

RULES AND REGULATIONS

BANCROFT-CLOVER WATER &
SANITATION DISTRICT

ADOPTED AND EFFECTIVE

February 9, 2015

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BANCROFT-CLOVER

WATER & SANITATION DISTRICT

RULES AND REGULATIONS

The Board of Directors of the Bancroft-Clover Water & Sanitation District hereby declares that the following Rules and Regulations have been prepared and adopted to provide for the construction, administration and operation of the water and sanitary sewage systems of the District. Provisions contained in the Rules and Regulations which are different than those in effect on the date the Rules and Regulations are adopted, shall be effective on the date of adoption.

The Board of Directors hereby expressly reserves the right to make any lawful addition and/or revisions in these Rules and Regulations when and as they may become advisable to properly manage the District and to promote the peace, health, safety and welfare of the residents and property owners in the District. These Rules and Regulations are supplementary to, and are not to

be construed as, any abridgement of any lawful rights of the Board as outlined in the Colorado Revised Statutes governing Special Districts, including the right to disconnect or to refuse permission to connect any water or sewer service for violation of these Rules and Regulations or the applicable plumbing codes of the State of Colorado.

Adopted the 9th day of February 2015

By: _____
President

Attest:

Secretary

BANCROFT-CLOVER
WATER AND SANITATION DISTRICT
RULES AND REGULATIONS

ARTICLE I

100 – DEFINITIONS

Unless the context specifically and expressly indicates otherwise, the meaning of terms used herein shall be as follows:

100.01 **ACTIVATION**: To actually put a sewer connection to use, or to put it in such a state as to be capable of being put to use.

100.02 **ACTUAL COST**: All direct costs applicable to the construction of a given main or, Service Line, including but not limited to construction, engineering, inspection, plan approval fees, etc. which have been paid by the District or Line Constructor. Actual Costs shall include the cost of acquiring rights-of-way/easements, valves, fire hydrants, and any other appurtenances of all mains.

100.03 **BOARD AND BOARD OF DIRECTORS**: The Board of Directors of the District, which acts as the governing body of the District.

100.04 DENVER WATER BOARD: The Board of Water Commissioners of the City and County of Denver.

100.05 BUILDING DRAIN: That part of the lowest horizontal piping of a building drainage system from the stack or horizontal branch, exclusive of storm sewer, extending to a point not less than five feet (5') outside of the building wall.

100.06 BUILDING SEWER: The extension from the building drain to the District sewer.

100.07 CONNECTION: The connecting of the Service Line to the internal water or sewer lines within the structure which it is designated to serve.

100.08 CONSTRUCTOR or LINE CONSTRUCTOR: The land owner(s), developer(s), subdivider(s), or agency(ies) paying the Actual Cost of construction of the lines.

100.09 CONTRACTOR: Any person, firm or corporation authorized by the District to perform work and to furnish materials for the Water Works or Sewage System within or outside the District.

100.10 CUSTOMER: Any person, company, corporation or governmental authority or agency authorized to use the Water Works or Sewer System under a permit issued by the District.

100.11 DELETERIOUS WASTES: Any wastes contained in special Sewage that would be harmful to the District's Sewer Mains or to the Sewage Treatment Works to which the Mains connect.

100.12 DEVELOPER: Any Person or firm who owns land and seeks to have the land served by the District.

100.13 DISTRICT: The Bancroft-Clover Water and Sanitation District.

100.14 DISTRICT ENGINEER: That Person or firm that has been designated by the Board to perform engineering work for the District.

100.15 DUPLEX: A two-Unit structure.

100.16 FEE SCHEDULE: The schedule of District fees, rates, charges and penalties on file in the District's office and available to the public, as it may be amended from time to time.

100.17 FIELD OPERATIONS MANAGER: The person authorized by the Board to supervise operation and maintenance of District facilities.

100.18 GENERAL MANAGER: The person authorized by the Board to administer and supervise the affairs of the District and all District employees.

100.19 HABITABLE SPACE: All floor space for purposes of measuring the square footage of a commercial user for purposes of calculating the System Development Fee including,

but not limited to, all retail area, sales area, display area, seating area, hallways, offices, and facilities, but not including garage or parking areas and similar non-habitable space.

100.20 INDUSTRIAL WASTES: The liquid wastes from commercial or industrial processes as distinct from domestic sanitary sewage.

100.21 LICENSED PLUMBER (MASTER PLUMBER) OR PIPE LAYER: The Person who has been bonded with the District and holds the appropriate license to work on Water Works or Sewage Systems by the State of Colorado and where applicable in the City of Lakewood and Unincorporated Jefferson County.

100.22 MAINS OR WATER MAINS: Any pipe, piping or system of piping used as a conduit for water in the District's water, system and owned by the District.

100.23 METRO, METRO DISTRICT OR METRO WASTEWATER RECLAMATION DISTRICT: The Metropolitan Wastewater Reclamation District.

100.24 MULTI-FAMILY CONNECTION: One connection serving three or more residential units.

100.25 OFFICE MANAGER: The person retained by the Board to administer and supervise the office procedures of the District.

100.26 PERMIT: Written authorization of the District to connect to a Sewer Main and/or Water Main of the District and pursuant to the rules and regulations of the District.

100.27 PERSON: Shall mean any individual, firm, company, society, corporation, partnership, business entity, association, or group.

100.28 PRETREATMENT FACILITIES: Structures, devices or equipment for the purpose of removing the deleterious wastes from Industrial Wastes generated, before entering into the Sewer Main.

100.29 SAMPLING: The periodic collection of sewage samples for analysis.

100.29a SERVICE LINE: Any line, pipe, system of lines or piping and appurtenances, used as a conduit for Sewage or water between a building used for residential, commercial, public use or industrial purposes to a connection with the District's Sewer or Water Mains, as the case may be.

100.30 SEWAGE: An organic or inorganic material in suspension or solution originating from within residential, commercial, public use or industrial buildings.

100.31 SEWAGE TREATMENT WORKS: Those devices facilities or locations to which the Sewage is conveyed by Sewer Mains for the purpose of reducing the pollutant content.

100.32 SEWAGE SYSTEM: All facilities owned by the District and used for collecting, treating, and disposition of Sewage.

100.33 SEWER MAIN: Any pipe, system of piping and appurtenances used for collecting, treating, and disposition of Sewage.

100.34 SEWER SERVICE LINE: Any pipe, system of piping and appurtenances used as a conduit for Sewage from a building used for residential, commercial, public use or industrial purposed to a connection with the Sewer Main.

100.35 SHALL: Is mandatory; MAY is permissive.

100.36 STUB-OUT: The connection of the Service Line from the property line to the Main for Sanitary Sewer. The connection of the Service Line from the Main Line to and including an outside meter pit with yoke for a water stub-out.

100.37 STUB-OUT FEE: A stub-out fee shall be charged for connection of a Water and/or Sewer Service Line to the District's main line, as provided in the Fee Schedule. The stub-out fee must be paid upon connection to the District's system. A stub-out fee which has been paid shall be deducted from the System Development Fee at the time the System Development Fee is paid and the System Development Fee shall be reduced by that amount.

100.38 SYSTEM DEVELOPMENT FEE: The charge assessed upon application for the privilege to connect to the Water Works and/or Sewage System of the District. The fee is assessed upon application for a new Tap or a change in use of a previously connected Tap, and is charged pursuant to the Fee Schedule. As used in these rules and regulations, reference to the fee shall include all such charges assessed by the District, the Denver Water Board, and the Metro Wastewater Reclamation District, as applicable; provided, however, that payment of the System Development Fee shall not relieve the payor of the obligation to pay, separately, all such charges assessed by the Metro District and/or the Denver Water Board. The System Development Fee is also called a "Tap Fee."

100.38a TAP: The connection of a Water or Sewer Service Line to the Water or Sewer Mains or Stub-Outs and its extension to any exterior wall of the structure it is to serve.

100.38b TAP FEE: The Tap Fee is the same as the System Development Fee.

100.39 TESTING: The analysis of samples of water and Sewage.

100.40 UNIT: A residential dwelling having at least one bath and one kitchen facility.

100.41 USER: Any Person to whom water and/or sewer service is served, be it renter, record User, corporation, company, individual, or their respective assigns or agents.

100.42 WATER SERVICE LINE: Any pipe, line or conduit used to provide water service from the Water Main to a building used for residential, commercial, public uses or industrial purposes.

100.43 WATER WORKS: All facilities owned by the District for transporting or distributing, storing, pumping, treating, or metering water.

100.44 ANY OTHER TERM not herein defined may be defined as presented in the “Glossary – Water and Sewage Control Engineering,” American Water Works Association (A.W.W.A.), and American Society of Civil Engineers (A.S.C.E.), latest editions, but otherwise shall be defined with regard to the context in which it is used herein as determined by the Board of Directors in its sole discretion.

ARTICLE II

200 – GENERAL

200.01 SCOPE: These Rules and Regulations have been adopted and promulgated pursuant to § 32-1-1001(1)(m), C.R.S. Except where revised, these regulations shall be treated and considered as the continuing and comprehensive regulations governing the operation and function of the Bancroft-Clover Water and Sanitation District, and shall where revised supersede all previous regulations of the District.

200.02 PURPOSE: The purpose of these rules and regulations is to provide for the administration and operation of the water and sanitation system of the Bancroft-Clover Water and Sanitation District.

200.03 POLICY: The rules and regulations hereinafter set forth will serve the public in securing the health, safety, prosperity, security, and general welfare of the inhabitants of the Bancroft-Clover Water and Sanitation District.

200.04 DENVER AND METRO RULES: The rules and regulations hereinafter set forth are expressly made subject to any and all contracts entered into between the District and the Board of Water Commissioners of the City and County of Denver and Metro Wastewater Reclamation District, and any inconsistency in those contracts, or in the rules and regulations of those other entities which may, under those agreements, be applicable, shall be resolved in favor of whichever provision is the more restrictive in scope. Where both entities assess fees and charges for a single event or use of the District’s systems and/or services, unless expressly stated to the contrary, both fees and/or charges shall be paid by the required payer and both, until paid, shall constitute a lien of the District against the property being served as if both were assessed by the District.

200.05 AMENDMENT: These rules and regulations are subject to later amendment by action only of the Board of Directors. Whether stated in the body of this document or not, amendments declared in the minutes of the meetings of the District’s Board of Directors, or effected by virtue of the entry by the Board into, or the amendment of, any agreement, shall be in full force and effect from the date of such declaration or agreement.

200.06 NO RIGHTS CONFERRED: Except to the extent that the District is prohibited from enacting retroactive measures, no provision of these rules and regulations, nor any amendment thereof by whatever method, shall be interpreted or construed as conferring or vesting any right, property or other, upon any individual or entity other than the District itself. No omission or additional material set forth in these rules and regulations shall be construed as an alteration, waiver, or deviation from any grant of power, duty or responsibility, limitation or restriction,

imposed or conferred upon the Board of Directors by virtue of statutes now existing or subsequently amended or adopted under any contract or agreement existing between the District and any other governmental entity. Nothing contained herein shall be so construed as to prejudice or affect the right of the District to secure the full benefit and protection of any law which is now enacted or may subsequently be enacted by the Colorado General Assembly pertaining to the governmental or proprietary affairs of the District.

200.07 INFORMATION RELEASE POLICY: It is the policy of the District that the public have reasonable access to accurate information concerning the activities of the District. The District shall allow the public access to its records to the full extent allowed by Colorado law, specifically including, but not limited to, Section 24-75-201 *et seq.*, C.R.S. The exclusions to access specified in Section 24-75-204, C.R.S. and other statutes, codes or laws, federal or state, shall apply to restrict access to certain District records.

District records shall be available for inspection in the District Office between the hours of 9:00 a.m. to 12:00 noon and 1:00 p.m. to 3:00 p.m. Requests for information, or access to a District file shall be granted as soon as reasonably possible under the circumstances, and the District reserves the right to delay access to a file for the time required, up to three (3) working days or other necessary time, to retrieve the file from its location as allowed by Section 24-722003, C.R.S.

Subject to the provisions of this section, members of the public may request copies of District files or parts thereof at a charge of \$.25 per letter-sized page, or the actual cost of reproduction for larger-sized documents.

No files shall be removed from District offices by any member of the public.

All inquiries from the media concerning District related incidents occurring in or out of the District shall be referred to and responded to by the President of the Board or the District's general counsel. All employees and individual Directors shall refer inquiries of such nature to the Board of Directors for an official response.

All references herein to the Colorado Revised Statutes are to those statutes as they may be amended from time to time.

200.08 MEETINGS OF THE BOARD: The Board shall meet regularly at a time and a place to be designated annually by resolution by the Board. Special meetings may be held as often as the needs of the District require. Notices of each meeting shall be posted as provided for in Section 32-1-903 (2), C.R.S., as the same may be amended from time to time. All official business of the Board shall be conducted only during a meeting at which a quorum is present, and meetings shall be open to the public. The term "meetings" as used in this section shall include meeting of those committees of the Board established under Section 200.09 hereof at which a quorum of the Board is expected to be present.

200.09 COMMITTEES OF THE BOARD: The Board of Directors has the option of creating such committees as it deems necessary for the conduct of District business. Meetings of each committee shall be governed by the same rules as apply to meetings of the Board of Directors.

The meetings of each committee shall be posted in accordance with law. The following is a description of the responsibilities of each committee.

200.10 REVIEW OF COMMITTEE ACTION: Each final action by a committee shall be subject to review by the Board of Directors at a regular meeting before such Committee action shall be binding on the District.

