COASTSIDE COUNTY WATER DISTRICT

REGULATIONS REGARDING WATER SERVICE EXTENSIONS AND WATER SYSTEM IMPROVEMENTS; ENGINEERING AND CONSTRUCTION STANDARDS; APPROVED MATERIALS

Recodified through Resolution No. 2003-11

March 2004

A. Regulations Regarding Water Service Extensions and Water System Improvements

1. Service Areas

It is the District policy to require that extensions to its water system, both within and outside the District, be done in accordance with the following procedures at the expense of those requesting an extension of service. If not already a part of the District, the area for which water service is requested shall be annexed to the District.

2. Initial Submittal - Tentative Maps, Drawings and Data

2.1 The Developer shall submit to the District three copies of Development maps, drawings and other data sufficient in detail for the District to evaluate the project with regard to water service. Maps and drawings shall be approximately 22" x 36". Based upon this submittal, the District will determine whether the proposed development can be served and in what manner this may best be accomplished. This determination will be based upon an analysis of existing water supply, treatment plant storage and transmission facilities capacity. The analysis shall be at the Developer's expense, and shall either be performed by the District Engineer or by a qualified and licensed civil engineer retained by the District, as deemed appropriate by the District in its sole discretion. The Developer will be furnished with the design criteria to be utilized for the in-tact pipelines. Any out-of-tract water development, treatment storage, or transmission facilities that may be required will be designed, at the Developer's expense, either by the District Engineer or another licensed and qualified engineer selected and retained by the District. Proposed location and size of water lines need not be shown on the initial submittal.

The initial submittal for subdivisions shall contain the following minimum information: tentative subdivision map showing the property lines, streets, and other dedicated rights of way; number and location of single family residences to be constructed; number of units and location of apartments; number of students and

location of schools; irrigation requirements, etc. Development maps should show topographic contours and elevation of highest and lowest unit served and top floor elevation on multi-story buildings.

The initial submittal for industrial or commercial areas and other developments not classified as subdivisions shall contain the following minimum information: site plan drawings; description of proposed development; desired irrigation requirements; resident population; number of employees; etc.

2.2. An initial filing fee, more particularly set forth hereafter in Paragraph 5.1 of the Regulations, shall be required at the rime of initial submission.

2.3 After the District Engineer and the Manager have reviewed the initial submittal, the District Manager will notify in writing the City of Half Moon Bay or the appropriate political agency that the subdivision is or is not within the service area of the District, and whether it can be served. Copies will be sent to the Developer and the District Engineer. This notification that the development can be served does not constitute a commitment to serve water to the development. One copy of the drawings accompanying this submittal will be returned to the Developer with the in-tract water requirements together with a description of any out-of-tract water facilities that may have to be constructed.

3. Final Submittal - Construction Plans, Specifications, and Other Documents

3.1 After the District has informed the Developer of required water service facilities, the Developer may commence work on the detailed plans, specifications, and cost estimate for the in-tract facilities. The Developer shall acquaint himself with District requirements. A copy of “Engineering and Construction Standards,” (Section C, infra), “Approved Materials,” (Section D, infra) and “District Standard Drawings” for installation of piping appurtenances is available, free of charge, at the District office. All facilities shall stress low cost maintenance and operation. The District Engineer and Manager will be available to the Developer’s Engineer for the purpose of answering questions and working out design details. Location of fire hydrants must be approved by the Half Moon Bay Protection District.

3.2 This final submittal shall consist of three copies each of the following documents:

(a) Final plans and specifications.

(b) Executed Subdivision Agreement with blanks filled in and all required attachments.

(c) All required easements and deeds.

(d) Tentative Subdivision Map if modified from that included in Initial Submittal.

(e) Construction cost estimate.

(f) Utility service box master plan.

The above documents will be reviewed by the District Manager and District Engineer. One copy will be returned to the Developer indicating required modifications, if any. A minimum of 14 calendar days shall be allowed for this review. All documents, which require modifications, shall then be submitted for final review by the District.

3.3 When all final documents are acceptable to the District, the Developer shall pay the transmission and storage *fee,* plan checking and inspection fee, and any applicable special fees and deposits as provided for in Paragraph 5.2, 5.3 and 5.4 of these Regulations, infra.

3.4 Following receipt of all fees, the project plans and specifications will be presented to the District Board for approval. Board meetings are normally scheduled for the second Tuesday of each month. This approval by the Board constitutes a commitment by the District to serve water to the development. A copy of the Subdivision Agreement will be made available to the City of Half Moon Bay.

A space will be provided on the cover sheet of the project drawings for the signature of the District Manager with the following wording:

APPROVED: COASTSIDE COUNTY WATER DISTRICT

_____ _____

District Manager *Date*

The Developer shall furnish the District with additional copies of plans, specifications, and other documents as requested by the District Manager. The District shall initially be furnished with five sets of prints bearing the Manager's signature of approval and five sets of specifications. All reproduction costs shall be at the Developer's expense.

4. Water Development, Treatment, and Storage and Transmission Facilities

The District will provide water in the quantity and at the quality and pressure as is available. For water improvements requiring development of additional water supply, or construction of treatment plant capacity of storage and transmission facilities, the total cost of these facilities shall be borne by the Developer.

Design of all such facilities, including wells, treatment pants, dams, pumping stations, storage tanks, reservoirs, and transmission pipelines, may be accomplished by the District Engineer or by a qualified and licensed civil engineer retained by the District. All costs, including environmental impact report preparation, engineering-design, construction inspection, construction, land acquisition, and legal and administrative costs incurred by the District shall be borne by the Developer. Except as provided in Section E, infra, no refund agreements will be entered into by the District.

