



City of Ketchum

**CITY COUNCIL MEETING AGENDA MEMO**

Meeting Date:  Staff Member/Dept:

Agenda Item:

**Recommended Motion:**

**Reasons for Recommendation:**

- Staff sought out bids from five separate qualified contractors. Only one contractor responded with a bid.
- Project needs to be completed this fall in order for ITD's early spring Highway 75 Trail Creek Bridge replacement.
- The proposed work is expected to require shutting down the Trail Creek Bridge for 2-3 days. Work will be executed prior to an upcoming Intermountain Gas bridge closure to minimize the impacts the City inflicts on commuters.

**Policy Analysis and Background (non-consent items only):**

**Sustainability Impact:**

**Financial Impact:**

None OR Adequate funds exist in account:	Purchase Order is for NTE amount of \$117,100. Adequate funds exist within the Waste Water Fund
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**Attachments:**

- |  |
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| 1. Lunceford Excavation's Estimate               |
| 2. Purchase Order 24120 for Lunceford Excavation |
| 3. Project Agreement 24120                       |
| 4. Payment & Performance Bonds                   |



Lunceford Excavation  
alabama626@gmail.com  
P.O. Box 739  
Ketchum, ID 83340

Prepared For  
Sam Stahlnecker  
Opal Engineering

Estimate Date  
06/24/2024

Estimate Number  
15489

Reference  
Trail Creek Sewer

Description	Rate	Qty	Line Total
Trail Creek Sewer	\$0.00	1	\$0.00
Excavate and Install New 8" Sewer Main-Backfill-Compact	\$55,000.00	1	\$55,000.00
Slurry Old Sewer Pipe with Lean Fill	\$6,800.00	1	\$6,800.00
New Man Hole	\$18,000.00	1	\$18,000.00
New Asphalt Patch	\$14,800.00	1	\$14,800.00
Pumps for Sewer Bypass	\$12,500.00	1	\$12,500.00
Traffic Control	\$10,000.00	1	\$10,000.00
	Subtotal		117,100.00
	Tax		0.00
	Estimate Total (USD)		\$117,100.00

#### Terms

NOTE: This proposal may be withdrawn by us if not accepted within 30 days. All material is guaranteed to be as specified. All work to be completed in a substantial workman like manner according to specifications submitted per standard practices. Any alteration or deviation from above specifications involving extra costs will be expected only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control. Owner to carry fire, flood, and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Any asbestos or other unforeseen conditions will be billed on a Time and Materials basis

All abnormal soil conditions, such as rock, caliche, water in excavation and any other unforeseen soil conditions will be billed on an agreed upon amount between client and Lunceford Excavation

ACCEPTANCE OF PROPOSAL: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

X \_\_\_\_\_ (Client)

X \_\_\_\_\_ (Lunceford Excavation)



**CITY OF KETCHUM**  
 PO BOX 2315 \* 191 5TH ST. \* KETCHUM, ID 83340  
 Administration 208-726-3841 (fax) 208-726-8234

**PURCHASE ORDER**  
 BUDGETED ITEM? \_\_\_ Yes \_\_\_ No

**PURCHASE ORDER - NUMBER: 24120**

<b>To:</b> 2901 LUNCEFORD EXCAVATION, INC. P.O. BOX 739 KETCHUM ID 83340	<b>Ship to:</b> CITY OF KETCHUM PO BOX 2315 KETCHUM ID 83340
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P. O. Date	Created By	Requested By	Department	Req Number	Terms
08/26/2024	CCHING	CCHING		0	

Quantity	Description	Unit Price	Total
1.00	WASTEWATER LINE RELOCATION ON TRAIL 67-4350-7813	117,100.00	117,100.00
	SHIPPING & HANDLING		0.00
	TOTAL PO AMOUNT		117,100.00

\_\_\_\_\_  
 Authorized Signature

This AGREEMENT 24120, made this \_\_\_\_\_ day of \_\_\_\_\_, 2024, by and between the City of Ketchum, hereinafter called "OWNER" and Lunceford Excavation, hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of: KETCHUM TRAIL CREEK SEWER MAIN RELOCATION, which includes the installation of new sewer main, one sewer manhole, and asphalt repair to replace existing sewer main in conflict with proposed Idaho Transportation Department Trail Creek bridge improvements.
2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the WORK described herein.
3. The CONTRACTOR will furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents prior to commencing construction. These bonds shall remain in effect until one year after the date when final payment becomes due.
4. The CONTRACTOR shall furnish Certificate of Insurance naming the OWNER as the primary additional insured with the following limits prior to commencing construction:
  - (A) \$1,000,000 Combined Single Limit for Bodily Injury and Property Damage each occurrence;
  - (B) \$1,000,000 Personal Injury and Advertising Liability each occurrence;
  - (C) \$2,000,000 General Aggregate;
  - (D) \$1,000,000 Combined Single Limits for Products and Completed Operations Liability;
  - (E) \$1,000,000 Combined Single Limit for Automobile Bodily Injury and Property Damage Liability; each Accident or Loss.
5. The CONTRACTOR represents that Contractor possesses the requisite skill, knowledge, and experience necessary to perform the Services. Contractor represents it has or agrees to obtain and maintain all necessary registrations, licenses, and insurance as may be required by the State of Idaho for the performance of the Services under this Agreement.
6. The CONTRACTOR agrees to assume responsibility for compliance with all applicable federal and state laws with regard to health, safety, and accident prevention, including but not limited to, the Federal Construction Safety Act and Occupational Safety and Health Act of 1970 and any other rules, regulations, and standards relating to the work to be performed by subcontractor under this subcontract and the employment of labor, equipment, and materials herein.
7. The CONTRACTOR, its managers, members, directors, officers, shareholders, agents, and employees shall comply with all federal, state, and local laws, rules, and ordinances. This Agreement does not relieve Contractor of any obligation or responsibility imposed upon Contractor by law. Without limitation, Contractor hereby acknowledges that all writings and documents, including without limitation email, containing information relating to the conduct or administration of the public's business prepared by Contractor for City regardless of physical form or characteristics may be public records pursuant to the Idaho Public Records Act. Contractor further acknowledges that, subject to certain limitations, the public may examine and take a copy of all such public writings and records. Accordingly, Contractor shall maintain such writings and records in such a manner that they may readily identified, retrieved, and made available for such inspection and copying. Should Contractor wish to claim an exemption to disclosure on any record, Contractor shall identify such in advance and assume all costs of defense on any associated legal action to defend such claimed exemption from disclosure.
8. To the fullest extent permitted by law, CONTRACTOR will indemnify, defend, and hold OWNER harmless from and against all liability, claims, losses, costs, expenses, and fees arising out of this project or this AGREEMENT to the extent caused or alleged to have been caused by any negligent or wrongful acts, errors, or omissions of the CONTRACTOR, its agents, employees, subcontractors, or suppliers.
9. All work is to be done in a neat manner. The CONTRACTOR agrees the leave the workplace clean and orderly upon completion of both rough and finish work. All debris will be removed from the premises.



IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in (3) each of which shall be deemed an original on the date first above written.

OWNER:

**CITY OF KETCHUM**

BY: \_\_\_\_\_

Title: \_\_\_\_\_

(SEAL)

ATTEST:

\_\_\_\_\_

Name \_\_\_\_\_  
(Type or Print)

Title: \_\_\_\_\_

CONTRACTOR:

**LUNCEFORD EXCAVATION**

BY: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

(SEAL)

ATTEST:

\_\_\_\_\_

Name: \_\_\_\_\_  
(Type or Print)

Title: \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_

\_\_\_\_\_

a \_\_\_\_\_, hereinafter called Principal, and

\_\_\_\_\_

\_\_\_\_\_

hereinafter called Surety, are held and firmly bound unto

City of Ketchum  
PO Box 2315  
191 5<sup>th</sup> Street West  
Ketchum, ID 83340

hereinafter called OWNER, in the penal sum of one hundred, seventeen thousand, one hundred Dollars (\$117,100.00) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 2024, a copy of which is hereto attached and made a part hereof for the construction of:

.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed there under or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in (3) counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 2024.



ATTEST:

\_\_\_\_\_  
(Principal) Secretary

(SEAL)

By \_\_\_\_\_(s)

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_  
(Surety) Secretary

(Seal)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_

NOTE: Date of BOND must not be prior to date of Contract.  
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
\_\_\_\_\_

a \_\_\_\_\_, hereinafter called Principal, and

\_\_\_\_\_  
\_\_\_\_\_

hereinafter called Surety, are held and firmly bound unto

City of Ketchum  
PO Box 2315  
191 5<sup>th</sup> Street West  
Ketchum, ID 83340

hereinafter called OWNER, in the penal sum of one hundred, seventeen thousand, one hundred Dollars (\$117,100.00) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 2024, a copy of which is hereto attached and made a part hereof for the construction of:  
KETCHUM TRAIL CREEK SEWER MAIN RELOCATION.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof of which may be granted by the OWNER, with or without notice to the Surety and during the two year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in (3) counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

(SEAL)

By \_\_\_\_\_(s)

\_\_\_\_\_  
(Address)  
\_\_\_\_\_

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_  
(Surety) Secretary

(Seal)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_

NOTE: Date of BOND must not be prior to date of Contract.  
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# HIGHWAY 75 - SEWER AND WATER MAIN MODIFICATIONS @ TRAIL CREEK KETCHUM, IDAHO