200.11 DIRECTOR COMPENSATION: In accordance with Section 32-1-902 (3)(a)(1)(11) C.R.S., as amended, a director may receive compensation for his or her service at the maximum rate allowed by law per meeting attended, including but not limited to meetings of the Board of Directors and its committees at which a quorum is present. No director shall receive compensation as an employee of the District, other than that provided hereby. Reimbursement of actual expenses for directors shall not be considered compensation and shall be provided upon proper documentation thereof and action by the Board.

1.1. 200.12 AUTHORITY. The District is a governmental subdivision of the State of Colorado and a body corporate with those powers of a public or quasi-municipal corporation, that are specifically granted for carrying out the objectives and purposes of the District under Article 1 of Title 32 of the Colorado Revised Statutes.

ARTICLE III

300 – USERSHIP AND OPERATION OF FACILITIES

300.01 POLICY: The District is empowered and shall endeavor to distribute water for domestic use to properties within the District, and to maintain, repair and replace all mains, hydrants, valves, and service facilities owned by the District, in a sound and economical manner, in accordance with these rules and regulations and those of the Board of Water Commissioners of the City and County of Denver, but shall not be liable or responsible for inadequate pressure or interruption of service brought about by circumstances beyond its control.

The District shall endeavor to plan for, capitalize and build adequate capital improvements as demand occurs; but the District shall not be liable or responsible for failure to approve additional service when capacity is exceeded by demand.

The District is empowered and shall endeavor to operate and maintain the Sewage System in a sound and economical manner, in accordance with these rules and regulations and those of the Metro District but shall not be liable or responsible for interruption of service brought about by circumstances beyond its control.

It shall be the usual responsibility of Developers, under the supervision and control of the District, to finance the cost of all new facilities or incremental facilities required to serve their developments; however, the District may participate in or assume the entire cost for construction of a facility if it deems such participation or assumption appropriate under the circumstances.

300.02 LIABILITY: It is expressly stipulated that no claim for damage shall be made against the District by reason of the following: breaking of any service or supply line, pipe, cock, or meter by any Person; failure of the water supply; shutting off or turning on water in the Water Mains; the making of connections or extensions; damage caused by water running or escaping from open or defective faucets; burst Service Lines, fire lines or other facilities; damage to water heaters, boilers, or other appliances; fire sprinkler system failure resulting from shutting water off, or from turning it on, or from inadequate or sporadic pressures; or for doing anything to the Water Works of the District deemed necessary by the Board of Directors or its employees, Contractors, agents or consultants, or from any circumstances beyond the District's control.

The District hereby reserves the right to terminate the water service or disconnect the sewer service at any time, for any reason deemed appropriate including, but not limited to, any violation of these rules and regulations or Board policies as set forth in the District minutes.

300.03 USERSHIP: All existing and future Water and/or Sewer Mains, connected with and forming an integral part of the water or sanitary sewerage system and accepted for maintenance by the District shall become and are the property of the District. Said Usership will remain valid whether the Water or Sewer Mains are constructed, financed, paid for, or otherwise acquired by the District, or by other Persons.

Water Service Lines extending from the curb stop to each building or Unit, including water meters connected with and forming an integral part of the District water supply system shall become and are the property of the Customer. Said Usership shall remain valid whether the Service Lines are constructed, financed, paid for, or otherwise acquired by the District or by other Persons.

All water meters, including commercial oversized meters (1½ inch and larger) are the property of the Customer. The District may monitor any meter problems and meter maintenance, repairs, or replacement. All maintenance, repair, and replacement costs are the responsibility of the Customer. Notwithstanding the foregoing, the meter is a fixture attached to the property served and shall not be removed by the Customer from such property under any circumstances without prior approval of the Field Operations Manager, except in an emergency.

That portion of all existing and future Sewer Service Lines including the Tap extending from the main to each Unit or building for each Customer, connected with and forming an integral part of the District Sewage System, shall become and are the property of the Customer. Said Usership shall remain valid whether the Service Lines are constructed, financed, paid for, or otherwise acquired by the District or by other Persons.

300.04 POWERS AND AUTHORITY OF EMPLOYEES AND INDEPENDENT CONTRACTORS: The General Manager, Office Manager, Field Operations Manager, other duly authorized employees of the District, and duly authorized independent Contractors of the District, bearing proper credentials and identification, shall be permitted to enter upon all properties for the purpose of repairs, inspection, meter reading, meter replacement, observation, measurement, sampling, and testing, or any other reasonable purpose concerning the business and affairs of the District.

ARTICLE IV

400 – USE OF

WATER SYSTEM

400.01 EXCAVATION OR DISTURBANCE OF LINES: No unauthorized Person shall uncover, make any connection with, or opening into, use, alter, or disturb any public water main or appurtenances without first obtaining a Permit from the District.

400.02 DENVER RULES: The rules and regulations of the Denver Water Board are adopted and incorporated herein by this reference together with all amendments and addendums thereto, and where any inconsistencies exist between Denver Water Board rules and these rules and regulations, the inconsistency shall be resolved in the favor of the more restrictive measure.

400.03 PURCHASE OF TAPS: Tap size must be sufficient to adequately serve the building as set for in the American Water Works Association Manual of Water Supply Practices M22 (current) as may be amended or revised. The District reserves the right to have the District Engineer determine whether the requested Tap size is adequate.

400.04 RESPONSIBILITIES OF THE CUSTOMER: Each Customer shall be responsible for maintaining that portion of the Water Service Line extending from the curb stop to each Unit or building, including meters. Leaks or breaks in such portion of such Service Line shall be repaired by the User within a reasonable period of time. If satisfactory progress toward repairing the said leak has not been accomplished within such time period, the Field Operations Manager shall shut off the water service until the leaks or breaks have been repaired.

All Persons having boilers and/or other appliances on their premises depending on pressure of water in pipes, or on a continual supply of water, shall provide, at their own expense, suitable safety devices to protect themselves and their property against a stoppage of water supply or loss of pressure.

400.05 POSSESSION OF HYDRANT WRENCH OR VALVE SHUT-OFF KEYS: It shall be a violation of these rules and regulations subject to termination of service and/or imposition of fees and penalties for any Person other than authorized Personnel to have in their possession a hydrant wrench or valve shut-off key, and Personnel of the District are hereby authorized to confiscate any hydrant wrench or valve shut-off key found in the possession of unauthorized Persons.

400.06 PROTECTION FROM DAMAGE: No Person shall maliciously, willfully, or negligently, break, damage, destroy, uncover, deface or tamper with any portion of the District's water system.

In the event any Person shall violate the provisions of this section, the District shall take all necessary steps to ensure that said Person shall be charged with a minimum of a misdemeanor, and upon conviction thereof, shall be fined in an amount as established by the court for such violation.

Any Person violating any of the provisions of these rules and regulations shall become liable to the District for any expense, loss or damage occasioned by reason of such violation, and the Board shall assess a penalty against the property of the Person violating the rules and regulations in an amount calculated to recover the loss or damage occasioned.

400.07 METERS: Each building Unit and Duplex shall have a meter, which shall be the property of the property owner. It shall be the duty of all Customers to notify the District office if their water meters are operating defectively. If any meter shall fail to register in any period, the Customer shall be charged the average period consumption during the two (2) preceding billing periods as shown by the meter when in order. If the District determines that any meter is recording consumption inaccurately, the District shall have the right to adjust the Customer's bill accordingly and to repair or replace the defective meter. The District will install and maintain all meters up to one inch (1") in size at the property owner's expense. Meters larger than one inch will be required by User to have a private Contractor remove the meter for repair or replacement at the discretion of the District. The District will inspect and monitor all work performed by the Contractor. All maintenance, repair, and replacement cost are the responsibility of the property owner. The District shall have the right of access to install, inspect, repair, replace or otherwise maintain the meters.

400.08 PLACEMENT OF METERS: All water meters shall be placed so that District Personnel may easily read the meter for billing purposes. Specifications for placement of single family residential meters are set forth in Appendix a, Sections 7.0 and 8.0. Meter settings for other than detached single family shall be considered on a case-by-case basis by the General Manager or Field Operations Manager.

400.09 LOCKING DEVICES FOR BYPASS VALVES: As of June 7, 1993, all bypass valves in newly-constructed or newly-served multi-family residence complexes shall contain a locking device approved by the District.

400.10 RADIO-READ METERS: Customers shall not interfere with or alter the radio signal to or from any radio-read meter. Customers shall allow the District access to such meters for maintenance, including replacement of batteries.

ARTICLE V

500 – USE OF

SEWAGE SYSTEM

500.01 EXCAVATION OR DISTURBANCE OF LINES: No unauthorized Person shall uncover, make any connection with, or opening into, use, alter, or disturb any Sewer Main or appurtenance without first obtaining a Permit from the District.

500.02 METRO RULES: The rules and regulations of Metro current edition, with if any addendums are adopted and incorporated herein by this reference, and where any inconsistencies exist between the District's and Metro's regulations, the inconsistency shall be resolved in favor of the more restrictive.

500.03 RESPONSIBILITIES OF THE CUSTOMER: Each Customer shall be responsible for maintaining the entire length of the Service Line serving such property. Leaks, stoppage, or breaks in such Service Line will be repaired by the User through a Contractor within a reasonable period of time, after notification of such condition by the District. If satisfactory progress toward repairing said leak, stoppage, or break has not been completed within such time period, the Field Operations Manager may shut off the Water Service until the sewer leaks, stoppage, or breaks have been repaired; in addition, the District shall have the right to effect the repair and collect Actual Costs from the Customer and shall be entitled to place a lien against the property being served to secure payment of such costs.

500.04 SWIMMING POOLS: No public or private swimming pool shall be connected to the Sewage System. A permanent sign must be placed prominently at all filter installations stating that pools are not to be drained into the sanitary Sewage System.

500.05 PROHIBITED DISCHARGE: Except as hereinafter provided, no Person shall discharge, or cause to be discharged, to any Sewer Main, any strong or prohibited Sewage (as hereinafter defined) or any harmful waters or wastes, whether liquid, solid, or gas, capable of causing obstruction to the flow in sewers, damage or hazard to structures, equipment and Personnel of the Sewage System, or other interference with the proper operation of the Sewage System. Sump pumps are prohibited from discharging into the District's sanitary sewer.

500.06 CLASSIFICATION OF WASTES: This section of the rules and regulations shall provide the basic policies of the District for classification of wastes and for control of discharge of wastes into the Sewage System. It shall be the policy of the District to classify wastes into three main categories, termed "normal Sewage," "strong Sewage" and "prohibited Sewage," as hereinafter defined. The classification of wastes shall be the responsibility of the Field Operations Manager and/or District Engineer and shall follow recommended procedures of the State Department of Health and the Metro District, and subject to approval of the Board, shall be final and binding.

500.06a NORMAL SEWAGE: Normal Sewage shall mean Sewage which can be treated without pretreatment and within normal operating procedures, and which, when analyzed, is not strong Sewage or prohibited Sewage.

500.06b STRONG SEWAGE: Strong Sewage shall mean any Sewage which before or after pretreatment by the user shows a Weighted Strength Loading equal to or greater than 292.7 mg/L, calculated as follows:

$$\text{WSL mg/1} = [0.51 (\text{BOD mg/L}) + [0.12 (\text{TKN mg/L})] \\ + [0.37 (\text{TSS mg/L})]$$

500.06c PROHIBITED SEWAGE: Prohibited sewage shall mean any of the types of Sewage enumerated in Section 2 of the Pretreatment/Industrial Waste Control Resolution attached to these rules as Appendix B, or any other sewage which may reasonably be anticipated to have a deleterious effect upon the Sewage System, or any Persons or property, and therefore, in the sole opinion of the District, cannot be accepted by the District.

Prohibited Sewage shall include, but not be limited to, clear water such as storm water, surface water, ground water, runoff, sub-surface drainage, sump discharge, swimming pool water, or cooling water injected into the Sewage System by means of a drainage collection system. Said drainage water is detrimental to the Sewage System since it interferes with the District's volume capacity and with biological processes necessary for proper treatment.

500.07 PRETREATMENT: The admission into the Sewage System of any strong sewage shall be done in accordance with the standards and guidelines set forth in the District's Pretreatment/Industrial Waste Control Resolution, which is attached to these rules as Appendix B.

500.08 PROTECTION FROM DAMAGE: No Person shall maliciously, willfully, or, negligently, break, damage, destroy, uncover, deface or tamper with any portion of the Sewage System.

Any Person who shall violate the provisions of this section shall be charged with a minimum of a misdemeanor, upon the complaint of the District and pursuant to the criminal statutes of the State of Colorado.

Any Person violating any of the provisions of these rules and regulations shall be liable to the District for any expense, including legal fees should they be incurred, loss or damage occasioned by reason of such violation.

500.09 GREASE INTERCEPTORS AND SAND AND OIL TRAPS: Each business, restaurant, bar, school, medical center, nursing home, establishment or any other Customer providing food service to its Customers, residents, patrons, patients, or members of the general public and each business, gasoline or automotive service station, vehicle lubricating, maintenance, or repair facility, car wash, automotive wrecking yard, school, automotive dealership with repair facilities, establishment or any other Customer regularly providing vehicle lubrication, maintenance, disposal or repair services to its Customers, patrons, members of the general public, or for its own benefit, shall maintain and make available for inspection at all times a grease interceptor or, as appropriate, sand and oil trap, so located and functioning that it will operate to capture grease and deleterious substances before the same enter the Sewage System of the District. The responsibility for installing, cleaning, and maintaining the grease interceptor shall be that of the Customer. Access to the grease interceptor shall be available to properly authorized representatives of the District at all times. Failure of the Customer to maintain and clean the grease interceptor shall constitute a violation of these regulations. In the event that the Customer shall fail to properly maintain and operate the grease interceptor or sand and oil trap the District shall have the right (a) to clean the same at the expense of the User, or (b) to revoke water and sewer service. All costs incurred by the District in connection with cleaning the grease interceptor, sand and oil trap or revoking sewer service pursuant to this Section shall constitute a charge of the District and be enforceable by means of a perpetual lien against the property served until paid.

