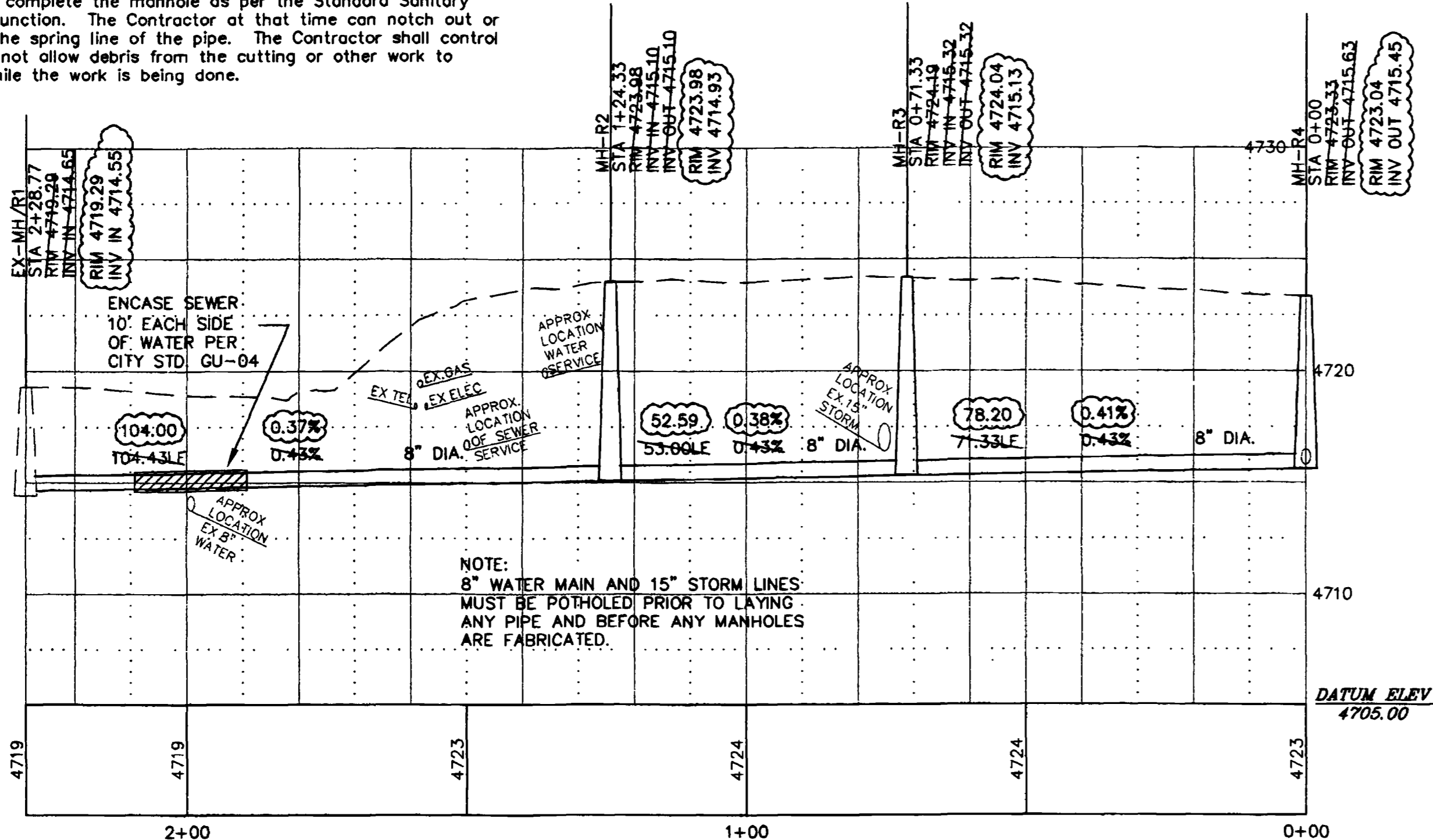
