

**APPENDIX G**

**WATER POLICY MANUAL**



# Skagit County Public Utility District No. 1

## Water Policy Manual



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**SKAGIT COUNTY PUBLIC UTILITY DISTRICT NO. 1  
WATER POLICY MANUAL**

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**This copy of the Public Utility District No. 1 of Skagit County Water Policy Manual is for representative purposes only; all information contained in the manual, including dates and numerical references, are subject to change.**

**Contact the Engineering Department at (360) 424-7104 for the most current information.**

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# Definitions

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**Abandoned Water Service** – A water service that for a period of 10 or more consecutive years: has been disconnected, whose account has been terminated, meter has been removed, or that has shown no water use.

**Applicant** - Any individual person, firm, or organization who requests service(s) from the District. Once the work applied for is complete, the Applicant normally transitions to being a Customer.

**Backflow** – The undesirable reversal of flow of water or other substances through a cross-connection into the public water system or consumer’s potable water system.

**Commission** – The Board of Commissioners of Public Utility District No. 1 of Skagit County, Washington.

**Connection** – A physical attachment to the District’s water system for the purpose of allowing water service.

**Consumption Charge** – A charge levied by the District for water usage under one of the District’s rate schedules.

**Critical Areas** – Areas defined by the Skagit County Comprehensive Plan as Critical Areas under the Growth Management Act.

**Cross Connection** - Any actual or potential physical connection between a public water system or the consumer’s water system and any source of non-potable liquid, solid, or gas that could contaminate the potable water supply by backflow.

**Customer** – Any individual person, firm, or organization that purchases water; or is legally responsible for the purchase or payment for water from the District.

**CWSP** – Skagit County Coordinated Water System Plan

**Deduct Service** – Water service for the sole purpose of determining the amount of water not delivered to the sanitary sewer from the Customer’s premises.

**Detector Check Meter** – A meter that registers usage on a fire service, but does not measure the quantity of usage (e.g. used to register use of a customer’s fire protection system)

**Disconnection of Service** – Turn-off of an existing water service by the District for failure of a Customer to meet one or more of the District’s terms of service.

**District** - Public Utility District No. 1 of Skagit County

**DOH** – Washington State Department of Health

**Double Check Detector Meter** – A water meter, typically on a fire sprinkler system, that registers minor usage of water, but not the total quantity of use (during a fire suppression event) through a Customer’s fire protection system.

**Extension** – Additions to the District’s water mains and/or related distribution facilities, for the purpose of providing water service at properties not previously served by a District-owned water main.

**General Manager** – The General Manager of Public Utility District #1 of Skagit County

**Gridding** – Installation of water mains connecting to each other from different directions, for the purpose of allowing redundancy in the event of shutting down a main; improving fire flows or other hydraulic conditions; etc.

**Group A Water System** – A Group A water system is defined in WAC 246-290-020 as a public water system: with 15 or more service connections used by year-round residents for 180 or more days within a calendar year, regardless of the number of people; or regularly serving at least 25 year-round (i.e. more than 180 days per year) residents, or that provides service opportunity to 25 or more of the same nonresidential people for 180 or more days within a calendar year, or that serves 25 or more different people each day for 60 or more days within a calendar year, or that serves 25 or more of the same people each day for 60 or more days but less than 180 days within a calendar year, or that serves 1,000 or more people for two consecutive days within a calendar year. (See Section 7.2.1)

**Group B Water System** – A Group B water system is defined in WAC 246-290-020 as a public water system that does not meet the definition of a Group A water system. (See Section 7.2.2)

**Installation Charge** – The charge levied by the District and payable by an Applicant for installing all or a portion of that Applicant’s water service from the distribution main to the Applicant’s private water service line.

**Irrigation Meter** – A meter installed solely for the purpose of metering irrigation water to a Customer’s premises.

**Latecomers’ Agreement** – A written agreement providing for reimbursement of a portion of the costs of an extension to the financier of the extension, repaid by new Applicants fronting and connecting to the extension, repaid via the District.

**Latecomer’s Fee** – A reimbursement, paid by an Applicant for a new water service, of a portion of the costs of an extension to the financier of that extension, usually based on the front footage of the Applicant’s property.

**Limited Access Lot** – A parcel of land that does not front a road, but gains access to that road by means of an easement over adjacent contiguous lots that do front the road.

**LUD** – Local Utility District

**Meter Charge** – A charge levied by the District on a regular basis (e.g. monthly or bimonthly) for water service during a particular time period, irrespective of consumption during the time period covered.

**Meter Installation Charge** – See Connection Charge

**Point of Delivery** – That point where the customer’s water pipe is connected to the District’s distribution system or transmission system (typically at the District’s meter).

**Refund Agreement** – See Latecomer’s Agreement

**Rural** – Rural lands are all lands which are not within an urban growth area and are not designated as natural resource lands having long term commercial significance for production of agricultural products, timber, or the extraction of minerals.

**Satellite Management Agency (SMA)** – A person or entity that is approved by DOH to own or operate more than one public water system on a regional or county-wide basis, without the necessity for physical interconnection between such systems.

**Satellite Water System (SWS)** – A water system which is owned, operated, and/or otherwise served by the District and which has a separate water supply not served regularly from the District's primary source, transmission and distribution network.

**Seasonal Recreation Lot** – A parcel of land that is used principally for recreational purposes and principally by recreational vehicles during a limited number of months per year.

**SEPA** – State Environmental Policy Act

**Service Activation Charge** – A charge for the establishment and/or setup of an account.

**Service Deposit** – A deposit by an Applicant when opening a new water service account with the District.

**Skagit County Comprehensive Plan** – The current edition of Skagit County's comprehensive plan prepared under applicable state law and adopted by the Board of Commissioners of Skagit County.

**System Development Fee** – A charge levied by the District on an Applicant, representing the Applicant's proportional share of investment in capital facilities that have broad application to the District's water system.

**Temporary Water Service** – Metered water service provided for use at a specified site on a short-term, temporary basis (Sec. 2.7.1).

**Termination of Service** – Complete cessation of water service to a Customer at a specific location by the District, normally accompanied by closing of the Customer's account for that water service.

**Urban** – An urban growth area is an area within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature. The urban growth area is supplied with urban governmental services, and an urban density is targeted to be equal to or higher than four dwelling units per one acre.

**Water Service** – (1) The availability of District-supplied water at a point of delivery, irrespective of whether the customer actually uses District-supplied water, or  
(2) a physical metered connection to the District's water system for the purpose of receiving water.  
(3) All pipe and materials, including but not limited to, the tapping saddle, corporation stop, water service piping, meter yoke, meter and meter box connected to the District's distribution main extending to a point of delivery at or on the customer's property where the customer's water service line is connected to the outlet side of the District's water meter in the meter box.

**Water Service Installation, Types One through Six** – Methods and configurations by which an Applicant may receive water service from the District.

**Water Service, Fire Protection** – A water service installation that is dedicated to the fire suppression piping of a facility. A “fire protection water service” is prohibited from also providing potable domestic water service.

**Water Service, Irrigation** – See Irrigation Service.

**Watershed** – A geographic area that supplies surface water runoff or ground water that feeds any of the District’s water sources.

**Water System Plan** – The most up-to-date edition of the District’s comprehensive water system plan which has been approved by the Washington State Department of Health; prepared under Washington Administrative Code Chapter 246-290 or 246-291; and describing the District’s water system, operations, and future needs.

**Wholesale Water Service** – Water service provided to any person, firm, government, or organization for the purpose of resale to that entity’s own water Customers.

# Section 1

## Introduction and Overview

### 1.1 Purpose

This Manual outlines the policies and procedures to be applied by District staff in providing water service to individual properties served by the District, managing extension and improvement of the District's water distribution facilities, and providing service to satellite water systems owned or operated by the District. Nothing in this Manual shall be interpreted to apply to District actions with regard to provision of electrical or other utility services besides water. A copy of this document shall be available for the public during regular District business hours in the District's office complex located at 1415 Freeway Drive, Mount Vernon, WA 98273.

### 1.2 Application of Policies and Procedures

In specific instances, the General Manager may, at his/her discretion, waive or modify the application of the policies and procedures described herein, including the application of standard fees and charges, provided that such waiver or modification allows for more effective or efficient achievement of District goals, objectives, and overall policies.

In cases where such waiver or modification involves a significant cost, or where its relationship to existing policies is not clear, the General Manager must report any waivers or modifications to the Board of Commissioners within the next two regularly scheduled meetings of the Board.

If authorized by the Board of Commissioners, specific fees and charges may be adjusted for inflation automatically on an annual basis. Standard fees and charges may be modified/adjusted, and new fees and charges may be levied.

### 1.3 Revision

These Policies and Procedures codify all previous Resolutions of the District, effective the date of adoption by the Board of Commissioners. These Policies and Procedures may be revised, supplemented, or otherwise modified only by action of the Board of Commissioners; except that in an emergency situation the General Manager may make such reasonable modifications as he/she deems necessary; provided, however, such modifications are reported to and ratified by the Board of Commissioners within the next two regularly scheduled meetings of the Board.

### 1.4 Conflict

In case of conflict between this Policy and Procedures Manual and the provisions of any resolution of the Board of Commissioners, rate schedule, or special contract, the provisions of the resolution, rate schedule, or special contract shall apply.



## 1.5 Saving Clause

If any clause, sentence, paragraph, section, or portion of these Policies and Procedures, for any reason shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect, impair, or invalidate the remainder.

## 1.6 Related Policies

### 1.6.1 Water System Plan

The District has prepared, and the Washington Department of Health has approved, a Water System Plan (Plan) for the District's service area. This Plan projects service area needs over a 20-year time frame. The District's capital improvement program and incremental extensions and improvements to the District's system must be consistent with the Plan, as updated from time to time, whether they are carried out by the District or a third party.

Decisions on system extension, pipeline capacity, gridding, etc. will be guided by the Plan. The District's General Manager will, at his/her discretion, determine the extent to which capital improvements are for the purposes of transmission or other general system needs; which are for the purposes of distribution within an area of the District; and which are for the sole benefit of a single subdivision or development. When new developments are proposed, the District may require the Developer to dedicate permanent utility easements for installation of water pipelines and other facilities in order to facilitate construction of the overall District system in accordance with the Plan. The District's share of the cost of new facilities will be determined by this Manual and by the General Manager.

### 1.6.2 Skagit County Comprehensive Plan

The District's function is not to plan land uses within its boundaries, but to respond to land uses planned for the urban and rural areas of Skagit County under the applicable land use plan of Skagit County or the respective cities. The District's facilities, their encumbrances and their impact on the community will not be used as tools for implementing changes in the character or timing of planned land uses.

## 1.7 Overview of PUD Organization

A description of the PUD organization is provided in attached Figure 1-1.

## 1.8 Funds and Fund Accounts

The District is classified as a special purpose district and as a stand-alone governmental entity. Governmental accounting systems are established on a fund basis. As defined as a governmental entity in the utility business, the governmental accounting profession defines our utility as a Proprietary Fund and further defines the utility as an Enterprise Fund. Enterprise Funds are governmental classifications used to account for operations that are financed and operated in a manner similar to private business enterprises. An Enterprise Fund has the intent of providing

goods or services to the general public on a continuing basis and the costs are primarily recovered through user charges.

For management and administrative purposes, the District has established specific funds dedicated for tracking cash activities and balances in the following District functional areas:

### 1.8.1 Revenue Fund

#### Skagit County Washington, Public Utility District No. 1 Revenue Fund

Commonly referred to as the “Revenue Fund” or “General Fund.” This fund receives all income, revenues, receipts, and profits derived by the District plus any proceeds from the sale, lease, or disposition of any properties or facilities of the District. The funds in this account are used for the purpose of operation and maintenance, repairs, renewals and replacements, and constructing additions, extensions, improvements, and principal and interest on bonds. The Major Capital Fund is a sub-fund of the Revenue Fund for anticipated major expenditures.

### 1.8.2 System Development Fund

This account is comprised of funds received from new services based on the cost of existing and future capital improvements to serve customers. The funds are restricted by the Commissioners of the District and used for growth related or capacity related projects.

### 1.8.3 Consumer Deposit Fund

This account is the accumulated outstanding deposits received from customers as a condition for service. The funds are returned to customers by application to their account if a satisfactory payment record is maintained.

### 1.8.4 Water Revenue Bond Funds

Revenue bond funds are derived from District revenues and are set aside to be used solely for the purpose of paying principal and interest on bonds. Sometimes, the District also sets aside funds to a Reserve Account within the Bond Funds as additional security for bond payments.

### 1.8.5 Local Utility District Bond Funds

Local Utility District Bond Funds are received from special assessments against properties that benefit from the installation of District facilities. The LUD Bond Funds are used for principal and interest on bonds.

### 1.8.6 Construction and Grant Funds

Construction funds are most commonly obtained from the issuance of bonds and the proceeds are restricted for the use as stated in bond covenants. They are usually used for large projects. Grant funds are usually obtained from federal or state government and are also dedicated to specific projects and are typically large construction projects.

## Section 2 General Terms, Conditions, and Policies

### 2.1 General Provision

#### 2.1.1 Scope

Section 2 of this Water Code provides the General Terms, Conditions, and Policies for furnishing and receiving water service. These terms, conditions, and policies are a part of all oral or written proposals, offers, agreements, and contracts for furnishing and receiving water service relating to the District.

### 2.2 Water Service Policies

#### 2.2.1 General

Consistent with sound business judgment, the District shall undertake to the fullest extent to furnish water to all inhabitants of the County who are in need of a potable water supply.

The District will provide water service to undeveloped lots/parcels only after receipt of written notice or building permit from the local government with land use jurisdiction that the undeveloped lot/parcel is consistent with the jurisdiction's land use plan. (1350)

Water service requests for livestock watering and/or agricultural purposes may be allowed per Section 2.3.4. Such service shall not be converted to residential, commercial and/or industrial use without the prior approval of the District, which shall require the lot/parcel owner(s) to submit to the District a copy of the approved building permit for the proposed new use, issued by the local government having land use jurisdiction. Such building permit shall be considered warranty that the conversion is in compliance with the jurisdiction's approved land use plan. (1350)

The District shall execute an Agriculture Irrigation water service Agreement or Water Service Contract with an Applicant for each one-inch (1") or larger irrigation service. The contract will outline the duties of the District to provide water and the duties of the Applicant in the use of the water, including a clause stating that if problems arise relating to District water source capacity or hydraulics, that water for irrigation or other non-domestic demands may be limited or discontinued, as required by the District. Water use for irrigation is recommended during, and may be limited to, "off-peak" hours of 10:00 p.m. to 5:00 a.m. each day, or such hours as the District may prescribe. (1714, 1937)

#### 2.2.2 Wholesale Water Service (383)

The District will, upon request, assist and aid local water districts and municipalities when practical.

The District will provide water supply at cost to a local municipality desiring additional or supplemental supply.

District cost for providing water supply consists of:

- Production costs and expenses at the source.
- Costs and expenses of treating, storing and delivering the water from the source of supply to the point of delivery or meter of the utilizing system.)
- Expenses incident to operating and maintaining the facilities dedicated to such services, including an equitable allocation of indirect, supervisory and administrative, and general expense.
- Taxes or payments in lieu of taxes.
- Interest and principal payments on the indebtedness of the District properly assignable to the facilities dedicated to such service. (383)
- Allocation for renewal and replacement of the facilities when required and to pay for facility improvements. (383)

#### 2.2.3 Special Contracts for Services (545)

The Manager shall have the right, with the approval of the Commission, to fix special rates and enter into special contracts where service conditions are extraordinary and the existing rates cannot equitably be applied, provided that all such special contracts or rates shall be consistent with principles set forth in Sections 2.2.1 and 2.2.2, and that service provided by special contract shall be made available only if excess capacity in the District's distribution and source of supply facilities is available.

The District shall not sell or furnish water for the purposes of resale, except by special contract as directed and approved by the Commission.

#### 2.2.4 Owner/Agent Agreement (aka Application and Agreement for Services: Landlords and Tenants)

The District will allow tenants to assume sole financial responsibility for water service provided they have completed the necessary District requirements for initiation of service as stated in 2.4.3. If the tenant has not initiated service and there is evidence that the service is in use, the Landlord shall be responsible and the service is subject to immediate shut-off unless such landlord has signed an agreement as indicated in this subsection.

If a tenant has not terminated service and is the responsible party by previously initiating service, the District will only terminate service for the following reasons:

- The tenant is not meeting the requirements and conditions of the District to continue service. In this case, the District will initiate termination.
- The tenant requests termination of service.

- The landlord signs an order to terminate because the tenant has not requested termination of service and no longer is a tenant of the premises, or the landlord needs the service off to protect the premises and to repair or maintain the premises. The District will not terminate service for non-payment of rent to the landlord as RCW 59.18.300 does not allow landlords to terminate utilities for non payment of rents.
- A new tenant has indicated they are now new renters and meet the District's requirements for initiation of service. In this case, the District will terminate service in the name of the previous tenant and immediately activate service with the new tenant.

If the Landlord wishes to remain the sole financial responsible party and not allow tenants to assume financial responsibility, the District will accommodate such request.

As allowed in this subsection, a contract may be entered into by any owner of rental property for the provision of uninterrupted service to such property between tenancies. The owner agrees to pay for water service charges during this period and until a tenant assumes responsibility for water service under these policies.

#### 2.2.5 Movement and Relocation of Water Services (1668-95)

A Customer may have a water service relocated at their expense subject to standard District installation requirements. The water service that is relocated shall be restricted to relocation on the same lot or parcel that it originally served. The Customer shall be required to pay additional system development fees if the water service with meter is increased in size. Refer to Section 4.2 for the system development fee formula. The water service taken out of service due to relocation, if left in place, shall require a system development fee at the current applicable level if reactivated. The District may permit the movement and relocation of water services under the following conditions: (867)

- When the continuation of a service at its present location appears unlikely to serve any useful purpose in the future or presents a hardship to the Customer, and
- When the proposed future location is on the District's water system where adequate water mains exist to properly serve the Customer requirements at that location, and (867)
- When an amount equal to the estimated cost of removal and relocation is paid prior to relocation work and the work is authorized by a signed job order: the estimated cost shall be equivalent to a Type One or Type Two connection charge or a higher estimated amount, whichever is deemed sufficient by the District, and
- If the proposed future location is on a pipeline on which a Latecomer's Agreement is in force, an amount equal to the refund will be paid in addition to conditions listed above.

After all work has been completed, all conditions satisfied, and all accounting completed, the Customer shall be billed for additional costs incurred over the payment(s), or

refunded any unused balance. A service once removed under these conditions shall be considered nonexistent at the place from which it was removed. (867)

### 2.2.6 Illegal Use of Water (1876-99)

Withdrawal of District water from a non-metered connection, standpipe, or fire hydrant without a written water use contract with the District is prohibited. Illegal use will be assessed at minimum, a basic charge equivalent to a monthly 4-inch meter charge for each month of use. Extended illegal use and consumption charges will be based on the District's estimate of use at the current consumption charge.

## 2.3 Installation of Water Service (1350)

### 2.3.1 Water Service Availability (1350)

Water service cannot be provided unless water lines with sufficient supply are available and the location of the site where service is to be installed is contiguous to a water main, unless otherwise allowed within this Water Code per line extension requirements (see Section 6). For accuracy and record keeping purposes, for the Applicant must provide building plans for cross connection review, site plans, and onsite sewer system disposal plans. The site of the service installation must have an address assigned by the county or municipality.

### 2.3.2 Meter Box Installation (1350)

It is necessary to install the meter box at proper grade in order to make it level with existing or future sidewalk, driveways, or lawns. The property owner must have the correct grade established, located, and marked for the benefit of the District service installation crew.

### 2.3.3 Installation in Unimproved Areas (1350)

It is not desirable from a security position to install water services in unimproved areas, and in the event such a request is made, it will be necessary for the applicant to present all applicable permits and/or approvals issued by the appropriate government agency or agencies. See Sections 6.2.6, 6.5.6 and 6.6.7 for a listing of possible approvals to obtain.

### 2.3.4 Other Uses (1350)

Service for the purpose of watering livestock or other animals or for irrigation purposes may be allowed if the applicant provides an address from the local authorizing authority and meets other District criteria.

### 2.3.5 Installation Timing (1350)

The application for water service and payment of fees thereof, implies the applicant is requesting the service be installed as soon as possible. The District will turn on or install the service(s) or meter(s) as soon as the District's schedule allows after the Applicant has completed the service application and paid all applicable fees and charges.

## 2.4 Activating, Disconnecting, Reactivating and Terminating Service (1668, 1261)

### 2.4.1 Service Order or Contract

- Each Applicant desiring water service may make verbal or written application and may be required to sign an application form or contract prior to service connection. Application for water service will be made at the District's office complex located at 1415 Freeway Drive, Mount Vernon.
- At the time of application, each Applicant shall be informed of the fees and charges for obtaining service(s). (Service Activation Charge, See Appendix A, Table A-9) Any claimed or actual failure by the District to inform the Applicant shall not, however, relieve the Applicant of any such fees or charges.
- Large industrial or commercial contracts shall contain such provisions and stipulations as may be necessary or desirable to protect the interests of both the District and Applicant.

### 2.4.2 Agreement

By acceptance of service, each Applicant agrees to be subject to all current and subsequently revised District policies, rates, charges, service requirements and regulations, with or without a written application or contract.

The Applicant agrees that the District shall have the right to shut off the water service, with or without notice, for (1) repairs, extensions of the water line, (2) non-payment of water bills, or (3) any operating condition requiring suspension of service, and that the District shall not be responsible for any damage due to stoppage or interruption of the water supply.

### 2.4.3 Initiation of Service

Service will be initiated when the Applicant has met all District requirements and submitted:

- Proper application and a demonstration of credit sufficient for reasonable assurance that service bills and fees will be paid.
- Valid service and mailing address(es).

- Payments as required on delinquent accounts.
- Payment of applicable deposits and other fees.

The District will turn on or install the service(s) or meter(s) as soon as the District's schedule allows after the Applicant has completed the service application and paid all applicable fees and charges.

#### 2.4.4 Separate Service for Each Lot, Property, or Dwelling or Establishment

Each lot, property, dwelling or establishment is required to have a separate water service, EXCEPT as provided for in this subsection and Section 2.7, Temporary Water Service.

- Each multi-family residential structure may be served by either a common meter or individual meters for each unit, at the option of the property owner and approval of the District.
- Multifamily structures, commercial, industrial, institutional, or governmental Customers with facilities occupying multiple lots or structures under a single ownership may be served by either a common meter or individual meter for each structure, at the option of the owner and approval of the District.
- Multi-tenant commercial, industrial, institutional, or governmental properties or structures may be served by either a common meter or an individual meter for each tenant, at the option of the owner and approval of the District.
- A common meter may be used to provide water service to the main residence and an accessory dwelling unit if they conform to applicable zoning and applicable Skagit County and/or city regulations.
- One meter may be used to provide water service to separate, non-rented, and primarily non-commercial structures on the same property, if they conform to applicable zoning and applicable Skagit County and/or city regulations.

If common metering is used, the Applicant shall be responsible for the entire billing.

Customers shall not provide water to any additional dwelling(s) without the prior written approval of the General Manager.

#### 2.4.5 Multiple Meters

When a Customer's service requires application of more than one rate schedule, one meter will be installed for each applied schedule. Each meter will be billed separately unless otherwise specified in a special contract.

#### 2.4.6 Meter Removal for Unused Connections (1285)

The District may remove the meter on water service connections unused for a period of one year. At such time as the customer requests renewal of service within one year, the



District shall replace the meter for the existing turn on/reconnection fee (Table A-8). At such time as the customer requests renewal of service after one year, the District shall replace the meter for the existing renewal of service fee (Table A-8). If the District should determine that the existing service is unusable, the necessary restorations shall be made and the cost of replacement paid by the customer authorizing renewal of the service. This cost shall be based on time and material not to exceed the existing “Type 1” New Service Installation Fee. For meters larger than 1”, the cost shall be based on a time and materials basis. Meter Types are defined in Section 3; fees are addressed in Appendix A, Table A-8.

#### 2.4.7 Disconnection of Service (1285)

- Service may be disconnected for good cause, including (but not limited to):
  - ◆ Violation of service requirements or regulations, rate schedules, contracts or plumbing codes.
  - ◆ Failure to pay fees or deposits.
  - ◆ Theft or illegal diversion of water.
  - ◆ Customer system leaks of which the District becomes aware and which cause or may result in significant water loss and/or property damage.
  - ◆ No one assumes responsibility for service.
  - ◆ Failure to pay water charges when due.
  - ◆ Failure to meet cross-connection control, installation and maintenance requirements.
  - ◆ Use of water in a manner which is seriously detrimental to the service being rendered to other Customers as further described in Section 2.5.3.
  - ◆ Indiscriminant use of water that has or may have a detrimental effect on wetlands of significance, as determined by Skagit County, and/or the failure to neutralize discharged water for the protection of aquatic life in the receiving water.
- Service will not be disconnected for non-payment of bill without written NOTICE. (Ref. Sect. 3.3.4) The nature of the notice required and the period of time before disconnection for other than non-payment shall be reasonable under the particular circumstances with special consideration for the potential dangers to life and property.
- After disconnection occurs (for other than non-payment), information concerning such action and the process for reconnection of service will be mailed to the billing address provided by the Customer.
- The disconnection of service for any cause shall not release the Customer from the obligation to pay for water received, fees owed, and charges specified in this Manual or in any existing contract.

■ Disconnection During Appeal: (Ref. Sect. 2.8)

At the District's discretion, disconnection of service may be by locking meter isolation valves or physical disconnection as the District may choose.

#### 2.4.8 Turn On/Reconnection of Disconnected Service (1285)

When service is disconnected for noncompliance with service requirements or regulations, nonpayment or fraudulent use, the service will not be reactivated until the situation is corrected to the District's satisfaction.

Before turn on/reconnection, the Customer will be advised of current charges for service turn on/reconnection. (See Appendix A, Table A-9)

Only authorized District personnel may initiate and turn on/reconnect service to a water service connection. Appropriate charges, as specified in Appendix A, for turning on or reconnecting service will be assessed as applicable.

#### 2.4.9 Termination of Service by a Customer

Except as may be otherwise provided for by a special contract or agreement with the District, when a change of occupancy or of legal responsibility takes place for water service to any premise being served by the District, the Customer may terminate service by notification: in person, by telephone or in writing to the District within a reasonable time prior to such change. The outgoing Customer may be held responsible for all service supplied to the date notification is received by the District. The District reserves the right to read the meter(s) for a final bill and such reading(s) may be adjusted for consumption, if any, used by subsequent Customer(s). The final reading may be estimated by mutual consent of the Customer and the District. Under some circumstances the District may, at its option, require written authorization from the Customer paying for water service before terminating such water service.

#### 2.4.10 Reactivating Abandoned Service (1668-95)

Water service can be reactivated in cases where water service to a dwelling, establishment, or parcel has been abandoned. An abandoned service is considered by the District to be nonexistent. In such cases, the Customer requesting reactivation of an abandoned service shall be required to pay the current applicable system development fee and reactivation of abandoned service charge as indicated in Appendix A, Table A-9. An exception to the system development fee requirement may be made if the reactivated service is to serve the original intact dwelling or establishment; provided the original dwelling or establishment is continuing in the same scope and mode of activity as customarily served by the District when the service was previously active.

## 2.5 Service and Equipment Requirements

### 2.5.1 Customer Facilities

- **Plumbing and Equipment:** The Customer shall install, own, and maintain all plumbing and equipment beyond the point of delivery, except meters and special facilities installed or furnished by the District. The Customer's plumbing is to conform to:
  - ◆ District's service requirements and regulations.
  - ◆ Municipal, county, and state requirements.
  - ◆ Accepted modern standards as set forth in the Uniform Plumbing Code.

### 2.5.2 Responsibility for Maintenance

The District is responsible for maintaining its facilities and equipment to the point of delivery. The Customer owns and maintains equipment beyond the point of delivery. (See Section 2.5.1)

### 2.5.3 Safeguard of District Facilities

The Customer shall provide space for, and exercise proper care to protect any of the District's facilities on the Customer's premises. This shall include meters and other facilities installed by and remaining the property of the District. Any person knowingly and maliciously damaging or tampering with District meters and other equipment, reconnecting a previously disconnected meter for the purpose of restoring utility service or tampering with any District equipment with the intent of defrauding or illegally diverting utility service shall be subject to prosecution by the District in accordance with Chapter 9A.56 RCW (Theft and Robbery) In addition, in the event of unauthorized connection, and loss or damage to the District's property, the District may collect from the Customer the charge for estimated unmetered water, the cost of facility repairs and replacement including the time and expense of District personnel, administrative costs, attorneys' fees, and other costs authorized or awarded. This charge will be in addition to the charge for estimated unmetered water.

- The District may refuse or disconnect service to Customers when conditions are known by the District to be defective or out of compliance with codes, regulations or requirements. The District is not liable for loss or damage to persons or property resulting from defects or negligence of others:
  - ◆ By the Customer beyond the point of delivery, or
  - ◆ In the Customer's installation, facilities, or equipment.
- When an individual's action might endanger District property or interrupt water service, prearrangements can be made for a crew or service personnel to stand by. Cost for this service may be charged to the responsible party.

Should loss or damage occur to District property, the responsible party may be charged for repair or replacement cost, administrative time and expense, and estimated loss of unmetered water. However, if a District employee is at the site and approves the method and work, the charge to the Customer may be modified or waived.

#### 2.5.4 Access to Premises (1744)

- The Customer is to provide District representatives with safe, clear access and entry to Customer premises for service related work. The District's facilities must remain unobstructed and accessible at all reasonable times so the District may:
  - ◆ Install, inspect, maintain, or remove District equipment or plumbing.
  - ◆ Read, connect, disconnect, or inspect metering devices.
  - ◆ Inspect Customer owned cross-connection control devices.
  - ◆ Inspect all water facilities on the premises for cross-connections. At any time a cross-connection is discovered and it is not immediately remedied by the Customer, the District reserves the right to immediately terminate water service to the Customer until such cross-connection is removed or protected by an approved Backflow Prevention Assembly as required by the District. Such inspection shall not make the District responsible for guaranteeing the absence of cross-connections.
- For locked Customer premises where District equipment is located, the Customer will allow District access with its own lock and key.
- The Customer shall provide space and protection for District facilities on the Customer's premises, including meters, touch pads on outside walls and other equipment installed by and belonging to the District.
- Although the Customer is responsible at all times for maintaining Customer-owned equipment, the District may inspect Customer equipment before or after service connection.

However, such inspection, or lack of inspection, shall not be construed as placing upon the District any responsibility for the condition, or maintenance of the Customer's plumbing, nor does it guarantee the absence of cross-connections in the Customer's service.

#### 2.5.5 Cross Connection Control

The District's responsibilities include protecting the entire water system from actual and potential contamination. Present state and federal regulations require that there shall be no cross-connection between a system furnishing potable water and a system furnishing non-potable water. The Customer shall install cross-connection control assemblies when deemed necessary or when required by the District. The entire cost of the installation shall be the responsibility of the Customer, and any assemblies shall remain its ownership

and its responsibility. District representatives may make inspection of such assemblies periodically. It shall be the Customer's responsibility at all times to maintain its cross-connection control assemblies in a fully functioning condition. All Department of Health (DOH) requirements must be satisfied

The installation and maintenance of any cross-connection that could endanger any water supply of the District is prohibited. Existing or future water service to any premises will not be allowed to exist by the District if a cross connection control assembly required by the Department of Health or by the District is not documented in writing to be permanently installed, maintained, and tested annually. Water service will be discontinued to any consumer that refuses admittance of District personnel to their premises for the purpose of cross connection control. Water service will not be restored until such conditions or defects are documented to be correct. The Customer shall pay District expenses incurred to enforce these provisions before water service is restored. (1744-97)

The control or elimination of cross connections shall be in accordance with the provisions of the WAC 246-290-490 or subsequent updates. The policies, procedure, and criteria for determining appropriate levels of protections shall be in accordance with the accepted procedures and practices defined in Cross Connection Control Manual-Pacific Northwest Section - American Waterworks Association, 6th Edition, or any superseding edition and Manual of Cross Connection Control—Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, current edition. Policies will be interpreted and carried out by a State-certified cross connection control specialist or backflow assembly tester, whichever applies. All cross connection control assemblies must comply with State DOH requirements. (1744-97)

### 2.5.6 System Disturbances

Water service shall not be utilized in such a manner as to cause severe disturbances or pressure fluctuations to other Customers of the District. If any Customer uses equipment that is detrimental to the service of other Customers of the District, the District may require the Customer to install, at his own expense, equipment to control such disturbances or fluctuations.