500.10 GREASE INTERCEPTOR AND SAND AND OIL TRAP DESIGN: Each application for sewer service which requires installation of a grease interceptor or, as appropriate, sand and oil trap ("grease trap") under the immediately preceding section shall be accompanied by a design drawing of the grease interceptor for approval by the District Engineer. Any variation

from the design as submitted must be approved by the District following the completion of the grease interceptor, the Customer shall provide the District with an as-built drawing thereof and final inspection by the District will include inspection of the grease trap.

ARTICLE VI

600 – APPLICATION FOR WATER AND SEWER SERVICE

600.01 INCLUSION: Except as hereafter provided, service will be furnished only to Persons whose property is included within the boundaries of, and subject to, the rules and regulations and subject to taxation by the District.

It shall be incumbent upon the Person seeking service to furnish satisfactory evidence of inclusion whenever such evidence is requested by the District.

A Person owning land within or outside of the exterior boundaries of the District, who desires service, must include all land owned by said Person contiguous to the parcel upon which service is desired into the District, unless the District permits otherwise.

The District's standard form of inclusion petition will be furnished to the property User upon request. Inclusions of property shall be accomplished in accordance with the provisions of Colorado law, and all costs in connection therewith, including legal and engineering fees and publication costs, shall be paid by the petitioner.

600.02 SERVICE OUTSIDE THE DISTRICT: The District may, if determined to be advantageous to the District, furnish service to properties located outside the boundaries of the District, but under no circumstances shall the District construct any Mains at its own expense to service such properties. No service shall be provided to properties located outside the boundaries of the District except upon the express written consent of Metro and the Denver Water Board, as applicable.

Charges for furnishing service outside the District shall be at the discretion of the Board of Directors, who shall take into account the relative cost of service including but not limited to the estimated mill levy for which such property would be responsible if it were within the boundaries of the District.

These rules and regulations shall be applicable to all property owners outside the District who are furnished water or sewer by the District, and no connection to the District's mains shall be permitted until the property User shall have agreed to abide by the rules and regulations.

In every case where the District furnishes service to property outside the District, the District reserves the right to discontinue the service when, in the judgment of the Board of Directors, it is in the best interest of the District to do so, and such service shall be considered to be furnished pursuant to a revocable license.

600.03 APPLICATION FOR STUB-OUT PERMIT: The User of a property seeking a "Stub-Out" from the District shall submit an Application for Water and/or Sewer Tap Permit,

completed for Stub-Out only, on the District's standard form. Upon payment in full of the System Development Fee less the Stub-Out fee, the Stub-Out may be connected to the building.

600.04 APPLICATION FOR TAP PERMIT: The User of a property seeking service from the District shall submit an Application for Water and Sewer Tap Permit, on the District's standard form.

With regard to water taps, the tap allocation and purchase policy and rules of the Denver Water Board are adopted and incorporated herein by this reference.

Upon approval by the District, a Tap Permit and a certificate of availability will be issued to the User. The District will also provide the User with the Denver Water Department's standard Water Supply License form. When completed the District shall submit this form, together with the Denver Water Department's System Development Fee received from the User and a copy of the Bancroft-Clover Tap allocation statement to the Denver Water Department Tap Water Sales Department.

Failure to comply with part or all of the above shall result in revocation of the Tap allocation and forfeiture of all Tap Fees paid. In every case, no connection shall be allowed until a Tap Fee has been paid. The amount paid for a Tap Fee shall be non-refundable, even if the Tap is revoked, unless otherwise determined by the Board of Directors upon showing of unusual circumstances.

600.05 EXPIRATION OF TAPS: Except as modified herein, expiration of water Taps is governed by the purchase and other relevant policies of the Denver Water Board which are adopted and incorporated herein by this reference. All water Taps issued by the District are also subject to the rules and regulations of the Denver Water Board.

Except as modified herein, the expiration of sewer Taps shall be governed by the purchase and other relevant policies of the Metro Wastewater Reclamation District, which are adopted herein by this reference. All sewer Taps issued by the District are subject to the rules and regulations of Metro.

600.06 DENIAL OF APPLICATION FOR SERVICE: The District reserves the right to deny application for service for any or all of the following reasons:

A. The connection of the system to applicant's existing plumbing would constitute a cross-connection to an unsafe water supply;

B. Any misrepresentation in the application as to the property and fixtures contained in the property, or the use to be made of the District's system;

C. The service applied for would create an excessive seasonal, or other, demand on the District's facilities;

D. The use proposed is now or hereafter prohibited by the District, the Denver Water Board, or Metro;

E. Other reasons determined by the Board in its sole discretion to serve the best interests of the District.

600.07 CHANGE IN CUSTOMER'S EQUIPMENT OR SERVICE: A Customer shall file an amended application and seek approval by the District prior to making a change in service or meter size, or in the use of the property served. The District shall have the right to collect from the Customer Actual Costs it may incur for the conversion, including those incurred for overhead and the time expended by the District Personnel. The District shall have the right of access to install, inspect, replace or otherwise maintain any necessary equipment or appurtenances.

No change in the Customer's equipment, service or use of property shall be made without the approval of the District being first obtained and without first paying any applicable fees or charges.

ARTICLE VII

700 – FEES AND CHARGES

The information contained in this section is pertinent to all charges of whatever nature to be levied for provision of water and sewer service inside the District. Said rates and charges as herein established shall be set forth in a separate Fee Schedule, which, is on file and may be viewed by the public at the District's offices and shall remain in effect until modified by the Board. Nothing contained herein shall limit the Board from, at any time and without notice, modifying the rates and charges set forth in the Fee Schedule or from modifying any classification set forth in these rules and regulations.

700.01 APPLICATION OF THIS SECTION: The rates, charges and other information shown herein shall apply only to Customers inside the District and shall in no way obligate the District to provide service outside the District under any of the conditions contained in this section.

700.02 TYPE OF SERVICE: Water service shall be metered by the District. The Board of Bancroft-Clover shall periodically establish rate schedules, including consumption charges and service charges for various types of metered service.

The Board of Bancroft-Clover shall periodically establish charges and fees for various types of sewer service.

Fees and charges for water and sewer service shall be based on:

1. Type of premise or use and;
2. Property location inside or outside of the District.

The Board may require Industrial Waste or commercial sewer service of unusual characteristics to be metered. The cost of all such metering equipment shall be paid by the User of the service.

700.03 SYSTEM DEVELOPMENT FEE: Prior to Connection, a System Development Fee shall be assessed for the privilege of connecting to the Water Works and/or Sewage System of the District. The fee shall be assessed upon approval of previously connected tap, and shall be charged pursuant to the Fee Schedule.

Notwithstanding any provision in the rules and regulations to the contrary, those Customers intending to connect a meter larger than one inch (1") may, with the consent of the General Manager, connect a Stub-Out to the District's Main, and extend a Service Line from the Stub-Out to the meter vault prior to the payment of a System Development Fee to the District or Denver Water Board, but only if the Customer enters into a written agreement with the District specifying the location and manner in which the Service Line will be extended, that no water may be used from the Stub-Out or Service Line prior to the payment of all applicable water System Development Fees, and specifying the payment of liquidated damages in the event that water is used from such Stub-Out and Service Line prior to the payment of all System Development Fees. The agreement shall be in such form as the General Manager may reasonably require.

700.03a STUB-OUT FEE: A Stub-Out fee shall be charged for connection of a Water and/or Sewer Service Line to the District's Main, as provided in the Fee Schedule. The Stub-Out fee must be paid prior to the time when the Stub-Out is connected to the District's system. A Stub-Out fee which has been paid shall be deducted from the System Development Fee at the time the System Development Fee is paid.

700.04 AMENDED SYSTEM DEVELOPMENT FEES: Any Customer who receives permission to tap into the District's Water and or Sewer Mains shall be liable for and make payment to the District of the following amounts:

The System Development Fees of the District as they exist on the date of issuance of the Customer's System Development Fees permit; and

Any increases in System Development Fees that may be imposed by the District from time to time between the date the issuance of the Tap Permit and the date that actual Connection to the District's facilities is completed.

All such amounts shall be due and payable one day prior to the actual Connection of the Customer's facility to the District's Mains, lines, or facilities.

700.05 SERVICE CHARGE: Service charges shall commence at the time the meter is installed.

Whenever possible, bills for service will be directed to the User of record of the property rather than the occupant. When a condominium association exists for a number of Units receiving service from the District through one meter, said condominium association shall receive a bill for all Units serviced by the association. In no event shall the District bill the Users of individual Units within a condominium unless service to each Unit is metered separately. Service charges shall be as reflected in the Fee Schedule and shall be based on equivalent Units.

700.06 PAYMENT OF SERVICE CHARGES: Statements for charges shall be rendered on a monthly basis. Charges and penalties for late payments, turn-on, turn-off, etc., shall be added to the bills. Bills will be mailed on or before the tenth day of the month. All bills rendered by the District shall indicate a "Billing Date." The payment shall be due upon the last day of the month that the bill is sent as shown on the bill. All bills shall include a statement that a bill which is not paid in full **within five (5) days of the indicated due date shall be automatically assessed a five (5) percent penalty on such 5th day.** In addition, if payment in full, including the penalty, if any, is not made by the 50th day following the Billing Date, then service is subject to shut-off upon appropriate telephonic or written notice. If a series of payments are made to the District in satisfaction of a single charge, payments shall be applied first to the delinquency amount due, and then to any current charges or other amounts due. A turn-off fee and turn-on fee pursuant to Fee Schedule shall be assessed upon shut off. Service shall not be resumed until all fees have been paid in full.

700.07 REVOCATION OF SERVICE: Service shall be revocable by the District upon non-payment of valid fees owing to the District, as set forth in Section 700.06 of this Article VII, or upon failure to comply with the rules and regulations of the District. In the event of noncompliance with the rules and regulations other than non-payment of fees, the Customer shall be given ten (10) days' notice of a hearing to revoke service. Said hearing shall be held by the District at a regular or special Meeting of the Board of Directors at which time the Customer shall have the opportunity to present testimony and evidence to the Board. If an amount of money is disputed, at the time that such hearing is requested the Customer shall be required to deposit the disputed amount with District. Following said hearing, the Board decision shall be final and service to the property may, if the Board so determines, be revoked by disconnecting or blocking either or both the Water and Sewer Service Lines serving the property. During the period of construction of a building, the District reserves the right to revoke water service to the property at any time, without notice, for non-payment of fees owing to the District or noncompliance with the rules and regulations.

700.08 SPECIAL SERVICE CONTRACTS: The Board may enter into special service contracts if it is in the best interest of the District to do so.

700.09 SERVICE THROUGH FIRE HYDRANTS: Upon application to the District and payment of a refundable deposit as set forth in the Fee Schedule, users may obtain a District Permit for use of hydrant water.

Permits shall be issued on an individual basis as approved by the District, and service shall be issued on an individual basis as approved by the District, and service shall be metered at locations selected by the District. No more than three (3) locations may be requested by the Permit User. Use of hydrant water shall cease for the duration of any fire within the District.

Any damage to the hydrant, meter, or other property of District shall be paid for by the User. The deposit shall be refunded, less water usage and cost of any damages, upon return of the District's meter.

Use of any fire hydrant, stand-valve or other installation intended principally for use in providing a fire-protection water supply, in violation of this subsection shall result in: (1) the forfeiture of any deposit paid; (2) the assessment of the applicable district fee for water usage or loss, as calculated or as best-estimated by the District; and (3) the assessment against the Person deemed responsible by the District for the violation, of a penalty as set forth in the Fee Schedule and, where no deposit was paid, and additional penalty as set forth in Fee Schedule. As with all fees, rates, charges, and penalties of the District, the fees, rates, charges and penalties assessed under this subsection shall be, until paid in full, a perpetual lien against the property served. Contractors or other Persons not owning property within the boundaries of the District who violate this subsection shall be deemed by the District to be the duly authorized agents of the User of the property for whom, or with respect to which the Contractor or other Person is providing services, and the perpetual lien referred to herein shall be applied against the property of such User. Enforcement of the subsection shall proceed in accordance with subsection 700.07, above.

700.10 INSPECTION FEES: Water and sewer line inspection fees shall be assessed as provided for in the Fee Schedule.

No work by District personnel or their representatives shall be done on Saturdays, Sundays, or holidays unless permission is granted by the Field Operations Manager. Actual Costs, including overtime, will be paid by Developer/Contractor.

No work shall start until all District fees have been paid, and the District Office notified.

700.11 MISCELLANEOUS COSTS AND EXPENSES: All costs and expenses incident to the installation and connection of the water and/or sewer service shall be borne by the User. The User, by accepting water or sewer service from the District, agrees to indemnify the Board, its agents, employees, contractors and consultants, for any loss, actual or alleged, or damage that may directly or indirectly be occasioned by the installation of the water or sewer service.

