TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BB

DATE: AUGUST 19, 2008

AGENDA ITEM
E-1
AUGUST 27, 2008

APPROVE PHASING OF SOUTHLAND WWTF UPGRADE PROJECT AND AMEND AGREEMENT WITH BOYLE ENGINEERING TO COMPARE WASTEWATER DISPOSAL OPTIONS

ITEM

Approve phasing of Southland WWTF upgrade project and amend agreement with Boyle Engineering to compare wastewater disposal options [RECOMMEND APPROVAL].

BACKGROUND

Boyle Engineering is under contract with the District to finalize the Southland Wastewater Treatment Facility Master Plan. Since publication of the Draft Master Plan in February 2007, the District has attempted to find a suitable disposal option to augment the capacity available at the existing percolation ponds south of the WWTF and to define the regulatory/legal constraints related to development of these options. Fugro has been assisting the District with this effort. The Central Coast RWQCB is anxious for the District to complete the upgrades to the collection system and the treatment works so that the District's discharge satisfies the requirements of our existing Discharge Order. Likewise, staff believes that the collection system and treatment upgrades are necessary for operations and to avoid fines. The Board has instituted the necessary rate increases to pay for the debt service of the projected $12 million cost of the collection system and treatment works upgrades. However, the 2007 Draft Master Plan did not propose or cost out a disposal solution; the Town Sewer rates imposed by the Board do not fund a disposal solution; and it is not clear that there is a preferred disposal option or combination of disposal options available without further study.

Fugro estimates that the existing ponds can percolate an average of .57 million gallons per day of treated wastewater without increasing the size of the subsurface mound. Given that the District's current discharge averages approximately .58 to .63 million gallons per day, our current discharge will slowly increase the size of the mound (assuming that regulatory issues do not interfere). However, as new growth occurs (build out is projected at 1.2 mgd) the mound will grow faster and faster until it is no longer feasible to continue operations. Staff continues to believe that another source of disposal will be needed, but some time is available to select the best option or combination of options.

Fugro has completed a technical memorandum (previously distributed to the Board and available for review at the District office) documenting the results of the preliminary geotechnical research on the Pasquini property located on the west side of Orchard Road south of the intersection of Southland and Orchard. As detailed in the technical memorandum, Fugro's initial research indicates that there are no fatal flaws with limited disposal of treated wastewater on the Pasquini property, however, more research is recommended regarding the potential for disposal to destabilize the bluff. Additionally, if the Pasquini property was to be selected as an additional disposal site, special consideration would need to be made to ensure that the treated wastewater was introduced below the top ten feet of the soil column.

Staff's proposal is to phase the Southland WWTF upgrade project so that the funded collection system and treatment upgrades proceed immediately and the disposal options follow in a second phase. The plan would be to finalize the Southland WWTF Master Plan by the end of

the year and seek proposals for environmental review for Phase 1 as well as engineering design services for Phase 1 in early January 2009.

In regards to disposal, attached is a proposal from Boyle Engineering to evaluate ten disposal options that could be considered for inclusion into the Final Master Plan. Staff believes that the research proposed by Boyle should be done now so that the information can be presented in the Phase I EIR. Staff believes that disposal can be addressed at a programmatic level in the EIR so that all the options are addressed and the District can avoid allegations of "piece-mealing".

Staff presented the phasing concept and Boyle's disposal options evaluation proposal to the Southland WWTF Upgrade Committee on August 4, 2008. The committee recommended that the phasing concept and Boyle's proposal be forwarded to the entire Board for consideration.

The FY08-09 Budget includes $3,000,000 in the Town Sewer Capacity Charge Fund (Fund #710) for design, environmental review and construction of the Southland WWTF Upgrade Project with additional funding expected in FY09-10.

RECOMMENDATION

Staff recommends that the Board approve staff's proposed phasing concept, authorize the General Manager to execute a Task Order with Boyle Engineering to evaluate potential Southland WWTF disposal options and direct staff to finalize the Southland WWTF Master Plan.