APRIL 2024

SHEET#	DESCRIPTION
C0.1	COVER SHEET
C0.2	SANITARY SEWER NOTES AND DETAIL SHEET
C1.0	SANITARY SEWER MAIN PLAN AND PROFILE

## GENERAL CONSTRUCTIONS NOTES

- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH CITY OF KETCHUM STANDARDS AND THE MOST CURRENT EDITION OF THE "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION" (ISPWC). THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND KEEPING A COPY OF THE CITY OF KETCHUM AND ISPWC STANDARDS ON SITE DURING CONSTRUCTION.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS IN AN APPROXIMATE WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR TO COMMENCING AND DURING THE CONSTRUCTION. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH RESULT FROM HIS FAILURE TO ACCURATELY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL CALL DIGLINE (1-800-342-1585) TO LOCATE ALL EXISTING UNDERGROUND UTILITIES A MINIMUM OF 48 HOURS IN ADVANCE OF EXCAVATION.
- CONTRACTOR SHALL COORDINATE RELOCATIONS OF DRY UTILITY FACILITIES (POWER, CABLE, PHONE, TV) WITH THE APPROPRIATE UTILITY FRANCHISE.
- THE CONTRACTOR SHALL CLEAN UP THE SITE AFTER CONSTRUCTION SO THAT IT IS IN A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION (THIS INCLUDES, BUT IS NOT LIMITED TO, ENCROACHMENT PERMITS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT (CGP) PERMIT COVERAGE).
- ALL CLEARING & GRUBBING SHALL CONFORM TO ISPWC SECTION 201.
- ALL EXCAVATION & EMBANKMENT SHALL CONFORM TO ISPWC SECTION 202. SUBGRADE SHALL BE EXCAVATED AND SHAPED TO LINE, GRADE, AND CROSS-SECTION SHOWN ON THE PLANS. THE SUBGRADE SHALL BE COMPACTED TO 95% OF STANDARD DENSITY PER ISPWC SECTION 202. THE CONTRACTOR SHALL WATER OR AERATE SUBGRADE AS NECESSARY TO OBTAIN OPTIMUM MOISTURE CONTENT. IN-LIEU OF DENSITY MEASUREMENTS, THE SUBGRADE MAY BE PROOF-ROLLED TO THE APPROVAL OF THE ENGINEER.
  - PROOF-ROLLING: AFTER EXCAVATION TO THE SUBGRADE ELEVATION AND PRIOR TO PLACING COURSE GRAVEL, THE CONTRACTOR SHALL PROOF ROLL THE SUBGRADE WITH A 5-TON SMOOTH DRUM ROLLER, LOADED WATER TRUCK, OR LOADED DUMP TRUCK, AS ACCEPTED BY THE ENGINEER. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF UNSUITABLE SUBGRADE MATERIAL AREAS, AND/OR AREAS NOT CAPABLE OF COMPACTION ACCORDING TO THESE SPECIFICATIONS. UNSUITABLE OR DAMAGED SUBGRADE IS WHEN THE SOIL MOVES, PUMPS AND/OR DISPLACES UNDER ANY TYPE OF PRESSURE INCLUDING FOOT TRAFFIC LOADS.
  - IF, IN THE OPINION OF THE ENGINEER, THE CONTRACTOR'S OPERATIONS RESULT IN DAMAGE TO, OR PROTECTION OF, THE SUBGRADE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR THE DAMAGED SUBGRADE BY OVER-EXCAVATION OF UNSUITABLE MATERIAL TO FIRM SUBSOIL, LINE EXCAVATION WITH GEOTEXTILE FABRIC, AND BACKFILL WITH PIT RUN GRAVEL.
- ALL 2" MINUS GRAVEL SHALL CONFORM TO ISPWC 802, TABLE 1, TYPE II. THE AGGREGATE SHALL BE PLACED AND COMPACTED IN CONFORMANCE WITH ISPWC SECTION 802.
- ALL 3/4" MINUS CRUSHED GRAVEL SHALL CONFORM TO ISPWC 802, TABLE 1, TYPE I. THE AGGREGATE SHALL BE PLACED IN CONFORMANCE WITH ISPWC SECTION 802.
- ALL ASPHALTIC CONCRETE PAVEMENT WORK SHALL CONFORM TO ISPWC SECTION(S) 805, 810, AND 811 FOR CLASS II PAVEMENT. ASPHALT AGGREGATE SHALL BE 1/2" (13MM) NOMINAL SIZE CONFORMING TO TABLE 1 IN ISPWC SECTION 803. ASPHALT BINDER SHALL BE PG 58-28.
- ASPHALT SAWCUTS SHALL BE AS INDICATED ON THE DRAWINGS, OR 24" INCHES FROM EDGE OF EXISTING ASPHALT, IF NOT INDICATED OTHERWISE, SO AS TO PROVIDE A CLEAN PAVEMENT EDGE FOR MATCHING. NO WHEEL CUTTING SHALL BE ALLOWED. PRIOR TO REPLACING ASPHALT, THE UNDERLYING SURFACE INCLUDING VERTICAL SAWCUT JOINTS SHALL BE CLEANED OF ALL DEBRIS AND A TACK COAT SHALL BE APPLIED TO ALL CURBS, SAWCUTS, OR OVERLAY SURFACES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL PER THE CURRENT EDITION OF THE US DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). A TRAFFIC CONTROL PLAN SHALL BE APPROVED BY THE CITY OF KETCHUM AND THE IDAHO TRANSPORTATION DEPARTMENT (ITD) PRIOR TO CONSTRUCTION.
- ALL CONCRETE WORK SHALL CONFORM TO ISPWC SECTIONS 701, 703, AND 705. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM, 28 DAY, AS DEFINED IN ISPWC SECTION 703, TABLE 1. IMMEDIATELY AFTER PLACEMENT PROTECT CONCRETE BY APPLYING MEMBRANE-FORMING CURING COMPOUND, TYPE 2, CLASS A PER ASTM C 309-94. APPLY CURING COMPOUND PER MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
- ALL TRENCHING SHALL CONFORM TO ISPWC STANDARD DRAWING SD-301 (SEE DETAIL 1 / C0.2).
- PER IDAHO CODE § 55-1613, THE CONTRACTOR SHALL RETAIN AND PROTECT ALL MONUMENTS, ACCESSORIES TO CORNERS, BENCHMARKS AND POINTS SET IN CONTROL SURVEYS; ALL MONUMENTS, ACCESSORIES TO CORNERS, BENCHMARKS AND POINTS SET IN CONTROL SURVEYS THAT ARE LOST OR DISTURBED BY CONSTRUCTION SHALL BE REESTABLISHED AND RE-MONUMENTED, AT THE EXPENSE OF THE AGENCY OR PERSON CAUSING THEIR LOSS OR DISTURBANCE AT THEIR ORIGINAL LOCATION OR BY SETTING OF A WITNESS CORNER OR REFERENCE POINT OR A REPLACEMENT BENCHMARK OR CONTROL POINT, BY OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.
- EXISTING SEWER CONDITIONS SHOWN HEREON ARE PER A SURVEY SURVEY CONDUCTED BY GALENA-BENCHMARK ASSOCIATES, RECEIVED ON MAY 23, 2023. ALL OTHER EXISTING CONDITIONS, BOUNDARIES, AND EASEMENTS SHOWN HEREON ARE PER A SURVEY RECEIVED ON APRIL 11, 2023, FROM IDAHO TRANSPORTATION DEPARTMENT (ITD).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A MATERIALS TESTING COMPANY TO VERIFY ALL COMPACTION AND MATERIAL PLAN AND SPECIFICATION REQUIREMENTS ARE MET.

## WATER MAIN CONSTRUCTION NOTES

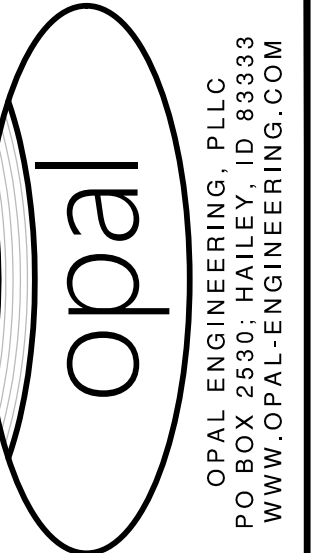
- WATER MAIN AND SERVICE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CITY OF KETCHUM STANDARDS. NO WATER MAIN OR SERVICES SHALL BE BACKFILLED UNTIL THEY HAVE BEEN INSPECTED AND APPROVED BY THE CITY.
- WATER MAINS AND SERVICES SHALL HAVE A MINIMUM COVER OF SIX FEET (6.0'), MEASURED FROM FINISHED GRADE.
- ALL 4" AND LARGER WATER MAINS SHALL BE CONSTRUCTED WITH AWWA C-900, CLASS 235 PVC PIPE. ALL WATER MAINS SHALL BE PRESSURE TESTED IN CONFORMANCE WITH ISPWC SECTION 401.3.6 AND THE CITY OF KETCHUM STANDARDS. TRACER WIRE SHALL BE NO. 12 GAUGE COPPER LOCATING WIRE INSULATED PER ISPWC SECTION 401 AND THE CITY OF KETCHUM SPECIFICATIONS.
- SEE FLUSHING AND DISINFECTION REQUIREMENTS THIS SHEET. ALL BACTERIA TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND THE CITY OF KETCHUM WATER AND SEWER DEPARTMENT FOR FINAL APPROVAL AND ACCEPTANCE PRIOR TO ACTIVATION OF THE WATER MAIN AND SERVICES.
- ALL WATER DISTRIBUTION AND WATER SERVICE INSTALLATION MATERIALS AND CHEMICALS USED TO DISINFECT POTABLE WATER COMPONENTS MUST BE COMPLIANT WITH ANS/NSF STANDARD 60/61. ALL MATERIALS MUST BE COMPLIANT WITH THE LOW LEAD RULE (<0.25%Pb BY WEIGHT).
- ALL TEES, PLUGS, CAPS AND BENDS SHALL BE SECURED AND ANCHORED BY SUITABLE THRUST BLOCKING (MECHANICAL RESTRAINTS ARE NOT ALLOWED). THRUST BLOCKS SHALL CONFORM TO ISPWC SD-403 AND THE CITY OF KETCHUM STANDARDS.
- ALL VALVES SHALL BE GATE VALVES WITH NON-RISING STEM, "O" RING SEALS, AND TWO-INCH OPERATING NUTS MEETING AWWA STANDARDS PER ISPWC SECTION 402. ALL GATE VALVES LOCATED IN PAVEMENT SHALL BE FITTED WITH CAST IRON VALVE BOXES WITH CONCRETE COLLARS PER ISPWC SD-406 AND THE CITY OF KETCHUM SPECIFICATIONS.
- ALL WATER MAIN FITTINGS SHALL BE DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF AWWA C-110 FOR 250 PSI WORKING PRESSURE. JOINTS ON BURIED VALVES SHALL BE MECHANICAL JOINTS UNLESS OTHERWISE NOTED. FLANGED JOINTS SHOULD IN GENERAL BE AVOIDED UNDERGROUND.
- ALL TAPPING SADDLES SHALL BE CONSTRUCTED FROM T-304 STAINLESS STEEL WITH ANS/AWWA C-207 CLASS 150 FLANGES. ALL WELDS SHALL CONFORM TO ASTM A-380. THE TEST OUTLET SHALL BE 3/4" NPT WITH 3/4" NPT PLUG.
- ALL WATER MAINS SHALL COMPLY WITH IDAPA 58.01.08.542.07.a AND IDAPA 58.01.08.542.07.b WHICH ADDRESS THE REQUIREMENTS FOR SEPARATION DISTANCES BETWEEN POTABLE WATER LINES (INCLUDING MAINS AND SERVICE LINES) WITH NON-POTABLE LINES (SEE ILLUSTRATION OF THESE SEPARATION REQUIREMENTS ON THIS SHEET). IN ADDITION, WATER MAINS SHALL BE CONSTRUCTED WITH AT LEAST 25 FEET HORIZONTAL SEPARATION FROM INFILTRATION TRENCHES AND DRY WELLS.
- ALL WATER SERVICES SHALL BE IN COMPLIANCE WITH ISPWC SECTION 404 AND THE CITY OF KETCHUM STANDARDS. A USC EC APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) SHALL BE INSTALLED ON PRIMARY SERVICE CONNECTIONS (INCLUDING FIRE SUPPRESSION SERVICES, IF APPLICABLE) IN ACCORDANCE WITH THE CITY OF KETCHUM WATER DEPARTMENT, FIRE MARSHAL, PLUMBING BUREAU, AND STATE OF IDAHO BACKFLOW PREVENTION REQUIREMENTS. IN AREAS WHERE MULTIPLE WATER SERVICE LINES ARE IN SAME TRENCH SEPARATE LINES BY 6".
- THE CONTRACTOR SHALL KEEP THE EXISTING WATER DISTRIBUTION SYSTEM LIVE, TO THE GREATEST EXTENT POSSIBLE, WHILE INSTALLING THE NEW WATER MAIN AND SERVICES MINIMIZING DISRUPTION TO EXISTING WATER SYSTEM USERS. THE NEW WATER MAIN AND SERVICES SHALL BE INSTALLED, BACKFILLED, PRESSURE TESTED AND DISINFECTED AND FLUSHED PRIOR TO CONNECTING THE NEW MAIN TO THE EXISTING MAIN. THE MAXIMUM ALLOWABLE SERVICE OUTAGE FOR ANY SHUTDOWN IS 4 HOURS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROMPTLY REMOVING AND DISPOSING OF WATER ENTERING THE TRENCH DURING THE TIME THE TRENCH IS BEING PREPARED FOR INSTALLATION OF THE UTILITY, INCLUDING COMPLETION OF BACKFILL OF THE PIPE ZONE, AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL DISPOSE OF THE WATER IN A SUITABLE MANNER WITHOUT CAUSING DAMAGE TO PROPERTY.
- EXTRA FITTINGS MAY BE NECESSARY IN ADDITION TO THOSE SHOWN HEREON TO CONTROL ELEVATION AND AVOID UNDERGROUND CONFLICTS.

