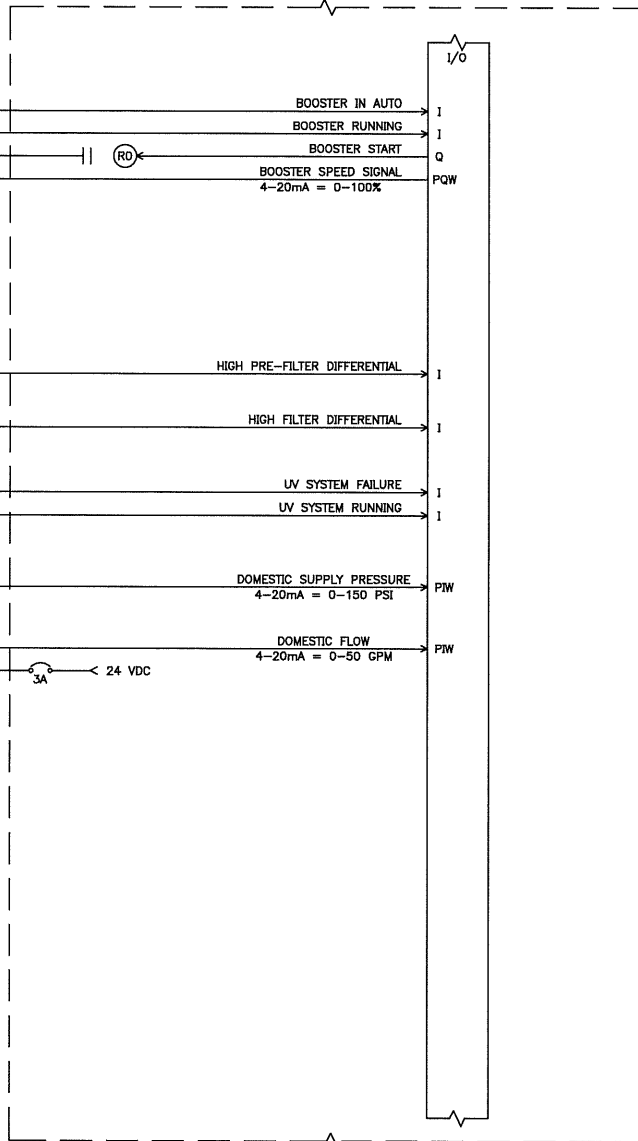
A4
GIC-1

C2
GIC-2

DOMESTIC WATER SUPPLY



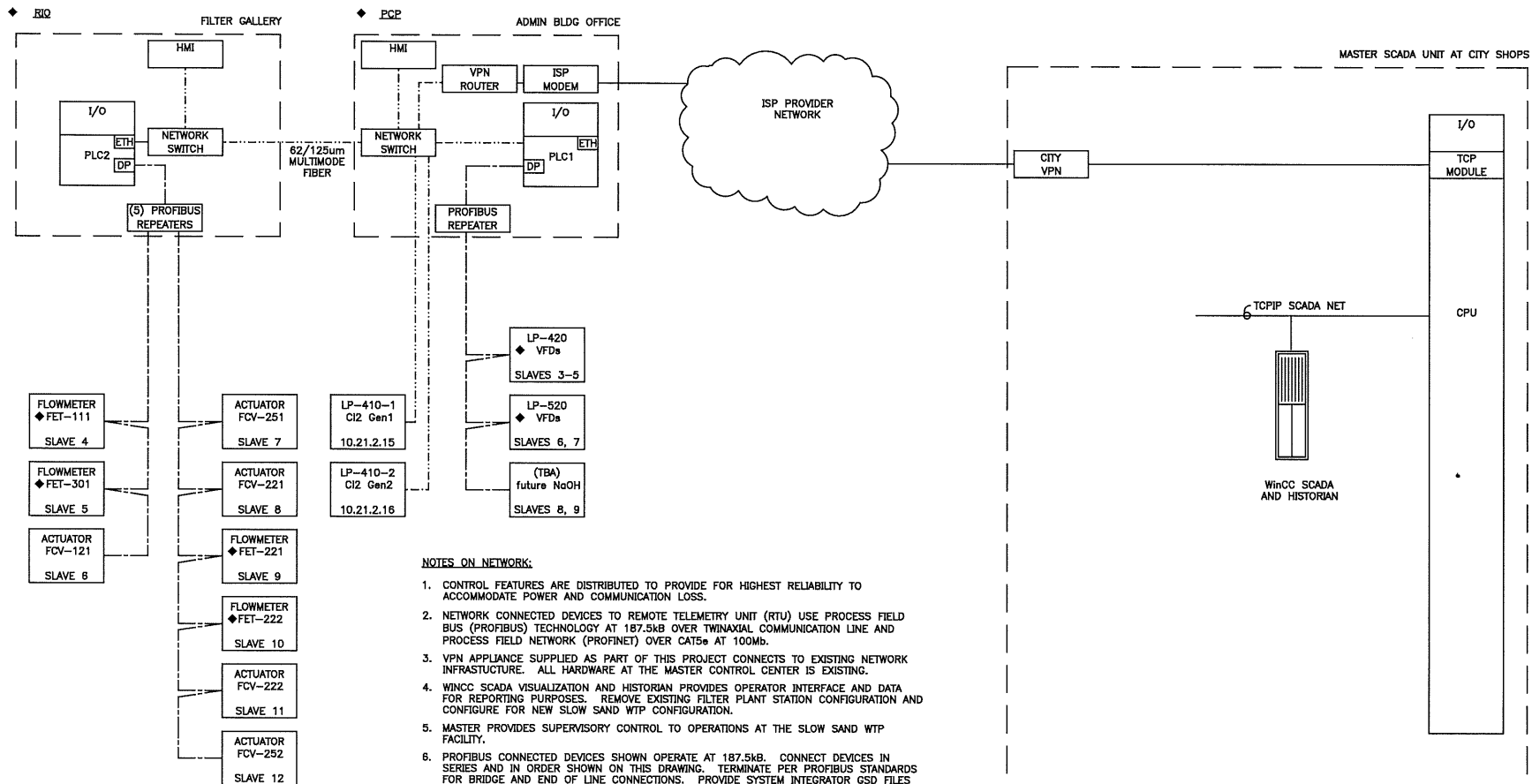
RIO



OPERATIONAL FEATURES:

1. DOMESTIC WATER SYSTEM IS A STANDALONE PROCESS CONTROL SYSTEM MONITORED BY SCADA FOR ALARMS AND STATUS. ALL CONTROL IS PROVIDED BY LP-601 AND LP-641. SEE DETAILS ON P&ID DRAWING FOR DEVICES AND INSTRUMENTS INCLUDED IN THIS VENDOR PACKAGE.
2. BOOSTER PUMP STARTS ON LOW PRESSURE. SPEED SIGNAL PROVIDES CONTROL TO MAINTAIN PRESSURE SETPOINT. BOOSTER PUMP STOPS ON SUSTAINED LOW FLOW CONDITION.
3. FLOW AND PRESSURE DATA IS ARCHIVED BY SCADA AND AVAILABLE FOR TRENDING.

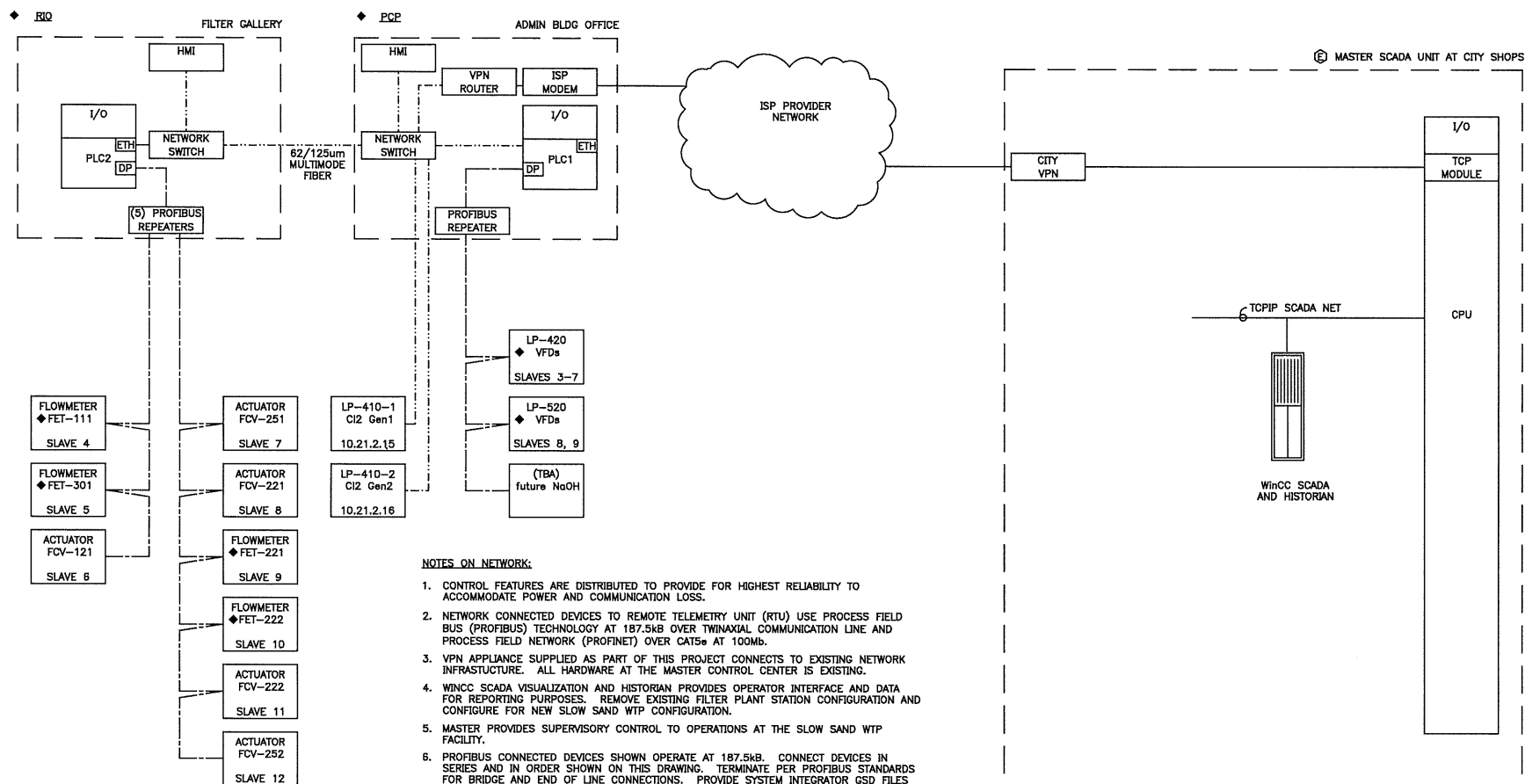
REUSE OF DOCUMENT				REVISION DESCRIPTION				APP	DATE
<small>The document contains information, ideas and designs proprietary to S&B Inc. This may not be reproduced in any form without written consent of S&B Inc. Copyright 2015 S&B Inc.</small>				DRWN	RTS	[6-15-14]	ASMB	ENGR	RTS
				S&B System Specialists S&B Inc. <small>1300 S.E. 30th St. #2000 Seattle, WA 98104 (206) 425-1700 Fax: (425) 748-8312</small>				PROJECT CITY OF CAMAS, WASHINGTON SLOW SAND FILTRATION PROJECT	
				FILE: 11639-008-09 LAST MODIFIED: 01/15/15 6:52 PM				DRAWING NUMBER D 11639 008 9 of 11	
TITLE FILTER GALLERY RIO PANEL DOMESTIC WATER SYSTEM				SIZE	JOB NUMBER	KEY	SHEET	REV	