5. Processing Fees and Deposits

5.1 Initial Filing Fee. Prior to processing of the initial Submittal, the Developer shall submit a filing fee with the District. This filing fee is not a deposit, and it is not subject to return to the Developer if the project is abandoned. Filing fees shall be as follows:

(a) For subdivisions of under 300 lots, the filing fee is $5.00 per lot; for subdivisions of 300 lots or more, the fee is $3.00 per lot. The fee will be based on the number of lots shown on the subdivision map regardless of the date of proposed construction. The minimum fee is $250.00.

(b) For Land not subdivided or in the process of being subdivided, the filing fee is $25.00 per gross acre. If this land is later subdivided, full credit for the gross acreage fees will be given towards any additional fee required based on the number of lots. No refunds will be given.

(c) For industrial or commercial areas, motels, trailer parks, multiple dwelling units, and other areas not covered in the above, the initial and minimum filing fee will be $500.00. The Developer will be billed for any additional District costs incurred in reviewing the initial submittal in excess of this amount. District costs are defined as all costs incurred by the District including engineering, legal and administrative.

(d) The District reserves the right to reduce the minimum fees for projects involving only a single residential, multiple dwelling, commercial or industrial unit for which the review is of a non-complex nature.

(e) For complex projects involving any combination of residential lots, apartments, commercial areas, etc., the filing fee will computed as the sum of the individual types of land uses as shown above.

5.2 Storage and Transmission Fee

The Developer shall pay to the District a storage and transmission fee. The amount of this fee, based on meter size, is shown in the current District Rate and Fee Schedule. This payment must be received before the District will agree to serve the proposed development, and before the construction plans (Final Submittal) will be presented to the Board for approval.

5.3 Fee for Plan Checking and Construction Inspection

After approval of the amount of the construction cost estimate, the Developer shall file with the District a fee as required in the Subdivision Agreement. This fee is to cover the cost of plan checking, construction inspection, modifications of the water system maps, administrative, legal and auditing costs. The fee shall be a percentage of the approved construction cost estimate for the water system facilities: 5% for the first $200,000 of construction costs, 3% for the incremental amounts over $200,000. An additional 1% fee will be charged for plan checking for each resubmitted

incorporating major project modifications. The minimum fee shall be $250.00.

5.4 Special Deposits

When the estimated cost of analysis, design, inspection, Administration, and construction of required water supply, treatment, storage and transmission facilities for a development exceeds the amount to be collected by the District pursuant to Sections 5.1 and 5.3, the Developer will be required to file a special deposit to cover the cost of this work. Prior to the District directing the District Engineer or, as the case may be, the engineering consultant retained by the District, to proceed with the analysis of facilities required by Section A.2.1, or design of facilities described in Section A.4, the Developer shall deposit sufficient funds with the District to cover the full cost of this analysis and design work. After the construction is completed and approved by the District, the Developer will receive a final refund or statement of the balance due amounting to the difference between the deposit and actual costs incurred by the District.

5.5 Environmental Impact Report Fee

The Developer shall pay to the District an environmental impact Report fee, coving all legal, engineering, administrative and other costs incurred by the District in the preparation of an environmental impact or similar report required by the proposed water service extension or water system improvement pursuant to applicable State of Federal law, and the submission of such reports with the appropriate governmental agencies.

6. Bond and Insurance

6.1 At least ten days prior to the commencement of construction, the Developer shall post a faithful performance bond in the amount of 100 percent of the estimated cost of the work. As part of the faithful performance bond, or by a separate maintenance bond in the amount of 10 percent of the cost of the work (with a $2,000 minimum), the Developer shall guarantee the maintenance of the work for a period of two years following the time of completion of the work. Its final performance bond and/or

the maintenance bond shall name the District and the City of Half Moon Bay or other appropriate political agency as beneficiaries. The above bonds are the same as those described in the Subdivision Agreement.

6.2 The Developer shall hold harmless the District, its Manager and Engineer, and each of their officers, employees and agents in the manner set forth in the Subdivision Agreement.

6.3 The Developer shall secure insurance in the amounts, of the types and containing the endorsements and requirements set forth in the Subdivision Agreement.

7. Construction

7.1 A minimum of ten days prior to the start of construction the following requirements shall be met:

(a) The Developer shall file a tentative construction schedule with the District Manager.

(b) The Developer shall post the bonds as described in Paragraph 6.1 and the Subdivision Agreement.

(c) The Developer shall file with the District the insurance certificates as described in Paragraph 6.2 and the Subdivision Agreement.

(d) The Developer shall submit name and license number of general contractor for the project, names and license numbers of subcontractors, if any, who will construct water improvements. All contractors constructing water improvements must hold a valid Class A or C-34 contractors license in the State of California.

7.2 Prior to water line construction, all road and easement areas where water lines are to be installed must be staked and rough graded.

7.3 The District shall observe and inspect facilities solely to protect the interest of the District and to determine if completed work is acceptable to the District and can be incorporated into the District system. No responsibility is assumed for the contractor's operations or his safety practices. The Developer and his representatives are responsible for correct location of facilities and for measurements and payments.

7.4 It will be the responsibility of the subdivider or his representative to notify the District Manager at least two (2) working days in advance of the proposed starting date, and to ascertain that the District Inspector is at the site of the work when

construction begins. If construction is not continuous, the District Manager shall be notified at least 48 hours in advance as to when construction will resume. Any work performed without knowledge or consent of the District Inspector is subject to rejection by the District.

8. Changes During Construction

8.1 Changes to the project that are necessary to the work during construction shall be submitted to the District for review and approval prior to the incorporation in the work.