ATTACHMENTS

- Boyle Proposal
- List of Potential Disposal Options

BOYLE | AECOM

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Bruce Buel
General Manager
NIPOMO COMMUNITY SERVICES DISTRICT
148 S. Wilson
Nipomo, CA 93444

August 5, 2008

Southland Disposal Planning Assistance – PROPOSAL

Dear Bruce,

Recent guidance from the Regional Board (4/29/08) regarding probable discharge requirements for the Southland Wastewater Treatment Facility indicates that alternative disposal options will need to be investigated. It is anticipated that the District will move ahead with a programmatic EIR for developing a new disposal site (or sites) combined with a project-level EIR for the upgrades described in the Southland WWTF Master Plan. Before the programmatic EIR can be developed, potential disposal options must be characterized to a level where impacts can be evaluated.

Determining the disposal sites and additional treatment processes is beyond the scope of our existing work order (#011-07) for *Engineering Support for Southland WWTF Management Program*. The Engineering Support project was initiated in June, 2007 and was expected to continue only six months,

> "…until the District procures an engineering design firm (anticipated to begin design in Fall, 2007)." – Scope Letter 5/25/2007

As part of this work Boyle agreed to:

> "… revise the draft Southland Wastewater Facility Master Plan, based on results from the hydrogeologic investigation and determination of a wastewater recharge or reuse strategy." – Scope Letter 5/25/2007

Note that in developing a budget for this work we assumed that a single wastewater reuse or recharge strategy would be selected by the Board sometime in Fall, 2007. In the meantime, the time involved and the scope of investigations has increased beyond the original assumptions:

- After an initial screening, the proposed disposal sites were rejected by the NCSD Board of Directors on January 23, 2008.

- The number and scope of hydrologic investigations has increased. The Phase 1 investigations were completed in July 2007. Since then, a Phase 2 investigation has been initiated, and continues to the present time.

Therefore, at your request, Boyle Engineering is pleased to submit a proposal to assist the District in developing a disposal plan for the Southland Wastewater Treatment Facility. The proposed work is described below:

Task 1 – Board Meeting Participation and Support

Boyle will participate in Board and Committee meetings (2 total) and provide brief, written status reports to the General Manager prior to the Board meetings. One of these meetings will be the public meeting conducted as part of the preliminary screening and fatal flaw analysis, described under Task 4a below.

Task 2 – Prediction of Water Quality from beneath Southland Percolation Basins

Boyle will review existing water quality information, recommend additional water quality sampling and analysis by others, compile pertinent water quality data, estimate likely ranges of key water quality parameters (total dissolved solids, nitrate, total nitrogen, pathogens) in the perched effluent mound under the Southland Wastewater Treatment Facility under existing condition and the following future scenarios:

a) Treatment process upgraded as described in the Wastewater Master Plan.

b) Treatment process upgraded as in (b) above plus supplemental water from the City of Santa Maria.

c) Treatment process upgraded as in (b) above plus supplemental water from the City of Santa Maria plus full implementation of a proposed salts management program. (This salts management program is currently under development by Boyle Engineering.)

Task 3 – User Survey for Properties South of Southland WWTF

Boyle will contact up to ten (10) owners of agricultural production land south of the Southland WWTF. Boyle will query these owners regarding the willingness of using treated effluent as an irrigation source, after providing them with information regarding the range of water quality that can be expected, a summary of pertinent regulations, and a range of costs. Boyle will identify the most important issues for these growers which may prevent them from using this resource. Potential obstacles are expected to be high salts content, pH, health concerns, and public perception concerns.

Task 4a – Preliminary Screening of Disposal Options and Fatal Flaw Analysis

Boyle will review hydro-geologic information and models provided by District consultants, regulatory guidance from the Regional Board, wastewater quantity and quality data provided by the District, and other pertinent information. Boyle will describe at a preliminary screening level up to ten (10) disposal options for the Southland WWTF for preliminary screening and identification of fatal flaws. Such fatal flaws could include regulatory restrictions, community opposition, lack of customers, or excessive cost. Boyle will present the disposal options at a public meeting to obtain feedback from the District Board and the community of Nipomo.

Task 4b – Planning Level Description of Disposal Options

Based on the results of the preliminary screening process, Boyle will describe at a planning level up to ten (10) disposal options for the Southland WWTF for use in a programmatic EIR. These descriptions will include treatment processes, improvements needed, capital and operational cost projections, preliminary alignments, and general locations.

Task 5 – Coordination with District Team Members

Boyle will assist with reviewing scopes of work, and deliverables, for the environmental permitting analysis and for the hydrogeologic evaluation (to be performed by others). It is assumed two (2) meetings will be conducted with each team member. In addition, Boyle will contact RWQCB staff and request their review comments.

