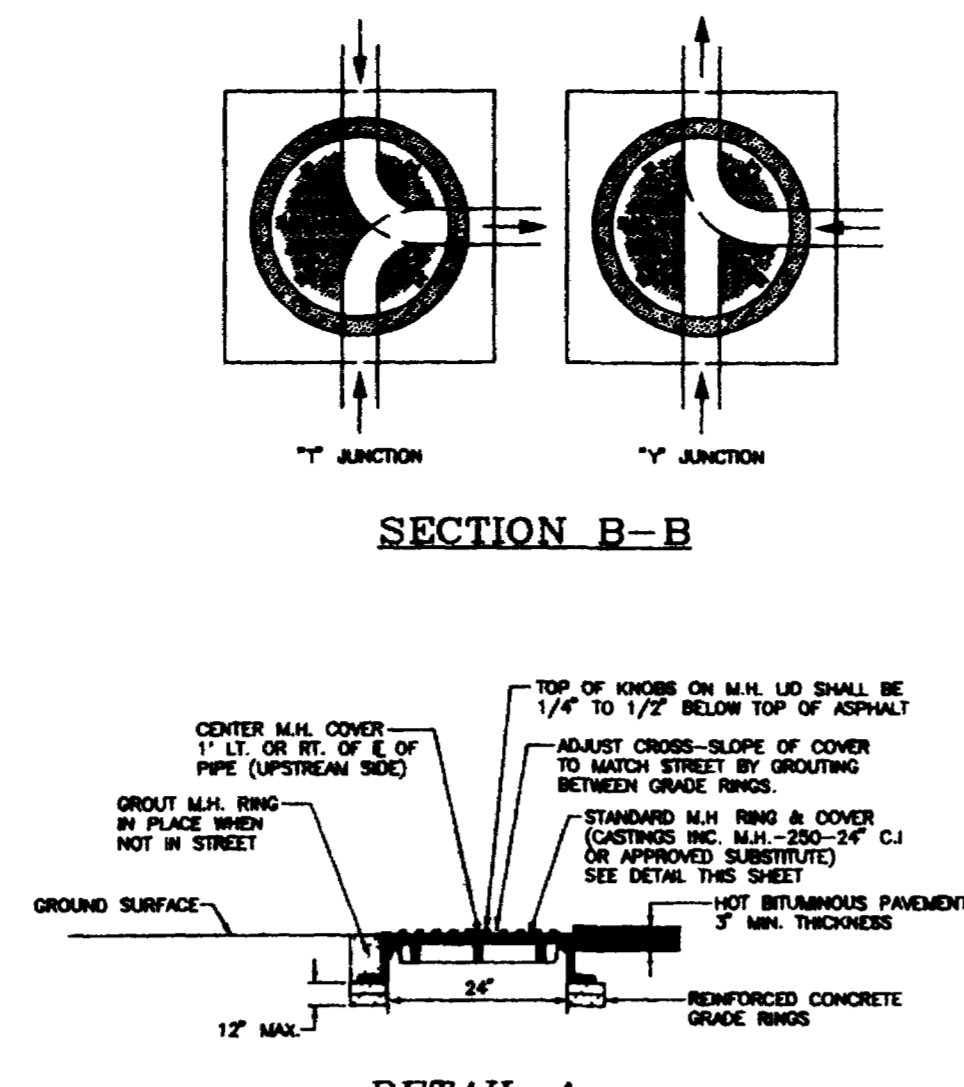
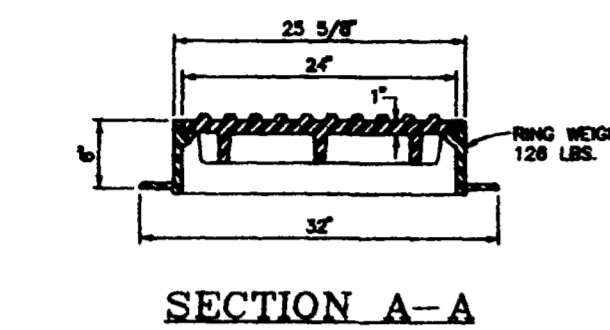
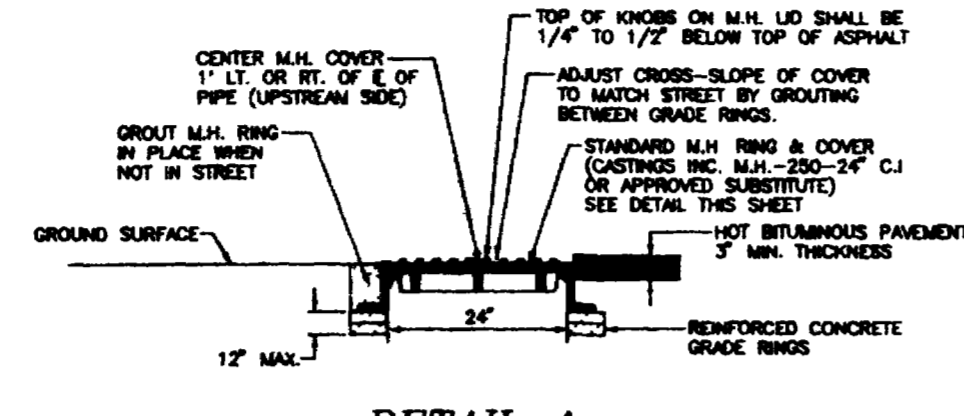