8.2 The District Manager may, at his discretion, waive all or portions of the submittal requirements, depending upon the complexity of the change.

9. Easements and Property Rights

Prior to acceptance of the plans and specifications, the property owner will dedicate to the District all necessary easements and property required for pump stations, treatment plants, wells, storage tanks and other sites of water facilities for this proposed development. Recording of maps with Public Utility Easements will not be sufficient. A separate deed for such easements shall be granted directly to the Coastside County Water District or the Coastside County Water District shall be named on the recorded tract map.

10. "As-Built" Drawings

The Developer shall furnish the District with a copy of the recorded Subdivision Map together with mylar reproducible drawings of the completed improvements showing "As Built" conditions. Each drawing shall be signed by the Developer's Engineer, who shall be a Registered Civil Engineer in the State of California, certifying that the drawings correctly indicate "As-Built" conditions.

The certificate shall be in the following form:

> "Date _____
>
> This is to certify that this Drawing has been corrected to show the water system and related facilities as constructed.
>
> _____RCE No. _____"
> Name

The “As-Built” drawings shall show the location of all valves in accordance with the District standard detail entitled “Gate Valve Location and Marking.” Location of all water lines shall be dimensioned in feet from front face of nearest curb. Valve marker posts shall be installed in areas where curb and gutter do not exist.

11. Final Acceptance

11.1 When the District Manager is satisfied that all improvements are in accordance with the approved plans and specifications, in accordance with good construction practices and that all pressure tests, bacteriological tests and compaction tests have been satisfactorily completed, he shall so certify in writing.

11.2 The District Manager will place consideration of approval of the agenda of the next regular meeting for action by the Directors, after which the District Manager will immediately notify the City of Half Moon Bay or the appropriate political agency of the approval or acceptance.

11.3 After acceptance, the District will transfer all pertinent information on the As-Built Drawings to the District’s official maps.

B. Regulations Regarding Procedure for Non-Complex Pipeline Extensions

Certain applications for water service involving construction of pipeline extensions of a non-complex nature to serve property located in previously subdivided locations may be processed under the provisions contained in this Part as reasonably determined by the Manager. In such circumstances, the applicant for water service shall submit a formal application for service, together with a non-refundable processing fee in the amount of One Hundred and Fifty Dollars ($150.00), whereupon the District shall determine the nature, size and location of the facilities necessary to render service to his property. The applicant shall agree in writing to pay for the entire cost of all such facilities required to provide water service to his property, which costs shall be in addition to the storage and transmission fee and other applicable charges and deposits imposed by the District by resolution. An estimate of the design and construction costs associated with the needed water improvements shall be prepared by the Manager and

submitted to the applicant for service, and prior to the commencement of said design and construction work, the applicant shall pay said estimated cost, in cash, to the District. The application may be approved by the General Manager or may be submitted to the Board of Directors for its approval and, if such approval is granted, the District thereupon shall undertake and complete the work.

Upon completion of the work, any remaining portion of the sum previously submitted by the applicant shall be returned; any shortage or additional funds required to fully reimburse the District for costs expended in completing the work shall be paid, in cash, by the applicant as a prerequisite to issuance of a meter. Except as provided in Section E, infra, no refund agreements shall be entered into by the District.

C. Engineering and Construction Standards

1. General

1.1 It is the intent of the Coastside County Water District to publish certain typical standards which will give a degree of uniformity to design of in-tract facilities, construction procedures, materials and equipment used within the District. The standards presented herewith are to be used as a guide for those preparing plans and specifications for projects within the District. THEY ARE NOT A COMPLETE SET OF SPECIFICATIONS.

1.2 Good, sound engineering practice precludes the use of a rigid set of standard specifications for every conceivable condition that may be encountered throughout the District. It is required that the Developer's Engineer prepare a set of plans and specifications based upon the District standards. Plans shall be complete, showing all necessary dimensions and location of all fittings, fire hydrants, air releases, services and blowoffs. The drawings shall indicate the type of joint (push-on, mechanical or flanged) for each fitting; this will require providing a detail for each piping intersection. A utility service master plan shall be submitted with the engineering drawings showing for each lot the service box locations of (1) Pacific Gas & Electric Co., (2) Pacific Telephone and Telegraph Co., (3) Coastside County Water District, and (4) United States Postal Service.

1.3 The District standards shall not be adopted by reference unless a copy of the standards is appended to the project plans and specifications. Where this is done, the inapplicable portions shall be deleted from the standards.

1.4 The standards presented are subject to revisions and additions at any time without notice. Latest revision dates are shown on each sheet and it shall be the duty of those using the standards to see that the latest revision is used. Copies of the standards may be seen at the District Office or the office of the District Engineer at the addresses indicated below:

Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
Telephone: (650) 726-4405

James S. Teter
Consulting Engineer
15 Bayview Drive
San Rafael, CA 94901
Telephone: (415) 453-0754

1.5 Reference is made to "Regulations Regarding Water Service Extensions and Water System Improvements," Section A, supra, which state the procedures to be followed pertaining to submission of plans and specifications as well as other matters pertaining to water improvements.

1.6 In addition, the project specifications shall contain the following

(a) The Contractor shall designate in writing the name, address, telephone number and emergency telephone number of the individual who will have responsible charge of the project and to whom District orders shall be directed.

(b) The Contractor's representative shall give the District written notice not less than two (2) working days in advance of the actual date on which the work will be started. Where work has been halted because of inclement weather or any other reason, it shall be the duty of the Contractor to notify the District at least forty-eight (48) hours before resumption of work. Any extra expense of the District due to failure to notify shall be charged against the Developer. The Contractor shall immediately notify the District if work is to be halted for any reason.