## SEWER MAIN CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION" (ISPWC) AND THE CITY OF KETCHUM STANDARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND KEEPING A COPY OF THE ABOVE STANDARDS AND SPECIFICATIONS AND A SET OF PLANS STAMPED WITH THE DEQ APPROVAL STAMP AND A COPY OF THE DEQ APPROVAL LETTER ON SITE AT ALL TIMES DURING CONSTRUCTION.
- ALL MAINS AND SERVICES SHALL COMPLY WITH IDAPA 58.01.08.542.07.a AND IDAPA 58.01.08.542.07.b WHICH ADDRESS THE REQUIREMENTS FOR SEPARATION DISTANCES BETWEEN POTABLE WATER LINES (INCLUDING MAINS AND SERVICE LINES) WITH NON-POTABLE LINES (SEE ILLUSTRATION OF THESE SEPARATION REQUIREMENTS ON SHEET C0.2, DETAIL 2). IN ADDITION, WATER MAINS SHALL BE CONSTRUCTED WITH AT LEAST 25 FEET HORIZONTAL SEPARATION FROM INFILTRATION TRENCHES AND DRY WELLS.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS IN AN APPROXIMATE WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES DURING THE CONSTRUCTION. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH RESULT FROM HIS FAILURE TO ACCURATELY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING WATER AND SEWER MAINS AT ALL PROPOSED CROSSINGS. SOME RELOCATION OF WATER AND SEWER MAINS MAY BE REQUIRED IN ADDITION TO THOSE SHOWN ON THE PLANS.
- POTABLE/NON-POTABLE CROSSINGS SHALL COMPLY WITH ISPWC STANDARD DRAWING NO. SD-407 AND IDAPA SECTION 58.01.08.542.07.
- THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ALL NECESSARY PERMITS PRIOR TO EXCAVATION.
- ALL SEWER SERVICE STUBS SHALL BE MARKED AND CAPPED WITH A GREEN PAINTED METAL FENCE POST. SEWER SERVICE LINES SHALL BE PLACED AT A SLOPE OF 2%, WITH MARKERS PER ISPWC. CLEANOUTS ARE REQUIRED AT CHANGES IN ALIGNMENT, GRADE, AND MINIMUM 150' LENGTH.
- ALL PIPE SHALL BE BEDDED WITH (ISPWC) TYPE I BEDDING MATERIAL.
- TRENCHES SHALL BE BACK FILLED AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
- THE CONTRACTOR SHALL PRESSURE TEST ALL SEWER MAINS AND SEWER SERVICE CONNECTIONS IN ACCORDANCE WITH THE "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION" AND THE SVWSD STANDARDS. NO SEWER MAIN OR SERVICE SHALL BE BACKFILLED UNTIL THEY HAVE BEEN INSPECTED AND APPROVED BY THE SVWSD AND ENGINEER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWENTY-FOUR (24) HOURS' NOTICE TO THE SVWSD AND ENGINEER PRIOR TO TESTING. REFER TO HAILEY CODE SECTION 18.10.012.
- ALL SEWER MAINS SHALL BE CONSTRUCTED OF PVC PIPE CONFORMING TO ASTM D3034 SDR 35. MINIMUM PIPE DIAMETER FOR GRAVITY SEWER MAINS SHALL BE 8-INCHES. MINIMUM SLOPE FOR 8-INCH SEWER MAIN SHALL BE 0.4%. INSTALL PIPE AT SLOPES INDICATED ON PLANS.
- MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ISPWC STANDARD DRAWING SD-501. MINIMUM DIAMETER SHALL BE 48 INCHES, AT ALL PIPE INTERSECTION, CHANGES IN ALIGNMENT, CHANGES IN GRADE, AND AT TERMINAL ENDS.



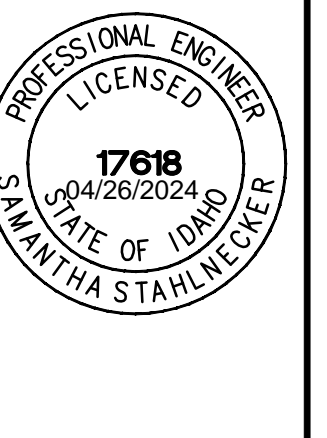
VICINITY MAP  
N.T.S.



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PURPOSE: ISSUE FOR BID (04/26/2024)

REVISION NO.	DATE	DESCRIPTION



COVER SHEET

HIGHWAY 75- SEWER AND WATER MAIN MODIFICATIONS AT TRAIL CREEK  
PREPARED FOR CITY OF KETCHUM

22036  
PROJECT NUMBER

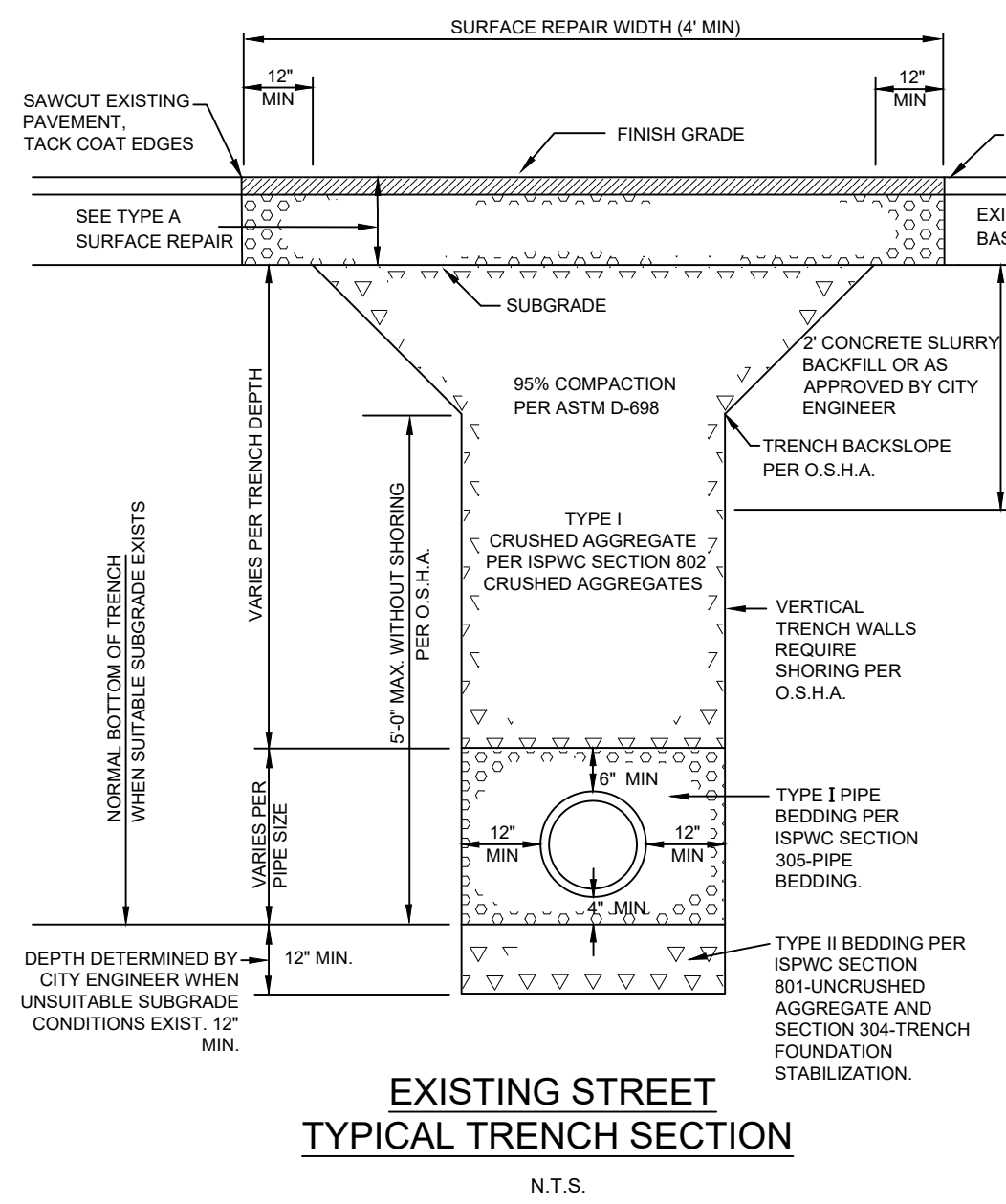
C0.1

**FLUSHING AND DISINFECTION**

- A. FLUSHING PRIOR TO DISINFECTION
  1. BEFORE CHLORINATION, FLUSH THE MAINS THOROUGHLY AFTER THE PRESSURE AND LEAKAGE TEST ARE COMPLETE.
  2. USE A MINIMUM FLUSHING VELOCITY IN THE MAIN OF 2.5 FEET/SECOND.
  3. IF NO HYDRANT IS INSTALLED AT THE END OF THE MAIN, PROVIDE A TAP OF THE SIZE SUFFICIENT TO PRODUCE A VELOCITY IN THE MAIN OF AT LEAST 2.5 FEET/SECOND.
  4. TABLE 1 SHOWS THE RATES OF FLOW REQUIRED TO PRODUCE A VELOCITY OF 2.5 FEET/SECOND IN VARIOUS SIZE PIPES.
  5. EXERCISE EXTREME CARE AND CONDUCT A THOROUGH INSPECTION DURING THE WATER MAIN LAYING TO PREVENT AND DETECT SMALL STONES, PIECES OF CONCRETE, PARTICLES OF MATERIAL, OR OTHER FOREIGN MATERIAL THAT MAY HAVE ENTERED THE MAINS.
  6. CLEAN LARGE MATERIAL BY FLUSHING AND INSPECTING ALL HYDRANTS ON THE LINES TO ENSURE THAT THE ENTIRE VALVE OPERATING MECHANISM OF EACH HYDRANT IS IN GOOD CONDITION.