NOTES ON NETWORK:

- CONTROL FEATURES ARE DISTRIBUTED TO PROVIDE FOR HIGHEST RELIABILITY TO ACCOMMODATE POWER AND COMMUNICATION LOSS.
- NETWORK CONNECTED DEVICES TO REMOTE TELEMETRY UNIT (RTU) USE PROCESS FIELD BUS (PROFIBUS) TECHNOLOGY AT 187.5KB OVER TWINAXIAL COMMUNICATION LINE AND PROCESS FIELD NETWORK (PROFINET) OVER CAT5e AT 100Mb.
- VPN APPLIANCE SUPPLIED AS PART OF THIS PROJECT CONNECTS TO EXISTING NETWORK INFRASTRUCTURE. ALL HARDWARE AT THE MASTER CONTROL CENTER IS EXISTING.
- WINCC SCADA VISUALIZATION AND HISTORIAN PROVIDES OPERATOR INTERFACE AND DATA FOR REPORTING PURPOSES. REMOVE EXISTING FILTER PLANT STATION CONFIGURATION AND CONFIGURE FOR NEW SLOW SAND WTP CONFIGURATION.
- MASTER PROVIDES SUPERVISORY CONTROL TO OPERATIONS AT THE SLOW SAND WTP FACILITY.
- PROFIBUS CONNECTED DEVICES SHOWN OPERATE AT 187.5KB. CONNECT DEVICES IN SERIES AND IN ORDER SHOWN ON THIS DRAWING. TERMINATE PER PROFIBUS STANDARDS FOR BRIDGE AND END OF LINE CONNECTIONS. PROVIDE SYSTEM INTEGRATOR GSD FILES FOLLOWING SUBMITTAL APPROVAL FOR SOFTWARE DEVELOPMENT.
- CHLORINE GENERATORS EXCHANGE DATA OVER TCP/IP USING ONE OF THE FOUR OPEN PROTOCOLS: AB ETHER/IP, MODBUS TCP, PROFINET OR SIEMENS S7 COMMUNICATION. DATA EXCHANGE SHALL INCLUDE ONE 16-BIT WORD OF BOOLEAN DATA, AND UP TO FIVE 32-BIT REAL VALUES. DATA MAP PROVIDED BY CL2 GENERATOR SUPPLIER, GENERATOR UNIT ACTS AS SERVER/S�AVE TO QUERY REQUESTS FROM SCADA SYSTEM.
- SCADA SYSTEM HAS SUFFICIENT CAPACITY FOR FUTURE ADDITION OF SODIUM HYDROXIDE FEED SYSTEM IN ADMINISTRATIVE BUILDING.

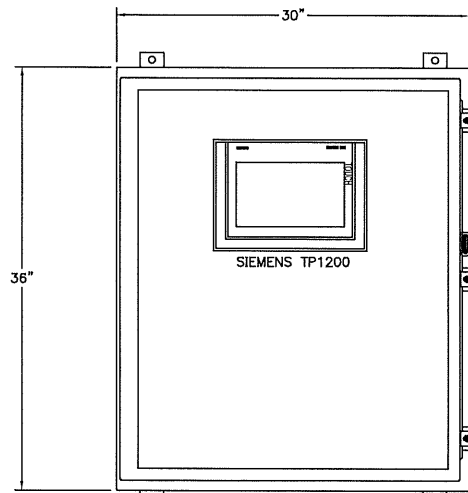
REUSE OF DOCUMENT		REV.		REVISION DESCRIPTION		APP	DATE
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BLOCK DIAGRAM		SCADA NETWORK DIAGRAM		D		11639 008 10 OF 11	
SIZE		JOB NUMBER		KEY		SHEET	
REV		REV		REV		REV	



NOTES ON NETWORK:

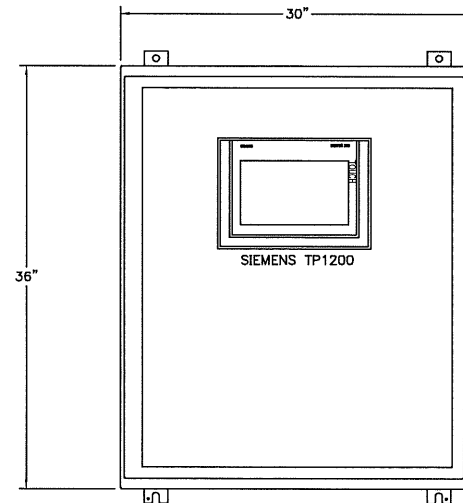
- CONTROL FEATURES ARE DISTRIBUTED TO PROVIDE FOR HIGHEST RELIABILITY TO ACCOMMODATE POWER AND COMMUNICATION LOSS.
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				S&B System Specialists 13200 S.E. 30th St. Bellevue, Washington 98005 S&B Inc. (206)944-1750 Fax (206)748-8312				PROJECT CITY OF CAMAS, WASHINGTON SLOW SAND FILTRATION WTP			DRAWING NUMBER	
				FILE: 11639-006-10 LAST: 01/20/15 MODIFIED: 2:24 PM				BLOCK DIAGRAM SCADA NETWORK DIAGRAM				
				SIZE	JOB NUMBER	KEY	SHEET	REV				
				D	11639	006	10 of 11					