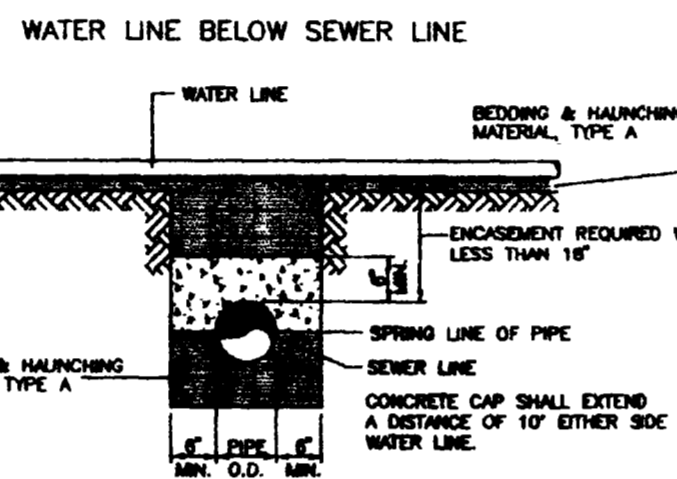
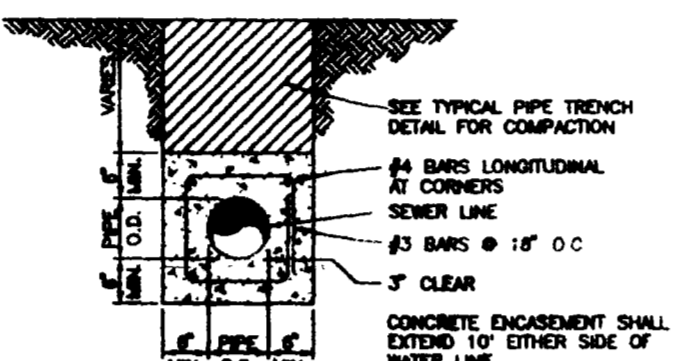
STANDARD CAST IRON MANHOLE RING & COVER



