BIDDER NAME:

INVITATION FOR BIDS

DENVER WATER'S

BIDDERS' PROPOSAL No. 503967

AND THE ATTACHED DOCUMENTS

FOR

2019 WATER MAIN REPLACEMENTS

SCHEDULE OF EVENTS*

DESCRIPTION	DATE	TIME
IFB Issued	Friday, May 10, 2019	8:00 A.M.
Deadline to RSVP for Pre-Bid Conference. RSVP via e-mail to: Brandon.wedll@denverwater.org	Wednesday, May 15, 2019	5:00 P.M.
MANDATORY Pre-Bid Conference. Details will be provided upon receipt of RSVP	Friday, May 17, 2019	9:00 A.M.
Deadline to Submit Requests for Clarification and Additional Information; to: Brandon Wedll Brandon.wedll@denverwater.org	Monday, May 20, 2019	12:00 P.M.
Response to Written Requests for Clarification and Additional Information	Thursday, May 23, 2019	5:00 P.M.
Bid Due Date	Monday, June 03, 2019	11:00 A.M.

*****_All dates are tentative and subject to change and/or cancellation at Denver Water's sole discretion. Denver Water will notify potential Bidders of any and all necessary changes and/or cancellations via written addendum. All times included on this Schedule of Events are Mountain Time._

INDEX

DEFINITIONS 3

INSTRUCTIONS TO BIDDERS 6

GENERAL CONDITIONS 7

SPECIAL CONDITIONS 14

SPECIFICATIONS 21

ACCEPTANCE 22

EXHIBIT A – BID FORM
EXHIBIT B – PROPOSAL
EXHIBIT C – INSURANCE
EXHIBIT D – PERSONNEL SCREENING
EXHIBIT E – STATEMENT OF INTENT TO USE SMALL BUSINESS ENTERPRISES AND/OR MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES
EXHIBIT F – SAMPLE PROJECT PLAN
EXHIBIT G – SAMPLE AS-BUILT DRAWINGS
EXHIBIT H – SAMPLE MATERIALS LIST
EXHIBIT I – SAMPLE PRE-CONSTRUCTION MEETING AGENDA
EXHIBIT J – SAMPLE TAP PAPERS
EXHIBIT K – DENVER WATER WAREHOUSE MATERIAL ORDER FORM
EXHIBIT L – OUTLINE OF COMMUNICATIONS FOR PIPE REPLACEMENT
EXHIBIT M – OUTAGE NOTIFICATION
EXHIBIT N – LSL REPLACEMENT HANDOUTS
EXHIBIT O – DISTRIBUTION FIELD INSPECTION CHECKLIST

ATTACHMENT 1 – CONTRACTOR'S GENERAL INFORMATION
ATTACHMENT 2 – CONTRACTOR EXPERIENCE AND QUALIFICATIONS

Any requests for interpretation, clarification and/or additional information regarding this Bidders' Proposal must be submitted to the following Procurement Contract Specialist no later than the date and time specified in the *Schedule of Events*. E-mail is the preferred method of communication.

PROCUREMENT CONTRACT SPECIALIST: **BRANDON WEDLL**
303-628-6312
brandon.wedll@denverwater.org

DEFINITIONS

Wherever used in the Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural thereof:

Addenda--Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the Contract Documents.

Agreement--The written Agreement between Denver Water and Contractor covering the Work to be performed; other Contract Documents are attached to and made a part of the Agreement. Has the same meaning as Contract.

Bid--The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder--Any person, firm or corporation submitting a Bid for the Work.

Board--Has the same meaning as Denver Water.

Bonds--Bid, performance and payment bonds and other instruments of security.

Business Day--Working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, not including Denver Water holidays. Denver Water holidays can be found on the website at https://www.denverwater.org/contact under Customer Care.

Change Order--An agreement between Denver Water and Contractor that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Time or Contract Price**,** which is issued on or after the Effective Date of the Agreement.

Contract--Has the same meaning as Agreement.

Construction Inspector--The authorized representative of the Board assigned to the Project site, or any part thereof, to observe the Work and to perform certain other obligations of the Board.

Contract Administrator--The authorized Denver Water representative who is assigned to be responsible for the Contract in accordance with the Contract Documents.

Contract Documents--The Agreement, Addenda, Contractor's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award), the Bonds, Invitation for Bids, Instructions to Bidders, General Conditions, Special Conditions, Specifications, Scope of Services, Bid Form, Proposal, Form W-9, Acceptance, Drawings, Insurance, Statement of Intent to Use Small Business Enterprises and/or Minority and Women-Owned Business Enterprises, together with all written amendments, modifications and supplements incorporated into the Contract Documents on or after the Effective Date of the Agreement, and any other documents that are designated “Contract Documents” by Denver Water. No one part of the Contract Documents shall constitute the Contract or Agreement, but the whole taken together shall be the Agreement between the parties.

Contract Price--The moneys payable by Denver Water to Contractor for completion of the Work in accordance with the Contract Documents.

Contract Times--The number of Days or the dates stated in the Contract Documents for the completion of the Work.

Contractor--The person, firm or corporation with whom Denver Water has entered into the Contract to perform the Work.

Day--Calendar day.

Defective--An adjective that, when modifying the word Work, refers to Work that is unsatisfactory, faulty or deficient, does not conform to the Contract Documents, does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by Denver Water in accordance with this Agreement).

DEFINITIONS

Denver Water--The property and personnel under the control of the City and County of Denver, acting by and through its Board of Water Commissioners. Has the same meaning as Board.

Drawings--The Drawings that show the scope, extent and character of the Work to be furnished and performed by Contractor, which have been prepared or approved by Denver Water and are referred to in the Contract Documents.

Effective Date--The date indicated in the Agreement on which it becomes effective. If no such date is indicated, it means the first Day of the Contract Period indicated in the Special Conditions.

Engineering Standards--Standards promulgated by the CEO/Manager of Denver Water and administered by the Chief Engineering Officer, as amended from time to time, that provide uniform requirements for the installation, operation, and maintenance of water facilities and the materials and equipment used for such facilities.

Hazardous Substances--Hazardous Materials and Hazardous Wastes, as defined by the Occupational Health and Safety Administration (OSHA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that include, but are not be limited to, Asbestos, PCBs, Petroleum, Hazardous Waste, and Radioactive Material.

Hazardous Waste--The term shall have the meaning provided in § 1004 of the Solid Waste Disposal Act (42 U.S.C. § 6903).

Laws or Regulations--Any applicable laws, rules, regulations, ordinances, codes, and orders of any governmental bodies, agencies, authorities, and courts having jurisdiction.

Notice of Award--The written notice by Denver Water to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, Denver Water will sign and deliver the Agreement.

Owner--The Board of Water Commissioners of the City and County of Denver, which is formally designated as the City and County of Denver, a municipal corporation of the State of Colorado, acting by and through its Board of Water Commissioners that is at times referred to as "Board" or "Denver Water."

Project Plans--Have the same meaning as Drawings when used in Contract Documents.

Specifications--Those portions of the Engineering Standards that are written technical descriptions of materials, equipment, construction systems, standards and workmanship and administrative details relevant to the Work.

Subcontractor--An individual, firm or corporation having a contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

Supplier--A manufacturer, fabricator, supplier, distributor, materialman or vendor having a contract with Contractor or any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

Surety--A corporate entity authorized to do business in the State of Colorado, which executes as Surety thereon any Bond filed with Denver Water pursuant to the Contract Documents by Bidder or Contractor.

Underground Facilities--Pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Work--The entire completed construction, or the various separately identifiable parts thereof, that are required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and/or services; furnishing and/or incorporating materials and/or equipment; or furnishing documents, all as required by the Contract Documents.

INSTRUCTIONS TO BIDDERS

CITY AND COUNTY OF DENVER, COLORADO
BOARD OF WATER COMMISSIONERS
(referred to in this document as the "Board" or "Denver Water")

1. A Bidder's Proposal in response to an Invitation for Bids shall be submitted in accordance with these Instructions to Bidders and with the General Conditions, Special Conditions, Specifications, Bid Form, Proposal, Form W-9 and Acceptance. These documents, plus any other documents required by the Special Conditions and any Addenda added by Denver Water, constitute the Contract Documents. No one part of the Contract Documents constitutes the Contract.

2. The successful Bidder will be required to completely fill out and sign the Bidder's Proposal page prior to award. The successful Bidder warrants that persons signing the Proposal page are empowered to legally bind the Bidder to a contract.

3. The Bid Form shall be completed on the Excel document and submitted electronically as an attachment with the Bid.

4. Bidders' Proposals must be submitted online to the Rocky Mountain E-Purchasing System (BidNet) on or before the designated Bid opening time.

5. It is the Bidder's responsibility to acknowledge any Addenda (if applicable) issued via the Rocky Mountain E-Purchasing System.

6. Bidders' Proposals may be rejected if not received on the Rocky Mountain E-Purchasing System on or before the Bid opening time.

7. The Bidders' Proposal shall be completely filled out in ink or typewritten and signed by an authorized official. Officials of corporations shall state their official title. Persons bidding as partners or sole proprietors shall so state. Bidder warrants that persons signing the Proposal are empowered to legally bind Bidder to a contract.

8. The Bidder must submit the entire completed Invitation for Bids packet, including the following documents, for its Bid to be considered responsive:
   - Exhibit A – Bid Form (Excel Worksheet)
   - Exhibit B – Proposal
   - Exhibit C – Insurance
   - Exhibit E – Statement of Intent to Use Small Business Enterprises and/or Minority- and Women-Owned Business Enterprises
   - Attachment 1 – Contractor General Information
   - Attachment 2 – Contractor Experience and Qualifications, including Resumes
   - Ability to secure required bonding in amounts up to and including $1,000,000, as evidenced by a letter from a surety
   - Any Addenda, acknowledged by signature

9. It is the Bidder's responsibility to acknowledge any Addenda (if applicable) issued via the Rocky Mountain E-Purchasing System. It is the Bidder's responsibility to sign and submit any Addenda (if applicable) by the requested deadline.

10. Bidders' Proposals may be withdrawn by Bidders prior to the Bid opening time, but only upon written request. Bidders' Proposals may not be withdrawn after they have been opened. All Bidders' Proposals will be deemed firm and open to acceptance or rejection for a period of forty-five (45) Days after the Bid opening.

11. Any conflict between provisions in this Contract shall be resolved by giving precedence in the following order: (A) Specifications; (B) Special Conditions; (C) General Conditions; (D) Definitions; (E) Instructions to Bidders.

12. All Bid prices required to complete the Work, including any charges, fees, or the like, must be included in the Bid Form and must be firm for the Contract period stated in the Special Conditions. In the event a Bid is accepted by the Board, the Bidder agrees that its invoices under the Contract will be consistent with the Bid Form and that it will not bill the Board for any charges, fees, or the like not included in the Bid Form. Any price adjustment clause included with a Bidder's Proposal may result in rejection of the Bidder's Proposal.

13. Bidders, Subcontractors and Suppliers must be familiar with current Denver Water Engineering Standards.

14. Bidders' Proposals may be required to provide descriptive data (catalogs, drawings, etc.) necessary or desirable for proper evaluation of the Bidder's Proposal. Bidders' Proposals that do not comply with this requirement may be rejected.

15. If requested, Bidders shall furnish references demonstrating capability to provide the required materials and/or to perform the required Work. Bidders may be required to provide financial statements (Balance Sheet, Income Statement, Cash Flow Statement), which may be reviewed prior to Notice of Award. The Board may inspect the Bidder's facilities and equipment and assess the Bidder's distribution and Supplier relationships.

16. When a Bidder intends to furnish an article or item of Work that it considers equal to one named on the Bid Form, the item and work must be in accordance with the Engineering Standards, and the Bidder must specify the nature, trade name, or grade of the substitute article and must submit any engineering data and technical literature required by the Board to evaluate the substitute article. The Board reserves the right to determine whether any substitute article is equal to the one named on the Bid Form.

17. Before or at the time that the Contract is awarded to a corporation incorporated outside the State of Colorado, such corporation must carry out the proper procedure to do business in the State of Colorado, designate a place of business therein, and appoint an agent for service of process, all in accordance with Colorado Revised Statutes, Sections 7 90-801 through 7-90-813 and 7 115-101. Such corporation must furnish the Board with a certificate from the Colorado Secretary of State to the effect that a certificate of authority to do business in the State of Colorado has been issued. A photostatic copy of the designation of place of business and appointment of agent for service of process, or a letter stating that such designation of place of business and agent for service of process has been made, shall be procured from the Colorado Secretary of State.

18. The Board reserves the right to reject any or all offers, either in whole or in part, or to waive technical defects if deemed in the best interest of the Board. In the event of a tie Bid, award will be made in the Board's best interest. The Board also may reject any Bid conditioned upon the Board's acceptance of terms and conditions other than those established in the General Conditions, Special Conditions, and Specifications.

19. The Board may decline to enter into a contract with any entity that is in arrears to the City and County of Denver or the Board upon debt or contract, or who is a defaulter as surety or otherwise, upon any obligation to the City and County of Denver or the Board.

20. **Bidders acknowledge that the Board may be required to disclose any or all of the documents submitted with a Bid for the Contract, pursuant to the Colorado Open Records Act, C.R.S. 24-72-201.1, et seq. Under C.R.S. § 24-72-204(3)(a)(IV), the Board may deny inspection of any confidential commercial or financial information furnished to the Board by an outside party. Therefore, a Bidder must clearly designate any documents submitted with its Bid that the Bidder deems proprietary or confidential, to aid the Board in determining what it is required to disclose following a request for documents under the Colorado Open Records Act.**

21. For directions to Denver Water go to www.denverwater.org, click on Contact Us, then Directions to Administration Building.

GENERAL CONDITIONS

1. PERFORMANCE: The Contractor shall furnish the Work and materials covered by this Contract subject to all the terms and conditions contained in the documents comprising this Contract, including these General Conditions. No other terms or conditions shall be binding upon the parties unless agreed to in writing or issued by written order of the Board as described in paragraph 2. The Contractor's written acceptance of this Contract or the performance of any portion of the Work covered by this Contract shall constitute unqualified acceptance of all of its terms and conditions. The General Conditions, Special Conditions, and Specifications shall supersede any inconsistent provisions in Contractor's Proposal.

2. CHANGES IN SCOPE: Upon issuance of a written order, the Board may change the amount or nature of material to be furnished and Work to be performed under this Contract. If the amount of material or Work is increased or decreased, the Contractor will be paid for the actual amount of Work and material furnished.

3. WARRANTY: The Contractor warrants the Work covered by this Contract to be of the kind and quality set forth in the Specifications. The Contractor warrants that the Work shall, at the time of acceptance by the Board, and for a period of one (1) year thereafter, be free of all defects in workmanship, material or installation. For a period of one (1) year from the date the Board accepts any Work required under this Agreement, the Contractor shall be responsible for the satisfactory repair or replacement of any Work that becomes Defective as a direct or indirect result of Contractor's workmanship, Work or negligence or from Contractor's improper handling, furnishing, installation, or use of faulty material or equipment.

4. COMPLIANCE WITH SPECIFICATIONS: The Board's Specifications establish the minimum acceptable requirements for the Work. The Board shall determine at its sole discretion whether any Work complies with the Specifications.

   Any provisions in the Specifications requiring specific ratings, capacities, weights, dimensions or other designations for any materials or equipment refer to the original manufacturer's specifications. The Board shall not be obligated to accept as meeting the Specifications any equipment assigned ratings, capacities, weights, dimensions or designations by any subsequent manufacturer, assembler or dealer. The Board requires any materials and equipment that come in direct contact with treated water to have ANSI/NSF 61 Certification or its equivalent as determined by the Board.

   Materials or equipment that, upon delivery at the Board's site, do not meet the Specifications or have been damaged in transit may be rejected by the Board and returned to the Contractor at the Contractor's risk and expense.

5. FAILURE TO COMPLY WITH SPECIFICATIONS: If any Work provided or performed by the Contractor does not meet Specifications or performance requirements, the Board reserves the right to delay payment until the problem is corrected or to terminate this Contract for default pursuant to General Condition 18.b. below.

6. INSPECTION AND TESTING: The Board's Construction Inspector and other authorized representatives of the Board, including testing agencies and governmental agencies with jurisdictional interests, shall have access to the Work for their observation, inspection and testing. The Contractor shall provide proper and safe conditions for such access.

   The Board may, at its discretion, inspect and test any Work or any delivery of materials or equipment to ensure compliance with the Specifications. The Board will pay the costs of tests it conducts and will make test results available to the Contractor upon request. The Board's findings shall be binding and conclusive. The Board's acceptance of material or equipment or Work, or waiver of any inspection or test, shall in no way relieve the Contractor of the responsibility to furnish material or equipment or complete Work meeting the requirements of the Specifications. The Board also may, at its discretion, allow its agents and contractors and industry organizations to observe Contractor's performance of this Contract for safety purposes.

   If any Work (including the Work of others) that is to be inspected, tested, or approved is covered without the written authorization of the Construction Inspector, it must be uncovered for observation if requested by the Construction Inspector. Such uncovering and subsequent replacement shall be at the Contractor's expense unless the Contractor has given the Construction Project Manager timely notice of the Contractor's intention to cover the Work and the Construction Inspector has failed to act with reasonable promptness in response to such notice.

7. FAILURE TO PASS INSPECTION OR TESTING: The Board will not accept Work, materials, equipment, or field results that are damaged, do not meet the Engineering Standards or, in the Board's discretion, are unsuitable for use in the Board's potable water system. Should any material or the results of any Work fail to meet test criteria, in addition to the Board's exercise of its rights in Paragraph 18 below, the Contractor may be required to take the following actions at its sole cost:

   a. Promptly remove all material or equipment to which the unacceptable material or equipment has been added or with which it has been in contact.

   b. Promptly replace the material or equipment removed with like material or equipment meeting the Specifications.

   c. Promptly correct the Defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by the Construction Inspector, remove it from the site and replace it with non-Defective Work.

   d. Promptly mitigate any issues leading to unacceptable test results and retest as directed by the Construction Inspector and Jurisdiction Having Authority (JHA).

8. PAYMENT: Payment will be made in conformity with the terms and conditions of this Contract. The Board will not make advance or progress payments for Work unless provided for in the Contract. The Contractor must submit documentation supporting the charges in the invoice, which must be consistent with this Contract, and must include the Contract number of this Contract on each invoice. Payments shall be based upon Contractor's verified progress in completing the Work. The Board shall have the right to refuse to pay all or a portion of an invoice that is inconsistent with this Contract; all undisputed portions of the invoice shall be paid. The Board may delay payment until it can verify the accuracy of the invoice, obtain releases or waivers with respect to Work covered in the invoice, or resolve a dispute with the Contractor regarding an invoice. Payment shall be made payable to the trade or business of Contractor.

9. SALES, EXCISE AND USE TAXES:

   a. STATE: The State of Colorado will not impose sales and use taxes upon construction and building materials purchased by the Contractors and Subcontractors for use in the building, erection, alteration or repair of structures, highways, roads, streets and other public works owned and used by the City and County of Denver. In order to qualify for this exemption, an application for a certificate of exemption must be filed with the Colorado Department of Revenue by each Contractor and Subcontractor engaged in the construction project. The Board will not reimburse the Contractor for any such taxes paid as a result of a failure to file a request for exemption. Proposals shall not include any such taxes in the computation of Bids.

   b. LOCAL: The Contractor and all Subcontractors are required to pay the sales and use taxes imposed by a political subdivision of the State of Colorado on purchases of any tangible personal property to be built into the Work produced under this Contract. The Board will not adjust payments for any refund of such taxes that the Board might receive.

   c. FEDERAL: As a political subdivision of the State of Colorado, the Board is exempt from the payment of most federal excise taxes. The Contractor will be reimbursed for payment of any federal excise tax for which the Board is unable to provide an exemption certificate.

10. DELIVERY DATES: All items purchased shall be delivered F.O.B. Destination, Freight prepaid as required by the Specifications. The Contractor shall make delivery as set forth in the Contract Documents. When a date is set for delivery of materials, delivery must occur on or before that date. If timely delivery does not occur, or it appears timely delivery will not occur, the Board will have the right to terminate this Contract for default, the right to purchase equivalent property at market prices for immediate delivery without termination of this Contract and without liability to the Contractor, and a right against the Contractor for any increase in the price over the prices established in this Contract and for any other damages, including but not limited to consequential damages, that arise from the delay or are associated with deliveries to the Board.

11. WARRANTY OF TITLE: The Contractor warrants that title to all Work, materials and equipment covered by an application for payment will pass to the Board no later than the time of payment, free and clear of all liens.

12. RISK OF LOSS: The Contractor shall assume the risk of loss or damage to materials or equipment sold to the Board until the material or equipment has been delivered to and accepted by the Board.

13. PATENTS: The Contractor will provide a defense and hold harmless the Board against any costs, damages or demand for payment arising out of the Contractor's use of any patented or otherwise protected material, process, device or article in performing the Work under this Contract.

14. LIABILITY: The Contractor will provide a defense to the Board and pay any costs and damages for any liability or claim of whatever nature arising in any way out of this Contract, caused by any negligent act or omission or willful misconduct of the Contractor or the Contractor's officers, agents or employees.

15. INSURANCE: The Contractor shall maintain insurance in full force and effect during the full term of this Contract. The Board will determine the appropriate levels and types of insurance necessary for this Contract and will modify the attached Exhibit C before awarding the Contract. Upon Notice of Award, the Contractor will be required to sign the modified Exhibit C, which will be incorporated into the Contract. The insurance requirements may be modified further at the discretion of the Board.

16. PERFORMANCE AND OTHER BONDS: At the time the Work is commenced, the Contractor shall furnish Performance and Payment Bonds, each in an amount at least equal to the value of the Work, as security for the faithful performance and payment of the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Laws or Regulations or by any and all requirements imposed by the Contract Documents. Bonds shall be in the forms prescribed by Laws or Regulations or by the Contract Documents, executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department, and rated "A-" or better by A. M. Best Company. Bonds signed by an agent shall be accompanied by a certified copy of the authority to act. The Bid package shall include proof of A. M. Best ratings. The Contractor shall use the latest versions of forms EJCDC C-610 and EJCDC C-615 for the Contract.

    If the Surety on any Bond furnished by the Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in any state where any part of the Work is located, or it ceases to meet the requirements of Paragraph 16, the Contractor shall, within five (5) days thereafter, substitute another Bond and Surety, both of which must be acceptable to the Board.

17. RECORDS AND AUDITS: The Contractor shall at all times maintain a system of accounting records in accordance with its normal procedures, together with supporting documentation for all Work, purchases, and billings under this Contract.

    The Contractor shall make available for audit and reproduction by the Board, at the Board's administrative offices, all records, in whatever form, related to this Contract. The Contractor shall provide such availability during the term of this Contract and for two (2) years after final payment. The Contractor shall refund to the Board any charges determined by the Board's audit to be inconsistent with this Contract.

18. TERMINATION: Contractor shall not have the right of termination. The Board at any time may terminate this Contract in whole or in part upon written notice stating the type of termination and the effective date of the termination. The Board may terminate for convenience or for default, as described in this paragraph. As used in this paragraph, the word "Contractor" includes the Contractor and its Subcontractors at any tier.

    a. Termination for Convenience. If the Board terminates for convenience, it shall pay to the Contractor, as full compensation:(1) the unit or prorated Contract Price for the performed and accepted portion of the Work; and (2) a reasonable amount, as determined by the Board, not otherwise recoverable from other sources, with respect to the unperformed or unaccepted portion of the Work. Compensation for termination for convenience shall not exceed the dollar amount of the Contractor's sales to the Board under this Contract for the month prior to the termination.

b. Termination for Default. The Board may terminate this Contract for default if the Board in its sole discretion determines that Contractor has failed to comply with the Contract Documents; fails to make progress, so as to endanger performance; acts or fails to act so that it reasonably appears Contractor's future performance is uncertain; or fails to perform the Work within the time specified or any written extension; and does not cure such failure within a reasonable period of time after written notice. In the event of termination for default, the Board may purchase replacement Work, and the Contractor shall reimburse the Board for any excess costs incurred by the Board. The Board shall pay to the Contractor, as full compensation, the unit or prorated Contract Price for the performed and accepted portion of the Work. Termination for default will result in the removal of the Contractor's name from the approved Bid list for two (2) years or a different period of time, at the Board's discretion.

If, after notice of termination for default, the Board determines that the Contractor was not in default or that the Contractor's failure to perform was due to causes beyond the control and without the fault or negligence of the Contractor, the termination shall be deemed for the convenience of the Board per Paragraph 18.a. above.

c. Materials. In any event of termination, the Board may immediately possess and control materials purchased by the Board for the performance of the Work by the Contractor including any pipe and appurtenances.

19. ASSIGNMENT AND SUBCONTRACTS: The Contractor may not assign this Contract or any right or liability of this Contract or enter into any subcontract or amend any subcontract without prior written consent of the Board's Representative. If the Contractor subcontracts or assigns any part of this Contract, the Contractor shall be as fully responsible to the Board for acts and omissions of a Subcontractor as the Contractor is for the acts and omissions of Contractor's own employees. Any subcontract must include language similar to the Records and Audits paragraph of this Contract, requiring records to be adequate and available for Board audit. Any unapproved subcontract or assignment shall be deemed void without any further action required on the part of the Board.

20. NO THIRD-PARTY BENEFICIARIES: Subject to Paragraph 19 above, this Contract shall bind and inure to the benefit of the parties and their respective successors and assigns. This Contract is intended to benefit only the parties, and neither Subcontractors nor Suppliers of Contractor nor any other person or entity is intended by the parties to be a third-party beneficiary of this Contract.

21. CHARTER OF THE CITY AND COUNTY OF DENVER: This Contract is made under and conformable to Article X of the Charter of the City and County of Denver, which controls the operation of the Denver Municipal Water System. Insofar as applicable, the Charter provisions are incorporated by this reference and shall supersede any apparently conflicting provisions otherwise contained in this Contract.

22. COMPLIANCE WITH LAWS: In performing this Contract, the Contractor shall comply with all applicable laws, rules, and regulations, including, but not limited to, the Colorado Workers' Compensation Act and all federal and state tax laws. The Contractor certifies that it has complied, and during the term of this Contract will continue to comply, with the Immigration Reform and Control Act of 1986. The Contractor shall provide to the Board any certification the Board reasonably requests in order to demonstrate the Contractor's compliance with applicable legal requirements. Because the Contractor will be acting as an independent contractor, the Board assumes no responsibility for the Contractor's compliance.

23. VENUE AND GOVERNING LAW: This Contract shall be deemed performable in the City and County of Denver, notwithstanding that the parties may find it necessary to take some action outside the City and County of Denver. This Contract shall be governed by and construed under the laws of the State of Colorado. Any disputes arising hereunder shall comply with the hearing and appeal procedures set forth at Chapter 17 of the Board's Operating Rules, available at www.denverwater.org. If a question arises concerning whether an issue or claim is within the scope of these dispute resolution provisions, such question shall be decided by the hearing officer assigned to the administrative hearing. All disputes of any nature whatsoever, including without limitation claims for additional compensation or extensions of time, and disputes involving claimed breach of or default under the Contract, shall be resolved by this process. The determination of the hearing officer shall be considered a final order and action of the Board and may be reviewed under Rule 106(a)(4) of the Colorado Rules of Civil Procedure in the Denver District Court only.

24. COLORADO GOVERNMENTAL IMMUNITY ACT: The parties understand and agree that the Board is relying upon, and has not waived, the monetary limitations and all other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as it may be amended from time to time.

25. DELAY: If a delay is caused by the Board, without contribution by the Contractor, the time and price of the Contract may be adjusted equitably except that the sole remedy of the Contractor shall be limited to any expenditure actually and necessarily caused solely by the delay. The Contractor is not entitled to recover anticipated profits. The Board reserves the right to assess liquidated damages for delay in the amount of $500 per day if the Contractor does not complete the Work before the termination date stated in the Contract Documents.

26. IMMIGRATION LAWS: The signature of Contractor on this Contract: (1) certifies that the Contractor is not a natural person unlawfully present in the United States; and (2) also certifies the statements below *if this is a public contract for services as defined in Colo. Rev. Stat. § 8-17.5-101, et seq.*, **and** Contractor utilizes Subcontractors or employees in Contractor's business.

    a. The Contractor shall not:
        i. Knowingly employ or contract with an illegal alien to perform Work under this Contract; or
        ii. Enter into a contract with a Subcontractor that fails to certify to the Contractor that the Subcontractor shall not knowingly employ or contract with an illegal alien to perform Work under this Contract.

    b. The Contractor has confirmed the employment eligibility of all employees who are newly hired for employment to perform Work under this Contract through participation in either the e-verify program or the department program (as defined in Colo. Rev. Stat. § 8-17.5-101, et seq.). The Contractor may not use either the e-verify program or the department program procedures to undertake pre-employment screening of job applicants while this Contract is being performed.

    c. If the Contractor obtains actual knowledge that a Subcontractor performing Work under this Contract knowingly employs or contracts with an illegal alien, the Contractor shall:
        i. Notify the Subcontractor and the Board within three (3) Days that the Contractor has actual knowledge that the Subcontractor is employing or contracting with an illegal alien; and
        ii. Terminate the subcontract with the Subcontractor if within three (3) Days of receiving the notice required pursuant to sub-subparagraph (1) of this subparagraph the Subcontractor does not stop employing or contracting with the illegal alien; except that the Contractor shall not terminate the contract with the Subcontractor if during such three (3) Days the Subcontractor provides information to establish that the Subcontractor has not knowingly employed or contracted with an illegal alien.

    d. The Contractor shall comply with any reasonable request by the Department of Labor and Employment made in the course of an investigation that the Department is undertaking pursuant to state law.

    e. The Contractor acknowledges that in the event the Contractor violates any of the provisions of the foregoing subparagraphs a. – d., the Board may terminate this Contract for breach of contract. If this Contract is so terminated, the Contractor shall be liable for actual and consequential damages to the Board.

27. REMEDIES: The rights and remedies of the Board provided under this Contract shall not be exclusive and shall be in addition to any other rights and remedies provided by law or equity.

28. INDEPENDENT CONTRACTOR: In the performance of Work under this Contract, the Contractor shall be, for all purposes, an independent contractor and not an employee or agent of the Board. The Contractor and its employees and Subcontractors shall in no way represent themselves to third parties as agents or employees of the Board.

29. NO UNEMPLOYMENT INSURANCE OR WORKERS' COMPENSATION BENEFITS: The Contractor is not entitled to unemployment insurance or workers' compensation benefits as a result of performance of the Work for the Board. The Contractor is required to provide workers' compensation and unemployment insurance benefits for its employees and Subcontractors as required by law.

30. CONTRACTOR'S RESPONSIBILITIES: The Contractor shall consider Board contracts to be a priority responsibility and shall not allow other work to interfere with Board Work or Contractor's ability to respond to Board needs. The

Contractor must provide a responsible person to respond immediately to Board communications. The Contractor's equipment must not be stored permanently on Board property. The Contractor will be responsible for all damage to Board or others' equipment, materials and property caused by the Contractor, its employees, or agents.

31. PAYMENT OF TAXES: The Contractor is solely liable for any federal and state income and withholding taxes, unemployment taxes, F.I.C.A. taxes and workers' compensation payments and premiums applicable to payments from the Board under this Contract. The Contractor shall indemnify the Board for any liability resulting from nonpayment of such taxes and sums.

32. SAFETY AND PROTECTION: The Contractor shall be responsible for, at its own expense, initiating, maintaining, and supervising safety precautions and programs in connection with the Work. The Contractor shall take necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

a. Employees engaged in the Work and other persons and organizations who may be affected thereby;

b. Work, materials, and equipment to be incorporated therein, either in storage on-site or off-site; and

c. Other property at the site or adjacent thereunto including residences and businesses, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

d. Provide and maintain proper protection to all material and equipment, including material and equipment furnished to the Contractor by the Board. The Contractor shall protect exterior surfaces of Board property against any defacement that would detract from its appearance.

e. Provide all necessary safeguards to protect persons and property generally, and particularly the Board's operating property, and ensure there is no interruption of water service, except as expressly authorized by the Board.

f. Upon completion of the Work, make good all damages, leaving the site in a clean and orderly condition.

g. Maintain safe conditions in the various Work areas at all times and install barricades and warning devices where required.

The Contractor shall comply with applicable Laws or Regulations of the JHA for the safety of persons or property or to protect them from damage, injury, or loss and shall erect and maintain necessary safeguards for such safety and protection. The Contractor shall notify the owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. Damage, injury, or loss to any property, that is caused, either directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by them to perform or furnish Work or anyone for whose acts they may be liable, shall be the liability of and remedied by the Contractor (except as arising from acts or omissions of the Board). The Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as the Work is completed and the Construction Inspector has issued a notice to the Contractor that the Work is complete as defined in Project Closeout of the Special Conditions.