### 2.5.7 Interruption of Service

- It is the District's intent to provide adequate and continuous service with minimum interruption. However, the District:
  - ◆ does not guarantee against occasional curtailment or failure of water service;
  - ◆ shall not be liable for resulting injury, loss, or damage; and
  - ◆ shall not be considered in breach of contract for temporary interruption of service.
- Repairs or improvements to facilities requiring temporary service interruption will be expedited and timed to minimize Customer inconvenience. When possible, a preceding notice will be mailed to the Customer, or left at the service address in a visible location, in advance of the service interruption.

- If the Customer's water service fails, the Customer shall endeavor to determine if the cause is on the District's side or the Customer's side of the meter.

When the District responds to a Customer call after service hours, and the problem is found to be with Customer equipment, the Customer will be notified and will be responsible for repairs.

#### 2.5.8 District Representation by Employees (1626)

No inspector, agent, or employee of the District may ask, demand, receive or accept any personal compensation for any service rendered to water consumers or other persons, in connection with supplying or furnishing water by the District. No promise, agreement, or representation of any employee or agent of the District with reference to the furnishing of water shall be binding on the District unless the same shall be in writing signed by the General Manager or authorized agents.

### 2.6 District Facilities and Standpipes for Water Withdrawal for Agricultural Applications (1714-96)

#### 2.6.1 District Facilities (1714-96)

The District may make facilities available to an agricultural community sponsor who shall be responsible for the monthly meter charge and all water withdrawals from District facilities. The District may accept the sponsor, contingent on the extent of representation and benefit to the agricultural industry. Sponsorship may be revoked at any time if the District deems it to be in its best interest. The District will not make District facilities available to multiple sponsors.

#### 2.6.2 Backflow/Fill Pipe Responsibility (1714-96)

The agricultural sponsor shall be responsible for backflow (cross connection) incidents from District facilities and standpipes. District policy requires a fill pipe be attached to the tank receiving water from the standpipe. There shall be an air gap between the end of the fill pipe and the top of the tank being filled. The air gap shall be a minimum of twice the diameter of the fill pipe size, not less than one inch. This method of backflow protection or an alternate method approved in writing by the District will be a continuing requirement. District inspection of each tank and filling conveyance for conformance with Washington State regulations regarding backflow potential on an annual basis is required. Violations can be cause for immediate revocation.

#### 2.6.3 Maintenance (1714-96)

Beyond the meter, the agricultural community sponsor shall be responsible for standpipe maintenance and backflow device testing costs.

#### 2.6.4 Installation of Additional Facilities to Meet Agricultural Needs (1714-96)

The District may find that it is necessary to install additional facilities to meet agricultural needs. Installation of additional facilities shall require approval of the District's General Manager, and shall be on such terms as are reasonable at the time of installation.

### 2.7 Temporary Water Service

#### 2.7.1 Short-term Water Service

At the District's discretion, temporary water service may be provided to accommodate special needs for water at a fixed site on a short-term basis (e.g. on-site needs for construction activities or summer irrigation). Temporary water service may be provided from a fire hydrant or flushing assembly at a location specifically designated for this purpose by the District. Short-term water service may be authorized for a period not exceeding three (3) months at a time. Upon expiration of the initial 3-month period, a Customer may request an extension of temporary service for one additional 3-month period. No more than one extension will be granted, unless authorized by the General Manager.

Procedures for authorizing short-term use shall be as follows:

- When an Applicant desires to use a fire hydrant for short-term water service at a fixed site, the following procedures apply:
  - ◆ The Applicant shall obtain a Hydrant Use Permit from the District and retain a copy at the site accessing the hydrant or flushing assembly.
  - ◆ Metering is required for this type of use. The Applicant shall obtain a fire hydrant meter from the District for use at that location. The Applicant will be charged for use of the meter and for actual water used, based on the appropriate District Rate Schedule in Appendix A.
  - ◆ The Applicant shall utilize only the hydrant or flushing assembly specifically designated by the Hydrant Use Permit.
  - ◆ The Applicant shall obtain a placard from the District that indicates a Hydrant Use Permit has been obtained. At any time a hydrant is being used, the Applicant shall display this placard in a prominent position clearly visible from the street. The Applicant shall not provide this placard to any other person.
- When an Applicant desires to use a fire hydrant for short-duration purposes at a fixed site (i.e. not exceeding three days), or for intermittent use by a mobile water tank (e.g. tanks on hydro seeding or public works maintenance vehicles), the procedures from paragraph (a) above shall apply, PLUS the Customer shall utilize a backflow-prevention device approved by the District. As a condition of obtaining a Hydrant Use Permit, the Applicant shall permit District inspection of equipment to be used, to ensure backflow-prevention assemblies are adequate.

### 2.7.2 Temporary Water Service for Relatives of District Customers Occupying Temporary Housing on the Same Lot or Property (1511-90)

Section 2.4.4 indicates that a separate metered service connection is required for each dwelling. There are cases wherein the need for domestic water to a second dwelling on the same lot and/or property may be required on a temporary basis; e.g., temporary housing for parents or in-laws, dependent relatives, etc.

The District will consider variances to the separate meter requirement and allow a single meter for two residences on a single lot, in conjunction with written approval or Special Use Permits for the temporary dwelling approved by the appropriate County or City planning department.

If the appropriate agency approves the application for placement of a temporary mobile home for relatives, the District will permit two dwellings to be served from one metered service. At such time as the Applicant's relative or the Applicant is no longer living in the temporary dwelling, the variance allowing two dwellings on one metered service will no longer be allowed and service to the temporary dwelling must be disconnected.

Applications for a variance to allow two dwellings to be served by one metered service will require a copy of the written authorization from the agency that issued said permit.

Any variance issued under the authority of this subsection will require approval of the General Manager, and the Applicant will be required to enter into a written agreement acknowledging this District variance is temporary.

### 2.7.3 Fire Hydrant Use

No person shall operate or tamper with a fire hydrant connected to the District's water system, without the express written approval of the District or, in the case of an emergency threatening life or property, the approval of an authorized representative of the appropriate fire department. In addition to the penalty established in Section 2.2.6, any person violating this provision shall pay for basic charge equivalent to a 4-inch monthly charge for each month of use and the amount of water used, as estimated by the District and based on the applicable rate schedule.

#### *Water Services for Fire Protection (179)*

- A water service for fire protection must be fitted with such fixtures only as are needed for fire protection and entirely disconnected from those used for other purposes. In no case shall any tap be made upon any pipe used for fire service purposes or any tank connected therewith, nor shall the use of any water be permitted through any fire service nor through any pipe, tanks, or other fixtures therewith connected, for any purpose except for extinguishing fire on the premises.
- The full cost of installing fire protection lines including service from the mains must be borne by the Customer.
- Rates for fire protection services are provided in Appendix A.



- No charge will be made for water used from fire protection service in extinguishing fire on the premises, if the owner or occupant of premises where such fire occurs gives written notice to the office of the General Manager within 10 days from the time of such fire and is attested to by a representative of the government having fire jurisdiction.
- In event the General Manager determines that a Customer having a fire protection service may be using water from same in violation of paragraph (a) of this Section, a double check detector meter shall be installed on the fire-service line, without prior notice being given the Customer.
- Should experience subsequent to such installation show that no water was being used in violation of paragraph (a) of this section, (either through no use being registered on the double check detector meter after installation or no increased use being registered on the regular meter after the fire line was metered) then the District shall make no charge for such installation and charges for fire protection service shall continue on the basis of paragraph (c) above as long as no use is registered.
- Should experience subsequent to the installation of the double check detector meter indicate that water was being used in violation of paragraph (a) of this section, then the District shall charge the Customer for the cost of such installation and a meter charge for at least two meter reading cycles for each month of use.
- In event that the procedure outlined in the third paragraph of subsection (e) above takes place, the Customer will become liable for appropriate water charges to compensate the District for the estimated quantity of water used during the period when paragraph (a) of this section was being violated.

*No Guarantee for Fire Protection*

Notwithstanding all other provisions for fire protection, or for other metered service, including water furnished to any fire hydrant or other equipment used, or which may be used for fire protection purposes, it is understood that the District cannot guarantee any minimum quantities of water or pressure of the water to be furnished for fire protection or water service, and the District shall not be liable in any manner for any loss or claim by reason of the quantity of water, or pressure of the same furnished for fire protection.

## 2.8 Dispute Resolution

### 2.8.1 Appearance before Commission

Any Customer or other person who believes that he/she has been wrongfully treated by a decision of the District related to:

- Termination of the delivery of water service or disconnection of the Customer; or
- Refusal to deliver water service (i.e., not connect the Customer); or
- Require the Customer to pay for water service previously delivered (i.e., transfer an outstanding balance to a new water account); or

- Require the Customer to make periodic payments in specific amounts to pay for water service previously delivered as a condition of receiving water service (i.e., require a payment plan); or
- Require the Customer to provide security as a condition of receiving water (i.e., require a security deposit); or,
- Require the Customer to pay a fee or penalty; (e.g., reconnection fee, account service fee, etc.);
- or other issues as may be presented;

may have that decision reviewed by the District's Board of Commissioners.

*Binding Decision*

The decision of the Commissioners shall be a final decision of the District.

*Appearance Request*

A request for an appearance before the Commission must be made a minimum of eight (8) business days prior to the desired Commission meeting by the Customer or by someone with legal authority to act on the Customer's behalf. Each appearance request should include a description of both the decision to be reviewed and the relief requested. If the description and relief warrant, the District may require that the request be in writing. The Customer's request must be directed to the Board of Commissioners, General Manager or Executive Assistant at the District's office complex located at 1415 Freeway Drive, Mount Vernon.

*Appearance Date*

The General Manager will set the date for the appearance within ten (10) business days after the hearing request is received by General Manager. Unless otherwise indicated, the hearing will be held at the District's Mount Vernon office.

*District's Action Stayed Pending Receipt of Request for Appearance*

If a Customer:

- Contacts the District within eight (8) business days after receiving notification, whether written or oral, of a decision of the District; and
- informs the District that he/she intends to request an appearance before the Commission to review that decision; the District will stay the action which would have been taken unless to do so would cause substantial disproportionate harm to the District or its customers. The stay will remain in affect for six (6) business days or until receipt of a formal request for an appearance, whichever is earlier. Upon receipt of a formal request for an appearance the District will stay the action through the appearance absent substantial disproportionate harm.

### *Performance Pending Hearing*

All obligations which are not the subject of the dispute to be decided by the Commission shall be performed by the District and/or the Customer. This shall include, in the case of a dispute over amounts to be paid, the payment of all non-disputed amounts.

### *Failure to Appear*

If a Customer fails to appear before the Commission within thirty (30) minutes after the time set for the appearance, the Customer will be in default, and the Commission shall decide the disputed matter in favor of the District. If the Customer fails to appear, the Customer's request for another appearance will not be granted unless the failure to appear was caused by an emergency or because of the occurrence of an unforeseeable circumstance or event, which shall be determined by the General Manager. In such case, the subsequent appearance must be held within ten (10) business days of the original hearing.

### *Continuances*

Any request for a continuance shall be made to the General Manager, which shall grant such a continuance only in the case of an emergency or because of the occurrence of an unforeseeable circumstance or event.

### *Representation*

A Customer may represent himself/herself or may be represented by an attorney, relative, friend, or any person other than a District employee. If the Customer is to be represented by an attorney, the Customer must inform the District of that fact at the time the request for an appearance is delivered to the District, or if the services of an attorney are procured later, then as soon as such representation is arranged.

### *Evidence*

The Commission may consider evidence which will assist the Commission in reaching a decision and may give effect to the rules of privileged communications (e.g., attorney/client privilege, husband/wife privilege, etc.) under the law. Information that is irrelevant and unduly repetitious may be excluded. Documentary evidence may be received in the form of copies or excerpts. Each party shall have the right to ask questions of persons who make statements at the appearance.

### *Legal Authority*

The Commission shall apply as the first source of law District Resolutions, Code and Regulations. If District authority fails to adequately address the situation, the Commission shall resolve the issue(s) based upon the legal authority and reasoning available, including that found in the state and federal constitutions, statutes, and court decisions.

*Review of District Action*

If the dispute involves a question of whether the Customer is indebted to the District, the District must establish the Customer's obligation by a preponderance of the evidence. If the dispute involves a question of whether a District decision is inconsistent with the regulations of the District, the Customer must establish by clear cogent and convincing evidence that the District action is unreasonable and in disregard of facts and circumstances.

## Section 3

# Metering and Billing Procedures

### 3.1 Metering (1876-99)

#### 3.1.1 Methods of Installation For New Metered Water Service Connections (1878-99)

All new meter installations shall incorporate remote read meters. Six (6) installation procedures are described below. Their respective water service fees are addressed in Section 4 and Appendix A. (1878-99)

##### *Type One (1878-99)*

Under a Type One installation, District will tap the water main, provide and install the service piping, meter with remote read device, and meter box and associated appurtenances. (1878-99)

##### *Type Two (1878-99)*

Under a Type Two installation, the water service line has been installed to the meter box location at the Applicant's property line as part of a water main extension by the developer/contractor and included in the water main extension cost. The District will provide and install the meter with remote read device, meter box and associated appurtenances. (1878-99)

##### *Type Three (1878-99)*

Under a Type Three installation, the water service line, meter box, and associated appurtenances, less the meter, have been installed to the Applicant's property line by the developer / contractor as part of a water main extension and included in the main extension cost. The District provides and installs the meter. (1878-99)

##### *Type Four (1878-99)*

Under a Type Four installation, the water service line, meter with remote read device, meter box, and associated appurtenances have been installed to the Applicant's property line as part of a water main extension by the customer/developer and included in the main extension cost. (1878-99)

##### *Type Five*

Under a Type Five installation, a deduct service, consisting of water service line, meter with remote read device, meter box and associated appurtenances, will be installed downstream from and in series with the domestic service to a dwelling or structure. A

deduct service is intended and available for irrigation of minor landscaping and other incidental uses that will not enter the local sanitary sewer system, and shall not be larger than the adjoining meter. The deduct service may be installed concurrently with or after a Type One through Type Four domestic service, and may be used for the purpose of metering water use that may not be discharged into the public sewer system (reducing the sewer bill accordingly).

### *Type Six*

Under a Type Six installation, District will tap a water main larger than 12 inches and less than or equal to 18 inches, other than concrete cylinder pipelines, provide and install the service piping, meter with remote read device, and meter box and associated appurtenances.

### *Other General Requirements relating to Type One through Type Six metered water services*

- “Appurtenances”, relating to Type One through Type Six water services above, do not include pressure regulating or cross-connection control assemblies on the customer side (downstream) of the meter assembly.
- For services other than a single family residence, applicants will be required to provide to the District a complete list of fixtures with their respective equivalent fixture unit values and a meter size determined by the applicant’s licensed plumber, architect or engineer, as outlined by following the current adopted Uniform Plumbing Code.(1878-99)
- The District requires the installed water meter to meet the peak water demand. The District may approve an alternative means to meet the peak water demand. The required water meter size to be installed will depend on the peak flow requirement and the water pressure of the water main that will supply the metered water service. (1878-99)
- Because hydraulic limitations can restrict the District’s ability to provide water for a service connection, the District reserves the right to limit the size of the water service to be installed. This determination will be based on hydraulic considerations of the water main that will supply the metered water service. (1878-99)
- The District shall execute a water service contract for each new non-deduct irrigation service(s), outlining the duties of the District to provide water and the duties of the applicant in the use of the water, including a clause such that if problems arise related to water system source capacity or hydraulics, water for irrigation or other non-domestic demands can be limited or discontinued. Water for irrigation is recommended during, and may be limited to, “off peak” hours of 10:00 p.m. to 5:00 a.m. each day, or such hours as the District may prescribe.
- All charges, fees and expenses charged by local, State or federal agencies to the District to fulfill an Applicant’s service application shall be added to the cost of the Type One service installation.

- All service connections to the District system shall be billed according to the appropriate rate schedule in Appendix A. (1876-99)
- Special meters may be installed on any account when the nature of the Applicant's equipment and operation so indicates for correct rate schedule application and/or Applicant service improvement.

*Metered Services for Irrigation (1878-99)*

Either of two types of irrigation services may be utilized: deduct (Type Five) or non-deduct (Types One through Four). These meter Types are described above. (1878-99)

### 3.1.2 Standpipe, Flushing Assembly or Fire Hydrant Use

Water use from fire hydrants, flushing assemblies or standpipes requires use of a fire hydrant meter. Additional details are provided in Sections 2.6, 2.7.3 and 4.1.5.

## 3.2 Billing

### 3.2.1 Meter Reading (1876-99)

- Meters will be read on monthly or bimonthly cycles at the District's option.

Double check or reduced pressure detector meters will be read monthly.

The District may alter or reroute its meter reading and billing cycle dates when such alteration or rerouting is in the best interest of the District.

- Opening or closing readings may be prorated.

### 3.2.2 Mailing and Notification

The District will send bills and notices by first class mail. Bills will be sent to the mailing address furnished by the Applicant. An Applicant/Customer who does not provide a proper mailing address or a means of receiving mail, may be subject to disconnection. Failure to receive a bill or notice will not release the Customer from the obligation to pay for services provided.

### 3.2.3 Issuance of Bills

Bills will be issued monthly or bimonthly, depending on the reading cycle and assigned payment plan, and generally will be based on exact meter readings. Bills may be estimated when:

- Meter is not accessible to meter reader;
- Meter is under snow or water;
- Meter malfunctions;
- Other circumstances beyond District control interfere with meter reading.

In the event that bills are estimated, an adjustment will be made at the time of the next regular billing that is based on an actual meter reading if available.

### 3.3 Procedures for Collecting Past Due Accounts (1814-98)

#### 3.3.1 Water Bills (1814-98)

Each water bill shall include a billing date. The date will be the date the bill is mailed to the customer of record. Each bill will have a past due date. The past due date shall be eighteen (18) calendar days beyond the bill date. (1814-98)

#### 3.3.2 Delinquent Notices (1814-98)

Delinquent bills shall be mailed to any customer of record that does not make payment of their water bill on or before the past due date shown on their water bill. Delinquent notices shall be mailed to the customer of record fourteen (14) calendar days after the past due date. The delinquent notice will allow the delinquent customer of record seven (7) calendar days to make payment. (1814-98)

#### 3.3.3 Late Charge

In order to recoup a portion of the cost associated with collecting delinquent bills, a late payment charge at the rate of \$5.00 or two percent (2%) per month, whichever is greater, will be applied to a customer's bill for all unpaid balances fourteen (14) calendar days beyond the bill due date.

#### 3.3.4 Final Notice (1814-98)

Final notices shall be mailed to customers of record notifying the Customer that their water service will be disconnected if payment is not received. The final notice shall be mailed one (1) working day after pay by date specified on the delinquent notice. The final notice will allow the customer of record five (5) working days to make payment. The District reserves the right to deviate from this schedule, however the sequence of events shall remain the same. (1814-98)

#### 3.3.5 Turn On/Reconnection Charges (1814-98)

Water services that are disconnected will be levied a charge for turn on/reconnection. Turn on/reconnection charges will vary based on the time and day the turn on/reconnection is completed:

- between the hours of 8:00 a.m. through 3:00 p.m. Monday through Friday excluding holidays;
- outside the above hours Monday through Friday or on Saturday; or
- Sundays and Holidays



Turn on/Reconnection charges for these situations shall be as indicated in Appendix A, Table A-9. Water services that are disconnected shall require the past due bill to be paid in full prior to turn on/reconnection. (1814-98)

### 3.3.6 Collection in the Field

Should a Customer choose to pay the District's meter reader in the field at the time of disconnection, there will be a collection charge for this service, provided that payment is made prior to disconnection of the service. If the service has already been disconnected, the turn on/reconnection provisions of Section 3.3.5 above shall apply. The charge for Collection in the Field is provided in Appendix A, Table A-9.

### 3.3.7 Hardship or Extenuating Circumstances (1814-98)

The General Manager or Commercial Department employees are authorized to grant extensions or accept partial payments for water services for extenuating circumstances or hardship cases. Extensions may be granted on a case-by-case basis. Extensions or partial payments will not be automatic and may only be granted if requested as outlined in the past due notice. Extensions or partial payments shall generally not exceed thirty (30) days in duration. Complete payment for extensions allowed under this clause shall generally be made in full no later than thirty (30) days after the pay by date as specified in Section 3.3.4. A Customer's failure to make payment within the extension period may result in disconnection of the Customer's water service without further notification. (1814-98)

### 3.3.8 Minimum Balances (1814-98)

Balances due or credit balances of less than One Dollar (\$1.00) for each Customer no longer on service will be adjusted to a \$0.00 balance due/credit balance. (1814-98)

### 3.3.9 Transfer of Previous Unpaid Accounts

The District may transfer to any existing or new water service any unpaid charges for service previously rendered to the same Customer at any other location within the District's service area. Such transferred balance shall be considered part of the Customer's current obligation to the District as though the previous unpaid balance had been incurred at the present service address. The District may permit arrangement for payment of such transferred balance under the guidelines of Section 3.3.7.

If it is determined that a Customer has an outstanding balance from a previous account with the District and is receiving Benefit of Service through a different account with the District, but not in the Customer's name, the outstanding balance may be transferred to the active account.

If it is determined that a Customer has an outstanding balance from a previous account with the District is eligible to receive a refund through a different account with the

District, whether or not in the Customer's name, the outstanding balance may be deducted from the pending refund.

### 3.4 Unduly High Water Bills (1440)

#### 3.4.1 Conditions (1440)

The policy for adjusting unduly high water bills is subject to the following conditions: (1440)

- Where the Customer, upon becoming aware or being made aware of the water loss, takes immediate steps to correct the faulty plumbing and/or equipment causing the loss. (1440)
- Where the District is informed by the Customer that the problem has been corrected so that investigation, meter readings and records can be made reflecting the action and the effects thereof taken by the Customer and the dates of such action. (1440)

#### 3.4.2 Adjustment Procedure (1440)

Such conditions having been satisfied, it shall be in order for the District to adjust the Customers' water bills as follows: (1440)

- Once the District has documentation i.e., receipts, photographs etc. that the leak has been repaired by the Customer, and/or the repair has been confirmed by the District, adjustments will be made;
  - ◆ If the consumption indicated on the high water bill exceeds the average consumption of the previous two years billing of the same period by 50%, the Customer shall be eligible for an adjusted water bill.
  - ◆ The adjusted water bill will be 1.5 times that of the average of the last two years' billings for the same period. In the absence of two years' billing history, the adjustment will be based on the previous year's billing for the same billing period. In the absence of one year's billing history, the adjustment will be based on the average of the previous two normal billing periods.
- Adjustments will not be made for more than one billing period of excessive use within a twelve month period.
- The District reserves the right to accept or deny any requests for adjustment. (1440)

### 3.5 Adjusting Customer's Water Bills Due to Loss by Leakage Due to a Declared Disaster Beyond the Customer's Control (1512-90)

It is recognized there may be cases that are dependent upon nature and totally beyond the Customer's control: e.g., floods that inundate an area for durations longer than two days. (1512-

90). When the federal or State government declares an area as a disaster area, the District's policy will be: (1512-90)

- When a Customer's meter(s) cannot be accessed on a normal reading day cycle, the Customer will be invoiced for the meter charge only (no consumption charges); further, the Customer's bill will reflect any consumption charge for that period on his subsequent bill when the District's meter reader can gain normal access to the meter. (1512-90)
- Should a Customer incur damage to his water piping system on the Customer's side of the meter, due to or during the event, the District will adjust the Customer's water loss as follows: (1512-90)
  - ◆ Where the cost of the excess water is not equal to more than the Customer's average consumption charge over the previous two (2) meter readings, the Customer will be charged the average of the previous two (2) billings for each billing period missed and no further adjustment will be made. (1512-90)
  - ◆ When the excess water amounts to more than the average of the previous two (2) meter readings, the District will adjust the consumption charge to the average of the previous two (2) billings. (1512-90)
  - ◆ In the event that bills are estimated, an adjustment will be made at the time of the next regular billing that is based on an actual reading.
- Once the Customer learns of the water loss, the Customer must take immediate steps to correct the faulty plumbing, equipment or pipe causing the loss. This requirement is predicated on the event subsiding sufficiently to access the problem area. (1512-90)

The Customer must inform the District that the problem has been corrected so that investigation, meter readings and records can be made reflecting the problem, action taken to correct the problem and the dates of such action. (1512-90)

## Section 4

# Water Rates, Fees, and Deposits

### 4.1 Rates (1876-99)

#### 4.1.1 General Provision

The District has rate schedules for particular types of services provided. A summary of these charges is provided in Appendix “A”. In case of conflict between the provisions of any rate schedule or special contract and this Water Code, the provisions of the rate schedule or special contract shall apply. Rates shall be charged from the date the meter is installed and activated.

Tables A-1 and A-2 in Appendix “A” indicate the standard meter and consumption rates for the majority of District water service Customers.

Meter charges and consumption charges are covered through the upstream domestic service meter charges and are not applicable to a deduct (Type 5) meter, as defined in Section 3.1.1. Deduct meters are to be charged a deduct meter reading fee, per Table A-9, Appendix “A”.

#### 4.1.2 Wholesale/Special Contract Customers (1876-99)

- The rates and charges for Wholesale/Special Contract Customers described in Section 2.2.2 and 2.2.3 shall be as specified in their contracts with the District. The District shall compute their billings utilizing the monthly meter charge as specified in Appendix “A”, Table A-1 and consumption charges as specified in Appendix “A”, Table A-2 for All Others, unless otherwise specifically provided for in a written contract with the District.
- The District shall give the Wholesale/Special Contract Customers written notice of a rate increase. The billings utilizing this rate increase for this class of Customer shall conform to the notification requirements of each contract.

#### 4.1.3 Private Fire System (1876-99)

- Automatic Sprinkler Equipment/Privately Owned Fire Protection Facilities

A monthly charge for standby service for automatic sprinkler equipment/privately owned fire protection facilities connected to the water system shall be calculated per inch of nominal pipe diameter of the Customer’s pipe at the point that such pipe connects to the District-owned facilities. Such charges shall be billed in advance. Automatic Sprinkler Equipment/Privately Owned Fire Protection Facilities rates are provided in Appendix “A”, Table A-3.

If a detector check meter registers water for non-emergency use, the Customer will be assessed a 5/8-inch meter Monthly Basic Fixed Charge per Appendix “A”, Rates, Fees and Charges and Deposits Table A-1, for at least two meter reading cycles for each month of non-emergency use. Any water for non-emergency use shall be billed per Appendix “A”, Rates, Fees and Charges and Deposits, Table A-2, Consumption Charges “All Others”. (1876-99)

#### 4.1.4 Potlatch System Water Rates (1862-99)

The District has determined that the water rates established for Potlatch should include those amounts necessary to cover the additional costs and expenses associated with the unique nature of the Potlatch System. (1862-99)

Water rates have been developed specifically for the Potlatch System (1862-99) and are provided in Appendix “A”, Table A-5.

#### 4.1.5 Fire Hydrant Meter Water Rates

Water consumed through fire hydrant meters shall be charged a monthly fire hydrant meter use charge and a consumption charge based on water actually consumed. Rates are indicated in Appendix “A”, Table A-4.

## 4.2 System Development Fees

### 4.2.1 Basis for System Development Fee

The District has limited capacity to serve additional Customers without increased infrastructure. The system development funds are utilized to help offset additional infrastructure costs needed to meet the additional load created by increased demand on the system, and replacement costs. System development funds are intended to be used for improvements that benefit major portions of the service area of a District water system, and their use requires approval of the District’s Board of Commissioners.

System development fees are calculated based on the benefit of both existing capacity and projected future capacity improvements to the District’s water systems over a given period of time. The current system development fee schedule is based on the factors and costs indicated.

### 4.2.2 Weighting Factors for Meters

The District has determined that the American Water Works Association (AWWA) has established in Standards C-700 and C-702 the safe maximum operating capacity for displacement and compound water meters, and that the safe maximum operating capacity of such water meters of various sizes are related to the following proportional weighting factors:

<u>Meter Size</u>	<u>Weighting Factor</u>
5/8-inch	1
3/4-inch	1.5
1-inch	2.5
1 1/2-inch	5
2-inch	8
3-inch	16
4-inch	25
6-inch	50
8-inch	80

#### 4.2.3 Policies for Calculating System Development Fees

The System Development Fee for a 5/8-inch meter shall be the unit basis of System Development Fees for all meters.

The System Development Fees for positive displacement meters ranging from 5/8-inch to and including 1-1/2-inch and compound meters ranging from 2-inch to and including 8-inch shall be based on the System Development Fee for a 5/8-inch meter multiplied by the weighting factor for that meter, charged as follows:

<u>Meter Size</u>	<u>Weighting Factor</u>	<u>System Development Fee*</u>	
		<u>Current</u>	<u>Effective 04/15/11</u>
5/8	1	\$ 2,880.00	<b>\$ 3,365.00</b>
3/4-inch	1.5	\$ 4,320.00	<b>\$ 5,050.00</b>
1-inch	2.5	\$ 7,200.00	<b>\$ 8,415.00</b>
1 1/2-inch	5	\$ 14,400.00	<b>\$ 16,825.00</b>
2-inch	8	\$ 23,040.00	<b>\$ 26,920.00</b>
3-inch	16	\$ 46,080.00	<b>\$ 53,840.00</b>
4-inch	25	\$ 72,000.00	<b>\$ 84,125.00</b>
6-inch	50	\$144,000.00	<b>\$168,250.00</b>
8-inch	80	\$230,400.00	<b>\$269,200.00</b>

\*See Section 4.2.4 Water Contracts

The System Development Fees for types and sizes of meters other than the positive displacement and compound meters listed above shall be based on the System Development Fee for a 5/8-inch meter multiplied by a weighting factor for that meter. The weighting factor shall be based on the safe maximum operating capacity established in the most current AWWA Standards for that meter.

Each meter serving other than a single family residence shall be selected: (1) based on the sizing requirements of the most recently adopted International Association of Plumbing and Mechanical Officials (IAPMO) Uniform Plumbing Code, (2) to flow not more than the safe maximum operating capacity of the meter per AWWA Standards, and (3), if the proposed use generally has a pattern of continuous flow (a relatively consistent flow for 6 hours or more), to flow not more than 50% of the safe maximum operating capacity of the meter during such periods of continuous flow.

The District does not guarantee that the safe maximum operating capacity or continuous flow capacity of a meter, or any rate of flow will be available from the District's water system. System capacities, water rights, hydraulics, environmental factors, or other issues may limit the amount of flow available through any meter at any given time. It is a core value of the District to maintain an adequate level of service to existing customers. The District reserves the right to limit any customer's use when that use has or will have an adverse impact to the District's obligations and responsibilities.

Additional System Development Fees in excess of those listed above may be incurred by the Customer when the Customer's use exceeds the flow rates and/or usage listed in a Water Contract (see Section 4.2.4 Water Contracts).

The System Development Fees per meter size are also indicated in Appendix "A" Table A-6.

#### 4.2.4 Water Contracts

The District shall execute a Water Contract for each new meter with a weighting factor of 8 or more (2-inch and larger), or each group of meters (regardless of size) whose weighting factors sum 8 or more, each meter hereinafter termed "contract meter". The Customer's projected flow rates and usage for each contract meter shall be listed in the Water Contract. If a Customer's use through any contract meter exceeds the listed flow rates and/or usage, the District reserves the right to require the Customer to modify the use to those listed in the Water Contract. If the Customer has not modified the use through that meter(s) to those listed in the Water Contract within 120 days of the notice requesting the modification of use, the Contract will be amended in writing and the Customer will be responsible for any mitigation deemed necessary. Mitigation shall be determined by the District, and may include, but is not limited to, additional charges and/or water system improvements including all associated costs.

Any existing non-"contract meter" purchased on or after November 1, 1999 will become a contract meter, subject to all Water Contract requirements, if additional meters are purchased to serve the same property or lot and the summed weighting factors of all meters is 8 or more, a Water Contract will be required.

These provisions apply only to meters purchased on or after November 1, 1999. Water services in existence on October 31, 1999 will not be subject to these provisions, unless said meter(s) is upsized or removed and its System Development Fee value applied to a new meter(s).

The District does not guarantee that the safe maximum operating capacity or continuous flow capacity of a meter, or any rate of flow will be available from the District's water system. System capacities, water rights, hydraulics, environmental factors, or other issues may limit the amount of flow available through any meter at any given time. It is a core value of the District to maintain an adequate level of service to existing customers. The District reserves the right to limit any customer's use when that use has or will have an adverse impact to the District's obligations and responsibilities.