SECTION B-B



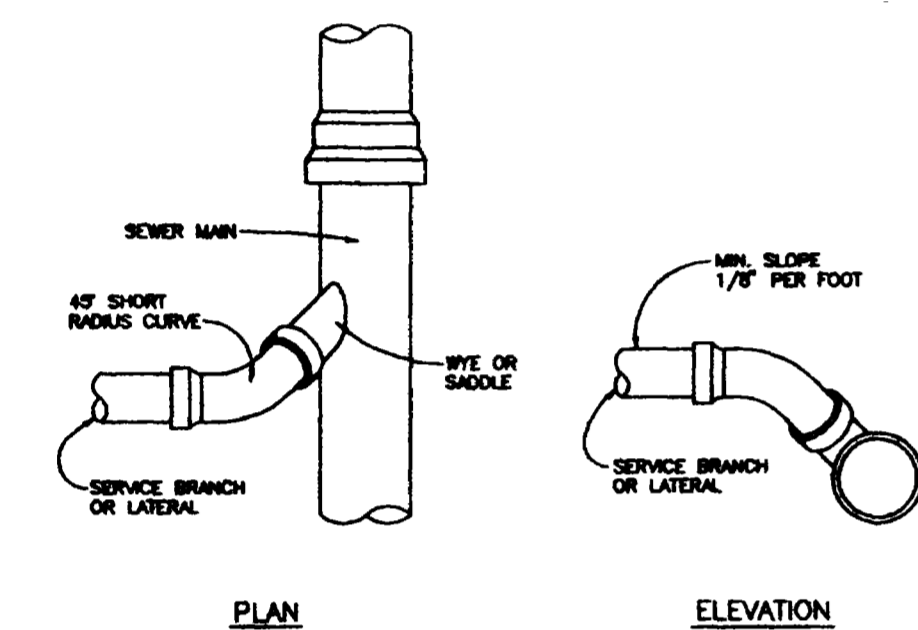
DETAIL A



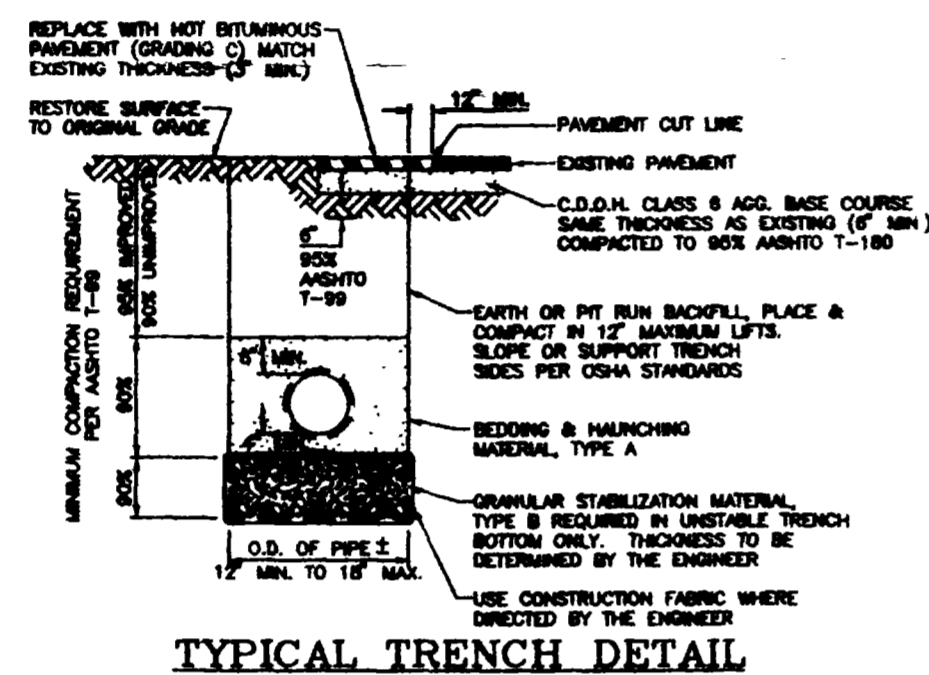
CONCRETE ENCASEMENT DETAILS

STANDARD MANHOLE

NOTE: FOR IN-LINE MANHOLES WITHOUT GRADE-BREAK IN SEWER FLOWLINE THE SEWER PIPE MAY BE INSTALLED CONTINUOUS THROUGH THE MANHOLE WITH THE TOP ONE-HALF REMOVED.