700.12 LIABILITY FOR PAYMENT: All costs incurred by the District relating to service to a Customer's property, including but not limited to the costs of collection of District rates, fees, tolls charges and penalties, system development fees, costs of enforcement, costs of shut-off, costs of engineering, inspections, and miscellaneous costs and expenses pursuant to Section 700.11 shall, until paid, constitute a first and perpetual lien on or against the property served and any such lien may be foreclosed in the manner provided by law. If the District determines that a foreclosure is necessary to obtain payment of such amounts, a foreclosure fee equal to the costs of foreclosure incurred by the District shall be assessed against the property plus the costs of prosecuting such foreclosure and such foreclosure fee shall constitute a perpetual lien on the property as well.

The District shall have the right to assess any Customer who is tardy in payment of his account all legal, court and other costs necessary to or incidental to the collection of said account.

The User and the occupant of a property receiving service are hereby deemed equally liable for charges of the District. The District assumes no responsibility hereby for any agreement made between Users and occupants regardless of how made or the District having been notified of such agreement.

700.13 VENDORS AND VENDEES RESPONSIBILITIES: The District assumes no responsibility for agreements between vendors and vendees. It shall be the responsibility of the vendee to ascertain whether fees and charges have been paid by the vendor. Regardless of ownership or of the failure of the District to collect fees and charges at the time of issuance of Permits or any other act or omission of the District, unpaid fees and charges shall constitute a first and perpetual lien on and against the property which lien may be foreclosed as provided by law.

700.14 UNAUTHORIZED CONNECTION PENALTIES: An unauthorized connection penalty equal to twice the System Development Fee (which includes Denver Water Board and Metro's development fees) due shall be payable by Persons connecting to Water Works or Sewage System without prior payment of System Development Fees, approval of such connection, application for service or opportunity given the District for inspection of lines.

700.15 TURN-OFF SERVICE: Customers desiring a "turn-off" service for purpose of vacation, vacancy of rental property, etc., may be charged a turn-off fee which will also cover the "turn-on" request.

700.16 TURN-OFF FEE: If services must be discontinued by the District due to a delinquency, a turn-off fee will be charged per the Fee Schedule.

700.17 TURN-ON FEE: After service has been shut off by the District due to a delinquent account, a turn-on fee shall be charged for turning on the service per the Fee Schedule.

700.18 PENALTY FOR "UNAUTHORIZED TURN-ON": It shall be a violation of these rules and regulations for any Person other than employees or officials of the District to turn on water or reconnect a Sewer Service Line and penalty shall be charged for any unauthorized turn-on (see Fee Schedule).

700.19 CHANGE IN COMMERCIAL USE AND/OR SQUARE FOOTAGE: CHANGE IN USE TAP FEE, INCREASE OR DECREASE OF TAP SIZE:

a. At least thirty (30) days prior to a change in the use of a Customer's commercial premises, including but not limited to a change in square footage of a structure or irrigated area, a substantial change of water using equipment, a change in the number or type of plumbing fixtures, or a change from a residential to commercial use, the Customer shall inform the District of the proposed change and furnish such information to the District concerning the change in use as is required by the District's rules and regulations and the reasonable requests of the District Engineer.

b. Using the then-currently published edition of the AWWA (American Water Works Association) Manual of Water Supply Practices M22: Sizing Water Service Lines and Meters, or as otherwise described in these rules and regulations, the District Engineer will calculate the capacity in EQRs needed for the Customer's premises.

c. If there is no change in the required water supply capacity to the premises as measured in EQRs, the District will not charge a change in use Tap Fee.

d. If the water service capacity must be increased, and a tap application is made by the Customer before the Tap expires, then:

(1) The Customer shall pay a change in use System Development Fee equal to the then-current System Development Fee of the District for the difference in capacity between the number of EQRs previously used by the Customer and the new EQRs for the premises.

(2) The Customer shall, at Customer's expense, install the larger tap, meter, and appurtenances to the premises as required by these rules and regulations.

e. If the number of EQRs or capacity that are required for the premises is to be decreased, prior to the time the Tap expires, then:

(1) The District will calculate the difference between the number of EQRs and the new smaller number of required EQRs for the premises as determined by these Rules and regulations.

(2) If the Customer physically disconnects the old Tap from the Water Works by procedures approved by the District Engineer, the Customer shall receive capacity credit measured in EQRs for the difference in the capacity between the disconnected larger tap and the new smaller tap required for the premises.

(3) The capacity credit for a disconnected Tap will be allowed only to the premises upon which the disconnected Tap was installed.

(4) The capacity credit shall not be applied toward a new Connection unless the Connection (or Connections) that will use the credit is permitted to serve a premises which incorporates all of part of the area which is entirely contained within the area previously served by the disconnected Tap. The General Manager shall maintain records of the capacity credit that may exist for a premises and changes to capacity credits that occur from time to time.

(5) No refund shall be made under any circumstances, nor shall any credit be allowed exceeding the number of EQRs of capacity attributable to the disconnected Tap.

(6) In order to maintain the ability to use a capacity credit prior to its

expiration under subsection (e)(8) of this section, the User shall pay the District monthly service charge equal to the monthly service charge per EQR per the then-current Fee Schedule. Failure to pay the monthly charge shall result in expiration of forfeiture of the capacity credit.

(7) The owner of a capacity credit may, in a writing filed with the General Manager, terminate its capacity credit at any time, thereby terminating all rights to the capacity credit and terminating future obligations to pay the monthly service charge for such capacity.

(8) For all Taps disconnected from the Water Works pursuant to subsection (e)(2) and reused for capacity credit after June 3, 2002; all capacity credits must be used within ten (10) years of the original Tap being cut off or the unused capacity credit will expire and be forfeited.

(9) Nothing herein shall impair the ability of the District to revise its rules and regulations from time to time, including revisions that may modify the definition of EQR or the use of capacity credits.

ARTICLE VIII

800 – SERVICE

LINE CONSTRUCTION

800.01 **SERVICE LINE REQUIREMENTS**: A separate and independent Sewer Service Line shall be provided for every building. An independent Sewer Service Line and Water Service Line is required for individually owned Units. A determination as to whether the Service Line will connect directly into a District Main or private main first then into a District Main will be made by the District Engineer and/or District General Manager. The Board may waive the requirement of a separate Service Line, if a standard unified service agreement has been entered into with the District as described below. All Service Lines shall be installed at the expense of the User, except as otherwise provided herein.

A Duplex may, in the discretion of the District, have one or two Service Line connections. Each Duplex Unit shall be separately metered. Fees paid under this Section 800.1 for a Duplex Unit shall be equal to the fees paid for two (2) ¾-inch taps. Duplex properties must have a single sewer line for each Unit regardless of whether the duplex property has a single water line serving both Units or has two separate Water Service Lines.

Each single-story commercial structure hereafter constructed shall have an individual Sewer Service Line and connection for each commercial Unit in the commercial structure or, if not divided into Units, then it shall have a separate Service Line and connection for each building. Water service shall be one Service Line per building unless each Unit is separately owned. Multi-story commercial, retail and office buildings may have a common private Sewer Service if the

District General Manager and/or District Engineer makes this determination. If the above is determined, then as a minimum, the Service Line must be six (6) inches in diameter, have a minimum slope of one percent (1%), must be able to accommodate a two-compartment grease interceptor for each Unit, and the Board must approve a unified service agreement between the District and the User.

Service Lines shall be installed in accordance with the specifications set forth in Appendix A attached hereto and incorporated herein by this reference.

Unless otherwise approved by the General Manager based on Customer hardship, no irrigation system for any building shall be connected within any meter pit. All sprinkler systems shall be connected to the Water Works in accordance with the rules and regulations and engineering standards of the District and the Denver Water Board.

800.02 INSPECTION: The applicant for the Connection Permit shall notify the Field Operations Manager when the service is ready for inspection and connection to the Main. The Connection shall be made by Licensed Plumbers or Pipe Layers bonded with the District. Authorized District personnel or their agents will inspect the Connection pursuant to the District's rules and regulations once notified by the Contractor. The plumbing contracted for by a Licensed Plumber may be performed by the Licensed Plumber through journeymen plumbers or apprentices under the Licensed Plumber's direction.

ARTICLE IX

900 – MAIN LINE

EXTENSIONS

900.01 MAIN SIZES: The minimum size Water Main shall be six inches (6") in diameter and the minimum size Sewer Main shall be eight inches (8") in diameter. The Main required to serve any area shall be sized by the applicant, contingent upon approval by the District Engineer, District and the Denver Water Board.

900.02 APPLICATION FOR LINE EXTENSION: The provisions of Article VII of these rules and regulations are also applicable to this Article.

It shall be unlawful for any Person to construct a line extension within the jurisdiction of the District without first having made formal application to the District for service approval and having complied with the rules and regulations of the District.

Plans for such extensions shall be submitted to the District Engineer along with the application for a line extension. Said plans shall be approved for compliance with the District's master plan and such study for compliance shall be at the Developer's expense.

All line extensions shall be constructed according to the District's specifications. All line extensions within the jurisdiction of the District shall be made under the supervision of the District's Engineer at the Developer's expense. See Appendix A for the District Engineering Standards.

900.03 LOCATION OF LINE EXTENSIONS AND ADDITIONS: Line extensions shall be installed in roads or streets which the City, County, State Highway Department or other public agency has accepted for maintenance as public right-of-way or in easements granted to and in form acceptable to the District. No Water Main shall be placed in the same trench as a Sewer Main. All Water Mains must be ten (10) feet horizontally from any Sewer Main or for a crossing, must be 18 inches vertically above the Sewer Main, and all requirements of the Colorado State Health Department shall be adhered to.

900.04 PROCEDURE FOR LINE EXTENSION CONSTRUCTION BY PARTIES OTHER THAN THE DISTRICT: In the discretion of the Board, the Board may permit those Persons desiring construction of a line extension to construct the line extension. In such a case, the Constructor shall enter into a line extension agreement with the District. The District Engineer and Field Operations Manager and Denver Water must approve the plans and authorized District Personnel or their agents will inspect construction.

A performance and maintenance bond equal to the contract price of the line shall be furnished to the District by Constructor. The bond shall hold the District harmless for payment to the Contractor, and shall guarantee one year's maintenance on the line from the date of acceptance by the District.

When application for a line extension is made, Constructor shall deposit with the District an amount sufficient to compensate the District for engineering fees, legal fees, (including the costs of preparing the line extension agreement) and other costs anticipated to be incurred by the District as a result of the application and the construction of the line. The engineering fees shall include the cost of reviewing the plans and supervising and inspecting construction of the line.

Prior to the construction and/or acceptance of lines by the District, all easements necessarily accompanying these lines shall be duly recorded or provided for. Also prior to the District's acceptance of the lines, reproducible as-built drawings and surveyed locates of all appurtenances shall be provided by the developer.

900.05 LINE EXTENSION FEES: The Board shall, when a line extension has been constructed by a constructor pursuant to this Article IX, collect a Line Extension Fee from all Persons desiring to connect to the line segment of extension constructed. The Line Extension Fee shall be calculated in accordance with the following formula:

- 1.) $\text{Line Extension Fee} = \text{AC} \times \text{NCU/LCAC} = \text{Actual Costs of Construction}$
- 2.) $\text{LC} = \text{Total Capacity of Line Segment constructed pursuant to the Line Extension Agreement usually for a set amount of EQRs}$

- 3.) EQR = Equivalent residential, for the line design.
NCU = Amount to Total Line Segment Capacity
Used by the Connector

All Line Extension Fees shall be due and payable at the time of Connection. In each case, only service connections to the segment constructed shall be assessed a Line Extension Fee, and in calculating ratios of capacity, only the capacity (EQR of design) of the segment constructed shall be considered.

900.06 REIMBURSEMENTS: The District may consider reimbursement to the Constructor of the Line Extension Fees collected from others using the line for a period of five

(5) years from the date of execution of the line extension agreement, with renewal upon application for a maximum of five (5) additional years after the date of the execution of the line extension agreement. In no case shall the reimbursement exceed the Actual Costs of the line extension. All rights to receive such reimbursements shall revert to the District upon expiration of the five (5) year period, upon expiration of the additional five year period if so extended, or upon reimbursement to the Developer of an amount equal to the total construction cost of the line extension, minus that portion allocated to the Constructor.

900.07 SPECIAL STRUCTURES: Special structures required to ensure proper operation of line extensions shall be constructed from designs and approved by the District Engineer with the cost of construction being the responsibility of the Developer or User.

900.08 OVERSIZING: The District may, at its option, require the construction of larger than the minimum sizes specified in paragraph 900.01 of this Article. Participation by District in the cost of installation of oversized mains shall be at the sole discretion of the Board, and shall be for the material cost of oversizing only.

900.09 PRESERVATION OF GRAVITY SEWER SYSTEM: In those instances where individual pumping stations and force mains are required, the Sewage System shall be so designed as to permit eventual connection into a gravity system with a minimum of expense. Where practicable, easements shall be provided and lines constructed to tie into the gravity system. The District may, in its discretion, require deposits to ensure the eventual construction of gravity lines.

900.10 EXTENSIONS TO PROPERTY LINES: All extensions constructed under this section shall be installed to the far side of the property and, where necessary, around corners, in order that the water and sewer systems may continue. The depth will be determined by the District Engineer.

900.11 LINE EXTENSIONS BY DISTRICT: Notwithstanding any provision of this Article, the District may, in its discretion, extend Mains under such conditions as the Board deems appropriate. Where Water and Sewer Mains cannot be installed in a street, private drive or common area, and must be installed in easements between adjacent pieces of property, the lines will terminate at the point on the line or corner of the property being served which requires the least amount of construction by the District.

900.12 LIFT STATIONS: Construction and use of lift stations shall be prohibited except as determined in the sole discretion of the Board.