Deliverables

The deliverable will be a letter report which summarizes the information noted above, and one presentation to the District Board or Wastewater Subcommittee.

Budget

Boyle's budget is attached. Payment will be requested on a time and materials basis, with a budget not to exceed $49,400 unless requested in writing. Payment will be based on the attached fee schedule.

We hope this proposal meets your expectations. Feel free to call either of us at 542-9840 if you have any questions or comments.

We look forward to working with you on this project.

Boyle Engineering Corporation

Michael K. Nunley, PE
Managing Engineer

Malcolm McEwen, PE
Project Manager

Encl.: Budget
Project Status Summary

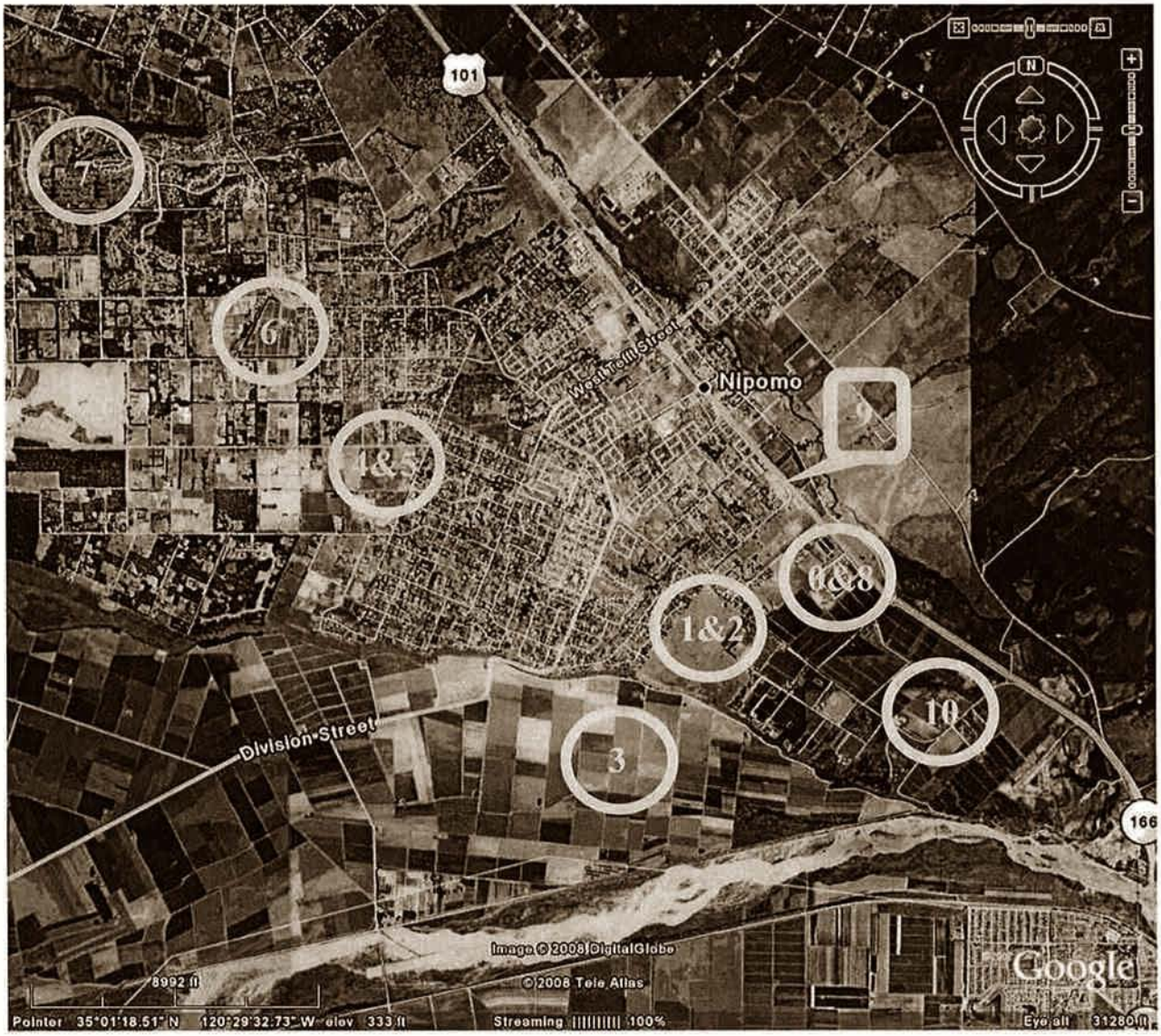
Nipomo CSD Southland Wastewater Treatment Facility
Disposal Alternatives