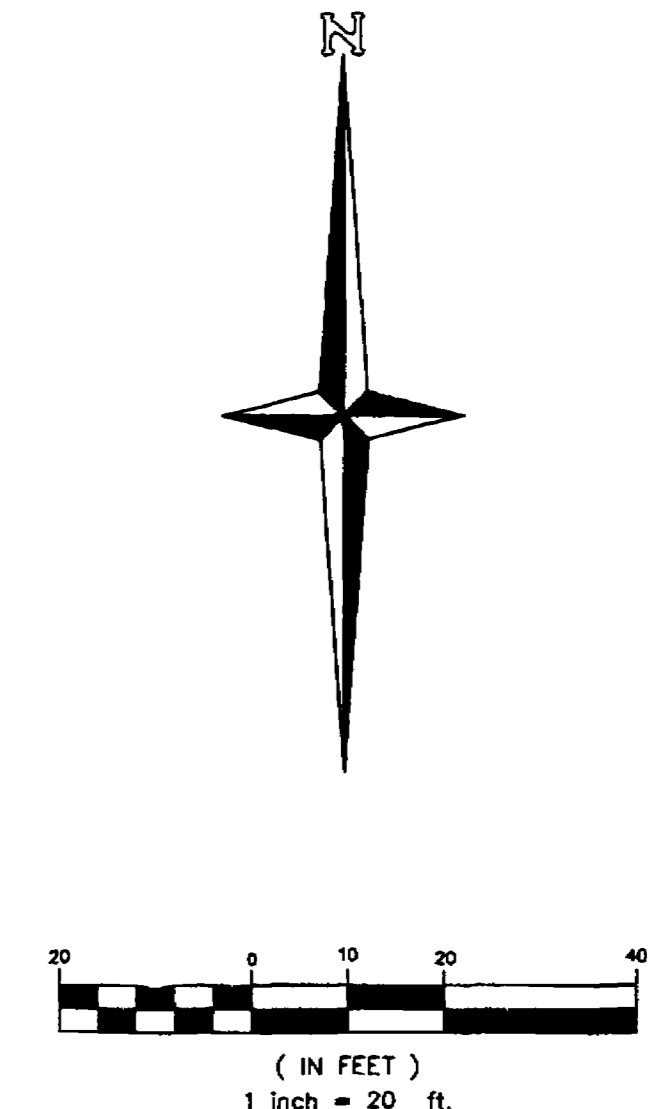


