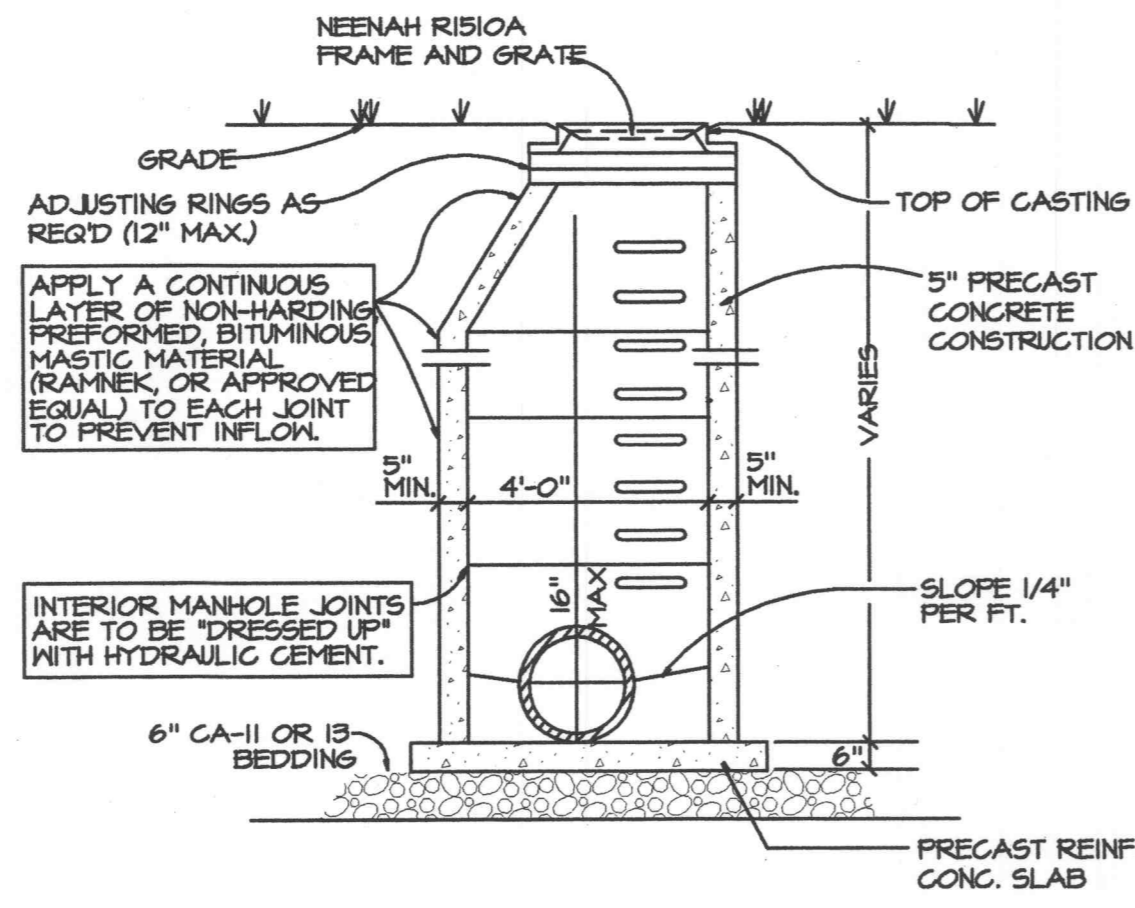
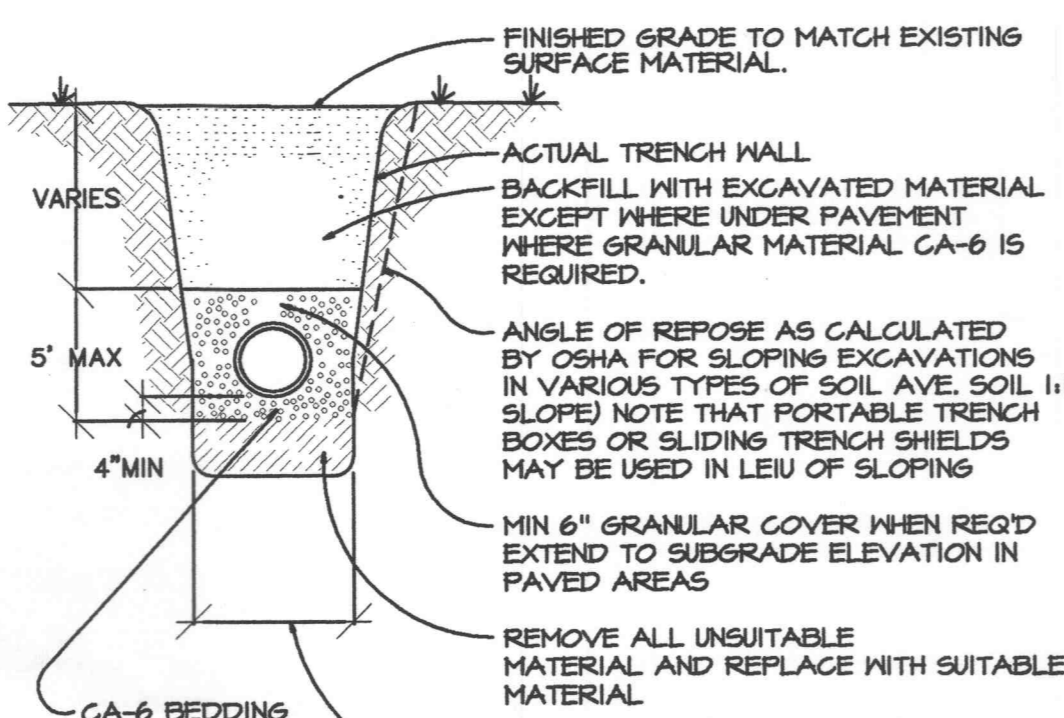