Alternative	Suitability for Percolation/Use	Expected Treatment	Critical Information Needs	Relative Cost
Alternative 0: Expand Existing Facility	Poor. • Top of mound is rising. • Flows laterally to Nipomo Creek. • Impermeable layer.	• Upgrade to remove nitrates. • Pump mound down to reduce flow to creek.	• Where to perc excess? • What pumping rate and schedule will stabilize mound and reduce flow to Nipomo Creek to acceptable level?	2
Alternative 1: Pump mound and perc near Southland & Orchard with ponds	Fair	Upgrade to remove nitrates.	• Suitability for percolation? • Willing owner? • Land cost?	4
Alternative 2: Pump mound and perc near Southland & Orchard with subsurface system	Fair	Upgrade to remove nitrates.	• Suitability for percolation? • Willing owner? • Land cost?	6
Alternative 3: Pump mound and perc at agricultural land off the mesa with ponds	Unknown	Upgrade to remove nitrates.	• Suitability for percolation? • Willing owner? • Land cost? • Environmental Concerns? • Compatible with Santa Maria Groundwater Decision?	5
Alternative 4: Pump mound and perc near Mesa Road with percolation ponds	Good	Upgrade to remove nitrates	• Suitability for percolation? • Willing owner? • Public outreach strategy? • Land cost?	7

Nipomo CSD Southland Wastewater Treatment Facility
Disposal Alternatives

Alternative	Suitability for Percolation/Use	Expected Treatment	Critical Information Needs	Relative Cost
Alternative 5: Pump mound and perc near Mesa Road with subsurface system	Good	Upgrade to remove nitrates	• Suitability for percolation? • Willing owner? • Public outreach strategy? • Land cost?	8
Alternative 6: Pump mound and perc between Pomeroy and Camino Caballo with percolation ponds	Unknown	Upgrade to remove nitrates	• Suitability for percolation? • Willing owner? • Public outreach strategy? • Land cost?	8
Alternative 7: Recycle water to landscape users, such as Woodlands, Nipomo Park, Blacklake, or other developments	Presumed good	Meet Title 22 requirements, tertiary with disinfection if sites are uncontrolled	• User survey	10
Alternative 8: Improve permeability of the aquitard below Southland	Underlying material assumed good. Modifying aquitard may present challenges.	Meet Title 22 requirements. Possibly meet draft criteria for groundwater injection	• Water quality and movement in lower aquifer. • Aquifer hydraulic characteristics. • Technical feasibility.	Unknown. Depends on modification technique.
Alternative 9: Irrigate on Highway 101 ROW	OK	Meet Disinfected Secondary-23 Recycled Water requirements.	• CalTrans agreement	3 + cost sharing of vegetation and irrigation maintenance.
Alternative 10: Recycle water to agricultural users south of Southland	Unknown	Meet Title 22 requirements, tertiary with disinfection if sites are uncontrolled	• User survey • Wet weather strategy • Possible hybrid approach?	4

Nipomo CSD Southland Wastewater Treatment Facility
Disposal Alternatives



TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BSB

DATE: AUGUST 20, 2008

AGENDA ITEM
E-2
AUGUST 27, 2008

DISCUSS POTENTIAL REVISIONS TO NCSD CODE AND STANDARD SPECIFICATIONS REGARDING NEW COUNTY REQUIREMENTS FOR FIRE SPRINKLERS IN NEW DEVELOPMENT

ITEM

Discuss potential revisions to NCSD Code and Standard Specifications regarding new county requirements for fire sprinklers [PROVIDE POLICY GUIDANCE].

BACKGROUND

The County adopted new regulations for fire sprinklers that require the installation of fire sprinklers in single-family residential units with a floor area greater than 1000 square feet.

The District's current requirements related to fire services were developed for commercial and multi-family units. The District's current code requires the installation of a separate fire service with the appropriate backflow device where a sprinkler system is required by CAL FIRE. The District charges 25% of the water capacity and supplemental water capacity charges for fire services based on the size of the service. For a 1-inch fire service connection, the current fire capacity charge is $3813. Attached is a copy of the relevant sections of the NCSD code related to fire services.