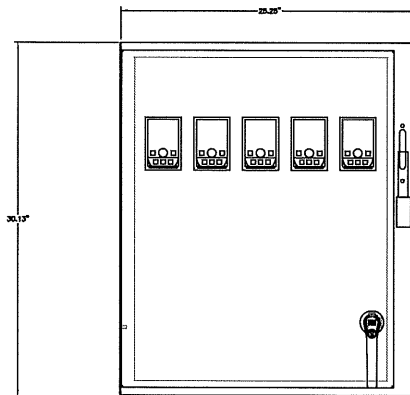
SAGINAW SCE-363012LP TYPE 12 ENCLOSURE
WITH SCE-36P30 BACK PANEL

◆ PCP
PLANT CONTROL PANEL

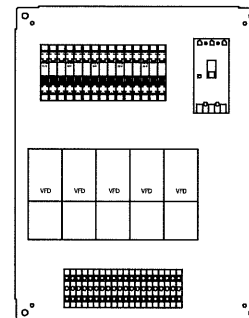


SAGINAW SCE-363012LP TYPE 12 ENCLOSURE
WITH SCE-36P30 BACK PANEL

◆ RIO
REMOTE INPUT/OUTPUT PANEL



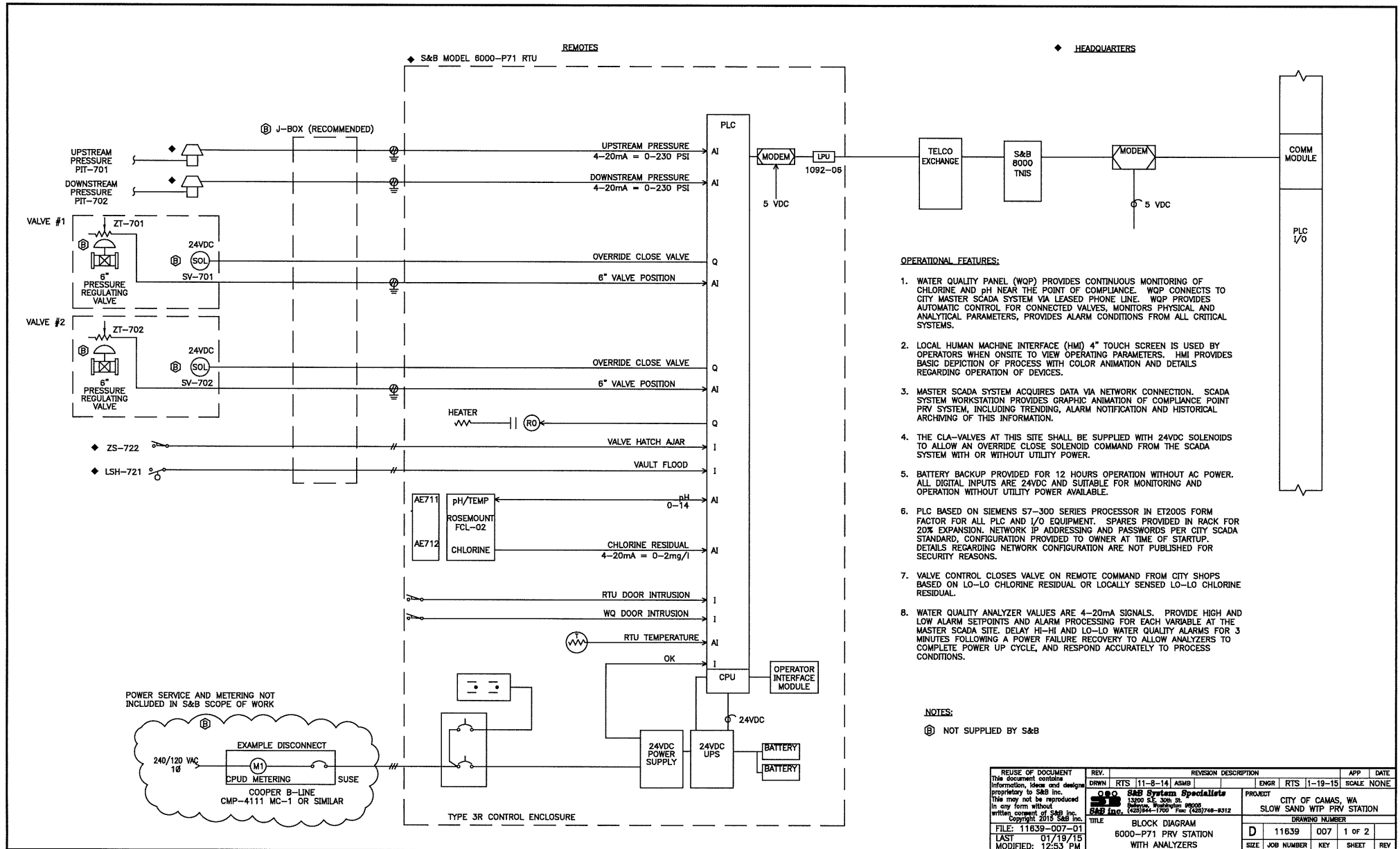
ENCLOSURE FRONT
SAGINAW SCE-30XDL25105SLP TYPE 4X ENCLOSURE
WITH SCE-30P24 BACK PANEL
(TYPICAL FOR CHEMICAL FEED VFD PANELS)