**B. DISINFECTION OF WATER PIPES**

1. GENERAL
  - a. COMPLY WITH ANSI/AWWA C 651: DISINFECTING WATER MAINS, THESE SPECIFICATIONS, AND ENGINEER'S DIRECTION.
  - b. KEEP THE INTERIOR OF ALL PIPE, FITTINGS AND APPURTENANCES FREE FROM DIRT, HEAVY AND FOREIGN PARTICLES.
  - c. DISINFECT ALL WATER PIPES AND APPURTENANCES PRIOR TO PLACING IN SERVICE.
2. FORM OF CHLORINE USED TO BE PRE-APPROVED BY THE ENGINEER.
  - a. LIQUID CHLORINE
    - 1) FORM: LIQUID CONTAINING 100% AVAILABLE CHLORINE UNDER PRESSURE IN STEEL CONTAINERS.
    - 2) STANDARD: ANSI/AWWA B 301.
    - 3) EXECUTION: USED ONLY BY TRAINED PERSONNEL WITH APPROPRIATE GAS-FLOW CHLORINATORS AND EJECTORS.
    - 4) AUTHORIZATION: ONLY WITH WRITTEN AUTHORIZATION OF THE ENGINEER.
  - b. SODIUM HYPOCHLORITE
    - 1) FORM: LIQUID CONTAINING APPROXIMATELY 5% TO 15% AVAILABLE CHLORINE.
    - 2) STANDARD: ANSI/AWWA B 300.
  - c. CALCIUM HYPOCHLORITE
    - 1) FORM: GRANULAR OR IN 5G TABLETS CONTAINING APPROXIMATELY 65% AVAILABLE CHLORINE BY WEIGHT.
    - 2) STANDARD: ANSI/AWWA B 300.
3. METHODS OF CHLORINATION USED TO BE PRE-APPROVED BY THE ENGINEER.
  - a. TABLET OR GRANULE METHOD
    - 1) SOLUTION STRENGTH: 25 MG/L MINIMUM.
    - 2) USE: ONLY IF THE PIPES AND APPURTENANCES ARE KEPT CLEAN AND DRY DURING CONSTRUCTION. DO NOT USE SOLVENT WELDED PLASTIC OR SCREWED JOINT STEEL PIPE.
    - 3) PLACEMENT WHEN USING GRANULES: DURING CONSTRUCTION, PLACE CALCIUM HYPOCHLORITE GRANULES AT THE UPSTREAM END OF EACH BRANCH MAIN, AND AT 500-FOOT INTERVALS.
    - 4) GRANULAR QUANTITY: REFER TO TABLE 2.
    - 5) PLACEMENT WHEN USING TABLETS: DURING CONSTRUCTION, PLACE 5G CALCIUM HYPOCHLORITE TABLETS IN EACH SECTION OF PIPE AND ALSO PLACE ONE TABLET IN EACH HYDRANT, HYDRANT BRANCH AND OTHER APPURTENANCES. ATTACH TABLETS TO THE INSIDE OF THE PIPE USING AN ADHESIVE SUCH AS PERMATEX NO. 2 OR APPROVED SUBSTITUTION. ASSURE NO ADHESIVE IS ON THE TABLET EXCEPT ON THE BROAD SIDE ATTACHED TO THE SURFACE OF THE PIPE. ATTACH ALL THE TABLETS AT THE INSIDE TIP OF THE MAIN, WITH APPROXIMATELY EQUAL NUMBERS OF TABLETS AT EACH END OF A GIVEN PIPE LENGTH. IF THE TABLES ARE ATTACHED BEFORE THE PIPE SECTION IS PLACED IN THE TRENCH, MARK THEIR POSITION ON THE SECTION SO IT CAN BE READILY DETERMINED THAT THE PIPE IS INSTALLED WITH THE TABLES AT THE TOP.
    - 6) TABLET QUANTITY: REFER TO TABLE 3.
      - (1) ADJUST FOR PIPE LENGTH OTHER THAN 18 FEET.
      - (2) BASED ON 3.25G AVAILABLE CHLORINE PER TABLET.
      - (3) FILLING PROCEDURE: WHEN GRANULE OR TABLET INSTALLATION HAS BEEN COMPLETED, FILL THE MAIN WITH CLEAN WATER AT A VELOCITY NOT EXCEEDING 1 FPS. TAKE PRECAUTIONS TO ASSURE THAT AIR POCKETS ARE ELIMINATED. LEAVE THIS WATER IN THE PIPE FOR AT LEAST 24 HOURS. IF THE WATER TEMPERATURE IS LESS THAN 41° F, LEAVE THE WATER IN THE PIPE FOR AT LEAST 48 HOURS. POSITION VALVE SO THAT THE CHLORINE SOLUTION IN THE MAIN BEING TREATED WILL NOT FLOW INTO WATER MAINS IN ACTIVE SERVICE.
  - b. CONTINUOUS FEED METHOD
    - 1) SOLUTION STRENGTH: DOSE AT 25 MG/L FOR 4 HOURS.
    - 2) RESIDUAL: 10 MG/L AT 24 HOURS.
    - 3) DOSING METHODS:
      - a) LIQUID CHLORINE: SOLUTION FEED VACUUM-OPERATED CHLORINATOR IN COMBINATION WITH A BOOSTER PUMP.
      - b) DIRECT FEED: NOT ALLOWED.
      - c) HYPOCHLORITE SOLUTION: CHEMICAL FEED PUMP DESIGNED FOR FEEDING CHLORINE SOLUTIONS.
      - d) CALCIUM HYPOCHLORITE GRANULES: REFER TO PREVIOUS SECTION.
    - 4) FILLING PROCEDURE: USE APPROVED SOURCE TO FLOW CLEAN WATER AT A CONSTANT, MEASURED RATE INTO THE NEWLY LAID WATER MAIN. FILL AT A POINT NOT MORE THAN 10 FEET DOWNSTREAM FROM THE BEGINNING OF THE NEW MAIN. MEASURE THE CHLORINE CONCENTRATION AT REGULAR INTERVALS AND ENSURE A 25 MG/L DOSE. POSITION VALVES SO THAT THE CHLORINE SOLUTION IN THE MAIN BEING TREATED DOES NOT FLOW INTO WATER MAINS IN ACTIVE SERVICE. DO NOT STOP CHLORINE APPLICATION UNTIL THE ENTIRE MAIN IS FILLED WITH CHLORINATED WATER. RETAIN THE CHLORINATED WATER IN THE MAIN FOR AT LEAST 4 HOURS, OPERATING ALL VALVES AND HYDRANTS IN THE SECTION TREATED. AT THE END OF THE 24 HOUR PERIOD, VERIFY THE TREATED WATER IN ALL PORTIONS OF THE MAIN HAS RESIDUAL OF 10 MG/L FREE CHLORINE.
  - c. SLUG METHOD
    - 1) SOLUTION STRENGTH: 100 MG/L.
    - 2) DOSING METHODS: PER ENGINEER'S DIRECTION.
    - 3) FILLING PROCEDURE: USE APPROVED SOURCE TO FLOW CLEAN WATER AT A CONSTANT, MEASURED RATE INTO THE NEWLY LAID WATER MAIN. FILL AT A POINT NOT MORE THAN 10 FEET DOWNSTREAM FROM THE BEGINNING OF THE NEW MAIN. MEASURE CONCENTRATION AT REGULAR INTERVALS TO ENSURE 100 MG/L DOSE. APPLY THE CHLORINE CONTINUOUSLY AND FOR THE TIME REQUIRED TO DEVELOP A SOLID COLUMN OR "SLUG" OF CHLORINATED WATER THAT WILL, AS IT MOVES THROUGH THE MAIN, EXPOSE ALL INTERIOR SURFACES TO A 100 MG/L FOR AT LEAST 3 HOURS. MEASURE THE CHLORINE RESIDUAL IN THE SLUG AS IT MOVES THROUGH THE MAIN. IF AT ANY TIME IT DROPS BELOW 50 MG/L, STOP FLOW AND RELOCATE CHLORINATION EQUIPMENT AT THE HEAD OF THE SLUG. AND AS FLOW IS RESUMED, ADD CHLORINE TO RESTORE THE FREE CHLORINE IN THE SLUG TO NOT LESS THAN 100 MG/L. AS THE CHLORINATED WATER FLOWS PAST FITTINGS AND VALVES, OPERATE VALVES AND HYDRANTS TO DISINFECT APPURTENANCES AND PIPE BRANCHES.
4. FINAL FLUSHING
  1. AFTER THE RETENTION PERIOD, FLUSH THE CHLORINATED WATER FROM THE MAIN UNTIL CHLORINE MEASUREMENTS SHOW THAT THE CONCENTRATION IN THE WATER LEAVING THE MAIN IS NO HIGHER THAN THAT IN THE SYSTEM, OR IS ACCEPTABLE FOR DOMESTIC USE.
  2. DISPOSAL OF FLUSHING WATER TO BE DONE IN A MANNER SO THAT IT DOES NOT:
    - a. REACH SURFACE WATERS OR WATERS OF THE STATE
    - b. DAMAGE SURROUNDING PROPERTIES
    - c. TAKE PLACE DURING PERIODS WHEN THE AMBIENT TEMPERATURE IS ABOVE 85° WITHOUT PRIOR APPROVAL OF THE ENGINEER
    - d. IF WATER CAN NOT BE RETAINED ON SITE AND IF IT IS NOT ALLOWED TO ENTER THE SANITARY SEWER COLLECTION SYSTEM, WATER SHALL BE DECHLORINATED TO HAVE A MAXIMUM AVAILABLE CHLORINE CONCENTRATION OF 0.13 MG/L AND THE APPROPRIATE PRIVATE, FEDERAL AND STATE DISCHARGE AND DISPOSAL REGULATIONS SHALL BE ACQUIRED PRIOR TO COMMENCEMENT OF FLUSHING ACTIVITIES. SHOULD THERE BE A POTENTIAL FOR THE GROUNDWATER RULE TO BE VIOLATED AS A RESULT OF A CHLORINATED DISCHARGE THE ENGINEER SHALL COORDINATE DISPOSAL WITH REGIONAL DEQ STAFF PRIOR TO FLUSHING.
5. BACTERIOLOGICAL TESTS
  1. AFTER FINAL FLUSHING AND BEFORE THE WATER MAIN IS PLACED IN SERVICE, TEST SAMPLES COLLECTED FROM THE MAIN(S) FOR COLIFORM BACTERIA. TAKE 2 SAMPLES FROM EACH LOCATION AT LEAST 24 HOURS APART
  2. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, COLLECT SAMPLES FROM EACH 1,200 FEET ON THE NEW MAIN AND ONE FROM EACH BRANCH.
6. REDISINFECTION
  1. IF THE INITIAL DISINFECTION FAILS TO PRODUCE APPROVED BACTERIOLOGICAL SAMPLES, REFLUSH AND RESAMPLE THE MAIN.
  2. IF CHECK SAMPLES SHOW BACTERIAL CONTAMINATION, RE-CHLORINATE THE MAIN UNTIL APPROVED RESULTS ARE OBTAINED.
7. SWABBING
  1. IF CONNECTIONS ARE NOT DISINFECTED ALONG WITH THE NEWLY INSTALLED MAIN, SWAB OR SPRAY THE INTERIOR OF ALL PIPES AND FITTINGS USED IN MAKING THE CONNECTIONS WITH A 1% HYPOCHLORITE SOLUTION BEFORE INSTALLATION.