(c) All salvaged material and equipment shall remain the property of the

District and shall be delivered to the District Yard in Half Moon Bay or the District Property in Pilarcitos Canyon, as directed by the District Representative.

(d) Connections to or modifications to the existing system shall only be made by a contractor previously approved by the District. Names of approved contractors are available from the District Manager.

2. Basic Design Criteria

2.1 General

The following basic design factors have been prepared as a guide for use in sizing water lines and storage facilities. Flows Shall be increased to meet the actual demands of the user where required.

2.2 Abbreviations

gpdpc	gallons per day per capita gpapd gallons per acre per day
pgadapd	gallons per average daily attendance per day
gpm	gallon per minute

2.3 Domestic Consumption

Average annual per capita consumption	130 gpdpc
Commercial use	1,000 gpapd
Light industrial use	2,000 gpapd
Schools	50 gpadapd
Parks	500 gpapd
Peak monthly rate	165% of average day
Peak daily rate	230% of average day

2.4 Fire Flows

Fire flows shall be in addition to average daily domestic demands. See storage and transmission requirements below:

Residential areas	1,000 gpm for	4 hours
Multiple dwelling areas	1,500 gpm for	4 hours
Schools and commercial areas	2,500 gpm for	4 hours
Industrial areas	3,000 gpm for	6 hours

Water requirements for fire sprinkler systems shall be given special consideration.

2.5 Storage

Water storage tanks shall be sized to meet domestic, industrial and fire flows

simultaneously. Tank elevations and service zones will be determined by the District. Generally, initial construction of storage volume sufficient to meet the full development of the projected service area will be required. Where construction of an incremental portion of the future requirements (fully developed service area) is permitted, sufficient property shall be provided and the site grading completed to meet the future requirements. All storage tanks shall be located to be concealed from view as much as possible, and shall be landscaped. Cathodic protection may be required.

Minimum volume of storage for a service area shall be determined as the larger of the following values:

(a) 24-hour storage at peak daily rate of domestic consumption plus required fire storage.

(b) Volume required to meet 5-day peaks of domestic consumption plus fire storage. This 5-day value will be calculated as the deficit between the available flow of water into the service area on peak days and the peak daily consumption within the area.

2.6 Transmission Pipelines.

Transmission pipelines are defined as pipelines 12 inches in diameter and larger. All transmission pipelines shall be initially sized to meet the future requirements of the fully developed service area (peak daily demands plus fire demands) with the lowest practical pressure loss.

2.7 Pipelines and Appurtenances

(a) All materials for piping and appurtenances shall conform to the list of Approved Materials, infra, published by the District, and shall be installed in accordance with the District Standard detail

(b) Pipelines shall be sized by the District to serve the general water service vicinity; oversizing above the needs of a specific subdivision may be required. Generally the following minimum pipeline sizes will be applicable for residential areas without multiple dwelling units:

(1) For pipelines with fire hydrants, minimum diameter shall be 6

inches;

(2) For pipelines without fire hydrants, minimum diameter shall be 4 inches with a maximum length of 650 feet; longer pipelines shall be 6 inch diameter;

(3) For cur-de-sacs with 4 services or less, minimum size shall be 2 inches; and

(4) For cur-de-sacs with 5 or more services, minimum size shall be 4 inches.

(c) Pipelines shall be installed with a minimum of 30-inches cover over the top of the pipe.

(d) Pipelines shall be looped to form a grid network. Dead ends shall be avoided wherever possible. Where dead ends are unavoidable, provision shall be made for blowing off the line by means of a blow-off valve.

(e) Pipelines shall be installed within public right-of-way wherever possible. The District requires a 20-foot wide permanent easement f or water lines within private property.

(f) Water lines shall not be located closer horizontally than 10-feet from a sanitary sewer, except where bottom of water pipe will be at least 12 inches above the top of the sewer pipe, in which case 6-foot minimum horizontal spacing will be permitted. Where water lines cross under sewer lines, the sewer pipe for a distance of at least 10 feet on each side of the crossing shall be fully encased in concrete.

(g) Each service zone will have normal pressures in pipelines from 35-115 psi. Where pressures are above 75 psi, pressure reducing valves shall be installed on the individual services. Pressure reducing valves on District pipelines will not be permitted.

(h) Valves shall be installed at maximum intervals of 800 feet in main pipelines and on all branch pipelines connected to the main lines. Valves will be located at street intersections; the number of valves will ordinarily be one less than the number of radiating lines.

(i) Fire hydrants. Locations of fire hydrants are subject to the approval of the Half Moon Bay Fire Protection District. Hydrants shall be located at maximum 500-foot spacing. Steamer connections are required on hydrants in commercial, industrial and

school areas. Hydrants shall be installed on largest size available main with hydrant on supply side of intersection cut-off valves. Fire hydrants shall be located where flow can be provided from two directions; fire hydrants on dead-end lines shall be avoided whenever possible.

(j) Air release valves shall be installed at high points in water distribution lines where air may accumulate. Services shall be located at high points where possible to minimize the need for air release valves. Combination air and vacuum relief valves shall be installed at high points in water transmission pipelines.

(k) Blow off connectors shall be provided at low points in the system.

(l) Pumps will not be permitted to be direct connected to the District pipeline. Where a water user requires greater pressure than is available at the water meter, an air gap system shall be constructed by the user between the water meter and the booster pump.

(m) Backf low preventers shall be installed on water service connections in accordance with State and County regulations. These installations shall include, but not be limited to, Cl) services which have an operational well on the site, and C2) Nurseries and similar users which distribute fertilizer by means of the irrigation water supply.

