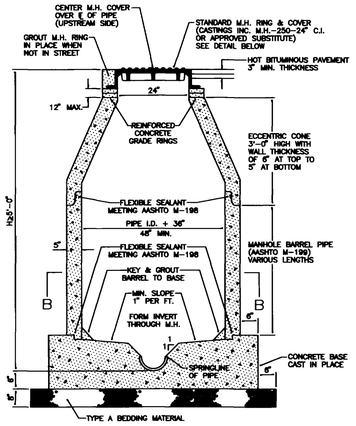
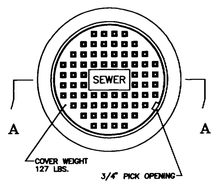
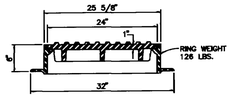


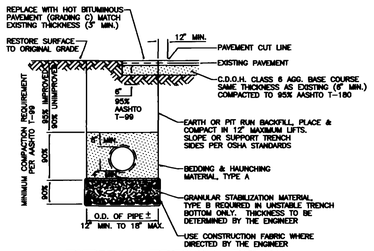
STANDARD MANHOLE



STANDARD CAST IRON MANHOLE RING & COVER



SECTION A-A



TYPICAL TRENCH DETAIL

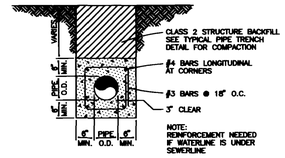
SIEVE SIZE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES: PIPE BEDDING & HAUNCHING MATERIAL (TYPE A)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK, TYPE B)	PIT RUN AGGREGATE (TO BE USED WHERE SPECIFIED OR DIRECTED BY THE ENGINEER
6 INCH	----	----	
2 INCH	----	100	
1 INCH	100	----	
NO 200	20 MAX	15 MAX	20 MAX

ALL BACKFILL MATERIAL SHALL BE PLACED FULL WIDTH IN 12" MAX. LIFTS AND COMPACTED TO THE MIN. RELATIVE DENSITIES SHOWN

NOTE: NATIVE MATERIAL MAY BE USED IN LIEU OF GRANULAR BEDDING & HAUNCHING MATERIAL IF APPROVED BY THE CITY ENGINEER AND THE NATIVE MATERIAL IS IN COMPLIANCE WITH SIZE REQUIREMENTS FOR "TYPE A".

GENERAL NOTES:

1. CONCRETE SHALL BE COLORADO DIVISION OF HIGHWAYS CLASS "B" (SECTION 601.02)
2. ALL CEMENT USED IN MORTAR, CONCRETE BASES, GRADE RINGS, RISER SECTIONS, CONES, AND FLAT TOPS FOR SANITARY SEWER MANHOLES, SHALL BE TYPE V OR MODIFIED TYPE II PORTLAND CEMENT WITH LESS DTHAN 5% TRICALCIUM ALUMINATE.
3. MANHOLE RISER SECTIONS, CONES, FLAT TOPS, AND GRADE RINGS..SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 OR AASHTO-M-199.
4. BACKFILL AROUND MANHOLES AND OTHER STRUCTURES SHALL BE PLACED IN 8" MAX. LIFTS AND COMPACTED TO 95% AASHTO T-99.
5. ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED PLANS AND CITY SPECIFICATION.
6. MANHOLE CONE AND FLAT TOP SECTIONS SHALL BE POSITIONED SUCH THAT THE MANHOLE RING AND COVER IS CENTERED OVER THE MAIN SEWER LINE.



CONCRETE ENCASEMENT DETAIL

NOTES

ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THE CITY OF GRAND JUNCTION SPECIFICATIONS AND STANDARDS DETAILS

THE CONTRACTOR SHALL HAVE A SIGNED COPY OF THE PLANS AND A COPY OF THE CITY OF GRAND JUNCTION SPECIFICATIONS AND STANDARDS ON THE JOB-SITE.

SERVICE LATERALS SHALL MAINTAIN A MINIMUM FALL OF 1/8 IN. PER FT. AND SHALL BE STUBBED OUT TO EXTEND 10' DINTO THE PROPERTY AND CAPPED FOR FUTURE CONNECTION. THE END OF THE PIPE SHALL BE PLUGGED AND MARKED WITH A 2"X4" BOARD BURIED VERTICALLY ABOVE THE END OF THE PIPE AND EXTENDING 24 INCHES ABOVE THE GROUND SURFACE. THE TOP 12 INCHES OF THE BOARD SHALL BE PAINTED WHITE. THE ENDS OF THE SERVICE LINES SHALL BE CAPPED WITH WATER-TIGHT PLUGS BRACED TO WITHSTAND TEST PRESSURES. THE ENDS OF THE SERVICE LINES SHALL BE MEASURED AND THEIR LOCATION SHOWN AND LABELED ON THE AS-BUILT DRAWINGS.

LOCATE ALL EXISTING UTILITIES BEFORE EXCAVATING SEWER LINE.

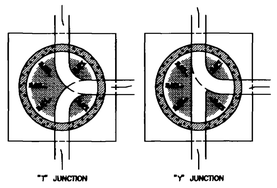
FIELD LOCATE ALL FIBER OPTIC TELEPHONE LINES BY HAND BEFORE EXCAVATING.