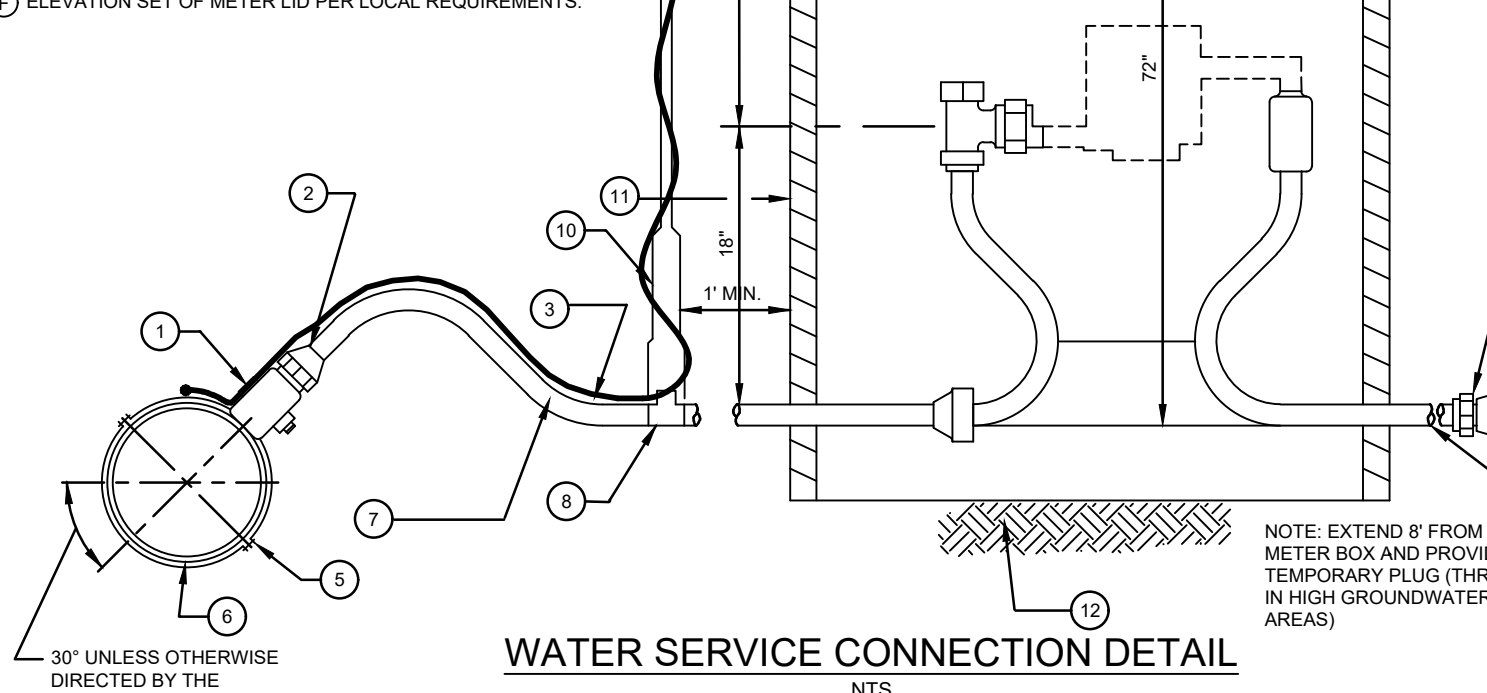
**NOTES**

1. TYPE I PIPE BEDDING MATERIAL SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE ISWPC STANDARDS-SECTION 305-PIPE BEDDING.
2. TYPE II PIPE BEDDING MATERIAL SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE ISWPC STANDARDS-SECTION 305-PIPE BEDDING.
3. WHERE 25% OR MORE OF ANY PORTION OF THE SURFACE AREA OF ANY PAVEMENT HAS BEEN DAMAGED WITHIN THE PROJECT LIMITS, FULL WIDTH RESTORATION SHALL BE REQUIRED. ANY STRIP OF REMAINING PAVEMENT LESS THAN 2 FEET IN WIDTH ALONG CURB AND CUTTERS OR PAVEMENT EDGE SHALL BE REMOVED AND REPLACED.
4. NATIVE MATERIALS MAY BE USED FOR BACKFILL UNLESS, IN THE SOLE OPINION OF THE CITY ENGINEER, THE NATIVE MATERIAL IS FOUND TO BE UNSTABLE. THEN 8 INCH MINUS AGGREGATE, WHICH MEETS THE REQUIREMENTS OF THE CURRENT EDITION OF THE ISWPC STANDARDS-SECTION 802-CRUSHED AGGREGATE, WILL BE REQUIRED AS BACKFILL.
5. THE COMPLETED PATCH SHALL NOT DEVIATE FROM EXISTING SURFACE MORE THAN .02 FT/10 FT IN ANY DIRECTION.
6. THE COMPLETED PATCH SHALL NOT POND WATER IN EXCESS OF .02 FEET IN DEPTH.
7. SURFACE REPAIR IN GRAVEL SHOULDER AREAS WITHIN 3 FEET OF PAVEMENT EDGE SHALL BE 3 INCH DEPTH OF TYPE I CRUSHED AGGREGATE PER THE CURRENT EDITION OF THE ISWPC STANDARDS-SECTION 802-CRUSHED AGGREGATE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF STREET REPAIR FOR ONE YEAR AFTER INSTALLATION. PUC REGULATED UTILITIES SHALL BE RESPONSIBLE FOR A PERIOD OF THREE YEARS.
9. ALL UTILITY CROSSINGS, INCLUDING BUT NOT LIMITED TO POWER, TELEPHONE, CABLE TV, GAS, AND WATER SERVICES, WHICH CROSS EXISTING PAVED ROADS SHALL BE CONSTRUCTED BY HORIZONTAL BORING. OPEN CUTS ACROSS PAVED ROADWAYS WILL ONLY BE ALLOWED AFTER A MINIMUM OF THREE FAILED ATTEMPTS WITH APPROVED BORING TOOLS. WHEN UTILITY MAINS ARE LOCATED UNDER EXISTING PAVEMENT, OPEN CUTS WILL BE ALLOWED AND BORING IS NOT REQUIRED. IF IN THE JUDGMENT OF THE CITY ENGINEER, BORING MAY BE DETRIMENTAL TO THE HEALTH, SAFETY, OR WELFARE OF THE PUBLIC, BORING WILL NOT BE REQUIRED AND TRENCHING WILL BE ALLOWED. A SIX FOOT TRENCH, TWO FEET DEEPER THAN THE PROPOSED UTILITY SHALL BE EXCAVATED ADJACENT TO THE EDGE OF PAVEMENT FOR EVALUATION OF SOIL CONDITIONS BY THE CITY ENGINEER TO DETERMINE IF BORING SHALL BE ATTEMPTED OR IF TRENCHING WILL BE ALLOWED.
10. ALL TRENCHES SHALL BE REPAVED WITHIN 72 HOURS OF STARTING THE WORK UNLESS PRIOR APPROVAL TO DELAY REPAVING HAS BEEN PROVIDED BY THE CITY ENGINEER.
11. CONCRETE SLURRY MIX DESIGN  
COARSE AGGREGATE (3/8" MINUS) 2,600 LBS  
SAND 800 LBS  
CEMENT 94 LBS (MAX)  
WATER 11 GALS (MAX)

**1 TRENCH AND SURFACE REPAIR DETAIL**  
N.T.S.

**NOTES:**

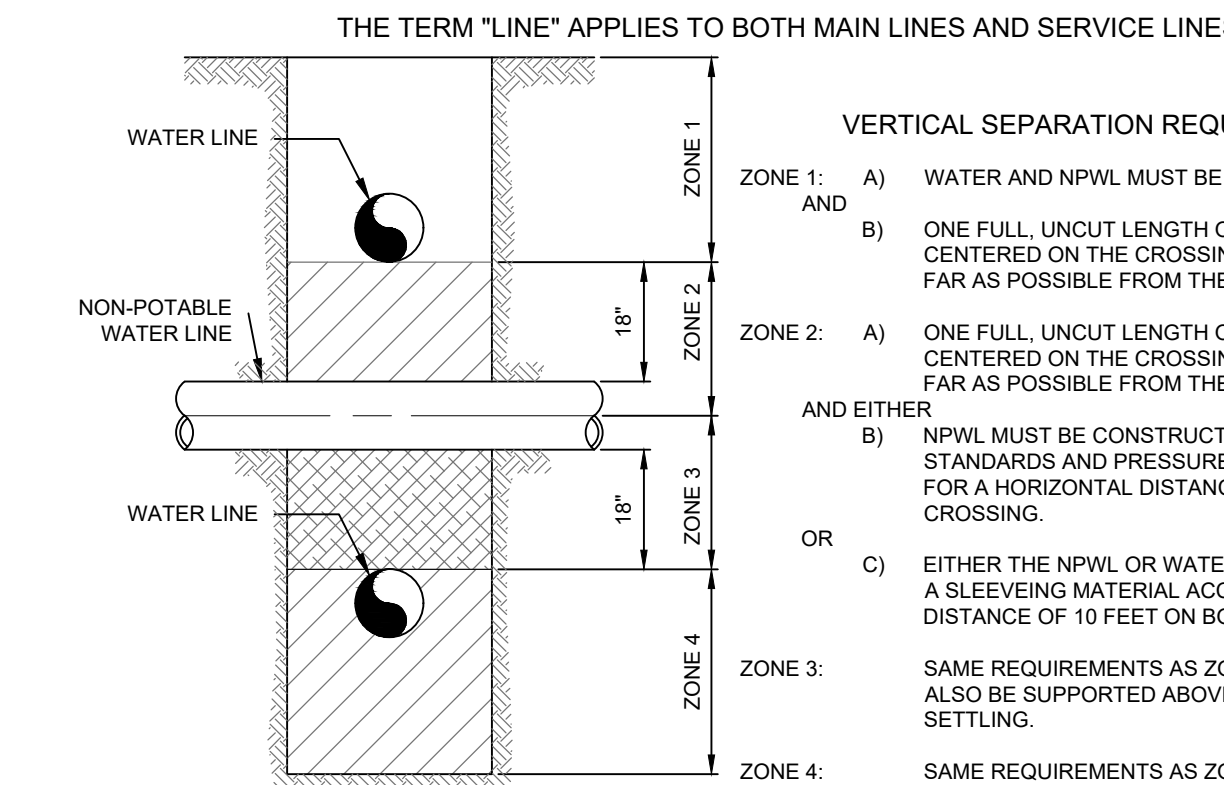
1. ALL PRODUCTS AS LISTED OR APPROVED SUBSTITUTIONS.
2. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS TO BE USED.
3. SERVICE PIPE: ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE PIPE SDR 9, CLASS 200 IN IRON PIPE SIZE (DRISCO PIPE 800 ULTRA LINE) 1".
4. SADDLE COUPLINGS: USED FOR CONNECTION OF ALL SERVICE LINES TO PVC MAIN. SERVICE SADDLES: EPOXY COATED STEEL WITH STAINLESS STEEL BAND AND MUELLER THREADS, TYPE IFS.
5. NO SERVICE CONNECTIONS WITHIN 18 INCHES OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE ALONG THE CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF 18 INCHES OR 1/3 PIPE B MAXIMUM TWO (2) SERVICE CONNECTIONS PER STICK OF PIPE.
6. ELEVATION SET OF METER LID PER LOCAL REQUIREMENTS.