33. NONDISCRIMINATION: The Contractor expressly agrees not to discriminate against any employee, applicant for employment, or potential Subcontractor or Supplier because of race, color, religion, age, national origin, gender, sexual orientation, military status, marital status, or disability. The Contractor shall comply with all applicable state and federal laws with regard to equal employment opportunity.

34. WORKFORCE: The Contractor shall employ only competent, skillful workers to provide Work under this Contract. Whenever any person shall appear to be incompetent or to act in a disorderly or improper manner, such person shall be removed from the Work.

35. ACCESS AND SECURITY: The Board shall provide reasonable means of access to all Board locations covered under this Contract. The Contractor shall comply with all the Board's access and building security policies.

36. ENTIRE CONTRACT: This Contract, including all Contract Documents, constitutes the entire contract between the Board and Contractor, replaces all prior written or oral contracts and understandings as to its subject matter, and may not be altered or amended by bills of lading or the like. Any amendment to this Contract must be executed with the same degree of formality as the Contract itself.

SPECIAL CONDITIONS

1. PURPOSE:
Denver Water is seeking Bids from qualified contractor(s) for replacing approximately 8,000 linear feet of potable water distribution main pipe, 6-inch through 12-inch diameter, within the City and County of Denver, in 2019. Denver Water anticipates making two contract awards, each of which may entail approximately 2,500 to 5,000 linear feet of pipe apiece, but individual jobs may be as small as one city block. Denver Water will provide Contractor(s) with a Project Plan for each job, which will be incorporated into the Contract Documents through an Amendment.

2. CONTRACT PERIOD:
The Contract shall become effective on the day it is fully signed by the Board ("Effective Date") and terminate on December 31, 2019. The Board and the Contractor may extend the Contract period by a written amendment to the Contract.

3. BUSINESS ENVIRONMENT:
Typical Work hours are Monday through Friday 8:00AM – 3:30PM MT, but are dictated by the applicable Street Cut, Occupancy and Stormwater permits for each job. Typical Denver Water working hours are 7:30AM – 4:00PM MT, however the Contractor is responsible to coordinate all Denver Water services directly with the Denver Water Construction Inspector.

4. AWARD:
The Bidder selected for an award will be the Bidder whose Bid, as presented in response to this Invitation for Bids, is the most advantageous to the Board. The Board is not bound to accept the lowest-priced Bid if that Bid is not in the best interest of the Board as determined by the Board. The Board reserves the right to accept or reject any and/or all offers, to waive any and/or all formalities, to clarify any discrepancies in the Bid, and to award a contract in the best interest of the Board, including making multiple awards.

Bids may be evaluated using "best value" criteria that may include the following:

- Contract Price
- Bidder's past relationships, if any, with the Board and the City and County of Denver
- Bidder's response to additional questions, including Bidder's status as general contractor whose discipline is performing potable water pipe installation and repair work, as submitted per Attachment 1
- Ability to secure required bonding in amounts up to and including $1,000,000, as evidenced by a letter from a surety provided to Denver Water with the Bid
- Bidder qualifications and experience, including key staff resumes, as submitted per Attachment 2
    - Business references from other municipal entities and private water districts, as submitted per Attachment 2
- Bidder's use of Small Business Enterprises (SBEs) and Minority- and Women-Owned Business Enterprises (MWBEs) per Exhibit E
- Early payment discounts offered with the Bid
- Bidder's exceptions to the terms and conditions of this Invitation for Bids
- Any other relevant and appropriate factors

This list does not reflect or imply any weighting or relative importance of criteria.

5. STATEMENT OF WORK:

A. REVIEW PROJECT PLAN
Denver Water will submit applicable projects through the City and County of Denver (CCoD) Engineering, Regulatory & Analytics (ERA) department review. Denver Water will provide a Project Plan to Contractor and Contractor shall perform material take offs based on a Materials List provided by Denver Water. Sample Materials List is attached as Exhibit H and Sample Project Plan is attached as Exhibit F.

B. OBTAIN ALL NECESSARY PERMITS
Contractor is responsible for obtaining necessary permits and paying associated fees under the JHA:

- Stormwater
- Street Cut
- Street Occupancy
- Building Permit (for Lead Service Line (LSL) replacements)

- Floodplain, where applicable

C. PUBLIC OUTREACH

Contractor shall initiate public outreach for main replacement work and LSL replacements. Contractor is responsible for all public outreach, outage notifications and coordination of access to individual properties in accordance with general Denver Water Outline of Communications for Pipeline Replacement attached as Exhibit L. Public outreach shall also be in accordance with the requirements of the JHA. Contractor acknowledges that the Work involves LSL replacements, which is an important public health issue, and compliance with Denver Water's LSL protocols is mandatory.

1. LSL Replacement:
    a. Contractor will provide Denver Water's standard literature for lead awareness to all affected customers attached as LSL Replacement Handouts in Exhibit N. Denver Water will provide standard literature for all public outreach.
    b. Contractor will provide standard filters (obtained from Denver Water Warehouse) and flushing instructions, which are shown in the LSL Replacement Handouts in Exhibit N, to affected customers.

D. SITE PREPARATION

1. PRECONSTRUTION MEETING

    Contractor shall schedule a pre-construction meeting through Denver Water Construction Inspector, at least two (2) weeks prior to the start of construction. Denver Water will conduct the pre-construction meeting to discuss project specifics including water quality testing points, scheduling of Denver Water valve operations, etc. Sample Pre-Construction Meeting Agenda Guidelines is attached as Exhibit I. Contractor shall coordinate any pre-construction meetings with the JHA as required by applicable permits and notify Denver Water Construction Inspector of these meetings.

2. ORDER ALL WATERWORKS MATERIALS REQUIRED FOR JOB

    Materials shall conform with applicable Denver Water Engineering Standard(s), which are available at www.denverwater.org. Contractor is responsible for securing all materials from damage or loss after delivery is received by the Contractor.

    a. DENVER WATER-PROVIDED MATERIAL

        Contractor shall adhere to all Denver Water processes for ordering waterworks materials for use in completing the Work. Upon Contract award, Contractor is responsible to attend an orientation session for Denver Water's ordering and receiving processes; orientation session will be arranged through Denver Water's Procurement section.

        Contractor is responsible for performing final material takeoffs from Materials List and Project Plans and pre-ordering materials through the Denver Water Warehouse. Contractor must complete Denver Water Warehouse Material Order Form, a sample of which is attached a Exhibit K, and submit to Denver Water via e-mail to warehousepersonnel@denverwater.org with a copy to Maddie.Spinner@denverwater.org a minimum of 21 Days before materials are required for delivery as specified by Contractor. Contractor shall specify delivery location and required date on the Warehouse Material Order Form at the time of order placement. Any changes to material orders shall be handled through the same process.

        The Contractor is responsible to be present at location specified for delivery to receive all materials. The Contractor shall verify the delivered materials for accuracy against the order; Contractor shall verify quantity and type of materials is correct, and that material is acceptable and not damaged or defective. If the order is accepted, Contractor shall sign and date the Bill of Lading or appropriate shipping document and return the original copy to Denver Water at POgroup@denverwater.org within one (1) Day of receipt of delivery. If the Contractor does not accept any portion the order (e.g.: if the quantity or type of material is incorrect or if the material is defective or damaged), Contractor must reject the order by requesting supplier to remove material from the delivery site, and within one (1) Day of rejection of delivery, provide notification to Denver Water of the details of the rejection.

        Materials provided by Denver Water include but are not limited to:

        - Valves
        - Valve boxes
        - Pipe and appurtenances, including:

- Marking balls
- Plastic sheeting for Ductile Iron pipe
- Pipe insulation

- Restraints
- Hydrants
- Fittings
- Service line material and appurtenances, including:
  - Copper pipe
  - Corporation stops and curb stops
  - Tapping saddles
  - Insulators
  - Other brass and bronze fittings, as required
- Meters
- Meter pits, domes, and lids
- Meter vaults
- Standard filters for LSL replacements
- Wax tape material

b. CONTRACTOR-PROVIDED MATERIAL

- Project installation-related appurtenant material, other than those that are Owner supplied
- Concrete kickblocks
- Aggregate and backfill materials

  Contractor shall purchase and supply all aggregate materials required to complete the Work. Contractor is responsible for performing aggregate material takeoffs from project drawings and pre-ordering aggregate materials through appropriate Suppliers. All aggregate material shall be in compliance with applicable Denver Water Engineering Standard(s).
- Street, landscape, hardscape, and other surface replacement/restoration materials

3. TRAFFIC CONTROL, SIGNING, BARRICADING, FLAGGING

   Contractor shall conduct all traffic control, including signage, barricading and flagging, in accordance with conditions of Street Cut and Occupancy permits under the JHA.
4. SHORING

   The Contractor shall support the sides of the excavation in accordance with OSHA standards with suitable shoring or bracing. It is the Contractor's responsibility to adequately protect its excavations against caving or damage and to be aware of, and to be in compliance with at all times the current regulations under the JHA concerning trench and excavation safety.
5. POTHOLE INTERFERENCES

   Contractor must pothole all interferences that will be encountered. Typical interferences of the pipe trench include water service lines (10-12 per block), natural gas service lines (10-12 per block), power, telecommunications and sewer (10-12 per block). Bidders should factor these interference estimates per block and the cost to cross encountered interferences in accordance with the Engineering Standards into their calculated unit pricing. Denver Water will not issue change orders to repair or supply materials to repair interferences that are hit and/or damaged by the Contractor.
6. VALVE OPERATIONS

   Denver Water will perform valve operations to isolate the water main. Contractor must notify the Denver Water Construction Inspector a minimum of 48 hours in advance of required valve operations.
   a. Contractor shall coordinate outages with Denver Water's onsite Construction Inspector.
   b. Outage notification letters are located in Exhibit M. The Contractor is responsible for notifying all customers verbally and in writing within the outage region.
7. SCHEDULE ANCILLARY/SUPPORT SERVICES
   a. Utility/sewer main locates
   b. Saw cutting/rotomilling – Existing roadway shall be saw cut or rotomilled to minimize total pavement impacts during excavation. Mixed material of asphalt or concrete and native fill not suitable for reuse shall be removed and disposed of properly.
   c. Street sweeping – street sweeping shall be in accordance with requirements of the JHA.
   d. Maintenance of stormwater control measures and best management practices (BMPs) per stormwater permit.

E. TAPS

Denver Water will perform all taps. Contractor shall coordinate installation of taps through Construction Inspector at least three (3) business days in advance.

F. TIE-INS TO EXISTING MAIN

Where shown in Project Plans, the Contractor shall tie in to existing main.

G. REMOVAL OF ABOVE GROUND FEATURES

Remove all above-ground features on the abandoned distribution main (including but not limited to fire hydrants and valve boxes).

H. BACKFILL AND COMPACTION

1. Dispose of all mixed material of asphalt or concrete and native fill that is not suitable for reuse in the pipe trench.
2. Contractor shall complete backfill and compaction per Denver Water Engineering Standards. Contractor shall perform compaction testing per the requirements of the JHA. Base pricing will assume reusing available native fill. Submit pricing for Class 6 roadbase and CLSM (as per Engineering Standards) on the Bid Form for situations where alternate material is required. Compaction testing is at Contractor's expense.
3. Contractor must plate the trenches or bring to grade and seal with cold mix at the end of every work day. Plating may be subject to rules of the JHA (e.g. The CCoD allows plating only between April and October).

I. DISINFECTION, WATER QUALITY, AND HYDROSTATIC TESTING

Contractor must coordinate with Denver Water Construction Inspector for disinfection and hydrostatic testing of new main; coordination must be done at least 48 hours in advance. Denver Water will disinfect, fill and flush the water main. Denver Water's Water Quality personnel will collect bacteriological sample for testing.

J. COMMISSIONING

Contractor is responsible for commissioning of the water distribution main in accordance with the Engineering Standards, including confirming that Denver Water has performed and received successful bacteriological water quality results following disinfection, and all service line change overs.

K. SERVICE LINE RELOCATION

Contractor shall move existing copper service lines from old main to new main. Contractor shall coordinate an outage for each individual service connection. LSLs require complete replacement from the main to the first point of connection inside the building, including a new meter and meter pit. Contractor shall coordinate this work in advance with each property owner/tenant. The Contractor shall coordinate with Denver Water's Construction Inspector or their designee to schedule meter installation. Contractor shall relocate all inside meters to the outside of the building, regardless of service line material.

L. STREET AND LANDSCAPE RESTORATION

Contractor shall perform street, landscape and hardscape restoration. The Contractor shall document the initial condition of the job site prior to beginning work via images and videos; Contractor shall provide copies of the images and videos of the site's condition to Denver Water's Construction Inspector. Restoration shall be in accordance with the JHA, where applicable.

1. ASPHALT REPLACEMENT

   Once the final connection on a block has been completed, the Contractor shall complete asphalt pavement restoration work within 10 working days. Asphalt pavement work shall in accordance with the requirements of the JHA.
2. CONCRETE CURB AND GUTTER

   Contractor shall complete the concrete curb and gutter restoration in accordance with the requirements of the JHA.
3. LANDSCAPE RESTORATION
   a. Landscape shall be restored to its pre-existing condition or better.
   b. Contractor shall obtain approval of Denver Water's Construction Inspector on the final condition of the restoration.
4. ADA RAMPS

   Contractor shall perform installation as required by JHA.
5. TRAFFIC SIGNAL LOOP DETECTORS

   Contractor shall perform repair as required by JHA.
6. CLEANUP

   Contractor shall clean up all debris, trash, waste, etc. generated on the jobsite in such a way as to return it to preexisting condition or better.

M. PROJECT CLOSEOUT

Upon Contractor's request, Denver Water's Construction Inspector will walk the job site with the Contractor to generate a punch list of all items that require further completion. The Construction Inspector will provide approval of final completion status only after all punch list items are completed, at the sole discretion of the Construction Inspector. The Construction Inspector will indicate final approval of the Work by signing and dating the Distribution Field Inspection Checklist form (attached as Exhibit O) for the applicable project.

6. CONTRACTOR'S RESPONSIBILITIES**:**

The Contractor shall furnish all superintendence; labor; equipment; tools and transportation; and execute, construct, and finish, in an expeditious, substantial and workmanlike manner, satisfactory to the Construction Inspector, all Work detailed in the Contract Documents and Project Plans.

The Contract Prices shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all equipment, supplies, and appurtenances; providing all construction equipment and tools; procuring all permits and licenses; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit prices submitted on the Bid Form. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included in the prices submitted on the Bid Form.

A. SUPERINTENDENCE

The Contractor shall give constant and efficient attention to the faithful and diligent prosecution of the Work and during its progress shall be represented at all times at the site of the Work by a competent superintendent acceptable to the Construction Inspector. The Contractor shall, at the pre-construction conference, provide to Denver Water a telephone number and/or paging number at which the Superintendent or his authorized representative may be reached twenty-four (24) hours a day, seven (7) days a week throughout the duration of each job.

B. CONTRACTOR'S RISKS

The Work covered by the Contract shall be at the risk of the Contractor in every respect, and Contractor shall be responsible therefore until it is completed and accepted. This responsibility shall include damages to, and loss of any material furnished by Denver Water for incorporation in the Work. By receipt of such materials, the Contractor acknowledges that it has inspected the materials and that any damages evident after receipt are Contractor's responsibility.

C. LICENSED PLUMBER

Contractor must provide a licensed plumber to perform all LSL replacements.

D. SANITARY CONVENIENCES

Contractor shall furnish and maintain suitable sanitary facilities at the jobsite for the needs of all construction workers and others performing Work.

E. INSPECTIONS REQUIRED BY PERMIT

Contractor is responsible to obtain all inspections and approvals as required by permits under the JHA.

F. COORDINATION OF WORK

Contractor shall coordinate all Denver Water services through Denver Water's Construction Inspector.

G. COMPLIANCE WITH PROJECT PLANS

Contractor is responsible for compliance with all CCoD permit requirements and CCoD Notes as shown on Sheet 2 of the Project Plan set.

H. WARRANTY

The Contractor shall provide a one-year warranty of workmanship for all Work, starting upon the Construction Complete date shown on the Distribution Field Inspection Checklist form.

I. HAZARDOUS SUBSTANCES

As soon as reasonably possible, the Contractor shall stop work and contact Denver Water's Construction Inspector to coordinate remediation and/or disposal of any Hazardous Substances encountered while performing the Work.

7. DENVER WATER RESPONSIBILITIES:

A. PRELIMINARY PROJECT APPROVAL

Denver Water will submit applicable projects through review and provide evidence of preliminary approval from the CCOD's Engineering, Regulatory & Analytics (ERA) department, or applicable JHA.

B. PROJECT PLANS

For each job assigned to Contractor, Denver Water will provide a Project Plan, which will include:

- Drawings showing beginning and end points for pipeline replacement and known interferences.
- Estimate Material Summary sheets, which provide preliminary material quantities.
- Historical as-built drawings for the points of connection to existing distribution piping.
- Tap papers.
  Customer service line "tap papers" for properties requiring service line changes following replacement. Sample tap papers are included in Exhibit J. Denver Water will complete a Tap & Meter report for all LSL replacements and any service line relocations.

Sample Project Plans are included in Exhibit F.

C. PRE-CONSTRUCTION MEETING AGENDA

Denver Water will provide the Contractor with the relevant Pre-Construction Meeting Agenda (Exhibit I) for each job.

D. MATERIAL

All material as described in 5.D.2.a.

E. TAPS

Denver Water will make all taps with no cost to the Contractor. In the case of any exceptions to this, Denver Water will provide Contractor with a written request to perform taps at the price stated on the Bid Form.

F. CUSTOMER CORRESPONDENCE MATERIALS

Materials for correspondence and customer information packets related to general construction and service line replacements including attached Exhibit M – Outage Notification, Exhibit N – LSL Replacement Handouts, and Exhibit L – Outline of Communications for Pipe Replacement.

G. DISINFECTION, WATER QUALITY, AND HYDROSTATIC TESTING

Denver Water will perform all disinfection, water quality, and hydrostatic testing. Contractor shall coordinate this testing with Denver Water's Construction Inspector at least 48 hours in advance.

H. SURVEY STAKING

Survey staking at 50-foot intervals and at approximate fitting locations in intersections.

I. WATER FILTERS

Water filters for Contractor to provide to homeowners/tenants affected during LSL replacement work.

J. HAZARDOUS SUBSTANCES MANAGEMENT

Denver Water will manage the remediation and/or disposal of any Hazardous Substances found by Contractor while performing the Work.

8. PROJECT SCHEDULE AND COMPLETION:

The Contractor shall complete the Work as detailed in the Project Plan, with scheduling at the Contractor's discretion, within the same calendar year that Work is assigned by Denver Water or as may be specified in the Amendment specifically describing the Work. Contractor may obtain final project approval only upon approval by Denver Water's Construction Inspector as outlined in section 5.M. Project Closeout.

9. SUBCONTRACTORS:

Upon contract award, the Contractor shall submit a list of Subcontractors to Denver Water's Contract Administrator showing the Work assigned to each. Such submission shall not release or relieve the Contractor from any of its obligations and liabilities under this Contract. Upon written request of the Contract Administrator, the Contractor shall terminate the employment on this Work of any Subcontractor who shall, in the opinion of the Contract Administrator, fail to perform the Work undertaken by him in a satisfactory manner. Appropriate provisions of this Contract shall be incorporated, by reference, in all subcontracts, and, if so required by the Contract Administrator, the Contractor shall furnish to the Contract Administrator written compliance statements properly endorsed by the Subcontractor(s) in question before any Subcontractor begins work.

10. PRICE ADJUSTMENTS, CLAIMS AND DISPUTES:

Regardless of any other provision herein, any potential price adjustments, claims, or disputes shall be initially addressed to the contact identified herein and resolved according to Article 16 of the General Conditions applicable to the Board's construction projects, which may be found at the following link: https://www.denverwater.org/contractors/construction-information/design-standards/capital-projects-construction-standards.

11. SALVAGE:
Any material not salvaged by Denver Water shall be disposed of, at the expense of the Contractor, or salvaged by the Contractor in a safe and legal manner.

12. MINORITY- AND WOMAN-OWNED BUSINESS ENTERPRISE (MWBE) REQUIREMENTS:

A. MWBE INCLUSION
Denver Water's MWBE Program seeks to provide small businesses and businesses owned by minorities and women an opportunity to work for Denver Water as consultants, contractors, subcontractors and suppliers. The Contractor will have significant influence over the magnitude of MWBE participation in performing the Work. It is vital that the Contractor engage the MWBE community to maximize participation throughout the performance of the Work by making a good faith effort to contract with minority contractors, subcontractors and suppliers for services and supplies.

B. CERTIFIED MWBE UTILIZATION
Contractor shall make a good faith effort to comply with the provisions of the Board's MWBE Program. It is the intent of the MWBE Program that qualified subcontractors and suppliers be utilized to the fullest extent possible, to perform Work to enhance the utilization of MWBEs. Contractor's utilization effort is described in Exhibit E.

13. DENVER WATER CONTRACT ADMINISTRATOR
Denver Water's Contract Administrator is Maddie Spinner, Engineer Associate, Distribution and Property Management, and can be contacted at Maddie.Spinner@denverwater.org.

14. PERSONNEL SCREENING:
Due to the nature of the Work, Contractor will be subject to the screening procedures detailed in Exhibit D. Contractor shall submit the Certification of Personnel Screening form for any employee or Subcontractor who will be entering residences to perform Work.

15. INVOICING AND PAYMENT:
On or before the seventh Day of each calendar month, the Contractor shall submit to the Contract Administrator one (1) itemized invoice. The invoice shall be based upon the quantity of Work completed during the payment period, which is defined as the previous calendar month. The Contractor shall submit the following documentation with its monthly invoice:

- MWBE Report for month prior to that which Contractor is applying for payment

All invoices shall be submitted via e-mail to Maddie.Spinner@denverwater.org with copy to dldwap@denverwater.org.

Denver Water reserves the right to withhold a five (5) percent retainage from progress payments. Such retainage shall be withheld until such time that this Contract or a defined project phase is satisfactorily completed and accepted by the Board. Any such funds so retained shall not be subject to substitution by the Contractor with securities or any arrangements involving an escrow or custodianship, except as allowed by Colorado Revised Statutes, § 38-26-108, et seq. The Board further reserves the right to apply retainage not subject to verified claims of Subcontractors and Suppliers to any liquidated damages due to the Board. By executing the Contract, the Contractor expressly waives its right to any entitlement to the benefits of the provisions of Colorado Revised Statutes, § 24-91-101, et seq.

If Contractor submits an invoice that does not meet the requirements of this Contract, Denver Water will not make payment until Contractor provides an undisputed invoice meeting the requirements of this Contract. Contractor shall not charge, nor will Denver Water incur any late fees as a result of non-payment of invoices not meeting the requirements of the Contract. Progress payments shall be due and payable by Denver Water fourteen (14) Days after receipt of an approved statement by the Contract Administrator.

SPECIFICATIONS

Contractor shall perform installation of all Work, including water main pipe, valve, fitting and related appurtenances required for the replacement of the distribution main identified on the Project Plans, in compliance with all CCoD requirements and Denver Water's Engineering Standards – available at www.denverwater.org.

ACCEPTANCE

The CITY AND COUNTY OF DENVER, acting by and through its BOARD OF WATER COMMISSIONERS, hereby accepts the offer of:

_____

(Name of Firm)

Check One:

☐ Individual/sole proprietor ☐ Partnership ☐ Corporation

☐ Small Business Enterprise (Certified SBE) ☐ Other _____

to provide those services and materials listed in the BID FORM under the terms and conditions contained in the Contract. The purchase price shall be the amount set opposite each item listed on the BID FORM.

CITY AND COUNTY OF DENVER,
acting by and through its
BOARD OF WATER COMMISSIONERS

ATTESTED:

By: _____
Secretary

By: _____
President

DATE: _____

APPROVED:

By: _____
Chief Operations Maintenance Officer

REGISTERED AND COUNTERSIGNED:
CITY AND COUNTY OF DENVER

By: _____
Timothy M. O'Brien, CPA
Auditor

EXHIBIT A
BID FORM

All Bid prices required to complete the Work, including any charges, fees, or the like, must be included in this Bid Form. In the event the Bid is accepted by the Board, the Bidder agrees that its invoices under the Contract will be consistent with this Bid Form and that it will not bill the Board for any charges, fees, or the like not included in this Bid Form.

The awarded Bidder's pricing will be inserted between Exhibits A and B.

EXHIBIT B
PROPOSAL

The undersigned Bidder, _____
(Name of Firm)

("Contractor"), hereby offers to supply to the City and County of Denver, acting by and through its Board of Water Commissioners ("Board"), the services and materials set forth in the BID FORM and SPECIFICATIONS, if any, in accordance with the terms and conditions contained in the Contract Documents.

1. The Contract Documents are incorporated herein by reference.

2. The price offered to supply the services and materials set forth in the BID FORM and the SPECIFICATIONS, if any, is the amount set opposite each item listed on the BID FORM.

3. The Contractor shall deliver all Work in accordance with the Contract Documents.

4. The Contractor agrees to receive payment via the payment method indicated by a "YES" response in the Preferred Payment Method column (select **only one** option):

Payment Method	Preferred Payment Method
ACH (Automatic Clearing House)	
Check	

EXHIBIT B
PROPOSAL

IN WITNESS WHEREOF this proposal is made this ____ day of _____, 20_____:

Name of Firm: _____

By signing below, the signer certifies that he or she is authorized to accept and bind the Bidder to the terms of this Proposal and the Contract.

By: _____ _____
(Signature of Authorized Agent) (Print or Type Name of Authorized Agent)

Permanent mailing address of Authorized Agent:

_____
Street address or P.O. Box

_____
City State Zip Code

Telephone No. _____

Fax No. _____

E-mail _____

Bidder's status: ☐ Individual/sole proprietor ☐ Corporation of the state of _____

☐ Partnership or joint venture ☐ Other _____

Owner of Firm: _____

EXHIBIT C
INSURANCE

PLEASE READ THIS CAREFULLY. THE CONTRACTOR WILL NOT BE PAID UNLESS THE FOLLOWING INSURANCE REQUIREMENTS ARE MET.

The Contractor shall maintain the following insurance in full force and effect during the full term of this Agreement. The Contractor shall provide to the Board certificates of insurance (and renewals thereof) demonstrating that the following insurance requirements have been met. The renewals of the certificates of insurance shall be provided to Denver Water via e-mail to the Contract Administrator.

a. Commercial General Liability Insurance:
Commercial general liability insurance with limits not less than $1,000,000 per occurrence and $2,000,000 aggregate. Such insurance shall include the City and County of Denver, acting by and through its Board of Water Commissioners, as additional insured and shall be primary and non-contributing with respect to any insurance or self-insurance program of the Board.

b. Automobile Liability Insurance:
Contractor shall maintain automobile liability insurance as required by Colorado law. The Board does not require a certificate of insurance unless this subparagraph (b) requires insurance that exceeds the statutory requirements.

In addition to the statutory requirements, Contractor shall maintain automobile liability insurance with limits not less than $1,000,000 per occurrence for owned, non-owned and hired vehicles used in the performance of Work under this Agreement.

c. Workers' Compensation Insurance:
The Contractor is located in Colorado and maintains workers' compensation insurance, as required under the laws of the State of Colorado.

d. Other Requirements:

1) The Contractor's insurers shall maintain an A.M. Best rating of A-, VII or better.

2) All self-insured retentions or deductibles must be declared and acceptable to the Board.

3) Thirty (30) Days' advance written notice of cancellation shall be provided to the Board, except for ten (10) Days' advance written notice in the event of cancellation due to non-payment of premium.

e. The Contractor shall provide copies of insurance policies upon request of the Board and in redacted form if necessary to protect confidential information.

f. The Board reserves the sole discretion to accept alternative types of insurance.

EXHIBIT C
INSURANCE

THIS EXHIBIT IS ACCEPTED BY:

CONTRACTOR:
Insert Contractor's name
By execution, signer certifies that s/he is authorized to accept and bind Contractor to the terms of this Exhibit.

By: _____ DATE: _____

TITLE: _____
[for other than individual]

EXHIBIT D
PERSONNEL SCREENING

WORK INVOLVING SECURITY CONCERNS

At least five (5) working days before assigning an employee or agent to perform duties under this Agreement that require the employee or agent to work under circumstances presenting security concerns or to have access to the Board's sensitive information, proprietary computer programs, software or servers, the Consultant will submit the employee's or agent's name to the Board's Representative and certify on the Board-provided Certification of Personnel Screening form that no more than one (1) year prior to the assignment it performed a background check on the employee or agent, including a review of criminal history, and determined that the employee or agent does not pose a risk to persons or property. Consultant's determination should be based on guidance provided by the U.S. Equal Employment Opportunity Commission regarding the use of arrest and conviction history in employment decisions, which requires a weighing of (1) the nature and gravity of the offense or conduct, (2) the time that has passed since the offense, conduct or the employee's completion of any sentence given as a result of the offense, and (3) the nature of the job held or sought. Background checks must include a Colorado Bureau of Investigation (CBI) Criminal History Check, and, if the employee or agent has lived outside the State of Colorado or the United States during the last five (5) years, a criminal history check from each state or country of residence. For employees or agents who will have access to the Board's financial records and/or accounting processes, including purchasing, payables, receivables, and treasury or cash management, Consultant also will conduct a credit history check on the employee or agent and certify on the Board-provided Certification of Personnel Screening form that Consultant has determined that the employee or agent does not pose a risk to the Board. The Board reserves the right to direct the Consultant to assign another employee or agent, meeting the requirements of this paragraph, to perform the work if the Board has reason to believe that during the term of the Agreement the assigned employee or agent engaged in criminal activity or was involved in financial improprieties, to be determined by the Board in its sole discretion.

EXHIBIT D
PERSONNEL SCREENING

CERTIFICATION OF PERSONNEL SCREENING BY CONSULTANT/CONTRACTOR

To be completed by the Board's Contract Administrator:

Contract No: 503967 Consultant/Contractor: _____

The work under the Agreement involves:
(Check one or more and describe the duties in the spaces provided, and check the corresponding numbered box in the Consultant/Contractor section below.)

1. ☐ Operating a Board vehicle (*driving record and license check required*)
2. ☒ Performing work involving security concerns. Describe duties: _____
   Contractor entering customer homes to perform LSL replacements.
   (*criminal background check required*)
3. ☐ Accessing Board's financial records or accounting processes (*credit check required*)
4. ☐ Performing safety-sensitive work. Describe duties: _____
   _____
   (*criminal background check and drug and alcohol screening required*)

To be completed by the representative of Consultant/Contractor:

Name of Employee/Agent: _____ Start Date of Work for Board: _____

I, _____, as a representative of the Consultant/Contractor, certify that the above-named employee or agent of the Consultant/Contractor is assigned to complete the work described above and (check the applicable options below):

1. ☐ Has a valid Colorado driver's license and a satisfactory driving record, defined as having no more than six (6) points on his/her driving record in the three (3) years prior to the assignment. (*Applies if work involves operating a Board vehicle.*)
2. ☐ Has been the subject of a background check no more than one (1) year prior to the assignment, and I have determined that he/she does not pose a risk to persons or property. Background checks must include a Colorado Bureau of Investigation (CBI) Criminal History Check, and, if the employee or agent has lived outside the State of Colorado or the United States during the last five (5) years, a criminal history check from each state or country of residence. *(Applies if work involves security concerns or safety-sensitive duties.)*
3. ☐ Has been the subject of a credit history check, and I have determined that he/she does not pose a risk to the Board. *(Applies if work involves accessing the Board's financial records or accounting processes.)*
4. ☐ No more than one (1) month prior to the assignment, he/she passed a drug and alcohol screening performed by the following Board-recommended testing facility using a Rapid Screen test (*name of facility*) _____, or by the following DOT-certified laboratory and using the DOT 5 panel drug test (*name of DOT-certified laboratory*) _____. *(Applies if work involves safety-sensitive duties.)*

Under penalty of perjury, I swear the above statements are true and correct.