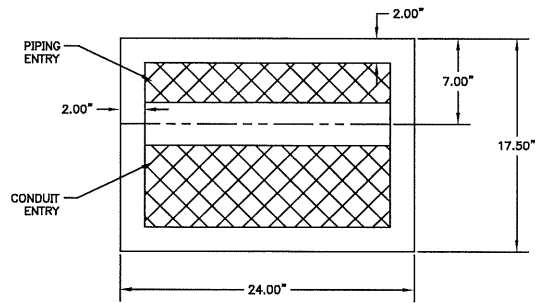
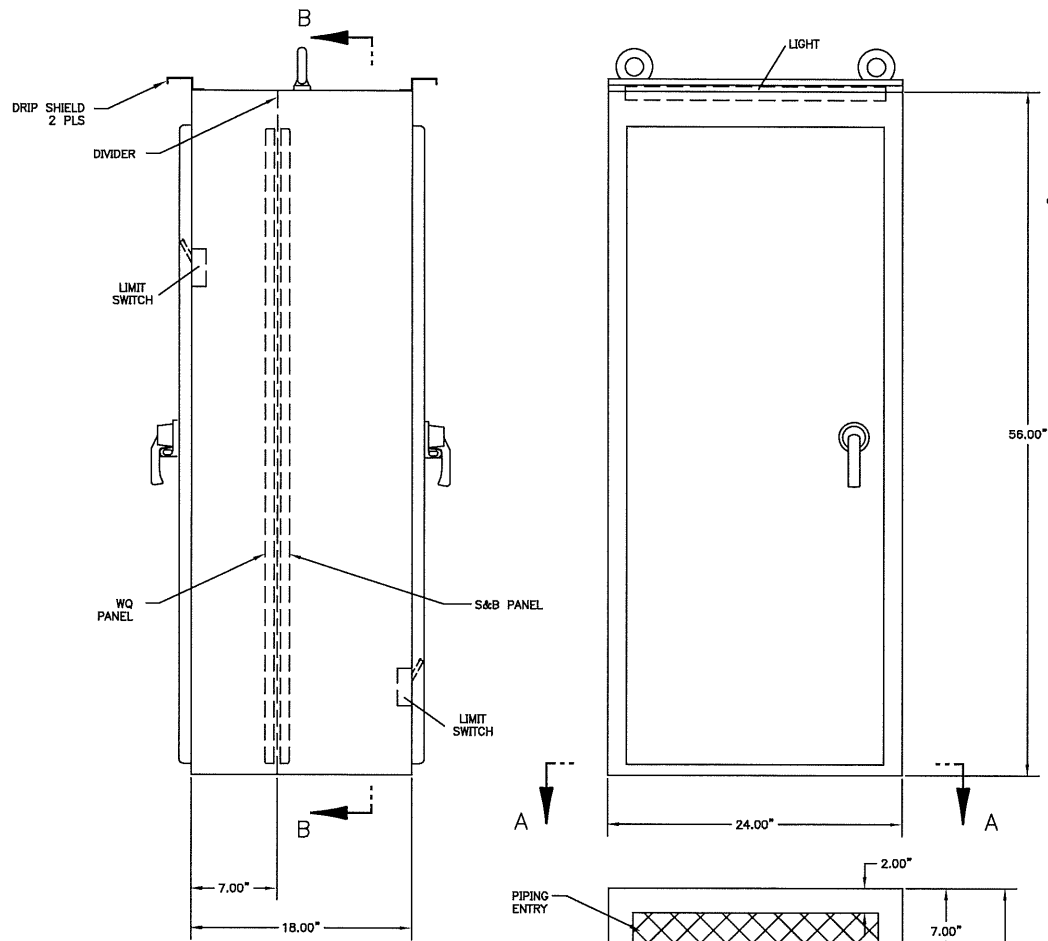


BACK PANEL

LABEL:
FLUORIDE METERING VFD CONTROLLER LP-520 (2 VFD)
HYPOCHLORITE METERING VFD CONTROLLER LP-429 (3 VFD)

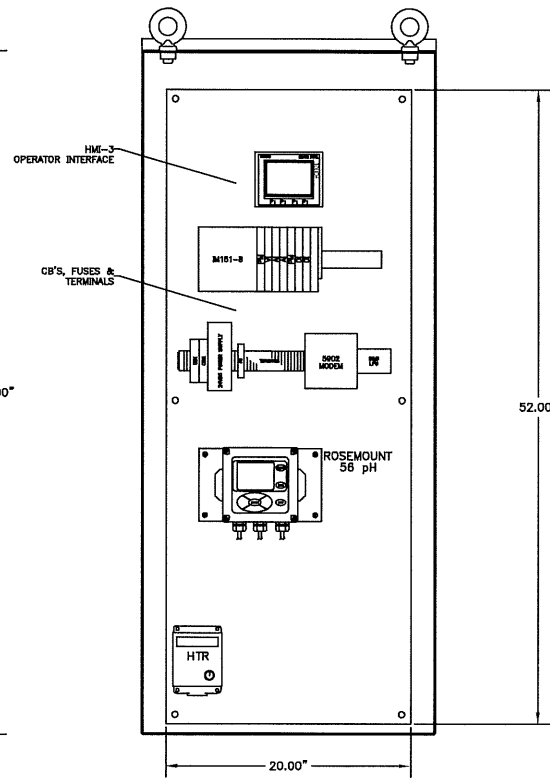
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SIZE	JOB NUMBER	KEY	SHEET	REV					



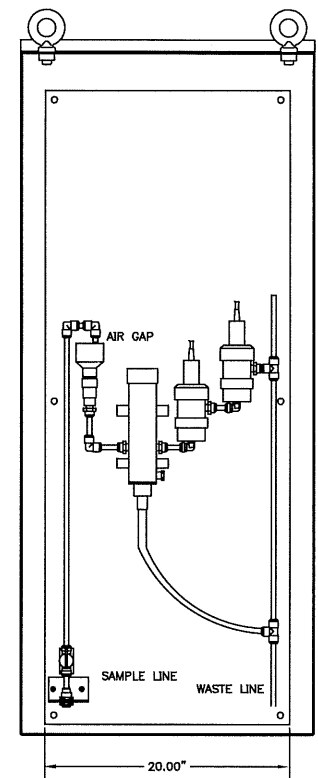


SECTION A-A

SAGINAW SBA3-56R241BFSDA ENCLOSURE
WITH (2) SCE-60P24F1 BACK PANELS



SECTION A-A
BACK PANEL LAYOUT



SECTION B-B
BACK PANEL LAYOUT

SITE CONTRACTOR TO PROVIDE DRAIN
SYSTEM FOR ANALYZER WASTE
STREAM FLOW. ESTIMATE 5-12 GPH.