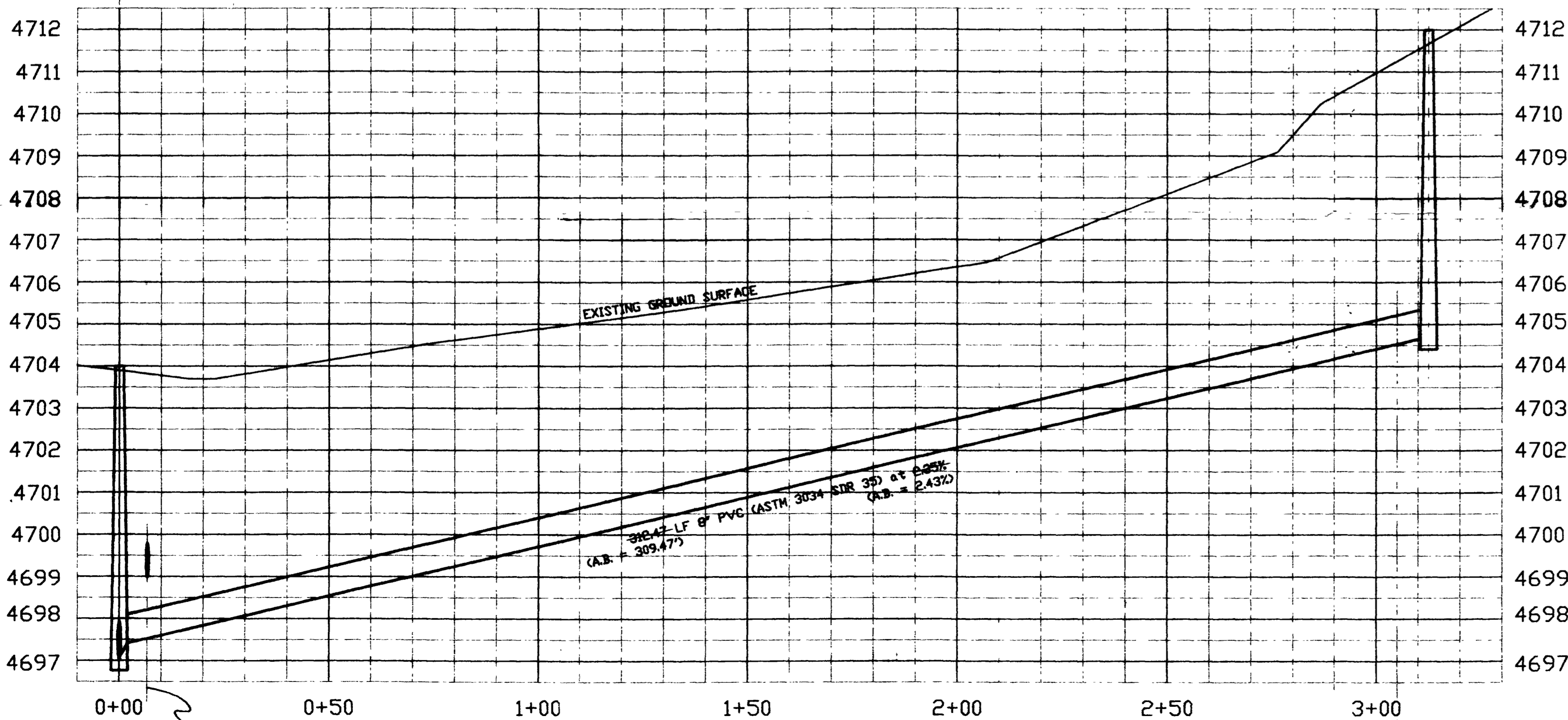
TYPICAL SERVICE "Y" CONNECTION



TYPICAL TRENCH DETAIL

MANHOLE #1	INVERT E-W	4697.07 (A.B. = 4697.21)
	INVERT S	4697.07 (A.B. = 4697.31)
	STATION	0+0.00 (A.B. = 0+0.00)
	RIM	4704.00 (A.B. = 4704.77)