Signature: _____ Date: _____

Phone: _____ E-mail: _____

Approval by the Board's Contract Administrator:

Print Name: _____

Signature: _____ Date: _____

Revised by OGC 04/12/17

EXHIBIT E
STATEMENT OF INTENT TO USE
SMALL BUSINESS ENTERPRISES AND/OR MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES

1. ☐ Yes ☐ No Contractor is a Small Business Enterprise (SBE) and will perform 100% of the Work.
2. ☐ Yes ☐ No Contractor is a MWBE and will perform 100% of the Work.
3. ☐ Yes ☐ No Contractor will not utilize SBEs or MWBEs as Subcontractors on this Contract.
4. ☐ Yes ☐ No Contractor will utilize SBEs and/or MWBEs as Subcontractors on this Contract. The Subcontractors are listed below in 4.f. Contractor is responsible for the following Supplier Diversity requirements:

   a. Contractor has verified that MWBEs are qualified to perform the Work under this Contract and submitted valid copies of each Subcontractor's MWBE certificate, if applicable, with this Bid.
   b. CERTIFIED MWBE UTILIZATION MECHANISMS
   MWBEs must be certified as Minority- or Women-Owned Business Enterprises by the City and County of Denver, the Mountain Plains Minority Supplier Development Council (MPMSDC), the Women's Business Enterprise National Council (WBENC), the State of Colorado, or other governmental/certifying entity. The Contractor may utilize certified MWBEs in several different business relationships including, but not limited to, joint ventures, negotiated subcontracts, or competitively bid subcontracts. The Contractor is encouraged to identify as many aspects of the Work as possible to enhance the utilization of certified MWBEs. The Contractor is expected to use qualified MWBEs. To be qualified, MWBEs must have the necessary financial capabilities, skill, experience, and access to the necessary staff, facilities, and equipment to perform the Work or to provide the supplies or services required.
   c. REPLACEMENT OF CERTIFIED MWBE
   It is anticipated that Subcontractors and Suppliers specified in the Contractor's Statement of Intent will be utilized by the Contractor. In order for the Contractor to replace a certified MWBE listed in its Statement of Intent, the Contractor must first obtain written approval from Denver Water. In order to gain approval, the reason for the replacement must be explained to the satisfaction of Denver Water. To the extent possible, the type of Work committed to a certified MWBE firm that is replaced should be placed with another certified MWBE firm.
   d. GOOD FAITH EFFORT
   Upon Denver Water's written approval of certified MWBE replacement, if the goal specified has not been met, it shall be the Contractor's responsibility to demonstrate its good faith effort in attempting to meet the goal. The Contractor, if it has not met the specified goal, must provide a completed Good Faith Effort Statement (with supporting documentation) within 14 Days of Denver Water's written approval of certified MWBE replacement in support of its good faith effort to meet the goal. Denver Water will determine the adequacy of the Contractor's good faith effort and the determination will be based upon the following items:
      - The Contractor's utilization of MWBEs compared with other Bidders.
      - The Contractor's efforts to contact and interest MWBEs, including:
        - Advertising in trade association publications
        - Mailings
        - Contacts with MWBE chambers/organizations
        - Phone contacts with certified MWBEs
        - Assistance sought from Denver Water's Supplier Diversity Coordinator
      - List items of Work identified by the Contractor for subcontract, supply, or joint ventures to meet the program goals.
      - List efforts to negotiate with certified MWBEs to obtain them as Subcontractors, Suppliers, or members of joint ventures.
      - List efforts to provide certified MWBEs a full and fair opportunity to bid, including the opportunity to review contract documents and time to prepare bids and negotiate.
      - List the reasons why the Contractor was unsuccessful in its efforts to obtain certified MWBEs as Subcontractors, Suppliers, or joint venture partners.

   Denver Water, in making its determination of the Contractor's good faith effort, may require that the Contractor attend a hearing(s) to support its good faith effort. If Denver Water determines that the Contractor failed to make a good faith effort, Denver Water reserves the right to terminate or suspend all or any portion of the Work.

e. MWBE REPORTING

Contractor shall submit certified MWBE Contractor participation reports including, but not limited to Subcontractor payments, dates, form of payment, and payment amount to Denver Water with each invoice. The Contractor and Denver Water's Contract Administrator will determine an acceptable format for the participation report after Contract execution.

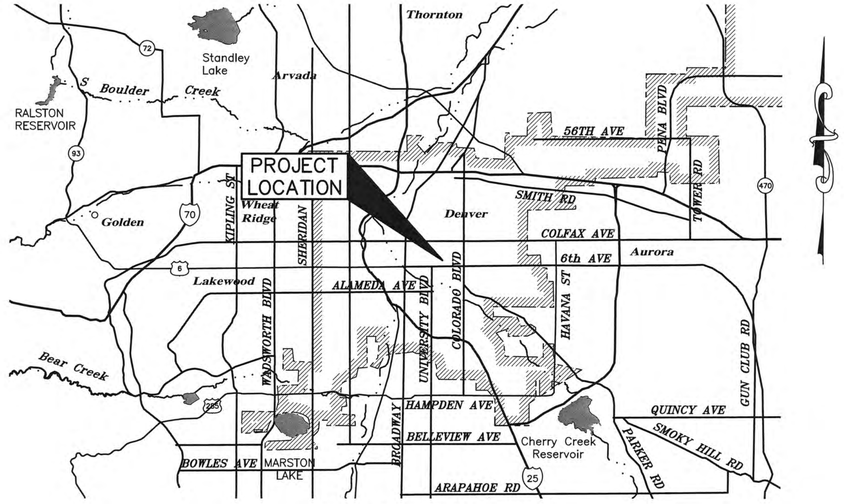
f. SBES / MWBES UTILIZATION TABLE

Subcontractor Legal Business Name*	Type of Work	Indicate if SBE, MBE, WBE, or Combination
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

DENVER WATER
DENVER, COLORADO

N DETROIT ST
E 6TH AVE TO E 10TH AVE
(IMPROVEMENT)
INSTALL APPROX 2400' OF 8" DI
PT NUMBER 983

VICINITY MAP
NO SCALE



200' MAP NO NE C4

LOCATION MAP
SCALE: 1" = 3 miles

SHEET INDEX

1	COVER
2	CITY & COUNTY OF DENVER NOTES
3	WATER PLAN 1
4	WATER PLAN 2
5	WATER PLAN 3
6	WATER PLAN 4
7	CITY & COUNTY OF DENVER COMMENTS

Hydrant Branch Replacement Note

VISUALLY INSPECT THE CONDITION OF ANY CONNECTING HYDRANT BRANCH AND REPLACE IF NECESSARY REGARDLESS OF HYDRANT BARREL INSTALLATION DATE.

☐ _____
SIGNATURE

LEGEND

SYMBOL	DESCRIPTION
	FIRE HYDRANT
	OPEN GATE VALVE
	SLEEVE
	REDUCER
	TEE AND CROSS FITTINGS
	BEND FITTING
IP	INLET PROTECTION
CS	CURB SOCK
	FLOW ARROW
CAUTION	AVOID DANGER OR HARM
	ABANDON
	6" WATER
	8" WATER
	12" WATER
FO	FIBER OPTIC MANHOLE
E	ELECTRIC MANHOLE
S	SANITARY SEWER MANHOLE
ST	STORM MANHOLE
W	WATER METER
	LIGHT POLE
	UTILITY POLE
	UTILITY PEDESTAL
PL	PROPERTY LINE
FL	FLOW LINE
E	ELECTRICAL
FO	FIBER OPTIC
G	NATURAL GAS LINE
OHW	OVERHEAD WIRE
SAN	SANITARY SEWER
STRM	STORM SEWER
CCD	CITY AND COUNTY OF DENVER

STANDARD DETAIL NOTES
FOURTEENTH EDITION STANDARD DETAILS INCORPORATED BY REFERENCE WITHIN THESE DRAWINGS SHALL CONSIST OF THE FOLLOWING STANDARD DETAILS INDICATED AND ALL SUBSEQUENT DETAILS WHICH MAY BE REFERENCED THEREIN:

SHEET 8 – PLAN, PROFILE AND LOCATION FOR FIRE HYDRANTS, MAINS, AND VALVES
SHEET 9 – 3" AND LARGER DOMESTIC AND FIRELINE CONNECTIONS
SHEET 12 – TYPICAL TRENCH SECTION
SHEET 15 – STORM AND SANITARY SEWER CROSSING
SHEET 16 – OPEN CUT CROSSING OVER OR UNDER CONDUIT OR CONFLICTING UTILITY
SHEET 19 – VALVE OPERATION
SHEET 21 – VALVE BOX SUPPORT PLATE
SHEET 22 – VALVE OPERATOR EXTENSION
SHEET 23 – VALVE OPERATOR GUIDE
SHEET 28 – CONCRETE KICKBLOCK BEARING SURFACES AND INSTALLATION
SHEET 29 – CONCRETE KICKBLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZE COMBOS
SHEET 32 – LENGTH OF RESTRAINED PIPE
SHEET 33 – POLYETHYLENE WRAP ON PIPE AND AT TAP INSTALLATION
SHEET 37 – TRACER WIRE INSTALLATION FOR PVC WATER MAIN
SHEET 53 – GENERAL METER NOTES
SHEET 54 – 2" AND SMALLER SERVICE LINE, STOP BOX, AND OUTSIDE METER INSTALLATION

CCD REVIEW ID: 2018–UTIL–0000122

ESTIMATED AREA OF DISTURBANCE = 60,000 SQ FT

811 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1–800–922–1987) UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) www.co811.org

MAXIMO WORK ORDER NO: 17549827

NOTES:
1. ALL EXISTING INFORMATION SHOWN IS BASED ON A FIELD SURVEY COMPLETED BY DENVER WATER OR ON AN IMPORT FROM DENVER WATER'S GIS SYSTEM, OR A COMBINATION OF BOTH. CONTACT LOU VULLO (303–628–6671) IF FIELD CONDITIONS DIFFER FROM THOSE SHOWN.
2. RIGHT–OF–WAY INFORMATION SHOWN IS BASED ON EXISTING CITY MAPS.
3. PIPE DEFLECTION SHALL NOT EXCEED MANUFACTURER SPECIFICATIONS.
4. ALL PROPOSED PIPE SHALL BE DUCTILE IRON UNLESS OTHERWISE NOTED.
5. ALL EXISTING PIPE IS CAST IRON UNLESS OTHERWISE NOTED.
6. REMOVE ALL VALVE BOXES AND FIRE HYDRANTS ON MAINS BEING ABANDONED.
7. ALL CONDUIT CROSSINGS BY DISTRIBUTION MAINS SHALL MEET BACKFILL REQUIREMENTS AS SPECIFIED IN CHAPTER 7, DENVER WATER ENGINEERING STANDARDS.

DENVER WATER
1600 West 12th Ave
Denver, Colorado 80204–3412
T: 303.628.6000
F: 303.628.6851
denverwater.org

CONSULTANT

COLORADO, LICENSED, KATIE LEE ROSS, 41224, PROFESSIONAL ENGINEER, 2/8/18

N DETROIT ST
E 6TH AVE TO
E 10TH AVE

(IMPROVEMENT)
INSTALL APPROX
2400' OF 8" DI

SERVICE ADDRESS:

REFERENCE:
ENGINEERING STANDARDS
FOURTEENTH EDITION 2012

THIS DRAWING IS BASED ON THE DW_METRO_GRID COORDINATE SYSTEM

No	Date	Description
△		
△		
△		
△		
△		
△	2/8/18	C&CD 2ND SUBMITTAL
△	1/8/18	C&CD SUBMITTAL

REVISIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 ——— 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PT NO: 983
DRAWN BY: RLB
CHKD BY: KLR
CHKD BY:
APPD BY:
DATE: February 3, 2000
CONTRACT:
AS–BUILT DATE:
AS–BUILT BY:

DRAWING TITLE

COVER

DISTRIBUTION

SHEET 1 OF 7 SHEETS

\\denverwater.org\shares\Projects\983\dwg\Dist\983_DIST.dwg COVER 2/8/2018 8:46 AM

GENERAL NOTES

1. THE APPLICANT AND CONTRACTOR ARE RESPONSIBLE FOR OBTAINING ALL PROJECT PERMITS ASSOCIATED WITH CONSTRUCTION AND RELATED ACTIVITIES SUCH AS STREET OCCUPANCY, STREET CUT, CONSTRUCTION, EROSION CONTROL AND PARKS PERMITS.
2. THE CONTRACTOR SHOULD REMOVE MATERIALS AND EQUIPMENT FROM THE ROW BY THE CLOSE OF DAILY OPERATIONS.
3. NO WORK SHALL BE PERMITTED AT NIGHT OR ON SATURDAYS, SUNDAYS, AND HOLIDAYS WITHOUT PRIOR AUTHORIZATIONS OR UNLESS OTHERWISE SPECIFIED IN THIS PERMIT. CITY MAY RESTRICT WORK ON ROW DURING ADVERSE WEATHER CONDITIONS OR DURING PERIODS OF HIGH TRAFFIC VOLUME.
4. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE COPY OF THE APPROVED PLANS, SPECIFICATIONS, AND STANDARDS ON THE JOB SITE AT ALL TIMES.
5. THE CONTRACTOR SHALL NOTIFY PUBLIC WORKS RIGHT OF WAY (PW ROW) CONSTRUCTION INSPECTIONS AT (303) 446-3469 OR PWPermits@denvergov.org : 1) TWO DAYS BEFORE COMMENCING WORK IN THE ROW; 2) WHEN SUSPENDING OPERATIONS FOR 5 OR MORE WORKING DAYS; 3) TWO WORKING DAYS BEFORE RESUMING SUSPENDED WORK; AND 4) UPON COMPLETION OF WORK.
6. THE APPLICANT AND CONTRACTOR ARE RESPONSIBLE FOR BEING AWARE OF, NOTIFYING, COORDINATING, AND SCHEDULING ALL INSPECTIONS REQUIRED FOR FINAL APPROVALS AND PROJECT ACCEPTANCE.
7. ALL WORK, INCLUDING CORRECTION WORK, IS SUBJECT TO NOTIFICATION AND INSPECTION.
8. IN THE EVENT THAT AN EMERGENCY REPAIR TO EXISTING FACILITIES IS NECESSARY, THE PW ROW CONSTRUCTION INSPECTIONS SHALL IMMEDIATELY BE NOTIFIED VIA TELEPHONE AT (303) 446-3469. EMERGENCY PROCEDURES SHALL BE COORDINATED BEFOREHAND, WHERE POSSIBLE, AND NO WORK WILL BE ALLOWED UNTIL NOTIFICATION IS RECEIVED. THE TELEPHONE NOTIFICATION MUST BE FOLLOWED UP WITH A LETTER TO PW ROW CONSTRUCTION INSPECTIONS AS SOON AS POSSIBLE.
9. ALL TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SAFETY OF WORKERS PROVIDED FOR AS REQUIRED BY THE MOST RECENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION." THESE REGULATIONS ARE DESCRIBED IN SUBPART P, PART 1926 OF THE CODE OR FEDERAL REGULATIONS. SHEETING AND SHORING MAY BE UTILIZED WHERE NECESSARY TO PREVENT ANY EXCESSIVE WIDENING OR SLOUGHING OF THE TRENCH. THE CONTRACTOR MAY BE REQUIRED TO USE AN APPROVED PILING INSTEAD OF SHEETING AND SHORING. THE CONTRACTOR SHALL ACCEPT SOLE LIABILITY AND RESPONSIBILITY FOR COMPLYING WITH THE CURRENT OSHA REGULATIONS APPLICABLE TO ALL WORK.
10. ALL WORK WILL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKDAY; NO OPEN HOLES AND/OR TRENCHES ARE ALLOWED OVERNIGHT. ALL WORK IS TO BE IN ACCORDANCE WITH PERMIT REQUIREMENTS AND APPLICABLE STANDARDS.
11. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
12. ALL POTHOLES MUST BE CORE DRILLED OR SAW CUT TO 2' X 2'.
13. UNLESS CONFINED IN A PREDEFINED BERM CONTAINMENT AREA, THE CLEANING OF CEMENT DELIVERY CHUTES IS PROHIBITED AT THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER SYSTEM IS PROHIBITED. (DENVER REVISED MUNICIPAL CODE §. 56-102 (A.)(C.))
14. WHERE ROW FENCES NEED TO BE REMOVED OR CUT TO FACILITATE CONSTRUCTION, APPROVAL MUST BE GIVEN BY PW ROW CONSTRUCTION INSPECTIONS BEFORE WORK IS PERFORMED. EXISTING LINE MUST BE ESTABLISHED BY GOOD SURVEY PRACTICES. THE CONTRACTOR WILL SUPPLY AND INSTALL NEW MATERIALS REQUIRED TO RESTORE FENCE TO ACCEPTABLE CONDITION. NEW POSTS AND WIRE WILL BE REQUIRED INCLUDING CORNER POSTS FOR GATES PLACED IN LOCATIONS AS DETERMINED BY THE ORIGINAL SURVEY. FENCES WILL BE REPLACED ACCORDING TO FENCING STANDARDS OF THE PUBLIC WORKS DEPARTMENT.
15. IF LIVESTOCK IS PRESENT IN THE AREA OF FENCE REMOVAL, A TEMPORARY FENCE, EQUIVALENT TO THE EXISTING, WILL BE REQUIRED TO CONTAIN LIVESTOCK UNTIL NEW FENCE IS IN PLACE; TEMPORARY FENCE WILL THEN BE REMOVED.
16. UTILITY PLAN REVIEW APPROVAL DOES NOT CONSTITUTE APPROVAL FOR ANY WORK ON, IN, UNDER, OR OVER PRIVATE PROPERTY.

ROADWAY NOTES

1. CONSTRUCTION OF ANY PORTION OF THE PUBLIC ROADWAY, INCLUDING THE PAVEMENT STRUCTURE, SUBSURFACE SUPPORT, DRAINAGE, LANDSCAPING ELEMENTS, AND ALL APPURTENANT FEATURES, SHALL COMPLY WITH THE PROVISIONS OF THE MOST CURRENT VERSION OF THE CITY & COUNTY OF DENVER RULES & REGULATIONS, CITY STANDARD SPECIFICATIONS, AND STANDARD DETAILS.
2. DISTURBANCE TO PEDESTRIAN FACILITIES WITHIN 10 FEET OF AN EXISTING CURB RAMP WILL REQUIRE THAT CURB RAMPTO BE UPGRADED TO CURRENT CCD AND ADA CRITERIA – IF THEY DO NOT MEET CURRENT CRITERIA.
3. MATERIAL REMOVED FROM ANY PORTION OF THE ROADWAY SECTION MUST BE REPLACED IN ACCORDANCE WITH THE PUBLIC WORKS RULES & REGULATIONS GOVERNING STREET CUTS.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE TRAFFIC CONTROL THROUGHOUT THE PROJECT, INCLUDING PROPER TRAFFIC CONTROL DEVICES AND/OR PERSONNEL AS REQUIRED. A TRAFFIC CONTROL PLAN IS SUBJECT TO CDOT AND/OR PW ROW CONSTRUCTION INSPECTIONS FOR APPROVAL PRIOR TO COMMENCING WORK ON PUBLIC ROW. A COPY OF APPROVED TRAFFIC CONTROL PLANS MUST BE AVAILABLE ON SITE DURING WORK. TRAFFIC CONTROL TO BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), SECTION VI.
5. THE TRAFFIC CONTROL PLAN MUST INCLUDE PROTECTIVE MEASURES WHERE MATERIALS AND EQUIPMENT MAY BE STORED ON ROW.
6. PRIOR TO FINAL ACCEPTANCE, ALL DISTURBED PORTIONS OF ROW SHALL BE CLEANED UP AND RESTORED TO THEIR ORIGINAL CONDITION, SUBJECT TO CITY APPROVAL.
7. NO CLEATED OR TRACKED EQUIPMENT MAY WORK IN OR MOVE OVER PAVED SURFACES WITHOUT MATS.
8. RESTORATION IS REQUIRED FOR ANY HOLES OR CUTS MADE IN WALKING AND/OR PAVED SURFACES, INCLUDING THOSE FOR TEST HOLES OR POTHOLING FOR INVESTIGATION ACTIVITIES FOR ANY LOCATES.
9. ANY POTHOLES DRILLED INTO SIDEWALKS WILL REQUIRE FULL PANEL REPLACEMENT. PERMANENT PATCHING OF POTHOLES OR CUTS IS ALSO REQUIRED IN ASPHALT PAVEMENTS, AND FOR CONCRETE PAVEMENT WITH UP TO 2 POTHOLES. WHEN 3 OR MORE POTHOLES EXIST, THEN FULL STREET PANEL REPLACEMENTS ARE REQUIRED. ALL RESTORATION SHALL BE PER CITY AND COUNTY OF DENVER TRANSPORTATION STANDARDS AND DETAILS. CONTACT PW CONSTRUCTION ENGINEERING AT 303-446-3469 IF MORE INFORMATION IS REQUESTED.
10. WHEN AN EXISTING ASPHALT STREET IS CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BEFORE ANY CUTS ARE MADE; PATCHING SHALL BE DONE IN CONFORMANCE WITH THE PUBLIC WORKS RULES & REGULATIONS GOVERNING STREET CUTS. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE. ALL LARGE PATCHES SHALL BE PAVED WITH A SELF-PROPELLED ASPHALT PAVING MACHINE.
11. THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE ANY PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING OR ABRASIVE CUTTING IS TO TAKE PLACE.
12. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS.
13. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED.

CITY & COUNTY OF DENVER PUBLIC WORKS DEPARTMENT NOTES

1. PAVEMENT, CONCRETE, CURB/GUTTER & SIDEWALK CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF DENVER TRANSPORTATION STANDARDS AND DETAILS FOR THE ENGINEERING DIVISION MOST RECENT EDITION.

UTILITY NOTES

1. CAUTION: LOCATION OF EXISTING UTILITIES IS SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AS SUPPLIED BY THE UTILITY PROVIDERS INCLUDING TYPE, SIZE, LOCATION AND NUMBER OF UTILITIES. PRIOR TO DATE OF CONSTRUCTION CONTRACTOR SHALL VERIFY EXISTING UTILITIES WITH THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AND/OR UTILITY COMPANIES. **FOR ADDITIONAL INFORMATION CONTACT: UNCC AT 1-800-922-1987.** THE CONTRACTOR SHALL VERIFY EXISTENCE, SIZE, AND LOCATION OF EXISTING UTILITIES AND FACILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ALL UTILITIES TO COORDINATE SCHEDULING. SHOULD ANY CONFLICTS, RECONSTRUCTION, OR OTHER INTERRUPTIONS IN SERVICE BE REQUIRED, CONTRACTOR SHALL COORDINATE UTILITY SCHEDULING.
3. THE APPLICANT SHALL CORRECTLY SHOW ON SUBMITTED DRAWINGS THE LOCATIONS OF ALL UTILITIES IN THE VICINITY WHERE THE APPLICANT MAY BORE, TRENCH, EXCAVATE, AND INSTALL CONDUIT, FIBER, FIBER ENCLOSURES, VAULTS, AND HANDHOLDS. IN THE EVENT THAT THE CONDUIT RUN, FIBER ENCLOSURES, VAULTS, OR HANDHOLDS ARE LOCATED WITHIN THE VICINITY OF ANY UTILITY, THE APPLICANT SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION THAT WILL PREVENT DAMAGE TO THE INSTALLATION UNDER NORMAL UTILITY OPERATING CONDITIONS. IT IS THE RESPONSIBILITY OF THE APPLICANT TO OBTAIN INFORMATION ON EACH OF THE UTILITIES AS APPLICABLE SUCH AS GAS PRESSURE, STEAM AND WATER PRESSURES, TEMPERATURES, ETC.
4. IT IS THE RESPONSIBILITY OF THE APPLICANT TO EXAMINE THE SITE FOR EVIDENCE OF FAILURES OF OR DEFICIENCIES IN UTILITY COMPANY FACILITIES (I.E. XCEL, DENVER WATER, DENVER PUBLIC WORKS, WMD, ETC.) AND TO IMMEDIATELY CALL ANY SUCH EVIDENCE OF PRE-EXISTING DAMAGE TO THE ATTENTION OF THE UTILITY COMPANY ALONG WITH PROPER DOCUMENTATION. THE APPLICANT HEREBY AGREES THAT THE REPAIR OF ANY AND ALL DAMAGES (DIRECT OR INDIRECT), THAT MAY BE SUBSEQUENTLY DISCOVERED AND PROVEN TO HAVE BEEN CAUSED BY THE CONSTRUCTION ACTIVITIES, IS THE SOLE RESPONSIBILITY OF THE APPLICANT WITHOUT SUCH EVIDENCE OF PRE-EXISTING DAMAGE. THE APPLICANT HEREBY AGREES THAT ANY AND ALL DAMAGES (DIRECT OR INDIRECT) TO UTILITY COMPANY FACILITIES, WHICH MAY BE TO PROTECT ALL UTILITY COMPANY FACILITIES WITHIN THE AREA OF CONSTRUCTION. THIS INCLUDES ALL STEPS NECESSARY TO PREVENT SUBSIDENCE OF THE SOIL ADJACENT TO OR NEAR UTILITY COMPANY FACILITIES.
5. ANY CASING OR SLEEVE SO INSTALLED UNDER THE ROADWAY SHALL BE THE SAME DIAMETER AS THE BORE SO AS TO ELIMINATE A VOID AROUND THE CASING. IN THE EVENT JACKING OPERATIONS RESULT IN VOIDS, THE RESULTANT VOIDS SHALL BE GROUTED OR OTHERWISE BACKFILLED, SUBJECT TO CITY APPROVAL. ENDS OF BORED SECTIONS SHALL NOT BE COVERED BEFORE BEING INSPECTED.
6. THE CONTRACTOR SHALL MAINTAIN AT LEAST A 10' CLEAR ZONE TO UTILITIES AT ALL TIMES IN ACCORDANCE WITH CITY STANDARDS. THE CONTRACTOR/APPLICANT SHALL CLEARLY IDENTIFY OWNER NAME & CONTACT INFO ON ALL MANHOLE COVERS.
7. FOR ALL MANHOLES IN ASPHALT STREETS, ADD A 2" RISER RING DIRECTLY UNDER THE COVER TO FACILITATE FUTURE ROTOMILL/OVERLAY OPERATIONS.

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CITY AND COUNTY OF DENVER EROSION CONTROL NOTES

THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL ENSURE THAT ALL POTENTIAL POLLUTANTS GENERATED DURING DEMOLITION OR CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT, BE PREVENTED FROM DISCHARGE TO STORMWATER CONVEYANCE SYSTEMS IN THE VICINITY OF THIS PROJECT SITE IN ACCORDANCE WITH THE FOLLOWING:

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING, OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM, RECEIVING WATERS, WATERWAYS, WETLANDS, AND OR OTHER PUBLIC OR PRIVATE PROPERTIES, RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
2. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO OR, ACCUMULATE IN THE FLOW LINES OF STORM DRAINAGE APPURTENANCES, AND PUBLIC RIGHTS OF WAYS OF THE CITY AND COUNTY OF DENVER, AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT. ALL REMOVALS SHALL BE CONDUCTED IN A TIMELY MANNER.
3. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHTS OF WAY. (SEC.49-552; REVISED MUNICIPAL CODE)
4. THE USE OF REBAR TO ANCHOR BEST MANAGEMENT PRACTICES, OTHER THAN PORTABLE TOILETS, IS PROHIBITED.
5. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL IMPLEMENT THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) ON SITE DURING CONSTRUCTION:
   a. VEHICLE TRACKING CONTROL: THIS BMP IS REQUIRED AT ALL ACCESS POINTS FOR INGRESS/EGRESS FROM OFF-SITE IMPERVIOUS SURFACES TO CONSTRUCTION SITE PERVIOUS AREAS THAT ARE USED BY VEHICULAR TRAFFIC OR CONSTRUCTION EQUIPMENT.
   b. INLET PROTECTION: THIS BMP IS REQUIRED ON ALL EXISTING OR PROPOSED STORM SEWER INLETS IN THE VICINITY OF THE CONSTRUCTION SITE THAT MAY RECEIVE SITE RUNOFF. THE BMP MUST BE APPROPRIATE TO THE TYPE OF STORM INLET AND APPROPRIATE FOR THE GROUND SURFACE AT THE INLET.
   c. INTERIM SITE STABILIZATION: THIS BMP IS REQUIRED TO PROVIDE A MEASURE FOR PREVENTING THE DISCHARGE OF SEDIMENT FROM CONSTRUCTION SITES WHERE OVERLOT GRADING OR OTHER SITE DISTURBANCE HAS OCCURRED. THIS BMP IS PARTICULARLY NECESSARY ON SITES WHERE CONSTRUCTION ACTIVITIES/DISTURBANCE WILL BE LIMITED TO SMALL AREAS OF THE PROJECT SITE. ACCEPTABLE BMPS INCLUDE:
   i. PRESERVING EXISTING VEGETATION
   ii. SEEDING AND PLANTING
   iii. MULCHING
   iv. MULCHING AND SEEDING
   v. TEMPORARY/PERMANENT RE-VEGETATION OPERATIONS
   vi. CHEMICAL SOIL STABILIZER APPLICATION (REQUIRES WMD APPROVAL)
   d. WASTE MANAGEMENT/CONTAINMENT: THIS BMP REQUIRES THAT ALL CONSTRUCTION WASTES, FUELS, LUBRICANTS, CHEMICAL WASTES, TRASH, SANITARY WASTES, CONTAMINATED SOILS OR DEBRIS SHALL BE CONTAINED ON SITE, PROTECTED FROM CONTACT WITH PRECIPITATION OR SURFACE RUNOFF, PERIODICALLY REMOVED FROM THE CONSTRUCTION SITE, AND PROPERLY DISPOSED OF.
   e. SPILL PREVENTION /CONTAINMENT: THIS BMP DEFINES THE MEASURES PROPOSED FOR PREVENTING, CONTROLLING, OR CONTAINING SPILLS OF FUEL, LUBRICANTS, OR OTHER POLLUTANTS; AND PROTECTING POTENTIAL POLLUTANTS FROM CONTACT WITH PRECIPITATION OR RUNOFF.
   f. CHUTE WASHOUT CONTAINMENT: WATER USED IN THE CLEANING OF CEMENT TRUCK DELIVERY CHUTES SHALL BE DISCHARGED INTO A PREDEFINED, BERMED CONTAINMENT AREA ON THE JOB SITE. THE REQUIRED CONTAINMENT AREA IS TO BE BERMED SO THAT WASH WATER IS TOTALLY CONTAINED. WASH WATER DISCHARGED INTO THE CONTAINMENT AREA SHALL BE ALLOWED TO INFILTRATE OR EVAPORATE. DRIED CEMENT WASTE IS REMOVED FROM THE CONTAINMENT AREA AND PROPERLY DISPOSED OF.
   i. THE DIRECT OR INDIRECT DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER SYSTEM IS PROHIBITED (SEC.56-102A, C; REVISED MUNICIPAL CODE, CITY AND COUNTY OF DENVER).
   g. SWEEPING: THIS BMP REQUIRES THAT IMPERVIOUS SURFACES WHICH ARE ADJACENT TO OR CONTAINED WITHIN CONSTRUCTION SITES BE SWEPT ON A DAILY BASIS OR AS NEEDED DURING THE DAY WHEN SEDIMENT AND OTHER MATERIALS ARE TRACKED OR DISCHARGED ON TO THEM. EITHER SWEEPING BY HAND OR USE OF STREET SWEEPERS IS ACCEPTABLE. STREET SWEEPERS USING WATER WHILE SWEEPING IS PREFERRED IN ORDER TO MINIMIZE DUST. FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.
   h. PERIMETER CONTROL: THIS BMP REQUIRES THAT A CONSTRUCTION SITE INSTALL A PERIMETER CONTROL MEASURE ALONG THE EDGE OF THE CONSTRUCTION SITE, TO PREVENT, OR FILTER THE DISCHARGE OF SURFACE RUNOFF FROM THE CONSTRUCTION SITE. THE TYPE OF PERIMETER CONTROL USED SHALL BE DETERMINED BASED ON SITE CONDITIONS AND LOCATION. MAINTENANCE AND REPAIR OF THE CONTROL MEASURE SHALL OCCUR AS NEEDED, IN A TIMELY MANNER.
   i. STOCK PILES: SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE PROTECTED FROM WIND AND WATER EROSION WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION. STABILIZATION OF STOCKPILES LOCATED WITHIN 100 FEET OF RECEIVING WATERS, OR WITH SLOPES 3 TO 1 OR GREATER SHALL BE COMPLETED WITHIN SEVEN (7) DAYS FOLLOWING STOCKPILE CONSTRUCTION. STABILIZATION AND PROTECTION OF THE STOCKPILE MAY BE ACCOMPLISHED BY ANY OF THE FOLLOWING: MULCHING, TEMPORARY/PERMANENT REVEGETATION OPERATIONS, CHEMICAL SOIL STABILIZER APPLICATION (REQUIRES DENVER PUBLIC WORKS APPROVAL) , OR EROSION CONTROL MATTING/GEOTEXTILES. IF STOCKPILES ARE LOCATED WITHIN 100 FEET OF RECEIVING WATERS, A DRAINAGEWAY OR THE SITE PERIMETER, ADDITIONAL SEDIMENT CONTROLS SHALL BE REQUIRED.
   j. SAW CUTTING OPERATIONS: THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING, OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS OR AS NEEDED THROUGHOUT THE WORK DAY. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED. (SEC.56-102A, C; REVISED MUNICIPAL CODE, CITY AND COUNTY OF DENVER)
   k. STRUCTURAL CONTROLS: DEVELOPMENT SITES THAT ARE REQUIRED TO PROVIDE DETENTION AND WATER QUALITY ENHANCEMENT FACILITIES FOR STORM RUNOFF NEED TO INSTALL THE DETENTION FACILITIES EARLY IN THE CONSTRUCTION BUILD-OUT OF THE SITE. PROJECTS THAT ARE USING UNDERGROUND DETENTION ARE REQUIRED TO INSTALL A PRETREATMENT STRUCTURE(S) OR SEDIMENTATION BASIN(S) AS A MEANS OF TREATING POTENTIALLY POLLUTED STORM WATER PRIOR TO ENTERING THE DETENTION STRUCTURE. USE OF THESE STRUCTURES IS REQUIRED FOR ENTRAPPING SEDIMENT AND CONSTRUCTION DEBRIS DURING THE ACTIVE CONSTRUCTION PHASE OF THE PROJECT. A NARRATIVE SECTION OF A MANAGEMENT PLAN SHOULD ADDRESS OPERATION AND MAINTENANCE OF THE STRUCTURAL CONTROLS BEING USED AS AN ACTIVE CONSTRUCTION BMP.
6. EROSION AND SEDIMENT CONTROL 'BEST MANAGEMENT PRACTICES' SHALL BE MAINTAINED AND KEPT IN EFFECTIVE OPERATING CONDITION FOR THE DURATION OF THIS PROJECT. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IMMEDIATELY UPON DISCOVERY OF ANY DEFICIENCY OR DEFECT