900.13 SEPTIC SYSTEMS: If no public sewer system is within 400 feet of a property or the Sewage System is not useable because of improper grades, it is the sole responsibility of the Jefferson County Health Department to issue a permit for the use of a septic system, upon granting of permission by the District.

ARTICLE X

1000 – PROCEDURES CONCERNING APPEALS OF DECISIONS

1000.01 PURPOSE: It is the policy of the District to have issues determined by District staff members and consultants if possible. There may be instances where a Customer or member of the public disagrees with a decision, interpretation, or application of a District rule or regulation, specification, fee calculation, billing, or other matter that was provided by a District staff member or consultant. The purpose of this rule is to provide a uniform procedure for handling appeals of decisions.

The procedure in this rule is to be used sequentially. A Person presenting an issue is to begin the process with 1000.02 below, proceeding to 1000.03, 1000.04 and so forth in order as applicable. Any item may, however, be taken directly to the Board, but only in the case of a bona fide emergency, with the determination of the existence of a bona fide emergency to be made by the Board.

1000.02 WRITTEN DECISION: Whenever a Person believes that an erroneous, unfair, or bad decision has been made by a District staff member or consultant on a matter of interest to such Person

If the decision is in writing, the Person may proceed to Section 1000.03 hereof;

If the decision is not in writing, the Person shall request written documentation of the decision from the staff member or consultant involved. Staff or the applicable consultant is hereby directed to complete the written documentation within 48 hours of the request (weekends and holidays are excluded from all computations of time in this Rule). Upon receipt of the written documentation or passage of 48 hours without the documentation being completed, the Person may proceed to Section 1000.03 hereof.

1000.03 APPEAL TO THE DISTRICT MANAGER:

If the decision is by a consultant or a District staff member other than the District General Manager, within ten (10) days of the decision, the Person shall file a letter with the District Manager explaining the problem, together with the written documentation from 1000.02 above or a statement that no documentation was completed within the 48-hour time period. The Person may attach information to the letter that may be helpful to review the decision. The letter should include a description of the relief sought.

If the decision of concern was made by the District Manager, the Person may proceed to Section 1000.04 hereof.

A member of the Board of Directors has no power to make a decision for the District; however, if the act or omission of concern is by a member of the Board, the Person may proceed to Section 1000.04 hereof;

The District General Manager shall review the letter and information provided by the Person. The District General Manager may review District files, discuss the matter with the Person, District staff or consultants, and undertake such investigation as the District Manager deems necessary under the circumstances to review the matter.

Within five (5) days, the District Manager shall render a written decision on the matter and make the same available to the Person, and the relevant District staff or consultant.

1000.04 APPEAL OF MANAGER’S DECISION:

If the issue presented by the Person is still unresolved following the decision by the District General Manager, or if the problem is of the type described in Section 1000.03(2) or (3), such Person shall furnish a letter to the President of the Board of Directors of the District with a copy to the attorney for the District explaining the issue, the relief sought, and including such other information as will assist the Board in the matter.

Within thirty (30) days of receipt of the letter, described in Section 1000.04(1) hereof, the President shall cause the matter to be placed on the agenda of a meeting of the Board. The Person shall be provided written or telephonic notice of the date, time, and place of such meeting at least three (3) days in advance of the meeting. The Person may appear before the Board at such meeting and shall be provided an opportunity to be heard, either personally or through an attorney or other representative. Strict rules of evidence shall not be followed during the hearing. The hearing may be continued from time to time, as determined by the Board.

(1) Within fifteen (15) days of the conclusion of the hearing, the Board shall provide the Person a written final decision on the matter.

ARTICLE XI

1100 – CONSULTING FEES AND COSTS

1100.01 DEFINITIONS:

The following Definitions are specific to this Article XI. Capitalized terms not defined herein shall have the meaning set forth in Article 1.

- (a) “Applicant” means any Person making a Communication.
- (b) “Communication” means an inquiry to, request for assistance from, communication with, request for service from, application to, or other contact with the District on any matter

relating to the facilities, services, or programs furnished or to be furnished by the District that is made to any Consultant or that is made to a Staff Member, General Manager or Field Operations Manager who thereafter contacts a Consultant in the reasonable belief that the contact with the Consultant was necessary for the service requested.

(c) “Consultant” means the engineer, attorney, accountant, rate analyst, surveyor, planner or other professional firm or Person engaged by the District to provide services. Consultants include, but are not limited to, independent Contractors furnishing professional services who typically bill by the hour and for their costs. Consultants do not include Staff Members.

(d) “Consultant Costs” means all costs incurred by the District paid to a Consultant, including all reasonable fees and costs or expenses billed by the Consultant.

(e) “Staff Member” means an individual in the employ, and on the payroll of, the District.

1100.02 IMPOSITION OF CONSULTANT COST CHARGE:

1100.02a Any Applicant who makes a Communication with the District shall pay Consultant Costs incurred in regard to such Communication.

1100.02b The Applicant shall be responsible for paying all Consultant Costs in the amount set forth in Section 1100.03, in the manner set forth in Section 1100.04.

1100.02c During or at a reasonable time after the first or initial Communication by an Applicant, a Staff Member or Consultant shall inform the Applicant of the existence of the Consultant Costs, orally or in writing, but failure of the Staff member or Consultant to do so shall not impair the District’s authority to impose and collect the Consultant Costs.

1100.03 COMPUTATION OF THE AMOUNT OF CONSULTANT COST CHARGE:

1100.03a PASS THROUGH THE CONSULTANT COSTS:

(a) The District shall charge the Applicant for all Consultant Costs incurred by the District arising from the Communication, except for the first hour charged by each Consultant. For example, but not as a limitation, the Applicant would not be charged for the first hour billed by the attorney for the District and the first hour charged by the District Engineer arising from the Applicant’s Communication. A series of Communications concerning one project will not result in additional excepted hours.

(b) In the event that the Board determines that a particular Consultant Cost is a result of an act or omission of the District that

should not reasonably be charged to the Applicant, or is unreasonable, the Board shall not charge the Applicant for such Consultant Cost.

(c) Prior to incurring substantial Consultant Costs, the District may require that the Applicant enter into an agreement concerning payment of Consultant Costs, including provisions for an advance deposit by the Applicant.

1100.03b REASONABLENESS OF CONSULTANT COSTS:

1100.03b(1) Applicant shall review the Consultant invoices relating to work on the Applicant's project and shall immediately inform the General Manager of billing errors or Consultant Costs that the Applicant believes are unreasonable.

1100.03b(2) Consultant Costs shall be presumed to be reasonable if the hourly rates and rates for expenses are comparable to the rates charged by Consultants with similar experience working in the Denver Metropolitan area on similar projects and if the work done and time spent are documented to the reasonable satisfaction of the General Manager.

1100.04 DEPOSIT:

1100.04a The Applicant shall deposit the greater of \$1,000 or the sum of \$2.00 per linear foot of line extension (Water and Sewer Mains shall be deemed separate for the computation of linear feet even if the lines are constructed parallel to each other), but no more than \$5,000 to pay Consultant Costs in the event that the Applicant fails to continuously pay such Charges as they are billed to the Applicant by the District. The District shall account for the deposit separately, but shall not be required to maintain a separate bank account for the deposit. The deposit shall be retained by the District through the warranty period and applied against the last invoice rendered by the District for Consultant Costs and such other costs as may be incurred by the District relating to the project (such as, for example, the cure of unfinished punch list items discovered on the last inspection, testing costs, or payment of maintenance or emergency response costs during the warranty period that are the responsibility of the Applicant).

1100.04b In the event the General Manager determines that part of the deposit may be applied by the District to unpaid Consultant Costs prior to the warranty period, the General Manager may notify the Applicant of the estimated amount to be applied. The Applicant shall have ten days to pay an amount sufficient to replenish the deposit to its full original amount and pay the Consultant Costs then due. If the Applicant does not replenish the deposit within the ten day period, then: (i) all District and Consultant work on the Applicant's project shall cease; (ii) the District shall not issue any permits to the Applicant for the project; (iii) the District shall not execute any plats, plans, easements, or other document relating to the project; and (iv) the District shall not grant its approval or indicate service availability to any other governmental entity. The procedures set forth in this paragraph may be repeated as many times as may be necessary.

1100.04c In the event the General Manager does not provide the notification described in Section 1100.04b, the Applicant shall nevertheless pay the District its documented Consultant

Costs and the Applicant may immediately direct the District to cease further work on the project. Following such direction from the Applicant, the District shall cease work on the project and no Consultant Costs for work done (other than for work done prior to the District's receipt of the Applicant's direction and necessary costs of winding up the work for the Applicant) shall be due from the Applicant. Consultant work by the District may be resumed following a further deposit by the Applicant in an amount to be determined by the General Manager.

1100.04d The District shall have the sole authority to withdraw monies from the deposit and shall document the amount of the funds withdrawn and payments made therefrom. If funds remain on deposit at the end of the warranty period after payment of the final District invoice, such remaining funds shall be returned to the Applicant.

1100.04e Accounting for interest on deposits would be more costly than the benefit to be gained, therefore, no interest shall be payable to an Applicant or accrued to the deposit.

1100.04f The District shall have no obligation whatsoever to pay anything for work performed on an Applicant's project. In the event funds are not available from the Applicant, work on the project shall cease and no liability shall exist against the District, District Engineer, Attorney for the District, or other District Consultants arising from the cessation of work.

1100.05 COLLECTION OF CONSULTANT COSTS:

1100.05a BILLING: Bills for Consultant Costs will be mailed, e-mailed, or faxed to the Applicant within a reasonable time after the District receives an invoice from the Consultant. The payment shall be due upon the Applicant's receipt of the bill. All bills rendered by the District shall indicate a "Billing Date". All bills shall include a written statement that a bill which is not paid in full within thirty (30) days of the Billing Date shall be assessed a ten percent (10%) penalty. In addition, the written statement on the bill shall indicate that if payment in full, including the penalty, if any, is not made by the 20th day of the calendar month following the Billing Date, then service to the property is subject to shut-off without further notice and all further work by the District on the project shall cease. Deposit for service, if any, shall be applied against the outstanding unpaid bill.

1100.05b REVOCATION OF SERVICE: Service shall be revocable by the District upon non-payment of valid Consultant Costs owing to the District, or upon failure to comply with other applicable rules and regulations of the District. If an amount of money is disputed, at the time that such hearing is requested the Customer shall be required to deposit the disputed amount with the District. During the period of construction of a building, the District reserves the right to revoke water service to the property at any time, without notice, for non-payment of fees owing to the District.

1100.05c COMMENCEMENT OF SERVICE: It is a condition of commencement of service to an Applicant, permitting a new water or sewer Tap to an Applicant, or continued service to an Applicant that any applicable Consultant Costs be paid in full. Failure to pay the Consultant Costs shall be deemed by the District as failure to pay water and sewer service charges of the District, which may be collected by the District by any lawful means, including enforcement of its

perpetual lien against the property served, §32-1-1001(1)(j) and (k), C.R.S. and discontinuation (shut off) of service.

1100.05d LIABILITY FOR PAYMENT: Until paid, the Consultant Costs shall constitute a first and perpetual lien on or against the Applicant's property served and any such lien may be foreclosed in the manner provided by law. If the District determines that a foreclosure is necessary to obtain payment of such Consultant Costs, a foreclosure fee in an amount equal to the costs of foreclosure shall be assessed against the property to offset the costs of prosecuting such foreclosure and such foreclosure fee shall constitute a perpetual lien on the property as well.

The District shall have the right to assess any Customer who is tardy in payment of the Consultant Costs all legal, court and other costs necessary to or incidental to the collection of said account.

ARTICLE XII

1200 – COMMERCIAL STRONG APPEAL PROCEDURE

1200.01 APPEAL PROCEDURE: Any commercial-strong Customer who believes that the wastewater generated at such Customer's service address should not be classified as commercial-strong may appeal such determination at any time by following the procedure set forth in this Article.

1. The Customer must complete the "Appeal Notice Form – Commercial Strong" supplied by the District or furnish a letter to the District containing the necessary information for the District to evaluate the appeal.
2. The Customer, using methods approved by, and in the presence of, the District Engineer or designee, shall collect and furnish a wastewater sample for testing.
3. The sample shall be delivered by the District Engineer or designee to an independent laboratory approved by the District. The District has approved the laboratory used by the Metro or such successor to the Metro designated laboratory. The District Engineer has been granted the reasonable discretion to allow the use of other laboratories.
4. The laboratory will test for TSS, BOD, and TKN concentrations and furnish its results to the Customer and the District Engineer.
5. The District Engineer and Customer will communicate with each other concerning the results of the test.
6. If the results of the test show that the Customer is properly classified as a commercial-strong Customer, then no change will be made in the Customer's classification and the Customer shall pay the full cost of obtaining the sample, testing the sample, fees of the District Engineer or designee and any other cost incurred by the District arising from the procedure. If the Customer's classification changes from commercial-strong to commercialnormal, then the District and the Customer shall each bear their own costs for the procedure.

7. Commercial Strong Customers are those Customers whose non-prohibited Sewage has a Weighted Strength Loading (“WSL”) greater than or equal to 292.7 mg/1, calculated as follows: $WSL\ mg/1 = [0.51(BOD)\ mg/1] + [0.12\ (TKN)\ mg/1] \pm 0.37\ (TSS)\ mg/1$.

1200.02 TESTING BY DISTRICT: At any time, without notice, at District expense, the District may collect a sample of wastewater from any Customer, test the wastewater, and determine to reclassify the Customer based on the test results. Any Customer so reclassified may appeal the District’s determination as provided in Section 1200.01.