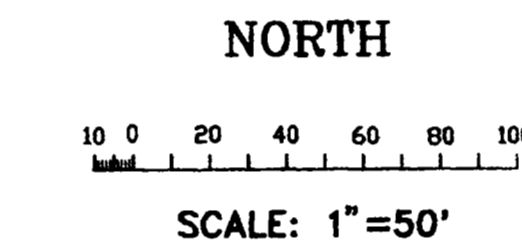
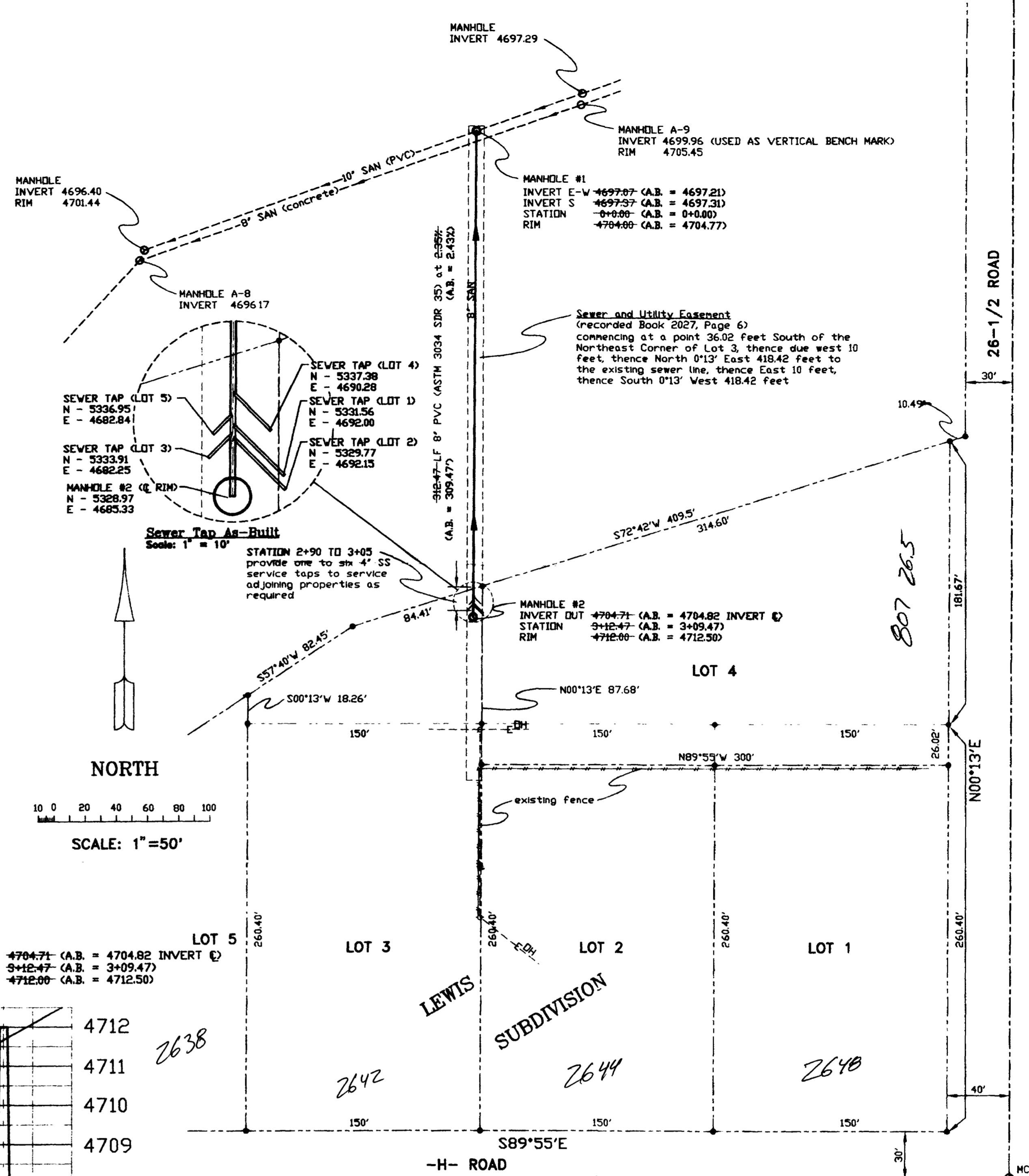
MANHOLE #2	INVERT DUT	4704.71 (A.B. = 4704.82)
	INVERT E	4712.47 (A.B. = 4712.50)
	STATION	3+05.47 (A.B. = 3+05.47)
	RIM	4712.00 (A.B. = 4712.50)



Sewer Line Profile

Scale: hor. 1" = 20'
ver. 1" = 2'

STATION 2+90 TO 3+05 provide one to six 4" SS service taps to service adjoining properties as required.