CITY & COUNTY OF DENVER ENGINEERING NOTES

1. CONTACT PUBLIC WORKS – ROW SERVICES CONSTRUCTION ENGINEERING (RWSCE) SECTION FOR A PRECONSTRUCTION MEETING PRIOR TO START OF PERMITTING, (303) 446-3469 OR PWPERMITS@DENVERGOV.ORG
2. IT IS THE RESPONSIBILITY OF THE REQUESTOR TO CONTACT THE CONSTRUCTION INSPECTION SECTION 303-446-3469 PWPermits@denvergov.org AT LEAST 5 BUSINESS DAYS BEFORE THE START OF WORK TO OBTAIN A REVOCABLE STREET OCCUPANCY PERMIT, A STREET CUT PERMIT OR A RIGHT-OF-WAY CONSTRUCTION PERMIT. THE SUBMITTAL MUST INCLUDE A COMPLETED APPLICATION FORM AND A DETAILED SITE-SPECIFIC TRAFFIC CONTROL PLAN TO BEGIN A REVIEW OF THE WORK SCOPE, SCHEDULE AND LOCATION. SUBMIT TO PWPERMITS@DENVERGOV.ORG
3. WORKING ON AN ARTERIAL ROAD MAY BE RESTRICTED TO EITHER NIGHT-ONLY OR WEEKEND WORK TIMES.
4. APPLICANT SHALL COORDINATE THE CLOSURE OF DRIVEWAYS IN THE PROJECT AREA WITH THE ADJACENT PROPERTIES. ACCESS MUST BE PROVIDED TO ALL BUILDINGS DURING CONSTRUCTION.
5. THE MAXIMUM EXTENT OF THE ROAD CLOSURE AT ANY TIME IS LIMITED TO 2 BLOCKS AND 1 SINGLE INTERSECTION. SIDEWALKS SHALL REMAIN OPEN & FUNCTIONAL ON OPPOSITE SIDE OF CLOSURE
6. APPLICANT SHALL COORDINATE THE TEMPORARY CLOSURE AND RELOCATION OF RTD BUS STOPS WITHIN THE PROJECT AREA AS NEEDED. CONTACT RTD (303)299-6561 AT LEAST 1 WEEK IN ADVANCE OF THE START OF WORK.
7. ALL WORK SHALL COMPLY TO TRANSPORTATION STANDARDS & DETAILS (TS&D). CURB AND GUTTER STD DWG 5.2, ASPHALT PATCHBACK MUST BE TO STD DWG 12.0
8. ALL FLOW-FILL OR NORMAL CLSM (CONTROLLED LOW-STRENGTH MATERIAL) SHALL BE AIR-ENTRAINED TO BETWEEN 6% AND 25%.WHEN USED IN THE UPPER 3 FT. TO TRANCHES. ALL FLASH-FILL MATERIAL (USING ONLY FLY ASH WITHOUT AGGREGATE) USED FOR RAPID SET TIME SHALL BE AIR-ENTRAINED TO BETWEEN 15% AND 21% WHEN USED IN THE UPPER 3 FT. OF TRENCHES. MATERIAL AND METHODS SHALL MEET TS&D 12.4 & RULES & REGULATIONS FOR STREET CUTS. MATERIALS PLACED AT LESS THAN MINIMUM SLUMP SPECS WILL REQUIRE A 3-YEAR EXTENDED WARRANTY, 6 YEARS TOTAL.
9. FULL-PANEL REPLACEMENT IS REQUIRED ON ALL CONCRETE ROADWAYS, SIDEWALKS AND ALLEYS.
10. ANY SURFACE FEATURE PROPOSED THAT IMPACTS A PEDESTRIAN RAMP ENOUGH TO REQUIRE CONCRETE PANEL REPLACEMENT SHALL REQUIRE UPGRADE OF THE AFFECTED RAMP TO CURRENT DENVER AND ADA STANDARDS.
11. FINAL RESTORATION OF THE STREET PAVEMENT SHALL OCCUR WITHIN 14 CALENDAR DAYS OF THE INITIAL CUT ON RESIDENTIAL STREETS AND ALLEYS, OR WITHIN 48 HOURS ON COLLECTOR AND ARTERIAL STREETS. WHEN COLD WEATHER CONDITIONS EXIST, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY DRIVING SURFACES WITHIN THIS TIMEFRAME UNTIL FINAL RESTORATION CAN BE PROPERLY PERFORMED. ACCEPTABLE TEMPORARY DRIVING SURFACE MATERIALS INCLUDE COLD OR HOT MIX ASPHALT, OR A THIN (REMOVABLE) HIGH STRENGTH FAST SETTING CEMENTITIOUS FLYASH BASED MIXTURES.
12. THE USE OF STEEL PLATES TO COVER EXCAVATIONS ON ROADWAYS ISN'T ALLOWED FROM SEPT 1 TO APRIL 30. SPECIAL PERMISSION BY THE CITY MAYBE GIVEN WHEN SNOW ISN'T FORECASTED BEFORE FINAL RESTORATION WILL OCCUR. ON CONCRETE ROADS, THE PLATE SHALL BE RAMPED WITH ASPHALT FOR A MINIMUM 24-INCH WIDTH AROUND THE EDGE OF THE PLATE. ON ASPHALT ROADS, PLATES SHALL BE RECESSED A MINIMUM 1.5 INCHES DEEP AND AT LEAST A MINIMUM 18-INCH WIDTH AROUND THE EXCAVATION. ADDITIONAL METHODS OF SECURING THE PLACE FROM MOVEMENT MAY BE REQUIRED BY PUBLIC WORKS. THE CONTRACTOR SHALL DESIGNATE AND SUPPLY THE CONTACT INFORMATION FOR A RESPONSIBLE PARTY TO BE AVAILABLE AS A 24-HOUR CONTACT DURING PLATE USE
13. MORATORIUM ROADS ARE ASPHALT ROADS RESURFACED IN THE PAST 3 YEARS. STREET CUTS ON THESE ROADS SHALL BE MILLED A MINIMUM OF 50 FT. IN EACH DIRECTION OF THE EXCAVATION AND OVERLAID FROM CURB-TO-CURB OR CURB-TO-CENTER LINE OF STREET. SEE TS&D 12.2.

FORESTRY & LANDSCAPING NOTES

1. THE CONTRACTOR SHALL NOT SPRAY, CUT, OR TRIM TREES OR OTHER LANDSCAPING ELEMENTS WITHIN ROW, UNLESS SUCH WORK IS OTHERWISE SPECIFIED OR CLEARLY INDICATED ON THE APPROVED PLANS.
2. ANY DISTURBED LANDSCAPING WILL BE REPLACED TO EQUAL OR BETTER CONDITION THAN THAT WHICH EXISTED PRIOR TO WORK.
3. SEEDING, SODDING, AND PLANTING SHALL BE AS SPECIFIED OR OTHERWISE APPROVED BY CITY. CONSTRUCTION, MAINTENANCE, AND WATERING REQUIREMENTS SHALL CONFORM TO THE CITY STANDARD SPECIFICATIONS. WHERE LANDSCAPE RESTORATION MUST BE DELAYED DUE TO SEASONAL REQUIREMENTS, A SEPARATE PERMIT MAY AUTHORIZE SUCH WORK
4. THE CITY REQUIRES COMPLIANCE WITH THE FOLLOWING WHEN WORK IS REQUIRED AROUND TREES IN THE PUBLIC RIGHT-OF-WAY. TRENCHING TECHNIQUES SHALL COMPLY WITH:
   a. TRENCHING SHOULD NOT BE CLOSER TO THE TREE THAN THE DRIP LINE (THE AREA UNDER THE TREE BRANCHES); (2) ADJUST THE ROUTE TO AVOID ROOTS AS MUCH AS POSSIBLE;
   b. STORE SOIL OPPOSITE THE TREE SIDE OF THE TRENCH;
   c. BACKFILL QUICKLY AND CLEANLY, AND WATER ROOTS DEEPLY;
   d. TUNNELING MUST BE AT LEAST 4 FEET BELOW GROUND;
   e. NO EXCAVATION OR EQUIPMENT STORAGE SHALL OCCUR IN THE CRITICAL ROOT ZONE (1' FOR EVERY 1" CALIPER SURROUNDING THE TREE);
   f. ALL PIT LOCATIONS MUST BE STAKED AND APPROVED PRIOR TO AN EXCAVATION;
   g. NO ROOT 2" OR LARGER WILL BE CUT;
   h. MINIMIZE THE WORK PIT TO NO WIDER THAN THE TRENCH;
   i. WHERE EQUIPMENT IS WORKING NEAR TREES ERECT A SNOW FENCE AT OR JUST OUTSIDE THE DRIP LINE;
   j. PREVENT SOIL COMPACTION BY ADDING 4" TO 12" OF WOOD CHIPS;
   k. RETAIN A LICENSED TREE COMPANY TO PRUNE BROKEN BRANCHES AS WELL AS COMPENSATORY PRUNING IF NECESSARY TO HELP THE TREE RECOVER FROM ROOT LOSS.
5. THE CITY OF DENVER TREE RETENTION AND PROTECTION SPECIFICATIONS MUST BE FOLLOWED. FOR A COPY OF THE TREE PROTECTION SPECIFICATIONS PLEASE CONTACT THE FORESTRY DESK AT (720) 913-0651 OR EMAIL AT FORESTRY@DENVERGOV.ORG

OFFICE OF THE CITY FORESTER TREE PROTECTION NOTES

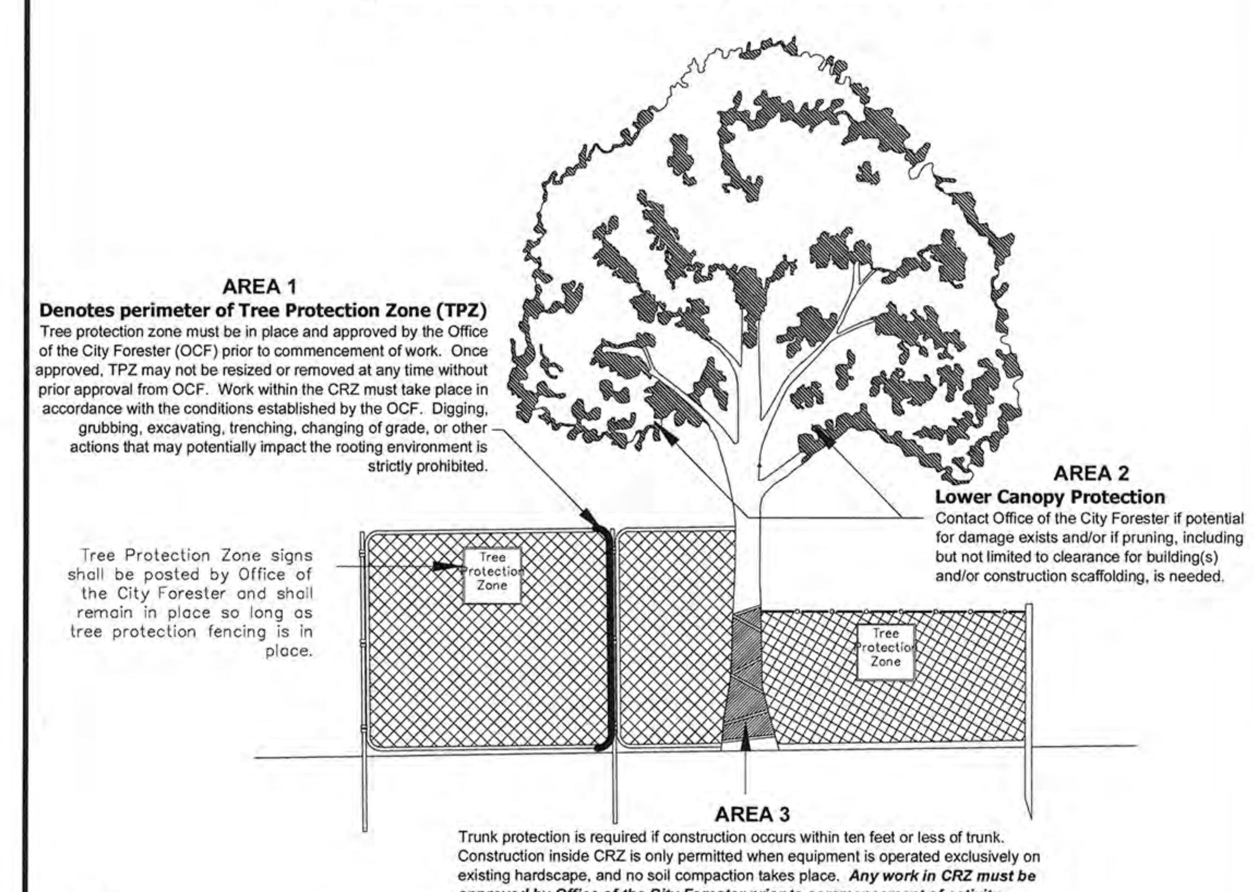
1. EXISTING TREES TO BE PRESERVED IN PUBLIC RIGHT OF WAY SHALL BE PROTECTED PER OFFICE OF THE CITY FORESTER STANDARDS & PRACTICES. TREE PROTECTION SHALL BE INSTALLED PRIOR TO ISSUE OF DEMOLITION/BUILDING PERMIT, APPROVED BY THE OFFICE OF THE CITY FORESTER, AND SHALL REMAIN IN PLACE THROUGHOUT CONSTRUCTION. NO CONSTRUCTION ACTIVITIES OR STORAGE OF CONSTRUCTION MATERIALS/DEBRIS/EQUIPMENT SHALL TAKE PLACE WITHIN TREE PROTECTION ZONES WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OFFICE OF THE CITY FORESTER. ALL CONSTRUCTION ACTIVITY MUST OCCUR OUTSIDE TREE PROTECTION ZONES (I.E DRIPLINES OF TREES).
2. IF PRUNING FOR CONSTRUCTION ACTIVITY IS NECESSARY, CONTRACTOR SHALL CONSULT WITH OFFICE OF THE CITY FORESTER STAFF PRIOR TO COMMENCEMENT OF WORK.
3. MINIMUM TREE PROTECTION REQUIREMENTS: TREE PROTECTION SHALL BE INSTALLED AT THE CRITICAL ROOT ZONE (CRZ). THE CRZ IS EQUAL TO THE DRIPLINE, FURTHEST EXTENT OF TREE CANOPY, OR IS EQUAL TO ONE FOOT RADIALLY FROM THE TREE FOR EVERY ONE INCH OF TRUNK DIAMETER AT BREAST HEIGHT (DBH = 4.5' ABOVE SOIL LINE), WHICHEVER IS GREATER.
   a. FOR DEMOLITION ACTIVITIES: ORANGE PLASTIC SAFETY FENCING IS ACCEPTABLE. FENCING SHALL BE MIN. 48" IN HEIGHT, TOP SECURED TO METAL T- POSTS WITH 12-GAUGE WIRE WOVEN THROUGH TOP OF FENCING FOR ENTIRE LENGTH. HEAVY DUTY T-POSTS SHALL BE PLACED SO THAT WIRE & FENCE ARE TAUT.
   b. FOR CONSTRUCTION ACTIVITIES: USE 6' CHAIN LINK FENCING TO ESTABLISH TREE PROTECTION ZONE (TPZ). ONCE TPZ IS IN PLACE, IT MAY NOT BE MOVED, RESIZED, REMOVED, OR ALTERED IN ANY MANNER WITHOUT PRIOR WRITTEN APPROVAL FROM OFFICE OF THE CITY FORESTER.
4. OFFICE OF THE CITY FORESTER STAFF SHALL INSPECT AND APPROVE BOUNDARIES OF TREE PROTECTION ZONE(S) PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES; INCLUDING WHEN PLASTIC FENCING IS TO BE REPLACED WITH CHAIN LINK FENCING (IF PLASTIC FENCING IS INITIALLY INSTALLED). ONCE APPROVED BY THE OFFICE OF THE CITY FORESTER, THE TREE PROTECTION ZONE SHALL NOT BE RESIZED, MODIFIED, REMOVED, OR ALTERED IN ANY MANNER WITHOUT PRIOR APPROVAL.
5. "TREE PROTECTION ZONE" SIGNS SHALL REMAIN IN PLACE AS POSTED BY OFFICE OF THE CITY FORESTER AND SHALL BE MAINTAINED IN THE CONDITION IN WHICH THEY WERE INSTALLED.
6. NO ENTRANCE AND/OR ACCESS TO THE TREE PROTECTION ZONE, INCLUDING CONSTRUCTION ACTIVITIES, IS PERMITTED WITHOUT PRIOR APPROVAL FROM THE OFFICE OF THE CITY FORESTER.
7. EXISTING ROW TREES APPROVED FOR REMOVAL BY THE OFFICE OF THE CITY FORESTER MUST BE PROTECTED IN PLACE PER FORESTRY STANDARDS & SPECIFICATIONS UNTIL REMOVED BY AN OFFICE OF THE CITY FORESTER LICENSED TREE CONTRACTOR. A TREE REMOVAL PERMIT IS REQUIRED FROM THE OFFICE OF THE CITY FORESTER PRIOR TO REMOVAL. FAILURE TO PROTECT SUCH TREES UNTIL REMOVAL, OR REMOVING ROW TREES WITHOUT A FORESTRY-ISSUED PERMIT WILL RESULT IN NOTICE OF VIOLATION AND MAY INCLUDE CITATIONS/FINES. TREE REMOVAL PERMITS ARE NOT INCLUDED WITH BUILDING PERMITS AND MUST BE OBTAINED SEPARATELY FROM THE OFFICE OF THE CITY FORESTER.

TREE PROTECTION ZONES

The Tree Protection Zone (TPZ) shall be equal to eighteen inches (18") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).

The Critical Root Zone (CRZ) shall be equal to twelve inches (12") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).

The Structural Root Zone (SRZ) shall be equal to 0.9' (10.8") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).



NOTES

1. Office of the City Forester Tree Retention and Protection Specifications shall be followed throughout duration of project.
2. Damage to protected trees is subject to penalty per City Ordinance.
3. Tree protection shall be installed prior to commencement of demolition/construction activities, approved by Office of the City Forester staff, and shall remain in place until Certificate of Occupancy is issued by the City & County of Denver.
4. Once approved by the Office of the City Forester, the Tree Protection Zone shall not be resized, modified, removed, or altered in any manner without prior written approval.
5. Entrance/access to the Tree Protection Zone is not permitted without prior written approval from the Office of the City Forester.
6. No materials, debris, equipment, or site amenities shall be stored within the Tree Protection Zone without prior written approval from the Office of the City Forester.
7. While tree protection fencing is in place, trees shall be deep-root watered at an interval of once per week when temperatures are at or above 50-degrees F. Trees shall be watered at the rate of 10 gallons per inch caliper.
8. Minimum Tree Protection Zone, Area 1 fencing shall be "orange plastic safety fencing," min. 48" in height, top secured to metal T-posts with 12-gauge wire woven through top of fencing for entire length.
   – Heavy duty T-posts shall be placed so that wire & fence are taut.
   – Chain link fencing is recommended and may be required by the Office of the City Forester where heavy construction activity is adjacent to existing trees.
   – "Tree Protection Zone" signs shall remain in place as posted by Office of the City Forester and shall be maintained in the condition in which they were installed.

REVISIONS: MARK	BULLETIN	DATE	PREPARED BY DENVER FORESTRY PARKS AND RECREATION DEPARTMENT	CITY AND COUNTY OF DENVER 201 W. COLFAX AVE. DENVER, COLORADO 80202	STANDARD TREE DETAIL FOR TREE PROTECTION AREA	NOT TO SCALE DATE: Mar 2014 DIAGRAM P-3

DENVER WATER

1600 West 12th Ave
Denver, Colorado 80204-3412
T: 303.628.6000
F: 303.628.6851
denverwater.org

CONSULTANT

COLORADO LICENSED PROFESSIONAL ENGINEER KATIE LEE ROSS 41224 2/8/18

N DETROIT ST
E 6TH AVE TO
E 10TH AVE

(IMPROVEMENT)
INSTALL APPROX
2400' OF 8" DI

SERVICE ADDRESS:

REFERENCE:
ENGINEERING STANDARDS
FOURTEENTH EDITION 2012

THIS DRAWING IS BASED ON THE DW_METRO_GRID COORDINATE SYSTEM

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REVISIONS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

PT NO: *983*
DRAWN BY: *RLB*
CHKD BY: *KLR*
CHKD BY:
APPD BY:
DATE: *February 3, 2000*
CONTRACT:
AS-BUILT DATE:
AS-BUILT BY:

DRAWING TITLE

CITY & COUNTY OF DENVER NOTES

DISTRIBUTION

SHEET 2 OF 7 SHEETS

REVISION DATE: OCTOBER 17, 2018
GENERAL CONSTRUCTION AND WATER NOTES:

1. PROJECTS LOCATED IN DISTRIBUTOR CONTRACT AREAS SHALL REQUIRE THE DISTRICT TO CONTACT DENVER WATER PRIOR TO THE PRE-CONSTRUCTION MEETING.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH DENVER WATER'S ENGINEERING STANDARDS, MATERIALS SPECIFICATIONS, AND DRAWINGS. ALL MAIN INSTALLATIONS/SYSTEM MODIFICATIONS WILL BE APPROVED AND INSPECTED BY DENVER WATER. FIELD CHANGE DIRECTIVES MADE BY DISTRIBUTION INSPECTION SHALL BE MADE WITHIN 24 HOURS BY THE CONTRACTOR.
3. CONTRACTORS SHALL MAINTAIN A COPY OF THE CURRENT ENGINEERING STANDARDS ON-SITE AT ALL TIMES DURING CONSTRUCTION. SEE THE CHART BELOW FOR A QUICK REFERENCE TO THE FREQUENTLY USED MATERIAL SPECIFICATIONS.

MATERIAL SPECIFICATION QUICK REFERENCES:

MATERIAL SPECIFICATIONS	DESCRIPTION
MS 01	DUCTILE IRON PIPE
MS 02	POLYVINYL CHLORIDE PRESSURE PIPE
MS 03	DUCTILE IRON WATERWORKS FITTINGS
MS 5	RESILIENT SEATED GATE VALVES
MS 6	RUBBER SEATED BUTTERFLY VALVES
MS 8	TAPPING VALVES – MECHANICAL JOINT TYPE
MS 9	FABRICATED CARBON STEEL AND STAINLESS STEEL TAPPING SLEEVES
MS 12	CAST IRON VALVE BOXES
MS 13	DRY – BARREL FIRE HYDRANTS
MS 14	POLYETHYLENE ENCASEMENT MATERIAL
MS 23	BRASS AND BRONZE GOODS
MS 28	CONCRETE VAULTS
MS 29	MECHANICAL JOINT RESTRAINT
MS 30	BOLTED SLEEVE – TYPE COUPLINGS
MS 36	FLANGED JOINT ACCESSORIES

4. AWG 12 SOLID COPPER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC WATER MAINS.
5. THE DEPTH OF COVER OVER THE PIPE, MEASURED FROM OFFICIAL STREET GRADE TO THE TOP OF THE PIPE, SHALL BE A MINIMUM OF 4-1/2 FEET AND SHALL BE KNOWN AS THE COVER OVER THE PIPE. IF DIFFICULTIES ARISE WHEN CROSSING INTERFERENCE, AND WHERE SPECIFICALLY APPROVED BY DENVER WATER, DEVIATIONS FROM 4-1/2 FEET OF COVER WILL BE PERMITTED. THE COVER OVER THE PIPE SHALL BE A MINIMUM OF 4-1/2 FEET AND A MAXIMUM OF 10 FEET WITH DENVER WATER APPROVAL.
6. ANY CHANGES IN ALIGNMENT AND GRADE SHALL BE AUTHORIZED BY DENVER WATER AND SHALL BE ACCOMPLISHED BY THE INSTALLATION OF ADDITIONAL FITTINGS. THE DEFLECTION OF JOINTS IS PERMITTED ONLY WHEN INSTALLING PIPE ON HORIZONTAL OR VERTICAL CURVES.
7. PRIOR TO THE INSTALLATION OF WATER MAINS, ROAD CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE SUB-GRADE STATE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN 7 INCHES BELOW THE FINISHED STREET GRADE.
8. THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES AND FIRE HYDRANTS TO THE FINAL FINISHED GRADE.
9. BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST WITH MECHANICAL RESTRAINT AND CONCRETE KICK BLOCKS IN ACCORDANCE WITH DENVER WATER'S ENGINEERING STANDARDS.
10. VALVES SHALL BE LOCATED ON PROPERTY LINE EXTENSIONS, EXCEPT FOR TAPPING TEES WHERE AN ADDITIONAL VALVE SHALL BE PLACED ON THE TAPPING TEE. OTHER VALVE LOCATIONS MAY BE REQUIRED AS SHOWN ON THE PLANS.
11. UTILITY CROSSINGS SHALL MAINTAIN A MINIMUM CLEARANCE OF 18-INCHES BETWEEN THE OUTSIDE OF THE PIPES.
12. ONLY ONE POINT OF CONNECTION IS ALLOWED UNTIL THE TESTING OF THE NEW MAIN INSTALLATIONS IS COMPLETE.
13. NEWLY INSTALLED WATER MAINS AND FIRE SERVICE LINES SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH DENVER WATER ENGINEERING STANDARDS, SECTION 8.25.
14. THE TRENCH SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR INSPECTION AT ANY LOCATION ON THE PROJECT, WHEN REQUESTED BY DENVER WATER.
15. THE STERILIZATION AND FLUSHING OF MAINS SHALL BE INSPECTED AND CERTIFIES BY THE HEALTH DEPARTMENT HAVING JURISDICTION; ONE COPY OF THE CERTIFICATION SHALL BE PROVIDED TO DENVER WATER. THE CERTIFICATION SHALL NOTE THE LOCATION OF THE MAIN AND STATE THE MAIN HAS BEEN INSPECTED BY A REPRESENTATIVE OF THE HEALTH DEPARTMENT HAVING JURISDICTION AND COMPLIES WITH THE PROCEDURES SET FORTH BY THAT DEPARTMENT.
16. THE CONTRACTOR IS RESPONSIBLE FOR:
    A. NOTIFYING CUSTOMERS VERBALLY OR WRITING WHO MAY BE AFFECTED BY A WATER OUTAGE DURING CONSTRUCTION.
    B. OBTAINING, AT THE CONTRACTOR'S EXPENSE, APPLICABLE LICENSES, PERMITS, BONDS, ETC., THAT ARE REQUIRED FOR THE MAIN INSTALLATION/SYSTEM MODIFICATION.
    C. CONTACTING DENVER WATER'S CONSTRUCTION ENGINEERING PERSONNEL FOR THE PRE-CONSTRUCTION MEETING AND INSPECTION, AT 303-628-6671, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
    D. IN THE EVENT OF AN EMERGENCY IN DENVER OR IN A TOTAL SERVICE AREA AFTER WORKING HOURS, CALL DENVER WATER'S WESTSIDE DISPATCHER: 303-628-6801. IN A MASTER METER OR READ & BILL DISTRICT, PLEASE CONTACT THE REPRESENTATIVE OF THE DISTRICT IN WHICH THE PROJECT IS TAKING PLACE.
    E. PAYING ALL ADDITIONAL CHARGES FOR INSPECTION OUTSIDE NORMAL WORK HOURS.

    NOTE: BE ADVISED THAT ON OCCASION VALVES IN OUR SYSTEM MAY BE INOPERABLE. ON SUCH OCCASIONS, IT MAY BECOME NECESSARY TO BACK UP AN ADDITIONAL BLOCK FOR THE SHUT OUT. IF THAT OCCURS, MAKE ADDITIONAL NOTIFICATIONS VERBALLY OR IN WRITING TO CUSTOMERS WITH THE MANDATORY 24 HOURS ADVANCE NOTICE. WHEN VALVE MAINTENANCE IS REQUIRED, A DELAY OF SEVERAL DAYS SHOULD BE EXPECTED.
17. DENVER WATER (WQO SYSTEM DEVELOPMENT) TO CONDUCT DISINFECTION AND HYDROSTATIC PRESSURE TESTING OF THE WATER MAIN AND ASSOCIATED HYDRANT BRANCHES. PLEASE CONTACT SYSTEM DEVELOPMENT AT 303-634-3470 PRIOR TO CONSTRUCTION FOR TESTING REQUIREMENTS.

REVISION DATE: OCTOBER 17, 2018
TAP AND METER NOTES (FOR DENVER, TOTAL SERVICE, AND READ AND BILL AREAS ONLY. IN MASTER METER DISTRICTS PLEASE REFER TO THE SPECIFICATION FOR THAT DISTRICT).

1. BEFORE ANY TAPS ARE MADE ON MAINS, TAP APPLICATIONS AND PAYMENT MUST BE RECEIVED AND APPROVED BY THE DISTRIBUTOR AND DENVER WATER, AND THE WATER MAIN HAS PASSED WATER QUALITY TESTING.
2. DENVER WATER WILL MAKE ALL TAPS THAT ARE 2 INCHES AND SMALLER.
3. INDIVIDUAL SERVICE LINE PRVS SHALL BE INSTALLED BY THE LICENSEE WHEN AREA PRESSURE EXCEEDS 80 PSI.
4. SERVICES AND METERS:
    A. THE CONTRACTOR MAY REQUEST AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH THE METER INSPECTOR FOR ALL TAPS, SERVICE LINES, AND METERS LARGER THAN ONE-INCH,AND FOR PROJECTS INVOLVING MORE THAN ONE TAP AND SERVICE. TO SCHEDULE APRE-CONSTRUCTION CONFERENCE, CALL METER INSPECTION AT 303-628-6145.
    B. A COPY OF THE APPROVED PLANS WITH DENVER WATER'S APPROVAL STICKER MUST BE PRESENT ON-SITE AT THE TIME THE TAP IS MADE AND THE METER IS INSPECTED OR INSTALLED.
    C. PRIOR TO THE TAP BEING MADE, THE SERVICE ADDRESS SHALL BE POSTED, AND THE CURB VALVE SHALL BE INSTALLED. UPON TAP INSTALLATION, THE CONTRACTOR MAY REQUEST THE METER INSPECTION AFTER THE FIRST POUR OF CONCRETE FOUNDATION HAS OCCURRED. THE SERVICE ADDRESS SHALL REMAIN POSTED UNTIL THE METER SETTING PASSES INSPECTION.
    D. METERS CANNOT BE SET, INSPECTED, OR SERVICES ACTIVATED, UNTIL THE REQUIREMENTS FOR BACKFLOW PREVENTION HAVE BEEN COMPLETED. CONTACT THE BACKFLOW PREVENTION PROGRAM PERSONNEL AT 303-628-5969 FOR FURTHER INFORMATION.
    E. METER PITS AND VAULTS MUST BE SET FLUSH WITH THE FINAL GRADE OF THE LANDSCAPE, INCLUDING THE PROPER DEPTH FOR SOIL AMENDMENT. IF FINAL GRADING HAS NOT BEEN COMPLETED AT THE TIME OF METER INSPECTION, THE OWNER WILL BE REQUIRED TO RAISE OR LOWER THE METER PIT/VAULT WHEN FINAL GRADE IS ESTABLISHED. ADJUSTMENT OF THE PIT MAY REQUIRE ADJUSTMENT OF THE METER SETTING WITHIN THE PIT.
    F. METER SETTING, VALVES, AND SERVICE LINES FROM THE MAIN TO THE BACKFLOW PREVENTER ASSEMBLY, IF PRESENT, OR TO 5 FEET AFTER THE METER VAULT, MUST MEET ALL APPLICABLE ENGINEERING STANDARDS IN EFFECT AT THE TIME OF ACTIVATION. MODIFICATIONS MAY BE REQUIRED FROM THE DETAILS ON THESE PLANS TO COMPLY WITH THE CURRENT ENGINEERING STANDARDS.
    G. NO PRESENT OR FUTURE FENCES OR WALLS ARE PERMITTED BETWEEN THE RIGHT-OF-WAY (ROW) OR EASEMENT AND THE METER SETTING. THERE SHALL BE NO PERMANENT OBSTRUCTIONS WITHIN 5 FEET OF THE OUTSIDE WALL OF THE METER PIT OR VAULT.
    H. INSIDE THE CITY OF DENVER, ALL MULTI-FAMILY DWELLINGS WITH A SINGLE TAP, SERVICE LINE, AND METER ARE REQUIRED TO SUB-METER EACH INDIVIDUAL UNIT (SEC 401.3.2 OF DENVER MODIFICATIONS TO THE INTERNATIONAL PLUMBING CODE, ORDINANCE NUMBER 576, SERIES OF 2004). CALL THE CITY AND COUNTY OF DENVER PLUMBING INSPECTOR FOR INFORMATION AT 720-865-2625.
    I. INSIDE THE CITY OF DENVER, ALL SERVICE LINES MUST BE INSTALLED TO AVOID EXISTING OR PROPOSED STREET TREES. CONTACT THE CITY AND COUNTY OF DENVER'S FORESTER AT 720-913-0647 FOR INFORMATION.