SANITARY SEWER CONSTRUCTION SPECIFICATIONS

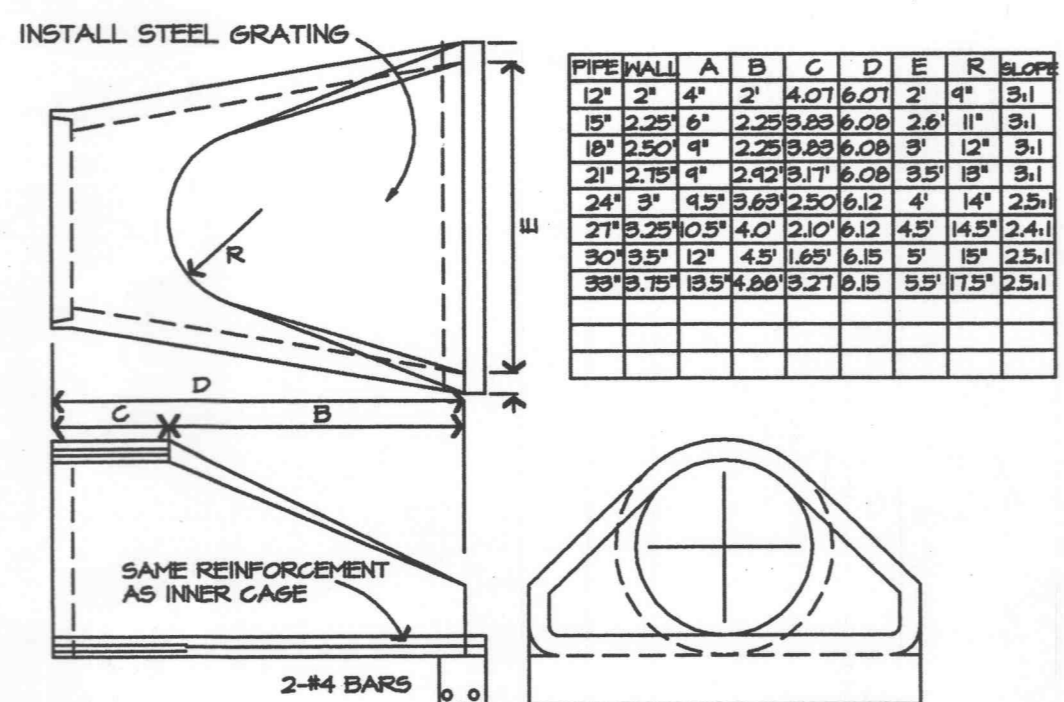
- ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CODES AND ORDINANCES OF THE STATE AND LOCAL GOVERNING AGENCIES. IN CASE OF CONFLICT, LOCAL CODE SHALL GOVERN.
- SEWER CONSTRUCTION - PIPE SEWERS: ALL WORK SHALL CONFORM TO THE PROVISIONS OF THE STANDARD SPECIFICATIONS EXCEPT AS SAME MAY BE MODIFIED BY THE FOLLOWING: CONSTRUCTION SHALL COMMENCE AT THE EXISTING MANHOLES AS SHOWN ON THE PLANS. A TIGHT JUMP SHALL BE PLACED AND LEFT IN PLACE AT THE POINT OF COMMENCEMENT UNTIL THE BALANCE OF THE SEWERS HAVE BEEN COMPLETED AND CHECKED AND ARE READY FOR ACCEPTANCE. ALL WATER FROM THE TRENCH AND PIPELINES ABOVE THE MANHOLES WILL BE PUMPED OUT BY THE CONTRACTOR AND DISPOSED OF IN SUCH A MANNER THAT IT WILL NOT INTERFERE OR DAMAGE THE WORK OF THIS OR OTHER CONTRACTORS. PUMPING SHALL BE CONTINUOUS (24 HOURS A DAY, SEVEN DAYS A WEEK) AS LONG AS SUFFICIENT WATER COLLECTS TO WARRANT THIS. STORM SEWERS IN THE AREA MAY BE USED TO DISPOSE OF THE WATER COLLECTED, IF APPROVED BY THE LOCAL CODE.
- THE CONTRACTOR IS REQUIRED TO RECORD THE LOCATION OF ALL SEWERS AND FURNISH THE PROJECT ENGINEER THIS INFORMATION. THE CONTRACTOR SHALL LOCATE ALL SEWERS BY MEASUREMENTS TO LOT CORNERS AND SHALL FURNISH A COPY OF SUCH LOCATIONS TO THE PROJECT ENGINEER. THIS INFORMATION SHALL ALSO INCLUDE THE DEPTH OF EACH SEWER. IF THE CONTRACTOR FAILS TO PROPERLY LOCATE ANY SEWER, HE SHALL BE RESPONSIBLE FOR ALL COSTS WHICH ARE INCURRED AS A RESULT OF THE IMPROPERLY LOCATED.