2.8 Refilling Trenches and Repaving

Trench backfill materials, compaction requirements, repaving and guarantees shall comply with appropriate requirements of the City of Half Moon Bay and San Mateo County.

2.9 Testing

The water system shall be tested in accordance with Section 13, “Hydrostatic Tests,” of the American Water Works Association Standard Specifications for Installation of Cast Iron Water Mains, except that leakage shall not exceed one-quarter of the volume allowed by the AWWA Standard C600 as tabulated below:

Pipe Diameter, Inches	Total Leakage Permitted for 4 hr Test Period per 100 Lineal Feet of Pipe, in Gallons
4”	0.09

6”	0.14
8”	0.19
10”	0.24
12”	0.29
14”	0.33
16”	0.38

Test pressure shall be 200 psi. The system shall remain under test pressure not less than 4 hours. Water for testing shall be potable water purchased from the District at established District rates. All gages, meters and taps shall be furnished by the Contractor and shall be calibrated by a certified test laboratory within one week of their use.

2.10 Disinfection

The water system shall be disinfected by introducing sufficient chlorine solution to provide 50 ppm of available chlorine throughout the system. The chlorine shall be introduced at a point within 18 inches of the point of water service after the system has been thoroughly flushed. The chlorine solution shall be retained in the pipeline for not less than 24 hours. The system shall be considered disinfected upon satisfactory completion of bacterial examinations conducted by the District.

Water for disinfection and flushing shall be potable water purchased from the District at established District rates. Cost of bacteriological tests will be paid by the Contractor.

2.11 Service Connection Requirements (Other Than Fire Protection Service)

(a) Definitions

(1) Service Connection. An assembly consisting-of the District-owned pipeline from the water main to the outlet side of the water meter, the-meter box, fittings, and water meter.

(2) Individual Service Connection. A service connection which includes the installation of only one water meter. The service connection size is the pipeline diameter between the District water main and the water meter, and this pipeline shall be the same diameter as the meter size.

(3) Master Service Connection. A service connection which includes the installation of more than one water meter. The service connection size is the pipeline diameter between the District water main and the water meters, and this pipeline shall be the same diameter that would be required if the premise was to be provided water service through an individual service connection.

(4) U.P.C. Uniform Plumbing Code, 1988 Edition or subsequent editions.

(5) Adequate Flow. The total estimated peak water supply demand of the premise on the water service connection.

(6) Minimum Water Pressure. At the plumbing fixture located at the highest elevation and the farthest distance away from the water service connection, a minimum water pressure of 25 psi for residential buildings and 15 psi for non-residential buildings during peak water supply demand periods.

(7) Building. A structure with a contiguous roof under which the structural walls and foundations are not separated by more than one access way.

(b) Location. Service connections shall be installed in such a manner that the water meters are conveniently accessible to District personnel and that the length of the service connection piping is minimized. Location of service connection facilities shall be subject to the approval of the District.

(c) Individual/Master Service Connections

(1) Individual Service Connections. All service connections shall be individual type except where master service connections are specifically permitted, under Section 3 Cb). Both domestic and irrigation water may be supplied through an individual service connection.

(2) Master Service Connections. Master service connections may be installed only under the following conditions:

i) For multiple residential units or commercial units within one building, all of which is owned by a single legal entity (examples could include duplexes and apartments). Irrigation water may be provided through the master service connection only if (a) the irrigation system

peak demand is included in the total estimated peak water demand calculations for the master service connection, or Cb) if the irrigation system is automatically operated during non-peak water demand periods.

ii) For multiple residential units or commercial units within one building which is or may be owned by more than one legal entity only if (a) irrigation water is provided by a separate service connection or non-District water supply source, or (b) the building occupies the entire area of the land parcel and any adjoining land under common ownership is provided with irrigation water by a separate water service connection or non-District water supply source (examples could include condominiums and townhouses).

iii) For second dwelling units, as permitted by Section G of the District's "General Regulations Regarding Water Service".

No more than one building may be served by a master service connection. The District may require more than one master service connection for a building if necessary for conformance with good waterworks engineering practice.

(d) <u>Sizing of Water Service Connections</u>

(1) Each service connection shall be sized to provide adequate water supply service (in conformance with the requirements for "adequate flow" and "minimum water pressure") for the premise, and the sizing of the service connection shall be in conformance with the procedure described below. Water meters will not be installed and water service will not be provided at a new location until the owner/applicant has demonstrated to the District that the total peak flow demand installed is within the capacity of the service connection previously purchased for that location. After a meter has been installed and water service initially provided, the owner/applicant shall not install additional water-using devices which will result in a total peak flow demand in excess of the peak flow capacity of the water service connection purchased.

(2) The size of water service connections shall be determined by the following procedure:

i) **<u>Step 1</u>:** The total estimated peak water supply demand on the service connection shall be calculated as the sum of (a) the peak flow

of plumbing fixtures as determined from Table A-2 and Charts A-2 and A-3 in Appendix A of the U.P.C., and (b) the peak flow of other devices such as irrigation systems and equipment. The demand weight of plumbing fixtures not shown in the U.P.C. will be assigned by the District based on other recognized industry publications where applicable and based on engineering experience of the District in all other cases (Note: for master service connections, the total estimated peak water supply demand on each water meter must be calculated separately as well as the total peak water supply demand on the service connection.)

ii) **Step 2:** Select the smallest size of service connection (or combination of connections) from the Table below which has or have sufficient capacity for the total estimated peak water supply demand calculated in Step 1:

SIZE	Peak Flow Capacity in Service Connection Gallons Per Minute (gpm)
5/8" x 3/4"	20 gpm
3/4"	30
1"	50
1-1/2"	100
2"	160
3"	350

The service connection size calculated by this procedure is the minimum size that the applicant may use.