Staff has researched the requirements of the National Fire Protection Association (NFPA), American Water Works Association (AWWA), and California Department of Public Health (CDPH) as they relate to single family residential fire sprinklers. Based on this research, staff has identified two policy issues for the Board to consider:

1. Single-family residential units could be exempted from the separate fire service requirement. Instead, an appropriately sized water service and meter could provide both domestic and fire service. For most single family residential homes, a 1-inch service line and 1-inch meter would provide sufficient flow in accordance with NFPA and AWWA requirements. This would also result in no additional water capacity and supplemental water capacity charges being levied for the fire service.

2. Single-family residential units with flow-through or combination fire sprinkler systems constructed of potable water piping and materials could be exempted from the backflow requirement in accordance with AWWA and CDPH requirements. AWWA does not require backflow assemblies on systems that are constructed of approved potable water material and that are designed to flow water so it does not become stagnate. AWWA recommends the installation of double check valve backflow assemblies for closed fire sprinkler system that usually have stagnated water. The type of fire sprinkler system to install would be the builder's choice as both approaches are acceptable under NFPA requirements.

RECOMMENDATION

Staff recommends that your Honorable Board obtain public input, discuss the policy issues, provide policy guidance to staff and direct staff to develop the draft ordinance revisions and draft standard specification revisions necessary to implement any policy changes.

ATTACHMENTS

- District code related to fire services

T:\BOARD MATTERS\BOARD MEETINGS\BOARD LETTER\2008\RESIDENTIAL FIRE SPRINKLER CODE REVISIONS 080827.DOC

connection fee shall be computed pursuant to Section 3.04.050, and paid. (Ord. 98-87 § 9, 1998)

3.04.040 Meter size.

A. Except as provided in subsection B of this section, the water meter size for each service connection shall be determined by the district, pursuant to the then current Uniform Plumbing Code.

B. The minimum water meter size for each service connection that serves a single-family residence on one acre or larger parcel shall be one inch. (Ord. 2005-101 § 4, 2005; Ord. 98-87 § 10, 1998)

3.04.050 Connection fees.

A. New connections shall be subject to water connection fee/capacity charges based on the estimated reasonable cost of the district facilities to provide the service. These fees shall consist of the following component parts: capacity charges (including a supplemental water charge), meter fee, account set-up fee, and reimbursement charge, if applicable. These fees are established in Appendix A to this chapter.

B. Reimbursement Charges.

1. When a new service is connected to a district installed water line, the applicant shall be charged a front footage fee of twenty-one dollars per foot to each parcel fronting the improvements or one-half this amount when district service can be provided on both sides of the water line. Where the frontage has been subdivided, rear and front parcels are to share on a per parcel basis the frontage of the subdivision creating the parcels.

2. When a new service is connected to a developer-installed water line pursuant to Title 5, the applicant shall pay a supplemental charge pursuant to that reimbursement agreement.

C. The meter fee and account set-up fee shall be established and amended by resolution of the board of directors with reference to this code section.

D. Payment of Fees for Connection. The applicant shall pay the water capacity charge, sewer capacity charge, meter fee and account set-up fee prior to the district's issuance of a will-serve letter. The district shall not provide water service until all fees are paid in full and the project (if applicable) is accepted by the district. (Ord. 2005-101 §§ 5, 6, 2005; Ord. 2003-95 § 7, 2003; Ord. 98-87 § 11, 1998)

3.04.060 Resale of water.

No person shall resell any water received from the district to any other person, or for use on any other premises, or for any other purposes than specified in the application for service. (Ord. 98-87 § 12, 1998)

3.04.070 Backflow prevention devices and special facilities.

A. Where conditions, as set forth in Section 3.04.300, require a backflow prevention device, such as double-check valve or a pressure-reducing valve and installation shall be by the customer. The district shall be notified of the installation, which will be inspected before being placed in service.

B. Pressure Regulators and Special Facilities. Where the conditions of service are such that a pressure regulator, backflow devices or other special facility, including but not limited to booster pumps, are required, the customer shall provide, install and maintain the necessary equipment. (Ord. 98-87 § 13, 1998: Ord. 78-27 § 4(C(1), (2)), 1978)

3.04.090 Change in size of service.

When a change in use of a building, premises or an area to be served, causes an increase in water use that exceeds the meter size, then a new water service shall be required or water service may be terminated. When a change in size of service is required, the following provisions shall apply:

A. Replace Small Meter with Larger Meter. The customer shall pay the then current connection fee/capacity charges required for the larger meter less a credit for the then current connection fee for the existing meter.