WHEN A WATER AND SEWER LINE ARE WITHIN 10 FEET HORIZONTALLY (CENTERLINE DISTANCE) OF EACH OTHER AND THE SEWER LINE IS ABOVE OR LESS THAN 18 INCHES (CLEAR DISTANCE) BELOW THE WATER LINE, THE PORTION OF THE SEWER LINE WITHIN THAT AREA SHALL: 1) BE CONSTRUCTED OF APPROVED WATERLINE PIPE AND JOINTS (DUCTIBLE IRON CEMENT MORTAR LINED PIPE CONFORMING TO AWWA C 151, OR PVC PIPE CONFORMING TO AWWA C-900 CLASS 150, DR18; 2) BE CONSTRUCTED OF SDR 35 PVC SEWER PIPE WITH ALL JOINTS WITHIN 10 FEET OF THE WATER LINE ENCASED IN A CONCRETE COLLAR THAT IS A MINIMUM OF 6 INCHES THICK AND 12 INCHES LONG, CENTERED ON THE JOINT; OR, 3) D DESIGNED PROTECTION SYSTEM SUBJECT TO THE REVIEW AND APPROVAL OF THE CITY'S UTILITY ENGINEER. IN ALL CASES, SUITABLE BACKFILL OF OTHER STRUCTURAL PROTECTION SHALL BE PROVIDED TO PRECLUDE THE SETTLING OR FAILURE OF BOTH PIPES. IN NO CASE, OTHER THAN A CROSSING, SHALL A SEWER LINE OR WATER LINE BE INSTALLED WITHIN 5 FEET OF EACH OTHER. CROSSINGS OF SEWER AND WATER LINES SHALL NOT BE AT AN ANGLE LESS THAN 45 DEGREES UNLESS APPROVED BY THE CITY UTILITY ENGINEER.

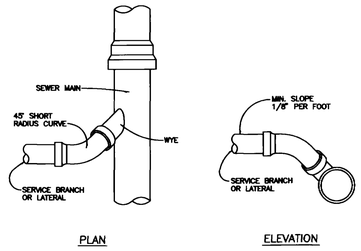
A SLOPE OF 0.20% SHALL BE MAINTAINED THROUGH PROPOSED MANHOLE #1 BY LAYING A CONTINUOUS JOINT OF 12" S.S. MAIN THROUGH THE MANHOLE AND REMOVING THE PIPE SECTION ABOVE THE SPRING LINE FOR MANHOLE ACCESS TO FLOW.

ALL CONSTRUCTION SHALL CONFORM WITH COLORADO DEPARTMENT OF HIGHWAYS RIGHT-OF-WAY COMPACTION REQUIREMENTS AND CONSTRUCTION STANDARDS.

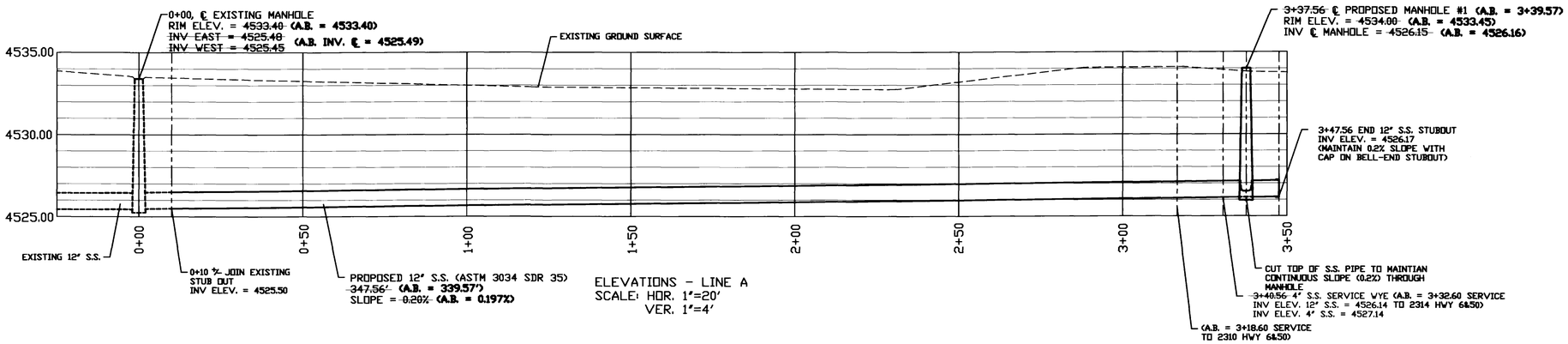
WHERE THE PROPOSED 12" S.S. CROSSES EXISTING DRIVEVAYS, THE CONTRACTOR SHALL REPAIR THE ROAD CUT WITH HOT BITUMINOUS PAVEMENT (H.B.P., GRADE E) TO A MINIMUM DEPTH OF 3". SUBBASE MATERIAL AND COMPACTION STANDARDS SHALL BE IN ACCORDANCE WITH THE CITY OF GRAND JUNCTION SPECIFICATIONS AND STANDARDS.



SECTION B-B



TYPICAL SERVICE "Y" CONNECTION



ELEVATIONS - LINE A
SCALE: HOR. 1"=20'
VER. 1"=4'

PAGE 1 OF 1
DRAWN TAC DATE 07/16/94
REVISED A.B.TAC DATE 12/29/94
CHECKED ____ DATE ____
APPROVED ____ DATE ____

PROJECT: SMITH PROJECT
REFERENCE: SEWER MAIN EXTENSION
PROJECT LOCATION: 2314 US HWY 6&50 GRAND JUNCTION, CO 81505

DATE: JULY 16, 1994
SCALE: 1 IN. = 20 FT.
PREPARED BY: TOM A. CRONK

CRONK CONSTRUCTION INCORPORATED
1129 -24- ROAD
GRAND JUNCTION, CO 81505
303-245-0577

Rec 12-29-94 02087900.tif