(e) Metering

(1) All separate residential or commercial units (other than residential units in multiple unit buildings in excess of three stories in height) shall be furnished water through separate individual water meters.

(2) For individual service connections, the water meter shall be the same size as the service connection.

(3) For master service connections, each water meter shall be sized for the portion of the total demand for which it provides service. Select the smallest size water-meter from the Table below which has sufficient capacity for the estimated peak water supply demand to be served:

	Peak Flow Capacity in Gallons per

Water Meter Size	**Minute**
5/8" x 3/4"	20 gpm
3/4	30
1"	50
2"	160
3"	350

(f) Water Pressure

Step 1: Determine the preliminary size of the building supply piping using U.P.C. Table 10-2, and the service connection piping determined from Section 4. (Note: Consult District for pressure in the District's water main at the service connection location.)

Step 2: Calculate the water pressure under estimated peak water supply demand conditions at the plumbing fixture located at the highest elevation and the farthest distance away from the water service connection. The calculations shall be performed using Chart A—I of Appendix A of the U.P.C. for friction losses through water meters, Table A-3 of Appendix A of the U.P.C. for friction losses through valves and fittings, and Chart A-4 of Appendix A of the U.P.C. for piping friction losses. The calculations shall be performed by a qualified professional engineer licensed in the State of California. If this calculated pressure meets the District's "minimum water pressure" requirements (see Section 2.11.1(f)), the preliminary size piping used for the calculations is acceptable. If this calculated pressure does not meet these minimum requirements, it is probable that resulting water service will not meet customer acceptance standards. It shall be the responsibility of the owner/applicant to improve water pressure by:

(1) increasing the size of building piping; or

(2) installing a larger service connection; or

(3) installing a pumping system conforming to District requirements.

If the owner/applicant elects not to improve the pressure by any of these means,

but the pressure meets minimum U.P.C. requirements, the District will approve the application only if the owner/applicant consents to recordation of a notice to future owners and applicants of the low water pressure situation and the owner/applicant's sole responsibility therefor and agrees to indemnify the District against any and all costs resulting from the low pressure.

District Water Main Low Pressure. At locations of service connections where the normal pressure in the District's water main is below 35 psi, the District will increase the size of the water service connection pipeline as practicable to minimize pipeline friction losses at no cost to the applicant.

(g) Pumping Systems. At service connections for which a gravity flow installation does not provide at least minimum water pressure for the premise, the owner/applicant may at his own risk and expense install and maintain a pumping system (hydro-pneumatic system) as required to maintain adequate water pressure to the premise at all times. These pumping facilities shall be installed on the downstream side of the water meter for individual service connections and on the upstream side of the water meters for master service connections, and shall conform to the following installation requirements:

(1) The District's water main and the pump shall be physically separated by an airgap as defined in the U.P.C. The airgap separation shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe;

(2) The installation shall include standby pumping equipment with a capacity equal to the system total-estimated peak water supply demand; and

(3) The installation shall include a standby engine-generator system for operation during PG&E power outages. The pumping system shall be designed by a qualified professional engineer licensed in the State of California, and shall be submitted to the District for review for conformance with District requirements. After completion, the District shall have the-right to inspect the pumping system installation for conformance with District requirements upon 72 hours notice.

Pumping systems, while installed in conjunction with the District-owned service

connection, shall be owned and maintained by the owner/applicant.

(h) Cross-Connection Control. Service connections shall be installed in conformance with the regulations of the State of California (California Code of Regulations, Title 17, Section 7583 through 7605) and the County of San Mateo. Water meters will not be installed and water service will not be provided at a new service connection until the owner/applicant has completed installation at his expense of any backflow prevention device required for conformance with all applicable cross-connection control regulations. These devices, while installed in conjunction with the District-owned service connection, shall be owned and maintained by the owner/applicant.

D. Approved Materials

1. General

The following list of approved materials for water system construction has been established for the purpose of standardizing all materials so as to minimize the supply of spare parts and repair materials to be stocked by the District. Substitution of types of materials will not be permitted, although similar and equal products of manufacturers not named will be given consideration for items not requiring stocking of spare parts by the District.

The materials described herein are suitable for use under normally encountered conditions. Use of special materials will be required for special circumstances.

References herein to standard specifications of various organizations shall pertain to the current revisions of those specifications.

2. Pipe

2.1 Pipelines 4 Inches and Larger in Diameter

a) General. These pipelines shall be ductile iron pipe. In areas where soil conditions are known to be quite corrosive to metallic pipe, the District may require installation of a polyethylene film sleeve around the pipe. If pipe of foreign manufacture is proposed for use, each length of pipe shall be given a witnessed pressure test of 500

psi after delivery to California to eliminate those pipes damaged in transit.

(b) **Pipe** shall be ductile iron designed in accordance with ANSI Specification A21.50 (AWWA C150) except that the minimum thickness class shall be as shown below, and manufactured in accordance with ANSI A21.51 (AWWA C151). Pipe shall be furnished with standard thickness cement mortar lining conforming to ANSI A21.4 CAWWA C104), and the manufacturer's standard bituminous coating approximately 1 mil thick. Pipe joints and corresponding pipe thickness class shall be in accordance with the following:

(1) Push-on type joints shall normally be used for all buried piping. Rubber gaskets for these joints shall conform to ANSI A21.11 (AWWA Clll). Minimum thickness class for push-on joint pipe shall be Class 52.

(2) Mechanical joint pipe shall be used where required adjacent to valves or fittings (see specification under fittings below) . Minimum thickness class for mechanical joint pipe shall be Class 52.