B. Replace Large Meter with Small Meter. This change in size of service shall be made without additional charge to the customer. (Ord. 2005-101 § 7, 2005; Ord. 98-87 § 14, 1998; Ord. 94-74 § 3, 1994; Ord. 78-27 § 4(F), 1978)

3.04.110 Service facilities—Ownership.

A. District-Installed Facilities. The district shall retain ownership of all district-installed meters, appurtenances and connection piping ahead of the meter. Pressure regulators, backflow prevention devices and other special facilities beyond the meter are owned by the customer, and their proper operation and maintenance are the responsibility of the customer.

District regulations relating to assurances regarding proper operation of such special facilities are set forth in Section 3.04.300.

B. Customer-Installed Facilities. Under special conditions and with the consent of the board, the customer may furnish and install the required meter installation to district specifications at his expense (in lieu of payment to the district of the established connection fee). Under such circumstances, the customer shall be required to pay to the district the costs of engineering and inspection services occasioned by such installation. Such customer-installed facilities between the district pipeline and the customer's side of the meter normally shall become the property of the district and shall thereafter be maintained by the district; provided, that where meters have been provided by a water agency customer of the district in connection with related features of its water system and it is deemed impracticable for the district to maintain the meter, then the customer shall retain ownership of such meter and shall maintain it in proper working condition. The district shall have the right to require the customer to test such meters for accuracy at reasonable intervals and shall have access to such meters for inspection testing and meter reading purposes. (Ord. 78-27 § 5, 1978)

3.04.140 Public and private fire service.

A. Public Fire Service. The district may enter into contracts for fire hydrants and the supplying of water for fire protection use to any other district, public agency or municipality located within the district under such terms and conditions as may be mutually acceptable to the district and the agency.

B. Private Fire Service.

1. The district may grant applications for private fire service for sprinkler service or private fire hydrants. A detector-check type meter shall be required on all private fire service connections. The customer's installation must be such as to effectively separate the fire system from that of the regular water service system. The required

meter installation may be installed by the customer in accordance with plans previously approved by the district or may be constructed by the district at the customer's expense.

2. Monthly standby charges for private fire service shall be as follows:

Meter Size	Monthly Charge
3″	$ 5.00
4″	6.00
6″	9.00
8″	12.50
10″	15.00

Water used for fire suppression shall be furnished without charge.

3. The capacity charge for private fire service shall be twenty-five percent of the water capacity charge established by Appendix A to this chapter. (Ord. 97-86 § 4, 1997; Ord. 95-79 § 1 (part), 1995; Ord. 81-41 § 2, 1981; Ord. 79-35 § 4, 1979; Ord. 78-27 § 7, 1978)

3.04.260 Distribution facilities.

The minimum water main size in the district shall be eight inches in diameter and if applicable shall be financed and installed by the applicant in accordance with Title V of the district code. (Ord. 98-87 § 16, 1998)

3.04.270 Water supply and interruption of service.

A. The district will exercise reasonable diligence and care to deliver to customers a continuous and sufficient supply of water at the meter. The district, however, shall not be liable for interruption of service or shortage or insufficiency of supply or for any loss or damage occasioned thereby. For the purpose of making repairs or installing improvements to the system, the district shall have the right to temporarily suspend the delivery of water. The customer shall be notified in advance of such action, except in cases of emergency. Repairs or improvements will be performed as rapidly as may be practicable and so far as possible at times which will cause the least inconvenience to the customers concerned. The district shall not be liable for any loss or damage occasioned by such suspension of service.

B. During times of threatened or actual water shortage, the district will apportion its available supply among its customers in the manner that appears most equitable under the circumstances then prevailing with regard to public health and safety. (Ord. 78-27 § 14, 1978)

3.04.280 District equipment on customer's premises.

A. All water service pipes and equipment required to serve a customer up to and including the meter shall be owned by the district whether installed:

1. On a public or private property; or
2. At applicant's or district's expense.

B. District equipment required for service which is installed on a customer's premises may be repaired, replaced or removed by the district. Authorized representatives of the district shall have the right of access to such equipment for any purpose reasonably connected with furnishing service. The district shall make no payment for placing or maintaining equipment which is required solely for providing service to the customer's premises.