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S&B System Specialists 1300 S.E. 30th St. Gresham, Washington 98604 (425)444-1700 Fax: (425)748-9312		PROJECT		CITY OF CAMAS, WA SLOW SAND WTP PRV STATION		DRAWING NUMBER		D 11639 007 2 OF 2		SIZE JOB NUMBER KEY SHEET REV	
FILE: 11639-007-02 LAST MODIFIED: 01/20/15 MODIFIED: 1:49 PM		TITLE		PRESENTATION PRV MONITORING WITH WATER QUALITY							

Utility Code Changes Phase 2

City of Camas
Finance Department



Utility Billing Changes Update

- Council authorized Phase I Utility Code Changes on October 7, 2014 – Ordinance 2711
- 2 Billing Cycles have followed with improving outcomes – fewer shut-offs
- Changes included:
 - Basic Service Charges
 - No Door Hangers
 - Longer Grace Period
 - Notification to both Landlord and Renter
 - One Leak Adjustment every 5 years



Phase II

- 7 Changes Proposed
 - Budget Billing
 - Low-Income Assistance
 - Abandonment of Service
 - Service Callout Fees
 - Account Set-Up Fees
 - No Payment Extensions
 - Recorded Property Liens



Budget Billing

- Low Income Qualification
- Enrollment for Budget Billing or average annual utilities
- True-Up at the end of the year
- Intended for Fixed Income customers with low income



Low-Income Assistance

- Partner with external social aid agency to provide:
 - Confirmation of Low Income
 - Assist with utility bill
 - Assist in finding future options to meet payment dates
- City funds program through Utility Rates



Abandonment of Service

- Service disconnected longer than 5 years could be considered abandoned
- Billing would cease
- Customers wishing to reconnect would be required to pay the current system development charges



Service Callout Fees

- Service calls for the Water Crew could incur a nominal service fee for:
 - Check a meter read
 - Check for a leak
 - Help locate a meter box
- This fee would be included on the City Fee Schedule



Account Setup Fees

- New customers would pay a nominal fee to start their utility customer
- Intent is to cover the staffing costs
 - Time involved is increasing especially for rental accounts
- Fee to be included on the City's Fee Schedule



No Payment Extensions (Promises)

- Utility customers would no longer be allowed to request an extension for payment to avoid disconnection of services
- No Municipal Code Change



Recorded Property Liens

- Lien property for unpaid utility bills after a certain \$ amount
- Discontinue sending accounts to a Collection Agency
- Pass thru all Lien Fees charged by the County
- Provide an online title check connection through a third party – paid by the title companies

Questions

Utility Code Changes Phase 2

City of Camas
Finance Department



Utility Billing Changes Update

- Council authorized Phase I Utility Code Changes on October 7, 2014 – Ordinance 2711
- 2 Billing Cycles have followed with improving outcomes – fewer shut-offs
- Changes included:
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 - Notification to both Landlord and Renter
 - One Leak Adjustment every 5 years



Phase II

- 7 Changes Proposed
 - Budget Billing
 - Low-Income Assistance
 - Abandonment of Service
 - Service Callout Fees
 - Account Set-Up Fees
 - No Payment Extensions
 - Recorded Property Liens

Questions

2015 Limited General Obligation Bond \$7,300,000

City of Camas

Status of Limited GO Bond

- Standard and Poor's rated the City AA+
- City Council approved the bond issue in Ordinance 2710 on July 21, 2014 for an amount not to exceed \$10,500,000
- Council requested prior to the sale of bonds, a presentation informing Council as to the projects and the payment plan for the debt service.

Current Needs

• LED Lights	\$2,500,000
• 6 th and Norwood	\$2,000,000
• Friberg/Strunk	\$1,000,000
• 38 th Ave. Phase II	\$500,000
• Parker	\$500,000
• Annex Building	\$300,000
• Fire Truck	\$500,000
Total Bond Issue	\$7,300,000

Current Bond Market – 2/10/2015

SOURCES & USES

- Sources:
 - Par \$6,320,000
 - Premium \$1,070,096
 - Total Proceeds \$7,390,096
- Uses
 - Deposits \$7,303,656
 - Costs \$86,440
 - Total Uses \$7,390,096

TERMS

- TIC 3.10%
- Average Coupon 4.85%
- Maturity 12/1/2034
- Average Pymt \$503,913
- Net Interest \$2,574,831