APPENDIX A

ENGINEERING STANDARDS AND SPECIFICATIONS

General. In all cases in which the District Engineer or Bancroft-Clover Field Operations Manager is to make a decision, interpretation, opinion, or otherwise use discretion, the standard for the exercise of such authority shall be for such Engineer or Field Operations Manager to act reasonably under the circumstances in which the decision is to be made. These Engineering Standards and Specifications may be amended without notice when deemed appropriate by the District General Manager or District Engineer.

Construction Plans. All studies, construction drawings, plans, right-of-way and easements for any Water Main or Sewer Main system extensions shall be submitted to the District for review and approval. No construction of these system extensions may commence until final approval by the District of all studies, construction drawings, plans, right-of-way and easements. If construction of a Water Main or Sewer Main system extension has not commenced within six (6) months of the date of the District’s final approval or if the Water Main or Sewer Main extensions are not completed within one (1) year, such approval shall expire and the applicant must resubmit the construction plans for re-review and a new approval.

Engineering and Observation of Construction. All Water Main or Sewer Main system extensions constructed within, or connected to facilities of the District, which will connect into the public facilities shall conform to the standards and specifications of the District. The District incorporates by this reference the standards and specifications set out in the Engineering Standards of the Denver Water Board’s current edition and the Sanitary Sewer Design Technical Manual of the Wastewater Management Division of the Denver Department of Public Works as the same exist on July 1, 2002, with such amendments as may thereafter be approved by the District with the modifications as shown in Exhibit A. Also the specifications for Service Line construction will also follow the Denver Water Board current edition, and the sanitary sewer Service Line requirements will also follow the City of Denver Wastewater, current addition with the following modifications in Exhibit B. The Exhibit C is the “Tests for Leakage and Infiltration after Construction of Sewer lines”. Service Lines utilizing trenchless technology shall be done in accordance with Exhibit D. “Trenchless Sanitary Sewer Service Line Connections”. Additionally, all Water Main or Sewer Main system extensions, line replacements and repairs shall be tested for alignment, leakage and infiltration and for the deflection test under the procedures described in Exhibit C, which is attached hereto and incorporated herein. Televising of the Main must be

performed (twice) prior to the warranty period beginning and at the end of warranty. All construction and testing shall be under the general observation of and/or inspection by the District and at the expense of the applicant. The locations, width, extent, and conveyance of needed right-of-way not within the public streets shall be provided as specified by the District.

Acceptance. Upon the completion and successful testing (lamping, televising, inspection, air testing, deflection test, exfiltration, or vacuum test, hydrostatic and clean water) of the proposed Water Main and Sewer Main extensions all of the applicant's rights, title and interest in and to the main extensions including, but not limited to all Mains, pipelines, valves, manholes, vaults and related parts and materials, which comprise the Main extensions shall automatically pass to and be conveyed to the District without the necessity of transfer proceedings or documents of conveyance.

Post Acceptance Procedures. Within thirty (30) days after acceptance, the applicant shall provide the District with a full set of as-built drawings and electronically formatted copies acceptable to the District for the Water Main or Sewer Main extensions. After acceptance, the District will conduct a post-acceptance inspection of the main extensions. A punch list will be submitted to the applicant and Contractor based upon the post-acceptance inspection. Applicant will perform all of the items on the post-acceptance punch list within thirty (30) days after receipt of the list from the District.

Warranty. The warranty period will begin once all punch list items and testing have been completed. The District shall issue a letter stating the date, at which time the warranty period starts. The applicant unconditionally warrants that the Water Main or Sewer Main extensions shall be free from any defects in workmanship or material and guarantees the proper functioning of the extensions (the "Warranty") for a period of one (1) year from the date of acceptance (the "Warranty Period") any work under the streets whether private, or within a jurisdiction will require a warranty of two (2) years. A malfunction or defect during the warranty period shall be remedied by the applicant, User, or Contractor to the satisfaction of the Board of Directors at no expense to the District within twenty (20) days after written notice of such malfunction or defect from the District. If the applicant or User fails to correct such malfunction or defect within twenty (20) days after written notice from the District, the District may correct such malfunction or defect and charge the cost thereof to the applicant or User. The applicant or User agrees to pay all such charges within fifteen (15) days of the District's invoice therefore, together with all costs of collection including reasonable attorney's fees and interest thereon at the rate of one percent (1%) per month on past due amounts.

Whenever, in the District's determination, an emergency exists and the public health or safety would be jeopardized or endangered by delaying the correction of malfunctions or defects to allow for notice to the applicant and time for the applicant's Contractor to respond, the District shall have the right to perform whatever maintenance or repairs the District determines are necessary and to charge the cost thereof to the applicant.

No work performed on the extensions by the District, whether under emergency circumstances or by reason of the applicants' delay, shall void, impair, or diminish the Warranty of the applicant under this section or any other obligation or liability the applicant imposed by law or these rules and regulations.

Withholding of Tap Permits. No Tap Permits shall be issued for the connection of property to any Water Main or Sewer Main extensions as to which: 1) as-built drawings have not been provided as required herein; 2) payment of account charges is past due; 3) there is a default in the performance of warranty work required hereunder; 4) payment of charges by the applicant for warranty work performed by the District is past due; or 5) punch list items have not been performed to the satisfaction of the Board.

Final Inspection. Not later than thirty (30) days prior to the end of the warranty period, the District shall conduct a walk-through and inspection of the Water Main or Sewer Main extensions, which inspection shall include the video inspection of all Sewer Main lines in the Sewer Main extension at the Developer's cost. A written punch list will be submitted to the applicant based upon the final inspection. If the items on the punch list have been completed to the satisfaction of the District by the end of the Warranty Period, the warranty period shall expire and the applicant shall have no further warranty obligation to the District. If the punch list items have not been performed to the satisfaction of the District by the end of the Warranty Period, the Warranty Period shall automatically be extended as to all malfunctions and defects in the Main extensions until the punch list items have been completed. No Taps will be issued if the punch list items have not been completed within thirty (30) days after applicant's receipt of the punch list. The District may complete the punch list items and charge the cost thereof to the applicant. The applicant agrees to pay all such charges within fifteen (15) days after receipt of the District's invoice therefore, together with all costs of collection including reasonable attorney's fees and interest at the rate of one percent (1%) per month on past due amounts.

EXHIBIT A

1. WATER STANDARDS

The Bancroft-Clover Water and Sanitation District has adopted the Engineering Standards of the Denver Water Board with some more stringent requirements, which are as follows:

The District's General Manager shall have the authority to add or delete any additional reasonable requirements from time to time.

- 1.1 **Depth:** The water line shall be placed four and one-half feet (4½') below finished grade to the top of pipe. A greater depth can only be utilized if prior approval is granted by the District Engineer or the District's Field Operation's Manager. Maximum depth shall be seven (7) feet below finished grade to the top of pipe.
- 1.2 **Valves:** All valves shall be turned "Left" for open and shall be restrained for the Bancroft area and shall be turned "right" for open and restrained in the Clover area. The District Engineer or the District's Operation Manager will designate which to use.
- 1.3 **Fire Hydrants:** The District will only allow the use of Mueller Centurion Model A-473 (open right) or A-423 (open left), or a Waterous WB-67-250 with a 1-1/2 inch pentagon operating nut. Hydrants and auxiliary valves will open the same as gate valves, whether they are in the Bancroft or Clover areas (see above).
- 1.4 **Fire Line:** Fire Lines for sprinkler systems are owned by the User or building owner and must be maintained from the connection to the Main line (including the tee or gate valve) through the building by the User. Although the District will have the right to inspect the line and require the User to maintain the line for continued service. If the User does not maintain the line, the District may maintain it, repair leaks, etc. and will charge the User for such service, which the User must pay within thirty (30) calendar days.
- 1.5 **Crossing:** Crossings of non-potable lines, sewer lines, storm sewer lines with domestic water line shall follow the Colorado State Health Department Code. Connections from PVC to ductile iron shall be made by the use of the inst-fitting with SDR 35 gasket or a dresser fitting. See Detail # 35.
- 1.6 **Tracer Wire:** All water pipe shall have a tracer wire. Install a 12 gauge single strand copper tracer wire to pipe with 2-inch wide PVC tape. Splicing of tracer wire shall be per manufacturer's recommendation. The tracer wire shall run to a test station next to a fire hydrant. See Detail 82.
- 1.7 **Restraint:** All bends, tees, fire hydrants, blow-offs and plugs at dead end Mains shall be protected from thrust by using concrete thrust blocks based on 1,500 psf maximum allowable soil pressure. If soil pressure changes, then the Developer will submit the new calculation for the thrust blocks that must be prepared and signed by a Colorado Registered Professional Engineer. All above listed items and in-line valves shall also be mechanically restrained using either mega-lugs or rodding. Tees will be restrained on all

three legs. The mechanical joint restraint devices shall be of the type listed or equal, approved by the District. For ductile iron pipe: EBBA Iron, Inc. Megalug 1100 Series (4" – 36"). For PVC Pipe: EBBA Iron, Inc. Megalug 2000 PV Series (4" – 12"). For Push-on Joints: DIP, EBBA Iron Megalug 1700 Series (4" – 36"). PVC, EBBA Iron, Inc. Megalug 1500 Series (4" – 12"). Fire hydrant laterals and fire lines shall be mechanically restrained using megalugs for the full length of the line. See Details #2627.

Compaction of all trenches must be attained and compaction test results submitted to the District. All backfill shall be compacted to a minimum of 95% standard proctor density under roadways or higher if required by the City of Lakewood or the Colorado Department of Transportation.

1.8 **Service Lines and Meters/Backflow Devices**

Meters will be supplied by the District at the User's cost. All meters shall be installed in an outside meter pit. The District does not allow the meter inside the building. Also, the District does not allow the Service Line to connect to the fire line (combination Service Line). An independent Service Line must be tapped to the Main line.

Water service shall be one service per building unless each Unit is separately owned. A determination whether the Service Line will connect directly into a District Main or private main first then into a District Main will be made by the District Engineer and/or District General Manager. The Board may waive the requirement of a separate Service Line, if a standard unified service agreement has been entered into with the District. A Duplex will have two (2) Service Line connections so that each Duplex Unit shall be separately tapped and metered.

See Standard Drawings in the DWD Manual for details to be used within the District's boundaries with the changes noted above.

Backflow prevention devices shall be a minimum of a reduced pressure device, Febco 825YA or equal. This will be installed on all commercial or industrial Taps and on residential Taps where the property has a well or other water source located on it. If the property has a well or other water source on it, then a dual source water agreement must be signed. Also, testing of the backflow prevention device must be checked yearly by a certified technician with results of the testing to be sent to the District. Fire lines must also have a backflow prevention device (District Engineer shall determine the device type).

Sprinkler systems for any building cannot be connected inside any meter vault.

2. SANITARY SEWER STANDARDS

The Sanitary Sewer Design Technical Manual of the Wastewater Management Division of the Denver Department of Public Works has been adopted by the District, with modifications as follows:

The District's General Manager shall have the authority to add or delete any reasonable additional requirements from time to time.

The bedding material shall be clean well graded squeegee sand and shall conform to the following limits when tested by means of laboratory sieves:

<u>SIEVE SIZE</u>	<u>TOTAL PERCENT PASSING BY WEIGHT</u>
3/8 inch	100
No. 200	0 – 5

Sanitary Sewer Mains shall be polyvinyl chloride (PVC) manufactured in accordance with ASTM D-3034, SDR 35, as manufactured by Certainteed, J-M Manufacturing, Vinyl-Tech, ETI, Inc. or District approved equal. Service Lines shall be of the same material as the mains or can be Schedule 40, glued or rubber gaskets are allowed. Services must have tracer wires on them for future location and a cleanout at property line.

If tying into an existing manhole the nearest proposed manhole to the point of tie-in shall be plugged with a plumbers plug on the outlet side by the Contractor. The plug shall remain in place until acceptance by the District. Its purpose is to prevent any mud, water, or other materials from entering the existing line during construction. The Contractor shall be responsible for pumping and cleaning these manholes and removing the plug when instructed by the District. If tying into an existing line with a new manhole the existing pipe at the point of connection shall not be broken out until the User is directed to do so by the District.

All manholes shall be 48 inches in diameter with 24-inch ring and cover and eccentric cone unless otherwise specified. If tying into an existing manhole, the connection must be machine cored. The Contractor shall take care to properly shape all manhole inverts and benches to promote smooth flow through the manhole. Manhole inverts shall be constructed with a smooth trowel finish and benches finished with a light broom, non-skid finish. Any manhole less than 8.5-feet deep shall be required to have a flat top section instead of the eccentric cone. All manholes more than 20-feet deep shall have an intermediate landing.

Tees are required at all Service Line to Main connections.

At the end of a cul-de-sac, a maximum of three (3) 4-inch service connections will be allowed at a manhole. In any other situation, only one (1) service connection will be allowed to a manhole and the Service Line must be one (1) size smaller than the main line. The manhole invert will be reshaped to accommodate the service's connection and provide a smooth flow through the manhole.

A separate and independent Sewer Service Line shall be provided for every building. An independent Sewer Service Line is required for individually owned Units. A determination whether the Service Line will connect directly into a District main or private main first then into a District Main will be made by the District Engineer and/or District General Manager. The Board may waive the requirement of a separate Service Line, if a standard unified service agreement has been entered into with the District.

Duplex properties must have a single Sewer Service Line for each Unit. Each single-story commercial structure shall have an individual Sewer Service Line and connection for each commercial Unit in the commercial structure, or, if not divided into Units, then it shall have a separate Service Line and connection for each building. Multi-story commercial, retail and office buildings may have a common private sewer service if the District General Manager and/or District Engineer makes this determination. If the above is determined, then as a minimum, the private pipe must be six (6) inches in diameter, have a minimum slope of one (1) percent, must be able to accommodate a two-compartment grease interceptor in each Unit and the Board must approve a unified service agreement between the District and the User.