CROSS- CONNECTION CONTROL REQUIREMENTS:

THE LICENSES LISTED BELOW SHALL BE IN CONFORMANCE WITH DENVER WATER'S ENGINEERING *STANDARDS, CHAPTER 5.05, CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION.* BACKFLOW PREVENTION ASSEMBLIES ARE REQUIRED TO BE INSTALLED ON THE FOLLOWING WATER SERVICE LINES:

1. COMMERCIAL DOMESTIC SERVICE LINES
2. MULTI-FAMILY DOMESTIC SERVICE LINES (DEPENDING ON POTENTIAL HAZARD)
3. FIRE SERVICE LINES
4. IRRIGATION SERVICE LINES
5. SINGLE FAMILY RESIDENTIAL DOMESTIC SERVICE LINES WITH AN AUXILIARY WATER SOURCE (DUAL WATER SERVICE AGREEMENT REQUIRED)
6. RECYCLED WATER SERVICE LINES, IF SYSTEM DESIGN INCLUDES CHEMICAL INJECTION OR PUMPS.
    A. BACKFLOW PREVENTION ASSEMBLIES INSTALLED ON RECYCLED WATER SERVICE LINES SHALL BE IDENTIFIED AS "RECYCLED WATER".
7. IT IS AT THE SOLE DISCRETION OF DENVER WATER'S CROSS-CONNECTION CONTROL SECTION TO APPROVE OR DENY A VARIANCE REQUEST RELATED TO A PROPOSED BACKFLOW PREVENTION ASSEMBLY INSTALLATION,
    A. BACKFLOW PREVENTION ASSEMBLIES SHALL BE A MODEL MANUFACTURED IN ACCORDANCE WITH AWWA C510 AND C511 AND SHALL HAVE MET THE SPECIFICATIONS BY THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
    B. THE LICENSEE IS REQUIRED TO HAVE A CERTIFIED AMERICAN BACKFLOW PREVENTION ASSOCIATION (ABPA) OR AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) TESTER INSPECT AND TEST THE EXISTING AND/OR NEWLY INSTALLED CONTAINMENT BACKFLOW PREVENTION ASSEMBLIES ON DEDICATED DOMESTIC, IRRIGATION, FIRE AND RECYCLE WATER SERVICE LINES UPON INSTALLATION AND ANNUALLY THEREAFTER.
    C. WITHIN 48 HOURS OF DENVER WATER SETTING THE METER AND TURNING ON THE WATER SERVICE, THE ABPA OR ASSE TESTER IS REQUIRED TO SUBMIT THE CONTAINMENT BACKFLOW ASSEMBLY TEST REPORT(S) TO THE CROSS-CONNECTION CONTROL OFFICE:

        FAX: 303-794-8325
        E-MAIL: CROSSCONNECTIONCONTROL@DENVERWATER.ORG

    D. THERE SHALL BE NO UNPROTECTED TAKEOFFS FROM THE SERVICE LINE AHEAD OF ANY METER OR BACKFLOW PREVENTION ASSEMBLY LOCATED AT THE POINT OF DELIVERY TO THE CUSTOMER'S WATER SYSTEM.
    E. NO BRANCH LINE OR TAPS ARE ALLOWED ON DEDICATED IRRIGATION WATER SERVICE LINES OR RECYCLED WATER SERVICE LINE FOR DOMESTIC (POTABLE) USE (E.G., DRINKING FOUNTAINS, WATER PLAY FEATURES, SWIMMING POOL, RESTROOM FACILITIES, ETC.)

DEN REQUIREMENTS:

1. CONTRACTORS SHALL MAINTAIN A COPY OF THE CURRENT ENGINEERING STANDARDS AND CAPITAL PROJECT CONSTRUCTION STANDARDS, WHEN APPLICABLE, ON SITE AT ALL TIMES DURING CONSTRUCTION.
2. WAX TAPE, METALLIC FITTINGS, AND APPURTENANCES SHALL BE IN ACCORDANCE WITH DENVER WATER CAPITAL PROJECTS CONSTRUCTION STANDARDS, 3RD EDITION SECTION 09 97 13.04.
3. AN AMI ENDPOINT IS REQUIRED TO BE PURCHASED BY THE CONTRACTOR AT THE TIME OF METER INSTALLATION.
4. CONTACT THE FOLLOWING DENVER WATER PERSONNEL PRIOR TO CONSTRUCTION FOR PROJECT COORDINATION AND INSPECTION SERVICES AT DEN:

    DEN AIRSIDE CONSTRUCTION INSPECTION

    A. MINIMUM OF 30 DAYS PRIOR TO CONSTRUCTION
    B. DENVER WATER CONSTRUCTION MANAGEMENT - JEFF SLANKARD 303-628-6165

    DEN LANDSIDE CONSTRUCTION INSPECTION

    C. MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION
    D. DENVER WATER CONSTRUCTION ENGINEERING - 303-628-6671

    DEN CATHODIC PROTECTION INSPECTION

    A. MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION
    B. DENVER WATER CONSTRUCTION MANAGEMENT - LEE BURKE 303-628-6293

DENVER WATER
1600 West 12th Ave
Denver, Colorado 80204–3412
T: 303.628.6000
F: 303.628.6851
denverwater.org

CONSULTANT

SERVICE ADDRESS:

REFERENCE:
ENGINEERING STANDARDS
FIFTEENTH EDITION 2018

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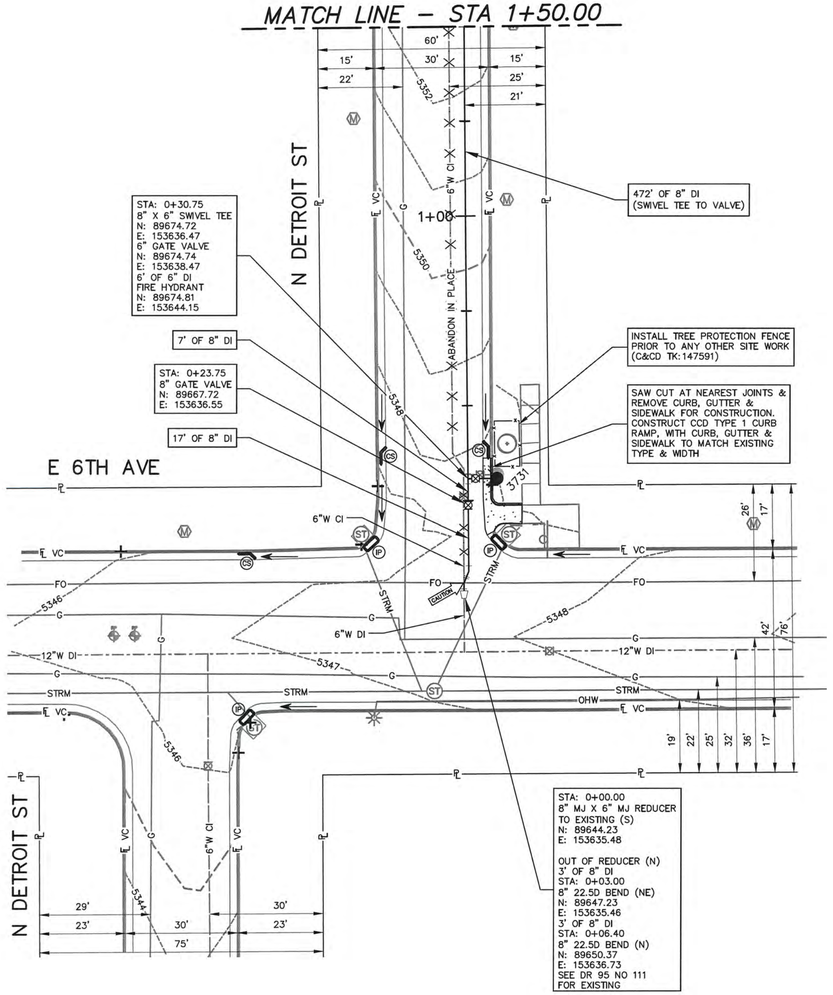

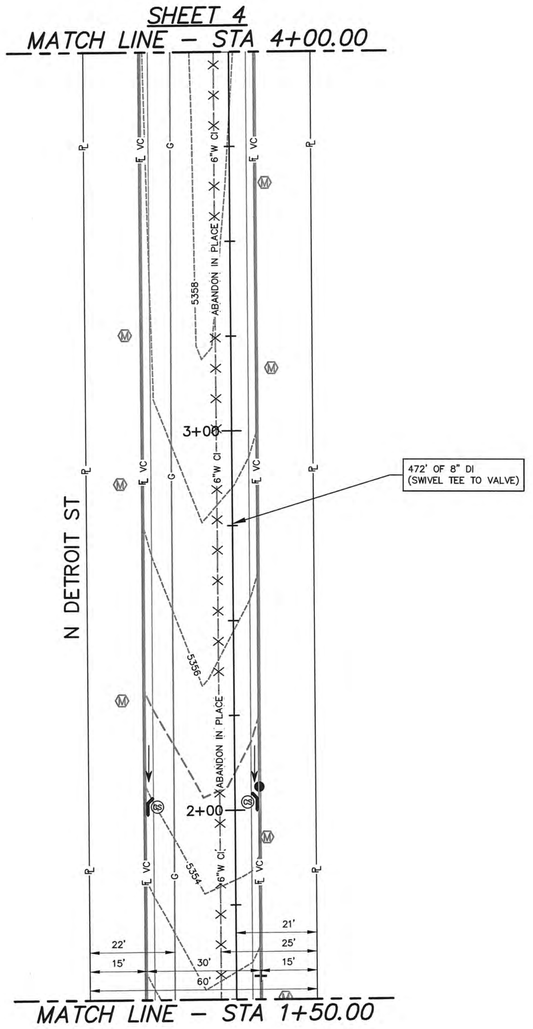

200' MAP NO NE C4

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COLORADO LICENSED KATIE LEE ROSS 41224 PROFESSIONAL ENGINEER 2/8/18

N DETROIT ST E 6TH AVE TO E 10TH AVE

(IMPROVEMENT)
INSTALL APPROX
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WATER PLAN 1

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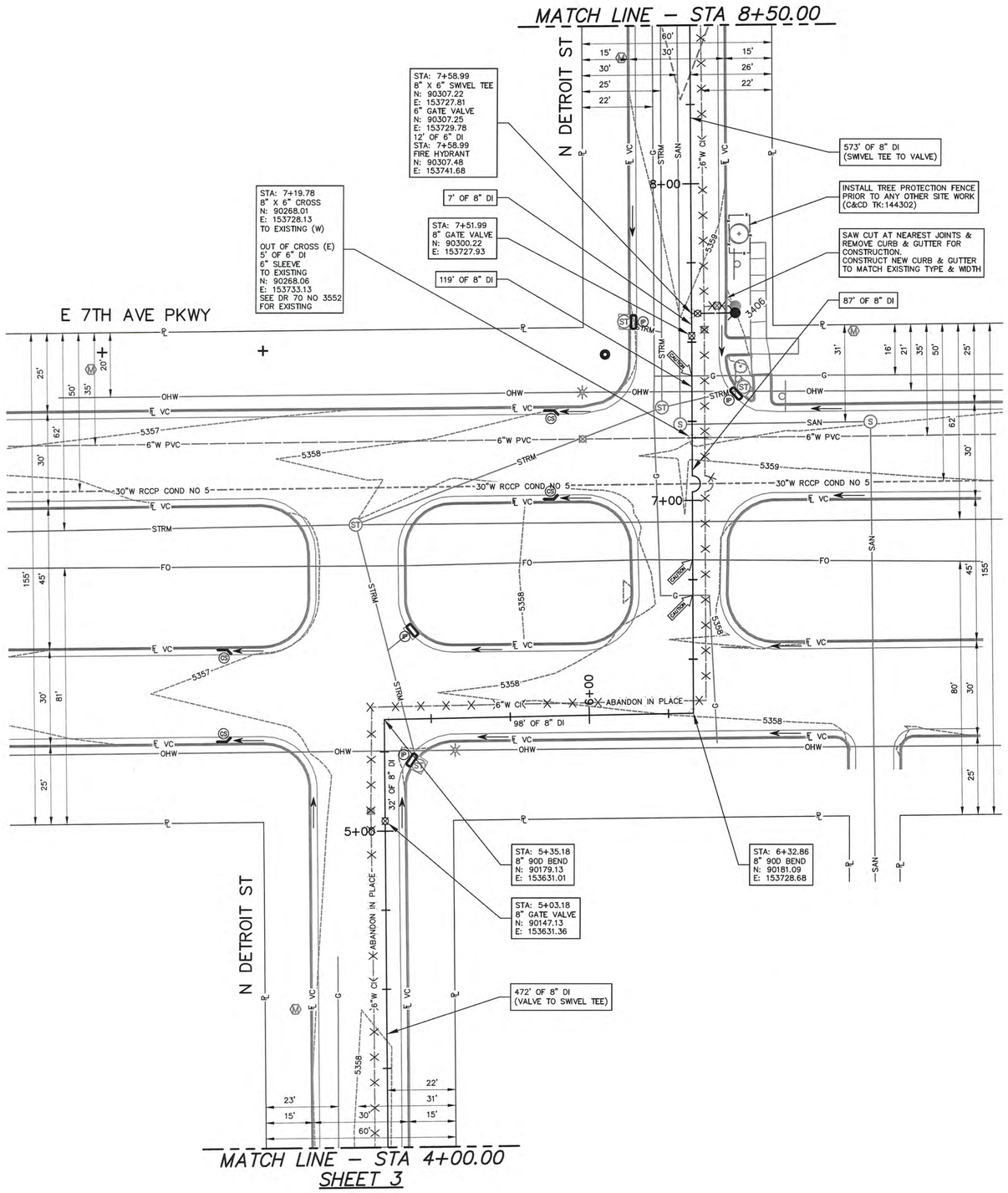

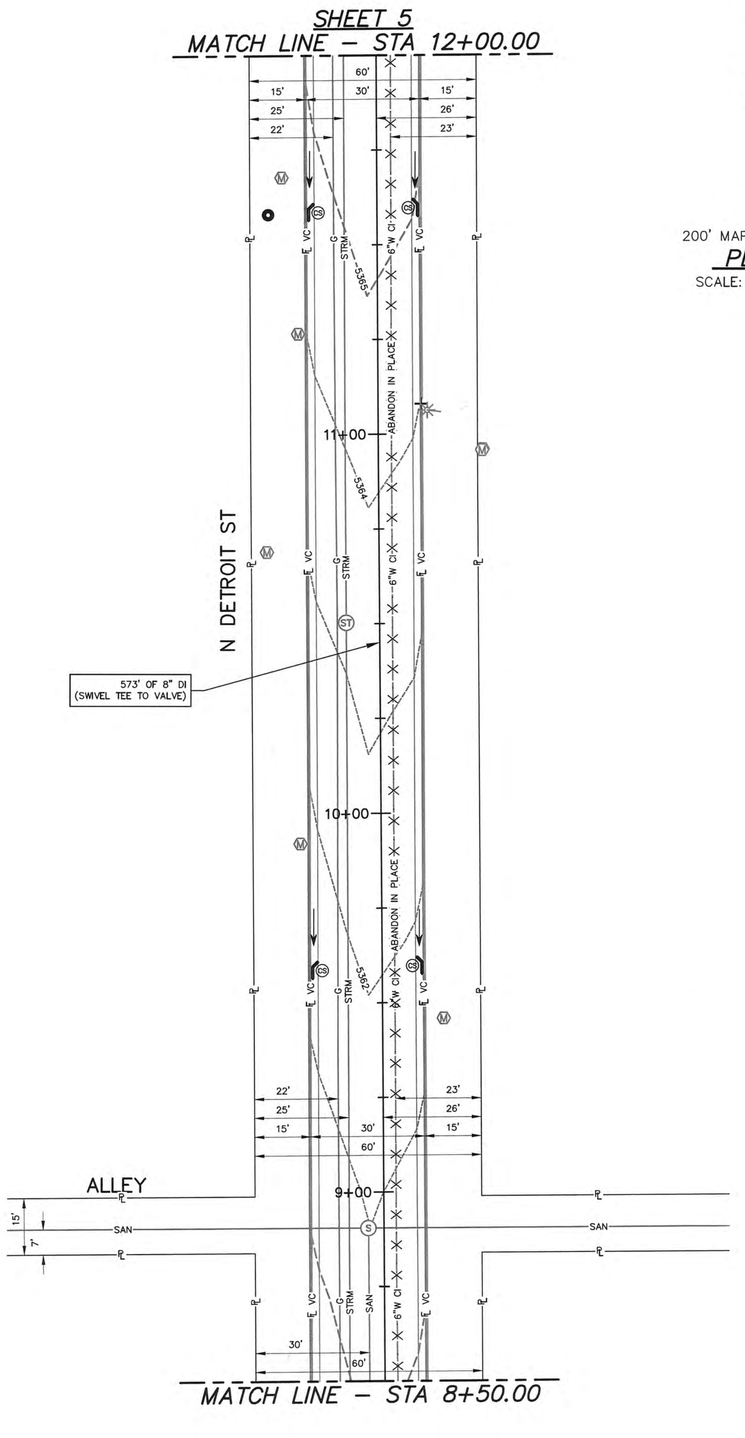

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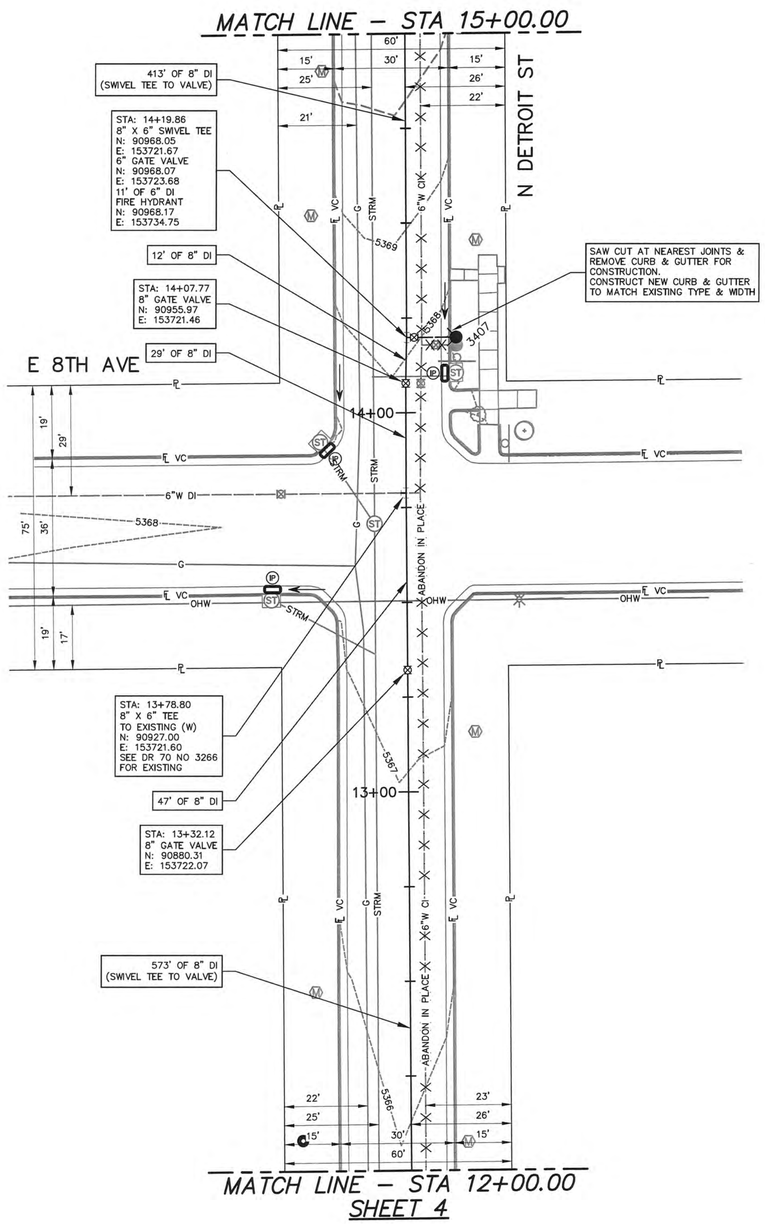

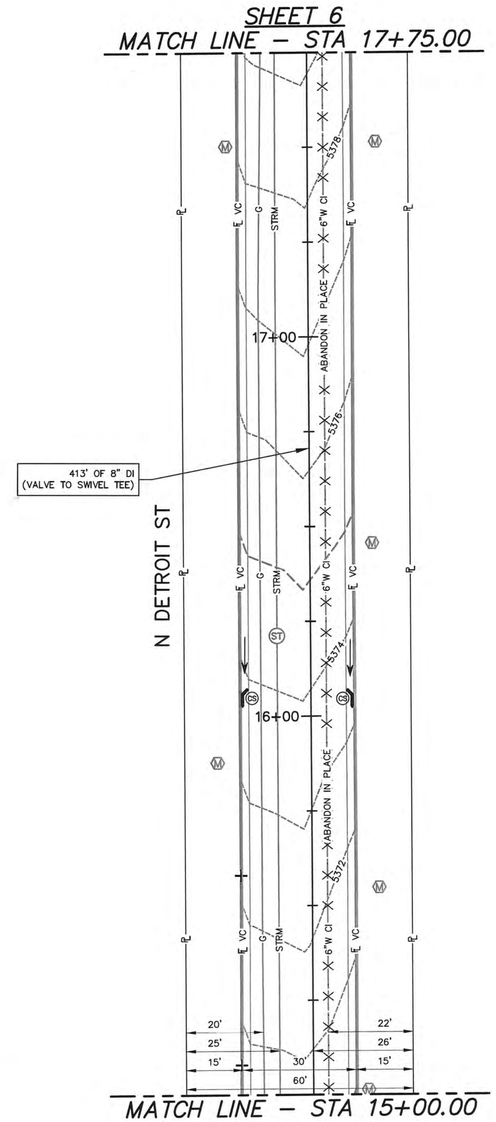

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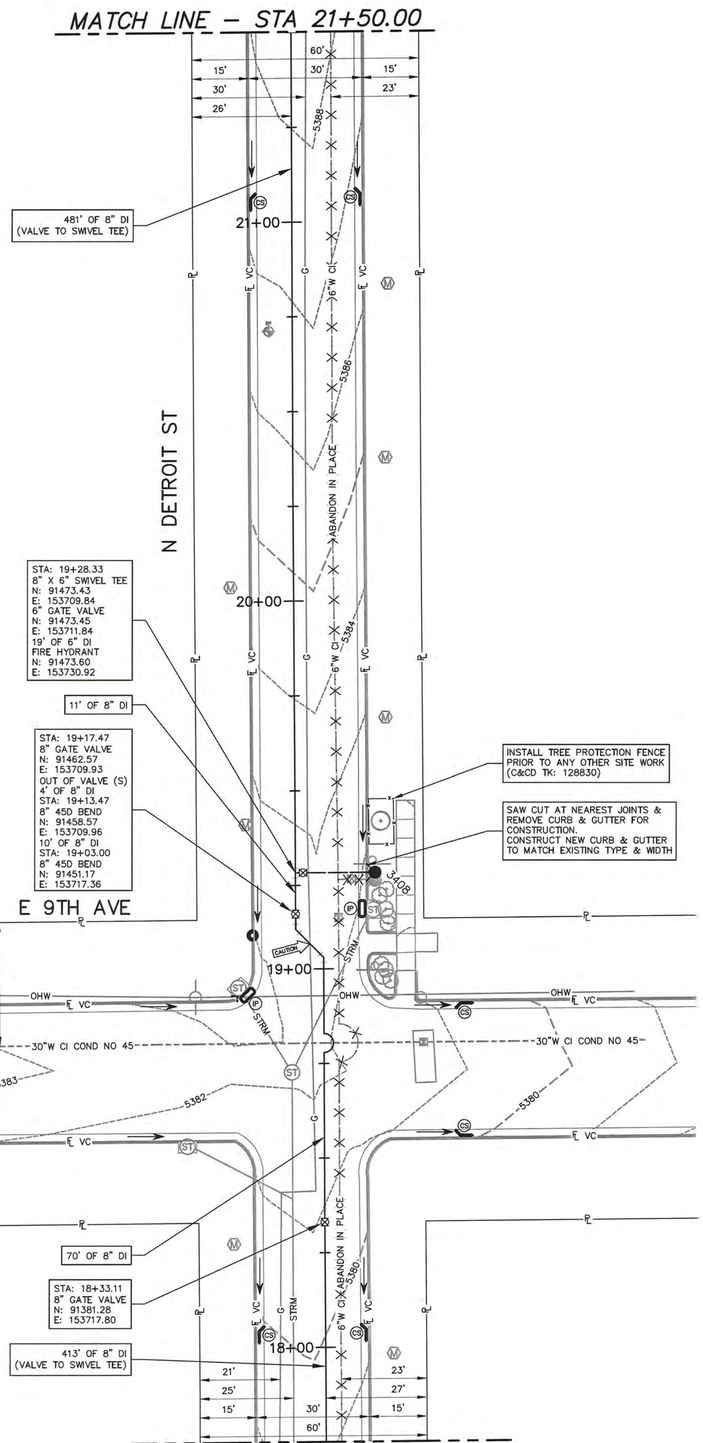

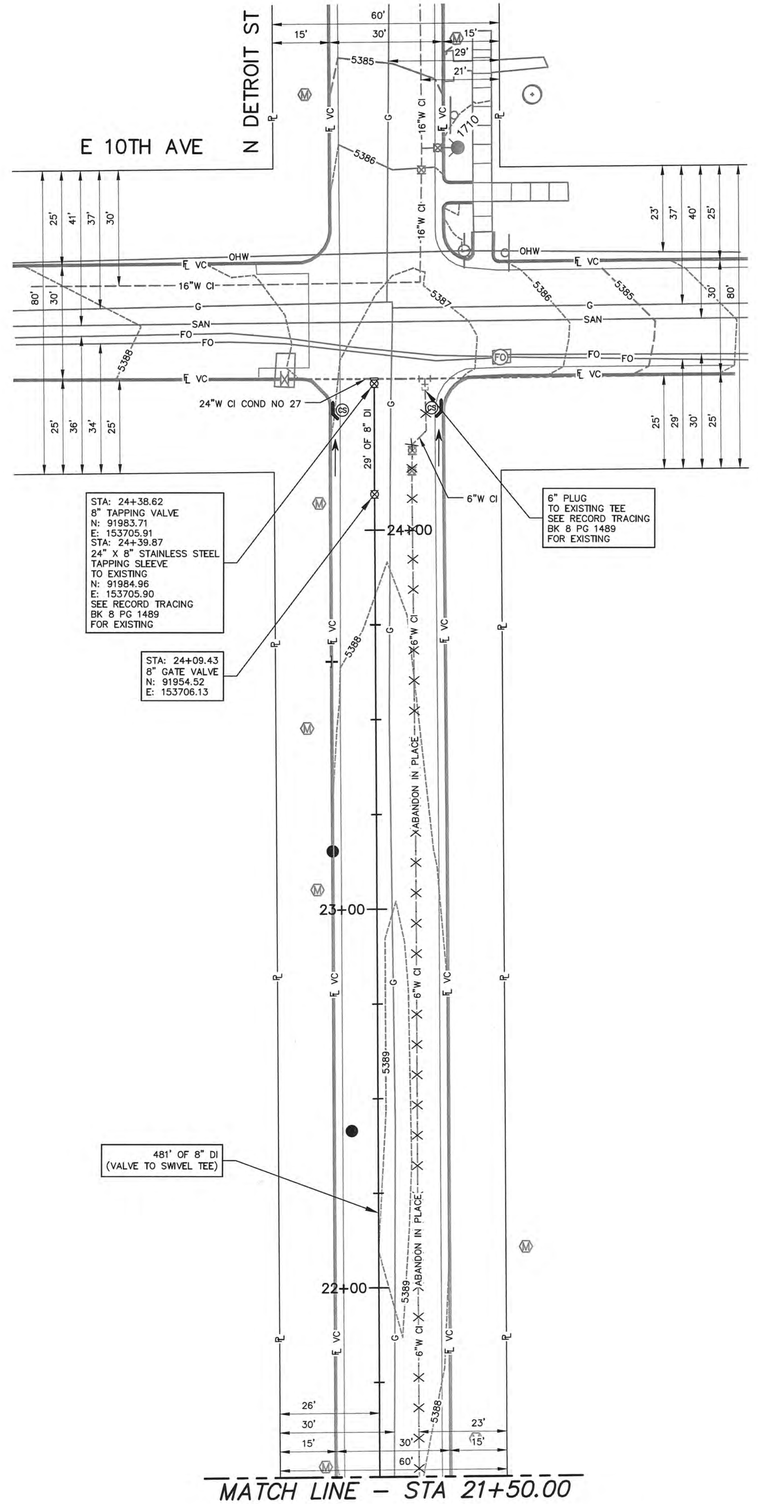

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CITY & COUNTY OF DENVER REVIEW COMMENTS