The District may provide water service to two separate types of real estate: first, a tract of real estate, comprised of one or more parcels in the records of the Skagit County Assessor, but certifiable to be one "property" of record according to the deed and, second, a portion of such a legal "property" of record, having its own describable boundaries and requiring its own source of water separate from the balance of the "property", often affected by a lease from the property owner. Based on this:

- if multiple contract meters serve a single "property" (a single tract of land not affected by a lease), the System Development Fee shall be charged as indicated in the Water Contract; and
- if multiple contract meters serve a single "lot" (a single tract of land affected by a lease, perhaps within a larger "property"), the System Development Fee shall be charged in the same manner as for a "property", but shall only account for the meters serving the specific "lot" on the "property".

The District retains the final decision of what constitutes a "property" or "lot". In both cases, the Water Contract shall define the Customer's allowable flow rates and usage through the contract meter(s).

#### 4.2.5 System Development Fees for Satellite Systems (1937-01)

System Development Fees developed specifically for future LUDs or satellite systems that are not anticipated to connect to the Judy Reservoir System or be conveyed water via the District's Water Supply Agreement with the City of Anacortes, shall be subject to only the "General Plant" portion of the System Development Fee structures, providing required criteria has been met for obtaining water service. The General Plant portion charged shall account for annual construction cost index increases and shall be multiplied by the appropriate weighting factor for the meter selected; Appendix "A", Table A-6.

#### 4.2.6 Annual Adjustments to System Development Fee Schedule

The District anticipates an incremental fee increase adjustment of \$485.00 in the 5/8-inch meter size effective April 15, 2012 (subject to review by the Commission). Fees for other meter sizes are incrementally determined using a multiplier upon the 5/8-inch rounded meter fee. The fee shall be rounded to the nearest \$5.00 increment.



#### 4.2.7 Adjustments for Upsizing, Downsizing or Combining Water Services

If the meter of a water service is increased in size, the Customer shall pay a System Development Fee equal to the difference between the original meter and the new larger meter, both fees being based on the System Development Fee schedule in effect at the time of the upsizing.

Should a Customer request that a smaller meter be installed to serve their dwelling or establishment, refunds of System Development Funds shall not be made. In turn, the same water service Customer can have the meter size increased up to and equivalent to pre-existing water meter size for a period of ten (10) years after the date of down-sizing the water meter without being required to pay additional System Development Fees.

If a Customer has one or more water services serving the same parcel or lot and requests the removal of one or more of the water meters and the installation of one or more new meters, the System Development Fee of the removed meter(s) shall be applied towards the System Development Fee of the new meter(s), all fees being based on the System Development Fee schedule in effect at the time of request. If the System Development Fee(s) of the new meter(s) exceeds the System Development Fees of the removed meter(s), the Customer shall pay the difference. If the System Development Fee(s) of the removed meter(s) exceeds the System Development Fees of the new meter(s), no refund will be made.

#### 4.2.8 Miscellaneous

If a water service is abandoned, left in place at the District's discretion during a water service relocation, or otherwise abandoned from service, an Applicant shall pay the full System Development Fee and associated costs upon reactivation of the service.

### 4.3 Connection Charges for New Metered Water Services (1878-99)

All new meter installations shall be levied a connection charge (meter installation charge) per the fee schedule in Appendix "A", Table A-8, for the same six (6) water service installation Types as described in Section 3.1.1. (1878-99)

Installation fees for water service installations involving tapping a water distribution pipeline larger than 18 inches or any concrete cylinder water pipeline will be on a time and material basis, and not less than a Type Six installation fee

The Type Five deduct service may be installed concurrently with or after the domestic service, and shall be charged according to the fee schedule for a Type Two, Type Three or Type Four water service, depending on the extent of installation.

#### 4.4 Other Fees (1872-99)

A fee will be charged for any financial instrument which does not clear the financial institution (e.g. NSF checks, ACH returns, closed accounts) see Appendix “A”, Table A-9.

#### 4.5 Service Deposits (1660-95)

##### 4.5.1 Applicants (1660-95)

Applicants for a water service that are not simply transferring from an existing District service obligated in their name to another District service, may be required to provide a service deposit or show sufficient proof of a satisfactory credit history or rating from Experian Information Solutions with a minimum credit score of 580. Indication of a satisfactory credit history is defined as a credit reference from a utility indicating a 12-month satisfactory payment history. The District shall have sole discretion in determining the acceptability of the credit reference and the satisfactory analysis thereof. (1660-95)

##### 4.5.2 Existing Customers (1660-95)

Existing Customers with an unsatisfactory payment history with the District may be required to provide a service deposit as a condition of continuing to receive water service. (1660-95)

Customers applying for the installation of a new water service that includes the payment of a system development fee and/or meter installation charge, shall be waived from the requirements of a service deposit and activation fee or payment history as the Customer has demonstrated financial capacity to the District. This waiver is conditioned on the provision that the Customer does not have a previous unsatisfactory payment history with the District. (1660-95)

##### 4.5.3 Basis for Deposit (1660-95)

The service deposit amount for a residential 5/8-inch metered service shall be based on two times the two-month average billing, rounded up to the nearest \$5.00 increment; as determined from time to time when water rates are adjusted. Larger meter service deposits are to be incrementally adjusted based on multipliers or final fee indicated in Appendix “A”, Table A-10. (1660-95)

##### 4.5.4 Unusual or Exceptional Cases (1660-95)

Service deposits may be required and/or increased in unusual or exceptional cases where management deems it necessary in order to adequately protect the District. (1660-95)

In extremely rare instances, the District may waive service deposit and credit reference requirements if, in the judgment of the District, there is substantial indication of minimal

District exposure to loss. An example of this modification would be to serve a governmental entity such as a city or county. (1660-95)

Service deposits or sufficient proof of a satisfactory credit history shall be received at the time of application. Non-compliance with the arrangements is cause for disconnection from service. In the event of a disconnection, a reconnection charge in the amount established per District rates, fees, charges and deposits will be assessed. See Appendix "A", Table A-9 (1660-95)

#### 4.5.5 Refund (1660-95)

When a Customer with a service deposit leaves service, the District will refund the service deposit less the amount of unpaid bills. Refund checks will not be distributed until all necessary internal processing is completed. (1660-95)

A Customer continuing service with the District will have the service deposit applied to their account when the Customer obtains a twenty-four (24) month payment history acceptable to the District. (1660-95)

In the event a Customer first gives a service deposit and then later provides an acceptable credit history, the District may then either refund the deposit or apply the deposit to the Customer's account. (1660-95)

#### 4.5.6 Unpaid Bills (1660-95)

The District may submit to an Attorney or collection agency a request for collection of any unpaid bills after District collection attempts have failed, including unpaid bills remaining after the service deposit has been applied (1660-95). Upon assignment of an account by the District for collection, collection fees will be added to the balance owed. The fee to be added will be one hundred percent (100%) of the account balance when the balance of the account is less than or equal to \$75.00 or the fee to be added will be fifty percent (50%) of the amount of the assigned account when the balance of the account is in excess of \$75.00.

Any unpaid bills may be assigned to any other active accounts of the Customer per Section 3.3.9.

A request for service by the Customer may require payment of any unpaid bills prior to service activation.

## Section 5

# Water Resources and Environmental Policy

### 5.1 Memorandum of Agreement Regarding Utilization of Skagit River Basin Water Resources (1730-96)

A Memorandum of Agreement has been established regarding use of Skagit River Basin Water Resources for instream and out of stream purposes. (1730-96)

#### 5.1.1 Parties to the Agreement (1730-96)

The Parties to the Agreement include:

City of Anacortes (1730-96)  
Public Utility District No. 1 of Skagit County (1730-96)  
Skagit County (1730-96)  
Upper Skagit Indian Tribe (1730-96)  
Swinomish Indian Tribal Community (1730-96)  
Sauk-Suiattle Indian Tribe (1730-96)  
Washington State (1730-96)  
Department of Ecology (1730-96)  
Department of Fish and Wildlife (1730-96)

#### 5.1.2 Agreement Purpose (1730-96)

The Agreement is designed to achieve the following purposes:

- Ensure the establishment of instream flows to protect fisheries resources, and mitigate any interference with such established flows; (1730-96)
- Provide a mechanism for the coordinated management of water resources in areas described by the Skagit County Coordinated Water System Plan (CWSP), Regional Supplement, July 1993 to meet the out-of stream needs of the Swinomish Indian Tribal Community, Upper Skagit River Tribe, and Sauk-Suiattle Indian Tribe, local governments, and public water purveyors within Skagit County; (1730-96)
- Avoid litigation of adjudication of water resources within the Skagit River Basin between the Parties to this Agreement; (1730-96)
- Assist in expediting the Department of Ecology's water right decision-making within the CWSP service area; and (1730-96)
- Modify the CWSP to conform to this Agreement and to incorporate this Agreement into the Joint Operating Agreement between the City of Anacortes and the District. (1730-96)

## 5.2 Watersheds and Critical Areas (634)

### 5.2.1 Management and Protection

The District will participate in watershed and Critical Areas planning and management affecting District water supply in collaboration with other local, State, and tribal governments. Watershed delineation is based upon Washington State Water Resource Inventory Areas (WRIAs), local designations, and/or Critical Areas identified in the Skagit County Comprehensive Plan.

The District will take specific steps to protect and manage watersheds and Critical Areas important to District water resources, including: acquiring property, entering into cooperative agreements with land owners and agencies, working with Skagit County to ensure that land use regulations, critical area designations, and ordinances adequately protect water supply and other local, State, or tribal environmental management strategies.

### 5.2.2 Cultus Mountain Watershed (634)

The District has established Cultus Mountain Watershed as the watershed for the present domestic water use of its customers. (634)

## 5.3 Wetlands and Floodplains Protection (1554-92)

The District will prohibit water service hookups to undeveloped lots or parcels where private construction would disturb wetlands of significance or any area within the 100 year flood plain or its associated water ways inside the Big Lake LUD boundaries. Applicants will be required to provide Skagit County approval before water service will be provided to proposed structures within the boundaries of the USDA Rural Development-funded Big Lake LUD to ensure these are not located within or will not impact wetlands of significance or 100 year floodplains, or in conflict with federal, State, and county laws (1554-92)

## 5.4 State Environmental Policy Act (SEPA) (1628-94)

The District will use the SEPA Procedures in Appendix B in the planning and execution of construction, maintenance and repair of District facilities. (1628-94) Whenever there is a question as to whether proceeding under the District's SEPA Procedures fully meets the requirements and intent of SEPA, such matter will be called immediately to the attention of the General Manager and the Commission. The General Manager and the Commission shall determine whether adherence to the SEPA Procedures meets the requirements and intent of SEPA. (1628-94)

The Commission reserves the right, prior to staff making a formal submission to the Department of Ecology, to amplify, restrict or rule upon any such item or items in making a decision as to whether the SEPA requirements are being met, (1628-94)

It is the policy and intent of the District to fully meet all provisions of SEPA even though situations may develop which are not delineated in the District's SEPA Procedures. (1628-94)

## Section 6

# Water Extension Policies

### 6.1 Introduction

#### 6.1.1 General Provisions

The District will provide facilities for the distribution of water within its service areas in accordance with approved land use plans, policies or other regulatory requirements governing service provisions. Extension of a system to serve additional applicants, customers, properties, tracts, or subdivisions will normally be paid for by the parties that are benefited.

An Applicant for an extension will normally be responsible for financing the entire cost of an extension. Costs include new facilities, replacement of existing system components when necessary for making the extension or improvement, and upgrades to meet requirements such as fire flow, which are associated with the Applicant's project. Up-sizing water system components are outlined in Appendix C.3.1.

All water facilities must be located on property owned by the District, public rights-of-way, or dedicated easements. All water facilities must be transferred to the District's ownership for operation, maintenance, and service responsibilities, and will be subject to maintenance bonding requirements. The point of District ownership shall end at the meter, private fire system gate valve or hydrant gate valve, unless otherwise indicated on Bill of Sale to the District.

#### 6.1.2 Application of Policies and Procedures

In specific instances, the General Manager may, at his/her discretion, waive or modify the application of the policies and procedures described herein, including the application of standard fees and charges, provided that such waiver or modification allows for more effective or efficient attainment of District goals, objectives, and overall policies. Conditions for waiver or modification of the application of these policies and procedures are contained in Section 1.2 of this Water Code.

#### 6.1.3 Standards and Specifications

Water system extensions, improvements, or new facilities must be constructed in accordance with the District requirements provided in this Section and the System Extension Design Criteria included in Appendix C. It is the responsibility of the Applicant to ensure that the most current standards and specifications are used.

These standards and specifications have been developed as professional, technical guidelines for guiding system design and installation. The General Manager may modify these to maintain consistency with changing technology and industry standards.

Additionally, the General Manager may waive strict application of the standards and specifications in certain instances, provided that the resulting design or construction is approved by the District, and remains consistent with the goals and objectives expressed in this Manual.

#### 6.1.4 System Extension Ownership (1626)

All water lines and appurtenances shall be designed and installed to District requirements. They shall be and remain exclusive property of the District for future operation, maintenance and service responsibilities, with the exception of fire hydrants as specified in Appendix C, Paragraph C.10. The point of District ownership shall end at the meter, at the property line for a private fire system or the hydrant gate valve, unless otherwise stated on the Bill of Sale to the District. (1626)

## 6.2 Administrative Procedures for Initiating System Extension

### 6.2.1 Plan Approval Required

The District must approve all plans for extensions, improvements, or additions to water facilities prior to their construction.

### 6.2.2 Application

Applicants using the District's application format shall make requests for extension or improvement of a District water system to serve newly developed and/or existing properties. Each application shall contain a legal description of the property to be served (or a map showing the area) and be accompanied by two (2) copies of preliminary plans, showing the location of all water lines, hydrants, and valves needed to serve the area.

Plans of sewers, buried wire service, other utilities, street design and final plat shall also be furnished to illustrate the relationships of other facilities to water pipe plant. Water pipeline survey stationing shall be referenced to roadway centerline or right-of-way line. Water lines that are to be installed in areas where finished grades do not exist or where the finished grades may be realigned shall have final grades established prior to installation. Grade and alignment stakes shall be required for the water plant installation. (1626) See Appendix "C."

Developments or projects that are to be phased shall be shown in their entire concept prior to approval of any phase, so the District can be assured that adequate design criteria are established. (1626)

It is recommended that applicants schedule a meeting with District Engineering staff to discuss the proposed project prior to completion of the application.

### 6.2.3 District Review

The District will review the application and associated plans. The District will recover its cost of plan review from the Applicant when the project proceeds.

The District will notify the Applicant of the feasibility of the service requested, conditions for construction, and any additional facilities (e.g. water source, storage, booster stations, water main upgrades, telemetry, etc.) that may be required as a result of the proposed extension/development. Additional special requirements such as cross connection control assemblies will also be specified. The District will develop and provide to the Applicant a cost estimate of District charges on the project.

If fire protection facilities are required, the location and minimum capacity of the facilities shall be as specified by the appropriate Fire Marshal.

At the District's option, District staff may provide engineering design services for private line extensions when installation is performed by the District. The Applicant shall be charged for such services; the estimated cost of design shall be collected prior to the District commencing design work.

### 6.2.4 Work/Job Order Authorization Agreement

If an Applicant decides to proceed with a project, the Applicant shall then execute a Work/Job Order Authorization Agreement with the District, which will specify the terms and conditions of the extension or system improvement in accordance with the District's standards. Work/Job Order Authorization agreements must be signed by both the Applicant and an authorized District employee.

### 6.2.5 Submittal of Plans and Specifications

At the time the Work/Job Order Authorization Agreement is submitted, the Applicant shall submit two (2) sets of detailed plans and specifications to the District for review, potential revision and acceptance. All drawings and specifications shall be prepared per (Appendix C) double checking WSP and Appendix F & C and must be stamped by a registered Professional Engineer licensed in the State of Washington.

The Applicant shall furnish a minimum of two (2) corrected final design sets of water plant plans and specifications to the District Engineering Manager prior to the start of construction. (1626)

As the project construction progresses, any deviations from originally accepted plans and specifications must be presented by the Design Engineer to the District for review in advance, and must be accepted by the District in writing prior to commencement of the revised work. The District may require updated plans of the accepted deviation(s).



### 6.2.6 Permits, Easements, and Approvals

The applicant or their representative shall obtain all permits in the District's name as required by law prior to commencement of work. These could include, but not be limited to, permits by the governing City or Skagit County, Washington State Department of Health, Washington State Department of Ecology, Diking Districts, Drainage Districts, game and fish agencies, Highway Department, Department of Natural Resources, State land agencies, gas or oil pipeline companies, railroads, etc. The City or County Fire Marshall having jurisdiction over the site of the proposed improvement must review and approve the fire protection facilities as well. Copies of all permits and/or approvals shall be furnished to the District prior to commencement of work. All rights in the improvements shall be granted to or transferred to the District prior to final acceptance by the District Board of Commissioners. (1626)

The project designer shall verify and comply with all submittal requirements with the permitting agencies.

All plant not located on public dedicated rights-of-way shall be on easements dedicated to the District, per Sections 6.5.6 and/or 6.6.7.

## 6.3 Financing (1626)

### 6.3.1 Local Utility District Formation (1626)

Property owners within a defined area may petition the District Commissioners to extend water mains to their properties, and/or provide other facilities, by formation of a Local Utility District (LUD). All construction, engineering, administrative costs, attorney and consultant fees, feasibility studies, title reports, costs of easements, permits, environmental reports, and shoreline permits and other related costs are a part of the LUD costs. If this method is used, benefited properties will be assessed as provided by law. (1626)

### 6.3.2 Charge-in-Lieu of Assessment

If a property is to be served by an improvement financed by an LUD but that property was not included within the LUD boundaries nor charged any proportional assessment as were other properties within the LUD boundaries, the Commission may require a charge be levied against such property in lieu of an assessment. The charge-in-lieu of assessment will generally be calculated in the same manner as the other assessments within the respective LUD and will generally not be less than the assessment of any similar property within the LUD boundary; however, the Commission shall determine the exact scope of each charge-in-lieu of assessment.

### 6.3.3 District Financed Water Plant (1626)

When a water pipeline extension to properties not previously abutting a District pipeline is constructed with District funds, each Applicant connecting to the extension following completion of the construction shall be required to share in the cost of the original construction. Fees shall be collected until all final construction costs have been recovered. See Section 6.8.3 for calculation of fees. (1626)

## 6.4 System Extension Design

### 6.4.1 Responsibility (1626)

Water plant plans and specifications shall be prepared by the District's Engineering staff or a private registered professional engineer to the current design standards of the District. The designer shall consult with the District's Engineering Manager or designee to determine requirements and criteria. Should the Applicant want the District to prepare the plans and specifications, the District will determine if the existing workload will allow adequate time for the District's Engineering staff to perform the task and the District's construction forces to install the water facilities. The Applicant shall be charged for the costs incurred for this work. Installation specifications shall include those of the Washington State Standard Specifications for Road, Bridge and Municipal Construction, modifications and other requirements set by the District. The plans shall identify water pipe plant in bold, and all other existing and proposed utilities on the drawing in normal-tones. (1626)

### 6.4.2 General Policy (1626)

The design standards, requirements and procedures identified in Appendix C are the minimum allowable by the District for any and all water improvement projects, whether designed by the District or by a private engineering firm/agency. Design standards help to ensure uniformity of cost and final product. (1626)

Quality project design is a goal of the District. Although these standards are intended to apply to physical development within the District, the standards do not apply for all situations. Additionally, compliance with these standards does not relieve the designer of the responsibility to apply conservative and sound professional judgment. These are minimum standards and are intended to assist, but not substitute for competent work by design professionals. The District may, at its sole discretion for any reasons, require more stringent requirements than would normally be required under these standards. (1626)

Waiver of specific design criteria indicated herein must be requested in writing and may be approved only by the District's General Manager or Engineering Manager. The decision to grant, deny or modify the standards will be based upon evidence that the request can meet the following criteria: (1626)

- The change will achieve the intended result in comparable or superior design and a better quality of improvement; (1626)
- The change will not adversely affect safety and/or operation; and (1626)
- The change will not adversely affect maintainability. (1626)

#### 6.4.3 Gridding

The District may require gridding of water mains in order to satisfy pressure, fire flow, water quality, and system hydraulic requirements. In addition, gridding may be required to promote system reliability. The determination of gridding requirements shall be at the sole discretion of the District. In determining whether gridding is required, the following factors shall be considered:

- Topographical constraints;
- Effects of gridding on system hydraulics;
- Projected future development in the area, based on the applicable land use plan, as updated from time to time, municipal comprehensive plans if applicable, the District's Water System Plan, and other available information.

#### 6.4.4 Pressure Testing (1626)

All new plant shall be hydrostatic pressure tested as specified in the WSDOT Standard Specifications Exceptions to this requirement must be recommended in writing by the District's Engineering Manager and approved in writing by the District's General Manager. The waterline installer will provide all testing equipment. The final testing performed by other than District personnel shall be in the presence of the District's inspector. (1626)

#### 6.4.5 Disinfection (1626)

Before being placed into service, all new water mains and repaired portions of or extensions to existing mains shall be chlorinated, and a satisfactory bacteriological report shall be provided to the District. Disinfection procedures are detailed in the WSDOT Standard Specifications. (1626)

The waterline installer shall be responsible for disposal of treated water flushed from mains and shall neutralize the disinfection solution for protection of aquatic life in the receiving water before disposal into any natural drainage channel. The Applicant shall be responsible for disposing of disinfection solution to the satisfaction of State and local authorities. (1626)

#### 6.4.6 Fireflow Not Altered by Sprinkler Systems

The District encourages residential fire protection sprinkling systems. However, such systems will not be a basis for altering the District's design standards.

## 6.5 Water System Improvements Installed For Applicant by District/District's Contractor (1626)

### 6.5.1 Project Estimate (1626)

Upon application, the District will provide to the Applicant a written estimate for the installation of water lines and appurtenances. If the Applicant and the District agree to proceed with the project, the Applicant shall make a deposit in advance to the District of the estimated cost of installing the water lines designed by the District's Engineering Department. Costs shall include, but not be limited to, material, labor, equipment, engineering, overhead, and right-of-way costs. Permits, easements, environmental and related reports will be obtained by the District, and any fees levied shall be paid by the Applicant. (1626)

Payment of the deposit may be made in two installments. The first payment (deposit) shall include, but not be limited to, the estimated cost of materials, engineering, right-of-way cost, permits, easements, and environmental and related reports. Project estimates are subject to change. The second deposit shall be made when the District is in a position to reasonably forecast when it will begin actual on-site construction. The second deposit shall be the balance of the estimated cost as described in this section. The District shall contact the Applicant, or his financier as directed, and request the balance of the estimated cost. After all work has been completed, all conditions satisfied, and all accounting completed, the Applicant shall be billed for additional costs incurred over the payment(s), or refunded any unused balance. The District reserves the right to terminate water service or sale of any new service if final billing is not paid within 30 days of receipt. (1626)

If an Applicant cancels a project after the first payment is paid, the Applicant shall be required to pay District costs incurred through the date the written project termination is received by the District. District termination costs may include specialty items if these items cannot be returned to the vendor. Re-stocking charges shall be applied to the Applicant's account. Specialty items that cannot be returned shall become property of the Applicant. District-incurred charges shall be deducted from the deposit and the balance refunded. If the charge is greater than the deposit, the Applicant shall be billed for the difference. (1626)

Estimates are subject to change prior to acceptance of payment. If the District is required to revise the design of a project, the District will charge the Applicant the cost of those additional revisions. (1626)

### 6.5.2 Contracts with District (1626)

Contractors working for the District must enter into a contract with the District for the work involved. The District will prepare or supervise preparation of the contract documents. (1626)

### 6.5.3 Tapping of Mains (1626)

All taps made to the existing main shall be made by District crews or under direct observation by qualified District personnel. Payment shall be made in advance for this work. (1626)

### 6.5.4 Contractor Insurance Requirements (1626)

Specific contractor insurance requirements are identified in Public Liability and Property Damage Insurance, of the WSDOT Standard Specifications. Substitute District for State and General Manager for Secretary in the above specifications. The Contractor shall forward to the General Manager a Certification by the Contractor that a policy, or endorsement to an existing policy, satisfying all the requirements set forth above has been obtained from a particular insurance company and is in effect prior to commencing work on the project. (1626). The contractor shall obtain and keep in force during the term of the contract and until 30 days after the Physical Completion date, unless otherwise indicated below, the following insurance with companies or through sources approved by the State Insurance Commissioner pursuant to Chapter 48.05, RCW.

### 6.5.5 Contract Bond

The successful bidder shall provide an executed contract bond for the full contract amount. This contract bond shall:

1. Be on a District-furnished form;
2. Be signed by an approved surety (or sureties) that:
  - a. Is registered with the Washington State Insurance Commissioner, and
  - b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Be conditioned upon the faithful performance of the contract by the Contractor within the prescribed time; and
4. Guarantee that the surety shall indemnify, defend, and protect the District against any claim of direct or indirect loss resulting from the failure:
  - a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform the contract, or
  - b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work.

The District may require sureties or surety companies on the contract bond to appear and qualify themselves. Whenever the District deems the surety or sureties to be inadequate, it may, upon written demand, require the Contractor to furnish additional surety to cover any remaining work. Until the added surety is furnished, payments on the contract will stop.

#### 6.5.6 Guarantees

The contractor shall be responsible for correcting all defects in workmanship and materials incurred within one year (365 days) after the date of final acceptance of the project. When corrections of defects are made, the Contractor shall be responsible for correcting all defects in workmanship and/or materials in the corrected Work for one year after acceptance of the correction by the District. The Contractor shall commence remedying such defects within seven (7) days of receipt of notice of discovery thereof from the District and shall complete such Work within a reasonable time. In emergencies, where damage may result from delay or where loss of service may result, such corrections may be made by the District, in which case the cost shall be borne by the Contractor. In the event the Contractor does not complete corrections within a reasonable time, the Work shall be otherwise accomplished and the cost of same shall be paid by the Contractor.

The Contractor shall be liable for any costs, losses, expenses, or damages, including consequential damages, suffered by the District resulting from defects in the Contractor's Work including but not limited to costs, labor, materials, equipment and administration incurred by the District in making emergency repairs of such defective Work and associated costs of engineering, inspection, and supervision by the District or Engineer. The Contractor shall defend, indemnify and hold the District harmless from any and all claims which may be made against the District as a result of Contractor's defective Work.

#### 6.5.7 Licenses (1626)

Contractors installing water plant for the District or the Applicant shall be licensed and bonded in the State of Washington. A copy of the installing entity's contractor's license shall be forwarded to the District prior to installation of the water plant. (1626)

#### 6.5.8 Easements and Rights-of-Way (1626)

All plant not to be located on public dedicated rights-of-way shall be on easements dedicated to the District, either shown on the plat, an instrument acceptable to the District, or on the District's "Water Pipeline Easement" form. Easements shall be a minimum of twenty feet in width (with exceptions for special topographic conditions or other District requirements). An easement may coincide with another utility easement, except all sanitary sewer lines must be ten feet or more from water lines and other utilities a minimum of five feet. Water lines shall be located no closer than five feet from the edge of easement areas. (1626)

### 6.5.9 Applicant Advance Payment (1626)

The District will provide an estimate based on costs for tie-ins to existing District plant and for District inspection and administration of the work performed by other than the District forces. The Applicant must request these estimates a minimum of thirty (30) days in advance of the need for the cost figures. The Applicant shall make an advance payment in the amount of the estimate(s) before any work is started. Estimates are subject to change and the District reserves the right to terminate water service or sale of any new service, if advance payments are not made within sixty (60) days of the quotation. After all work, conditions and accounting are completed, the Applicant shall be billed for additional costs incurred beyond the advance payment(s) amount or refunded any unused balance.

### 6.5.10 Indemnify, Defend and Save Harmless (1626)

A contractor working for the District shall agree to indemnify and defend and to save the District harmless from any and all claims or liability for damages arising from acts done under the contract. Before commencing work the Contractor shall furnish the District certificates of his comprehensive general and automobile liability and property damage insurance, in limits acceptable to the District, protecting against all claims for personal injury or property damage, including coverage for underground collapse and explosion damage, arising during the course of the performance of said contract.

## 6.6 Water System Improvements Installed by Applicant (1626)

### 6.6.1 Progress Requirement (1626)

The requirements listed in the sections below are to be complied with, completed and satisfied before any water plant construction is started: (1626)

- District Plan Approval (Section 6.2.1)
- Work/Job Order Authorization Agreement (6.2.4)
- Permits, Easements and Approvals (6.2.6)
- System Extension Design (Section 6.4 and Appendix C)
- Written Estimate for Plan Review and Construction Inspections (Section 6.6.2)
- Acceptable Contractor (6.6.3)
- Applicant Damage Agreement (6.6.5)
- Materials Submittal Requirement (6.6.6)
- Easements and Rights-of-Way (6.6.7)
- Applicant Advance Payment (6.6.8)
- Contractor Insurance Requirements (6.6.9)
- Licenses (Section 6.6.10), and
- Indemnify, Defend and Save Harmless (Section 6.6.11)

Additional requirements not listed may also be necessary.

### 6.6.2 Written Estimate for District Review, Construction and Inspection Services (1626)

Upon request, the District will provide to an Applicant a written estimate for the installation of water lines and appurtenances. If the Applicant and the District agree to proceed with the project, the Applicant shall pay in advance to the District the estimated cost of installing the water lines designed by the Applicants Engineer. Costs shall include, but not be limited to, material, labor, equipment rental, engineering, overhead, and right-of-way costs. (1626)

### 6.6.3 Acceptable Contractor

Any Contractor installing a line extension(s) for an Applicant must be a licensed contractor in the State of Washington and accepted by the District.

"Acceptance" of a Contractor by the District means that the Contractor has met certain minimum criteria relating to past performance, experience, or apparent ability to successfully perform the work required; it shall not be deemed to create or impose any warranty upon the District as to the said contractor or its workmanship, nor shall such acceptance relieve the applicant or the contractor of their responsibility to comply in all respects with District policies and specifications.

### 6.6.4 Tapping of Mains (1626)

All taps made to the existing main shall be made by District crews or under direct observation of qualified District personnel. Payment shall be made in advance for this work. (1626)

### 6.6.5 Applicant Damage Agreement (1626)

The Applicant shall sign and return an "Applicant's Damage Agreement" form furnished by the District that guarantees payment to the District for costs of repairs to District plant damaged by activities of the Applicant or its contractor(s) in the construction of the improvement. The agreement requires the Applicant to certify that the final grade will be established throughout the construction area of the development and the water plant will be installed to design grades. The Applicant shall agree to accept financial responsibility to relocate affected water plant vertically and horizontally if grades are not as accepted by the District. (1626)

### 6.6.6 Materials Submittal Requirement (1626)

Prior to construction, the Applicant or the contractor installing the water system improvements shall submit a list of all brands, sizes, types, grades and standards of materials to be used in the water plant. All pipe, fittings, valves and appurtenances shall be manufactured to AWWA standards and accepted by the District. The District may



reject certain brands at its discretion. The District will provide acceptance, and/or comment by letter. (1626)

#### 6.6.7 Easements and Rights-of-Way (1626)

All plant not to be located on public dedicated rights-of-way shall be on easements dedicated to the District, either shown on the plat, an instrument acceptable to the District, or on the District's "Water Pipeline Easement" form. Easements shall be a minimum of twenty feet in width (with exceptions for special topographic conditions or other District requirements). An easement may coincide with another utility easement, except all sanitary sewer lines must be ten feet or more from water lines and other utilities a minimum of five feet. Water lines shall be located no closer than five feet from the edge of easement areas. (1626)

#### 6.6.8 Applicant Advance Payment (1626)

The District will provide an estimate based on costs for tie-ins to existing District plant and for District inspection and administration of the work performed by other than the District forces. The Applicant must request these estimates a minimum of thirty (30) days in advance of the need for the cost figures. The Applicant shall make an advance payment in the amount of the estimate(s) before any work is started. Estimates are subject to change, and the District reserves the right to terminate water service or sale of any new service, if advance payments are not made within sixty (60) days of the estimate. After all work, conditions and accounting are completed, the Applicant shall be billed for additional costs incurred beyond the advance payment(s) amount or refunded any unused balance. (1626)

#### 6.6.9 Contractor Insurance Requirements (1626)

Specific contractor insurance requirements are identified in Public Liability and Property Damage Insurance, of the WSDOT Standard Specifications. Substitute District for State and General Manager for Secretary. Certification by the Contractor that a policy or endorsement to an existing policy satisfying all the requirements set forth above has been obtained from a particular insurance company and is in effect shall be forwarded to the General Manager prior to commencing work on the project. (1626)

#### 6.6.10 Licenses (1626)

Contractors working for the District or the Applicant installing water plant shall be licensed and bonded in the State of Washington. A copy of the installing entity's contractor's license shall be forwarded to the District prior to installation of the water plant. (1626)

#### 6.6.11 Indemnify, Defend and Save Harmless

A contractor working for the Applicant shall agree to indemnify and defend and to save the District harmless from any and all claims or liability for damages arising from acts

done under the contract. Before commencing work the contractor shall furnish the District certificates of his comprehensive general and automobile liability and property damage insurance, in limits acceptable to the District, protecting against all claims for personal injury or property damage, including coverage for underground collapse and explosion damage, arising during the course of the performance of said contract.