DETAIL SANITARY MANHOLE

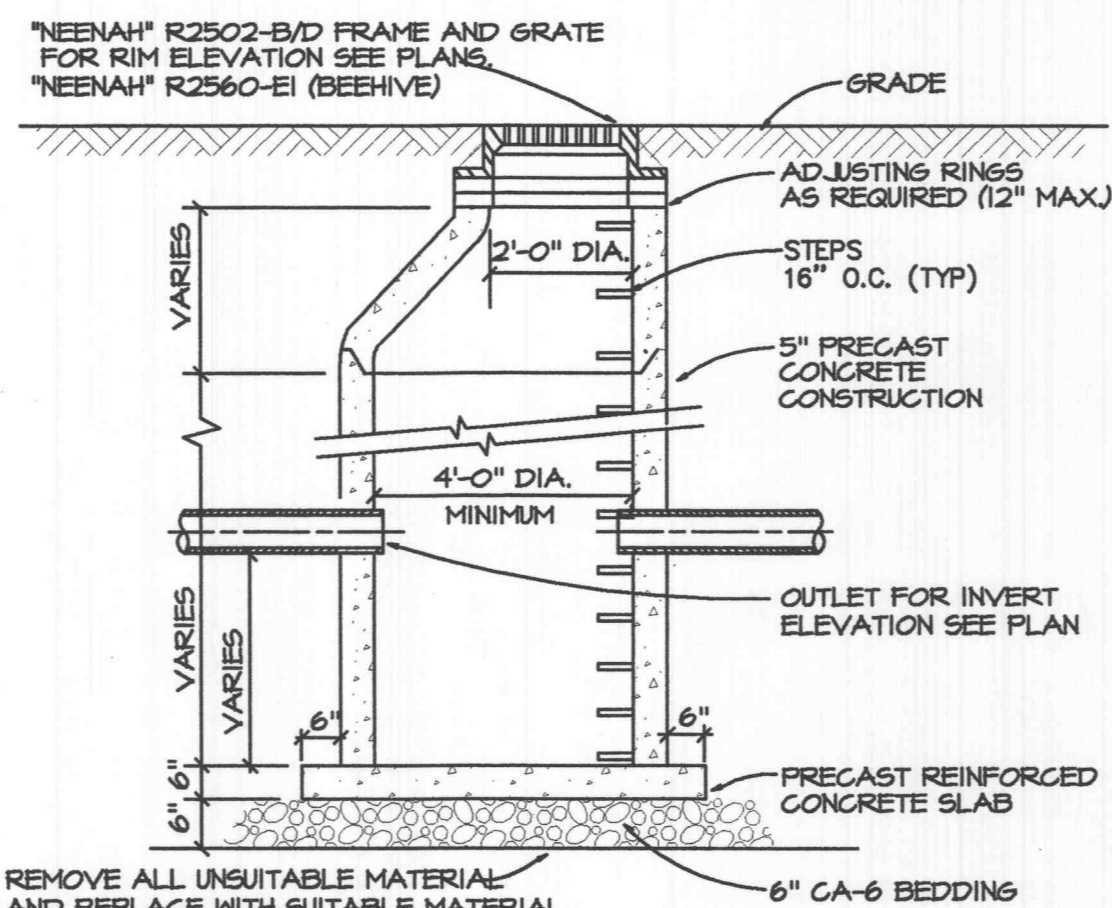


DETAIL-SANITARY TRENCH

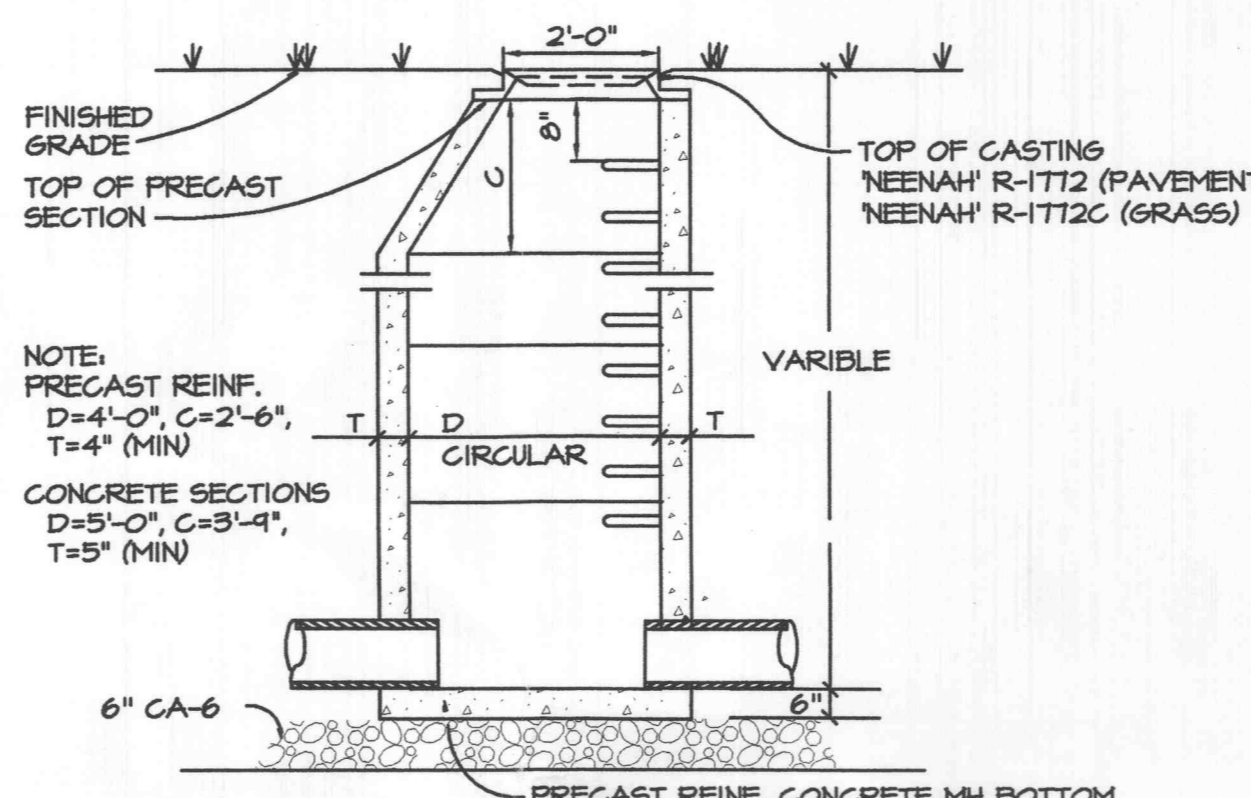


DETAIL-FLARED END SECTION