Agency	Reviewer	Approval Status	Comments	Comment Resolution
City Forester	Eric Huetig	Approved W/ Conditions	Refer to attached redlines for reference: 1. Update Forestry tree protection detail 2. Add standard OCF tree protection notes. For easy reference, Forestry inventory numbers have been provided for ROW trees to be protected 3. Consider adding to notes on plans (see locations).	Acknowledged: 1. New tree protection detail added to plans 2. OCF notes added to plans, 3. Inventory number added to trees.
		Approved No Response	No Response	N/A
Parks and Recreation Review ERA Transportation Review	Brent McMurtrie	Approved W/Conditions	Please note that disturbance to pedestrian facilities (crosswalks included) within 10 feet of an existing curb ramp will require that curb ramp to be upgraded to current CCD and ADA criteria – if they do not currently meet criteria. It appears there are a couple of locations that will trigger this need. Please review proposed route and plan for and/or adjust accordingly.	Acknowledged: The curb ramp at East 6th Ave & North Detroit Street was revised to show ramp replacement, East 7th Avenue and North Detroit Street is a new stile ramp and should not be disturbed. All others are over 10' fro our new fire hydrants.
ERA Wastewater Review	Mike Sasarak	Approved	No comments	N/A
ERA Erosion Control Review	Henny Debesu	Approved	Standard BMP notes are included in the package. CASDP not required.	N/A
PW: Construction Engineering Review	Matthew Schwindt	Approved W/ Conditions	– All work shall comply to Transportation Standards & Details (TS&D). Curb and Gutter std dwg 5.2, Asphalt patchback must be to std dwg 12.0 – Contact Public Works – ROW Services Construction Engineering (RWSCE) section for a preconstruction meeting prior to start of permitting, (303) 446–3469 or PWPermits@denvergov.org – Permit applicant must apply at least 5 business days before the start of work to obtain a Revocable Street Occupancy Permit, a Street Cut Permit or a ROW Construction Permit. The submittal must include a completed application form and a detailed site–specific traffic control plan to begin a review of the work scope, schedule and location. Submit to PWPermits@denvergov.org – Working on an arterial road may be restricted to either night–only or weekend work times. – Applicant shall coordinate the closure of driveways in the project area with the adjacent properties. Access must be provided to all buildings during construction. – The maximum extent of the road closure at any time is limited to 2 blocks and 1 single intersection. Sidewalks shall remain open & functional on opposite side of closure – Applicant shall coordinate the temporary closure and relocation of RTD bus stops within the project area as needed. Contact RTD (303)299–6561 at least 1 week in advance of the start of work. Street Cut – All flow–fill or normal CLSM (Controlled Low–Strength Material) shall be air–entrained to between 6% and 25% when used in the upper 3 ft. to tranches. All flash–fill material (using only fly ash without aggregate) used for rapid set time shall be air–entrained to between 15% and 21% when used in the upper 3 ft. of trenches. Material and methods shall meet TS&D 12.4 & Rules & Regulations for Street Cuts. Materials placed at less than minimum slump specs will require a 3–year extended warranty, 6 years total. – Full–panel replacement is required on all concrete roadways, sidewalks & alleys. – Any surface feature proposed that impacts a pedestrian ramp enough to require concrete panel replacement shall require upgrade of the affected ramp to current Denver and ADA standards. – Final restoration of the street pavement shall occur within 14 calendar days of the initial cut on residential streets and alleys, or within 48 hours on collector and arterial streets. – The use of steel plates to cover excavations on roadways isn't allowed from Sept 1 to April 30. Special permission by the City maybe given when snow isn't forecasted before final restoration will occur. On concrete roads, the plate shall be ramped with asphalt for a minimum 24–inch width around the edge of the plate. On asphalt roads, plates shall be recessed a minimum 1.5 inches deep and at least a minimum 18–inch width around the excavation. Additional methods of securing the place from movement may be required by Public Works. The contractor shall designate and supply the contact information for a responsible party to be available as a 24–hour contact during plate use. – Moratorium Roads are asphalt roads resurfaced in the past 3 years. Street cuts on these roads shall be milled a minimum of 50 ft. in each direction of the excavation and overlaid from curb–to–curb or curb–to–center line of street. See TS&D 12.2.	Ackowledged: Added additional notes to CITY & COUNTY OF DENVER ENGINEERING NOTES on Sheet 2.
PW: Traffic Operations Review	Sam Gonzales	Approved No Response	N/A	N/A
Denver Water Review	Ray Batts	Approved	N/A	N/A
PWT&M	Kelly Colvin	Approved No Response	N/A	N/A
PWT&M	Chad Tavelli	Approved No Response	N/A	N/A
PWT&M	Josh Jones	Approved No Response	N/A	N/A

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CONSULTANT

N DETROIT ST
E 6TH AVE TO
E 10TH AVE

(IMPROVEMENT)
INSTALL APPROX
2400' OF 8" DI

SERVICE ADDRESS:

REFERENCE:
ENGINEERING STANDARDS
FOURTEENTH EDITION 2012

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CHKD BY:
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CITY & COUNTY OF DENVER COMMENTS

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SHEET 7 OF 7 SHEETS

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DENVER, COLORADO

N DETROIT ST
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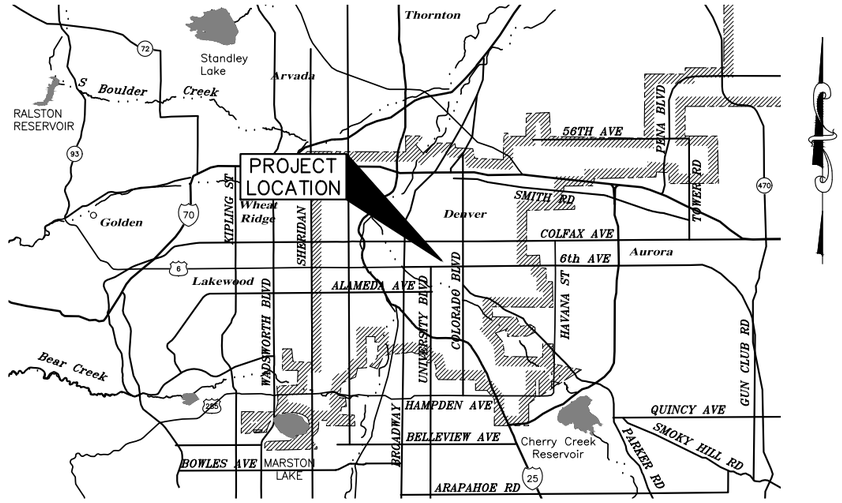
(IMPROVEMENT)
INSTALLED APPROX 2400' OF 8" PVC
PT NUMBER 983



200' MAP NO NE C4

LOCATION MAP

SCALE: 1" = 3 miles

VICINITY MAP

NO SCALE

PT NO: 983
COUNTY: DENVER
INSPECTOR: GEORGE
FOREMAN: DEHERRERA
WATER DIST: DENVER
CUST CONTRACT ID: 1000
CONTRACTOR: T & D
START DATE: 05/03/2018
END DATE: 08/29/2018

INSTALLED:
2423' OF 8" PVC (JM EAGLE)
7' OF 6" PVC (JM EAGLE)
3' OF 6" DI (McWANE)
55' OF 6" DI HYDRANT BRANCH (McWANE)
8 – 8" GATE VALVES (AVK)
1 – 8" TAPPING VALVE (AVK)
4 – 6" HYDRANT VALVES (AVK)
4 – 6" HDYRANTS (AVK)

ABANDONED OR REMOVED:
2444' OF 6" CI
7' OF 6" PVC
8" OF 6" DI
2 – 6" HYDRANTS (WATEROUS)
1 – 6" HYDRANT (AMERICAN DARLING)
1 – 6" HYDRANT (UNKNOWN)

SHEET INDEX

1	COVER
2	WATER PLAN 1
3	WATER PLAN 2
4	WATER PLAN 3
5	WATER PLAN 4

PASSIVE MARKING BALLS WERE INSTALLED IN LIEU OF TRACER WIRE, USING THE FOLLOWING PROCEDURES:

A MAXIMUM OF 3–FEET 6–INCES DEEP
SET AT ALL PROPERTY LINE VALVES
SET EVERY 40–FEET THEREAFTER
SET AT ALL HORIZONTAL BENDS
SET AT ALL VALVES
PMBS WERE INSTALLED AFTER THE PIPE AND APPURTENANCES WERE FULLY BEDDED

STANDARD DETAIL NOTES:
FIFTEENTH EDITION STANDARD DETAILS INCORPORATED BY REFERENCE WITHIN THESE DRAWINGS SHALL CONSIST OF THE FOLLOWING STANDARD DETAILS INDICATED AND ALL SUBSEQUENT DETAILS WHICH MAY BE REFERENCED THEREIN:

SHEET 8 – TYPICAL TRENCH SECTION
SHEET 10 – PLAN, PROFILE AND LOCATION FOR FIRE HYDRANTS, MAINS, AND VALVES
SHEET 11 – TRACER WIRE INSTALLATION FOR PVC WATER MAIN
SHEET 14 – STORM AND SANITARY SEWER CROSSING
SHEET 15 – OPEN CUT CROSSING OVER OR UNDER CONDUIT OR CONFLICTING UTILITY
SHEET 18 – CONCRETE KICKBLOCK BEARING SURFACES AND INSTALLATION
SHEET 19 – CONCRETE KICKBLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZE COMBOS
SHEET 21 – LENGTH OF RESTRAINED PIPE
SHEET 22 – NON INSULATED FLANGE LUG DETAIL
SHEET 24 – TYPICAL CONCRETE MANHOLE INSTALLATION
SHEET 30 – PRESSURE REGULATING VALVE VAULT INSTALLATION TYPICAL PLAN
SHEET 31 – PRESSURE REGULATING VALVE VAULT INSTALLATION TYPICAL CROSS SECTION
SHEET 32 – PRESSURE REGULATING VALVE MANHOLE INSTALLATION TYPICAL PLAN
SHEET 33 – PRESSURE REGULATING VALVE MANHOLE INSTALLATION TYPICAL SECTION
SHEET 37 – STANDARD DESIGN FOR 2" BLOWOFF IN MANHOLE
SHEET 38 – TEMPORARY BLOWOFF INSTALLATION FOR 12" AND SMALLER PIPE
SHEET 40 – VALVE OPERATION
SHEET 43 – VALVE BOX SUPPORT PLATE
SHEET 44 – VALVE OPERATOR EXTENSION
SHEET 45 – VALVE OPERATOR GUIDE
SHEET 46 – GENERAL METER & SERVICE NOTES
SHEET 47 – 3" & LARGER DOMESTIC AND FIRELINE CONNECTIONS
SHEET 50 – 3/4" & 1" SERVICE LINE, STOP BOX, AND OUTSIDE METER INSTALLATION
SHEET 52 – 2" & SMALLER NON–COPPER SERVICE LINE REPLACEMENT & INSIDE METER RELOCATION
SHEET 55 – OUTSIDE SETTING FOR 3/4" AND 1" METERS
SHEET 57 – LARGE METER IN VAULT
SHEET 66 – OUTSIDE SETTING FOR 2" & SMALLER REDUCED PRESSURE PRINCIPLE ASSEMBLY IN ENCLOSURE
SHEET 68 – IRRIGATION OUTSIDE SETTING FOR 2" AND SMALLER REDUCED PRESSURE PRINCIPLE ASSEMBLY IN ENCLOSURE
SHEET 79 – POLYETHYLENE WRAP ON PIPE AND AT TAP INSTALLATION
SHEET 80 – INSULATED FLANGED JOINTS, RODS, AND BOLTED SLEEVE TYPE COUPLINGS
SHEET 81 – DUCTILE IRON PIPE JOINT BONDING
SHEET 82 – EXOTHERMIC WELD PROTECTION

LEGEND

SYMBOL	DESCRIPTION
	FIRE HYDRANT
	OPEN GATE VALVE
	CLOSED GATE VALVE
	CORP STOP
	CHECK VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE IN MANHOLE
	ACCESS MANHOLE
	TEMPORARY BLOW OFF VALVE
	PERMANENT BLOW OFF VALVE
	SAMPLING STATION
=	SLEEVE
	TAPPING SLEEVE
	TRANSITION COUPLING
	REDUCER
	TEE AND CROSS FITTINGS
	HORIZONTAL BEND FITTING
C	VERTICAL BEND FITTING
	PLUG
	ABANDONED
	3" WATER
	4" WATER
	6" WATER
	8" WATER
	12" WATER
	16" WATER
	20" WATER & LARGER
	CONDUIT
	EASEMENT
M	WATER METER
	PROPERTY LINE
	FLOW LINE

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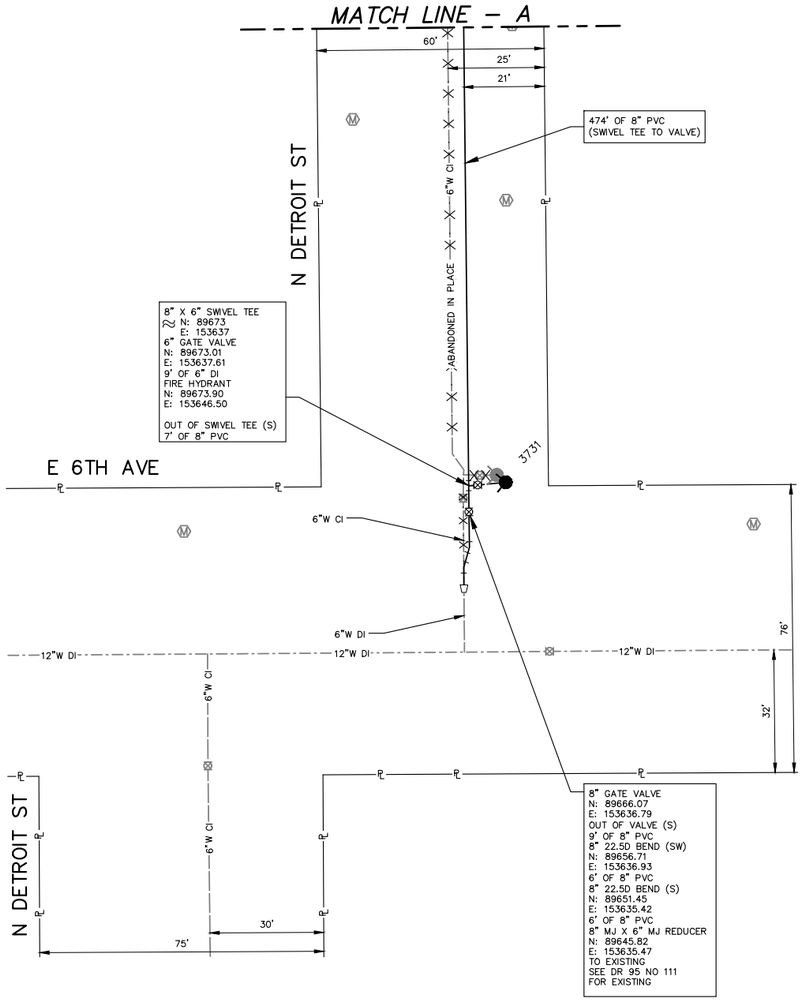

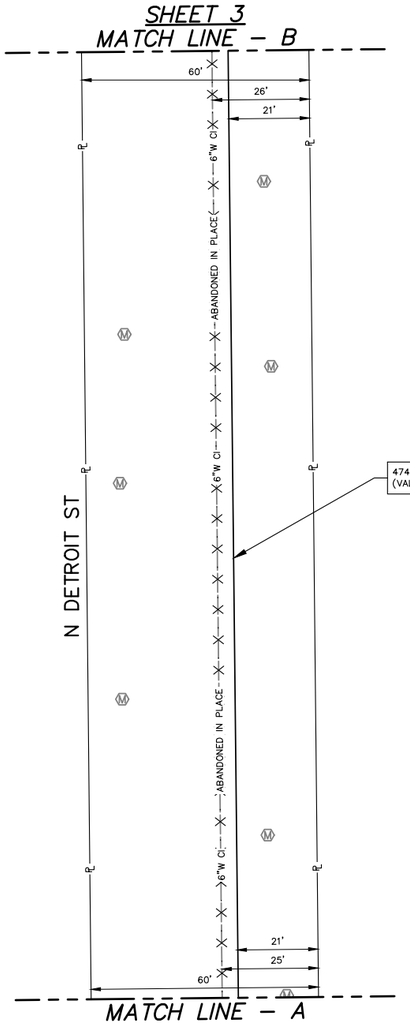

200' MAP NO NE C4

PLAN

SCALE: 1" = 20'

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WATER PLAN 1

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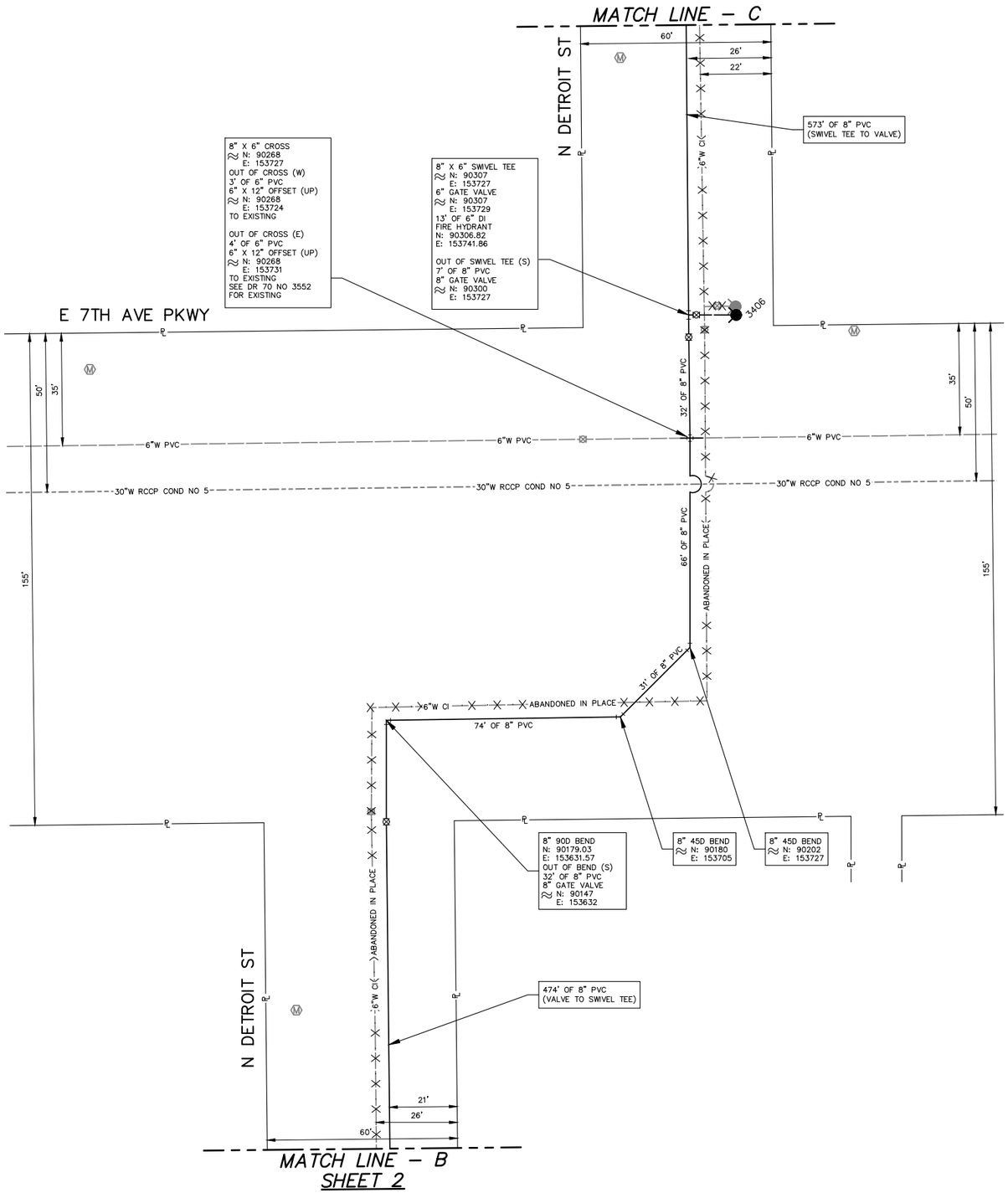

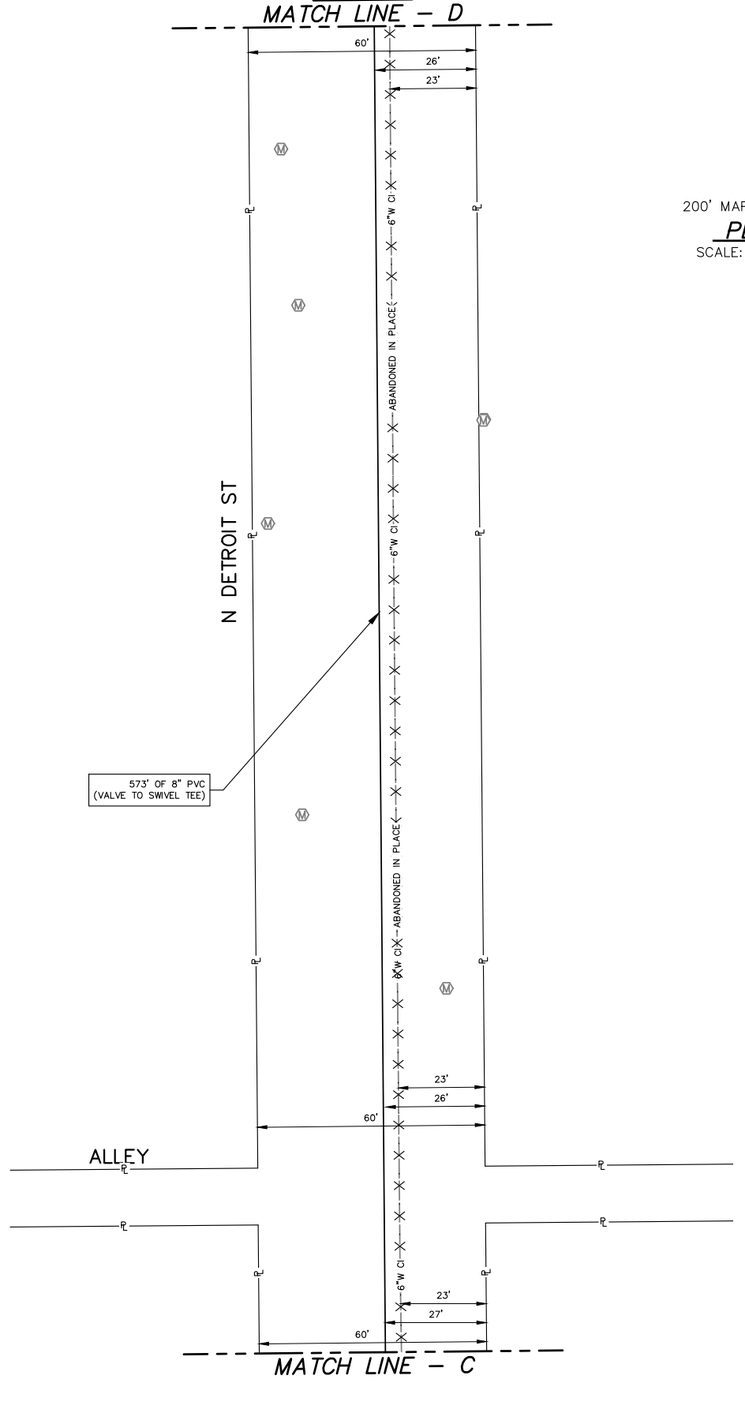

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WATER PLAN 2

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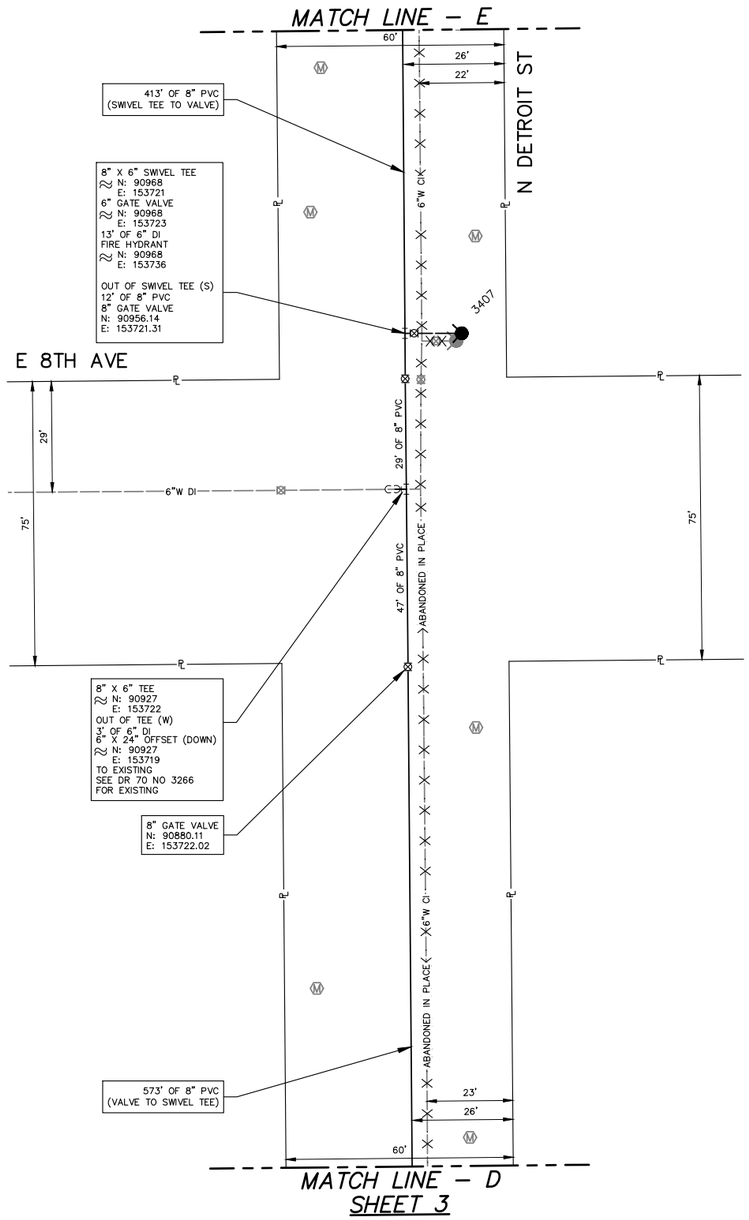

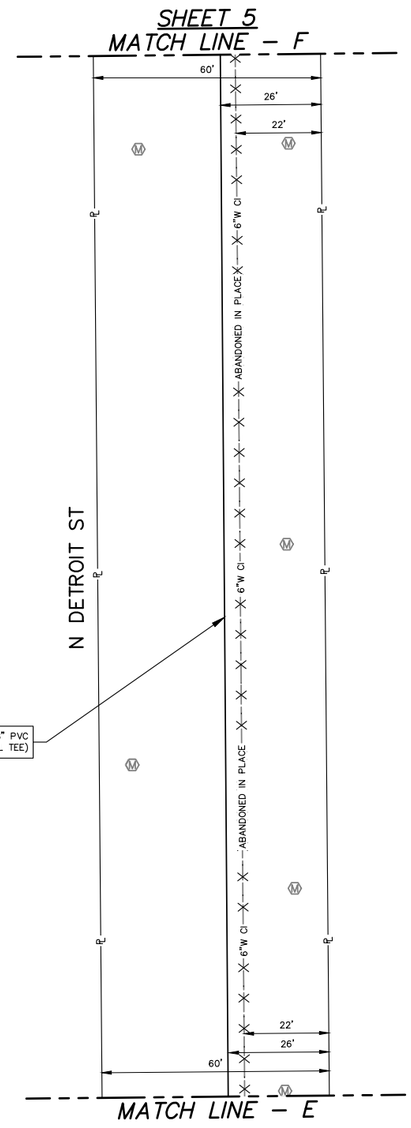

200' MAP NO NE C4

PLAN

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2400' OF 8" PVC

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WATER PLAN 3

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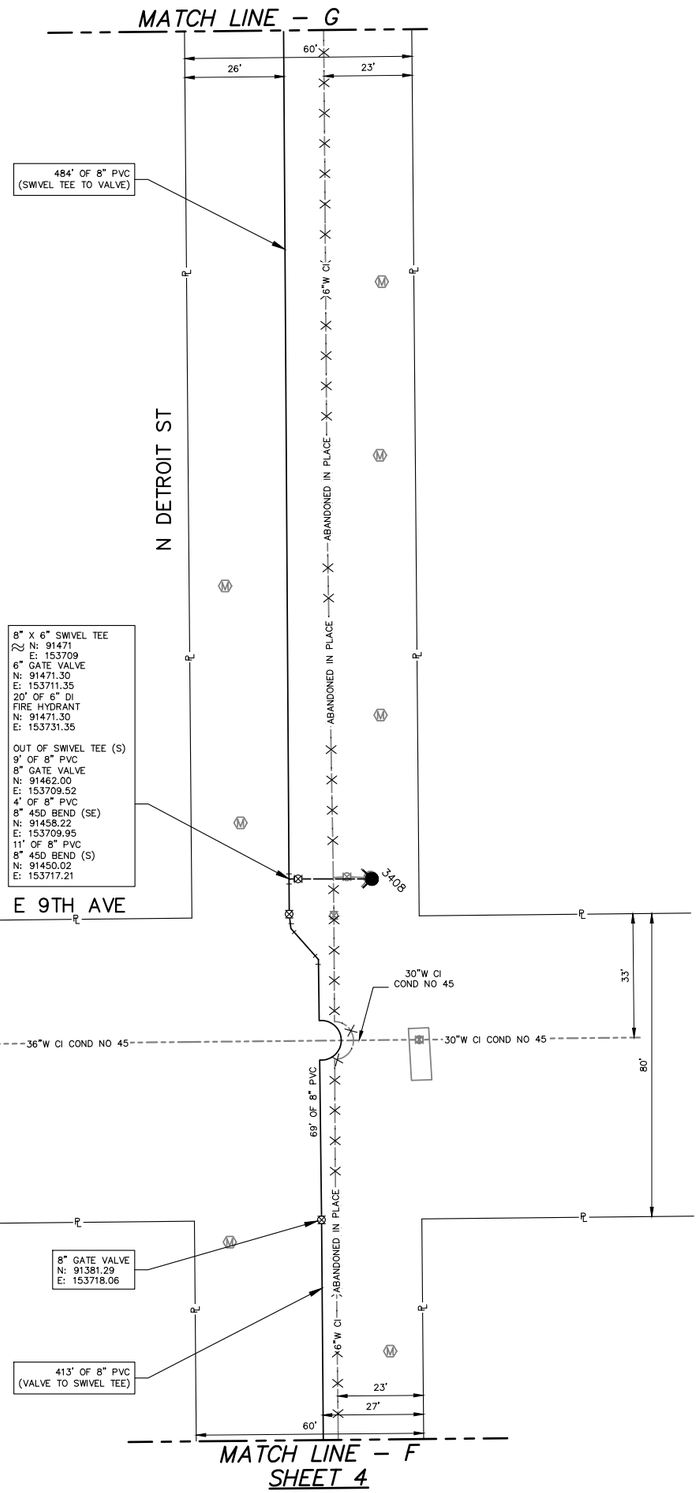

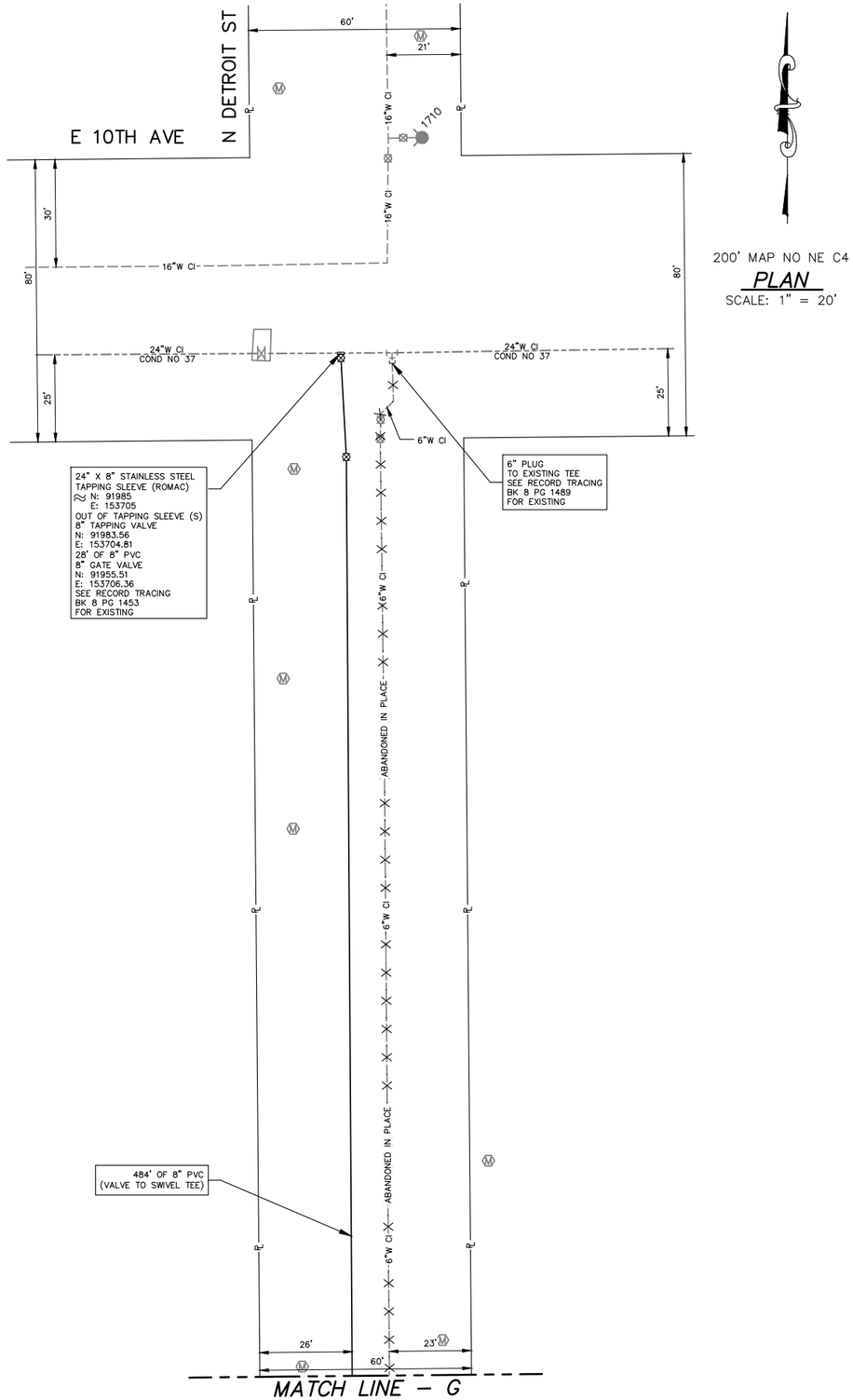

200' MAP NO NE C4

PLAN

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WATER PLAN 4

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DENVER WATER

USE ONLY WHAT YOU NEED.