## 6.7 Construction Requirements and Procedures

### 6.7.1 Construction Procedures (1626)

The District hereby adopts with the approval of this code the Washington State Department of Transportation/American Public Works Association Standard Specifications for Road, Bridge, and Municipal Construction, including the APWA Supplement (most current issue). All construction work on plant or facilities to become final property of the District shall be as specified in the Standard Specifications unless superseded or specifically amended by special conditions within the project specifications that are accepted by the District. (1626)

The accepted construction plans and specifications shall be followed. No deviations will be allowed without request for change and acceptance received from the design engineer and District's Engineering Manager. The District reserves the right to order changes in the event of conditions or circumstances discovered during construction. Such changes could result from the ability or care shown by the Contractor, natural and man-made conditions, or any other reason. (1626)

There shall be extreme care in checking and cleaning all pipe and fittings of dirt, debris and/or any foreign matter during installation. All material shall be kept clean. Plugs shall be used to seal plant installed when it is to be left for any period of time; including lunch breaks, coffee breaks and overnight. Pipe and fittings shall be washed before installation if contaminated by dust, smoke, exhaust or any other material. Material contaminated by petroleum products or questionable chemicals shall be rejected. No trench water shall be allowed to enter installed plant. (1626)

### 6.7.2 District Involvement and Inspection (1626)

There shall be a pre-construction conference with the District a minimum of 48 hours prior to start of construction. (1626)

A District Inspector must be present for all work on water pipe plant if work is to be conducted by someone other than District personnel. The District may refuse acceptance of any such plant installed without District inspection. The District shall be notified a minimum of two full working days in advance of a firm starting date and time to arrange for and schedule the inspector. Work must proceed in a continuous manner. If there are breaks in construction, there must be two working days notice before beginning again. Inspection costs shall be borne by the Applicant. (1626)

### 6.7.3 Tapping of Mains

All taps made to the existing main shall be made by District crews or a specialized contractor acceptable to the District. Payment shall be made in advance for this work. (1626)

### 6.7.4 District Access

During the period of construction, Applicant and its contractor(s) shall provide access to District personnel (including personnel on contract to the District) as necessary, to ensure compliance with District requirements.

## 6.8 Requirements Prior to Final Connection to Existing System

### 6.8.1 Progress Requirement

Requirements in the following Sections shall be completed to the District's satisfaction before full and final connection to the District system will be permitted: (1626)

- District Involvement and Inspection (6.7.2)
- Disinfection (6.4.5)
- Pressure Test (6.4.4)
- Bond(s) (6.8.2)
- Final Acceptance (6.8.7)

### 6.8.2 Acceptance and Bonds

The project must be accepted and all required permits issued by the appropriate county or municipal agencies. All necessary bonds must be furnished to those agencies; the Applicant must also provide a one-year maintenance bond to the District for the new water plant. All agreements with the Public Utility District must be signed before water services may be installed. (1626-94)

A maintenance bond, irrevocable letter of credit, deposit in lieu of maintenance bond, or cash bond for the water plant installed by other than District personnel shall be furnished to the District for projects of \$10,000 or less, the bond shall be not less than 50% of the full installed value of the water plant. For projects ranging from \$10,001 to \$25,000, the bond shall be not less than 40% of the full installed value of the water plant. For projects in excess of \$25,001, the bond shall not be less than 25% of the full installed value of the water plant. Bonding requirement for Governmental entities may be in the form of an Inter-Local Agreement (see below). The bond shall be effective for a period of one year from the date of the acceptance of water plant by the District Commissioners. This acceptance request shall not be prepared and dated until after satisfaction of all conditions listed herein. The purpose of the bond shall be to guarantee payment to the District for costs of repairs that become necessary during the first year of operation. Further, the

bond shall guarantee payment for replacement of any or all of the plant if it is determined failure is excessive and the plant cannot be relied upon for long, trouble-free life. The District shall be sole judge of the adequate performance of such plant. (1626)

A Maintenance Agreement for Governmental Agencies may be approved by the District's General Manager in lieu of a one-year maintenance bond. (1748-97) A sample form is attached in Appendix C-14).

### 6.8.3 Latecomer Provisions (1626)

Each new pipeline extension built and paid for by an Applicant will be eligible for a Latecomer's Agreement, allowing for reimbursement of installation costs of that extension during the first ten years after the date of acceptance by the District or date of completion by the District or when the property to which the pipeline was intended to serve is sold. The reimbursement will be on a front footage basis. The cost per foot of the extension is established at the time of the original installation. Each new Applicant connecting to that extension within the first ten years after completion of the extension will be required to share in the cost of the original construction. Prior to connection, the new Applicant shall pay to the District, in addition to other applicable charges, a latecomer fee equal to the front footage of the pipeline abutting the new Applicant's property multiplied by one of the following footage charges: (1626)

- For pipelines eight inches in diameter and smaller: one-half the actual cost per foot of the extension, including fire hydrants. (1626)
- For pipelines larger than eight inches in diameter: one-half the average cost per foot for typical 8-inch diameter water extensions in the water system for the calendar year the oversized main was installed. The cost of the 8-inch water pipeline shall be all-inclusive, e.g., includes fittings, fire hydrants, backfill materials and surface restoration. The average cost per foot, for the calendar year 2003, is established at \$29.17. The cost per foot for pipe installed during ensuing years will be adjusted by the District Treasurer to incorporate inflation as established in the Consumer Price Indexes "Seattle Area" (2003=100) published by the Bureau of Labor Statistics, U.S. Department of Labor. (1626)
- Water mains that do not have opposing sides for water service connections may be eligible for a slightly modified latecomers formula that accounts for the total limited front footage available on both sides of the new pipeline. (1626)

If at a later date an Applicant connects a new main pipeline off the side of this original extension, the later Applicant shall pay either:

- a perpendicular connection will be based on a 100-foot lot multiplied by the footage cost, or
- a horizontal run the basis of one-half the front footage of the water main abutting the Customer's property multiplied by footage cost, whichever is greater.

There shall be no latecomer fees for any main extensions continuing off the end of the original extension. The effective start date for the term of the Latecomers Agreement is the date of acceptance of the installation by the District Commissioners. No waivers shall be permitted, unless authorized in writing by the beneficiary of the refund. (1626)

Latecomer refunds cannot exceed the cost of the original installation. (1626)

The District shall reimburse to the original Applicant any Latecomer's fees collected.

#### 6.8.4 Record Drawings

Upon completion of a project, one set of revised top quality photo Mylar record drawings, or one set of paper record drawings and specifications, and an additional compact disc (CD) containing record drawings in a read-only digital format compatible with the District's current computerized design system (AutoCAD.DWG format; not .PLT format), shall be provided to the District at the Applicant's expense. The digital information shall be archived so that all x-references, including the title block and border, are a permanent part of the drawing. Record drawing plans shall be compiled from a final marked-up set of construction drawings marked "As-Built", shall show all new water facilities and related appurtenances and, at a minimum, shall include the true locations of all mains, valves, hydrants, and fittings giving sizes and types of each, including distances of mains from property lines and right-of-way centerlines.

A registered Professional Engineer licensed in the State of Washington must stamp and sign all drawings and specifications. If the registered Professional Engineer is responsible for the inspection of the construction then he/she is required to stamp the record drawings.

#### 6.8.5 Temporary Connection (1626)

Final connection to existing District plant may not be permitted until after acceptance by the District of all installation. A small tubing connection (3/4-inch to maximum of 2-inch size) may be made from District plant to supply water for line filling, pressure testing, disinfection and disinfection water removal. An approved reduced-pressure backflow prevention assembly shall be installed in the temporary supply line. (1626)

#### 6.8.6 Transfer of Ownership (1626)

The Applicant shall deliver to the District a Bill of Sale or acceptable form, transferring the ownership of all pipe plant within the development to the Public Utility District. The Bill of Sale shall describe lengths and sizes of plant, and the location in general terms such as the name of the plat. In addition, there shall be an itemization of all installed costs of water pipe plant broken down as to descriptions of material, size and lengths of each type of pipe with unit or lump sum costs for each type, including fittings. The cost itemization shall include a breakdown of the material, labor, construction equipment, engineering, and sales taxes. Water service materials and costs (and meters if installed by

the Applicant), must be listed separately. Include all private engineers fees involved with water plant work. The Bill of Sale shall not include fees paid to the District. (1626)

Fire hydrant assemblies (tee, valve, connecting pipe, valve casing and cover, hydrant, blocking and installation) and costs are to be listed separately.

### 6.8.7 Final Acceptance

Upon completion of construction, Applicants or their contractors shall notify the District and request a final inspection for acceptance of the project. Upon completion of the following items, the District staff shall present to the District Board of Commissioners a Request for Acceptance for their action:

- The water main has been installed according to the approved plans and specifications;
- Pressure and bacteriological tests have been passed;
- All permit conditions have been satisfied;
- All extension policy conditions have been fully satisfied;
- All fees, deposits and payments required by the District and other entities have been paid;
- All easements recorded at the county or shown on the face of the final plat map;
- All necessary bonding in place; and
- The following items are delivered to the District:
  - ◆ Copy of all executed bond and easement documents;
  - ◆ Stamped Mylar and paper Record Drawings that reflect as-built conditions;
  - ◆ Digital copy of water plan Record Drawings and
  - ◆ "Bill of Sale" accepted by the District.

The date of acceptance by the District Commissioners will begin the period of warranty. Final acceptance shall not constitute acceptance of any unpaid for, unauthorized, defective, omitted, or non-conforming work or materials. Final acceptance shall not prevent the District from requiring the applicant to pay for, remove, replace, dispose, or add work or materials or prevent the District from recovering damages for any work or materials or lack thereof.

### 6.8.8 Final Connection

The Applicant shall complete the final connection to the District system prior to acceptance by the District. All connecting pipe and fittings shall be sterilized as required in Section 6.4.5 and shall be maintained clean and uncontaminated. Qualified District personnel shall supervise system flushing. (1626)

## 6.9 Extension Policies for Specific Conditions

### 6.9.1 Water Service Requirements for Developments Serving Four or Fewer Parcels (lot or tract) (1566-92)

A line extension may be waived for a land division under the following conditions: (1566-92)

- The parcel to be developed must front (be adjacent to and contiguous with) a District water main; (1566-92)
- The development will create no more than four (4) new parcels. The Applicant will submit a drawing of the proposed development to be considered; (1566-92)
- The prevailing fire protection authority will not require a fire hydrant or similar device beyond the first parcel fronting the waterline; (1566-92)
- The District has determined through its own analysis that the future possibility and need for extending a water line through the development to provide a gridded system or to extend beyond the development by way of a line extension is extremely limited. Physical barriers such as major transportation corridors (railroad tracks, limited access high-capacity thoroughfares, etc.), steep terrain, and bodies of water were considered; (1566-92)
- Zoning will prohibit further subdivision of the new parcels at the time of development. Further subdivision or subdivision of the parcels at any time in the future may require a line extension. The District and other authorities will evaluate provisions for future line extension/gridding. Any development that applies for a variance shall be required to provide an easement to the District that would provide sufficient right-of-way for a water line in the future to traverse through the development; and (1566-92)
- Those developments satisfying all of the above conditions will be considered by the District's General Manager. The General Manager may allow the meters to be set at the beginning of the roadway access. A line extension fronting some or all lots may be required. The District may deem it necessary to require a variety of conditions for approval of services hereunder. The ultimate District proposal will be based upon the District's best judgment considering all relevant factors. (1566-92)
- A statement of District requirements will appear on the recorded plat. (1566-92)

Upon satisfaction of all District requirements, the District, upon payment of the prevailing fees, will place separate water meters serving each parcel. The District's responsibility will terminate at the water meter. (1566-92)

If an entity allows further subdivision, this action will trigger the District's requirements for a water line installation to serve the property that was granted the waiver, and the associated costs will be born by the property owner who initiated further development. (1566-92)

### 6.9.2 Installation of Water Services to Serve Property with Limited Access

If a water main extension to a limited access lot(s) demonstrates no future benefit to the District system as determined by the District, the District may allow a water service to be installed at the street right-of-way line to serve the limited access lot. This type of water service installation requires District Manager approval and the water service shall be installed within the limited access lot's easement frontage for ingress and egress.

### 6.9.3 Policy for Water Main, and Water Service Installations in Mobile Home Courts and/or Trailer Parks (1498)

Each mobile home lot will be required to have a separate water meter and pay a System Development Fee. (1498)

Expansions to mobile home courts and/or trailer parks will require review and acceptance by the District. (1498)

This policy may not apply to seasonal recreation lots.

### 6.9.4 Consistency with Skagit County Comprehensive Plan (1559-92)

The District will provide water service to undeveloped lots/parcels in rural areas, and only after receipt of notice from the County that the undeveloped lot/parcel is consistent with the County's Comprehensive Plan and that a building permit will be issued upon notice of water availability by the District. (1559-92)

Water service requests for livestock watering and/or agricultural purposes may be allowed. Service provided for this purpose shall not be converted to domestic, commercial, or industrial use without the parcel or property owners submitting to the District an approved building permit issued by Skagit County. The approved building permit will be considered warranty that the improvement is in compliance with the approved Skagit County Comprehensive Plan. Failure to provide such a permit may be grounds for discontinuation of water service. (1559-92)



## Section 7

# Satellite System Management

### 7.1 Background

Public Utility District No. 1 of Skagit County (District) functions as the primary Satellite Management Agency (SMA) for Skagit County per the Skagit County Coordinated Water System Plan (CWSP) Regional Supplement. The District provides satellite service inside Skagit County (and outside the County in limited cases) to all areas not already designated as the service area of another State-approved water utility. The District's goal as SMA is to maximize water availability and maintain satisfactory water quality, as well as to assist other public water systems (water systems serving 2 or more service connections) with technical and administrative tasks. The District runs a Satellite System Program, operating both large and small District-owned systems, assisting troubled and failing water systems, and providing other water systems by contract with various services. By operating more than one water system, economies of scale make it possible for the District to employ qualified personnel, provide good system management and operation, and meet the stringent standards required by the Safe Drinking Water Act.

The regulations and liability associated with providing adequate water service are becoming too complex, restrictive and expensive for many communities, homeowner associations and individually-owned utilities. Small public water systems are often unwilling or unable to develop and sustain the operating revenues that will finance needed capital improvements and operational/maintenance activities in a manner that is affordable to their customers, nor the Operating and Capital Cash Reserves required by the State to meet the test of financial viability. It is not the District's intent to take over all small public water systems in Skagit County, but rather to support them in cooperation with the Skagit County Health Department (SCH). The District appreciates the pride many system owners display and believes they should continue service so long as their product meets drinking water quality standards and their physical water system meets DOH/SCH requirements.

This Satellite Management Program is fashioned to allow some flexibility of service to water systems to best accommodate their particular needs. In addition, the District's eligibility for State and federal funding assistance and its ability to issue bonds helps to assure reliable and high quality service at minimum cost for District-owned systems.

Many water systems may be operating well and producing good quality water, but need help with monitoring or the cost of supplies; Support Assistance may be the best for them. Other water systems may not want to stay in operation or, because of inability to meet water quality requirements, may be forced by the courts to turn their system over to someone else; Ownership Service may be their best option. New systems may be served by Ownership, Management and Operation, or Contract Service by the District.

This outline of the District's Satellite System Management Program provides customers with the philosophy, objectives, and procedures associated with available services.

## 7.2 Types of Satellite Water Systems

### 7.2.1 Group A Water System

A Group A water system is defined in WAC 246-290-020 as a public water system: with 15 or more service connections used by year-round residents for 180 or more days within a calendar year, regardless of the number of people; or regularly serving at least 25 year-round (i.e. more than 180 days per year) residents, or that provides service opportunity to 25 or more of the same nonresidential people for 180 or more days within a calendar year, or that serves 25 or more different people each day for 60 or more days within a calendar year, or that serves 25 or more of the same people each day for 60 or more days but less than 180 days within a calendar year, or that serves 1,000 or more people for two consecutive days within a calendar year.

### 7.2.2 Group B Water System

Group B water system is defined in WAC 246-290-020 as a public water system that does not meet the definition of a Group A water system.

### 7.2.3 Types of Satellite Service

The Satellite System Program provides four primary options of services for water systems:

- **Ownership Service:** Ownership and operation of the remote water system by the District.
- **Management and Operation Service:** Management and operation of the remote public water system by the District for the system owner, or
- **Contract Service:** Delegation by the District of the system management and operation to the system owner or a third party; this option still requires the SMA to ensure that all functions of the system comply with applicable regulations.
- **Support Assistance:** Support to existing viable systems for technical, professional or special services by the District.

These options are designed to respond to the needs of differing water systems and to support a program of reliable water system operation throughout the County. Decisions on establishing a level of service will depend on CWSP Guidelines, direction from the County or State Health Departments, individual system needs, plans for improvement and growth pressures, as well as the ability of the District to provide the desired services in a cost-effective manner. Each situation will be carefully examined by the District with the Applicant interested in Satellite System service or support.

Existing systems that do not meet water quality standards would benefit the most from Ownership Service. The District may be required to assume specific regulatory liabilities for systems that transfer ownership; the interests of all District customers will be

considered before any such transfer. The District will provide Ownership Service only for those systems that comply with its minimum water quality, construction and reliability standards. Systems initially failing to meet these standards must either be brought up to standards or pay the cash equivalent of such an upgrade prior to transfer of ownership, in accordance with this Satellite System Program policy. Different construction and reliability standards will be assigned to Group A and Group B systems as appropriate.

Systems requesting assistance must provide unrestricted access of system facilities to District staff. All system facilities must be on system-owned property or located on legal rights-of-way or easements.

The District uses the following procedures in evaluating requests for either remote service (either Ownership, Management & Operation or Contract Service) or Support Assistance. There are some common steps in each process regardless of which option is requested.

1. Initial contact between the Applicant and the District: the Applicant can discuss needs of the water system and receive a copy of District policies and procedures pertaining to Applicant's requests. The Applicant may contact the District on its own or by SCH or DOH referral.
2. Applicant's written request: this initiates the District's formal evaluation of the system's needs, capabilities and deficiencies. The Applicant's request should include specific data and background information on the system using the Small System Survey forms in Appendix G (also found in the Comprehensive Water System Plan).
3. District procedures: The District will inform the Applicant of the procedures required for service or support.
4. A detailed flow chart is included in Appendix H (also found in the Satellite Management Program, of the District's Comprehensive Water System Plan).

The District's Point of Contact for initiating SMA service is the Engineering Department at the District's office complex located at 1415 Freeway Drive, Mount Vernon WA 98273.

## 7.3 Ownership service

### 7.3.1 Policy

- Applicants adjacent to or within another established public water system's designated service area will be referred to that water system for Ownership service before the District will accept a request for Ownership service from the applicant (see Figure 6A). If the adjacent water system denies the applicant service, the applicant may apply for Ownership service from the District.

- Ownership Service can be provided for both Group A and Group B public water systems. Typically the District will own and operate all new satellite Group A public water systems proposed within its satellite service area, and, consider service to any existing public water system with water quality or infrastructure deficiencies regardless of the size of the water system. The District will typically not own Group B public water systems. Instead:
  - ◆ the District will typically waive SMA service to all two (2) connection Group B public water systems;
  - ◆ the District will review potential for SMA management and operation (M&O) service to new Group B public water systems with more than two (2) connections. In general, the District will not provide M&O service to Group B water systems; and
  - ◆ Unique exceptions will be considered on the recommendation of a governmental agency or the system owner.
- The District considers a new system to be feasible based on the balance of its projected revenues to active service count, projected rate of growth to buildout, and operational requirements. An economic viability assessment will be performed on each system to be considered for ownership service. Ownership systems which are likely to be considered financially feasible include, but are not limited to:
  - ◆ those inside or within 1/2-mile of a UGA or rural village served by the District; or
  - ◆ those where a District water main is anticipated to be within 1/2-mile of the system within 20 years of the date the system begins operation.

In all cases, land use regulations shall govern the creation of new developments and determine the density therein.

- Ownership Service requires transfer of ownership and operational responsibilities from either a new or existing water system to the District. The District shall assume complete responsibility for the water system following transfer.
- The Applicant is subject to all District written policies and Resolutions, including but not limited to rates and fees, design and construction standards and line extension policies.
- The Applicant is responsible for all costs of upgrade and transfer of system ownership to the District. The District will assist the Applicant in obtaining funding. The District will not make cash payments to acquire an existing or new system. Transfer of ownership will occur at no cost to the District.
- Water systems that have been certified per WAC 246-290 as being designed and constructed in accordance with District, SCH and Washington State Department of Health (DOH) standards shall be considered “certified”; all other systems shall be considered “uncertified”. Certified and Uncertified systems shall follow the respective Review and Approval Procedures indicated below to implement the Ownership Service option. For Uncertified systems, this shall include survey and

evaluation of the system and completion of all upgrades to minimum District standards prior to transfer of ownership to the District.

- The District reserves the right to contract any or all of the survey and evaluation procedures and/or the final design of a water system to a professional other than the District who, in the mutual judgment of the District and SCH, is qualified.

### 7.3.2 Review and Approval Procedures

#### ■ Certified Existing Systems

- ◆ Systems that are certified per WAC 246-290 to meet District, SCH and DOH standards for design and construction will not be subject to the survey, evaluation and upgrade process.
- ◆ Systems that may desire Ownership Service by the District or connection to another District system at some future date should meet the following requirements during design and construction:
  - Design and install the system per the District’s current urban design standards or rural design standards, as the District considers appropriate. See Appendix “C”.
  - Coordinate inspection of construction of the new system with the District.
  - Prior to transfer of ownership to the District, have the system designer certify per WAC 246-290 that the system has been constructed per the approved design and that it meets District, SCH and DOH standards.
- ◆ Transfer of water system ownership to the District shall follow the procedures outlined in paragraph 7.3.2.b (8) below.

#### ■ Uncertified Existing Systems

- ◆ For “uncertified” systems, a preliminary survey will be conducted by the District to establish the existing status of the water system. See Appendix G. The District may require a preliminary deposit prior to conducting the survey. The deposit will be applied toward the final cost of improvements tallied at the completion of work. If the Applicant withdraws the request for service for any reason at any time during the process, the District will retain a portion or all of the deposit to help cover costs.
- ◆ Based on the data collected from this survey, the District will estimate the costs for required improvements and routine operation and maintenance (O&M).
- ◆ A meeting or other appropriate method will be used to review the survey data and preliminary cost estimate with the Applicant. The Applicant may either withdraw the request for Ownership Service or continue the process by authorizing the District to prepare an engineering evaluation to more accurately determine the work and costs required to improve the system to and maintain the system at required standards.

- ◆ The District engineering evaluation shall include a detailed analysis of the system's operation, required capital improvements and projected O&M costs. The applicant must possess water rights adequate to supply the project, and these water rights must be transferred to the District.
- ◆ It will also contain a preliminary financing plan for improvements based on:
  - Minimum improvements required to meet water quality, construction and reliability standards;
  - Required improvements to upgrade the system to District standards;
  - Additional improvements for storage, metering and fire flow (if not already required).
- ◆ After review of the engineering evaluation with the Applicant, the Applicant may withdraw the request for Ownership Service or, with assistance from the District, pursue required improvements to the water system. Improvements required to meet minimum District standards, particularly those associated with water quality, safety and reliability, shall be completed prior to transfer of ownership. Less critical improvements may, at the District's option, be deferred until normal repair or replacement occurs.
- ◆ Improvement may be financed by the Applicant through rate surcharges, customer assessments, system development charges, and/or District-arranged financing. District-arranged financing may include State and/or federal grants, Local Utility District (LUD) bonds or other similar arrangements.
- ◆ If necessary and found to be economically feasible, the District Commissioners may require the formation of an LUD in accordance with RCW 54. Once an LUD is formed and improvements completed, ownership of specified facilities, equipment and data shall be transferred to the District.
- ◆ After completion of the improvements, the Applicant and the District shall pursue transfer of ownership. The District's attorney will establish the appropriate authorization and legal instruments for the transfer of system ownership to the District. The items required for transfer or ownership may include, but are not limited to:
  - Bill of Sale
  - Title Report and Property Deeds
  - Assignment of Easement and Franchises
  - New Easements, if required
  - Assignment of Water Rights
  - Authorization to Collect Rates and Fees
  - Hold Harmless Agreement
  - List of Owners, Customers and Service and Mailing Addresses
  - Maps, Records, Equipment Manuals and Data
  - Other information

■ New Systems

- ◆ Levels of Ownership Service. Service can be provided to a Satellite System through several scenarios, depending on whether the system will “stand alone” permanently or has potential for connecting to an existing District system (“temporary stand-alone”), and whether fire protection will be required for the development by the Fire Marshal in that jurisdiction. The District will own and operate the remote system in either case.
- ◆ Permanent Stand-Alone System. A “permanent stand-alone system” is a remote system which is so far removed from another District system that there is no possibility of future connection/intertie. The permanent system shall be designed and built to meet or exceed District requirements as outlined in Appendix I and “Ownership System Design Standards” (7.3.2.c(4), below).
- ◆ Temporary Stand-Alone System. A “temporary stand-alone system” is a remote system which is more than 1/2-mile from a District water main and has a strong potential for hook-up within 20 years of the date the remote system starts operation. The system can be developed in one of two ways:
  - Completed to match current standards of the adjacent District system, allowing the eventual tie-in and integration into the adjacent District system without major modification of the remote system; or
  - Completed to minimum stand-alone standards with the written agreement of the developer that all or portions of the remote system will be upgraded to meet or exceed the standards of the adjacent District system at some future date prior to tie-in to the adjacent District system; selection of this option requires the developer to provide to the District the equivalent cash value of the intended future upgrade at the time the District accepts the system. The equivalent cash value shall be based on the District’s estimated cost of the upgrade; present worth is subject to negotiation between the developer and the District.

NOTE: Even though it will eventually be integrated into the adjacent District system, a Temporary Stand-Alone System must by definition be designed and constructed as a complete system to provide all the necessary service to its customers until such time as it is connected to the adjacent system. See “Ownership System Design Standards”, 7.3.2.c(4) below.

- ◆ Ownership System Design Standards. Each Ownership System shall be designed by a Professional Engineer registered in the State of Washington and shall follow the sizing guidelines provided by the Washington State Department of Health. Each Ownership System shall be designed according to the District design standards, Appendix C of the Water Code. See also Appendix I. Specific material and construction requirements and standard details are available in Section 4.4 and Appendix F of the 2001 Comprehensive Water System Plan.

### 7.3.3 Rates and Charges

Rates and charges for District owned and operated satellite public water systems shall conform to existing schedules of rates and charges in Appendix A, or to new District rates and charges developed specifically for a water system (or systems). (1895-00)

## 7.4 Management and Operation Service

### 7.4.1 Policy

The District will not typically provide management and operation (M&O) service to a water system. In those cases when M&O service is provided, it will be under the terms of an SMA M&O service agreement. Each such “Satellite Service Agreement” will address:

- Detailed description of the area served and owners’ names, including a single point of contact regarding the Satellite Water System (SWS);
- Background leading to SWS formation and the District’s involvement;
- Terms, including:
  - ◆ construction/improvement and ownership of the water system by the SWS, per that system’s or per State and County Health Department standards, whichever is greater, at the cost of the SWS;
  - ◆ operation of the water system by the District (or a designated third party agreeable to both the SWS and the SMA, as delegated by the SMA) per State and County Health Department standards at the cost of the SWS;
    - if operated by a third party, a compliance inspection of the water system by the SMA, at the cost of the SWS, to be performed at least annually; the SWS shall correct any deficiencies within a stated timeframe agreed between the SWS and SMA; the SMA shall correct any deficiencies not corrected in the timeframe specified and bill the SWS for such work;
  - ◆ payment of charges by the SWS to the SMA for operation, scheduled inspections, administrative management, water quality sampling/testing, and/or all other work performed by the SMA; waiver of lien rights; method of recovering any delinquent SMA billings from SWS; and
  - ◆ future expansion of the SWS.
- Hold harmless clause;
- Duration of the agreement (until the SWS is abandoned or connects to another District water system);
- Other factors deemed necessary; and
- Signatures of District and SWS representatives, notarized as required.



#### 7.4.2 Rates and Charges for Management and Operation Services

- For management and operation services, water rates and charges shall be subject to negotiation between the District and the SWS and ratification by the District Commission;
- Any compliance inspection fee shall be calculated and charged on a case by case basis to recover District labor and vehicle expenses; and
- Any fee for water quality testing shall be set by the General Manager on a case by case basis to recover the laboratory costs and District labor and vehicle expenses.

### 7.5 Contract service

#### 7.5.1 Policy

The District may offer contract services to any water system to which the District has waived SMA service and/or does not have an SMA relationship. The District and such water system shall agree to scope of services and compensation by written contract prior to the District providing any contract services. The contract should include the same basic elements as indicated above for a Satellite Service Agreement.

#### 7.5.2 Rates and Charges for Contract Services

- For contract services, water rates and charges shall be subject to negotiation between the District and the water system and ratification by the District Commission;
- Any compliance inspection fee shall be calculated and charged on a case by case basis to recover District labor and vehicle expenses; and
- Any fee for water quality testing shall be set by the General Manager on a case by case basis to recover the laboratory costs and District labor and vehicle expenses.

### 7.6 Support Assistance Service

#### 7.6.1 Policy

- The Support Assistance program provides general assistance for improving water service within the District's satellite service area. The intent of the program is to allow small water systems to remain independent and operate at reasonable expenditure levels. The District is willing to evaluate any form of assistance to help a water system improve its level of service. Primarily, the program is designed to support smaller water systems on a limited or non-recurring basis.
- "Limited" Support Assistance can include, but is not limited to:
  - ◆ Leadership and support to small utilities to ensure their views are considered in formulating local and state regulatory actions.
  - ◆ Opportunities for operator training and information system support;

- ◆ Administration of programs for joint purchasing of equipment and supplies to achieve economies of scale (public agencies only);
- ◆ Other information resources.
- “Non-recurring” Support Assistance can include, but is not limited to:
  - ◆ Loan of equipment or supplies to a system to handle a special circumstance (public agencies only, except that the District may support a privately-owned utility in case(s) of emergency, in the interest of public health and safety);
  - ◆ Providing engineering/or technical expertise to a system that lacks necessary staff for certain tasks (public agencies only);
  - ◆ Providing financial management/grant procurement assistance.

#### 7.6.2 Review and Approval Procedures

- The Applicant shall first establish the utility’s eligibility for support and the scope of the service(s) desired.
- The District shall provide an estimate of cost(s) for the service(s) requested.
- The District and the Applicant shall execute a written agreement or formal contract that specifies the exact responsibilities (staffing, equipment, supplies, etc.) and charges for the service(s) that the District will provide. This process will be expedited in case(s) of emergency.

# Appendix A

## Rates, Fees, Charges and Deposits

<b>Table A-1</b>			
<b>Monthly Basic Fixed Charge</b>			
Meter Size	Effective 01/01/08	Effective 03/01/09	Effective 01/01/10
5/8-inch	\$ 16.40	\$ 16.90	<b>\$ 17.40</b>
¾-inch	16.40	16.90	<b>17.40</b>
1-inch	27.40	28.20	<b>29.05</b>
1 ½-inch	54.50	56.15	<b>57.85</b>
2-inch	87.10	89.70	<b>92.40</b>
3-inch	163.25	168.15	<b>173.20</b>
4-inch	271.90	280.05	<b>288.45</b>
6-inch	543.75	560.05	<b>576.85</b>
8-inch	869.85	895.95	<b>922.85</b>

## Notes

- Total rate includes the sum of Table A-1 (as applicable) and Table A-2 below.
- These rates apply to all customers except: A) those described in Section 4.1.2 (Wholesale or Special Contract Customers) of the main document; and B) those described in Tables A-3, A-4, and A-5.