PRECAST CONCRETE FLARED END SECTION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-110 CLASS III, WALL B REINFORCED CONCRETE PIPE. PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.



DETAIL - CONCRETE CATCH BASIN



DETAIL-STORM MANHOLE

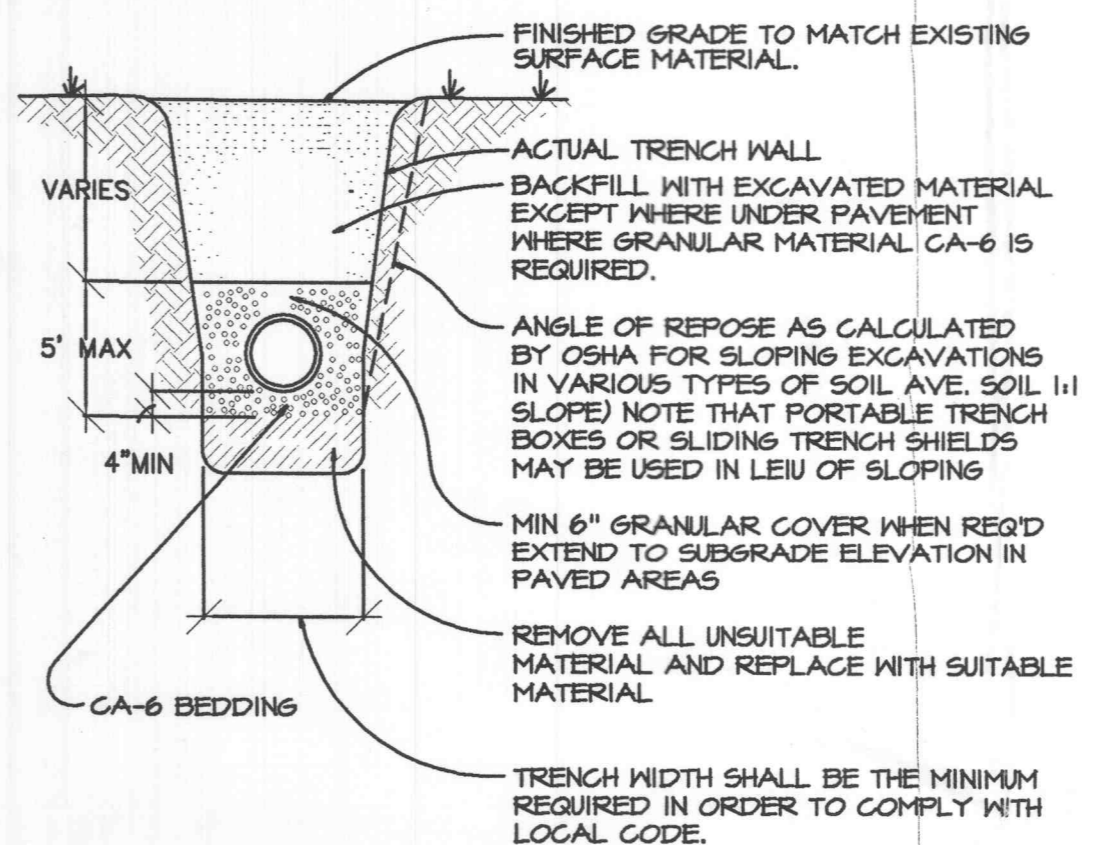
Section IX - CONNECTIONS AND INSPECTIONS