Drop manholes are discouraged, but if allowed by the District in writing the drop must be an outside drop. See Detail.

Connection of a Service Line to a Sewer Main will be machined tapped and will require a saddle tee connection (as approved by the District), or in the case where the Service Line is only one (1) size different (6-inch to an 8-inch or 8-inch to 12-inch, etc.) will require a manhole to be installed.

Each business, restaurant, bar, school, medical center, nursing home, establishment or other Customer regularly providing food service to its customers, residents, patrons, patients, or members of the general public shall have a grease interceptor. There are no automatic variances; however a grease interceptor variance may be requested in writing to the District. The minimum size will be determined by the District Engineer or District Field Operations Manager. Maximum capacity of 50 gallons in-the-floor models is allowed and must have two (2) compartments. A minimum 350-gallon capacity grease interceptor is required for all exterior grease interceptors. Under-the-sink grease interceptors are not permitted. All grease interceptors must meet State Health Department requirements.

Each business, gasoline or automotive service station, vehicle lubricating, maintenance, or repair facility, car wash, automotive wrecking yard, school, automotive dealership with repair facilities, establishment or any other Customer regularly providing vehicle lubrication, maintenance, disposal or repair services to its Customer, patrons, members of the general public, or for its own benefit, shall have a sand and oil interceptor. See section 500.09 on sand/oil traps and grease traps.

Testing of the Sewage System shall be per Exhibit B. "Tests for leakage and infiltration after construction of sewer lines and by ASTM C1244-93".

EXHIBIT B

SERVICE LINES STANDARDS AND SPECIFICATIONS

1.0 GENERAL

Construction of all Service Lines shall be done by Licensed Plumbers in accordance with the Technical Plumbing Code of the State of Colorado. All Contractors must be licensed by, bonded, and able to present a certificate of adequate insurance to the District.

2.0 WATER SERVICE LINES

The Water Service Lines shall be soft, type K, copper. Fittings shall be lead free brass copper alloy as specified by the EPA, "MacDonald Compression Flare System," "Brass Flare Insert System," (Part No. 4670 for 3/4 inch), or, "Brass Insert Adapter" fittings, Connection shall be by flared method.

- 2.1 The Water Service Line shall be laid at uniform grade and in straight alignment, and shall be brought to the building at an elevation of 4-1/2 feet cover.
- 2.2 Except upon written consent by the District General Manager or Field Operations Manager, no Water Service Line may be more than sixty feet (60') in length from the property line to point of Connection to the structure.
- 2.3 No Service Line shall be laid parallel to or within three feet of any bearing wall which might be thereby weakened.
- 2.4 No Service Line shall be placed in the same trench with a Sewer Service Line. Water Service Lines must be ten feet (10') horizontally from the Sewer Service Line, and on the uphill side.

3.0 SEWER SERVICE LINES

The Sewer Service Line shall be of SDR Class 35 P.V.C. pipe, which meets with approval by the District's Engineer. Pipe must be bedded with a minimum of 6" of squeegee below and above the pipe. At least 3.5 feet of cover is required over pipe.

- 3.1 The line shall be water-tight and on a contact 2% grade for a 4 inch line and a minimum of a 1% grade on a 6 inch line, in a straight line and not closer than three feet from any bearing wall.
- 3.2 Except upon written consent of the District General Manager or Field Operations Manager, no Sewer Service Line may be more than sixty feet (60') in length from the property line to point of connection to the structure. If a variance is approved to extend the Service Line beyond the 60' limit a clean out will be required on the Service Line at 100-foot intervals. A cleanout at the property line is required on all Service Lines.
- 3.2.A Any private sewer lateral larger than 4" connecting to an 8" District Main must tie into a manhole.
- 3.3 Existing "Y" or "T" branches, which are accessible in District sewers, shall be utilized for the building connections; those District sewers in which "Y" or "T" branches exist, but are inaccessible, or where no "Y's" are provided, shall be tapped by the use of a machine and accepted prefabricated P.V.C. saddles, will be required. Joints between existing "Y's" or "T's" and building sewers shall be made with a factory glue or compression coupling approved by the District; all P.V.C. saddles shall be joined to the District sewer by stainless steel bans approved by the District; building sewer connections shall be constructed with water-tight joints; concrete encasement will not be considered as water-tight and shall not be used as a joint; nor will it be used as a means of repairing damaged joints or pipe unless

approved by the District; saddle connections shall be made over a smooth, round hold, machine-drilled into the public sewers; properly sized saddles will be aligned directly over the drilled hole.

3.3A. All new sanitary sewer Connections will utilize a “T” connection with a Tee as the mainline is installed or will be cored into the mainline at a 90 degree angle to the main (Tee) connection and the saddle Connection as described above will be utilized.

3.4 District shall be notified at least 24 hours in advance of the scheduled time for backfilling of all Sewer Service Lines, and no trenches for Sewer Service Lines shall be backfilled prior to being inspected by authorized District Personnel. If District is not given such 24hour notice, and any Sewer Service Lines are backfilled prior to District inspection, the Contractor shall re-excavate the Sewer Service Lines at its own expense to allow them to be inspected.

4.0 EXCAVATION

All excavations required for the installation of water or sewer service shall be open trench work unless otherwise approved by the District Engineer.

4.1 Adequate barricades, signs, and warning devices as required by the District and the City of Lakewood, County of Jefferson, and/or the State of Colorado, whichever is applicable, shall be placed and maintained during the progress of the work.

4.2 Paving, curbs, and gutters, sidewalk improvement services, or other street improvements, removed or damaged during construction shall be replaced, pursuant to all required permits, to the same elevation and alignment, with the same type and dimensions of Units removed, and shall be equal to and consistent with the undisturbed portion of the improvements existing prior to trench excavation.

4.3 All Contractors, Licensed Plumbers, and others doing work on any Water or Sewer Main, Service Line, or structure in the District shall comply with Jefferson County, City of Lakewood, or State Highway Department regulations on excavation, backfill, compaction, and restoration of surfacing.

5.0 MAINTENANCE OF BACKFILL AND SURFACE WARRANTY

5.1 All backfill shall be maintained in a satisfactory condition and all places showing signs of settlement shall be filled and maintained during the life of the contract and for a period of one year following the date of final acceptance for all work performed under the contract; except, the Warranty Period for settlement in asphalt surface streets shall be two (2) years. When the Developer or Contractor is notified by the District that any backfill is hazardous, the User shall correct such hazardous condition at once. All work shall conform to the rules and regulations of the City of Lakewood, County of Jefferson and the State of Colorado, which may include the use of flow-fill/flash fill that is required for repairs.

6.0 INSPECTIONS

6.1 All daily inspection fees on water or sewer construction required by any governmental Unit having jurisdiction over the construction shall be paid by the Licensed Plumber, Contractor, or others doing work for the District.

6.2 All work shall be inspected by the District's representative, who shall have the authority to recommend to halt construction when, in his opinion, District specifications or proper construction practices are not being adhered to. Whenever any portion of District specification is violated and/or proper construction practices are lacking, the District representative shall, in writing, state the issue and leave the site to inform the Field Operations Manager and District Engineer. Any work performed once the District representative leaves the site must be re excavated in order for the District to inspect. No pipe shall be backfilled without the District representative's approval.

7.0 SPECIFICATIONS FOR INSTALLATION OF 3/4" AND 1" OUTSIDE METER SETTINGS

7.1 The outside meter setting shall be used exclusively on any new installations.

7.2 Contractor must be licensed by, bonded to, and able to present a certificate of insurance to the Bancroft-Clover Water and Sanitation District.

7.3 Contractor will be responsible for purchase of all street cut permits from either the City of Lakewood or Jefferson County according to location of service.

7.4 Copper tubing shall be soft, underground, "K" type only.

7.5 Curb stop (neoprene ball type) shall be installed outside of building in front of the meter pit, and beyond the property line. Curb stop service boxes shall be cast iron and shall be of the following type or an equivalent which is acceptable to District's Engineer.

Tyler 6500, 5' extension size, Size 94E
Stop Box Buffalo Type Complete, 2" shaft.

7.6 There will be no soldered connections permitted underground.

7.7 Copper setter or meter yoke must be a 3/4" Ford VI-183W with backflow preventer or 1" Ford VH84W with backflow preventer, or equivalent with locking type turn-on.

7.8 Meter pits shall be a circular concrete type with 24-inch inside diameter rings, approximately 54 inches in depth, and include frost cover and cast iron outer cover.

7.9 Frost cover to be Comco cast iron type or equivalent.

7.10 Top of water meter, when installed, shall be no less than three inches nor more than four inches below the inner lid of the frost cover.

7.11 Meter pits are to be installed in a landscaped area either just outside of private property or within an acceptable easement.

7.12 Contractor or User will be responsible for exact location and correct elevation of meter pit in regards to finished grade of yard.

7.13 The Bancroft-Clover Water and Sanitation District will install the meter (and only the meter) at which time the final inspection will be made.

7.14 Water Stub-Outs includes curb stop, meter pit and yoke.

7.15 Meter and Meter Yoke will be furnished by District as the Users cost.

EXHIBIT C

TESTS FOR LEAKAGE AND INFILTRATION AFTER CONSTRUCTION OF SEWER LINES

Pursuant to these rules and regulations, unless deemed unnecessary by the District Engineer or Bancroft-Clover Field Operations Manager in their reasonable discretion, each section of newly constructed or replaced Sewer Main between two successive manholes shall be tested for leakage and/or infiltration before probationary acceptance of the line. The Contractor shall furnish all materials required for the tests. Tests shall be made in the presence of the District Engineer, Bancroft-Clover Field Operations Manager, or a field representative.

If, in the opinion of the District Engineer or Bancroft-Clover Field Operations Manager, heavy compaction equipment or any of the operations of the Contractor or others may have damaged or affected the required watertight integrity of a previously tested line, a retest may be required.

If the leakage and/or infiltration rate as shown by the test exceeds allowable amounts, the pipe joints shall be repaired or, if necessary, the pipe shall be removed and re-laid by the Contractor at its sole expense.

The Contractor may, at its option, air test or water test for leakage except where (a) in the opinion of the District Engineer or Bancroft-Clover Field Operations Manager, excessive groundwater is encountered, so that the infiltration test shall be required, or (b) where the difference in elevation between the invert of the upper structure and the invert of the lower structure is more than 10-feet, in which event the air test shall be utilized.

1.0 LEAKAGE TESTS

1.1 Exfiltration

Gravity concrete and clay Sewer Mains shall permit not more than two hundred (200) gallons of infiltration per day, per mile of pipe, per inch nominal diameter. PVC Sewer Mains shall permit not more than fifty (50) gallons of infiltration per day, per mile of pipe, per inch nominal diameter.

In areas where the groundwater level is less than one foot (1') above the pipe, the Contractor shall perform an exfiltration or leakage test. After capping and blocking all wyes or tees, the pipe between successive manholes shall be filled with water, including the upstream manholes.

The water depth above the pipe invert at the lower end shall be at least to the elevation of the ground surface, unless otherwise specified. The maximum depth at the lower end shall not exceed twenty-five feet (25'), and the minimum depth at the upper end shall be at least five feet (5') above the crown of the pipe or five feet (5') above groundwater elevation, whichever is higher. The amount of water added during the test period from the section under test to maintain the water level shall be measured and it shall not exceed a rate of two hundred (200) gallons exfiltration per day, per mile of pipe, per inch nominal diameter for concrete and clay pipe and shall not exceed a

rate of fifty (50) gallons exfiltration per day, per mile of pipe, per inch nominal diameter for PVC pipe.

For purposes of determining maximum allowable leakage, nominal diameter and depth of manholes shall be included. The exfiltration tests shall be maintained on each reach for at least two (2) hours and as much longer as necessary, in the opinion of the District Engineer or Bancroft-Clover Field Operations Manager, to locate all leaks.

The Contractor shall provide, at his own expense, all necessary piping between the reach to be tested and the source of water supply, and all labor, equipment, and materials required for the tests. The methods used and the time of conducting exfiltration tests shall be acceptable to the District Engineer or Bancroft-Clover Field Operations Manager.

The Contractor shall take all necessary precautions to prevent any joints from separating, or other damage to the pipe lines or their appurtenances or to any structures, while the tests are being performed.

The length of hose connection shall not be used in computing the length of Sewer Main being tested.

All tests must be completed before street or trench is resurfaced, unless otherwise directed by the District Engineer or Bancroft-Clover Field Operations Manager.

2.0 LOW PRESSURE AIR TESTING

Low pressure air testing may be used in lieu of exfiltration testing for 24-inch diameter and smaller PVC sewer pipe. Air testing shall not be used for manholes.

Low pressure air testing shall comply with ASTM C828 for PVC pipe. The schedule of testing shall be submitted to and accepted by the District Engineer or Bancroft-Clover Field Operations Manager prior to starting the tests.

The pipe to be tested shall first be cleaned by propelling a snug fitting, inflated rubber ball through the pipe with water. All pipe outlets shall be plugged with suitable test plugs and each plug shall be braced securely. If pipe to be tested is submerged in groundwater, insert a pipe probe by boring or jetting into the backfill material adjacent to the center of the pipe and determine the pressure in the probe when air passes slowly through it. This is the back pressure due to groundwater submergence over the end of the probe. All gauge pressures in the test should be increased by this amount. If a test pressure greater than 10 psi results, air testing shall not be used and exfiltration or infiltration testing will be required.