<b>Table A-2</b>			
<b>Consumption Charges</b>			
	Effective 01/01/08	Effective 03/01/09	Effective 01/01/10
<b>Single Family &amp; Duplex with Individual Meters</b>			
0-3 ccf	\$1.81 per ccf	\$1.86 per ccf	<b>\$1.92 per ccf</b>
4-100 ccf	2.84 per ccf	2.93 per ccf	<b>3.02 per ccf</b>
101-Excess	1.66 per ccf	1.71 per ccf	<b>1.76 per ccf</b>
<b>All Others: Except those described in Tables A-3 and A-5</b>			
0-3 ccf	\$2.84 per ccf	\$2.93 per ccf	<b>\$3.02 per ccf</b>
4-100 ccf	2.84 per ccf	2.93 per ccf	<b>3.02 per ccf</b>
101-Excess	1.66 per ccf	1.71 per ccf	<b>1.76 per ccf</b>

## Notes:

- The District bills in hundred cubic feet increments (ccf). One hundred cubic feet (1 ccf) equals 748 gallons.
- Total rate includes the sum of Table A-1 (as applicable) and Table A-2.
- These rates apply to all customers except: A) those described in Section 4.1.2 (Wholesale or Special Contract Customers) of the main document; and B) those described in Tables A-3 and A-5.

**Table A-3  
Monthly Basic Charges-Private Fire Systems  
(Automatic Sprinkler Equipment)**

Private Fire System Based Upon Inch Size	Effective 01/01/08	Effective 03/01/09	Effective 01/01/10
1-inch	\$ 2.75	\$ 2.85	<b>\$ 2.95</b>
2-inch	5.50	5.65	<b>5.80</b>
3-inch	8.30	8.55	<b>8.80</b>
4-inch	11.00	11.35	<b>11.70</b>
6-inch	16.55	17.05	<b>17.55</b>
8-inch	22.05	22.70	<b>23.40</b>
10-inch	27.60	28.45	<b>29.30</b>
12-inch	33.10	34.10	<b>35.10</b>

**Monthly Basic Charges-Private Fire Systems  
(Other than Automatic Sprinkler Systems)**

Privately Owned Fire System	\$27.55	\$28.40	<b>\$29.25</b>
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Note:

- Charges to be computed on a monthly basis

**Table A-4  
Fire Hydrant Use Charge**

Monthly Basic Charge	\$25.00 per month		
Monthly Consumption Charges:	Effective 01/01/08	Effective 03/01/09	Effective 01/01/10
0-3 ccf	\$2.84 per ccf	\$2.93 per ccf	<b>\$3.02</b>
4-100 ccf	2.84 per ccf	2.93 per ccf	<b>3.02</b>
101-Excess	1.66 per ccf	1.71 per ccf	<b>1.76</b>

**Same as All Others (Table A-2)**

**Table A-5  
Potlatch Water System Charges**

	Effective 01/01/08	Effective 03/01/09	Effective 01/01/10
Monthly Basic Charge	\$58.99	\$60.76	<b>\$62.58</b>
Monthly Consumption Charges	\$10.00 per ccf	\$10.30 per ccf	<b>\$10.61 per ccf</b>

Note:

- The District bills in hundred cubic feet increments (ccf). One hundred cubic feet equals 748 gallons.

**Table A-6**  
**System Development Fees Summary – 5/8 to 8-inch Meter**

Meter Size	Weighting Factor	Current Fee	Effective 04/15/11
5/8-inch	1	\$ 2,880.00*	<b>\$ 3,365.00</b>
3/4-inch	1.5	\$ 4,320.00*	<b>\$ 5,050.00</b>
1-inch	2.5	\$ 7,200.00*	<b>\$ 8,415.00</b>
1-1/2-inch	5	\$ 14,400.00*	<b>\$ 16,825.00</b>
2-inch	8	\$ 23,040.00*	<b>\$ 26,920.00</b>
3-inch	16	\$ 46,080.00*	<b>\$ 53,840.00</b>
4-inch	25	\$ 72,000.00*	<b>\$ 84,125.00</b>
6-inch	50	\$144,000.00*	<b>\$168,250.00</b>
8-inch	80	\$230,400.00*	<b>\$269,200.00</b>
10-inch	115.0	\$331,200.00*	<b>\$386,975.00</b>
Satellite Systems		General Plant portion of System Development Fee structure*	

## Notes:

\*Refer to Section 4.2 for further System Development Fee and Water Contract information.

\*System Development Fees developed specifically for future LUDs or satellite systems, such as Potlatch Beach LUD No. 23, Skagit View Village LUD No. 27 and Marblemount LUD No. 28, that are not anticipated to connect to the Judy Reservoir System or conveyed water via the District's Water Supply Agreement with the City of Anacortes, shall be subject to only the "General Plant" portion of the System Development Fee structures, providing required criteria has been met for obtaining water service. The General Plant portion charged shall account for annual construction cost index increases and shall be multiplied by the appropriate weighting factor for the meter selected.

\*Fees are based upon the cost of a 5/8-inch meter (\$2,880 (\$3,365 effective 04/15/11) x meter capacity weighting factor). The weighting factor is based upon the safe maximum operating capacity for displacement and compound water meters as identified in the American Water Works Association C-700 and C-702 standards.

The District anticipates an incremental fee increase adjustment of \$485.00 in the 5/8-inch meter size effective April 15, 2012 (subject to review by the Commission). Fees for other meter sizes are incrementally determined using a multiplier upon the 5/8-inch rounded meter fee. The fee shall be rounded to the nearest \$5.00 increment.

**Table A-7**

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**Table A-8  
Installation Charges**

<b>Connection Charge Type</b>	<b>Meter Size</b>	<b>Charge</b>
Type One	5/8-inch	\$1,280
Type One	3/4-inch	\$1,335
Type One	1-inch	\$1,360
Type Two	5/8-inch	\$ 515
Type Two	3/4-inch	\$ 575
Type Two	1-inch	\$ 600
Type Three	5/8-inch	\$ 320
Type Three	3/4-inch	\$ 375
Type Three	1-inch	\$ 375
Type Four	(Varies)	Part of Water Main Extension Cost
Type Five (Deduct)	5/8-inch	\$ 515
Type Five (Deduct)	3/4-inch	\$ 575
Type Five (Deduct)	1-inch	\$ 600
Type Six	5/8-inch	\$1,940
Type Six	3/4-inch	\$1,995
Type Six	1-inch	\$2,020
Renewal of Service (meter only) within one year	5/8-inch, 3/4-inch and 1-inch	\$ 50
Renewal of Service (meter only) after one year	5/8-inch, 3/4-inch and 1-inch	Type Three Charge
Renewal of Service (complete service)	5/8-inch, 3/4-inch and 1-inch	Time and Materials, not to exceed Type One Installation Charge
Renewal of Service (complete service)	Larger than 1-inch	Time and Materials
Type One, Two, Three, Four and and Six	1 1/2-inch and Larger	Time and Materials

**Table A-9**  
**Miscellaneous Charges**

	Current Charges	*Effective 04/01/10
1 Service Activation Charge	\$ 10.00	*\$20.00
2 Deduct Meter – Monthly Basic Fixed Charge		\$2.55
3 Financial Instrument Charge (NSF, ACH return, closed account, etc.)		\$25.00
4 Turn On/Reconnection (8 AM to 3 PM, M-F, excluding Holidays)	\$ 35.00	*\$50.00
5 Consequent Turn On/Reconnection (8 AM to 3 PM, M-F, excluding Holidays) within a 12-month period		*\$160.00
6 Turn On/Reconnection (After 3 PM, M-F, or on Saturday)	\$ 90.00	*\$160.00
7 Turn On/Reconnection (Sundays and Holidays)	\$120.00	*\$190.00
8 Late Fee – A late payment charge of \$5 or 2% per month, whichever is greater, applied to unpaid balances 14 calendar days beyond bill due date	*\$5 or 2% Per Month	
9 Collection in the Field (prior to disconnection of service) 8 AM to 3 PM, M-F		\$15.00
10 Reactivation of abandoned service, Type I		Type I Charge
11 Reactivation of abandoned service for larger than 1", plus associated service charges, fees, permits, expenses from other local, state or federal agencies		Actual Cost
12 Water Service Installations Involving Connection to a Water Pipeline Larger than 18", or Any Concrete Cylinder Water Pipeline		Actual Cost
13 Temporary Connection Charge (Installation/Removal)		Actual Cost
14 Crew/Serviceman Standby (Customer Request)		Actual Cost
15 Damage from Addition of New Equipment		Actual Cost
16 Damage to District Property		Actual Cost (unless shown below)
17 Cut Lock Charge	\$ 25.00	*\$200.00
18 Meter Yoke Replacement Charge	\$100.00	*\$300.00
19 Satellite System Compliance Inspection Charge		Actual Cost
20 Satellite System Water Quality Testing Charge		Actual Cost

Note: \*Charges in **bold** text will become effective April 1, 2010

**Table A-10**  
**Service Deposits**

Meter Size	Deposit Amount
5/8" or 3/4" Residential	\$135.00
1" Residential	\$200.00
Greater than 1" Residential	\$250.00

Note:

- Commercial and larger metered service deposits are to be calculated based on two times the two month average billing as determined from time to time when water rates are adjusted or increased or when customer applies for service. In unusual or exceptional cases where management deems it necessary in order to adequately protect the District, the District may exceed the amounts indicated.

# Appendix B

## State Environmental Policy Act Procedures

### I. OBJECTIVES

- A. The State Environmental Policy Act of 1971, (SEPA), being RCW Chapter 43.21C, has been enacted to:
1. Declare a State policy which will encourage productive and enjoyable harmony between people and their environment;
  2. Promote efforts which will prevent or eliminate damage to the environment and biosphere;
  3. Stimulate human health and welfare;
  4. Enrich the understanding of the ecological systems and natural resources important to the state and nation.
- B. The Act authorizes and directs all branches of governments of this State, including State agencies, municipal and public corporations and counties to:
1. Use a systematic, interdisciplinary approach, ensuring integrated use of natural/social sciences and environmental design arts in planning/decision making on actions having a potential environmental impact;
  2. Identify and develop methods and procedures, in consultation with the Department of Ecology and the Ecological Commission, to ensure appropriate consideration of environmental amenities and values, along with economic and technical considerations in decision making;
  3. Consult with, and obtain comments from, any environmentally related public agency with respect to any environmental impact involved.
  4. Prepare a detailed statement for inclusion with every recommendation or report on proposals for legislation and other major actions significantly affecting the quality of the environment, which outlines:
    - a. The environmental impact of the proposed action;
    - b. Unavoidable adverse environmental effects of the proposed action;
    - c. Alternatives to the proposed action;
    - d. Relationships between short-term uses of the environment and maintenance/enhancement of long-term productivity;
    - e. Any irreversible and irretrievable resource commitments of the proposed action;
  5. Make available to the Governor, the Department of Ecology, the Ecological Commission, and the public, copies of the Environmental



Statement and comments/view of environmentally related appropriate federal, provincial, state, and local agencies;

6. Provide copies of environmental statements and comments/views to accompany the proposal through the existing agency review processes;
7. Study and develop appropriate alternatives in cases involving resource-use conflicts;
8. Recognize worldwide environmental problems, and, where consistent with State policy, support measures to maximize international cooperation in preventing a decline in quality of the world's environment;
9. Make information on environmental restoration, maintenance and enhancement available to others;
10. Initiate and use ecological information in the planning and development of natural resource-oriented projects.

C. In keeping with the full purpose and intent of the law and in response to the foregoing directives, the following guidelines and procedures governing legislative enactment based on policy decisions by the Board of Commissioners, shall be followed. It is the intent of the Commission that any action of this District shall be evaluated in the sense of being either major/significant or minor/insignificant as related to environmental impact. The procedures dealing with threshold determinations and beyond are based on the District being Lead Agency. For those proposals where the District is not the Lead Agency, the District shall comply with the adopted procedures of the Lead Agency.

## II. INCORPORATION OF SEPA RULES

Chapter 197-11 of the Washington Administrative Code (WAC) was established as the SEPA Rules, effective April 4, 1984. The SEPA Rules were established to provide uniform requirements for compliance with SEPA, and are hereby incorporated by reference into these District SEPA Procedures, as clarified herein. The District's SEPA Procedures, the SEPA Rules (WAC 197-11) and SEPA (43.21C RCW) must be read together as a whole in order to comply with the spirit and letter of the law.

## III. DEFINITIONS

In addition to the definitions provided in the SEPA Rules (WAC 197-11-700 series), the following definitions are provided to clarify District-specific items:

- Building:** A facility which is regularly occupied or houses personal property (e.g., a dwelling unit, office facility, water treatment plant, etc.). Includes underground utilities to five feet outside the footprint of the building.
- Impoundment:** A storage facility for untreated water, usually man-made with some form earthen or concrete dam(s), and inlet and/or outlet piping for the water.

- Right-of-Way: A narrow band of property with legal title or easement for a specific purpose(s), usually for transportation and/or utility access (such as telecommunication and electrical wires or water/sewer piping).
- Storage Tank: A structure for the storage of liquid, such as potable water; usually above ground; usually constructed of steel or concrete, with a roof.
- Structure: A facility which is not regularly occupied nor houses personal property (e.g.: storage tank, booster pump facility, etc.). Includes underground utilities to five feet outside the footprint of the structure.
- Water Plant: Water system components, usually below ground level, including but not limited to water transmission and distribution lines, fittings, valves, control valve facilities, water service meters, fire hydrants, etc., but not structures or buildings.

#### IV. LEAD AGENCY

The “Lead Agency” is the agency responsible for SEPA compliance for a particular proposal. When the District initiates a proposal, it is the Lead Agency for that proposal. If the District shares in the implementation of a proposal, it must mutually agree in writing with the other implementing party on which agency will be the Lead Agency. If the other party is a private party, the District will be the Lead Agency. State agencies will automatically be Lead Agency for proposals listed in 197-11-938 WAC, including impoundments of 40 or more acres of surface area (Department of Ecology).

#### V. TIMING OF SEPA PROPOSALS

The District shall prepare its threshold determination, and environmental impact statement (EIS) if required, at the earliest possible point in the planning and decision making process, when the principal features of a proposal and its environmental impacts can be reasonably identified. For most proposals, this should occur at the conceptual stage rather than the final detailed design stage. See the attached project timeline for a relative scale of when SEPA should be addressed. For its own proposals, the District may extend the time limits prescribed in the SEPA Rules (197-11-055 WAC).

#### VI SEPA APPLICABILITY

- A. The District shall consider SEPA on all proposals except those which are categorically exempt. The following actions, which may be routinely undertaken by the District, are categorically exempt from threshold determination and EIS requirements per 197-11-800 WAC.
1. Construction of an office, commercial, service or storage building or structure with 4,000 SF of gross floor area and with associated parking facilities for 20 automobiles.
  2. Construction and/or installation of commercial on-premises signs.
  3. Installation of hydrological measuring devices regardless of whether or not on lands covered by water.

4. Repair, remodeling, maintenance and minor alteration of District structures, buildings and water plant involving no material expansion or changes in use beyond that previously existing; special provisions apply to areas covered wholly or in part by water.
5. Appropriation of water (including exemption of hydraulics permit, shoreline permit and building permit) in the amount of not more than 50 cfs of surface water for irrigation purposes; and not more than 1 cfs of surface water, or 2,250 gpm of groundwater, for any purpose.
6. Purchase or acquisition of any right to real property; the sales, transfer or exchange of any publicly-owned real property, but only if not subject to an authorized public use; the lease of real property when the use of the property for the term of the lease will remain essentially the same as the existing use, or when the use is otherwise exempt from SEPA.
7. Enforcement and inspections, including the abatement of hazards to public health and safety.
8. Administrative, fiscal and personnel activities of the District (197-11-800 (13) WAC).
9. Local Utility Districts, unless such formation includes in its proposal the construction of such facilities not exempt from SEPA.
10. All storm water, water and sewer facilities, lines equipment, hookups, appurtenances including, utilizing or related to lines 8-inch or less in diameter.
11. All electrical facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of 55,000 volts or less; and the overbuilding of existing distribution lines (55,000 volts or less) with transmission lines (more than 55,000 volts); and the undergrounding of all electric facilities, lines, equipment or appurtenances.
12. All developments within the confines of any existing electric substation, impoundment, storage tank, pump station or well, not including additional appropriations of water.
13. Periodic use of chemical or mechanical means to maintain District right-of-way in its design condition; chemicals shall be as approved by Washington State Department of Agriculture and applied by licensed personnel; chemicals shall not be applied in watersheds controlled for drinking water quality.
14. Actions during an emergency to avoid imminent threat to public health and safety or to prevent serious environmental degradation (197-11-880 WAC).
15. The construction or installation of minor surveillance and control systems and temporary traffic controls and detours.
16. All communication lines, including cable TV, but not including communication towers or relay stations.

17. Watershed restoration projects. Actions pertaining to watershed restoration projects as defined in RCW 89.08.460(2) are exempt, provided, they implement a watershed restoration plan which has been reviewed under SEPA (RCW 89.08.460(1)).
18. Personal wireless service facilities.
  - (a) The siting of personal wireless service facilities are exempt if the facility:
    - (i) Is a microcell and is to be attached to an existing structure that is not a residence or school and does not contain a residence or a school;
    - (ii) Includes personal wireless service antennas, other than a microcell, and is to be attached to an existing structure (that may be an existing tower) that is not a residence or school and does not contain a residence or school, and the existing structure to which it is to be attached is located in a commercial, industrial, manufacturing, forest, or agriculture zone; or
    - (iii) Involves constructing a personal wireless service tower less than sixty feet in height that is located in a commercial, industrial, manufacturing, forest, or agricultural zone.
  - (b) For the purposes of this subsection:
    - (i) “Personal wireless services” means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services, as defined by federal laws and regulations.
    - (ii) “Personal wireless service facilities” means facilities for the provision of personal wireless services.
    - (iii) “Microcell” means a wireless communication facility consisting of an antenna that is either:
      - (A) Four feet in height and with an area of not more than five hundred eighty square inches; or
      - (B) If a tubular antenna, no more than four inches in diameter and no more than six feet in length.
      - (C) This exemption does not apply to projects within a critical area designated under GMA (RCW 36.70A.060).

- B. The above categorical exemptions, numbered 1 through 18, shall not apply in areas designated by a city or Skagit County as an “environmentally sensitive area”. Critical Areas: Wetlands, Flood Hazard Areas, Aquifer Recharge Areas, Geo Hazard Areas, Fish & Wildlife Habitat.

## VII. THRESHOLD DETERMINATION

### A. General

A threshold determination is required for any proposal which meets the definition of “action” (197-11-704 WAC) and is not categorically exempt. The District’s “responsible official” shall make the determination, using the process indicated in 197-11-330 WAC, usually assisted by an Environmental Checklist. The determination shall be documented as either a Determination of Non-significance (DNS) or a Determination of Significance (DS), and shall be made as soon as practical after the agency has developed or is presented with a proposal.

The threshold determination shall not balance whether the beneficial aspects of a proposal outweighs its adverse impacts, but rather shall consider whether a proposal has any probable significant adverse environmental impacts under the SEPA Rules and these Procedures.

B. Designation of Responsible Official

The “responsible official” ensures the District’s SEPA Procedures are followed, and issues the threshold determination and supervises the development of the EIS, if required. The responsible official will be the General Manager, or a District staff member one management level below the General Manager, and/or a professional engineer.

C. Environmental Checklist

1. A private applicant or a member of the District staff will prepare an Environmental Checklist for each proposed action which is not categorically exempt, using the form provided in Section IX of these Procedures. If practical, the Checklist should be prepared by a staff member other than the responsible official. The following resources should be used, at a minimum, in developing the Checklist:

- District Water System Plan
- Appropriate City or County Comprehensive Plan
- Appropriate City or County Zoning Map(s)
- Skagit County Shoreline Management Master Program
- USDA/Soil Conservation Service Soil Survey of Skagit County, WA
- National Wetlands Inventory Map(s)
- Information from other public and private utilities

For water system improvements, the Checklist shall at a minimum address chlorinated water in terms of its use for disinfection and its disposal. Proposals for new water tanks shall address detention requirements for both stormwater runoff and tank overflow/drainage conditions.

The Checklist will have attached at least a Project Site Map and a Wetlands Map, even if no wetlands are within 200 feet of the proposed site(s).

2. The completed Checklist shall assist the responsible official in making a threshold determination. A checklist is not required if the District has decided that an EIS must be prepared for the proposal.

D. Determination of Nonsignificance (197-11-340 WAC)

1. If the responsible official determines that there will be no probable significant adverse impact from a proposal, the responsible official shall issue a DNS using the form in Section IX of these Procedures.
2. If the District adopts another environmental document in support of a DNS, the Notice of Adoption and the DNS shall be combined or attached to each other. The Notice of Adoption form can be found in Section IX of these Procedures.
3. Comment Period
  - a. Waterline Proposals. The District will not require, but may at its sole discretion opt for, a 15-day comment period for waterline-related proposals only, regardless of their size, except where the proposal involves:
    - (1) Another agency with SEPA jurisdiction;
    - (2) Demolition of any structure or building not exempted by 197-11-800(2)(f) or -880 WAC;
    - (3) Issuance of clearing or grading permits not exempted by Part Nine of the SEPA Rules; or
    - (4) A DNS under 197-11-350(2), -350(3) or -360(4) WAC.

Waterlines larger than 8-inches in diameter are becoming routine installations by the District; the WSDOT APWA Standard Specifications and AWWA's standards for installation, to which the District adheres, address how the District is to deal with potentially hazardous materials and therefore mitigates environmental impacts during construction, which is normally the time of greatest potential for adverse environmental impacts for waterlines.

Larger waterlines (18-inch diameter and over) of significant length and waterlines incidental to other non-categorically exempt work will normally have comment periods.

- b. Other Proposals. All proposals for which the District is Lead Agency, other than those exempted by subsection 3a. above will have a 15-day comment period. The District will not act on any proposal until the due date for receipt of comments has lapsed and the responsible official has determined that no further threshold action is required.
4. Mitigated DNS. If a proposal is modified/clarified after the Checklist is prepared but before the threshold determination is made, the responsible official may issue a Mitigated DNS (MDNS), including such conditions that would mitigate any probable adverse environmental impacts made possible by the original proposal. See also 197-11-350 WAC.

5. Each completed DNS and its Environmental Checklist shall be filed in the proposal's construction order file at the District office.

E. Determination of Significance (197-11-360 WAC)

1. If the responsible official determines that a proposal may have a probable adverse environmental impact, the responsible official shall prepare and issue a DS using the form provided in Section IX of these Procedures. Examples of proposals which may be considered major or significant are:
  - a. New or revised impoundment structures that are not categorically exempt;
  - b. Overhead power lines, when designed for 115,000 volts or more, if in excess of one-half mile in length;
  - c. Electric substations with installed capacity of 5,000 kVA or more and not part of an industrial development;
  - d. Electric switching stations, when occupying an area of one-fourth acre or more;
  - e. Potable or septic water treatment facilities, with net increase in design capacity of 15 million gallons per day or more.
2. If the District adopts another environmental document in support of a DS, a Notice of Adoption and the DS shall be combined or attached to each other. The Notice of Adoption form can be found in Section IX of these Procedures.
3. The responsible official shall commence scoping for the EIS by circulating copies of the DS to the applicant (if other than the District), agencies with jurisdiction and expertise (if any), affected tribes, and the public, per the public notice procedures in the following section. Scoping is not required if the District is adopting another environmental document for the EIS or is preparing a Supplemental EIS.
4. The District shall be guided by Part Four of the SEPA Rules in its preparation and issuance of an EIS.

F. Public Notice

The District shall inform the public and other agencies that an environmental document is being prepared or is available and that public hearing, if any, will be held by publishing notice in a newspaper of general circulation in the county, city or general area where the proposal is located. The District may also opt to post the property, for site specific proposals.

G. Threshold Determination Distribution List

1. The responsible official shall ensure the threshold determination and Environmental Checklist if prepared, are distributed at a minimum to the following:

- a. WA State Department of Ecology Environmental Review Section;
  - b. WA State Department of Health, Drinking Water Division;
  - c. Skagit County Department of Planning and Community Development (if outside the corporate limits of a city);
  - d. City Planning Director (if within an Urban Growth Area);
  - e. Local tribes (Skagit System Cooperative if in the Skagit River basin or its tributaries), Upper Skagit, Samish; and
  - f. Applicant (if other than the District).
2. Other agencies to receive copies for particular proposals might include:
    - a. WA State Department of Fish and Wildlife (if within 200 feet of any surface water course or wetland);
    - b. U.S. Forest Service (if in a federally-regulated watershed used for potable water);
    - c. WA State Department of Natural Resources (if within a state-regulated watershed used for potable water);
    - d. WA State Department of Transportation (if crossing a State Right-of-Way);
    - e. Other public or private utilities (if the proposal could potentially impact their service).

#### H. Appeals

1. Administrative appeals and appeals to a local legislative body shall not be allowed under these Procedures.
2. Judicial appeals shall follow the requirements of RCW 43.21C.060, RCW 43.21C.075, RCW 43.21C.080 and 197-11-680 WAC.

### VIII. NOTICE OF ACTION (RCW 43.21C.080)

- A. The responsible official shall file a Notice of Action using the forms at the end of these Procedures, for all proposals with a comment period and all waterline proposals 18 inches in diameter and larger. The “action” addressed by the Notice of Action is not the SEPA threshold determination, but the Resolution (or motion) by the District’s Board of Commissioners approving the project scope and budget and authorizing the District staff or design consultant to proceed.
- B. The Notice of Action shall be:
  1. Published on same day of each week for two consecutive weeks in a legal newspaper of general circulation in the area where the property which is subject of the action is located;
  2. Filed with the Department of Ecology at the following address prior to the date of the second newspaper publication:



Environmental Review Section  
Attention: Barbara Ritchie  
Department of Ecology  
PO Box 47600  
Olympia WA 98504-7600

3. Except for non-project actions, posted in a conspicuous manner on the property upon which the project is to be constructed. As an alternative to posting, the Notice may be mailed to the last recorded real property owners as shown on the records of the County Treasurer, who share a common boundary line with the property upon which the project is proposed through United States mail, first class, postage prepaid.
- C. The Notice of Action shall indicate that a common boundary line with the property upon which the project is proposed through United States mail, first class, postage prepaid.
- (ii) Posting of the notice in a conspicuous manner on the property upon which the project is to be constructed.
- (2) (a) Except as otherwise provided in RCW 43.21C.075(5)(a), any action to set aside, enjoin, review, or otherwise challenge any such governmental action or subsequent governmental action for which notice is given as provided in these procedures on grounds of noncompliance with the provisions of this chapter shall be commenced within twenty-one days from the date of last newspaper publication of the notice pursuant to these procedures or be barred.

## IX. SEPA FORMS

The following attached forms shall be used by appropriate District staff for SEPA actions:

- A. Environmental Checklist
- B. Determination of Non-Significance
- C. Determination of Significance
- D. Notice of Adoption
- E. Notice of Action

# Appendix C

## Water System Design Criteria

### C.1 Minimum Design Standards

#### C.1.1 Introduction

The following design standards are the minimum allowable by the District for any and all water improvement projects, whether designed by the District or by another engineering firm/agency. The intent is that all projects be designed to the same standard to ensure uniformity of final product and of cost to the financier. The sections that follow indicate incorporated standards, DOH and District approval requirements, and general, urban and rural design standards. Standard material and installation specifications (for construction contracts) are included in District's Water System Plan.

Good design of projects is a goal of the District. Although these standards are intended to apply to physical development within the District, the standards may not apply for all situations. Compliance with these standards does not relieve the designer of the responsibility to apply conservative and sound professional judgment. These are minimum standards and are intended to assist, but not substitute for, competent work by design professionals. The District may at its sole discretion for any reason place more stringent requirements on a project than would normally be required under these standards.

Waiver of specific design criteria indicated in this Plan must be requested in writing and may be approved only by the District's General Manager. The decision to grant, deny or modify the standards will be based upon evidence that the request can meet the following criteria:

- a. The change will achieve the intended result in a comparable or even superior design and a better quality of improvement; and
- b. The change will not adversely affect safety and/or operation; and
- c. The change will not adversely affect maintainability.

#### C.1.2 Incorporation of Other Standards

The latest edition of the existing standards listed below is hereby incorporated by reference, as modified herein:

- Minimum Design Standards, Chapter IV, Regional Supplement, Skagit County Coordinated Water System Plan
- Standard Specifications for Road, Bridge and Municipal Construction (WSDOT/APWA) including APWA Supplement

- Standards of the American Water Works Association
- IAPMO Uniform Plumbing Code and Installation Standards
- ICBO Uniform Building Code
- International Building Code
- Water System Design Manual, Washington State Department of Health
- Recommended Standards for Water Works, Great Lakes - Upper Mississippi River Board of State Sanitary Engineers
- Cross Connection Control Requirements, AWWA Pacific Northwest Section

## C.2 Design Standards

The following standards apply to all areas served by the District, regardless of local government or land use policies. In cases of conflict between the standards and any District regulation, the District regulations shall govern.

### C.2.1 Ownership

All water lines and appurtenances when accepted shall be and remain the exclusive property of the District for future operation, maintenance and service responsibilities. The point of District ownership and responsibility shall end at the meter or detector check valve, unless otherwise stated in the District's letter of final acceptance. District ownership and responsibility for double check valves and double check detector backflow assemblies shall end at the gate valve on the water main at the point the fire service line is connected (on easements on private property) or at the property line (on public rights-of-way).

### C.2.2 Design Responsibility

Water plant plans and specifications shall be prepared under the supervision of and signed by a professional engineer registered in the state of Washington, and shall comply with the design standards of the District. Plans shall indicate new water plant in bold, existing water plant in normal weight, and all other utilities in half-tones, all on one drawing. The designer shall confirm design requirements and criteria with the District's Engineering Department. The District may develop plans and specifications for a customer as the District's workload allows. For design by a private engineer, the Applicant shall deliver a copy of the final design, acceptable to the District, to the District prior to commencement of work, then a photocopy mylar and compact disk (CD) of the final record drawings to the District upon completion of work.

### C.2.3 Design Review and Approval

Per WAC 246-290-110 and -120, the designer of any new water system, water system extension, or improvement to be accepted by the District must submit a project report and

construction documents (plans and specifications) to competent authority for review and approval.

#### *C.2.3.1 Distribution Improvements*

- a. Per WAC 246-290-125(1), the following types of projects are not required to receive approval of DOH prior to installation:
  1. Installation of valves, fittings and meters, including backflow prevention assemblies;
  2. Installation of hydrants under WAC 246-290-230;
  3. Repair of a system component or replacement with a component of similar capacity and materials in accordance with the original design; and
  4. Maintenance or painting of surfaces not contacting potable water.
- b. Per the approval of the District's Water System Plan by DOH, the District is authorized to construct new distribution mains (or replace existing with new mains of larger capacity) for its own water systems without prior approval of DOH, PROVIDED the District maintains a copy of the completed **Construction Completion Report** on file for each project. The **Report** forms are found as Figure 4-2 Design Standard in the DOH Water System Design Manual.
- c. For each distribution improvement indicated in paragraphs a. and b. above, the District shall ensure:
  1. the project is designed per the District's design criteria, whether designed in-house or by a consultant; and
  2. the project is completed per District's standard construction specifications, whether installed by in-house staff or a private contractor.

#### *C.2.3.2 Distribution-Related Improvements*

Per the approval of the District's Water System Plan by DOH, the District is authorized to review and approve distribution-related improvements (water plant facilities appurtenant to distribution mains) for its own water systems, including but not limited to: booster pump stations, distribution reservoirs (tanks), transmission pipelines, repainting of potable water facilities, etc. but **not** including source or treatment facilities.

For each distribution-related improvement project approved by the District, the District shall:

- have a professional engineer (licensed in Washington state, on District staff, separate from the designer) review the project reports and construction documents for each such distribution-related improvement, and complete an **Engineering Design Report** form for such project's file;
- have a professional engineer (licensed in Washington state, on District staff, separate from the design engineer) complete a **Construction Completion Report For**

- Submittal Exception Process*** for each such project. Submit a copy of the ***Report*** to DOH for each project that includes new storage tanks or booster pump stations; and
- when necessary, submit a revised Water Facility Inventory (WFI) to DOH per WAC 246-290-100.

The ***Engineering Design Report*** and ***Construction Completion Report For Submittal Exception Process*** forms are found as Figures 4-3 and 4-4 in Design Standards in the DOH Water System Design Manual.

#### *C.2.3.3 Source of Supply and Treatment Improvements*

The District shall submit to DOH for review and approval a project report and construction documents for each District project relating to source of supply or treatment facilities.