- All fees shall be paid at least 48 (forty-eight) hours prior to the scheduling of a connection and/or inspection for an installation of a water service. A minimum of 24 (Twenty-four) hours notice is required for the scheduling of an inspection and/or connection.
- All 3/4" to 1" (Three quarter inch to One inch) connections shall be made by District personnel. All material, including but not limited to, setters, meter pits, piping shall be installed by the builder and/or plumber by the scheduled time for the connection/inspection. All piping shall be installed from the meter setter to the water main and the water main shall be made accessible for District personnel to tap the water main and connect the piping. The District shall provide the saddle, (up to 10" diameter water main, 12" or larger saddles shall be provided by the builder and/or plumber), corporation and tap/connect the piping at the water main. The builder/plumber must leave sufficient service line piping past the main to connect the service line to the main, without undue efforts and/or splices to the service line, etc. The District recommends an additional 2 (two) feet of service line be installed past the water main to facilitate the connection. If an insufficient amount of service line piping is found at the time of connection/inspection, the connection/inspection will be considered unsatisfactory and a reinspection will need to be scheduled. Under no circumstances shall a builder and/or plumber make a connection to the District's water mains for sizes 3/4" to 1" (Three quarter inch to One inch). If a connection is made, a charge will be assessed according to Section V.B. in the District's Rules and Regulations, and no service will be provided to that property until all charges have been paid in full to the District. No connection shall be made nor will an inspection be approved, unless all material is installed as specified in these Rules and Regulations. One return trip of an unsatisfactory installation and/or inspection will be allowed. The second return trip to reinspect an unsatisfactory installation and all return trips thereafter, will be charged a \$25 (Twenty-five dollar) service charge for each trip, which shall be paid prior to the re-scheduling of an installation and/or inspection. The owner, builder and/or plumber shall be responsible for the installation and material of water services for a one year period, from the date of acceptance or approval by the District.

W-T ENGINEERING, INC.
CONSULTING ENGINEERS
39 EAST SCULLY DRIVE
SCHAUMBURG, ILLINOIS 60193
ph. (847)895-3640
fax (847)895-9985

STORM DRAIN CONSTRUCTION

- ALL STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CODES AND ORDINANCES OF THE STATE AND LOCAL GOVERNING AGENCIES. IN CASE OF CONFLICT, LOCAL CODE SHALL GOVERN.
- MANHOLES, CATCH BASINS AND INLETS: THESE ITEMS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF SECTION 612 OF THE STANDARD ILLINOIS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND IN ACCORDANCE WITH THE DETAILS CONTAINED IN THESE ITEMS.
- ALL ADJUSTMENTS NECESSARY SHALL BE MADE WITH PRECAST CONCRETE ADJUSTING RINGS NOT TO EXCEED A MAXIMUM OF TWELVE (12) INCHES OVERALL IN HEIGHT. BUTYLOPE JOINT SEALANT SHALL BE USED ON ALL JOINTS BETWEEN THE PRECAST ELEMENTS.
- UNLESS OTHERWISE INDICATED IN THE PLANS, STORM DRAIN PIPE 12" IN DIAMETER AND LARGER SHALL BE REINFORCED CONCRETE PIPE, CLASS III, CONFORMING TO ASTM DESIGNATION C-76. 10" STORM DRAIN SHALL BE REINFORCED CONCRETE PIPE, CLASS V.
- ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM OR EXTENDED TO OUTLET INTO A PROPOSED DRAINAGE WAY. IF THIS CANNOT BE ACCOMPLISHED, THEN IT SHALL BE REPAIRED WITH NEW PIPE OF SIMILAR SIZE AND MATERIAL TO THE ORIGINAL LINE AND PUT IN ACCEPTABLE OPERATING CONDITION. A RECORD OF THE LOCATION OF ALL FIELD TILE OR DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
- TRENCH BACKFILL MATERIAL (CA-6 CRUSHED STONE) SHALL BE PLACED AND COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY (A.S.T.M. D-1557) OVER ALL UNDERGROUND UTILITIES WHICH ARE CONSTRUCTED UNDER OR WITHIN 2 FEET OF ANY PROPOSED OR EXISTING PAVEMENT, PARKING LOTS, OR SIDEWALKS.