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 ALL RELEVANT SPECIFICATIONS AND STANDARDS ON THE JOB-SITE AT ALL TIMES.
- LOCATE ALL EXISTING UTILITIES BEFORE EXCAVATING SEWER LINE.
- SERVICE LATERALS SHALL MAINTAIN A MINIMUM FALL OF 1/8 IN. PER FT. AND SHALL BE STUBBED OUT TO EXTEND INTO THE UTILITY EASEMENT AND CAPPED FOR FUTURE CONNECTION. THE END OF THE SERVICE LATERAL SHALL BE PLUGGED AND MARKED WITH A 2"x4" BOARD BURIED VERTICALLY ABOVE THE END OF THE PIPE AND EXTENDING 24 IN. ABOVE THE GROUND SURFACE. THE TOP 12 IN. OF THE BOARD SHALL BE PAINTED WHITE. THE ENDS OF THE SERVICE LATERALS SHALL BE CAPPED WITH WATER-TIGHT PLUGS BRACED TO WITHSTAND TEST PRESSURES. THE ENDS OF THE SERVICE LATERALS SHALL BE MEASURED AND THEIR LOCATIONS SHOWN AND LABELED ON THE AS-BUILT DRAWINGS.
- WHEN A WATER LINE AND A SEWER LINE ARE WITHIN 10 FT. HORIZONTAL DISTANCE CENTERLINE TO CENTERLINE OF EACH OTHER AND THE SEWER IS 15" ABOVE OR LESS THAN 10" IN CLEAR DISTANCE BELOW THE WATER LINE, THE PORTION OF THE SEWER LINE WITHIN THAT AREA SHALL BE A BEEHIVE PROTECTION SYSTEM SUBJECT TO THE REVIEW AND APPROVAL OF THE UTILITY ENGINEER. IN ALL CASES, SUITABLE BACKFILL OR 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 FT. OF EACH OTHER. CROSSINGS OF SEWER AND WATER LINES SHALL NOT BE AT AN ANGLE LESS THAN 45 DEGREES UNLESS APPROVED BY THE UTILITY ENGINEER.

GENERAL NOTES:

- CONCRETE SHALL BE COLORADO DIVISION OF HIGHWAYS CLASS "B" (SECTION 801.02)
- 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 I PORTLAND CEMENT WITH LESS THAN 8% TRISULFATE ALUMINA.
- MANHOLE RISER SECTIONS, CONES, FLAT TOPS, AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 OR ASHTO M-190.
- BACKFILL AROUND MANHOLES AND OTHER STRUCTURES SHALL BE PLACED IN 6" MAX LIFTS AND COMPACTED TO 90% ASHTO T-99.
- ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED PLANS AND CITY SPECIFICATION.
- MANHOLE CONE AND FLAT TOP SECTIONS SHALL BE POSITIONED SUCH THAT THE MANHOLE RING AND COVER IS CENTERED OVER THE MAIN SEWER LINE.

SEWER PIPE SIZE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
8 INCH	100
2 INCH	100
1 INCH	100
NO. 200	100

CONSTRUCTION NOTE

- The Contractor shall have one signed copy of the plans and a copy of the City of Grand Junction's Standard Specifications at the job site at all times.
- All sewer mains shall be PVC SDR 35 (ASTM 3034) unless otherwise noted.
- All sewer mains shall be laid to grade utilizing a pipe laser.
- All service line connections to the new main shall be accomplished with full body eyes or tees. Tapping saddles will not be allowed.
- No 4" services shall be connected directly into manholes.
- The Contractor shall notify the City Inspector authority 48 hours prior to commencement of construction.
- The Contractor is responsible for all required sewer line testing to be completed in the presence of the City Inspector. Pressure testing will be performed after all connection. These tests shall be the basis of acceptance of the sewer line extension.
- The Contractor shall obtain City of Grand Junction Street Cut Permit for all work within existing City right-of-way or easements prior to construction.
- A clay cut-off wall shall be placed 10 feet upstream from all new manholes unless otherwise noted. The cut-off wall shall extend from 6 inches below to 6 inches above granular backfill material and shall be 2 feet wide. If no base material is suitable, the Contractor shall report material approved by the engineer.
- Benchmark: Elev. Invert at existing manhole A-9 = 4697.26
- Where the manhole is located in an unimproved street shoulder, alley or other traffic area, a concrete collar with a 84 rebar hoop shall be cast around the ring and cover. The concrete shall be at least 12 inches wider than the ring on all sides and shall extend at least 6 inches below the base plate of the ring.



PREPARED UNDER THE SUPERVISION OF
Thomas A. Cronk, P.E.
(Colo. License No. 28322)

utilities engineer
DATE

REVISIONS	DATE	BY	REMARKS

CLARK SEWER MAIN
Sewer Main Plan and Profile
26-1/2 & H Roads
Grand Junction, CO 81506

WAYNE CLARK
125 Franklin Ave. #502
Grand Junction, CO 81505
970-2569059

ENGINEERING DESIGN BY
CRONK CONSTRUCTION INCORPORATED
1129 - 24 - ROAD
GRAND JUNCTION, CO 81505
970-245-0877

PROJECT
Clark sewer main

SCALE
as shown

DATE DRAWN
02/20/97

LATEST REVISION
04/11/97 (A.B.)

SHEET **U1** OF **U1**