#### C.2.4 Added Source of Supply Considerations

Source water and facilities for District water systems shall conform to the requirements of DOH. The District will pay special attention to:

- Surface Water/GWI: water rights, water quality, water quantity, instream flow requirements, treatment system, and watershed control/wellhead protection (GWI).
- Groundwater: water rights, water quality, water quantity, geologic study showing confining layers and relation to neighboring wells, pump test(s), treatment system, and wellhead protection. Wells to serve the District's water systems shall be drilled and cased and shall be in conformance with WAC 173-160 and RCW 18.104. Casings shall be vented and shall include a port and tubing for checking static water level.

The District reserves the right to place additional requirements on source development to ensure adequate water quality.

#### C.2.5 Urban vs. Rural Standards

The majority of these design criteria apply to both urban and rural areas of the District's service areas. These design standards may specify different criteria for specific facilities in urban and rural areas. Urban design standards shall apply to District water systems within City limits, urban growth areas and rural villages per adopted Skagit County Comprehensive Plan(s). Rural design standards shall apply to all areas outside City limits, urban growth areas and rural villages per adopted Skagit County Comprehensive Plan(s). Exceptions to downgrade from these urban/rural criteria require the written approval of the General Manager of the District; the District reserves the right to coordinate such exceptions with County and city agencies.

## C.3 Water Distribution Mains

### C.3.1 Pipe Sizing

All main extensions and replacements shall be sized by the District based on District hydraulic and pressure requirements, using domestic and fire demands which may be reasonably expected over the life of the pipe, to comply with the District's basic water policy outlined in this section. Final approval of water pipe sizing shall rest solely with the District. In all cases, pipe size shall meet Washington State Department of Health (DOH) minimum standards. (1626)

All elements of the District's system shall be sized: (1626)

- a. to provide a minimum of 30 psi and preferably 40 psi, during peak hourly design flow conditions, at every service connection (meter) in the projected pressure zone; or (1626)
- b. to provide at least 20 psi, during fire flow and peak hourly design flow conditions, at every service connection in the projected pressure zone (fire flow shall be as required by the Fire Marshal having jurisdiction); or (1626)
- c. to flow water no faster than 10 fps in ferrous pipe and 8 fps in non-ferrous pipe under the conditions stated in conditions (a) and (b) above,

whichever is more stringent. (1626)

The District, the Applicant for new service, or existing Customer requesting increase in service capacity, shall provide such line extensions and/or replacements required to satisfy its flow and velocity requirements and/or minimum pipe size as delineated in this Section. The District reserves the right to increase the pipe diameter for present or future needs of the District. The District will make this determination. If the District chooses to implement this option, the District may pay the difference in cost between the Applicant's flow requirements and/or minimum pipe size as delineated in this Section.. The financing method and approval of increased pipe sizes will require Commission approval. (1626)

Urban Area. Water mains shall be a minimum of 8-inches in diameter, unless otherwise hydraulically justified and approved by the District. Water mains shall be sized to provide the fire flow required by the Fire Marshal having jurisdiction, but not less than the values indicated in Table C-1. Fire flow velocities and pressures will normally govern pipe sizing, rather than domestic flow requirements. The use of buried 3-inch pipe is not authorized as it has minimal installed-cost benefit over 4-inch pipe.

Rural Area. Water mains shall be sized as hydraulically justified based on source pressure, future gridding, peak hour demands, fire flow (if required by the Fire Marshal) and flushing requirements, with a minimum size of 2-inches in diameter. The use of buried 3-inch pipe is not authorized as it has minimal installed-cost benefit over 4-inch pipe.

### C.3.2 Materials (1626)

The District's minimum pipe standard is AWWA C151 Thickness Class 50 ductile iron pipe with push-on gasketed joints. All ductile iron pipe installed in soil shall be encased in 8-mil thick polyethylene per ANSI/AWWA C105/A21.5 prior to backfill. Should soil testing determine that the surrounding soils are corrosive, or that stray electrical current is present, the District may determine that AWWA C-900 PVC or C-906 HDPE will be required. Buried PVC mains shall use gasketed joints wherever practical. HDPE mains shall be flanged or butt-welded. Solvent-welded PVC slip joints shall be minimized; where used, solvent welds shall comply with manufacturer's installation requirements. Pipe used above grade or in vaults shall be Thickness Class 53 ductile iron, brass, or Schedule 80 PVC; PVC shall be joined with Ford PAK-JOINTs unless otherwise approved by the District. Tracer wire shall be used over all water mains and water service lines. Tracer wire shall be No. 10 solid copper wire and shall be brought up in each valve box, water service box and connected at all tees, crosses and service saddles. (1626)

PVC and HDPE pipe shall not be used in soils with existence of or potential for hydrocarbon contamination. Ductile iron pipe used in such soils shall use gaskets of Viton or Fluorel, or other FPM gaskets acceptable to the District.

All mains 4-inches in diameter and larger shall be at least Thickness Class 50 ductile iron, unless otherwise allowed; flanged iron pipe shall be of at least Thickness Class 53. PVC mains 4-inches in diameter and larger where allowed shall be AWWA C-900 PVC Pressure Class 200 (DR 14). All mains 2-inches in diameter shall be at least pressure rated 200 psi (SDR21) PVC or 200 psi HDPE. Ductile iron fittings shall be used on all water mains 4-inch and larger; 2-inch water mains shall use FORD Pak-Joint connectors and brass fittings.

Should a District project be paid for in part with federal funds or financed with federal funds, federal specifications may supersede the District standard for pipe materials. The federal requirements will not be considered precedent-setting and will not be applicable to non-federal funded or financed projects. The remaining provisions of this Code shall not be affected. (1626)

### C.3.3 System Layout

Water pipe shall be designed to lie in a public road right-of-way, or if not available, on a dedicated, recorded ingress-egress utility easement. Permanent easements shall be a minimum of 20 feet in width. Pipe shall be designed for maximum trench depth of 48 inches and an average depth to top of pipe of about 3 feet. All pipe shall maintain a positive or negative slope between respective high and low points in the waterline; high points shall be fitted with air-vacuum release assemblies and low points shall be fitted with flushing assemblies as determined necessary by the District. All layout by private consultants shall be coordinated with and reviewed by the District for conformance with these and other requirements prior to issuance of final construction documents.

### C.3.4 Length of Water Main Installation Requirements (1626)

#### *C.3.4.1 Rural Unplatted Areas*

In “rural unplatted” areas the water line shall be extended one length of pipe beyond the structure of the residence or the structure of the commercial establishment. (1410).”

#### *C.3.4.2 Urban Areas and Rural Platted Areas*

The Applicant will be required to install pipe across its entire front footage of its lot/land in urban growth, city and platted areas. When more than one dwelling or establishment is to be served by a water main, and a public road, street, or private roadway provides access to the dwellings or establishments, the District will require a water main to be installed in front of the dwellings or establishments to the far edge of the property being served.

## C.4 Water Services (1626)

### C.4.1 General

All water services shall be metered. To obtain a meter, the Applicant must apply for and pay all fees associated with a water service prior to installation of the meter. Fees include, but are not limited to, water service/meter installation fee, system development fee, customer deposit, and latecomer’s fee (if applicable). All fees shall be based on the current schedule for each fee in effect at the time of payment. Meter size shall be based on Uniform Plumbing Code fixture count criteria. Costs associated with waterline extension(s)/replacement(s) must also be paid in full prior to installation of a water service on the waterline.

The minimum meter size available shall be a 5/8-inch meter. Meters shall be sized per the most current Uniform Plumbing Code/International Plumbing Code. (1626)

### C.4.2 Domestic Water Services

Water mains constructed in platted areas shall include the installation of water service lines to common or individual lot corners. New services in nonplatted areas may be located by the Applicant. Water service installation shall include all materials indicated on the appropriate standard detail. Service lines that are part of a water main extension shall be installed concurrently with the water main installation. Services shall be connected to the water mains and extended to the Applicant’s lot line, with a tailpiece extended above the ground, prior to pressure and bacteriological testing of the water main, if applicable. A meter box shall not be installed until frontage grades are established and all water service fees are paid. The cost of service lines installed as part of a water main extension shall be borne by the Applicant as part of the water main installation cost.



### C.4.3 Irrigation Water Services

Designers of each new large irrigation system shall submit Blaney-Criddle Water Balance calculations and other data required to justify demands to the District for review before the new irrigation service is approved and installed. The new irrigation customer shall complete an Irrigation Agreement with the District as a condition of service.

### C.4.4 Water Service Lines.

Service lines for 1-inch or smaller water services will normally be 1-inch polyethylene pipe, rated for 200 psi service, with a copper tracer wire. Service lines in soils with potential for or existence of hydrocarbons shall use 1-inch diameter Type K soft copper pipe, with compression fittings suitable for Type K copper pipe for 1-inch and smaller water services.

One and one-half inch and two inch services shall use 200 psi polyethylene pipe or Schedule 80 PVC on short side and less than 20'-0" in length (PUD note: this should be shown on details. They can be revised when changes are made). Service lines in soils with potential for or existence of hydrocarbons serving 1-1/2 and 2-inch water services shall use 2-inch diameter soft type K copper pipe. Three inch and larger services shall use class 53 ductile iron pipe. (1626)

Water service lines within platted areas shall be installed across streets and to common lot corner locations concurrent with the water main installation. The service lines will be connected to the pipelines and extended to lot lines with a tailpiece extended above the ground. Meter boxes shall not be installed until lot frontage grades are established and water service actually applied for. Water service stubouts to property corners shall be in place prior to pressure and bacteriological testing of the water main. Water service stubouts from the water line to the property corner(s) shall be part of the pipe installation cost to be borne by the Applicant. (1626)

Water services should not exceed 300 feet from the meter to the point of use, in order to maintain adequate pressure. Services over 300 feet in length are permitted, however, the District cannot assure adequate pressure for these services. In areas where static pressures are low or the service line will be unusually long, the District/Applicant should consider upsizing the service line to minimize frictional pressure losses and water velocity. (1626)

### C.4.5 Meter Costs (1626)

An Applicant must apply and pay for a water service with meter prior to installation of the meter. In addition to the metered service cost, new water services are required to pay a System Development Fee to the District (See Appendix A, Table A-6). The Applicant will be required to pay the System Development Fee and applicable meter installation fee as required by the regulation(s) in effect at the time a water meter is paid for. Water meters and related appurtenances will be installed by the District, the District's contractor, or by the Developer's contractor under District supervision. (1626)

#### C.4.6 Pressure Reducing Valves at Water Services (1626)

The Applicant may (PUD Note) install pressure-reducing valves on water services when static line pressures exceed 80 psi. At the Applicant's request, the District will calculate or measure the water pressure at the Applicant's point of delivery as an aid to determining whether a reducing valve is required. Pressure reducing valves, when required, shall be installed and maintained by the Applicant. Pressure reducing valves are not to be installed in the meter box. (1626)

### C.5 Control Valve Stations

A control valve station (pressure reducing, pressure sustaining, etc.) shall be installed at the interface between pressure zones; the District shall select the final location of each control valve station. Control valves shall be sized based on anticipated fireflows at projected peak hour demand conditions. If the receiving pressure zone contains a storage reservoir, the control valve station shall contain a single control valve with slow-acting pilot; if the receiving pressure zone contains no storage reservoir, the control valve station shall contain duplex control valves (6x2, 8x3, etc.) and a pressure relief valve. Control valve stations shall normally be on a bypass to the main waterline, shall be located below grade in a concrete vault, and shall include a mainline meter. The pressure relief valve shall discharge visibly above grade to a catch basin or other appropriate structure and drain away to a non-environmentally sensitive area.

On high pressure transmission lines, a pressure and/or flow control valve, and a pressure relief valve for high volume connections, shall be installed between the transmission line and the customer's water service/distribution line connection.

### C.6 Mainline Meters

Mainline meters shall be located along transmission lines, between pressure zones, and at urban growth area boundaries to record the transfer of water between areas. Each mainline meter station shall normally be below grade in a concrete vault. The station shall include the meter and a test tee. The meter shall be located in-line, with uninterrupted flow upstream and downstream as recommended by the manufacturer, and shall be sized for maximum projected demands during the life of the meter. The mainline meter shall also, if required by the District, have a waterline bypass around the meter vault.

### C.7 Backflow Prevention

The District is responsible for protecting its water systems from actual and potential contamination. Current State and federal laws prohibit any cross-connection, actual or potential, between a system furnishing potable water and a system furnishing non-potable water. The District's Construction Department shall ensure the prevention of back flow using cross-connection control assemblies is in conjunction with Cross Connection requirements listed in Section 2.5.5. Cross-connection control assemblies shall be installed by the Applicant when deemed necessary by the District or when required. The entire cost of the installation shall be borne by the customer and shall remain the Applicant's ownership and responsibility. Annual

testing of such assemblies shall be made by a Washington State Certified Backflow Assembly Tester. The District shall receive the original test results document. Each customer shall maintain its cross-connection control assembly(ies) in a fully functioning condition. All DOH and District conditions shall be satisfied as a condition of District water service.

## C.8 Storage (Tanks)

The District's goal is to provide standby storage in each local area of at least 800 gallons per service. This is equivalent to two days of peak residential use and four times the residential planning figure of 200 gpsd. Storage shall include operational storage, equalization storage, standby storage and fire storage, as required, and shall be sized for the projected number of services in the water system, or area of the water system to be served by the storage, over the water system's useful life. Each developer with a substantial project requiring new storage facilities as part of the project shall be responsible for the storage capacity for the project; the District may elect to increase the capacity of a new reservoir(s) and bear the incremental increase in cost. Each new storage reservoir shall incorporate the following essential design considerations:

1. Design each reservoir per the most current version of AWWA tank design standards (D-100, Welded Steel Tanks; D-103, Bolted Steel Tanks; D-110, Wire Wound Circular Prestressed-Concrete Water Tanks), using the pseudodynamic effective mass procedure. Cast-in-place concrete reservoirs shall be designed per ACI 318, Building Code Requirements for Reinforced Concrete and Circular Concrete Tanks without Prestressing, Portland Cement Association. All reservoirs shall be designed for wind speed of 120 mph, seismic zone 3, and roof live load of 125 psf. Design the reservoir foundation based on the recommendations of a geotechnical engineer, including soil bearing, drainage, settlement potential and stability of the soils under design seismic conditions.
2. Design each reservoir with adequate freeboard. Freeboard shall be measured from the high water level (top of the overflow pipe) to the top of the reservoir wall, and shall be sized to allow for sloshing of the reservoir in an overflow condition, including for water treatment plant clarifiers and filter units, to ensure that walls and roof structures will not be adversely affected during the design seismic event.
3. Measure reservoir capacity from the normal operating hi-pool level (a point 12-inches below the overflow elevation) to the low water level (at the top of the outlet pipe or silt stop, whichever is higher).
4. Cover each reservoir and fit with water-tight, insect proof hatch(es), manway(s) and atmospheric vent(s). Furnish each vent with woven stainless steel insect screen, minimum 24 ga., secured gap-free with stainless steel straps; roof slope shall be minimum 1/4-inch per foot.
5. Furnish each reservoir with lightning arrestor(s) and electrical grounding, as appropriate.
6. Furnish separate floor penetrations for inlet, outlet, overflow, and drain piping. Locate all floor penetrations within 5 feet of the reservoir wall. Design the floor to slope to the outlet and drain pipes, with the high point near the center of the reservoir floor.

7. Fit all inlet, outlet and drain piping with flanged isolation gate valves to permit isolating the reservoir from the water system. Locate reservoir isolation gate valves five (5) feet outside the reservoir foundation line.
8. Specify all underground piping penetrating the reservoir floor to be of welded Schedule 40 SS304 stainless steel to five (5) feet outside the reservoir foundation line; use of restrained joint or flanged Class 53 ductile iron or welded steel as material alternatives requires prior written authorization by the District. Fit all pipelines penetrating through steel floor decking with reinforcing rings welded to the pipeline and floor. Fit all penetrating pipelines through concrete flooring with water stops welded to each pipe, centered within the concrete floor slab. Fit inlet and overflow piping with flanges approximately one foot above the reservoir floor. Design drain and outlet lines to be flush with the reservoir floor.
9. All reservoir pipes passing more than one (1) foot beyond the reservoir foundation shall be connected to outside piping with restrained joint flexible connectors (EBAA double ball Flex-Tend or approved equal). Locate each flexible connector outside the reservoir foundation, starting at the flanged pipeline or valve.
10. Lay out the outlet pipeline with a minimum of fittings to flow directly to the distribution system, with a minimum of fittings. Fit the outlet with an externally weighted or spring-loaded check valve to prevent inadvertent filling of the reservoir through the outlet. On reservoirs fed by gravity (not a pump system), the inlet line shall be fitted with an altitude valve (one-way delayed opening); connect the altitude valve sensing line to the outlet line (upstream of the check valve) or the drain line (upstream of the gate valve). For pumped systems, provide no control valve on the reservoir inlet line. Locate any inlet altitude valve and outlet check valve in a vault outside the reservoir foundation. Drain the vault to daylight.
11. Fit the outlet with a removable 6-inch high silt stop inside the reservoir.
12. Size the drain to empty the full contents of the reservoir without causing damage to the water distribution system or inducing erosion at the drainage outlet. Lay out the reservoir drain line(s) to drain to daylight to a County-approved stormwater detention facility or, if approved, directly to storm sewers, sanitary sewers, or overflow pond. Each reservoir drain line connection shall contain at least a 12-inch air gap and such devices as are required to prevent animals and insects from entering the reservoir drain system.
13. Overflow piping shall each be sized with the hydraulic capacity to discharge 125 percent of maximum inflow capacity. Air vent(s) shall each be sized with the pneumatic capacity to discharge 125 percent of maximum inflow capacity and 125 percent of the maximum drainage rate.
14. Inlet and overflow pipe risers within the reservoir may be of ductile iron, PVC or painted steel. Inlet piping shall extend from the inlet flange approximately  $\frac{2}{3}$  of the reservoir height and shall be fitted with an  $45^\circ$  angled nozzle to assist circulation within the reservoir. Overflow piping shall be fitted with a flare on top. Support all inlet and overflow pipes with suitable bracing or struts from the adjacent reservoir wall.
15. Fit all painted reservoirs with drain plate, scuppers and downspouts, or other suitable rainwater “streak protection”.

16. All interior bracing, fittings and fasteners shall be of SS316 stainless steel. Interior ladder shall be of SS316 stainless steel or 300#-rated fiberglass. Exterior ladder and all exterior fittings shall be G-60 hot-dipped galvanized and painted.
17. Locate a sample tap on the reservoir side of the outlet check valve.
18. Coat steel reservoirs with interior coatings of an NSF-approved epoxy paint (TNEMEC Pota-Pox or equal) and exterior coatings of a polyurethane paint (TNEMEC or equal). Provide cast-in-place concrete reservoirs with an interior coating of NSF-approved waterproof material to prevent water migration through the concrete.
19. Locate an alarm system on the reservoir site for high level and low level conditions, annunciating through a suitable SCADA communication system to District Operations personnel. Provide a pressure transducer on the reservoir side of the drain valve (or the outlet check valve) and a float switch at the overflow pipe, each connected to the SCADA system.
20. Provide local level indication as part of the SCADA system and, if required by the District, provide a pressure gauge measured in "feet".
21. Provide BEST brand padlocks on all roof access hatches, vents, ladder guards, and fence gates to prevent unauthorized entry and/or vandalism. All locks shall be keyed to match the District's factory registered keying system.
22. Provide the District safe, legal permanent access to the reservoir site, including but not limited to: roads of adequate width, grade and condition for District construction equipment, keys to private gates or space for District locks in series, and ingress-egress-utility easements for vehicle access, pipelines and related utilities to support the reservoir site.
23. Provide deeded title for the reservoir site to the District; a dedicated permanent easement may be acceptable if segregation of the reservoir site lot would create a substandard parent lot.
24. Specify leakage testing, cleaning and disinfection per AWWA standards. The District will provide specific direction for each individual reservoir project.
25. Provide specific details and construction specifications per Appendix F of the District's Water System Plan, unless otherwise modified by the District.

## C.9 Pump Stations

1. Size pump systems serving an area with reservoir storage to refill the reservoir(s), in 72 hours while meeting maximum day demands; the District has found that its maximum day demands are approximately 75 percent of its peak hour demands. Size pump systems serving an area without storage to provide at least peak hour demands.
2. Base maximum day demands and peak hour demands on the buildout of the area to be served, as determined by the District in coordination with the local land use authority.
3. Design all District pump stations to include the following items, as a minimum:
  - a. Minimum 4-inch reinforced concrete floor (2,500 psi minimum 28-day strength). Provide cast-in-place reinforced concrete inertia block for each pump, minimum 18-inches high

above finished floor. Provide looped ferrule threaded inserts for securing each pump to base.

- b. Floor drain with grate, properly plumbed away from the building to daylight or an approved storm sewer system. Size floor drain to be a minimum of 6-inch diameter.
- c. Separate rooms for electrical and pump equipment, with exterior access to each.
- d. Interior and exterior paint, color and number of coats per District selection.
- e. Lockable doors (hollow metal doors and frames; BEST cylinder, core and keyway to match existing District factory registered key system).
- f. Standing seam metal roofing material approved by District, over plywood sheathing system acceptable to roofing manufacturer; minimum 24-inch overhang all four sides.
- g. Adequate pump house venting (eaves, wall dampers, doors, etc.).
- h. Commercial wiring installed per National Electric Code (NFPA 70).
- i. Thermostat-controlled wall heater, 1500W minimum, (no heat lamps) in each room.
- j. Suitable interior and exterior lighting. Interior lighting shall be suitable for damp location, with hand switch in respective room. Exterior lighting to be operable by photocell, with override switch inside pumphouse.
- k. Manual electrical power transfer switch (in electrical room) and emergency power wiring box (exterior, near power entrance); auxiliary suction and discharge connections for a portable pump, if approved by the District.
- l. All interior and underslab water piping shall be sized for potential buildout of the area to be served.
- m. Interior piping: 4-inch and larger of minimum Class 53 ductile iron with ductile iron fittings; 2-inch and smaller of Schedule 80 PVC with FORD Pak joints, Type L copper with sweated fittings, or threaded brass with brass fittings. Pump manifold(s) shall be secured. Flexible connections required for pump(s).
- n. Pipe and fittings under the floor slab shall be of Class 53 ductile iron, restrained with Grip-Rings or Mega-Lugs. Pipe penetrations through the floor (or wall) shall be sleeved or wrapped with a thin bond breaker (e.g. 1 wrap of #15 roofing felt).
- o. Furnish pump(s), plumbed and secured to inertia block. Provide duplex/replacement pump if required by District. Motor(s) shall meet NEMA 12.6C (high efficiency). Booster pumps shall be ANSI end-suction type; Goulds or approved equal. Test pumps through full range of conditions prior to project completion.
- p. Provide flanges and valves at pressure tank(s), booster pump(s), etc. to allow removal of equipment.
- q. Telemetry-SCADA-Control Systems-See Section C.13
- r. Master (source) meter installed within the pump house. Meter must be accurate to 99 percent through full range of flow through the pump system, and provide a 4-20mA signal or pulse output to the SCADA system.
- s. Bladder tank(s), if required.

- t. On well systems (well casing shall be located outside well house or booster pump station):
  - System documentation (restrictive covenant, water right, geologic report, wellhead protection plan, 4 and 72 hour pump tests, etc.)
  - Raw water tap in wellhouse installed minimum 6-inches above floor.
  - Disinfection/treatment system inside wellhouse, as required.
  - Groundwater surface level measurement system.
- u. Motor control(s) shall be either solid state reduced voltage starter or variable frequency drive, as selected by the District. Reduced voltage starters for 20 hp and larger pumps shall include a pump algorithm for soft start and stop. For pumps serving a pressure zone with a storage reservoir, a PRV shall be plumbed to allow water to return to the suction pressure zone for fire demands; the associated gate valve may be normally closed, at the District's discretion. There shall also be a valved bypass between pressure zones; the valve shall be normally closed.
- v. Skid-mounted pump/pressure tank units may be allowed for temporary service to a small portion of a service area (pressure zone) that will expand within the life of the pump station.
- w. Telemetry/SCADA & Control Systems See Section C.13

Comply with additional requirements of Urban and Rural Standards indicated below, as applicable.

1. Minimum Urban Standards. Permanent pump station structures shall be of fully grouted reinforced concrete masonry unit (CMU) construction. Unless otherwise dictated by the building department of the local government having jurisdiction, design the exterior of the building to be split-face CMU, the roof to be wood framed with standing seam metal roofing with matching gutters and downspouts; all colors to be as selected by the District. Mount a W-section monorail and chain-lift trolley within the pump room, above the door, centered over the pump base(s).
2. Minimum Rural Standards. Design permanent pump station structures of insulated 2x6 wood framed construction meeting UBC. Set wall framing on a minimum 3-1/2-inch high concrete curb, integral with the concrete floor slab. Specify pressure treated floor plates. Design exterior sheathing to be at least shop grade T-1-11 plywood, minimum 1/2-inch thickness. Design interior sheathing to be 1/2-inch ACX plywood. Provide gutters and downspouts on front fascia only. All color selection(s) to be by the District.

## C.10 Fire Protection

### C.10.1 General

Fire protection by fire hydrants and/or other means shall be required as determined by the Fire Marshal for the County or respective City. Spacing of fire hydrants shall be as determined by the Fire Marshal, using Table C-1 as a minimum standard. The cost of each hydrant installation requested by a customer shall be borne totally by that customer.

The cost of each hydrant installation required by the Fire Marshal for a District-sponsored waterline replacement project shall be borne by the District; the cost of each additional hydrant beyond this requested by another party shall be borne by that party. Final ownership of a hydrant shall be transferred to the District, except on private property when not accessible to the public. (1626)

**Rural Standards.** Fire protection is not required in rural areas except at cluster developments, per Chapter IV of the Skagit County CWSP and Table C-1 above. Tanker-truck-filling hydrants will be installed in rural areas during system upgrade and expansion at major roadway intersections, whenever practical. The distance between tanker truck filling hydrants shall not exceed one mile. More frequent spacing is optional and subject to approval of the General Manager or funding by parties other than the District.

**C.10.2 Commercial (1626)**

- a. Fire protection by fire hydrants and/or other means shall be required as determined by the person designated as “fire chief” for the jurisdiction involved. The District will not allow installation of fire hydrant(s) on water mains wherein the potential demand of the hydrant will exceed safe operating velocities as established in Section C.3.1(c). (1626)

<b>Table C-1 Minimum Fire Flow Design Standards For New And Expanding Water Systems<sup>(1)</sup></b>			
<b>Land Use Designations Or Densities</b>	<b>Minimum Fire Flow (Gallons Per Minute)</b>	<b>Minimum Duration (Minutes)</b>	<b>Maximum Hydrant Spacing (Feet)</b>
<b><i>Urban Growth Areas</i></b> <sup>(2)</sup>			
Industrial	1500	60	(3)
Commercial	1500	60	(3)
Multi-Family Residential	1500	60	500
Single-Family & Duplex Residential	1000	60	500
<b><i>Non-Urban Growth Areas</i></b>			
Commercial / Industrial	1500 <sup>(4)</sup>	60 <sup>(4)</sup>	(4)
1 Dwelling Unit Per Lot Less Than 2.5 Acres	500 <sup>(5)</sup>	30 <sup>(5)</sup>	900 <sup>(5)</sup>
1 Dwelling Unit Per Lot 2.5 Acres Or Larger	NONE <sup>(5)</sup>	NONE <sup>(5)</sup>	NONE <sup>(5), (6)</sup>
Natural Resource Lands	NONE <sup>(5)</sup>	NONE <sup>(5)</sup>	(5), (6)

<sup>(1)</sup> The design standards may be amended to reflect changes to Comprehensive Plan land use designations and/or their densities. Proposed amendments will be presented to the Skagit County CWSP WUCC for approval.

<sup>(2)</sup> These criteria establish a minimum water system design standard. Each water system in an urban growth area must comply with the standards of the local government with jurisdiction. When there are different or conflicting standards, the most stringent standard shall apply. Prior to the issuance of a development permit, the approving authority shall establish fire flow, duration and hydrant spacing requirements.

<sup>(3)</sup> As determined by the appropriate fire official.

<sup>(4)</sup> Fire flow for individual buildings or groups of buildings is to be determined by the Skagit County Fire Marshal per Uniform Fire Code Appendix IIIA and the Skagit County Fire Marshal policy on fire flow. The application of lesser or alternative standards shall be in accordance with Section 4.3.5 (Interpretation of Standards).

<sup>(5)</sup> Fire flow will be required for a Conservation and Reserve Development (CaRD) land division as follows.



<b>CaRD Characteristics</b>	<b>Fire Flow Requirement</b>
5 or more lots	Option 1: Fire flow of 500 gpm for 30 minutes with hydrant spacing of 900 ft. or,  Option 2: Fire Marshal approved fire prevention water system that provides adequate pressure and flow to support NFPA 13D sprinkler systems is required for all residential dwellings. In addition, if the property is located in an Industrial Forest, Secondary Forest, or Rural Resource designated land the fire protection requirements as listed in Skagit County Code 14.04.190(14)(b)(iii)(b-e) also apply.
4 or fewer lots	None required, unless the property is located in an Industrial Forest, Secondary Forest, or Rural Resource designated land. If the property is located in such designated land the fire protection requirements as listed in Skagit County Code 14.04.190(14)(b)(iii)(b-e) apply. However, NFPA 13D sprinklers are only applicable to residential dwellings.

As of the effective date of the CWSP, where in-fill development or extension of an existing water system occurs to serve an existing platted lot, the Skagit County Fire Marshal may limit the requirement for fire flow or fire suppression in accordance with Table C-1 to the newly developed lot only. Group B public systems may choose to separate the fire flow from water flow. Separate tank and hydrant(s) location is subject to Skagit County Fire Marshal approval.

- (6) Hydrants shall be installed when water lines are installed or replaced and are capable of supplying a tanker truck with a minimum of 500 gallons per minute at a minimum residual pressure of 20 psi. Tanker truck filling hydrants are to be located at major roadway intersections and along roads at a spacing not to exceed one mile to assist in fire protection.