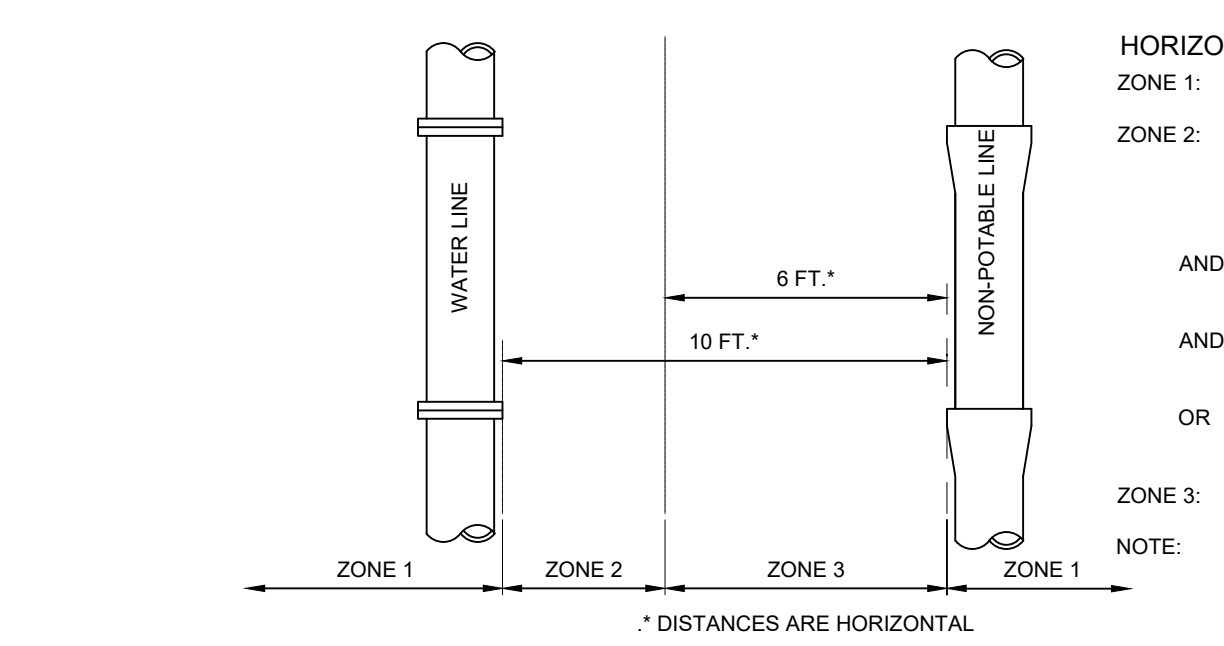
**LEGEND**

- 1 CORP STOP WITH COMPRESSION COUPLING FORD MODEL F-1100 OR APPROVED EQUAL.
- 2 MUELLER H-15072.
- 3 NO. 12 COPPER FINDER WIRE. SEE SD-S14 FOR SPLICING.
- 4 MUELLER 18" DIA OPENING LID OR APPROVED EQUAL.
- 5 2" DIA HOLE IN LID FOR RADIO READ UNIT. LIDS AND FRAMES LOCATED IN PAVED OR GRAVEL AREAS WHICH WILL RECEIVE VEHICULAR TRAFFIC SHALL BE H20 RATED, DML SUPPLY D-6016 RING WITH SOLID LID OR APPROVED EQUAL.
- 6 STAINLESS STEEL SADDLE.
- 7 WATER MAIN.
- 8 1" SERVICE LINE, 200 PSI POLY PIPE WITH INSERTS (TYP.) NO SPLICING IS ALLOWED.
- 9 FORD MODEL B-111 RESILIENT SEAT CURB BALL VALVE OR APPROVED EQUAL.
- 10 DOUBLE PURPOSE COUPLING.
- 11 STANDARD KETCHUM STYLE VALVE BOX WITH ERIE STYLE LID AND ATTACHED ROD SPLICING.
- 12 18" DIA. X 72" DEEP MUELLER THERMA COIL METER VAULT OR APPROVED EQUAL.
- 13 FIRM UNDISTURBED EARTH (SET THE ON 7X 2" DIAMETER PRECAST CONCRETE BLOCK IF OVER EXCAVATION OCCURS).
- 14 PROVIDE TEMPORARY PLUG (THREADED IN HIGH WATER AREAS).

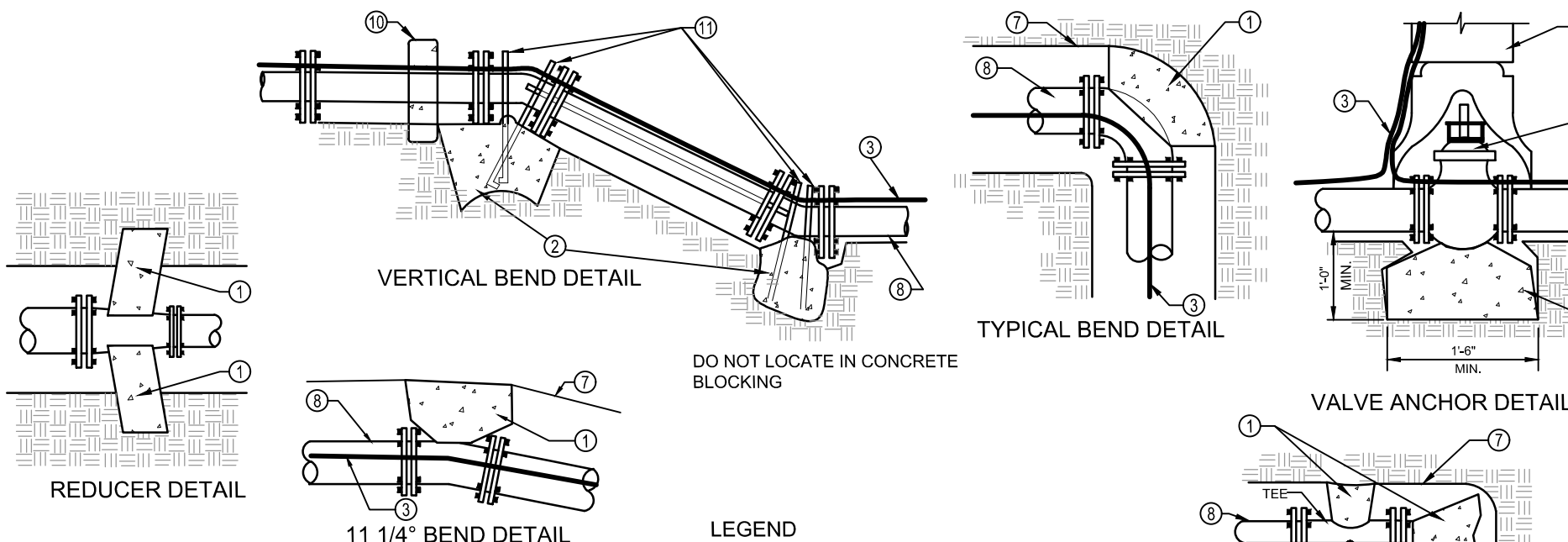
**2 WATER SERVICE CONNECTION (1")**  
N.T.S.



- ZONE 1: A) WATER AND NPWL MUST BE SEPARATED BY AT LEAST 18" AND ONE FULL, UNCUT LENGTH OF BOTH PWL AND NPWL PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE CROSSING.
- ZONE 2: A) ONE FULL, UNCUT LENGTH OF BOTH PWL AND NPWL PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE CROSSING.
- AND EITHER B) NPWL MUST BE CONSTRUCTED TO WATER MAIN STANDARDS AND PRESSURE TESTED FOR WATER TIGHTNESS FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF CROSSING.
- OR C) EITHER THE NPWL OR WATER LINE OR BOTH MUST BE ENCASED WITH A SLEEVEING MATERIAL ACCEPTABLE TO DEQ FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF THE CROSSING.
- ZONE 3: SAME REQUIREMENTS AS ZONE 2 EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.
- ZONE 4: SAME REQUIREMENTS AS ZONE 1 EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.



- ZONE 1: A) NO SPECIAL REQUIREMENTS.
- ZONE 2: A) NO SPECIAL REQUIREMENTS FOR POTABLE OR NON-POTABLE SERVICES. B) WATER AND NPWL SEPARATED BY AT LEAST 6 FEET AT OUTSIDE WALLS. C) WATER AT LEAST 18 INCHES HIGHER IN ELEVATION THAN THE NPWL.
- AND EITHER D) NPWL CONSTRUCTED TO POTABLE WATER MAIN STANDARDS AND PRESSURE TESTED FOR WATER TIGHTNESS.
- OR E) SITE SPECIFIC REQUIREMENTS APPROVED BY DEQ.
- ZONE 3: NOT ALLOWED WITHOUT DEQ WAIVER.
- NOTE: SANITARY SEWER FORCE MAINS MUST HAVE MIN. 10' HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION. ZONE 2 AND ZONE 3 PLACEMENTS ARE NOT ALLOWED WITHOUT A WAIVER GRANTED BY DEQ.



**TABLE 1 THRUST AREA FOR HORIZONTAL BENDS\*\*\***

PIPE SIZE	MINIMUM SQUARE FEET OF THRUST AREA ONTO UNDISTURBED EARTH**			
	TEE, PLUG OF VALVE BEND**	90° BEND	45° BEND	22.5°-11.25° BENDS OR REDUCER
3"	0.8	1.1	0.6	0.3
4"	1.4	2.0	1.1	0.6
6"	3.2	4.5	2.4	1.2
8"	5.7	8.0	4.3	2.2
10"	8.8	12.5	6.8	3.4
12"	12.7	18.0	9.7	5.0
14"	17.3	24.5	13.3	6.8
16"	22.6	32.0	17.3	8.8
18"	28.6	40.5	21.9	11.2

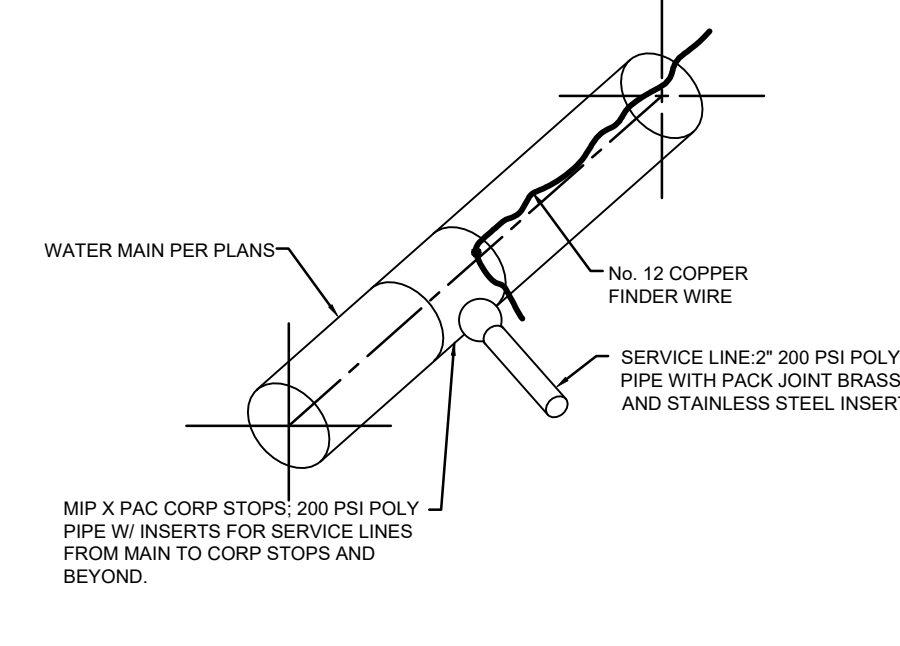
**LEGEND**

- 1 FOR HORIZONTAL PIPE BENDS, BEARING THRUST BLOCKS MUST PROVIDE 2500 PSI CONCRETE POURED AGAINST UNDISTURBED EARTH PER TABLE 1.
- 2 FOR VERTICAL PIPE BENDS, GRAVITY THRUST BLOCKS MUST PROVIDE A VOLUME OF CONCRETE POURED AGAINST UNDISTURBED EARTH WHICH IS SIZED FOR EXPECTED FORCES WITH A MINIMUM 1.5 FACTOR OF SAFETY.
- 3 NO. 12 COPPER FINDER WIRE. SEE SD-S14 FOR SPLICING.
- 4 C.I. VALVE BOX WITH COVER.
- 5 C.I. GATE VALVE (M.J.).
- 6 PRECAST BLOCK FOR CUT IN TEE AND VALVE OR CAST IN PLACE WITH 2-1/2" MIN REBAR.
- 7 TRENCH SIDE.
- 8 PIPE.
- 9 PLUG.
- 10 HAMMERHEAD THRUST BLOCKING.
- 11 ANCHOR BARS (1/2" DIA MIN)