(3) Flanged joint pipe shall be used where required adjacent to valves or fittings, and shall conform to ANSI A21.15 (AWWA C115). See additional requirements under fittings below. Minimum thickness class for flanged joint pipe shall be Class 53.

(c) **Fittings** shall be gray iron or ductile iron conforming to ANSI A21.lO (AWWA C110) and ANSI A21.lOa (AWWA C110a) with standard thickness cement mortar lining conforming to ANSI A21.4 (AWWA C104) and the manufacturer's standard bituminous coating approximately 1 mil thick. Fittings shall be in accordance with the following:

(1) Push-on fittings shall normally be used for all buried piping. Rubber gaskets shall conform to ANSI A2l.ii (AWWA Clii)

(2) Mechanical joint fittings shall be used where required adjacent to valves. Rubber gaskets shall conform to ANSI A21.i1 (AWWA Clii). Bolts and nuts shall be high-strength, heat-treated cast iron tee head bolts with hexagon nuts.

(3) Flanged fittings shall be used where required adjacent to valves. Flanges shall be threaded, screw-on type, 125 pound class, drilled in accordance with ANSI Bi6.1. Gaskets shall be 1/2 inch thick, of SBR or neoprene rubber. Bolts shall be standard black machine bolts with square heads and cold pressed hexagon nuts.

(d) **Pipe taps** without use of a service saddle will be permitted in accordance with ANSI A2i.5i (AWWA C151) as shown below:

PIPE SIZE	MAXIMUM TAP SIZE
4”	3/4”
6”	1-1/4”
8”	1-1/2”
10”	2”
12”	2”
14”	2”
16”	2”

(e) **Polyethylene encasement** of pipe will be required in installation areas with severely corrosive soils. Polyethylene encasement shall be in accordance with ANSI A2i.5.

2.2 Pipelines Smaller Than 4 Inches in Diameter

These pipelines shall be either PVC (polyvinyl chloride) or galvanized steel pipe as determined by the District based on the corrosiveness of the soil in the area of installation.

(a) PVC pipe. Material for this pipe shall conform to ASTM Specifications Di784 and D224i. The pipe shall be pressure class 200 psi (2:1 safety factor) with a SDR 21. Fittings shall be PVC meeting the same specifications, or cast iron or ductile iron. Joints shall be push-on type with integral pipe bell and rubber rings meeting the requirements of ASTM Specification Dl869. Each length of pipe shall be marked with the manufacturer’s name, diameter, material type and grade, pressure rating and SDR number, and the NSF (National Sanitation Foundation) marking of approval for potable water.

(**b) Galvanized steel pipe.** This pipe shall conform to ASTM Specification A-120, Schedule 40. Fittings shall be galvanized malleable iron conforming to ASTM Specification A197. Joints shall be threaded conforming to ANSI Standard B2.i. Unions shall conform to ASTM Standard A197, 150 pound class malleable iron. Galvanizing of pipe, fittings and unions shall conform to ASTM Specification A-i53. Threads shall be coated with Teflon tape prior to joining.

3. Service Piping and Fitting

Service piping from water main to meter shall be Type K, soft copper tubing. Fittings shall be brass or bronze; all shall conform to AWWA Specifications for materials and dimensions. Fitting and connections shall be angle grip seal compression type not requiring flanging such as the Haystite type. The following Hays model numbers are listed as a standard of quality; similar and equal products by Ford will be acceptable.

Corporation stops	Hays No. 5200 CF and 4400 CF
Meter stops	Hays No. 25012 CF
Unions	Hays No. 5615 CF
Tees	Hays No. 5622 CF

4. Service Saddles

Service saddles shall have malleable iron or ductile iron bodies, neoprene gaskets, and corrosion-resistant straps and nuts. The Rockwell (Smith-Blair) type 311 and 313; Superior style 31 and 32; and similar and equal Mueller model are acceptable models. Service saddles will be required in accordance with the following table:

Pipe Size Tap	**Size Requiring Saddle**
4”	1” and larger
6”	1-1/2
8”	2”
10”	2-1/2
12”	2-1/2
14”	2-1/2
16”	2-1/2

Threads for the outlet shall normally be CC type except where IPS type is specifically required.

5. Fire Hydrants

Fire hydrants shall be wet barrel type with two 2-1/2” hose nozzle outlets, and with one 4-1/2” steamer nozzle in areas zoned industrial, commercial or school. Hydrant piping connection shall be push-on or mechanical joint type. Hydrants shall be Clow Vanguard type 645N or 665N as required. Extension pieces may be required in some areas.

6. Valves

6.1 **Buried valves smaller than 4 inch size** shall be brass body gate valves with flanged or screwed end connections and non-rising stem handwheel operators. The Hammond model lB645 is listed herein as a standard of quality.

6.2 **Buried valves 4 inch size through 10 inch** shall be iron body, bronze mounted, double disc AWWA gate valves with push-on or mechanical joint end connections (except where flanged connections are required) and 2 inch square non-rising stem operating nuts. These valves shall be Mueller model A-2380.

6.3 **Buried valves 12 inch size and larger** shall be butterfly valves meeting the requirements of AWWA Specification C504-66, class 15-B, and shall be provided with 2 inch square non-rising stem operating nuts suitable for direct burial. End connections shall be mechanical joint type except where flanged type are specifically required. Butterfly valves shall be Pratt Groundhog model.

7. Valve Boxes

Valve boxes shall be adjustable, slip-type, minimum 8 inch diameter, with cast iron or ductile iron traffic covers with the word “water” cast into the cover. The following types are established as a standard of quality.