Air shall be added slowly to the portion of the pipe begin tested until the internal air pressure is raised to four (4) psig. The compressor used to add air to the pipe shall have a blowoff valve set at 10 psi to assure that at no time the internal pressure in the pipe exceeds 10 psi.

After an internal pressure of four (4) psig is obtained, allow at least two (2) minutes of air temperature to stabilize, adding only the amount of air required to maintain pressure. When the

pressure decreases to three and one-half (3½) psig, start the stopwatch. Determine the time in seconds that is required for the internal air pressure to reach two and one-half (2-1/2) psig.

Minimum permissible pressure holding times for runs are calculated using the following formula:

$$T = 0.000183 D^2L$$

T = Test time in minutes

D = Inside diameter of pipe in inches

L = Distance between successive manholes in feet

If the pressure drop from 3.5 psi to 2.5 psi occurs in less time than the above calculated values, the pipe shall be overhauled and, if necessary, replaced and re-laid, at the Contractor's expense, until the joints and pipe shall hold satisfactorily under this test.

This air test may be dangerous if, because of ignorance or carelessness, a line is improperly prepared. It is extremely important that the various plugs be installed and braced in such a way as to prevent blowouts. Inasmuch as a force of two hundred and fifty pounds (250 lbs.) is exerted on an eight-inch (8") plug by an internal pipe pressure of five (5) psig, it should be realized that sudden expulsion of a poorly installed plug, or of a plug that is partially deflated before the pipe pressure is released, can be dangerous. As a safety precaution, pressurizing equipment should include a regulator set at perhaps ten (10) psi to avoid over-pressurizing and damaging an otherwise acceptable line. No one shall be allowed in the manholes during testing.

2.1 Infiltration Test

If, in the construction of a section of the sewer between structures, excessive groundwater is encountered, the test for leakage described in the exfiltration test shall not be used; instead, the end of the sewer at the upper structure shall be closed sufficiently to prevent the entrance of water, and pumping of groundwater shall be discontinued for at least three (3) days after which the section shall be tested for infiltration. The infiltration for concrete and clay lines shall not exceed 200 gallons per inch of nominal diameter per mile of sewer line per day of Main-line sewer being tested, or as indicated in Table I, and for PVC lines, the infiltration shall not exceed 50 gallons per inch of nominal diameter per mile of sewer line, per day of main-line sewer being tested, or as indicated in Table II, and does not include the length of hose laterals entering that section.

Where any infiltration in excess of this amount is discovered, the line shall be immediately uncovered and the amount of infiltration reduced to a quantity within the specified amount of infiltration before the sewer is accepted, at the expense of the Contractor.

Should the infiltration be less than the specified amount, the Contractor shall stop any individual leaks that may be observed when ordered to do so by the District Engineer or Bancroft-Clover Field Operations Manager. The Contractor shall furnish all labor and materials for performing the tests required. All tests must be completed before street or trench is resurfaced, unless otherwise directed by the District Engineer or Bancroft-Clover Field Operations Manager.

TABLE I

ALLOWABLE LIMITS OF INFILTRATION FOR CONCRETE AND CLAY PIPE
 200 Gal./Inch Dia./Mi./Day
 or
 0.16 Gal./Inch Dia./100²/Hr.

Diameter of Sewer (Inches)	Infiltration (Gallons)
8	1.3
10	1.6
12	1.9
15	2.4
18	2.8
21	3.3
24	3.8
27	4.3
30	4.8
36	5.7

ALLOWABLE LIMITS FOR INFILTRATION
 FOR MANHOLE STRUCTURES

Diameter of Manhole (Inches)	Infiltration Vertical ft / hr
41	0.07
48	0.08
60	0.10
72	0.12

TABLE II
 ALLOWABLE LIMITS FOR INFILTRATION
 FOR PVC PIPE
 50 Gal./Inch Dia./Mi./Day
 or
 0.04 Gal./Inch Dia./100²/Hr.

Diameter Infiltration of Sewer Gal./Hr./100'	
<u>(Inches)</u>	<u>(Gallons)</u>
8	0.32
10	0.40
12	0.48
15	0.60
18	0.72
21	0.84
24	0.96
27	1.08
30	1.20
36	1.44

2.2 Tests for Alignment and Grade, and Damaged or Defective Pipe in Place

After the pipe has been installed, tested for leakage, backfilled, manhole raised to grade, and the trenches reinforced, the District Engineer or Bancroft-Clover Representative will have the Contractor televise all lines. All defective portions of the new facilities will be noted to the Contractor after the lamping operation or televising operation is complete. All lines should be flushed and manholes cleaned by the Contractor prior to televising. The Contractor will provide a deflection test (mandrel) of the line. No flushed water or material shall be discharged to existing Sewer Mains. The televising and mandrel tests will be performed at the expense of the Contractor/User and will become the property of the District after interpretation.

2.3 Manhole Test

All manholes will be vacuum tested per ASTM C1244-93 and must pass the minimum requirements of ASTM C1244-93. Test results shall be forwarded to the District.

EXHIBIT D

TRENCHLESS SANITARY SEWER SERVICE LINE CONNECTIONS

When not installed by open trench methods, Sewer Mains may be installed or replaced by trenchless construction methods subject to the following requirements.

The Contractor must contact the Bancroft-Clover District office for requirements on construction bonding, etc. The Contractor or supervisor must be thoroughly familiar with the equipment and type of work to be performed and be in direct charge and control of the operation at all times. The Contractor shall be responsible for the proper assembly of all pipe and appurtenances in accordance with the manufacturers written installation procedure.

Installation Requirements

Microtunneling: Perform work in accordance with National Utility Contractors Association (NUCA) Trenchless Technology Manual, and the NUCA Guide to Pipe Jacking and Microtunneling Design.

Horizontal Directional Drilling: Perform work in accordance with Plastic Pipe Institute (PPI) TR-46 Guidelines for Use of Mini-Horizontal Directional Drilling for placement of High Density Polyethylene Pipe.

Trenchless Technology includes the use of pipe bursting equipment employing static, pneumatic or hydraulic means of expanding and/or removal of the existing host pipe together with the insertion of a new pipe along the grade and alignment of the existing host pipe. All work shall comply with the International Pipe Bursting Association (IPBA) Guideline specification for the Replacement of Mainline Sewer Pipes by Pipe Bursting.

The use of Trenchless Parallel No-dig Technology that is a refined version of the water flush drilling method is acceptable. Any pipe installed by this method shall be immediately adjacent to the existing Sewer Service Line.

The above described means of replacing Water Mains shall be generally referred to as trenchless technology. With the exception of microtunneling and horizontal directional drilling.

Service Lines being installed as a replacement for an existing Service Line shall be installed within two feet (2') of the existing service horizontal alignment, unless otherwise approved in writing by the District.

The pipe installed by trenchless technology methods shall be limited to straight pipe lengths not exceeding 350 lineal feet. The installed pipe shall be allowed the manufacturer's recommended amount of time, but not less than 4 hours, for cooling and relaxation due to tensile stressing prior to any reconnection of Service Lines. Standard bends and fittings required for connection to the building sewer pipe and the drop connection to the Tap on the Sewer Main shall be used for adjustments of pipe grade and alignment. The completed Sewer Service Line shall not contain any sags, bends, or transitions that impede the free flow of wastewater.

Upon completion of the Service Line, the pipe shall exhibit no visible signs of leakage or infiltration. If any leakage and/or infiltration is visible, the pipe joints shall be repaired or, if necessary, the pipe shall be removed and replaced by the Contractor.

Special Requirements

When Service Line replacements require replacement within the public rights of way or easements for the Sewer Main, the Contractor shall be required to replace the Service Line connection back to the point of the service Tap on the Sewer Main. The new service tap and related work shall comply with the District's current standards for sewer Service Lines and taps.

Service Line pipe installed by Pipe Bursting or Trenchless Parallel No-dig Technology requires the use of butt fusion welded pipe.

The Contractor is responsible for any by-pass pumping that may be required. All work shall conform to state and local health department requirements.

Settlement or heaving of the ground surface during or after construction will not be allowed. The Contractor is solely responsible for the costs of repairing any surface heaving or settlement. All voids created by pipe installation using trenchless technology shall be filled prior to completion of the installation.

Sewer Service Lines installed under this these provisions shall comply with the District's requirements to provide cleanouts along the pipe at a maximum spacing of 100 linear feet.

Following completion of the Service Line, the transition couplings shall remain exposed overnight. The Contractor shall return to the site on or after the following day before 9:00 a.m. to retighten the coupling bands prior to backfilling the remaining open trench. As an alternative, the coupling shall be installed over the abutting pipe ends (not more than 1/8" between squarely cut pipe ends) and shall remain in place for a minimum of 12 hours before the pipe interior is videotaped. The Contractor shall provide a copy of the video tape to the District for review. Under this condition, for any increase in the gap at the joint or displacement of the pipe noted on the videotape, the Contractor shall be required to expose the coupling and realign the pipe and retighten the bands on the coupling. All video tape recordings will be performed at the expense of the Contractor/User and will become the property of the District after review and interpretation.

Pipe Slope

Service Line installations shall meet the requirements set forth in Table 1.

TABLE 1

Installation Requirements	Installation Method			
	Horizontal Directional Drilling		Microtunneling, Pipe Bursting, or Parallel No-dig	
Maximum deviation from alignment and grade	0.05 feet		0.08 feet	
Overcut diameter of bored hole	25% greater than pipe or bell OD		2% greater than pipe or bell OD	
Minimum Grade	Minimum Slope + 1.0%		Minimum Slope + 0.5%	
	Pipe Dia.	Minimum Slope	Pipe Dia.	Minimum Slope

	4	3.00%	4	2.50%
	6	2.00%	6	1.50%
	8	1.50%	8	1.00%
Maximum Grade	14%		14%	
Exterior Void Fill Material	Flowable fill or grout		Pressure grout	
Pipe Lubricant (All Installations)	Mixture of bentonite and potable water in accordance with API 13A or Polymer lubricant with additives Meeting NSF 61			

Pipe Materials

All pipe used for trenchless installations shall conform to the requirements in Table 2. For installations over 100 lineal feet the District reserves the right to require an increased pipe size and/or wall thickness. Under no circumstances shall the force applied to the pipe during installation exceed the manufacturers recommended maximum allowable installation force for the size and type of material being installed. The Contractor shall provide the District with evidence of the manufacturers recommended maximum allowable installation force and the actual force applied during the installation of the pipe. HDPE pipe shall be gray in color.

TABLE 2

Pipe Type	Nominal Dia. (in.)	Series	DR	Specification Standard	Material	Pressure Rating	Joint Type
HDPE	4	DIPS	17	ASTM D2513	PE 3408 ASTM cell classification D 3350	100	Butt Fusion Welded
	6	DIPS	17	ASTM D2513	PE 3408 ASTM cell classification D 3350	100	Butt Fusion Welded
	8	DIPS	17	ASTM D2513	PE 3408 ASTM cell classification D 3350	100	Butt Fusion Welded
PVC	4	DIPS	17	AWWA C900	ASTM cell classification 12454	235	Butt Fusion Welded
	6	DIPS	18	AWWA C900	ASTM cell classification 12455	235	Butt Fusion Welded

	8	DIPS	18	AWWA C900	ASTM cell classification 12456	235	Butt Fusion Welded
PVC	4	DIPS	17	AWWA C900	ASTM cell classification 12457	235	Internal Restrained Joint
	6	DIPS	18	AWWA C900	ASTM cell classification 12458	235	Internal Restrained Joint
	8	DIPS	18	AWWA C900	ASTM cell classification 12459	235	Internal Restrained Joint

Pipe Transitions

Transitions between pipe installed using trenchless methods will be transitioned to a straight section of standard sewer pipe using Fernco adapters as listed in Table 3. No substitutions for the specified Fernco Part Number are acceptable. Contractors are advised that the nominal inlet and outlet diameters of the Fernco couplings may not directly fit the inlet or outlet pipe outside diameters, but are within the manufacturer's tolerance of $\pm 5\%$ of the nominal inlet/outlet coupling size. All adapters have 4 stainless steel bands with a stainless steel shear ring.

TABLE 3

Nominal Pipe Size (in.)	Dimension Standard	Installed Pipe Material	DR	OD (in.)	Fernco Part No.
4	DIPS	HDPE	17	4.8	1051-44RC
4	DIPS	Fusible PVC	18	4.8	1051-44RC
4	DIPS	PVC	18	4.8	1051-44RC
6	DIPS	HDPE	17	6.9	1056-66RC
6	DIPS	Fusible PVC	18	6.9	1056-66RC
6	DIPS	PVC	18	6.9	1056-66RC
8	DIPS	HDPE	17	9.05	1051-88RC
8	DIPS	Fusible PVC	18	9.05	1051-88RC
8	DIPS	PVC	18	9.05	1051-88RC

Tests for Alignment and Grade and Damaged or Defective Pipe in Place

After the pipe has been installed, cleaned by flushing, observed for leakage, the Contractor will have a video inspection made on the Service Line in its entirety. No flushed water or material shall be discharged to existing Sewer Mains. The Contractor shall provide a copy of the video tape

to the District for review. All defective portions of the new Service Line and Connections will be noted to the Contractor after review of the video tape is complete. A quality video inspection will be required of the District's mainline to view the connection of the Service Line to the District's Main. The video tape recordings will be performed at the expense of the Contractor/User and will become the property of the District after review and interpretation.

VERSION HISTORY

February 9, 2015 Updated 700.02 to reflect implementation of volumetric sanitary sewer charges.