CUE Estimate - Material Summary

Estimate Version: 1

Estimate Request: 1360 For PID# 983 **Request Type:** JOB
Work Site: DW
Master WO: 17549827 983 - install approx 2400' of 8" DI
Estimate Version: 1 **Estimate Type:** DESIGN
Estimated On: 3/2/18 9:11:52 AM **By:** MXINTADM

Storeroom: WH1 Westside Warehouse 1 WO/Task: 17549827 /

Item	Item Description	Quantity	Unit Cost	Line Cost
BC00206	Sand, Squeegee	1222790.00	0.00	0.00
BC00206	Sand, Squeegee	2500.00	0.00	0.00
BC00206	Sand, Squeegee	27855.00	0.00	0.00
EW00013	Wire, Solid 12 AWG THHN Red - 500' Spool	2445.58	0.11	269.01
EW00013	Wire, Solid 12 AWG THHN Red - 500' Spool	5.00	0.11	0.55
PC00006	Bend, MJDI 8" X 90D C153	2.00	70.90	141.80
PC00306	Bend, MJDI 8" X 45D C153 - MJB4508	2.00	65.24	130.48
PC00520	Tee, MJ DI 8" X 6" C153	1.00	103.83	103.83
PC01520	Cross, MJ DI 8" X 6" C153 - MJX0806	1.00	123.48	123.48
PC02120	Reducer, DI 8" MJ X 6" MJ C153 - MJR0806	1.00	43.45	43.45
PC03535	Sleeve, MJ DI 6" X 12" C153 - MJSL06	1.00	49.06	49.06
PC03805	Plug, MJ DI 6" Solid C153	1.00	24.99	24.99
PC04060	Tee, DI MJXSwivel 8" X 6" C153	4.00	121.37	485.48
PH00023	Pipe, 6" PVC Class 150 C-900 - 6" x 20' / 020618UB	5.00	4.00	20.00
PH00024	Pipe, 8" PVC Class 150 C-900 - 8" x 20' / 020818UB	2445.58	7.02	17167.97
PK09905	Pipe, 6" DI Class 50 AWWA - Std Spec C-111-4 Full Lengths	55.71	10.30	573.81
PS00301	Restraint, MJ Gland 6" DI - SGDPPK06A	8.00	29.72	237.76
PS00301	Restraint, MJ Gland 6" DI - SGDPPK06A	1.00	29.72	29.72
PS00322	Restraint, MJ Gland 8" PVC - PVCPK4008A	4.00	47.78	191.12
PS00322	Restraint, MJ Gland 8" PVC - PVCPK4008A	18.00	47.78	860.04

DENVER WATER

USE ONLY WHAT YOU NEED.

CUE Estimate - Material Summary

Estimate Version: 1

Estimate Request: 1360 For PID# 983 **Request Type:** JOB
Work Site: DW
Master WO: 17549827 983 - install approx 2400' of 8" DI
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Estimated On: 3/2/18 9:11:52 AM **By:** MXINTADM

Storeroom: WH1 Westside Warehouse 1 WO/Task: 17549827 /

Item	Item Description	Quantity	Unit Cost	Line Cost
PS00322	Restraint, MJ Gland 8" PVC - PVCPK4008A	4.00	47.78	191.12
VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut	4.00	319.66	1278.64
VA00210	Valve, Gate MJ 8" Open Right - R.S. NRS w/Operating Nut	9.00	493.75	4443.75
VA00710	Valve, Tapping MJ 8" T-2360-16 - R.S. NRS w/Operating Nut	1.00	623.61	623.61
VH00005	Hydrant, Fire OR 5' Bury 5.25" - Mech Joint	4.00	1228.73	4914.92
VY00043	Lid,Vlv Box 6" CI Denver Water	1.00	7.43	7.43
VY00043	Lid,Vlv Box 6" CI Denver Water	9.00	7.43	66.87
VY00043	Lid,Vlv Box 6" CI Denver Water	4.00	7.43	29.72
VY00044	Top, Valve Box 6" X 16" CI - Bottom To Thread Over Either	9.00	19.46	175.14
VY00044	Top, Valve Box 6" X 16" CI - Bottom To Thread Over Either	1.00	19.46	19.46
VY00044	Top, Valve Box 6" X 16" CI - Bottom To Thread Over Either	4.00	19.46	77.84
VY00046	Stem, Valve Box 6" X 24" CI - Bottom Section Slotted To Fit	9.00	25.52	229.68
VY00046	Stem, Valve Box 6" X 24" CI - Bottom Section Slotted To Fit	1.00	25.52	25.52
VY00046	Stem, Valve Box 6" X 24" CI - Bottom Section Slotted To Fit	4.00	25.52	102.08
VY00051	Base, Valve Box OVAL 6" - CI 24" X 15 3/4 X 10 1/8	9.00	46.47	418.23
VY00051	Base, Valve Box OVAL 6" - CI 24" X 15 3/4 X 10 1/8	1.00	46.47	46.47
VY00051	Base, Valve Box OVAL 6" - CI 24" X 15 3/4 X 10 1/8	4.00	46.47	185.88
		Total for Direct Purchases:		33288.91

PRE-CONSTRUCTION MEETING AGENDA GUIDELINES
PLEASE CUSTOMIZE FOR YOUR PROJECT

Engineering – Design Project Manager (DPM)

- Introductions of those present
- Project description, location, purpose, etc.
- Project Schedule
  - Notice of Award
  - Notice to Proceed
  - Milestones
  - Substantial Completion
  - Final Completion
  - Liquidated Damages – Milestones, Substantial and Final Completion
  - Risk Assessment Plan
- Contractor to submit:
  - Schedule of Values for monthly payments
  - Preliminary cost sheet for change orders – labor and equipment rates
  - Cost-Loaded Schedule
  - Submittal Log (Procore submittal template import)
  - For CMAR/CM/GC Projects: Provide a complete listing (including addresses and telephone numbers) of subcontractors and suppliers proposed for acceptance by Denver Water.
- MWBE goals
- Permits
  - Street cut/occupancy
  - Stormwater/erosion control
  - Stormwater management plan
  - Dewatering
  - Sewer discharge
  - Building permit
  - etc.

Construction – Construction Project Manager (CPM)

- Project Communication
  - Communication Plan
  - Onsite DW Inspector
  - O&M Representative
  - Contract issues, RFIs – CPM
  - Emergency communications – create 24-hour emergency contact list
  - Owner, Contractor and Subcontractor relations
  - Contractor to designate PM and Superintendent in writing
- DW Security Clearance – Contractor (01 14 13 Access to Site)
  - badges
- Computer and Telecommunication Resources (Supplementary Conditions)
- Site access, staging areas, construction parking, deliveries
- Site safety and security
  - Contractor to designate safety supervisor (GC 6.20)
  - Safety Plan, underground facility locates by DW Survey, Hazcomm, MSDS, PPE, trench safety, fall protection, fire protection, spill prevention, dust control, cleanup by Contractor
  - **Do not turn valves or electrical equipment on or off**
  - Sanitation facilities by Contractor
  - Emergency Response Plan (GC 6.19)
- Required signs, barricades and warnings
- Utilities, Municipalities, other outside entities

- Environmental regulations compliance
- Work hours and overtime
- Construction water and hydrant use
- General inspection information
    - Pre-construction and during construction photo documentation
- Owner Furnished Products
    - Items to be furnished by owner
    - Complete transfer form
- Progress meetings
    - Day and time
    - Contractor provides agenda and prepares minutes
    - Provide status of schedule, submittals, quality, open issues (DW has agenda/minutes guidelines)
- Project schedule requirements
    - Baseline schedule (GC 2.6.1)
    - Cost-loaded schedule (Spec 01 32 16) – include critical path, material procurement timelines, subject to DW acceptance
    - 3-week look-ahead schedules provided weekly
- Progress payment process (GC 14.1)
    - Draft pay application due to CPM by 20th of month
    - Updated as-built drawings and cost-loaded schedule must be provided at time of pay application
    - 5% retainage held throughout project
    - MWBE monthly reporting requirements
- Changes to work (Field Order, Request for Quote, Work Change Directive, Change Order Request, Change Order)
    - Notification requirements (GC 17.1)
    - Change Order/Issue Management and communication (GC 10.3)
    - A complete and itemized proposal for planned changes is due to the Engineer within 20 days after receiving the Field Order or Work Change Directive (GC 10.2)
    - Change of contract price per (GC 11)
- Functional Testing, Commissioning
- Project Closeout (Spec 01 77 00)
    - Close as you go
    - As-built drawings, O&M manuals, spare parts, project punch list
    - Liquidated Damages – Milestones, Substantial and Final Completion.
    - Notice of Substantial Completion to CPM by Contractor
    - Final walk-through, acceptance by DW, Substantial Completion and Warranty letter
    - Final payment and release documents (Spec 01 77 00)
    - Notice of Final Settlement advertised, Final Payment Release forms, final release of retainage

Additional Denver Water Sections

- Facility concerns
- Survey
    - Controls, locates
- Water Control
    - Lockout/tagout procedure will be in place (Spec 01 35 53 Security Measures)
    - Dewatering schedule
- Water Quality
    - 48-hr notice
    - Temporary closure of pipe ends required during construction
    - Flushing, disinfection
- Corrosion
    - Cathodic Protection (Contractor responsibilities, Testing, GPS Locations, Reports, Retainage per design item)

    - Coatings (Testing, Inspection)
    - 48 Hour notice (DW & Contractors Cathodic Protection sub installation notice)
    - Checklists
- Environmental – asbestos, lead
- Public Affairs
- Recycled Water requirements
- Trade Shop (Construction, Electrical, Metal/Mechanical, Plumbing)
    - Maximo must be sent to Trade Shops (ideally a week in advance) for their support on capital projects
    - Trade Shop support tasks (inspections, isolations, etc.) to be identified on contractor's 3-week look-ahead schedules

Contractor's Discussion – General Contractor

- Contractor's organization
- Special concerns

General Discussion

*******NOTE*******

ADDITIONAL DISCUSSION ITEMS FOR TREATMENT PLANT PROJECTS

- Project Communication
    - Communication Plan
    - Location of on-site employee roster
    - RMP training
    - Emergency assembly area
    - DO NOT ask plant staff questions regarding construction project.
- Site access, staging areas, construction parking, deliveries
    - Parking in designated areas only
    - Utilization of authorized laydown areas
    - Daily front gate access
    - After-hours access
    - Contractor Parking
    - Interior gate access (if needed)
    - Laydown limitations
- Construction water and hydrant use
    - Contractor shall not utilize any Denver Water Electrical power or water unless required by the project stated in the scope of work.
    - Contractor will supply their own drinking water.
    - The eyewash/safety showers should only be used when needed for flushing eyes, washing off chemicals or other emergencies.
    - Denver Water Septic System
    - Limited water supply during outage
    - No storm water, discharged to environment through dechlorination station
- Construction equipment/materials
    - Contractor must store on site hazardous materials per OSHA regulations
    - Proper grounding of welding equipment
    - Use only designated power centers for construction activity
    - DO not use any DW owned tools, equipment, vehicles, disposal facilities (dumpsters or sanitary systems) or material.
    -

503967 Exhibit J - Tap Papers.pdf

Denver Water CIS
Tap And Meter
610 - 996 DETROIT ST, ALL Addresses

Address: 610 DETROIT ST
PremiseID: 9136200124

Block: 0002	Lot: 20 1/19	Legal Desc: 20 1/19
Dist Cont: I000	Distributor: Inside City	
Part Code:	Parcel Year Built: 1928	Premise Type: Residential
Tap#: 65238	Type: TAP-RES In Service	Tap_Date: 1927-09-12
Tap Dia: 1/2	Service Dia: 1/2	Main Dia: 6
Main Location:	26 FT OUT E SIDE DETROIT ST	
Tap Location:	80 FROM 6TH AV	
Comments:		

Meter#: 252302	Set Date: 2011-02-03T00:02-07:00
Meter Dia: 3/4	ERT#: 27292348 (S) customer:Ert
Stop Box Location: 18" N.W. OF PIT VIP	
Meter Location: PIT -12X4 I/L 1' S N WINDOW PDXX	
Valve Location: 13 FT OUT E SIDE DETROIT ST 80 FT FROM 6TH AV	

503967 Exhibit J - Tap Papers.pdf

Denver Water CIS
Tap And Meter

Address: 617 DETROIT ST
PremiseID: 3236200125

Block: 0179	Lot: 26-27	Legal Desc: 26-27
Dist Cont: I000	Distributor: Inside City	
Part Code:	Parcel Year Built: 1923	Premise Type: Residential
Tap#: 47878	Type: TAP-RES In Service	Tap_Date: 1921-02-23
Tap Dia: 5/8	Service Dia: 5/8	Main Dia: 6
Main Location:	26 FT OUT E SIDE DETROIT ST	
Tap Location:	99 FROM 6TH AV	
Comments:		

Meter#: 252303	Set Date: 2011-02-03T00:02-07:00
Meter Dia: 3/4	ERT#: 27292394 (S) customer:Ert
Stop Box Location: 18" S.E. OF PIT VIP	
Meter Location: PIT -14X5 I/L S WINDOW PDXX	
Valve Location: 11 FT OUT W SIDE DETROIT ST 99 FT N FROM 6TH AV	

503967 Exhibit J - Tap Papers.pdf

Denver Water CIS
Tap And Meter

Address: 618 DETROIT ST
PremiseID: 4236200126

Block: 0002	Lot: 1/2 19-18	Legal Desc: 1/2 19-18
Dist Cont: I000	Distributor: Inside City	
Part Code:	Parcel Year Built: 1926	Premise Type: Residential
Tap#: 59845	Type: TAP-RES In Service	Tap_Date: 1925-04-16
Tap Dia: 1/2	Service Dia: 1/2	Main Dia: 6
Main Location:	26 FT OUT E SIDE DETROIT ST	
Tap Location:	119 FROM 6TH AV	
Comments:		

Meter#: 252448	Set Date: 2011-02-03T00:02-07:00
Meter Dia: 3/4	ERT#: 27292393 (S) customer:Ert
Stop Box Location: 18" S.W. OF PIT VIP	
Meter Location: PIT -4X6 I/L N WINDOW PDXX	
Valve Location: 11 FT OUT E SIDE DETROIT ST 119 FT FROM 6TH AV	

503967 Exhibit J - Tap Papers.pdf

Denver Water CIS
Tap And Meter

Address: 626 DETROIT ST
PremiseID: 1336200127

Block: 0002	Lot: 17-16	Legal Desc: 17-16
Dist Cont: I000	Distributor: Inside City	
Part Code:	Parcel Year Built: 1922	Premise Type: Residential
Tap#: 51786	Type: TAP-RES In Service	Tap_Date: 1922-09-15
Tap Dia: 5/8	Service Dia: 5/8	Main Dia: 6
Main Location:	26 FT OUT E SIDE DETROIT ST	
Tap Location:	166 FROM 6TH AV	
Comments:		

Meter#: 252449	Set Date: 2011-02-03T00:02-07:00
Meter Dia: 3/4	ERT#: 27292425 (S) customer:Ert
Stop Box Location: 1' S.W. OF PIT VIP	
Meter Location: PIT -10X2 I/L N EDGE PORCH PDXX	
Valve Location: 9 FT OUT E SIDE DETROIT ST 166 FT FROM 6TH AV	

503967 Exhibit J - Tap Papers.pdf

Denver Water CIS
Tap And Meter

Address: 632 DETROIT ST
PremiseID: 6336200128

Block: 0002	Lot: 15-14	Legal Desc: 15-14
Dist Cont: I000	Distributor: Inside City	
Part Code:	Parcel Year Built: 1923	Premise Type: Residential
Tap#: 50553	Type: TAP-RES In Service	Tap_Date: 1922-05-10
Tap Dia: 5/8	Service Dia: 5/8	Main Dia: 6
Main Location:	26 FT OUT E SIDE DETROIT ST	
Tap Location:	200 FROM 6TH AV	
Comments:		

Meter#: 372276	Set Date: 2006-02-13T00:01-07:00
Meter Dia: 3/4	ERT#: 26868948 (S) customer:Ert
Stop Box Location: N/A VAM	
Meter Location: INSDE-BSMT S WALL RTXR	
Valve Location: 10 FT OUT E SIDE DETROIT ST 200 FT FROM 6TH AV	

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	CA00662	Corp. Stop, 3/4" CC X 3/4" FL
	CA02047	Saddle, Ser Brz 8 PVC X 3/4 CC
	PH00021	Pipe, Sewer 6" Bell & Spigot - PVC Sch 40 D.W.V. 20'
	PH20723	Pipe, Sewer 4" Bell & Spigot - PVC Sch 40 D.W.V. 20'
	PM00154	Adapter, Clay / PVC 4" FERNCO - Strong Back 1002-44RC
	PM00158	Adapter, Clay / Sch 40 PVC 6" - Shear Guard 102-ON6IK
	BC00020	Cement, Industrial Mix 80# Bag
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00210	Valve, Gate MJ 8" Open Right - R.S. NRS w/Operating Nut
	ZB08441	Polyethylene, Film Clear 8 MIL - 48" X 200' Non-perfed
	PS00221	Rod, Tie 3/4" X 2' - Mfd from 3/4" High Strength
	PC00520	Tee, MJ DI 8" X 6" C153
	PC00521	Tee, MJ DI 8" X 8" C153
	PC03535	Sleeve, MJ DI 6" X 12" C153 - MJSL06
	PC03536	Sleeve, MJ DI 8" X 12" C153 - MJSL08
	PC03776	Cap, MJ DI 8" Ground-Out C153 - Machine to 9 7/16"+ 1/32"
	PC03805	Plug, MJ DI 6" Solid C153
	PC04060	Tee, DI MJXSwivel 8" X 6" C153
	SC23001	Tape, Undergrnd Blue Waterline - Detectable 6" x 1000'
	SC23003	Ball, water marker 1403-XR - 3M brand no substitution
	PH00023	Pipe, 6" PVC Class 150 C-900 - 6" x 20' / 020618UB
	PH00024	Pipe, 8" PVC Class 150 C-900 - 8" x 20' / 020818UB
	PK09905	Pipe, 6" DI Class 50 AWWA - Std Spec C-111-4 Full Lengths
	PC00306	Bend, MJDI 8" X 45D C153 - MJB4508
	PC04050	Adapter,SwivelXSolid 8x13 C153
	PS00322	Restraint, MJ Gland 8" PVC - PVCPK4008A
	PC00305	Bend, MJDI 6" X 45D C153 - MJB4506
	PC01520	Cross, MJ DI 8" X 6" C153 - MJX0806
	PC03735	Sleeve,MJ Dual Purpose 6"X12" - Pipe Size 6.90 - 7.10
	PC03736	Sleeve,MJ Dual Purpose 8"X12" - Pipe Size 9.05 - 9.30
	VY00043	Lid,Vlv Box 6" CI Denver Water
	VY00044	Top, Valve Box 6" X 16" CI - Bottom To Thread Over Either
	VY00046	Stem, Valve Box 6" X 24" CI - Bottom Section Slotted To Fit
	PS00301	Restraint, MJ Gland 6" DI - SGDPPK06A
	PS00302	Restraint, MJ Gland 8" DI - SGDPPK08A

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PS00321	Restraint, MJ Gland 6" PVC - PVCPK4006A
	VY00051	Base, Valve Box OVAL 6" - CI 24" X 15 3/4 X 10 1/8
	VY00053	Extension, Valve Box 6" X 18" - Cast Iron
	CA02019	Saddle, Ser Brz 6 PVC X 3/4 CC
	CA00723	Union, Coupling 3/4 FL X 3/4FL
	VC10002	Valve, Ball 2"
	PM00156	Adapter, PVC / PVC 4" FERNCO - Strong Back 1056-44RC
	PC03835	Plug, MJ DI 6" Tapped 3" C153
	PN10001	Coupling, Brass 2"
	PN10003	Nipple, Brass 2" X 12" - FE #BRNK12
	PN10005	Nipple, Brass 2" X 6" - FE #BRNK
	PN10006	Nipple, Brass 2" X 8"
	PN00032	Elbow, 2" X 90D Brass FIPT
	PN10004	Nipple, Brass 2" X 18" Thread - Both Ends
	PN10008	Plug, Pipe Brass 2"
	PN20230	Bushing, Brass 3" X 2"
	PO09008	Pipe, 3/4" ID Type K CU - 60' Coil
	CA01005	Dome, Meter Pit C.I. w/ERT Lid - And Plastic Frost Lid
	CA00653	Corp. Stop, 3/4" CC X 1" Flare
	VC01105	Valve, Ball Thd Stop&Waste 2IP - 2" Bronze Ford B11-777S
	CA00725	Union, Coupling 1" FL X 1" FL
	CA00302	Yoke, Meter W/Lockout 3/4"
	CA02148	Saddle, Ser Brz 6CI/CA X 3/4CC
	CA20840	Meter Pit, Plastic - 0024-48B Body B-W 2 MsHI (DW)
	DA00002	Meter, Frost Proof 3/4" Pit
	CA00401	Insulator, Service 3/4"
	CA00711	Curb Stop, 3/4 FL X 3/4 FL OR
	PO09168	Pipe, 3/4" ID Type L CU Rigid - 20' Length
	PC03785	Cap, MJ DI 6" C153
	VY00056	Riser, Valve Box 1" X 5 1/4 - Series
	VY20957	Lid, Valve Box CI 6" - Marked Tracer
	PC00308	Bend, MJDI 12" X 45D C153 - MJB4512
	PC03538	Sleeve, MJ DI 12" X 12" C153 - MJSL12
	PC03806	Plug, MJ DI 8" Solid C153
	VA00212	Valve, Gate MJ 12" Open Right - R.S. NRS w/Operating Nut

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PS00324	Restraint, MJ Gland 12" PVC - PVCPK4012A
	PC00534	Tee, MJ DI 12" X 8" C153
	PC01534	Cross, MJ DI 12" X 8" C-153 - MJX1208
	PC03788	Cap, MJ DI 12" C153
	PS00331	Restraint, MJ Gland 6" DI - Ground-Out SGDPOSPK06A
	PS00332	Restraint, MJ Gland 8" DI - Ground-Out SGDPOS08A
	PC01533	Cross, MJ DI 12" X 6" C153 - MJX1206
	CA02068	Saddle, Ser Brz 12 PVC X 3/4CC
	CA02069	Saddle, Ser Brz 12 PVC X 1 CC
	PS00304	Restraint, MJ Gland 12" DI - SGDPPK12A
	CA00663	Corp. Stop, 1" CC X 1" FL
	PH00030	Pipe, 12" PVC Class 150 C-900 - 12" x 20' / 021218UB
	PO09010	Pipe, 1" ID Type K CU - 60' Coil
	CA00303	Yoke, Meter 1"
	DA00003	Meter, Frost Proof 1" Pit
	PS00334	Restraint, MJ Gland 12" DI - Ground-Out SGDPOSPK12A
	PC03312	Offset, MJ DI 6" X 12" C153
	PC01521	Cross, MJ DI 8" X 8" C153 - MJX0808
	PC02134	Reducer, DI 12" MJ X8" MJ C153 - MJR1208
	PC03836	Plug, MJ DI 8" Tapped 3" C153
	PC04121	Sleeve,Tap CI 8" X 8" Fab Stl - Romac FTS 420 - 9.37 x 8
	VA00710	Valve, Tapping MJ 8" T-2360-16 - R.S. NRS w/Operating Nut
	PC02120	Reducer, DI 8" MJ X 6" MJ C153 - MJR0806
	FB01256	Lubricant, Penetr Spray 11 Oz - Sprayton 711
	PN20897	Kit, Blow-Off 4' Open Right - Kupferle Model TF 500
	PN01905	Nipple, Brass 2" X 24"
	PC03317	Offset, MJ DI 8" X 12" C153
	PC03786	Cap, MJ DI 8" C153
	HP05167	Stud, UNC 3/4"-10 x 5" - B-7 ASTM-193 All Thread Plain
	HR00078	Nut, UNC Hex Heavy 3/4"-10 - ASTM A194-GR-2H Plain
	PC02334	Reducer,DI 12" SPI X8" MJ C153
	PC03313	Offset, MJ DI 6" X 18" C153
	PC04026	Adapter, Swivel MJ X Solid DI - 6" X 13" C153
	PC04030	Tee, DI MJXSwivel 6" X 6" C153
	PH10006	Sleeve,Tapping PVC 8" X 6" SS - Only Range 9.05-9.45 JCM 432

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PC02320	Reducer,DI 8" SPI X 6" MJ C153
	PF05140	Coupling, Trans 8" Romac XR501 - 8.60 - 9.75 Or Equivalent
	VA00709	Valve, Tapping MJ 6" T-2360-16 - R.S. NRS w/Operating Nut
	VH00005	Hydrant, Fire OR 5' Bury 5.25" - Mech Joint
	BC01230	Concrete Caulking, SIK-Flex 1A - 10.3 Oz Cartridges Lime Stone
	BC09101	Concrete, Repair 12# Can
	BL00246	Lumber, Pine Rough Utility - Blocking 1" X 6" X 8'
	BL02346	Lumber, Fir Rough Utility - Blocking 4 X 4 X 8'
	PC03318	Offset, MJ DI 8" X 18" C153
	PC03311	Offset, MJ DI 6" X 6" C153
	BC20838	Concrete, Perma-Patch 50# Bag
	PK09908	Pipe, 12" DI Class 50 AWWA - Std Spec C-111-4 Full Lengths
	PC04080	Tee, DI MJXSwivel 12 X 6" C153
	PC00428	Bend, MJDI 12" X 11 1/4D C153
	PC00536	Tee, MJ DI 12" X 12" C153
	PC03808	Plug, MJ DI 12" Solid C153
	PX05251	6" Tap Gasket Garlock 3200 - 8.687"OD x 7.125"ID x .125"THK
	CA00727	Union, Cplg 1.5 FL X 1.5 FL - Two Part
	PO09012	Pipe, 1.5" ID Type K CU - 60' Coil
	CA02184	Saddle, Ser Brz 12CI/CAX3/4CC
	CA00402	Insulator, Service 1"
	CA00404	Insulator, Service 1 1/2"
	CA00665	Corp. Stop, 1.5" CC X 1.5 FL
	CA02185	Saddle, Ser Brz 12CI/CA X 1 CC
	CA02187	Saddle, Bronze 12 CI/CA X1.5CC
	PS20705	Kit, 12" MJ T-Bolt/Gasket Box - 3/4 x 4.5
	PC03328	Offset, MJ DI 12" X 18" C153
	PM00172	Adapter, PVC / PVC 12" FRENCO - Strong Back 1056-1212RC
	FB02021	Grease, Tube Multi-Purpose - 14 Oz Mistek JT6
	PM00170	Adapter, Clay / Sch 40 PVC 12" - Shear Guard 102-ON12IK
	ZB08444	Tubing, Poly Clear 30" x 440' - 8 mil Perfed Every 22'
	PX05254	12" Tap Gasket Garlock 3200 - 16"OD x 13"ID x .125"THK
	VA00712	Valve, Tapping MJ12" T-2360-16 - R.S. NRS w/Operating Nut
	PH20726	Pipe, Sewer 12" Bell & Spigot - PVC Sch 40 D.W.V. 20'
	PC03329	Offset, MJ DI 12" X 24" C153

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	VH00007	Hydrant, Fire OR 6' Bury 5.25" - Mech Joint
	PK09910	Pipe, 16" DI Class 50 AWWA - Std Spec C-111-4 Full Lengths
	PS00306	Restraint, MJ Gland 16" DI - SGDPPK16A
	PC00312	Bend, MJDI 20" X 45D C153
	PC02174	Reducer, DI 20"MJ X16" MJ C153 - MJR2016
	PC03542	Sleeve, MJ DI 20" X 15" C153 - MJSL20
	EW06721	Ty-Rap, Locking T&B535M
	PS00308	Restraint, MJ Gland 20" DI - SGDPPK20A
	PS00310	Restraint, MJ Gland 30" DI - SGDPPK30
	PK09912	Pipe, 20" DI Class 51 AWWA - Std Spec C-111-4 Full Lengths
	PC03789	Cap, MJ DI 14" C153
	PC03809	Plug, MJ DI 14" Solid C153
	PS00305	Restraint, MJ Gland 14" DI - SGDPPK14A
	PN00325	Tee, Brass FIPT 3/4" Domestic
	PN00340	Tee, Brass FIPT 1" Domestic
	PN00708	Coupling, Reducing 1" X 3/4" - Brass
	VC02020	Valve, Ball Thd Brz 3/4" IPxIP
	EC02110	Bronze Clamp, Ground Variable - Terminal 1/2" To 1"
	CA00757	Union, Straight Cplg 3/4" FL x - 3/4" MIP
	PN00111	Elbow, 3/4" X 90D Street Brass - MIPT x FIPT Domestic FE# BRS9F
	PN01681	Nipple, Brass 3/4" X Close
	PC00365	Bend, MJDI 6" X 22 1/2D C153
	CA02167	Saddle,Ser Brz 10" CI/C A 1 CC - Ford S70-1004
	PC01515	Cross, MJ DI 6" X 6" C153 - MJX0606
	PC04120	Sleeve,Tap CI 8" X 6" Fab Stl - Romac FTS420 9.37 x 6
	PC00515	Tee, MJ DI 6" X 6" C153 - MJT0606
	PC04126	Sleeve,Tap CI 10" X 6" Fab Stl - Romac FTS420 11.47 x 6
	PC04115	Sleeve,Tap CI 6" X 6" Fab Stl - Romac FTS 420 7.16 x 6
	PH10004	Sleeve,Tapping PVC 6" X 6" SS - Only Range 6.90-7.10 JCM 432
	PO00122	Elbow, 3/4" X 90D Copper Short - Nibco 607; FE# C9F
	PO01717	Adapter, Copper X MIPT (3/4)
	VC01103	Valve,Ball S/W 3/4IPxIP FP - Stop&Waste Full Port IPxIP
	CA00633	Corp. Stop, .75" IP X .75" IP
	CA00634	Corp. Stop, 1" IP X 1" IP
	BC00011	Cement, Mortar Mix 80# Bag

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PC03314	Offset, MJ DI 6" X 24" C153
	PF05102	Clamp, Repair CI-CA 6" - S Blair 227 - 6.84-7.64x10" L
	PF05167	Clamp,Repair 8"CI-CA W/ 3/4CC - Romac CL2 9.79 x 12
	PF05162	Clamp, Repair CI-CA 8" - Ford F2 8.99 - 9.79 x 12 Long
	PS00299	Restraint, MJ Gland 3" DI - SGDPPK03A
	HP05165	Stud, UNC 3/4"-10 x 4 1/2" - B-7 ASTM-193 All Thread Plain
	PC02113	Reducer, DI 6" MJ X 3" MJ C153 - MJR0603
	PC03787	Cap, MJ DI 10" C153
	PS00222	Rod, Tie 3/4" X 3' - Mfd from 3/4" High Strength
	PS00303	Restraint, MJ Gland 10" DI - SGDPPK10A
	PC03540	Sleeve, MJ DI 16" X 15" C153 - MJSL16
	PC04153	Sleeve,Tap CI 16" X12" Fab Stl - Romac FTS420 17.33 -17.87 x 12
	PC00310	Bend, MJDI 16" X 45D C153
	PC00370	Bend, MJDI 16" X 22 1/2D C153
	PC00430	Bend, MJDI 16" X 11 1/4D C153
	PC00551	Tee, MJ DI 16" X 8" C153
	PC03810	Plug, MJ DI 16" Solid C153
	PC04072	8" Foster ADPT 8FABC W/MJ ACC
	PN01910	Valve, Ball 2" Fipt X Fl Brnze
	PS20684	Follower, Gland MJ DI 6" C153 - MJG06
	PF05105	Clamp,Repair 6" CI-CA W/3/4"CC - Romac CL2-7.64 x 12" long
	PC04071	6" Foster ADPT 6FABC W/MJ ACC
	PC00425	Bend, MJDI 6" X 11 1/4D C153
	PZ07307	Tape, Teflon Thread 1/2" X 520
	PD02753	Reducer, DI 16"PE x 12"Pe C153
	PC03319	Offset, MJ DI 8" X 24" C153
	VC20729	Valve, Ball 2" CC x MIP
	PC03327	Offset, MJ DI 12" X 12" C153
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC00550	Tee, MJ DI 16" X 6" C153
	PS00326	Restraint, MJ Gland 16" PVC
	PC00533	Tee, MJ DI 12" X 6" C153
	CA00405	Insulator, Service 2"
	CA00666	Corp. Stop, 2" CC X 2" FL
	PS00331	Restraint, MJ Gland 6" DI - Ground-Out SGDPOSPK06A