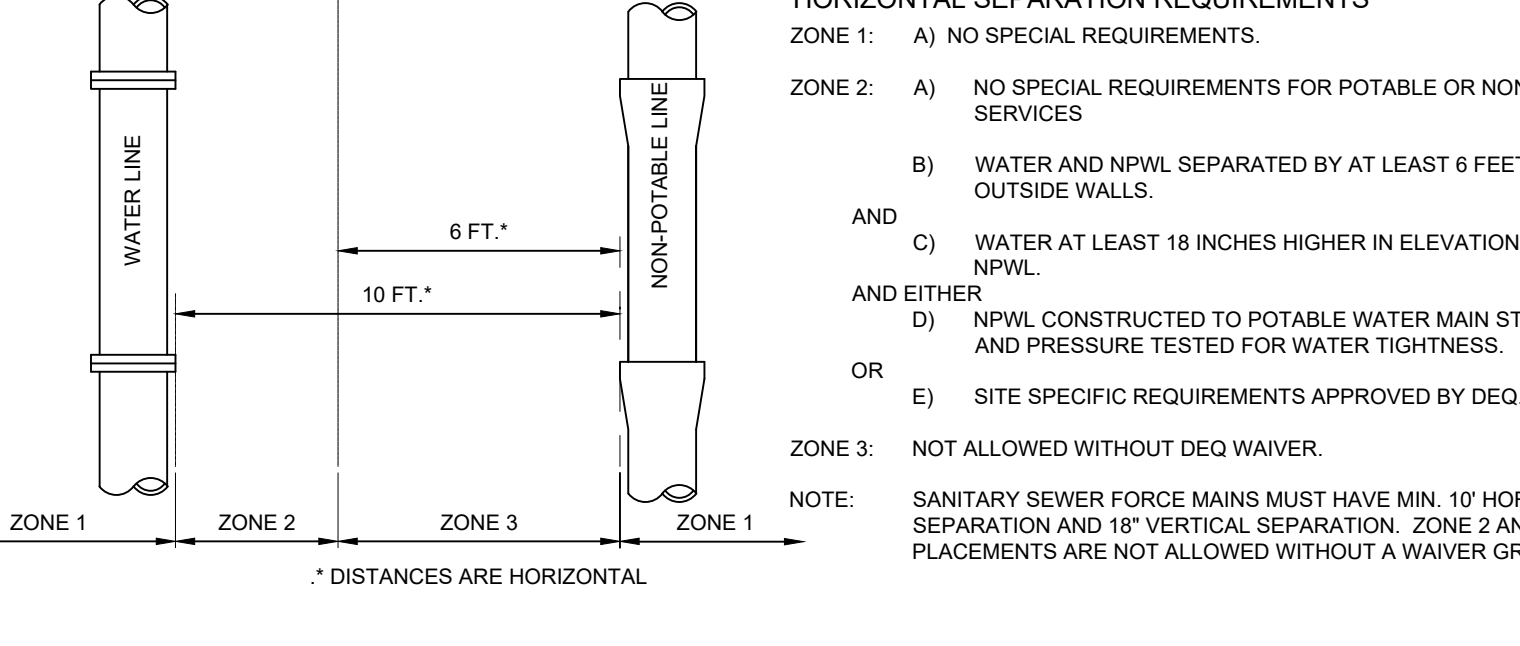
**NOTES:**

- A) ANCHOR ALL VALVES CONNECTED TO P.V.C. PIPE AS SHOWN.
- B) COVER BOLTS AND FLANGES WITH PLASTIC TO PROTECT FROM CONCRETE ADHERENCE DURING CONSTRUCTION OF THRUST BLOCKS.
- C) SEE CHART FOR MIN THRUST BLOCKS BEARING AREAS.
- D) ALL CONCRETE TO BE 2500 P.S.I. STRENGTH POURED AGAINST UNDISTURBED EARTH.
- E) PROVIDE 8 MIL POLYPROPYLENE BETWEEN FITTINGS AND CONCRETE.
- F) NOTIFY ENGINEER FOR ANY CONDITION OR PIPE SIZE NOT INDICATED.
- G) ALL BLOCKS TO BE CENTERED AROUND PIPE SPRING LINE.

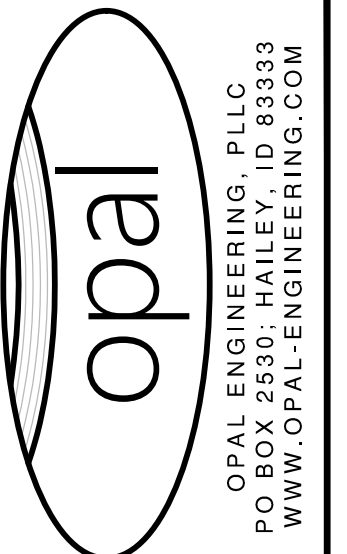
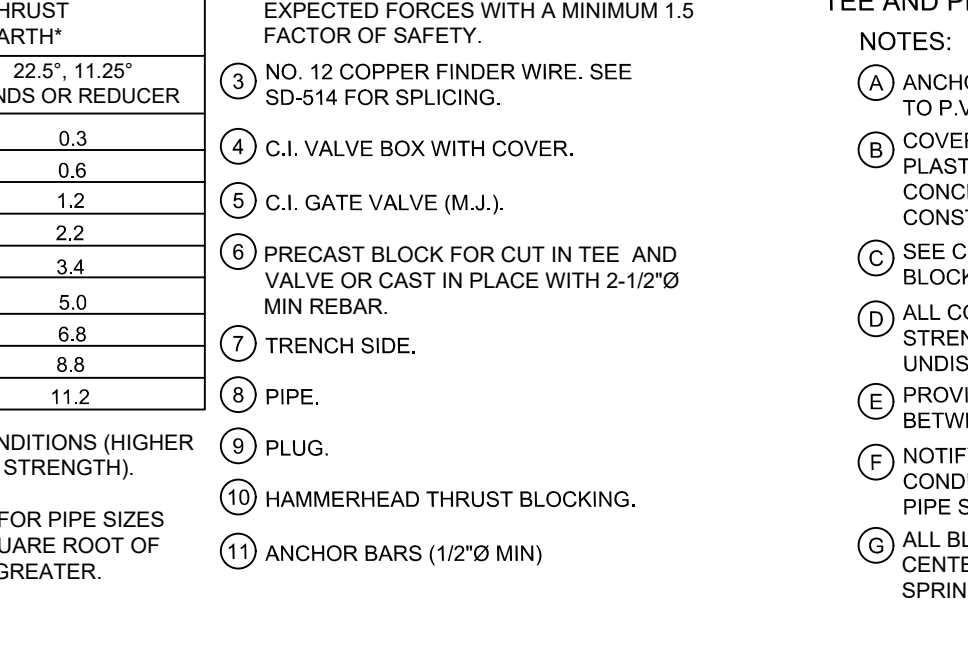
**3 FLUSHING SERVICE CONNECTION**  
N.T.S.



**4 POTABLE AND NON-POTABLE WATER LINE (NPWL) SEPARATION**  
N.T.S.

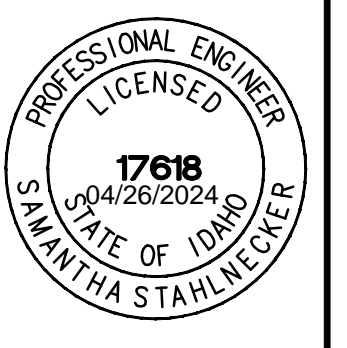


**5 THRUST BLOCK AND ANCHOR DETAILS**  
N.T.S.



PURPOSE: ISSUE FOR BID (04/26/2024)

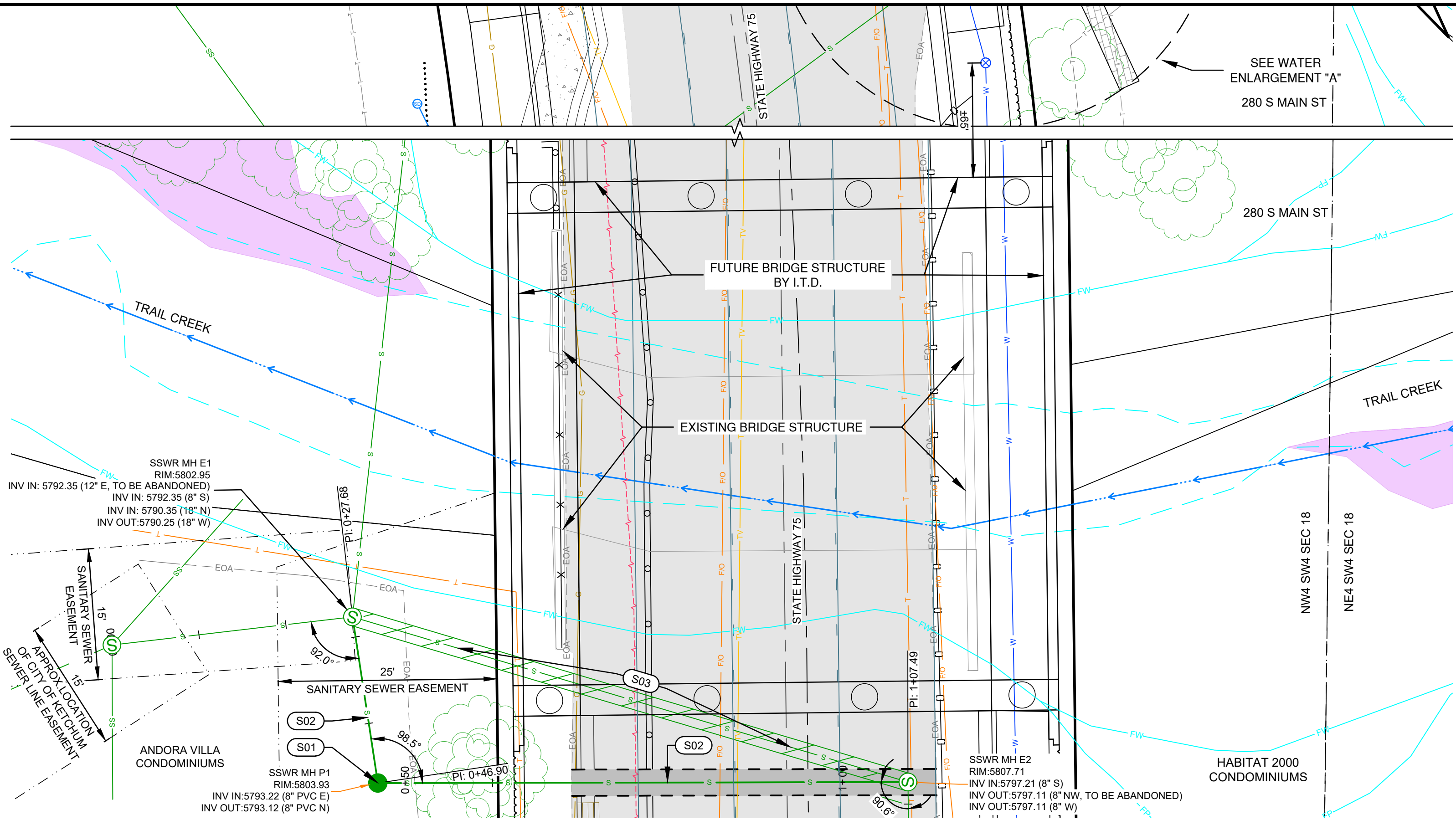
REVISION NO.	DATE	DESCRIPTION



**SANITARY SEWER NOTES AND DETAIL SHEET**  
**HIGHWAY 75- SEWER AND WATER MAIN MODIFICATIONS AT TRAIL CREEK**  
PREPARED FOR CITY OF KETCHUM