- b. Application shall be made by completing and signing a standard application form. (1626)
- c. Service charge for new fire protection service connection: (1626)
1. The Applicant shall pay the total installation cost of all fire service lines from the Applicant's point of use to an existing or new District main with adequate capacity to provide the required fire flows. (1626)
  2. The Applicant shall pay the cost of the detector check meter plus the cost of installation.
  3. Notwithstanding the provisions as contained in these schedules for commercial fire protection service, or for other metered service, including water furnished to any fire hydrant or other equipment used, or which may be used for fire protection service connection, it is understood that the District cannot guarantee any minimum quantities of water or pressure of the water to be furnished to any such hydrants or outlets, and the District shall not be liable in any manner for any loss or claim by reason of the quantity of water, or pressure of the same furnished to such hydrant or outlet. (1626)

### C.10.3 Residential (1626)

The installation of fire hydrants in residential areas shall be according to City, County and State regulation. The District will refer to the applicable WAC provisions (WAC 248-57) and/or to the person designated as the "fire chief" to the particular jurisdiction for applicable requirements. The District encourages fire hydrant installation on mains large enough and with adequate supply to provide sufficient fire protection. The District will not allow installation of fire hydrant(s) on water mains wherein the potential demand

of the hydrant will exceed safe operating velocities as established in Section C.1.3(c). (1626)

#### C.10.4 Interface with Fire Jurisdictions

##### *C.10.4.1 General*

The District shall develop and implement a long-term program to ultimately meet the CWSP recommendation for fire hydrants and fire protection devices throughout the district under the following criteria: (draft 1542)

- a. **New Water line Extensions.** New water line extensions to the District's system that are provided for the benefit of new customers, including new "stand alone water systems" that are owned and operated by the District, will include hydrants; (draft 1542)
- b. **Replacement of Existing District Water Lines.** Replacement of the District's existing water lines and water line installed by the District to complete grids and for water quality purposes will include fire hydrants as a part of the District's system upgrade program. (draft 1542)

##### *C.10.4.2 Uniform Policy on Installation of Hydrants*

The District will utilize the program outlined in this regulation to implement an equitable and uniform policy consistent with the objectives defined within the CWSP. For each Fire Jurisdiction that has executed a Memoranda of Understanding with the District that conform to this Code, this program will include: (draft 1542)

- a. An annual District budget allocation to upgrade or add new fire hydrants with consideration of existing conditions within the various cities and fire districts serviced by the District. (draft 1542)
- b. a provision allowing Fire Districts and cities to request the District to upgrade or add new fire hydrants or fire flow on an expedited schedule provided the fire district or city provide the additional funds required to meet the District budget requirements. (draft 1542)
- c. a provision allowing the District to annually identify the proposed system upgrades and budget for fire hydrants and request input from the cities and fire districts on prioritizing the location and expenditure of the funds identified for fire protection enhancement. (draft 1542)
- d. respective responsibilities between the District fire jurisdictions for the operation and maintenance of fire hydrants and private fire system connected to the District water system.. (draft 1542)

#### *C.10.4.3 Hydrant Standards*

- a. Hydrant Standard. The hydrant standard shall be as specified by the Skagit County Water System Design Standards developed by the CWSP. (draft 1542)
- d. Hydrant Spacing. The hydrant spacing and location shall be as specified by the CWSP and adopted by reference by the District. A city or Fire District may request additional hydrants subject to full payment by the requesting customer or agency. (draft 1542)
- e. Public Right-of-Way/Utility Elements. All fire hydrants and detector check valves shall be located on public right-of-way or utility easements unless otherwise approved in writing by the District. (draft 1542)
- f. Detector Checks and Gate Valve. The District may require detector check valves or gate valves as a part of a fire hydrant or fire service installation. The cost of such facilities shall be paid by the customer. (draft 1542)
- g. Minimum Pressure and Flow/Hydrant Code. The District will not install a new fire hydrant on a water line with inadequate flow or pressure except when the installation is part of a scheduled capital improvement program that anticipates hydraulic improvements. The District will provide pressures and flow availability to color-code hydrants. (draft 1542)
- h. There may be circumstances where improvements may furnish a hydrant in an area without the current ability to provide adequate pressure. The District will notify the fire marshal(s) affected thereby and will not be liable for any loss or claim based in whole or in part on the installation. (draft 1542)

#### *C.10.4.4 Hydrants on District-Replaced Water Mains.*

- a. As a part of the District's water main replacement program, the District will seek to relocate existing hydrants and install new hydrants, to upgrade the District system to meet the CWSP criteria. Installation spacing will be as specified within the CWSP. Should a city or fire district desire additional hydrants over the CWSP minimum requirements at the time of a water line replacement, the District will install additional hydrants, at the agencies written request, provided that the requesting agency reimburses the District for all the material costs necessary for the requested hydrant installation. These costs shall include the hydrants and other necessary appurtenances. (draft 1542)

The District will notify and coordinate with the fire department or district with jurisdiction before hydrant relocation or new hydrant installation is performed. (draft 1542)

- b. Mains without adequate flows or pressures. If the water main being replaced does not have pressures or flows that meet minimum CWSP or Department of Health standards, the District will not install fire hydrants or fire hydrant line tees unless system improvements are scheduled. A replacement water main will be retrofitted to include hydrants per the CWSP spacing when the water main can provide adequate

flows and pressures. Scheduling of retrofitting will be at the discretion of the District. (draft 1542)

*C.10.4.5 Upgrading Fire Protection Within The District's Existing System*

- a. The District may install hydrants on replacement lines and other locations at District discretion for public safety and community needs. Hydrants of this nature will be installed as part of the District's capital improvement plan. (draft 1542)
- b. To upgrade facilities to meet CWSP recommendations, District will budget to a specified number of (minimum of one) fire hydrants to each of the fire districts' coverage area each year beginning in the calendar year 2005. The District will budget to add additional (minimum of 3) fire hydrants within each of the cities of Burlington, Mount Vernon, and Sedro-Woolley's city limits each calendar year beginning in 2005. If fire departments request fire hydrant installation in addition to the established formula, the requesting fire department's request will be deemed advisory unless the requesting agency pays for the additional fire hydrant installation. (draft 1542)
- c. Assigned Operation and Maintenance Responsibilities. Table C-2 below outlines the major tasks and assigned shared responsibilities to maintain and operate the fire hydrants. These responsibilities shall be confirmed in writing prior to the District proceeding with the addition of new hydrants as a part of the system upgrade program or accepting ownership of new hydrants. Fire District/Department and District responsibilities for Operation and Maintenance of fire hydrants shall be as follows unless otherwise agreed to in writing. (draft 1542)

The District shall be the sole judge of when a hydrant is in satisfactory condition. The District shall not consider hydrants with hose ports only (no pumper port) for replacement, providing the hydrant otherwise is mechanically functional. The District desires input from fire departments, however, will consider the input advisory. (draft 1542)

- d. Cost Sharing. The customer will be responsible for the cost of all new installations unless the District has included the cost of the hydrant as a part of the District annual budget process. The city or fire district will be responsible for their share of the cost of implementing the operation and maintenance agreement. (draft 1542)

Table C-2

Task	Agency	
A.	Inspection of new installation	Fire Department
B.	Review of installation and type of hydrant, ports, and valves	Fire Department
	Testing and flow pressure	Fire Dept/District
	Operation of tee valve	District
	Private/Building system (Wet and Dry)	Fire Department
C.	Clearing Vegetation and Brush for visibility	Fire Department
D.	Location of Hydrants (per CWSP)	Fire Department
E.	Mechanical maintenance and repair	
	Public Property	District
	Private Property	Hydrant Owner
F.	Regulations (per CWSP)	Fire Dept/District
G.	Painting and coding:	
	Application of paint (initial installation)	Fire Department
	Purchase and specification of paint	Fire Department
	Color and coding	Fire Department
	Repainting fire hydrants	Fire Department
	Numbering	Fire Dept/District
H.	Notification of District's personnel in case of major fires, when hydrants are used for fire fighting training, or testing purposes.	Fire Department
I.	Communication (Emergency alert, system, etc.)	Fire Dept/District
J.	Hydrants that have been damaged or need replaced because of being damaged beyond repair.	District
K.	Notification of hydrants out of service	Fire Dept/District

## C.11 Cathodic Protection

Impressed current is commonly used in Skagit County by gas and other utilities to protect their ferrous pipe from corrosion. Unprotected ferrous (iron or steel) water mains adjacent to these protected pipes can deteriorate if sufficient stray current is present. When 5 mV/ft or more of stray electrical current is identified in soil to receive a new ferrous waterline (or where one is already installed), the District will require the waterline to be protected. An acceptable method of protection is to make the waterline electrically continuous (have the lengths of pipe bonded together) in the area of high stray current and bond the waterline to the other utility's pipe. If this is not acceptable to the other utility, a sacrificial anode and test station may be wired to the waterline and the anode installed away from the waterline, approximately 24-inches from the protected pipe. The District will monitor these test stations at least annually. At the District's sole discretion, the ferrous waterline may be replaced with PVC C-900 pressure class 200 (DR 14) pipe for that portion influenced by the stray current (see "Pipe Materials" earlier in this section).

## C.12 Security

All District above-ground facilities (pump stations, reservoirs, etc.) shall be secured within a 6-foot high WSDOT Type 1 chain link fence with three strands of barbed wire on supports above the fence and gates. At least one operable "magnate" gate shall be installed per site; a vehicle gate is required for each site with vehicle access.

## C.13 Telemetry and Control Systems - General

### C.13.1 Description

This section specifies general requirements which are applicable to all process Telemetry/SCADA systems consisting of process sensors, monitoring and control instruments, and accessories required to provide a complete and functional monitoring and control system.

The Control System Integrator (CSI) shall provide, calibrate, and assist in the testing of the complete process Telemetry system. The System Integrator shall also place the completed system in operation including tuning loops and making final adjustments to instruments as required during plant start-up and he shall provide the services of instrument technicians for testing and adjustment activities.

This specification is an extension of, and includes all of the requirements of The WSDOT Standard Specifications and all work shall comply with the applicable sections of the Standard Specifications.

### C.13.2 Definitions

- a. General: The definitions of terminology used in these specifications shall be defined in ISA Standard S51.1, unless otherwise specified.
- b. Solid State: Circuitry or components of type which convey electrons by means of solid material such as crystals for which work on magnetic principles such as ferrite cores. Vacuum tubes, gas tubes, slide wires, stepping motors, or other devices are not acceptable substitutes for solid state components or circuitry.
- c. Integrated Circuit: A number of circuit elements inseparably associated on or within a continuous body to perform the function of a circuit.
- d. Two-wire Transmitter: A transducer which derives operating power supply from the signal transmission circuit and therefore requires no separate power supply connections. As used in this specification, two-wire transmitter refers to a transmitter which produces a 4 to 20 milliampere current regulated signal in a series circuit with a 24 volt direct current driving potential and a maximum circuit resistance of 600 ohms.
- e. Galvanic Isolation: Pertaining to an electrical node having no direct current path to another electrical node. As used in this specification, galvanic isolation refers to a device with electrical inputs and/or outputs which are galvanically isolated from ground, the device case, the process fluid, and any separate power supply terminals, but such inputs and/or outputs are capable of being externally grounded without affecting the characteristics of the devices or providing path for circulation of ground currents.
- f. Panel: An instrument support system which may be either a flat surface, a partial enclosure, or a complete enclosure for instruments and other devices used in process

- control systems. Panels may provide mechanical protection, electrical isolation, and protection from dust, dirt, and chemical contaminants which may be present in the atmosphere. Panel shall include consoles, cabinets and racks.
- g. Data Sheets: Data sheets as used in this specification shall refer to ISA S20.
  - h. Signal Types: The following types of signals are used in systems specified in this division.
    1. Low Level Analog: A signal that has a full output level of 100 millivolts or less. This group includes thermocouples and resistance temperature detectors.
    2. Digital Code: Coded information such as that derived from the output of an analog to digital converter or the coded output from a digital computer or other digital transmission terminal. This type includes those cases where direct line driving is utilized and not those cases where the signal is modulated.
    3. Pulse Frequency: Counting pulses such as those emitted from speed transmitters.
    4. High Level Analog: Signals with full output level greater than 100 millivolts but less than 30 volts, including 4-20 mA transmission.
    5. Modulated Signals: Signals emanating from modems or low level audio signals. Normal signal level is plus 4 dBm to minus 22 dBm. Frequency range is 300 to 10,000 hertz.
    6. Discrete Events: Dry contact closures monitored by solid state equipment. If the conductors connecting to dry contacts enter enclosures containing power or control circuits and cannot be isolated from such circuits in accordance with NEC Article 725, this signal shall be treated as low voltage control.
    7. Low Voltage Control: Contact closures monitored by relays, or control circuits operating at less than 30 volts and 250 milliamperes.
    8. High Level Audio Signals: Audio signals exceeding plus 4 dBm, including loud speaker circuits.
    9. Radio Frequency Signals: Continuous wave alternating current signals with fundamental frequency greater than 10 kilohertz.
  - i. Control System Integrator: An organization engaged in the business of detail designing, component purchase, assembly, programming and implementing process control and industrial electronic systems.

### C.13.3 Description of System

#### *C.13.3.1 General*

The Telemetry and control system shall include the instruments, control devices, programmable controllers, input and output devices, sensors, interfacing devices, cabinets, enclosures and other components indicated and implied by the Drawings and Specifications.

The control system shall be designed, assembled to provide:

- a. Control of motor driven pumps, equipment, and processes.
- b. Monitoring of operation of motor driven pumps, equipment, and processes.
- c. Indication of operating status of motor driven pumps, equipment, and processes

#### *C.13.3.2 Project Specifics*

### C.13.4 Quality Assurance

#### *C.13.4.1 References*

All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:

- American National Standards Institute (ANSI).
- Institute of Electrical and Electronic Districts (IEEE).
- National Electrical Manufacturers Association (NEMA).
- Underwriters' Laboratories (U/L).
- International Society of Measurement and Control (ISA)

All equipment, materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable federal, State, and local ordinances, rules and regulations. All materials and equipment specified herein shall be within the scope of Nationally Recognized Testing Laboratory (NRTL) examination services, be approved by the NRTL for the purpose for which they are used, and shall bear the appropriate listing label.

Equipment listed/labeled by an NRTL shall be as dictated by the latest printing of the *Electrical Testing Laboratories Accreditation Report* available from the State of Washington Department of Labor and Industries, Electrical Inspection Division. Any NRTL listing/labeling shall be as accepted by the local authority having jurisdiction.

When a product is not available with a testing laboratory listing for the purpose for which it is to serve, the product may be required by the inspection authority to undergo a special inspection at the manufacturer's place of assembly. All costs and expenses incurred for such inspections shall be included in the original contract price.

#### *C.13.4.2 Systems Responsibility*

All Telemetry and industrial electronic systems shall be provided under the supervision of a single Control System Integrator, chosen by the District, which is regularly engaged in the design and installation of such systems of similar scope and complexity.



*C.13.4.3 Control System Integrator's Responsibilities*

The Control System Integrator shall be responsible for the following equipment and services:

- a. Detailed design of control panels. The Integrator shall prepare and use or use CAD files prepared by the Districts SCADA Consultant and complete to provide detailed schematics and scaled design of all components on and in the control panels and determine specific requirements.
- b. The design of all interconnecting wiring of control equipment including remote control panels, packaged equipment panels, mechanical equipment with control components, etc.
- c. Coordinate with the Developer, SCADA Consultant and the District for specific requirements and locations of raceway penetrations and field wiring in control panels.
- d. The Control System Integrator shall supply the Developer and the District with all necessary detailed installation drawings and/or written instruction for installation of all control components and sensing devices for proper system operation.
- e. Provide 16 hours in-shop assistance to test the PLC and communications of the two panels.
- f. Provide 16 hours on-site assistance for the SCADA Consultant to test and demonstrate system functions.

*C.13.4.4 Developer Responsibilities*

The Developer will install all field devices (if any), panels, etc. per the System Integrator's direction.

C.13.5 Environmental Conditions

*C.13.5.1 General*

Equipment shall be modified, if necessary, to make it suitable for operation in the following ambient conditions.

*C.13.5.2 All Areas:*

Atmospheric contaminants:

Hydrogen sulfide	0.1 mg/1
Chlorine	0.01 mg/1
Ammonia	0.5 mg/1
Dust	50.0 ug/m3

Electromagnetic radiation:

27/500 MHz 10 volts/m

*C.13.5.3 Control Room:*

Temperature 35 to 95 degrees F  
Humidity 20 to 80 percent

*C.13.5.4 Pump Rooms*

Temperature 35 to 120 degrees F  
Humidity 10 to 100 percent

*C.13.5.5 Outdoor Field Locations:*

Temperature -10 to 120 degrees F  
Humidity 10 to 100 percent

C.13.6 Functional Requirements

*C.13.6.1 General*

The Telemetry and control system functions required shall be dependent on the hydraulic requirements of the individual system.

*C.13.6.2 Drawings*

- a. General: The Control System Integrator shall develop all shop drawings required for design, fabrication, assembly and installation of the control system. Shop drawings shall include all drawings required in manufacture of specialized components and for assembly and installation of them.
- b. Drawings shall be prepared utilizing a computer based drafting program and printed on 11 inch by 17-inch media. Drawings shall have borders and title blocks identifying the project system, revisions to the drawings, and type of drawing. Each revision of a drawing shall carry a date and brief description of the revisions. Diagrams shall carry a date and brief description of the revisions. Diagrams shall carry a uniform and coordinated set of wire numbers and terminal block numbers in compliance with panel work wiring, Section 17110.
- c. Elementary Diagrams: The Control System Integrator shall provide elementary diagrams for all discrete loops. Loop diagrams shall be prepared in compliance with ISA S5.4 and shall be provided for all analog loops. Elementary diagrams and loop diagrams shall show circuits and devices of a system. These diagrams shall be arranged to emphasize device elements and their functions as an aid to understanding the operation of a system and maintaining or troubleshooting that system. Elementary and loop diagrams shall also show wire numbers, wire color codes, signal polarities, and terminal block numbers.

- d. Panel Fabrication and Arrangements Drawings: The Control System Integrator shall provide arrangement drawings of all panel front-and internal-mounted instruments, switches, devices and equipment indicated. All panel mounting details shall be shown. Outer dimensions of all panels shall be included on the drawing. Deviations from approved arrangements require approval prior to installation.

Arrangement drawings shall be drawn to scale using standard Architectural or Districting scales.

A full set of as constructed drawings shall be provided to the District upon completion of the project in AutoCAD R14 electronic format on a CD unless otherwise approved in writing.

## C.14 Products

### C.14.1 Materials and Quality

#### *C.14.1.1 General*

Material shall be new, free from defects, and of the quality specified. All equipment and materials utilized in the system shall be the products of Manufacturers with at least five (5) years experience in the manufacture of similar equipment. Similar items in the system shall be the products of the same Manufacturer. All equipment shall be of industrial grade and of standard construction, shall be capable of long, reliable, trouble-free service, and shall be specifically intended for control and monitoring of operation of motor-driven pumps and equipment. All equipment shall be of modular design to facilitate interchangeability of parts and to assure ease of servicing.

## C.15. Execution

### C.15.1 Design and Assembly

The system shall be completely assembled in the shop by the Control System Integrator. All components and equipment shall be prewired to the maximum extent possible.

The Control System Integrator shall be responsible for the coordination and integration of control system with the motor control and other related equipment. The Control System Integrator shall communicate directly with the Manufacturer(s) and Supplier(s) of all related equipment to determine all details of the equipment which may influence or affect the control system. The Control System Integrator shall determine all requirements for and shall cause integration of the control system into a unified operating system. The Control System Integrator shall define all requirements for all interfacing equipment and shall supply all appurtenances, accessories and all such devices which may be required for proper interfacing as part of the control system.

The Control System Integrator shall be responsible to obtain submittal information on equipment supplied by other disciplines and to integrate them into the control system to form a complete working package as outlined by the contract documents. This includes but is not limited to the following list of major pieces of equipment.

## C.15.2 Installation

### *C.15.2.1 General*

Installation and testing procedures shall be specified in these and subsequent sections of this division.

The control system shall be installed in accordance with the installation drawings and instructions prepared by the Control System Integrator.

The control system panels shall not be shipped to the site until a suitable environment is available for installation of the equipment. A suitable environment shall be defined as a covered and heated area to maintain a minimum ambient temperature of 60 degrees F. Prior to shipment, the Control System Integrator shall contact the District for field verification of a suitable environment.

Equipment shall be located so that it is readily accessible for operation and maintenance.

### *C.15.2.2 Field Equipment*

Equipment shall be provided as specified on the drawings such that ports and adjustments are accessible for in-place testing and calibration. Where possible, equipment shall be located between 48 inches and 60 inches above the floor with a maximum of 72 inches to the top of panel, or a permanent work platform. Telemetry equipment shall be mounted for unobstructed access, but mounting shall not obstruct walkways. Equipment shall not be mounted where shock or vibration will impair its operation. Support systems shall not be attached to handrails, process piping or mechanical equipment except for measuring elements and valve positioners. Instruments and cabinets supported directly by concrete or concrete block walls shall be spaced out not less than 5/8 inch by framing channel between instrument and wall.

Steel used for support of equipment shall be hot-dip galvanized after fabrication. Support systems including panels shall be designed in accordance with the UBC for seismic Zone 3 and to prevent deformation greater than 1/8 inch under the attached equipment load and an external load of 200 pounds in any direction.

### *C.15.2.3 Not Used*

### *C.15.2.4 Signal Connections*

Electrical signal connections to equipment shall be made on Intrelec terminal blocks or by locking plug and receptacle assemblies.

#### *C.15.2.5 Tagging*

All field instruments shall be labeled with function and instrument number, i.e. (FIT-301/EFFLUENT FLOW METER). Tag shall be 10ga, 316 stainless steel with stamped letters and numbers attached to device with 12ga 316 stainless steel wire.

### C.15.3 Tests and Inspections

#### *C.15.3.1 General Requirements*

Materials, equipment, and construction included under this specification shall be inspected in accordance with the specifications. Testing shall be performed by the Control System Integrator, in accordance with the Standard Specifications, and this and subsequent sections of this division.

No required test shall be applied without prior notice to the District. Between 20 and 30 days before the commencement of any testing activity, the Control System Integrator shall provide a detailed step-by-step test procedure, complete with forms for the recording of test results, testing equipment used, and identification of the individual performing or, if applicable, witnessing the test.

#### *C.15.3.2 Factory Testing*

The completed control system shall be tested in the shop by the Control System Integrator. Testing shall be conducted in two phases. The initial testing shall include, but not be limited to, operation of all input and output (I/O) points, control devices and motor controllers 24 hours per day for a continuous period of at least seven (7) days without failure or interruption.

The initial testing of the control system shall include energizing each discrete input and output and simulating each analog input and output using a loop simulator and calibrator. Circuits not energized shall be tested for continuity. Initial testing of the control system shall be conducted continuously, 24 hours per day, for at least seven (7) days without a failure or interruption.

Upon completion of the initial testing, the Control System Integrator shall conduct testing for inspection by the District. The Control System Integrator shall provide for time, equipment and support in their shop for the Districts consulting engineering to test the functions of the entire control system. All control functions and all status and alarm monitoring and indication will be demonstrated under simulated operating conditions. Simulating equipment shall be provided and wired by the System Integrator the control system for this testing. The Control System Integrator shall revise, modify, and adjust the system as required by the District during the testing period. Testing shall be continued for the time period required by the District to observe and verify any revisions.

## C.15.4 Calibration and Start-up

### *C.15.4.1 Calibration*

All components of the control system shall be calibrated by the Control System Integrator after completion of installation. Each component shall be adjusted to be within the Manufacturer's required range and for the specific application.

The Control System Integrator shall calibrate all instruments, indicators, recorders, loops, etc. and complete appropriate test forms provided at the end of this section. Test forms, identifying each instrument to be tested shall be submitted to the District prior to final commissioning.

Components provided by the System Integrator that cannot be properly calibrated or that are found to exceed the Manufacturer's specified range or accuracy shall be removed and replaced at no additional cost to the District.

### *C.15.4.2 Commissioning*

Commissioning shall be accomplished by the Districts Engineering Consultant with the Control System Integrator, with the Owner and/or District present. Commissioning shall include operation and verification of all control components and features of the entire control system.

## C.15.5 System Maintenance

The Control System Integrator shall be solely and completely responsible for all hardware maintenance of the system provided by the Integrator from time of start-up to the date of substantial completion of all work under the contract. The Control System Integrator shall correct all deficiencies and defects and make any and all repairs, replacements, modifications, and adjustments as malfunctions or failures occur. The Control System Integrator shall perform all such work required or considered to be required by the District to cause and maintain proper operation of the system and to properly maintain the system.

The Control System Integrator shall make any and all repairs, replacements, modifications and adjustments required to eliminate any and all defects in design, materials and workmanship that are disclosed within the one-year guarantee period. The Control System Integrator shall begin all repairs, replacements, modifications and adjustments within twenty-four (24) hours of notification by telephone by the District and shall complete such repairs, replacements, modifications and adjustments within forty-eight (48) hours of notification. Should the Control System Integrator fail to begin the work within 24 hours or complete the work within 48 hours, the District may proceed to undertake or complete the work. In such event, CSI and its surety shall be liable for all costs incurred by the Owner.

The Control System Integrator shall anticipate that the District may delay acceptance of all work under the contract if, in the judgment of the District, malfunctions or failures in operation of the control system repeatedly occur after start-up. The Control System Integrator shall not be entitled to an extension of time or to any claim for damages because of hindrances, delays or complications caused by or resulting from delay by the District in accepting the work because of malfunctions or failures in operation of the control system.

#### C.15.6 Operation and Maintenance Training

The Control System Integrator shall conduct specifically organized training sessions in operation and maintenance of the control system for personnel employed by the District. The training sessions shall be conducted to educate and train the personnel in maintenance and operation of all components of the control system. Training shall include, but not be limited to, the following:

- a. Preventative maintenance procedures
- b. Trouble-shooting
- c. Calibration
- d. Testing
- e. Replacement of components
- f. Manual mode operation

At least Two (2) separate training sessions, each at least Four (4) hours in duration, shall be conducted at the District after start-up of the system. The Control System Integrator shall prepare and assemble specific instruction materials for each training session and shall supply such materials to the District at least 14 days prior to the time of the training.

#### C.15.7 Operation and Maintenance Data

The Control System Integrator shall prepare and assemble detailed operation and maintenance manuals in accordance with the project general requirements. These manuals shall be submitted 14 days prior to training. The manuals shall include, but not be limited to, the following:

- a. Preventative maintenance procedures.
- b. Trouble-shooting.
- c. Calibration.
- d. Testing.
- e. Replacement of components.
- f. System schematics / shop drawings.
- g. Record wiring diagrams of cabinet and enclosure contained assemblies.
- h. Record wiring diagrams of overall system.

- i. Note: Updated system schematics and wiring diagrams shall be included as described in the Shop drawing and Submittal sections of this specification.
- j. Catalog data and complete parts list for all equipment and control devices provided by Control System Integrator.
- k. Listing of recommended spare parts.
- l. Listing of recommended maintenance tools and equipment.

All drawings shall be provided on hard copy and CAD file on CD ROM. CAD drawing files shall be in .dwg 2004 format, bound, with all “xref” links removed.

C.15.8 System Description of Operation and Programming (Not Used)

END OF SECTION



**PLC I/O CALIBRATION TEST FORM**

ANALOG INPUT MODULE				Page 1 of 3
<b>Project Name:</b> _____				
<b>Panel No.:</b> _____				
<b>Rack No. and Slot No.:</b> _____				
<b>Make and Model No.:</b> _____				
<b>Input:</b> _____				
Simulate input and measure output with appropriate meter.				
Percent of Range	Input	Expected Register Reading	Actual Register Reading	Percent Deviation
<b>Input 1</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Input 2</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Input 3</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Input 4</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Input 5</b>				
0				
50				
100				
Percent Deviation Allowed: _____				

ANALOG INPUT MODULE				Page 2 of 3
Percent of Range	Input	Expected Register Reading	Actual Register Reading	Percent Deviation
<b>Input 6</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 7</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 8</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 9</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 10</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 11</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 12</b>				
0				
50				
100				
Percent Deviation Allowed:				

ANALOG INPUT MODULE				Page 3 of 3
Percent of Range	Input	Expected Register Reading	Actual Register Reading	Percent Deviation
<b>Input 13</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 14</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 15</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Input 16</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Comments:</b> _____				
_____				
_____				
_____				
_____				
_____				
_____				

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_

**PLC I/O CALIBRATION TEST FORM**

ANALOG OUTPUT MODULE				Page 1 of 2
<b>Project Name:</b> _____				
<b>Panel No.:</b> _____				
<b>Rack No. and Slot No.:</b> _____				
<b>Make and Model No.:</b> _____				
<b>Input:</b> _____				
Force output point and measure output with appropriate meter.				
Percent of Range	Input	Expected Register Reading	Actual Register Reading	Percent Deviation
<b>Output 1</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Output 2</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Output 3</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
<b>Output 4</b>				
0				
50				
100				
Percent Deviation Allowed: _____				
ANALOG OUTPUT MODULE				
<b>Comments:</b> _____				

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_

**FIELD SWITCH CALIBRATION TEST DATA FORM**

**Tag No. and Description:** \_\_\_\_\_  
**Make and Model No.:** \_\_\_\_\_ **Serial No.:** \_\_\_\_\_  
**Input:** \_\_\_\_\_  
**Range:** \_\_\_\_\_  
**Set Point(s):** \_\_\_\_\_

Simulate process variable (flow, pressure, temperature, etc.) and set desired set point(s). Run through entire range of switch and calculate deadband.

Set Point	Incr. Input Trip Point	Decr. Input Trip Point	Calc. Deadband	Required Deadband

**Comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_

### TRANSMITTER OR INDICATOR CALIBRATION TEST DATA FORM

<b>Tag No. and Description:</b> _____				
<b>Make and Model No.:</b> _____		<b>Serial No.:</b> _____		
<b>Input:</b> _____				
<b>Range:</b> _____				
Simulate process variable (flow, pressure, temperature, etc.) and measure output with appropriate meter.				
Percent of Range	Input	Expected Register Reading	Actual Register Reading	Percent Deviation
<b>Input 1</b>				
0				
50				
100				
Percent Deviation Allowed:				
<b>Comments:</b> _____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_

**RTD VERIFICATION TEST DATA FORM**

<b>Tag No. and Description:</b> _____ <b>Make and Model No.:</b> _____ <b>Serial No.:</b> _____ <b>Type:</b> _____			
Force output point and measure output with appropriate meter.			
Temperature	Expected Output	Actual Output	Percent Deviation
Percent Deviation Allowed: _____			
<b>Comments:</b> _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____			

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_

**VALVE CALIBRATION TEST DATA FORM**

<b>Tag No. and Description:</b> _____			
<b>Make and Model No.:</b> _____		<b>Serial No.:</b> _____	
<b>Associated Panel/Rack No:</b> _____			
Operate valve via PLC control or Jumper and verify operation. Verify limit switch operation if applicable.			
<b>Close Operation</b>	<b>Pass (Y/N)</b>	<b>Close Position</b>	<b>Pass (Y/N)</b>
<b>Open Operation</b>	<b>Pass (Y/N)</b>	<b>Open Position</b>	<b>Pass (Y/N)</b>
<b>Limit Switch Operation</b>		<b>Pass (Y/N)</b>	
<b>Comments:</b> _____			

CERTIFIED: \_\_\_\_\_ DATE: \_\_\_\_\_



## SECTION 16 PANELS

### C.16 General

#### C.16.1 Description

##### *C.16.1.1 Scope*

This section specifies requirements for panels, cabinets, consoles, and racks for Telemetry and communication equipment. Additional requirements are specified in sections specifying the various Telemetry and communication systems.

##### *C.16.1.2 Panel Design*

- Panelboards:** Each panel containing 120-volt powered equipment with an aggregate load greater than 1200 watts shall be provided with a panelboard as specified in the Standard Specifications.
- Annunciators:** Each panel containing alarm points shall be provided with one or more annunciators as specified in section 17120.
- Power Supplies:** Each panel containing direct current powered instruments or serving as the termination point for transmission loop powered field instruments shall contain direct current power supply system as specified in Section 17130.

#### C.16.2 Quality Assurance

##### *C.16.2.1 References*

All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:

- American National Standards Institute (ANSI).
- Institute of Electrical and Electronic Districts (IEEE).
- National Electrical Manufacturers Association (NEMA).
- Underwriters' Laboratories (U/L).
- International Society of Measurement and Control (ISA).

All equipment, materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable federal, State, and local ordinances, rules and regulations. All materials and equipment specified herein shall be within the scope of Nationally Recognized Testing Laboratory (NRTL) examination services, be approved by the NRTL for the purpose for which they are used, and shall bear the appropriate listing label.

Equipment listed/labeled by an NRTL shall be as dictated by the latest printing of the *Electrical Testing Laboratories Accreditation Report* available from the State of Washington Department of Labor and Industries, Electrical Inspection Division. Any NRTL listing/labeling shall be as accepted by the local authority having jurisdiction.

When a product is not available with a testing laboratory listing for the purpose for which it is to serve, the product may be required by the inspection authority to undergo a special inspection at the manufacturer's place of assembly. All costs and expenses incurred for such inspections shall be included in the original contract price.

### C.16.3 Submittals

Submit all catalog data in accordance with the Submittals requirements in Section 17010. Show material information and confirm compliance with these specifications.

## C.17 Products

### C.17.1 Fabrication

#### *C.17.1.1 General*

Panel work shall be designed for the seismic requirements of paragraph 17010. 3.02.B. Structures and equipment shall be braced to prevent damage from specified forces. Equipment shall not be required to function properly during periods of seismic disturbance but shall automatically restart following a disturbance.

Cutouts for future equipment shall be blanked off with suitable covers. Instrument tag numbers shall be identified on the panel rear. Nameplates shall identify face-mounted instruments. Instruments shall be mounted in a manner that allows ease of access to components and ease of removal.

Face-mounted instruments that are more than 6 inches deep, weigh more than 10 pounds, or exert more than a 4 ft-lb. moment force on the face of the panel shall be supported underneath at the rear by a 1-inch x 1/8-inch thick steel angle.

Face-mounted equipment shall be flush or semiflush with flat-black escutcheons.

Cabinets less than 60 inches high shall be provided with floor stands to raise the top of the panel to 60 inches above the floor or work platform or, if panel weighs less than 100 pounds and wall space is available, wall mounting may be used in lieu of a floor stand.

#### *C.17.1.2 Indoor, Control Panel*

Cabinet shall be a NEMA 250, Type 1 enclosure. Cabinet shall be fabricated from 1/8-inch minimum thickness stretcher leveled sheet steel. Cabinet shall be provided with an interior frame or otherwise formed so as to provide a rigid structure. Rear door (s) shall be hung on removable pin hinges and equipped with vault-type latch capable of accepting

a 3/8 inch-shackle padlock. Three-point latch hardware shall be provided for doors exceeding 30 inches height. Where cabinet width exceeds 36 inches, multiple doors no wider than 24 inches shall be provided.