DETAIL-STORM TRENCH

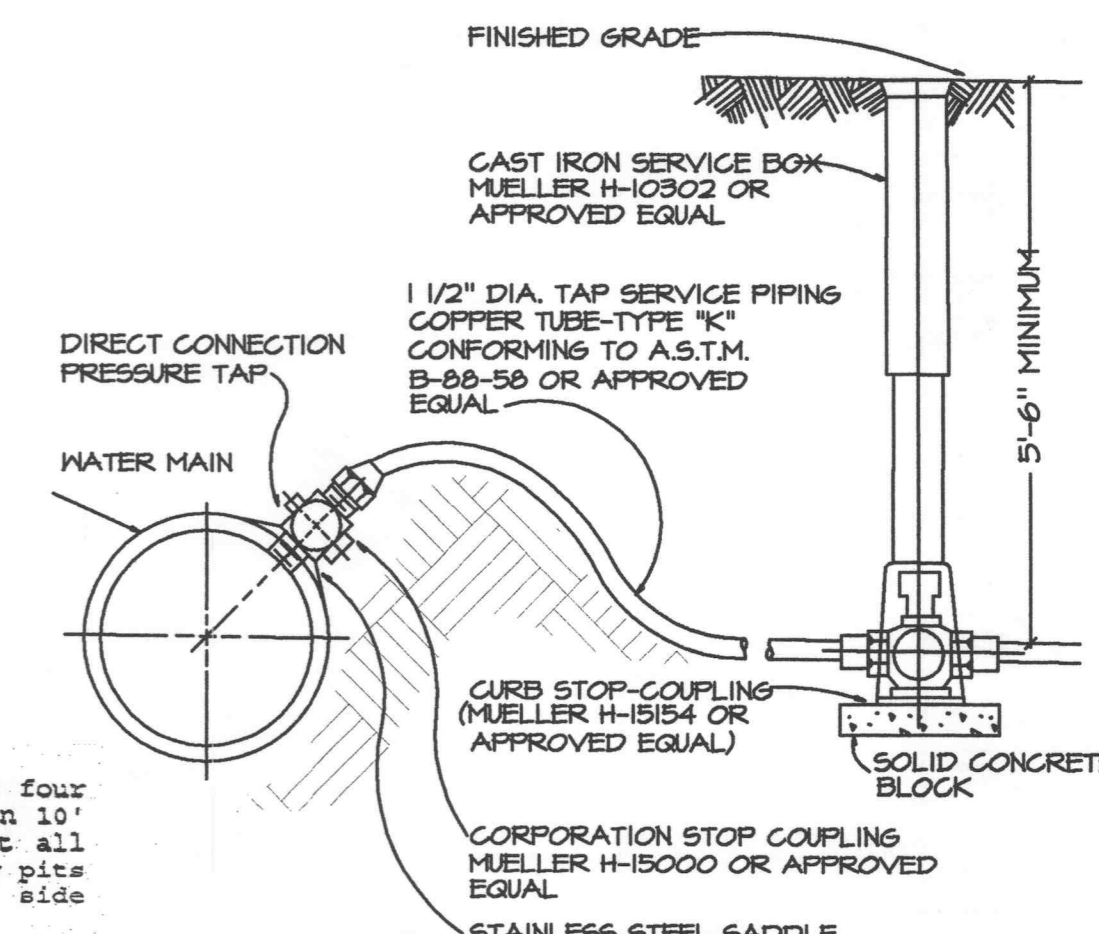
- Meter pits shall be set 3.5' to 4' (Three and a half feet to four feet) from the main, but no meter pit shall be set further than 10' (Ten feet) from the curb or edge of the roadway. In any event all meter pits must be set within the utility easement. Double meter pits will only be allowed, if the meter pit is installed on the side property line of the homes to be served. Meter Setters shall be a minimum of 15" (Fifteen inches) below the ground level, but no more than 25" (Twenty-five inches). Blocking at the meter setter and/or corporation will be at the discretion of the District. All materials shall be of brass construction, including but not limited to, the setters, adapters, bushings or otherwise stated in this section. Pits shall be 18" x 30" (Eighteen inches by Thirty inches) for single meter sets, 20" x 30" (Twenty inches by Thirty inches) for double and 1" (one inch) meter sets. For meter sets 1.5" (One and a half inches) or larger a 36" x 36" (Thirty-six inches by Thirty-six inches) pit will be required. All pits shall be of PVC construction, but the District has the option of requiring other materials and sizes, depending on the type of installation. Lids and rings shall be supplied by the plumber/builder and be of standard size (15") and material (cast iron) locking or other type of lids will be at the option of the District. Type K copper will be used from the water main to the meter setter, for pipe sizes 3/4" to 1.5" (Three quarter inch to one and a half inches) in size. Any services 2" (Two inches) or larger may use Class 200 PVC slip joint piping. All piping must be installed to a minimum depth of 32" (Thirty-two inches). No couplers, reducers, bushings, or other coupling devices in the copper service from the main to the meter will be allowed.