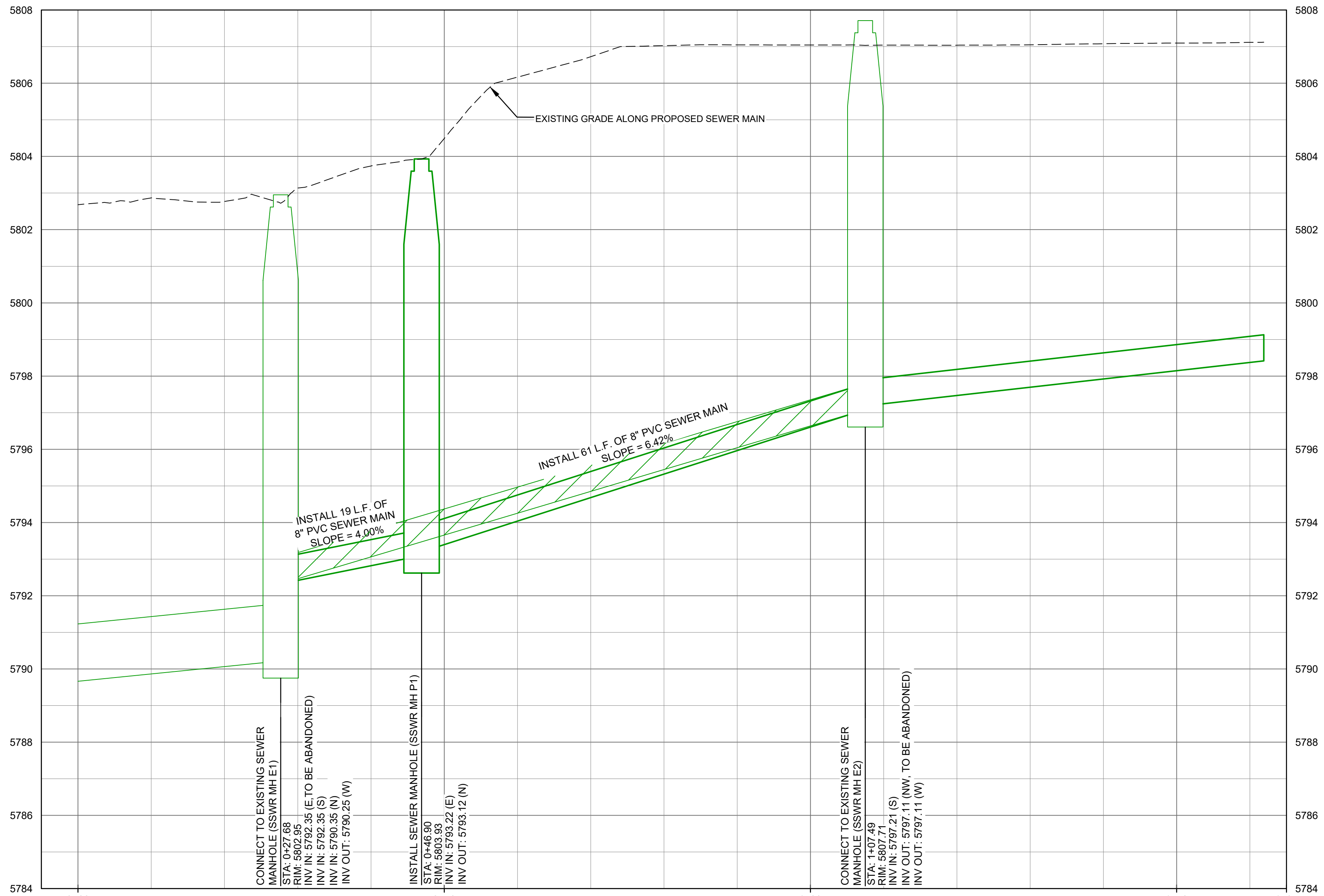
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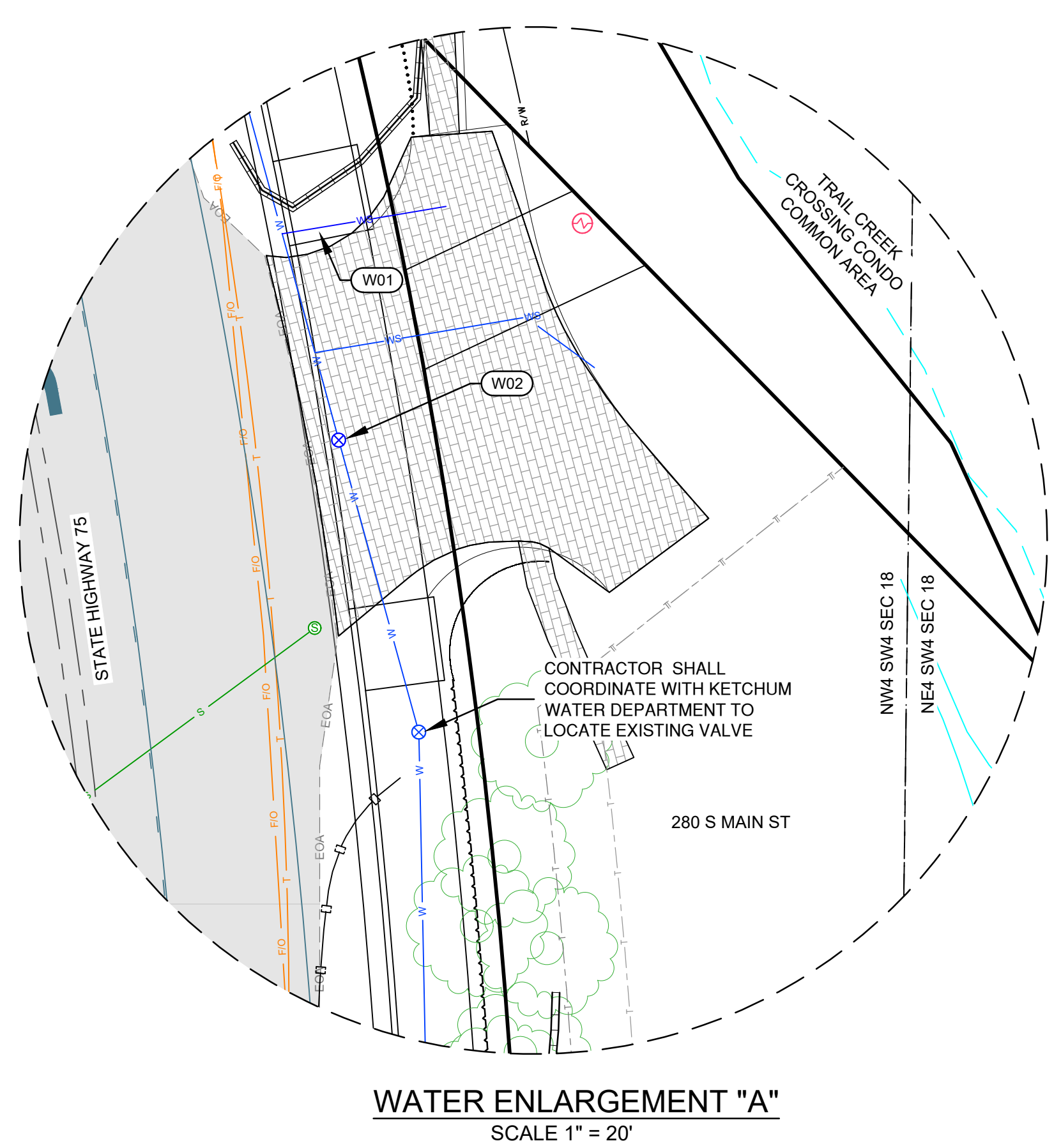


- NOTES**
- SEE SHEET C0.1 FOR GENERAL CONSTRUCTION NOTES, WATER MAIN CONSTRUCTION NOTES, AND SEWER MAIN CONSTRUCTION NOTES.
  - SEE SHEET C0.2 FOR SEWER AND WATER DETAILS, AND WATER MAIN FLUSHING AND DISINFECTION NOTES.
- LEGEND**
- EXISTING ITEMS**
- PROPERTY BOUNDARY RIGHT-OF-WAY
  - ADJOINING PROPERTY LINE
  - CENTER LINE OF THE RIGHT OF WAY
  - FENCE LINE
  - EASEMENT, TYPE & WIDTH AS SHOWN
  - 1/4 SECTION LINE
  - 5' CONTOUR INTERVAL
  - 1' CONTOUR INTERVAL
  - ASPHALT
  - WETLANDS
  - PAVERS
  - CURB & GUTTER
  - CONCRETE SIDEWALK
  - CREEK CENTERLINE
  - MEAN HIGH WATER
  - FLOODWAY, FEMA 2010 F.I.S.
  - FLOODPLAIN, FEMA 2010 F.I.S.
  - WATER MAIN
  - WATER SERVICE
  - STORM PIPE
  - STORM DRAIN MANHOLE
  - WATER VALVE
  - WATER METER
  - SEWER LINE
  - SEWER SERVICE
  - SEWER MANHOLE
  - BURIED POWER LINE
  - OVERHEAD POWER LINE
  - POWER METER
  - FIBER OPTIC LINE
  - GAS MAIN
  - CABLE TV BURIED
  - BURIED TELEPHONE LINE
  - CONCRETE GUARD RAIL
  - METAL GUARD RAIL
  - TREE
- PROPOSED ITEMS**
- SAWCUT LINE
  - ASPHALT
  - SEWER MAIN
  - SEWER MANHOLE
  - EXISTING SEWER MAIN TO BE ABANDONED
  - WATER SERVICE
  - WATER METER
  - WATER VALVE

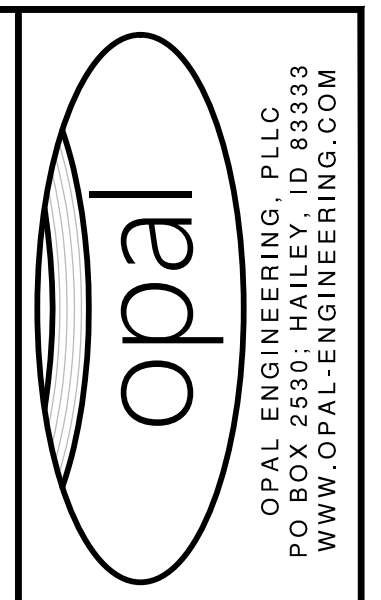
- SEWER KEY NOTES**
- S01 INSTALL SEWER MANHOLE. SEE NOTE 12 / C0.1
  - S02 INSTALL 8" PVC SEWER MAIN. SEE DETAIL 1 / C0.2 FOR TRENCHING AND SURFACE REPAIR.
  - S03 ABANDON EXISTING SEWER MAIN. DISCONNECT FROM SEWER MANHOLES AND FILL ENTIRE PIPE WITH LEAN SLURRY.
- WATER KEY NOTES**
- W01 INSTALL NEW WATER SERVICE WITH WATER METER. SEE DETAIL 2 / C0.2
  - W02 INSTALL 8" GATE VALVE WITH THRUST BLOCK. SEE DETAIL 5 / C0.2



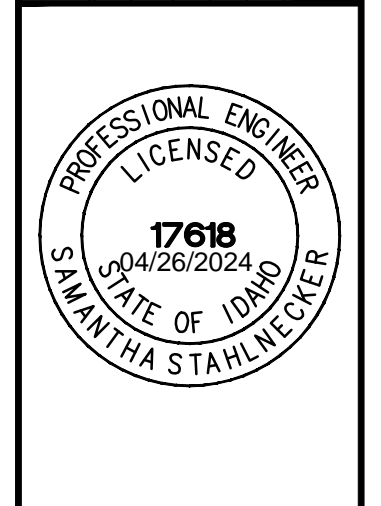
SANITARY SEWER PROFILE VIEW, SOUTH - NORTH ACCESS  
SCALE: 1" = 10' H; 1" = 1' V



WATER ENLARGEMENT "A"  
SCALE 1" = 20'



PURPOSE: ISSUE FOR BID (04/26/2024)	REVISION NO.	DATE	DESCRIPTION



**SANITARY SEWER MAIN PLAN AND PROFILE**  
**HIGHWAY 75- SEWER AND WATER MAIN MODIFICATIONS AT TRAIL CREEK**  
PREPARED FOR CITY OF KETCHUM

REUSE OF DRAWINGS: These drawings, or any portion thereof, shall not be used on any project or extensions of this project except by agreement in writing with Opal Engineering, PLLC.