#### C.17.2 Not Used

#### C.17.3 Nameplates

Machine engraved laminated white phenolic nameplates with black lettering shall be provided for panel mounted equipment. Nameplate engraving shall be as specified and shall carry the instrument tag number 3/32-inch minimum size lettering on the bottom line. Nameplates shall be attached to the panel with a minimum of two self-tapping 316 stainless steel screws. The Control System Integrator shall modify nameplate wording without additional cost or time if changes are made prior to commencement of engraving.

Machine embossed metallic adhesive labels shall identify tag number if instruments inside panels.

Nameplates shall be attached to panel surfaces, not to instruments.

#### C.17.4 Interconnection Wiring and Electrical Devices

##### *C.17.4.1 Interconnection Wiring*

Power and control wiring shall be single conductor stranded copper NFPA No. 70 Type MTW No. 16 AWG minimum. Wiring for analog signals shall be provided with instruments and run continuously from measuring element to receiving instrument without splices.

Wiring shall be supported independently of terminations by lacing to panel support or by slotted flame retardant plastic wiring channels. Wiring channels shall comply with UL 94, Type V. Wiring channel fill shall not exceed 40 percent.

Wiring and terminals in instrument and relay compartments, control panels, instrument panels, field panels and control stations, as well as connections to mechanical equipment shall have reference number and letter in accordance to the following:

h = Control power hot

n = neutral

g = ground

x = PLC output (number shall correspond to the program input number)

y = PLC output (number shall correspond to the program output number)

ax = PLC signal/analog input (no. shall correspond to the program input number)

<u>120 AC wire</u>	<u>Color</u>
Power	Black
Control	Red
Neutral	White
Ground	Green
<u>24V DC wire</u>	<u>Color</u>
Power supply	Black
Signal (pos)	Red
Control - (+)	Violet
Control - (-)	Gray
Signal ground	Black
Equipment ground	Green
External	Yellow

All control wiring in control panels or other enclosures that is powered from an external source and is not disconnected by the control panel disconnect shall be terminated at a disconnecting terminal block (with energization indicator light upon entering the enclosure. The color of the wire shall then be changed to yellow to identify it as being powered from an external source. Provide identification nameplate on exterior of enclosure to indicate sources of external power.

Wiring shall comply with the requirements of NFPA No. 70 as a minimum. Power and control wiring shall be carried in covered channels separate from low voltage signal circuits. An interior steel barrier shall be provided between AC control devices and the electronic equipment.

Drawings show general layout of devices and associated wiring space. Final panel design will arrange terminals and wiring so field wiring is separate from internal panel wiring.

#### C.17.5 Terminal Blocks

Terminal blocks shall be strap screw type, minimum .41" width, rated for 600 volts. Each terminal strip shall have a unique identifying alphanumeric code at one end and a vinyl marking strip running the entire length of the terminal strip with a unique number for each terminal. Numbers shall be machine printed and 1/8 inch high. Wire connectors shall be locking fork tongue or ring tongue insulated crimp type terminals. No more than two connections shall be made to one terminal. Connections shall have box type lugs capable of terminating 2 #14 AWG stranded wires. Terminals shall be strip mounted as manufactured by Entrelec or Phoenix Contact.

Fuse terminal blocks shall be hinged disconnect level type with "blown fuse" indicators. Phoenix Contact UK 5 series or equal. Disconnecting terminal blocks shall be knife type with light indicator Phoenix Contact type MTK or equal.

Field connections shall be to separate terminal blocks. Terminal blocks for field termination shall be in a separate part of the panel close to where the field cables enter the panel.

#### C.17.6 Fuses

Circuits shall be fused. Fuses shall be 1/4 x 1-1/4 inch. Fuses on 120V AC circuits shall be ceramic tube type with 25,000 amperes interrupting capacity at 125 volts and neon blown fuse indicator lamps. Fuses for 24V DC circuits shall be fast acting glass tube type rated 1/8 or 1/10 amp for 4-20 mA loops and 1/2 amp for the power supply to individual instruments. Fuse holders for 120V AC shall be drawout type and molded from melamine plastic.

#### C.17.7 Surge Protection

Surge protectors shall be provided at panel external terminal blocks for type c, d, e, f, and g signal circuits as defined in paragraph 17010-1.01 B.8, which extend outdoors. Surge protectors shall be Joslyn Model 1663-08, Taylor 1020FA, or equal.

Telephone circuit protectors shall include three-element fail-short gas tubes, Cook Electric type 9X, or approved equal. Protectors shall be rated at 400 Vdc and shall be self-restoring. An external spark gap shall be provided for backup protection in accordance with Underwriters Laboratory 497, 4th Edition.

### C.18 Execution

#### C.18.1 General

Control room cabinets shall be mounted on channel irons sills as specified. Sills shall be leveled so panel structures will not be distorted. Panels shall be shimmed to precise alignment so doors operate without binding. Sealant shall be provided under panels not located in dry control or electrical equipment rooms.

Each panel shall have its record connection and interconnection diagrams mounted behind a piece of plexiglass on the inside of one (or more) door(s).

#### C.18.2 Coating

Metal surfaces of panels, cabinets, and consoles shall be prepared, prime and finish coated in accordance with Manufacturers Standards.

END OF SECTION

## SECTION 19 ANNUNCIATOR SYSTEMS

### C.19 General

#### C.19.1 Description

This section specifies requirements for annunciator systems and annunciator light boxes required to support alarm points. Application requirements are specified in the instrument schedule.

#### C.19.2 References

All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:

- American National Standards Institute (ANSI).
- Institute of Electrical and Electronic Districts (IEEE).
- National Electrical Manufacturers Association (NEMA).
- Underwriters' Laboratories (U/L).
- International Society of Measurement and Control (ISA).

All equipment, materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable federal, State, and local ordinances, rules and regulations. All materials and equipment specified herein shall be within the scope of Nationally Recognized Testing Laboratory (NRTL) examination services, be approved by the NRTL for the purpose for which they are used, and shall bear the appropriate listing label.

Equipment listed/labeled by an NRTL shall be as dictated by the latest printing of the *Electrical Testing Laboratories Accreditation Report* available from the State of Washington Department of Labor and Industries, Electrical Inspection Division. Any NRTL listing/labeling shall be as accepted by the local authority having jurisdiction.

When a product is not available with a testing laboratory listing for the purpose for which it is to serve, the product may be required by the inspection authority to undergo a special inspection at the manufacturer's place of assembly. All costs and expenses incurred for such inspections shall be included in the original contract price.

#### C.19.3 Submittals

Submit all catalog data in accordance with the Submittals requirements in Section 17010. Show material information and confirm compliance with these specifications.

## C.20 Products

### C.20.1 Large Case Annunciator Systems. ( When Requested )

#### *C.20.1.1 Annunciator Light Boxes*

Annunciator light boxes shall contain lamps and structures as specified in Paragraph 17120.2.01.A with logic provide in the PLC. Annunciator light bay shall be Ronan LB2000, or equal

## C.21 Execution

Annunciator systems shall be mounted and connected in panels specified in Section 17110. Windows shall be engraved as specified and filled with permanent black ink.

END OF SECTION

## SECTION 22 POWER SUPPLY AND CONDITIONING EQUIPMENT

### C.22 General

#### C.22.1 Description

This section specifies requirements for power supply and conditioning equipment required to support the Telemetry and communication systems specified.

#### C.22.2 References

All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:

- American National Standards Institute (ANSI).
- Institute of Electrical and Electronic Districts (IEEE).
- National Electrical Manufacturers Association (NEMA).
- Underwriters' Laboratories (U/L).
- International Society of Measurement and Control (ISA).

All equipment, materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable federal, State, and local ordinances, rules and regulations. All materials and equipment specified herein shall be within the scope of Nationally Recognized Testing Laboratory (NRTL) examination services, be approved by the NRTL for the purpose for which they are used, and shall bear the appropriate listing label.

Equipment listed/labeled by an NRTL shall be as dictated by the latest printing of the *Electrical Testing Laboratories Accreditation Report* available from the State of Washington Department of Labor and Industries, Electrical Inspection Division. Any NRTL listing/labeling shall be as accepted by the local authority having jurisdiction.

When a product is not available with a testing laboratory listing for the purpose for which it is to serve, the product may be required by the inspection authority to undergo a special inspection at the manufacturer's place of assembly. All costs and expenses incurred for such inspections shall be included in the original contract price.

#### C.22.3 Electrical Supply System

Electric power for Telemetry and communication systems shall be obtained from the site power distribution system. This power is not regulated, wave forms may be distorted, and significant amounts of electrical noise may be present. The Control System Integrator shall provide all necessary power supply and conditioning equipment to provide electrical power of the required voltages and current capacities and of adequate quality to ensure reliable operation of the Telemetry and communication system. Unless



otherwise specified, the Control Systems Integrator shall assume that the power supply for Telemetry systems is 120 volts plus or minus 15 percent, 60 hertz plus or minus 3 hertz, 5 percent maximum total harmonic distortion.

#### C.22.4 Submittals

Submit all catalog data in accordance with the Submittals requirements in Section 17010. Show material information and confirm compliance with these specifications.

### C.23 Products

#### C.23.1 General

Except for power supply units which form an integral part of an individual piece of equipment, all power supply and conditioning equipment shall comply with UL 1012 and shall be approved by UL, CSA, or FM for the application. All power supply equipment shall be provided in redundant configurations such that failure of a single unit will not disable all or any part of the Telemetry and communication systems. Diode isolation shall be provided for redundant direct current supply units, and the power supply negative output terminal shall be grounded.

#### C.23.2 Alternating Current (AC) Voltage Regulators

Regulators shall be of the solid-state tap-changing type, insensitive to line frequency variations between 47 and 63 hertz. Ferroresonant units are not acceptable. Output regulation for input voltage variation from 85 to 125 volts shall not exceed 3.3 percent. Output regulation for load variation from 0 to 100 percent shall not exceed 1.0 percent. Response time shall be 1.0 cycles or less. Voltage regulator serving panelboards and control panels shall have a load capacity not less than 200 percent of the connected load. Voltage regulators serving panelboards and control panels shall have a load capacity not less than 125 percent of the connected load. Power loss in the regulator shall not exceed 2 percent of the regulator capacity, and harmonic distortion introduced by the regulator shall not exceed 0.1 percent. Regulator output shall be fully protected against internal faults, external overloads and short circuits. Three-phase units shall be 4 wire, wye-connected and capable of supporting 100 percent unbalanced load. Regulators shall be Topaz, or equal.

#### C.23.3 Noise-Suppression Isolation Transformers

Isolation transformers shall be provided for AC powered Telemetry loads containing solid state circuitry where such is not included within the instrument. Isolation transformers shall be of the triple box shield type. Each coil shall be completely enclosed in a grounded conductive faraday shield, and the overall transformer enclosed in a faraday shield. Common mode noise attenuation between primary and secondary shall exceed 140 dB at 1.0 kHz. Isolation transformer dielectric strength shall be 2500 volts minimum. Isolation transformers serving panelboards and control panels shall have a load capacity not less than 124 percent of the connected load. Power loss in the isolation transformer shall not exceed 2.0 percent of the maximum load rating. Harmonic

distortion introduced by the isolation transformer shall not exceed 0.1 percent. Three-phase units shall be 4-wire, wye-connected and capable of supporting 100 percent unbalanced load. Isolation transformers shall be Topaz, or equal.

#### C.23.4 Direct-Current Power Supplies

Direct-current supplies for bulk 24-volt nominal Telemetry power shall be convection-cooled switching type. Line regulation shall be 0.4 percent for line variations from 105 to 132 volts, and load regulation shall be 0.4 percent for load variations from 0 to full load. Ripple and noise shall not exceed 100 mV peak-to-peak. Hold-up time at maximum load shall be not less than 15 milliseconds. Efficiency shall be a better than 70 percent. Power supply shall be rated for continuous duty from 0 to 50 degrees C at rated load. Output shall be electronically current limited, and overvoltage crowbar shutdown shall be provided. Power supply output voltage shall be rated 28 volts DC, adjustable plus or minus 5 percent, and shall be set to provide 26.4 volts on the panel direct current bus. Power supplies shall be Power One, or equal.

#### C.23.5 Uninterruptible Power Supply (UPS)

UPS shall provide continuous duty protection and complete power conditioning. UPS shall consist of a power conditioner, a battery charger, a battery, and inverter, a system control and a surge suppression network. Total harmonic distortion shall be  $\pm 5\%$  maximum (from the batteries) or  $\pm 2\%$  maximum added to incoming line distortion (from line voltage). UPS shall UL or CSA labeled and shall meet IEEE 587-80 standards. UPS shall provide surge protection for both itself and the load as defined by ANSI C62.41-80 (6000V peak, 500 nanosecond rise time, 100 kHz damped ring wave). UPS shall also meet the following specifications:

When the power line is absent:

Output voltage - 120VAC  $\pm 3\%$ , sinewave.

When the power line is present:

##### Voltage Regulation

Input voltage range: 120V  $\pm 20\%$

Output regulation band: +6% to -8% of nominal for all conditions of line and load.

Correction time: 2 cycles maximum.

Common mode noise attenuation: 100dB at 100 kHz.

Normal mode noise attenuation: 70dB at 100 kHz.

Efficiency 93% minimum.

Transfer time: AC line to inverter: 1 or 4 milliseconds selectable.

Inverter to AC line: No interruption

Transfer Points: Power conditioning to inverter: -8% or +6% of nominal voltage.

Inverter to power conditioning -11% or +13% of nominal voltage.

Input Frequency tolerance:  $\pm 5\%$ .

Load Power Factor: 0.9 leading to 0.9 lagging, linear load, 0.6 non-linear load.

Operating Temperature: -29 to +40 degrees C.

The UPS shall be TOPAZ Powermaker, or equal.

#### C.23.6 Backup Power Supply (BPS)

BPS shall provide continuous duty protection and complete power conditioning. BPS shall consist of a power conditioner, a battery charger, a battery, system control and a surge suppression network. The BPS will provide 12VDC and 24VDC with sufficient wattage to run telemetry and associated equipment..

BPS battery charger shall be voltage regulated, current-limited charger with 3 Amps maximum current and typical recharge time of 6 - 12 hours after full discharge. Batteries shall be sealed Gel-cell, maintenance free type.

The BPS shall be provided with relay contacts rated at 32 Volts, 1 Amp for Battery ON and AC ON signals. The BPS will be provided by the Control System Contractor/Developer/Designer using off the shelf equipment.

#### C.23.7 Surge Protection

Surge arrestors and capacitors shall be provided on the primary winding of isolation transformers supplying power to solid state systems. Surge protectors shall be mounted in a separate, NEMA 1 enclosure adjacent to the transformer and the incoming line passed through this enclosure. Surge arrestors shall be General Electric 9L15EC or equal. Surge capacitors shall be General Electric 9L18B, or equal.

### C.24 Execution

#### C.24.1 General

Power supply and conditioning equipment shall be mounted and connected in compliance with the manufacturer's instructions unless otherwise specified. Line side disconnect switches shall be provided for power supply and conditioning equipment. Line and load side overcurrent protection shall be provided for power supply and conditioning equipment in compliance with NFPA 70. Disconnect switches shall comply with the Standard Specifications.

Small power supply and conditioning equipment may be mounted in the panel served. Larger units shall be mounted adjacent to the equipment served. Where unconditioned power is brought into control panels, it shall be enclosed in metallic raceways within the panel.

Power supply and conditioning equipment larger than 5 KVA load capacity supported from surfaces other than concrete shall be provided with sound isolators. Final raceway connections shall be a flexible conduit in compliance with the Standard Specifications.

Power supply and conditioning equipment not designed for exposed mounting shall be housed in panels in compliance with Section 17110.

END OF SECTION

## SECTION 25 MISCELLANEOUS PANEL INSTRUMENTS

### C.25 General

#### C.25.1 Description

This section specifies requirements for miscellaneous panel mounted instruments used to provide process control and interface between the operator and the process.

#### C.25.2 References

All equipment and materials shall conform to the latest revised editions of applicable standards published by the following organizations:

- American National Standards Institute (ANSI).
- Institute of Electrical and Electronic Districts (IEEE).
- National Electrical Manufacturers Association (NEMA).
- Underwriters' Laboratories (U/L).
- International Society of Measurement and Control (ISA).

All electrical equipment and materials, and the design, construction, installation, and application thereof shall comply with all applicable provisions of the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and any applicable Federal, State, and local ordinances, rules and regulations. All materials and equipment specified herein shall be within the scope of UL examination services, be approved by the Underwriter's Laboratories for the purpose for which they are used and shall bear the UL label.

#### C.25.3 Submittals

Submit all catalog data in accordance with the Submittals requirements in Section 17010. Show material information and confirm compliance with these specifications.

### C.26 Products

#### C.26.1 Relays

##### *C.26.1.1 Relays For General Purpose*

Relays for general purpose use shall have 10 Amp contacts with the appropriate coil voltage for the application. All relays shall have an integral indicating light to show if there is coil voltage present. They shall have an 8-pin/blade base and matching socket. Units shall be Allen-Bradley 700 type HA, HB, Idec RH Series, or equal. Appropriate relay shall be selected based on application from the control wiring diagrams.

## C.26.2 Signal Conditioners

The current to current (I/I) converters shall provide an isolated DC output proportional to the DC input while providing complete electrical isolation between the output and input. The device shall plug into a standard 8-pin relay socket which is capable of being mounted either on a flat surface and track. Provide appropriate scaling as required. Units shall be as manufactured by AGM, Wilkerson Instruments, Action Instruments, or equal.

## C.27 Execution

### C.27.1 Installation

Instruments shall be installed on panel specified in Section 17110.

END OF SECTION

**SECTION 28  
MEDIUM CAPACITY  
PROGRAMMABLE LOGIC CONTROLLERS (PLC)**

C.28 General

C.28.1 Description

*C.28.1.1 Scope*

This section specifies requirements for PLC (s) capable of performing the same function as relays, latching relays, current trips, shift registers, timers, counters, stepping switches, sequences, multiplexers, or solid state logic systems.

*C.28.1.2 Work Included*

Under this contract the PLC is provided by the Owner. CSI shall install PLC in new enclosure, and provide additional I/O cards where needed.

C.29 Products

C.29.1 Processor Support Components

*C.29.1.1 Network Communications*

Fiber optic communications shall be accomplished to execute the same above utilizing Phoenix Digital OCM, or equal fiber optic driver. Fiber to serial transceiver.

Communication over phone line shall be accomplished utilizing Data-Linc or Allen/Bradley modems.

C.29.2 Input/ Output System (I/O)

*C.29.2.1 General*

The system shall consist of individual plug-in input and output modules or cards. Any number of remote discrete and analog I/O points (up to the system capacity) shall be available. I/O system shall be 25% spare of each type of I/O.

C.30 Execution

C.30.1 Installation

Installation shall be in accordance with Section 17110-3.01. The PLC(s) shall be mounted in control panels as shown on the drawings. Wire terminations shall be at

terminal blocks. Power supplies located in instrument panels shall have an isolation transformer and secondary surge protection.

#### C.30.2 Programming (By Others)

#### C.30.3 Start-Up

Contractor shall provide on-site start up of the PLC system in accordance with paragraph 17010-3.04 and 1.02B.

#### C.30.4 Testing

Testing shall be in compliance with paragraph 17010-3.03 and 1.02B.

#### C.30.5 Training

A minimum of 16 hours of training shall be provided in accordance with paragraph 17010-3.06 to explain the system operation and how the PLC/OIT controls the system.

END OF SECTION

## **SECTION 31 ETHERNET RADIO MODEMS**

### **C.31 Overview**

C.31.1 It is the intent of this section to outline the requirements for radios used only in line-of-site locations. It is not the intent of this section to state that line-of-site conditions can be met at each intended location.

It is the responsibility of the installer to confirm operability within the parameters of this specification section. If these parameters cannot be achieved in the locations outlined in the contract documents, the installer shall notify the control system integrator in writing within 48 hours of discovery of the exception to the specified conditions.

### **C.32 Unitary responsibility**

C.32.1 In order to unify responsibility for proper operation of the Ethernet radio modems, it is the intent of these Specifications that a single supplier (unitary source) shall furnish all components for the radio system.

### **C.33 General**

C.33.1 All Ethernet radio modems shall not require FCC site license. All radio modems shall have FCC type acceptance as per FCC Part 15-Subclass C.

C.33.2 All Ethernet radio modems shall be license-free direct sequence spread spectrum, operating in the 2.416 to 2.462 GHz Spread Spectrum band.

C.33.3 All Ethernet radio modems shall be compatible with IEEE 802.11b specifications.

C.33.4 All Ethernet radio modems will operate at 1-Watt output power and provide a line-of-site (LOS) range of at least 5 miles.

C.33.5 All Ethernet radio modems will communicate at a radio frequency (RF) data rate of 11 MBPS. The RF data rates will automatically scale from 1-11 MPBS to maintain a reliable communication link based upon received signal strength and data quality. RF data rates lower than 1 MBPS will not be acceptable.

C.33.6 All Ethernet radio modems shall be able to operate in the Ethernet point-to-point and multi-point Bridging Mode.

C.33.7 All Ethernet radio modems shall be able to operate in the Access Point Mode.

C.33.8 All Ethernet radio modems shall be able to function in the EtherStation Mode. This is the ability of the radio modem to function as a Client to an Access Point. The radio modem in the EtherStation Mode shall be able to roam between multiple Access Points.



C.33.9 The radio modems shall have digi-repeater capability to extend the operating range of the Ethernet network.

C.33.10 The radio modem shall be user configurable via its internal web server.

C.33.11 All Ethernet radio modems shall support transfer of Ethernet based data in both UDP and Ethernet II formats. All Ethernet protocols, including but not limited to TCP/IP, will be supported.

C.34.12 All Ethernet radio modems will only pass data for the MAC address attached to the wireless Ethernet modems to reduce wireless network traffic.

C.33.13 All Ethernet radio modems will be housed in a single metal, panel mountable, industrial based enclosure. The Ethernet radio modem shall have a 10BaseT RJ-45 connector for Ethernet interfacing.

C.33.14 All Ethernet radio modems shall support the installation of external antennas that can be remotely located at distances up to one hundred (100') feet from the radio modem using factory recommended feedlines.

## C.34 Communications data rate

C.34.1 All Ethernet radio modems will use direct sequence spread spectrum modulation at a RF data rate of 11MBPs.

C.34.2 The RF data rate shall automatically scale from 1-11 MBPS to maintain a reliable communication link based upon received signal strength and data quality. RF data rates lower than 1 MBPS will not be acceptable.

## C.35 Electrical

C.35.1 Power input shall be 11.0 - 15.0 VDC or 110-240 VAC with optional switching power supply.

C.35.2 Ethernet radio modems shall have the following front panel indicators: PWR-Power (red), TX-Transmit (red), RX-Receive (red), T/E-Test/Error (red), 10BaseT Link (Amber) and Ethernet activity (Green).

## C.36 Transmitter

C.36.1 Ethernet radio modem shall have output power of 1-watt maximum (+30 dBm).

C.36.2 All Ethernet radios will have a maximum rise time of 10 $\mu$ sec.

## C.37 Receiver

C.37.1 All Ethernet radio modems shall use auto-squelch circuitry that requires no setting from the user.

C.37.2 Sensitivity shall be at least -93dbm @ 8E-2 Frame Error.

C.37.3 Receiver spurious & image rejection shall be > 80dB.

C.37.4 Receiver adjacent channel rejection shall be > 35dB

## C.38 OPERATING ENVIRONMENT

C.38.1 Ethernet radio modems shall be rated for NEMA 1 environments.

C.38.2 Ethernet radio modems shall operate over a range of -30o to +60oC.

## C.39 MANUFACTURER

C.39.1 The radio modems shall be 802.11b compatible Spread Spectrum wireless Ethernet radio modem as supplied by ESTeem or pre-approved equal.

END OF SECTION

## **SECTION 40 UHF RADIO MODEMS**

### **C.40 Overview**

C.40.1 It is the intent of this section to outline the requirements for radios used only where line-of-site functionality cannot be met. It is not the intent of this section to state that line-of-site conditions can or cannot be met at each intended location.

It is the responsibility of the installer to confirm operability within the parameters of this specification section. If these parameters cannot be achieved in the locations outlined in the contract documents, the installer shall notify the control system integrator in writing within 48 hours of discovery of the exception to the specified conditions.

### **C.41 Manufacturer**

C.41.1. The wireless modems shall be narrow band, licensed UHF radio modems that operate in the

450-470 MHz frequency band as supplied by ESTeem or pre-approved equal.

### **C.42 Unitary Responsibility**

C.42.1. In order to unify responsibility for proper operation of the UHF radio modems, it is the intent of these Specifications that a single supplier (unitary source) shall furnish all components for the radio system.

### **C.43 General**

C.43.1. All radio modems shall be licensed by the FCC for narrow band operation in the 450 to 470 MHz frequency band.

C.43.2. All radio modems shall be compatible for 25 KHz, 12.5 KHz and 6.25 KHz channel spacing.

C.43.3. All radio modems shall be software frequency agile and adjustable locally or remotely using the remote programming feature.

C.43.4. All radio modems will function as a Base, Repeater, or Remote with the same unit. Changing functions shall be accomplished through software programming locally or remotely over the RF link.

C.43.5. All radio modems will be capable of master to master communications. No radio modem in the system will be limited to function only as a repeater or slave to a master radio modem.

C.43.6. All radio modems shall have Digi-Repeating, which will allow the user to route data through a

maximum of three radios to reach a remote radio node. Digi-Repeating will allow any radio in the network to repeat a data packet from another radio modem.

C.43.7. All radio modems functioning as a remote must be able to function as a Digi-Repeater while simultaneously providing data to its attached device.

C.43.8. The Digi-repeater feature shall be transparent to the User's Device.

C.43.9. All radio modems must have a Grouping feature that will allow multiple devices to share access to a single radio modem.

C.43.10. All radio modems will have the PLC protocol emulation contained in the radio modem firmware. Transparent only operation will not be acceptable.

C.43.11. All radio modems shall have received signal strength and data quality available for diagnostics.

C.43.12. All radio modems shall include a software package for setup and diagnostics at no additional cost.

C.43.13. All radio modems shall have remote programming over the radio link. All configuration functions shall be available through remote programming including programming through repeaters.

C.43.14. All radio modems shall have an infrared (IR) port for remote programming without a physical connection to the unit.

## C.44 RF Communications

C.44.1. All radio modems shall use 4-level FSK modulation to provide a RF data rate of 19,200 bps when using a 25 KHz channel spacing and 9,600 bps when using a 12.5 KHz channel spacing.

C.44.2. All radio modems shall have a maximum point to point communications turn around time of < 30 msec. + data using the Acknowledge Feature and <15 msec. + data without the Acknowledge Feature.

C.44.3. All radio modems shall utilize Carrier Sensed Multiple Access with Collision Detection (CSMA-CD) transmission protocol.

a. All radio modems shall use Forward Error Correction and 32 Bit Cyclic Redundancy

END OF SECTION

# Appendix D

## Procedure for Creating Local Utility Districts

### D.1 Establishment and Definition

The District may establish and define the boundaries of local assessment districts to be known as Local Utility District (LUD) No. “\_\_\_\_” for any one or more of the following: water distribution, for domestic use and irrigation. The LUD shall be under the general supervision and control of the District. The District shall purchase, or otherwise acquire, or construct and equip distribution systems, and provide for extensions and betterments. To finance an LUD, the District may issue local improvement bonds or warrants and may levy and collect special assessments and reassessments on property benefiting from the LUD, to pay for associated costs and expenses. (442)

### D.2 Improvements and Financing

The District will determine what work shall be done or improvements made at the expense in whole or in part of the property specially benefited by creating an LUD. The District will determine the appropriate approach for financing the project. Financing options include bonds or warrants secured by assessments against the property within the local utility district, or revenue bonds. For revenue bonds, no bonds or warrants shall be issued by the local utility district but assessments shall be levied upon the taxable property on the basis of special benefits up to, but not exceeding the total cost of the improvements. In such cases the entire principal and interest of such assessments shall be paid into a revenue bond fund of the District. (442)

### D.3 Petition and Resolution

Improvements shall be ordered by Commission resolution upon petition or by District resolution.

#### D.3.1 Petition

The Commission shall fix a hearing date when a petition signed by ten per cent of the owners of land in the proposed district is filed, asking that a financially and economically feasible plan or improvement be adopted and ordered. At least two weeks public notice will be given for the hearing.

The commission may deny the petition or order the improvement, unless a majority of the owners of lands in the district file prior to twelve o'clock noon of the day of the hearing, with the secretary a petition protesting against the improvement.

#### D.3.2 District Resolution

The Commission shall adopt a resolution declaring intention of forming an LUD after a *State Environmental Policy Act* determination of categorical exemption, determination of

*non-significance, or environmental impact statement has been issued. At least two weeks public notice will be given for a hearing on District intent to form an LUD.*

#### D.4 Establishing the LUD

If, after the hearing, the commission orders the improvement, it may alter the boundaries of the proposed local utility district and prepare and adopt detailed plans of the local improvement, declare the estimated cost, what proportion shall be borne by the local utility district and what proportion, if any, shall be borne by the entire public utility district. (442) The District may create a fund to finance the LUD; acquire all lands and other properties; pay all damages; and commence in the name of the public utility district the necessary eminent domain awards, and proceed with the work. The District shall file with the District Treasurer its roll levying special assessments for the amount to be paid by special assessment against the property in the local utility district in proportion to the special benefits to be derived from the improvements. (442)

*If SEPA review has not yet been performed, the District will conduct SEPA review, and give notice of opportunities for appeal.*

#### D.5 Preliminary Notice

Before approval of the roll, a notice will be published once each week for two consecutive weeks stating: 1) the roll is on file and open to inspection in the office of the secretary, 2) a fixed time not less than fifteen nor more than thirty days from the date of the first publication of the notice within which protests must be filed with the secretary against any assessments, and 3) a time when a hearing shall be held by the commission on the protests. After the hearing, the commission may alter any and all assessments shown on the roll and may by resolution approve it. *If the LUD contains “farm and agricultural land” or “timber land” as defined in RCW 54.16.125, the District will file notice of the LUD formation with the County Assessor and Board of Commissioners. I*

If an assessment is raised, a new notice similar to the first shall be given and a hearing had thereon after which final approval of the roll may be made. Any person aggrieved by the assessments shall perfect an appeal to the superior court of the county within ten days after the approval in the manner now provided for appeals from assessments levied by cities. Engineering office and other expenses necessary or incident to the improvement shall be borne by the public utility district; PROVIDED that when a municipal corporation included in the public utility district already owns or operates a utility of a character like that for which the assessments are levied, then all such engineering and other expenses shall be borne by the local assessment district. (442)

#### D.6 Alterations to Assessments

The District may be responsible for only up to fifty percent of the cost of LUD improvements unless a majority of the electors of the District consent to or ratify a contribution of greater than fifty percent. (442).

## D.7 Final Notice and Payment

As soon as the assessment roll has been placed in the hands of the District Treasurer for collection, he shall publish a notice in the official newspaper of the County for once each week for two consecutive weeks. Within 15 days after the first publication, notice will be mailed to all property owners that the roll is filed for collection. *If the LUD contains “farm and agricultural land” or “timber land” as defined in RCW 54.16.125, the District will file notice of the LUD formation with the County Assessor and Board of Commissioners.*

Any assessment may be paid within thirty days from the date of the first publication of the Notice without penalty, interest or cost. After thirty days, the remaining unpaid sum may be paid in equal annual installments extending over a period not to exceed twenty years. Interest on the whole amount unpaid at the rate fixed by the resolution shall be due on the due date of the first installment of principal and each year thereafter on the due date of each installment of principal. The first installment shall become due and payable during the thirty-day period succeeding a date one year after the date of first publication of the Treasurer's Notice and annually thereafter each succeeding installment shall become due and payable in like manner. If the whole or any portion of any assessment remains unpaid after the first thirty-day period, interest upon the whole unpaid sum shall be charged at the rate fixed in the resolution, and each year thereafter the installments and interest due upon the whole of the unpaid balance shall be collected. Any installment not paid prior to the expiration of the thirty-day period during which the installment is due and payable shall become delinquent. All delinquent installments shall be subject to a charge for interest at the rate to be determined by the Commission. (442)

## D.8 Final Notice

Except as herein and otherwise provided, all matters and proceedings relating to the local utility district, the levying and collection of assessments, the issuance and redemption of local improvement warrants and bonds, and the enforcement of local assessment liens, shall be governed by local utility district laws. (442)

## D.9 LUD Administration

The form of any local utility bond to be issued by the District shall be fixed by resolution. (442)