Box Material	Model
Cast iron	Rich 920-B
Ductile iron	Ironsides
Concrete	Christy G-5

8. Air Release Valves and Combination Air and Vacuum Relief Valves

Air Release valves and combination air and vacuum relief valves shall be iron body type, 1 inch minimum size, similar and equal to those manufactured by APCO, McCracken or Bailey. The air discharge opening shall be provided with two street ells (turned downward) screened with bronze or stainless steel insect screen.

9. Meter boxes

Meter boxes shall be concrete with concrete lids, except in traffic areas where traffic-type lids will be required. The following products of Christy Concrete Products, Inc. are established as a standard of quality.

Meter Size	Christy Box No.	Christy Non-Traffic Lid No.	Christy Traffic
3/4”	B-9	D-15	C-15
1”	B-16	D-30	C-30
1-1/2”	B-30	E-45	GIG-45
2”	B-36	E-70	GIG-70

10. Meters

Meters will be provided by the District.

11. Flexible Couplings

Flexible couplings shall have cast iron bodies, neoprene gaskets and corrosion-resistant bolts and nuts. Products of Rockwell (Smith-Blair) and Superior are established as standards of quality in accordance with the following:

11.1 Straight-flexible couplings shall be Rockwell type 441 or Superior style 41 or 42.

11.2 Transition flexible couplings shall be Rockwell type 433 or Superior type 43.

12. Tapping Sleeves

Tapping sleeves shall be heavy welded steel, split body type with Buna-Nor neoprene “0” ring gasket, test plug and corrosion-resistant bolts and nuts. Tapping sleeves shall be Superior style 822 or equivalent Rockwell (Smith-Blair) or Mueller model.

13. Backflow Preventers

Backflow preventers shall be reduced-pressure type with double gate valves, with certification by both the California State Health Department and San Mateo County Health Department. Approved backflow preventers are Hersey Beeco Model 14 or G-C and Cla-Val Co. Model RP-2.

14. Tracer Tape

A tracer tape shall be installed in the trench directly above all non-metallic (PVC) pipe. This tracer tape shall consist of a continuous aluminum foil core bonded on both sides with layers of inert plastic films pigmented on both sides with non-corrosive material. The tracer tape shall be 3 inches wide, and be inscribed with the words “buried water lines below” at approximately 2 foot intervals. Tracer tape shall be similar and equal to Alarmtape as manufactured by Alarm Systems Division, Wheaton, Illinois.

E. Limited Purpose Facilities

1. General

The Board of Directors may determine, by resolution, any facility which the District constructs, causes to be constructed or accepts from a third party to supply water to a specific area to be a limited purpose facility and subject to the provisions of this section.

Any facility determined to be a limited purpose facility shall be deemed to be designed and intended to serve only the specific property described in such resolution and the District shall not be deemed to have assumed to serve any other areas with such a facility unless and until and to the extent that the Board of Directors expressly so declares by later resolution.

No person shall have the right to directly connect to, or make beneficial use of, a limited purpose facility except upon payment of a pro rata contribution toward its cost, either for retention by the District or for repayment to the party who financed the initial construction, as applicable.

2. Pro Rata Contributions

The District will determine the “area of benefit” of a limited purpose facility, which shall consist of those properties which require the installation of the limited purpose facility in order to obtain water service or which are directly and substantially benefited by it.

The District will also determine an equitable methodology for allocating the benefits of a limited purpose facility to undeveloped property within the area of benefit.

Premises already served at the date of installation of a limited purpose facility will be excluded in determining the pro rata contribution of undeveloped property within the area of benefit.

3. Refunds

An applicant who has financed a limited purpose facility will be refunded 90% of all pro rata charges collected by the District for permitting the connection of a standard water service to such facility within ten (10) years from the date of the resolution designating the facility to be a limited purpose facility.

The District will refund the amount specified within ninety (90) days of receipt, without interest. The total amount of all refunds made by the District to the applicant may not exceed the amount advanced by the applicant for construction of the limited purpose facility.

4. Notice

Where a limited purpose facility is installed pursuant to this Section E, and the initial applicant owns all, or a part of, the additional, prospective “service area” adjacent to or near the facility installed, the District may require the recordation, at the applicant’s expense, of a special agreement designating the specific area served, and the additional area which is not served, so that future purchasers of the area not served-will have notice of the pro rata charge as to their property for water service. In addition, and in all cases, where the initial applicant owns none of such surrounding area, the District may give notice of the prospective charge by mail to the owners in the area and to the planning commission, or other agency having jurisdiction over the area, so that future subdividers or developers of the area will be made aware, prior to approval of subdivision maps and/or building permits, that the property is subject to an additional pro rata charge for the cost of the limited purpose facility.

5. Procedure

A developer who is required to construct, or advance funds to the District for the construction of, a facility which he believes should be designated a limited purpose facility may submit an application to District for its designation as such, the determination of the area of benefit and the calculation of the pro rata contribution for undeveloped properties within the area of benefit. The District will process such application upon the developer submitting a deposit against the estimated administrative cost of determining the area of benefit and benefit allocation methodology.

The application will be submitted to the Board of Directors for approval upon the developer's execution of a written contract with the District incorporating the terms of this resolution and such other terms as the District requires for the administration of the designation and refund process.

F. Separability

If any section, subsection, sentence, clause or phrase of this Resolution is, for any reason, held to be invalid or unconstitutional, such a decision shall not affect the validity of the remaining portions of the Resolution. The Board of Directors of the COASTSIDE COUNTY WATER DISTRICT hereby declares that it would have passed this Resolution by section, subsection, clause and phrase thereof, irrespective of the fact that any one or more other sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

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