LED Lights

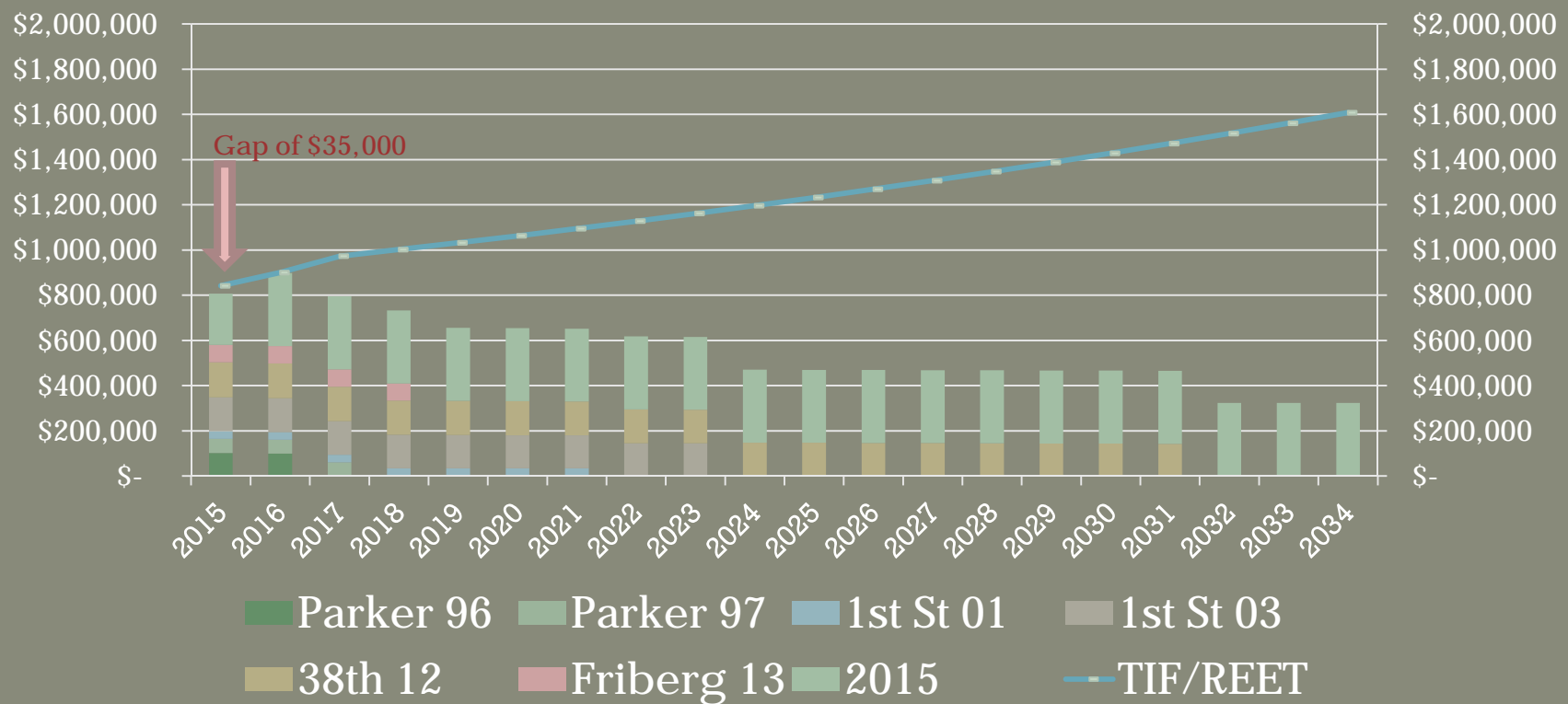
PROJECT DESCRIPTION

- This project would replace all City street lights with LED bulbs. It would also light two city streets currently lacking street lighting.
- Replacements: \$2,500,000
- New Lights \$500,000
- Grant: (\$500,000)
- Net Costs: \$2,500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service: \$172,573
- Energy and Maintenance savings (\$117,000)
- CPU Incentives
One-Time (257,000)

Transportation Debt



6th and Norwood Street Project

PROJECT DESCRIPTION

- This project is currently sized to be an intersection and pavement on 6th Avenue.
- Costs: \$2,000,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service: \$138,058
- Payments from REET 1 and/or Transportation Impact Fees

Friberg/Strunk Construction

PROJECT DESCRIPTION

- These funds would closeout the project.
- Costs: \$1,000,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$69,029
- Payments from REET 1 and/or Transportation Impact Fees

38th Avenue Phase II

PROJECT DESCRIPTION

- These funds would be used to closeout the project.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$34,515
- Payments from REET 1 and/or Transportation Impact Fees

Parker Road

PROJECT DESCRIPTION

- This project is to design, permit and right of way acquisition for Parker Road from 16th to Pacific Rim Drive.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$34,515
- Payments from REET 1 and/or Transportation Impact Fees

Annex Building

PROJECT DESCRIPTION

- This project is acquire a building currently rented by the City.
- An appraisal would be required to size the project.
- Costs: \$300,000
based upon current
assessed values

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early
estimate: \$20,709
- Current rent (\$12,000)
- Rent from existing
tenant (\$12,000)

Fire Truck

PROJECT DESCRIPTION

- This project is acquire a new fire truck to replacing an aging apparatus.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$34,515
- Currently, the City of Camas will payoff debt service for an existing fire truck. The current debt service is \$66,000/year.
- City of Washougal would pay their proportionate share

Next Steps

- February 9
 - Final Preliminary Official Statement (POS) - COMPLETE
 - Update call to Standard and Poor's - COMPLETE
- February 17
 - City Council to see final projections
 - Updated rating
- February 23
 - Finalize POS sent
- March 2
 - Council considers Bond Budget Supplemental
- March 3
 - Review market conditions
- March 4
 - Pricing of Series 2015 Bonds and sign Bond Purchase Agreement
- March 16
 - Council adopts Bond Budget Supplemental after Public Hearing
- March 18
 - Closing and receive proceeds

Questions

2015 Limited General Obligation Bond \$8,300,000

City of Camas

Status of Limited GO Bond

- Standard and Poor's rated the City AA+
- City Council approved the bond issue in Ordinance 2710 on July 21, 2014 for an amount not to exceed \$10,500,000
- Council requested prior to the sale of bonds, a presentation informing Council as to the projects and the payment plan for the debt service.