Do meter pits or sets in concrete or asphalt.

WATER SERVICE CONSTRUCTION SPECIFICATIONS

- ALL FITTINGS SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY DECATUR, ILLINOIS, CONFORMING WITH THE FOLLOWING:

	NUMBER
CORPORATION STOP CURB STOP (MINNESOTA TOP)	H-15000
H-15154	
CURB BOX (BUFFALO TYPE)	100-F
H-10302	
- SERVICE BOX SHALL BE OF SUFFICIENT LENGTH TO PERMIT THE TOP TO BE INSTALLED APPROXIMATELY 3" ABOVE FINISH GRADE. EACH SERVICE BOX SHALL BE PROVIDED WITH A GAF WITH THE WORD "WATER" CAST IN THE TOP.
- VALVES SHALL CONFORM TO THE STANDARDS OF THE LATEST AWWA SPECS. AND SHALL HAVE MECHANICAL JOINT ENDS. VALVES SHALL BE RESILIENT SEAT VALVES. TAPPING SLANGES SHALL BE ALL STAINLESS STEEL WITH A STAINLESS STEEL FLANGE OR ALL DUCTILE IRON.
- ALL VALVES SHALL BE INSTALLED IN VALVE VAULTS HAVING A MINIMUM DIAMETER OF FIVE (5) FEET BELOW THE CONCENTRIC CONE SECTION. THE VAULTS SHALL BE CONSTRUCTED OF PRECAST CONCRETE RINGS AND SHALL CONFORM TO DETAILS IN PLANS TOGETHER WITH THE MODIFICATIONS SPECIFIED AS INDICATED ON THE DETAIL IN THE PLANS. ALL VALVE VAULTS SHALL BE LEAK PROOF.
- TESTING FOR ACCEPTANCE OF WATER MAIN: REQUIRED TESTS - WATER MAINS SHALL BE TESTED FOR ACCEPTABILITY BY CONDUCTING A HYDROSTATIC PRESSURE TEST AND A BACTERIOLOGICAL TEST IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE REQUIREMENTS OF THE MUNICIPALITY.
- ALL TEMPORARY CONNECTIONS FOR CONSTRUCTION PURPOSES TO NEWLY INSTALLED OR EXISTING WATER MAINS SHALL BE MADE AND METERED IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- ALL ADJUSTMENTS NECESSARY SHALL BE MADE WITH PRECAST CONCRETE ADJUSTING RINGS NOT TO EXCEED A MAXIMUM OF TWELVE (12) INCHES OVERALL IN HEIGHT. BUTYLOPE JOINT SEALANT SHALL BE USED ON ALL JOINTS BETWEEN THE PRECAST ELEMENTS.



DETAIL WATERMAIN SERVICE

REVISED PER WATER DEPT.10-24-00 5
CITY REVIEW 9-7-00 4
CITY REVIEW 8-25-00 3
PER ARCHITECT 6-21-00 2
CITY REVIEW 4-3-00 1
ISSUED FOR DATE

Firestone

REAL ESTATE DEPARTMENT
NEW FIRESTONE STORE
"ER2000B" RH BUILDING
3089 STATE HWY K
O'FALLON, MISSOURI

STATE OF MISSOURI
DENNIS L. HUFFAKER
REGISTERED PROFESSIONAL ENGINEER
NUMBER E-10389

PROPERTY NUMBER: 163325
STORE NUMBER: (T.B.D.)
JOB NUMBER: 08373
DATE: 07/17/00
FILE NAME:
SHEET NUMBER: C5.0

SITE UTILITY DETAILS & SPECS

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