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PC03838	Plug, MJ DI 12" Tapped 3" C153
	PC04134	Sleeve,Tap CI 12" X 8" Fab Stl - Romac FTS 420 13.60 x 8
	PX05252	8" Tap Gasket Garlock 3200 - 10.875"OD x 9"ID x .125"THK
	PS00223	Rod, Tie 3/4" X 4' - Mfd from 3/4" High Strength
	PD03834	Plug,TJDI 4" Tap 3" 2Ears C153
	PC00304	Bend, MJDI 4" X 45D C153
	PC00514	Tee, MJ DI 6" X 4" C153
	PC04019	Adapter,SwivelXSolid 4X13 C153
	VA00206	Valve, Gate MJ 4" Open Right - R.S. NRS w/Operating Nut
	CA02000	Saddle, Ser Brz 4 PVC X 3/4 CC
	PS00320	Restraint, MJ Gland 4" PVC - PVCPK4004A
	PC03534	Sleeve, MJ DI 4" X 12" C153 - MJSL04
	PC03834	Plug, MJ DI 4" Tapped 3" C153
	PC20270	Plug, 4" MJ Tapped 2" IronPipe
	PN01900	Elbow, 2" X 90D Street Brass - MIP x FIP Domestic FE# BRS9K
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC01536	Cross, MJ DI 12" X 12" C-153 - MJX1212
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC00532	Tee, MJ DI 12" X 4" C153
	PC02309	Reducer,DI 4" SPI X 3" MJ C153
	PC03533	Sleeve, MJ DI 3" X 12" C153 - MJSL03
	PS00300	Restraint, MJ Gland 4" DI - SGDPPK04A
	VA00206	Valve, Gate MJ 4" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VH20878	Extension Kit, 12" Hyd AVK - 27-150-7013-106-00
	PC04150	Sleeve,Tap CI 16" X 6" Fab Stl - Romac FTS 420 17.33 -17.87 x 6
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PZ04518	Lubricant, Pipe Joint - Quart - Blue Lube ONLY
	VZ01869	Extension, Valve Stem 2'
	PC00555	Tee, MJ DI 16" X 16" C153
	PC01551	Cross, MJ DI 16" X 8" C-153 - MJX1608
	PC01553	Cross, MJ DI 16" X 12" C-153 - MJX1612
	PC04151	Sleeve,Tap CI 16" X 8" Fab Stl - Romac FTS 420 17.33 -17.87 x 8
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	HP05163	Stud, UNC 3/4"-10 x 4" - B-7 ASTM-193 All Thread Plain

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	FA20663	Primer, Brown Wax Tape 1 Gal - Trenton, Use W/Brown Wax Tape
	PZ20662	Tape, Wax #1 Brown 6" x 9' - Trenton Brand
	HP05259	Stud, UNC 1 1/8"-7 x 5 1/2" - B-7 ASTM-193 All Thread Plain
	HP05260	Stud, UNC 1 1/8"-7 x 5 3/4" - B-7 ASTM-193 All Thread Plain
	HR00081	Nut, UNC Hex Heavy 1 1/8"-7 - ASTM A194-GR-2H Plain
	PX05209	Gasket,Ring 18" x 1/8"Thk 150# - Garlock #3200 Blueguard
	PC03338	Offset, MJ DI 16" X 18" C153
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC04092	Tee, DI MJXSwivel 16" X8" C153
	PK09906	Pipe, 8" DI Class 50 AWWA - Std Spec C-111-4 Full Lengths
	PC03775	Cap, MJ DI 6" Ground-Out C153 - Machine to 7 1/4"+ 1/32"
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PS20685	Follower, Gland MJ DI 8" C153 - MJG08
	PD03835	Plug,TJDI 6" Tap 2" 2Ears C153
	PS20703	Kit, 6" MJ T-Bolt/Gasket Box - 3/4 x 4
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PM00162	Adapter, Clay / Sch 40 PVC 8" - Shear Guard 102-ON8IK
	PM00164	Adapter, PVC / PVC 8" FRENCO - Strong Back 1056-88RC
	PH20724	Pipe, Sewer 8" Bell & Spigot - PVC Sch 40 D.W.V. 20'
	FA10003	Primer, PVC 8 Oz. Purple - Weld-On P-70; RHP 3484-010
	PH00047	Cement, PVC Gray 16 Oz Heavy - Body Medium Weld-On 711
	PH00680	Coupling, 3/4" SLIP PVC80 - RH 3829-007
	PH00690	Coupling, 1" SLIP PVC80 - RH 3829-010
	EC00013	Conduit, PVC Sch 80 3/4" X 10'
	EC00014	Conduit, PVC Sch 80 1" X 10'
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PS00133	Rod, Tie 3/4" X 1' - Mfd from 3/4" High Strength
	PS20200	Retainer, Split Gland 12" - Megalug 1112 SD
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PG00399	Tee, Galvanized 2" X 2" X 2"
	PN00920	Bushing, Brass 2" X 1 1/2" IPT
	PN01761	Nipple, Brass 2" X Close
	HB10008	Coupling, Hose Brass - 2.5 NST/Male X 2.5 NPT/Male
	VY00057	Riser, Valve Box 1.5" X 5 1/4 - Series

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	VY00059	Riser, Valve Box 2" X 5 1/4 - Series
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	ZB08443	Tubing, Poly Clear 24" x 550' - 8 mil Perfed Every 22'
	HC10012	Sealant, Pipe Pint Can
	VA20710	Valve, 8" MJ X Flange A-236016 - 9094 raised flange no epoxy
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC00366	Bend, MJDI 8" X 22 1/2D C153
	PC02135	Reducer, DI 12"MJ X10" MJ C153 - MJR1210
	PH00050	Cement, PVC Gray 32 Oz Heavy - Body Medium Set Weld-On 711
	PF20542	Clamp, Repair 12" CI/DI 3/4"CC - Romac CL2 13.95x 12x 3/4CC Tap
	CA02048	Saddle, Ser Brz 8 PVC X 1 CC - Single Strap
	CA02160	Saddle, Ser Brz 8CI/CA X 3/4CC
	PC00006	Bend, MJDI 8" X 90D C153
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PM00166	Adapter, Clay / Sch 40 PVC 10" - Shear Guard 102-ON10IK
	PO30306	1" Coup 90° Coup Pro Press - 77327
	PO30311	3/4" Male Coup Pro Press - 79230
	PO30312	1" Male Coup Pro Press - 79245
	PN00911	Bushing, Brass 1" X 3/4" IPT
	CA00761	Union, Straight Cplg 1" FL x - 1" MIP
	VY00001	Box, Service Stop 2 1/4" X 5' - Buffalo Pattern Complete 94E
	CA00809	Union, Straight Cplg 1" FL x - 1" FIP
	PO09172	Pipe, 1.5" ID Type L CU Rigid - 20' Length
	CA01100	Riser Ring, Meter Pit 20" X 2" - Concrete
	CA02161	Saddle, Ser Brz 8 CI/CA X 1 CC
	CA00714	Curb Stop, 1 1/2 FL X 1 1/2 FL
	CA00767	Union, Straight Cplg 1 1/2" FL - x 1 1/2" MIP
	CA10007	Setter, Custom 1 1/2" w/Bypass
	PN01689	Nipple, Brass 3/4" X 5"
	PN01691	Nipple, Brass 3/4" X 6"
	VR01091	Valve, Check Swing Thd Brz 1.5 - Nibco T-413
	PN00711	Coupling, Reducing 1.25" X 1" - Brass
	PN00912	Bushing, Brass 1 1/4" X 1"
	PN00605	Coupling, 3/4" Brass
	PA04134	Sleeve,Tapping CA 12" X8" Sstl - PowerSeal 3490AS SS 14.0-14.4

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VY00041	Lid, Valve Box Cathodic Test - 5 1/4 Drop Lid
	PC01581	Cross, MJ DI 24" X 8" C153
	PC03543	Sleeve, MJ DI 24" X 15" C153 - MJSL24
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PS00309	Restraint, MJ Gland 24" DI - SGDPPK24A
	EW00555	Wire, Solid Bare Copper 6 AWG - 25' rolls
	CA02202	Saddle, Ser Brz 16CI/CA X3/4CC
	PF05400	Coupling, CI 24" 25.80 ID - Dresser 38 Range 25.80
	PK09913	Pipe, 24" DI Class 51 AWWA - Std Spec C-111-4 Full Lengths
	PC03633	Sleeve, MJ Ground-Out 24" - Machine to 26 1/4" + 1/32"
	TR10001	1/2" X 8' TH/TH &1/2"Oblong SH - Pull to Pull Oblong
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC00426	Bend, MJDI 8" X 11 1/4D C153
	PC03316	Offset, MJ DI 8" x 6" C153 - MJO0806
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	TR10002	Sling, Hydrant 3/8" x 5' - W/Tags
	PH10007	Sleeve,Tapping PVC 8" X 8" SS - Only Range 9.05-9.45 JCM 432
	OK10008	Brush, Counter Horse Hair 8"
	PD03836	Plug,TJDI 8" Tap 3" 2Ears C153
	PN01125	Plug, Brass 3/4" CC Thread - Mueller H-10033
	PN01126	Plug, Brass 1" CC Thread - Mueller H-10033
	TR01272	Link, Coupling Quick Alloy 3/8
	PH20725	Pipe, Sewer 10" Bell & Spigot - PVC Sch 40 D.W.V. 20'
	PF05078	Coupling, Trans 6" Romac XR501 - 6.60 - 7.60 Or Equivalent
	CA20184	Lid, Frost Meter Pit 12" - Plastic
	PH07989	Elbow, 3/4"FIP x3/4Insrt PVC40 - RH 1407-007
	PH07990	Elbow, 1/2FIP x 1/2Insrt PVC40 - RH 1407-005
	PH04003	Bushing, 3/4MIP x 1/2FIP PVC80 - RH 3839-101
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PO30302	3/4" Coup Pro Press 78052
	PO30305	3/4" Coup 90° Pro Press 77022
	PO30314	3/4" Female Coup Pro Press - 79315
	PO30316	3/4" No Stop Coup 78177 - Pro Press

DENVER WATER

Warehouse Material Order Form

Qty	DW Cat No.	Description
	PK09903	Pipe, 3" DI Class 51 Fll Lgth
	PC04127	Sleeve,Tap CI 10" X 8" Fab Stl - Romac FTS420 11.47 x 8
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	CA02050	Saddle, Ser Brz 8 PVC X 1.5 CC
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC03738	Sleeve,MJ Dual Purpose 12"X12" - Pipe Size 13.20 - 13.50
	CA00654	Corp. Stop, 1" CC X 1.25" FL
	CA02020	Saddle, Ser Brz 6" PVC X 1" CC
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	CA02060	Saddle, Ser Brz 8 PVC X 2 CC
	CA02928	Washer, Rubber Gasket 3/4"
	HA10040	Washer, Hose Garden Rubber 3/4
	PX05203	Gasket, Ring 6" x 1/8"Thk 150# - Garlock #3200 Blueguard
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PS00333	Restraint, MJ Gland 10" DI - Ground-Out SGDPOSPK10A
	PO09170	Pipe, 1" ID Type L CU Rigid - 20' Length
	VC01101	1" IP Brass Ball Valve 95-100 - Red & White Stop & Waste
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC03326	Offset, MJ DI 12" x 6" C153 - MJO1206
	PS20199	Retainer, Split Gland 8" - Megalug 1108 SD
	VY00007	Extension, Stop Box 16" 95E - USF CISBEXT152
	PO09166	Pipe, 1/2" ID Type L CU Rigid - 20' Length
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PH00019	Pipe, 4" PVC Class 200 C-900 - 4" x 20' / 02041W
	PC00519	Tee, MJ DI 8" X 4" C153
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00206	Valve, Gate MJ 4" Open Right - R.S. NRS w/Operating Nut
	VA00206	Valve, Gate MJ 4" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PD03838	Plug, Push-In 12" Tap 3" C153 - Tyton Joint DI
	VH01022	Cap, Hose Nipple 2 1/2" - Tapped 3/4"
	VC03302	Faucet, Hose Bibb T-Handle 3/4

DENVER WATER

Warehouse Material Order Form

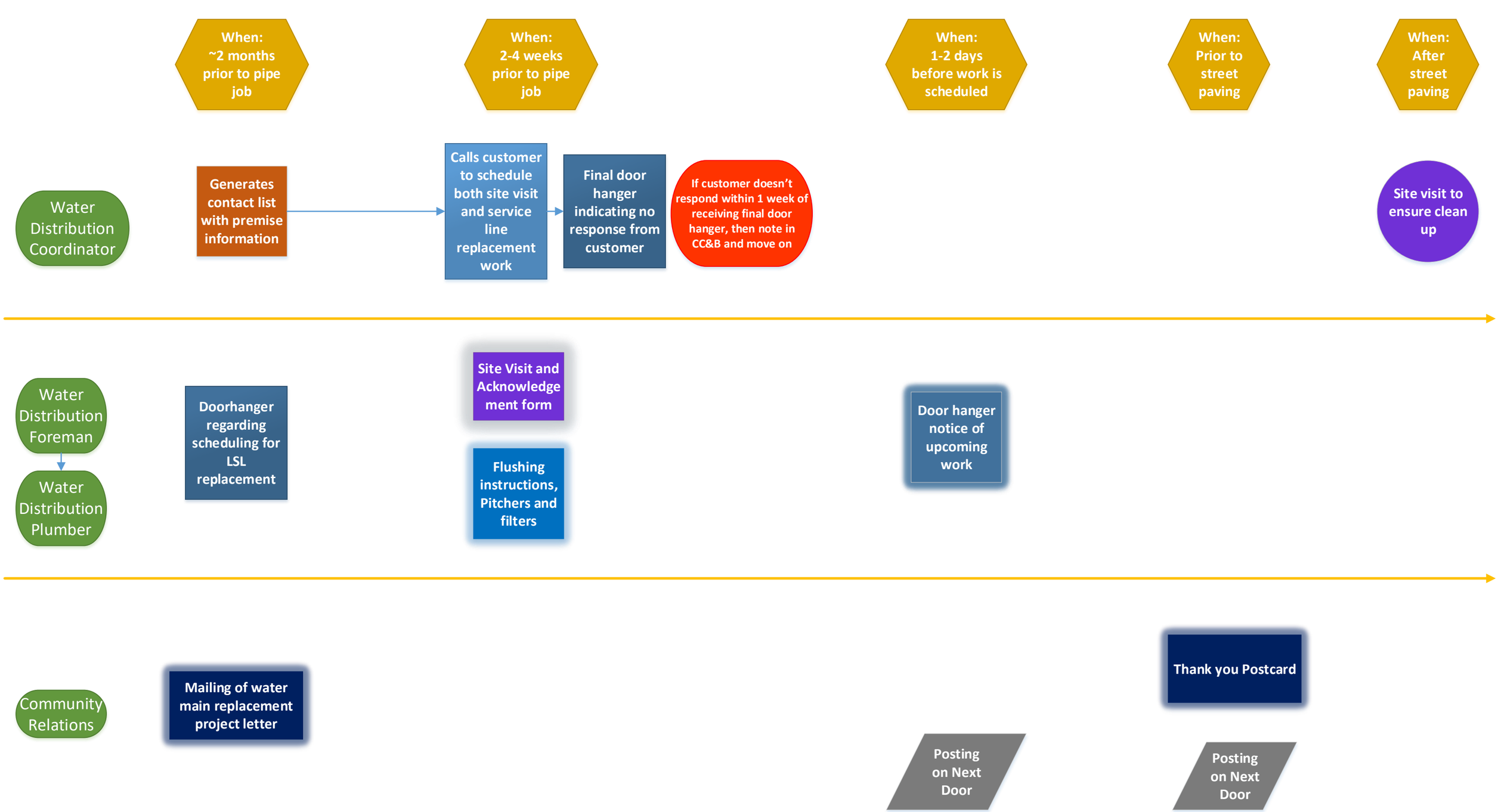
Qty	DW Cat No.	Description
	HB10006	Coupling, Hose Brass - 2.5 NSM x 2 NPM
	CA00816	Union, Straight Cplg 1 1/2" FL - x 1 1/2" FIP
	CA00728	Union, Coupling 2" FL X 2" FL - Two Part
	CA02164	Saddle, Ser Brz 8 CI/CA X 2 CC
	CA02163	Saddle, Ser Brz 8CI/CA x 1.5CC
	PX04213	Gasket Kit, 150 Lb 12" Insul. - RD940-E 1 Pc Sleeve & Washer
	PX04313	Gasket Kit, 250 Lb 12" Insul. - RD940-E 1 Pc Sleeve & Washer
	VZ01874	Extension, Valve Stem 4'
	PC00008	Bend, MJDI 12" X 90D C153
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	HP05201	Stud, UNC 7/8"-9 x 6" - B-7 ASTM-193 All Thread Plain
	HR00009	Nut, Hex Plated NC 7/8" - 9 - Grade 8
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC04070	Adapter,SwivlxSolid 12x13 C153
	CA01001	Pit, Meter Conc. 4 Section - 24" X 48"
	PC03778	Cap, MJ DI 12" Ground-Out C153 - Machine to 13 11/16"+ 1/32"
	CA02149	Saddle, Ser Brz 6 CI/CA X 1 CC
	PE03806	Flange, Blind CI 8" Class 150
	VA20709	Valve, 6" MJ X Flange A236016 - 9094 raised flange no epoxy
	PX04210	Gasket Kit, 150 Lb 6" Insul. - RD940-E 1 Pc Sleeve & Washer
	PX04211	Gasket Kit, 150 Lb 8" Insul. - RD940-E 1 Pc Sleeve & Washer
	PX05302	Gasket Sealer, 11 Oz. - Locktite 30515
	VZ01894	Washer, Valve Stem Extension
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VZ01872	Extension, Valve Stem 3'
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC04065	Tee, DI MJXSwivel 8" X 8" C153
	CA02188	Saddle, Ser Brz 12 CI/CA X 2CC
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PH00044	Cement, PVC Clr 16 Oz Medium - Body Fast Set Weld-On 705
	CA00712	Curb Stop, 1" FL X 1" FL
	CA21021	Lid, Meter Pit Cover CI - Recessed for ERT

DENVER WATER

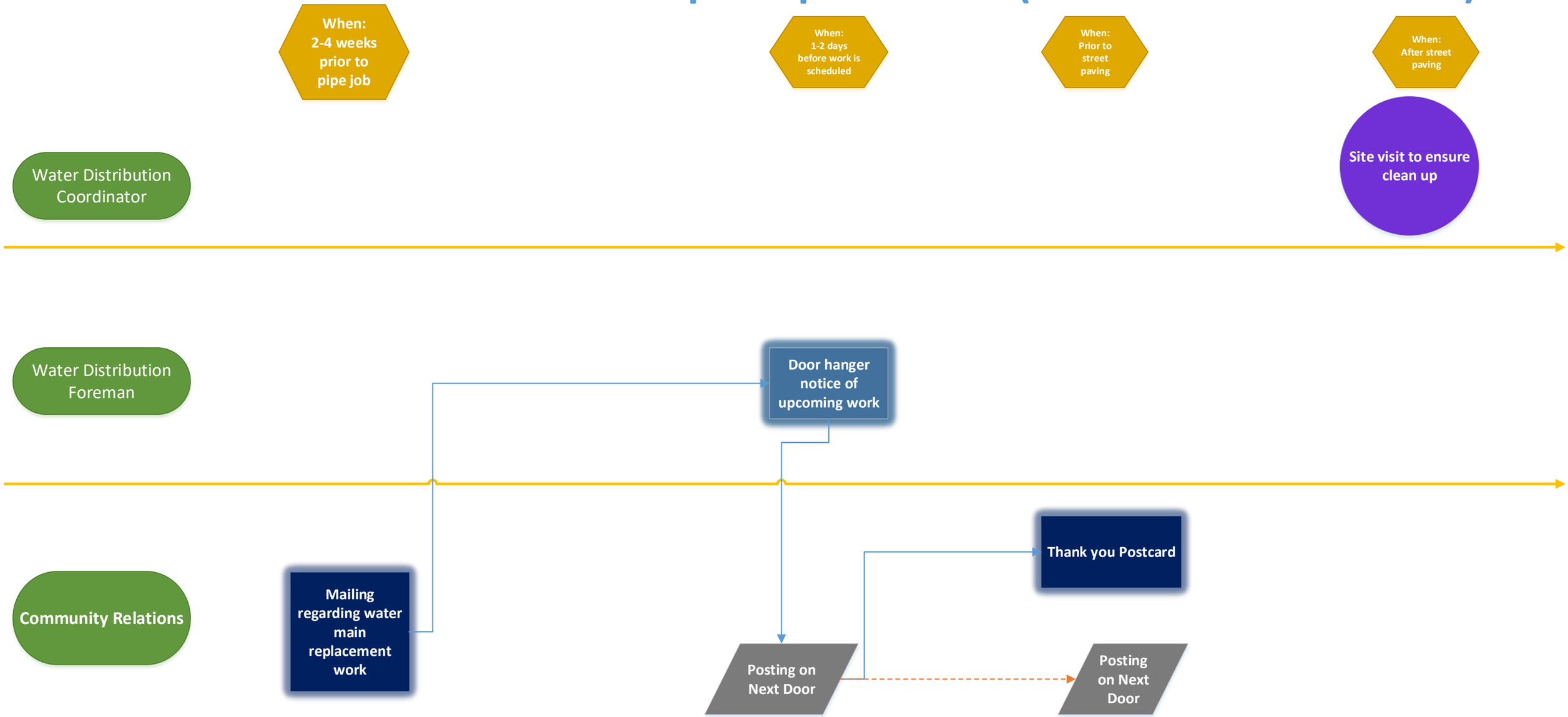
Warehouse Material Order Form

Qty	DW Cat No.	Description
	VZ01876	Extension, Valve Stem 5'
	PC03740	Sleeve,MJ Dual Purpose 16"X15" - Pipe Size 17.40 - 17.80
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PC00005	Bend, MJDI 6" X 90D C153
	HC00081	Adhesive, Threadlock 290 50ml - Loctite 290-31
	TR10001	1/2" X 8' TH/TH &1/2"Oblong SH - Pull to Pull Oblong
	TR10005	3/8"X6' TH/TH 3/8" Oblong SCH - Pull to Pull Oblong
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	VA00206	Valve, Gate MJ 4" Open Right - R.S. NRS w/Operating Nut
	VA00204	Valve, Gate MJ 3" Open Right - R.S. NRS w/Operating Nut
	PN01701	Nipple, Brass 1" X Close
	PN01705	Nipple, Brass 1" X 3"
	BL01146	Lumber, Fir Rough Utility - Blocking 2 X 4 X 8" Hem-Fir
	PS00336	Restraint, MJ Gland 16" DI - Ground-Out SGDPOSPK16A
	PH08001	Coupling, Insert 125 PSI 3/4" - RH 1429-007
	PH08002	Coupling, Insert 125 PSI 1" - 1429-010
	HP05195	Stud, UNC 7/8"-9 x 4 1/2" - B-7 ASTM-193 All Thread Plain
	HR00079	Nut, UNC Hex Heavy 7/8"-9 - ASTM A194-GR-2H Plain
	CA02040	Saddle, Ser Brz 6 PVC X 2 CC
	VA00209	Valve, Gate MJ 6" Open Right - R.S. NRS w/Operating Nut
	PS20704	Kit, 8" MJ T-Bolt/Gasket Box - 3/4 x 4

Communications Outline for Pipe Replacement (Lead Service Line)



Communications Outline for Pipe Replacement (Non-Lead Service Line)



WATER OUTAGE NOTICE

Contractor Responsible for Water Shut-off: _____
Office number: _____ On-site number: _____

It will be necessary to shut off the water supply to the premises on:
Date: _____ **Time:** _____ **TO** _____
Reason: _____

Water service in this area will be shut off due to maintenance. During this outage, please help crews by only turning water faucets on periodically to check for running water, which indicates work is complete.

This work will cause inconveniences, including street and parking closures, heavy equipment noise, and excavation in the street and possibly private property. Once maintenance is finished, crews will flush the water mains, which may cause discolored or cloudy water. After service is restored, run a cold faucet at full pressure until water is clear.

For more details about what to expect and how to flush faucets, visit denverwater.org/service-interruptions.

Please consider sharing this information with others at your property and in your neighborhood.

Special instructions for regulated food facilities: Inside the City and County of Denver, regulated food facilities are not permitted to conduct open food handling when water is not available, per Denver food safety regulations. For more information, contact the Denver Department of Environmental Health (720-913-1311 or phicomments@denvergov.org) or, outside of Denver, your local health department.

NOTIFICACIÓN DE CORTE EN EL SUMINISTRO DE AGUA

Contratista responsable del corte en el servicio agua: _____
N.º de oficina: _____ N.º en la obra _____

Será necesario cortar el suministro de agua para la propiedad:
Fecha: _____ **Hora:** _____ **HASTA** _____
Motivo _____

El servicio de agua en esta área será interrumpido debido a trabajos de mantenimiento. Durante este corte en el suministro de agua, ayude a los equipos de trabajo abriendo los grifos solo periódicamente para comprobar si el agua ya empieza a fluir, lo cual indica que los trabajos de mantenimiento han finalizado.

Esta obra ocasionará inconvenientes, entre estos, cierre de calles y de sitios para estacionar, ruido de maquinaria pesada, excavaciones en la calle y posiblemente en propiedad privada. Una vez que hayan terminado los trabajos de mantenimiento, los equipos purgarán el agua de las cañerías maestras, lo cual podría ocasionar que el agua se vea descolorida o turbia. Después de que se restablezca el servicio, abra uno de los grifos y deje correr el agua fría a máxima presión hasta que esta se vea transparente.

Para obtener más detalles sobre lo que se debe esperar y cómo purgar los grifos, visite denverwater.org/service-interruptions.

Piense en la posibilidad de compartir esta información con otras personas en su propiedad y en su vecindario.

Instrucciones especiales para plantas de alimentos regulados: En concordancia con las normas de seguridad alimentarias de Denver, cuando no hay agua disponible, no se permite la manipulación de alimentos expuestos dentro de las plantas de alimentos regulados de la ciudad y condado de Denver. Para obtener más información, póngase en contacto con el Departamento de salud ambiental de Denver (720-913-1311 o phicomments@denvergov.org), o con su Departamento de salud local si se encuentra fuera del área de Denver.

AFTER LEAD SERVICE LINE REPLACEMENT

Replacing an entire lead service line reduces your risk of exposure to lead. But there are steps you should take after replacement.

IMMEDIATELY FLUSH ALL FAUCETS.

Start in the basement/lowest level and work up, one faucet at a time.

- Remove the aerator and clean it.
- Run cold water at full flow for 10 minutes.

FOR THE NEXT 30 DAYS, FLUSH AT LEAST ONE FAUCET DAILY.

EVEN AFTER REPLACING A LEAD SERVICE LINE, LEAD CAN REMAIN IN YOUR HOME'S PLUMBING. TO PROTECT YOUR HEALTH, WHEN USING WATER FOR DRINKING, COOKING AND MAKING ICE, BEVERAGES AND INFANT FORMULA:

- Use cold water.

- If water has not been used for a few hours, run the cold water tap for a couple of minutes first.

- Especially if you are pregnant or have children under age 6, use a filter certified to remove lead by NSF International, nsf.org.

- Also, consider replacing faucets and indoor plumbing with “lead-free” components.

To learn more, visit denverwater.org/Lead or call Denver Water at 303-893-2444.

DENVER WATER

Linereplacement-3-17

DESPUÉS DEL REEMPLAZO
DE LA LÍNEA DE SERVICIO DE PLOMO

El reemplazo de una línea completa de servicio de plomo reduce su riesgo de exposición al plomo. Pero hay pasos que usted debe tomar después del reemplazo.

DEJE CORRER EL AGUA DE TODOS LOS GRIFOS INMEDIATAMENTE.

Empiece por el nivel más bajo hasta el nivel más alto, no más de un grifo a la vez.

- Quite el aireador y límpielo.
- Deje correr el agua fría por 10 minutos a máxima potencia.

DEJE AL MENOS UN GRIFO ABIERTO DIARIAMENTE POR LOS SIGUIENTES 30 DÍAS.

INCLUSO DESPUÉS DE REEMPLAZAR UNA LÍNEA DE SERVICIO DE PLOMO, EL PLOMO PUEDE PERMANECER EN LA PLOMERÍA DE SU CASA. PARA PROTEGER SU SALUD, CUANDO CONSUMA AGUA PARA BEBER, COCINAR Y HACER HIELO, BEBIDAS Y FÓRMULAS INFANTILES:

- Utilice agua fría.

- Si no ha usado el agua por algunas horas, primero deje correr el agua fría de la llave por un par de minutos.

- Si está embarazada o si tiene hijos menores de 6 años, utilice un filtro para eliminar plomo, certificado por la NSF International, nsf.org.

- Además, reemplace los grifos y la plomería interior con componentes "sin plomo."

Para obtener más información, visite denverwater.org/Plomo o llame al 303-893-2444.

DENVER WATER

LEAD EXPOSURE & YOUR PLUMBING

Lead can cause serious health problems, but you can take steps to reduce your risk. Start by getting your home's water tested by Denver Water or a state-certified lab. If lead is found, it came from your home's service line or plumbing, not Denver Water's system.

TO PROTECT YOUR HEALTH, WHEN USING WATER FOR DRINKING, COOKING AND MAKING ICE, BEVERAGES AND INFANT FORMULA:

- Use cold water.

- If water has not been used for a few hours, run the cold water tap for a couple of minutes first.

- Especially if you are pregnant or have children under age 6, use a filter certified to remove lead by NSF International, nsf.org.

- Also, consider replacing faucets and indoor plumbing with "lead-free" components.

- And if your service line is made of lead, hire a plumber to replace it with copper. (Service lines installed before 1951 are more likely to contain lead.)

To learn more or request a free water quality test for lead, visit denverwater.org/Lead or call Denver Water Customer Care at 303-893-2444.

DENVER WATER

EXPOSICIÓN AL PLOMO Y LAS TUBERÍAS

El plomo puede ocasionar serios problemas de salud, sin embargo, usted puede tomar medidas para reducir el riesgo. Para empezar, haga que el agua de su hogar sea analizada por Denver Water o por un laboratorio certificado por el estado. El plomo que se encuentre, proviene de la línea de servicio o tuberías de su hogar, no del sistema de Denver Water.

PARA PROTEGER SU SALUD, CUANDO CONSUMA AGUA PARA BEBER, COCINAR Y HACER HIELO, BEBIDAS Y FÓRMULAS INFANTILES:

- Utilice agua fría.

- Si no ha usado el agua por algunas horas, primero deje correr el agua fría de la llave por un par de minutos.

- Especialmente, si está embarazada o si tiene hijos menores de 6 años, utilice un filtro para eliminar plomo, certificado por la NSF International, nsf.org.

- Además, reemplace los grifos y la plomería interior con componentes "sin plomo."

- Y si su línea de servicio fue fabricada con plomo, contrate un plomero para que la reemplace por una de cobre. (Las líneas de servicio instaladas antes de 1951 tienen más probabilidades de contener plomo.)

Para obtener más información o para solicitar una prueba de calidad del agua que permita detectar plomo, visite denverwater.org/Plomo o llame 303-893-2444.

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FIELD INSPECTION CHECKLIST

Contractor	Project ID
Contractor's phone no.	Foreman's name
Maximo work order no.	Inspector
Project Location:	Construction start date
Project name	Construction end date
Valve manufacturer	Hydrant manufacturer
Pipe manufacturer	❑ Main extension ❑ Private pipe Water District:

Surface Condition	❑ paved ❑ unpaved	
Valve Box and Hydrant Inspection:	Date	*Inspector's signature*
Tracer Wire and Test Site Inspection:	Date	*Inspector's signature*
Clear Water Test:	Date	*Inspector's signature*
Pressure Test:	Date	*Inspector's signature*

❑ **NOT APPLICABLE FOR PRIVATE PIPE DISTRICTS**

If you have any questions, please contact Denver Water Distribution Inspection Manager, Lou Vullo at 303-628-6671 (office), or 720-917-5524 (cell).

Contractor's signature *Date* *Inspector's signature* *Date*

WHITE- Distribution Inspector YELLOW- Water Line Contractor 5004/12/16