Current Needs

● LED Lights	\$2,500,000
● 6 th and Norwood	\$3,000,000
● Friberg/Strunk	\$1,000,000
● 38 th Ave. Phase II	\$500,000
● Parker	\$500,000
● Annex Building	\$300,000
● Fire Truck	\$500,000
Total Bond Issue	\$8,300,000

Current Bond Market – 2/10/2015

SOURCES & USES

- Sources:
 - Par \$7,179,461
 - Premium \$1,214,258
 - Total Proceeds \$8,393,719
- Uses
 - Deposits \$8,301,236
 - Costs \$92,483
 - Total Uses \$8,393,719

TERMS

- TIC 3.10%
- Average Coupon 4.85%
- Maturity 12/1/2034
- Average Pymt \$568,794
- Net Interest \$2,982,164

LED Lights

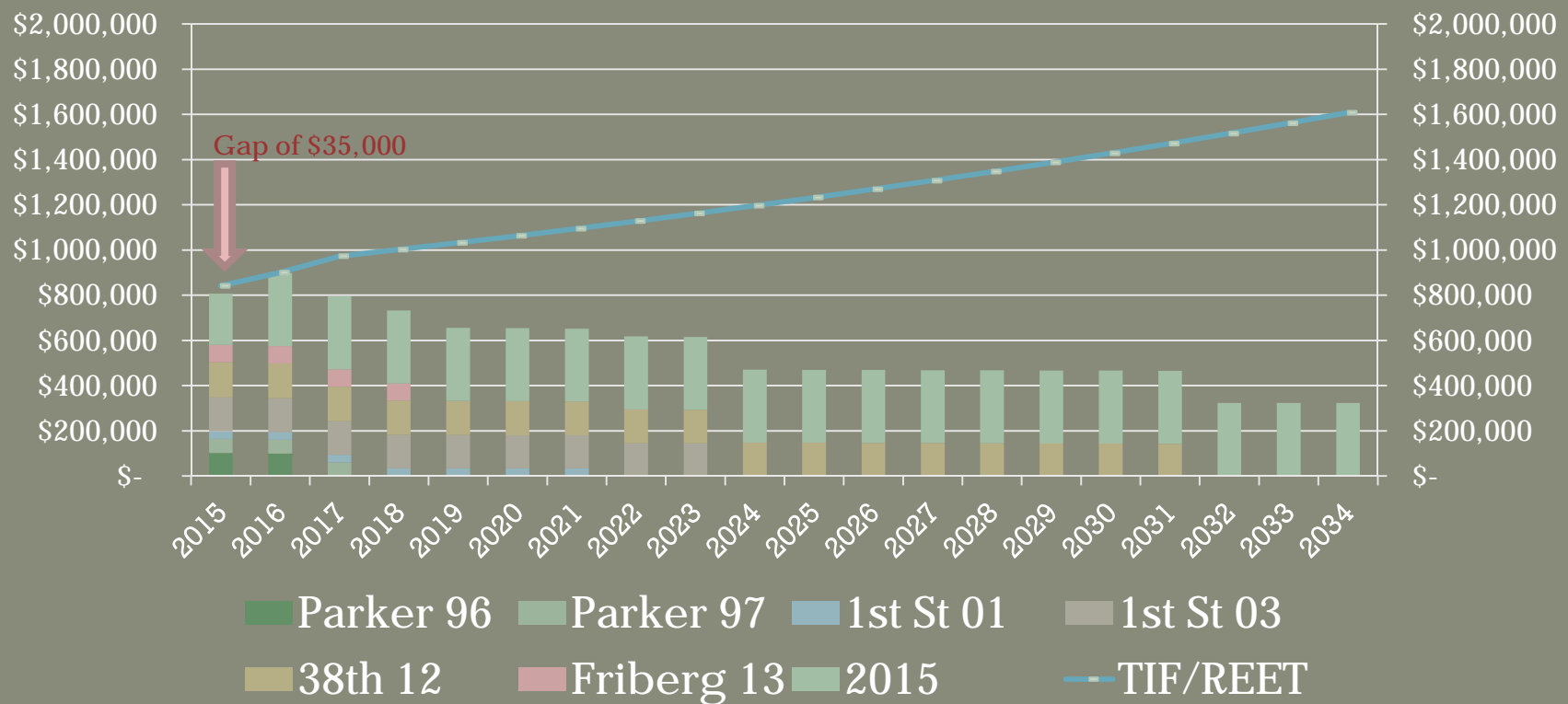
PROJECT DESCRIPTION

- This project would replace all City street lights with LED bulbs. It would also light two city streets currently lacking street lighting.
- Replacements: \$2,500,000
- New Lights \$500,000
- Grant: (\$500,000)
- Net Costs: \$2,500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service: \$177,748
- Energy and Maintenance savings (\$117,000)
- CPU Incentives
One-Time (257,000)

Transportation Debt



6th and Norwood Street Project

PROJECT DESCRIPTION

- This project is currently sized to be a round about and pavement on 6th Avenue.
- Costs: \$3,000,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service: \$191,968
- Payments from REET 1 and/or Transportation Impact Fees

Friberg/Strunk Construction

PROJECT DESCRIPTION

- These funds would closeout the project.
- Costs: \$1,000,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$71,099
- Payments from REET 1 and/or Transportation Impact Fees

38th Avenue Phase II

PROJECT DESCRIPTION

- These funds would be used to closeout the project.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$35,550
- Payments from REET 1 and/or Transportation Impact Fees

Parker Road

PROJECT DESCRIPTION

- This project is to design, permit and right of way acquisition for Parker Road from 16th to Pacific Rim Drive.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$35,550
- Payments from REET 1 and/or Transportation Impact Fees

Annex Building

PROJECT DESCRIPTION

- This project is acquire a building currently rented by the City.
- An appraisal would be required to size the project.
- Costs: \$300,000
based upon current
assessed values

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early
estimate: \$21,330
- Current rent (\$12,000)
- Rent from existing
tenant (\$12,000)

Fire Truck

PROJECT DESCRIPTION

- This project is acquire a new fire truck to replacing an aging apparatus.
- Costs \$500,000

DEBT SERVICE PLAN

- 20 year bonds
- Debt Service early estimate: \$35,550
- Currently, the City of Camas will payoff debt service for an existing fire truck. The current debt service is \$66,000/year.
- City of Washougal would pay their proportionate share

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