**WHEN INSTALLING MANHOLES OVER EXISTING SEWER LINES:**  
 Contractor is to expose existing sanitary sewer main to allow the Engineer to field verify existing pipe inverts PRIOR to construction of manholes and adjust invert elevations if required. The Contractor shall place type "A" bedding material and pour the base of the manhole and complete the manhole as per the Standard Sanitary Sewer Details, City of Grand Junction. The Contractor at that time can notch out or cut the existing pipe out to the spring line of the pipe. The Contractor shall control all live sewage flow and shall not allow debris from the cutting or other work to enter the existing pipe line while the work is being done.



**SANITARY SEWER CONSTRUCTION NOTES**

- All sewer line construction shall conform to the City of Grand Junction Standard Specifications for the Construction of Underground Utilities.
- All materials and workmanship shall conform to the Standards and Specifications of the City of Grand Junction. The City of Grand Junction reserves the right to accept or reject any materials and or workmanship that does not conform to its Standards and Specifications.
- The Contractor shall have one signed copy of the Plans and a copy of the City of Grand Junction Standards and Specifications at the job site at all times.
- All sanitary sewer pipe to be PVC SDR-35 unless otherwise specified. All pipe joints shall be 13 foot joints unless otherwise approved by the Project Engineer.
- All sewer mains to be laid to grade utilizing a "pipe laser".
- A minimum of 10 foot of separation shall be maintained at all times between the waterline and sewer line except at specified crossings.
- Where sanitary sewers cross under waterline with less than 18 inches of vertical separation, and in all cases where the sanitary sewer crosses over the waterline at any depth, provide total Concrete Encasement of pipe for a length of 10 feet either side of waterline. See Page GU-04 of the City of Grand Junction Standard Details. Include cost of waterline crossing (Total concrete pipe encasement, pipe, and approved backfill), in unit price bid per lineal foot of sanitary sewer in appropriate sizes.
- The Contractor is responsible for all required sewer line testing to be completed in accordance with the City of Grand Junction Standards and Specifications. Final testing to be accomplished only after all other infrastructure has been installed. This includes waterlines, gas lines, electric lines, etc. Testing will be performed after all compaction of street subgrade and prior to street paving. Final lapping will also be accomplished after paving is completed to insure that the line is clean. These tests will be the basis for issuing initial acceptance of the sewer line extension.
- Manholes shall be constructed as shown on the City of Grand Junction Standard Sanitary Sewer Detail sheets SS-02 of SS-03 as appropriate.
- Water stop gaskets and clamp assemblies are to be furnished and installed at all connections to manholes.
- Metal grade rings are NOT to be used on top of manhole rings to adjust to finish pavement elevation. All adjustments to finish grade on new manholes shall be made using concrete grade rings and grout beneath the cast iron ring as shown on the appropriate Standard Sanitary Sewer Detail sheet.
- All trenches shall be compacted to 95% within 2% of optimum moisture content, as determined by AASHTO T-99. Contractor shall be required to perform all necessary compaction tests through a certified soils lab.
- Only materials on which a proctor test can be performed and accurate nuclear density tests can be run are approved for sewer line trench back fill unless otherwise approved by the Engineer. A written construction plan for placement of "too rocky to test" material shall be coordinated with City Engineer and City Development Engineer.
- To inhibit the movement of groundwater through sewer bedding and haunching material, clay cutoff walls of native material are to be constructed approximately 10 feet upstream from each manhole as shown on sanitary sewer plan and profiles. The cut-off wall shall extend from 6 inches below to 6 inches above granular back fill material and shall be 2 feet wide. If native material is not suitable, the Contractor shall import material approved by the Engineer.
- When installing manholes over existing sewer lines: Contractor is to expose existing sanitary sewer main to allow the Engineer to field verify existing pipe inverts PRIOR to construction of manholes and adjust invert elevations if required. The Contractor shall place type "A" bedding material and pour the base of the manhole and complete the manhole as per the Standard Sanitary Sewer Details, City of Grand Junction. The Contractor at that time can notch out or cut the existing pipe out to the spring line of the pipe. The Contractor shall control all live sewage flow and shall not allow debris from the cutting or other work to enter the existing pipe line while the work is being done.
- Red Line As-built Drawings shall be submitted to the City Utility Engineer at least 72 hours PRIOR to paving for review.
- The Contractor shall obtain a City of Grand Junction Street Cut Permit for all work within existing City Right-of-way.



**PROJECT BENCHMARK**  
 BRASS CAP AT THE INTERSECTION OF  
 CORTLAND AVENUE AND 27 1/2 ROAD  
 ELEV. 4731.10

REVISED TO AS-BUILT ON 03-12-03.  
 AS SURVEYED ON 02-27-03

CALL UTILITY NOTIFICATION  
 CENTER OF COLORADO  
**1-800-922-1987**  
 CALL 2 BUSINESS DAYS IN ADVANCE  
 BEFORE YOU DIG, GRADE, OR EXCAVATE  
 FOR THE MARKING OF UNDERGROUND  
 MEMBER UTILITIES.

**ACCEPTED FOR CONSTRUCTION FOR ONE YEAR FROM THIS DATE.**  
 Acceptance of these plans does not relieve the developer, contractor, or the engineer from conformance with the City of Grand Junction Standard Specifications.

City of Grand Junction Engineering Division Representative \_\_\_\_\_ Date \_\_\_\_\_

**ACCEPTED AS CONSTRUCTED**

City of Grand Junction Engineering Division Representative \_\_\_\_\_ Date \_\_\_\_\_

DATE: 10/24/02  
 SCALE: Horiz: 1"=20' Vert: 1"=5'  
 Project No: 0564-001  
 SHEET NO: 1 OF 1

CD	JEL	DESCRIPTION	REVISION	DATE	REVISION	DATE	DESCRIPTION
LMS	JEL	REVISED PER CITY COMMENTS	1	11/20/02	1	03/12/03	REVISED TO AS-BUILT CONDITION
BW	JEL		2	03/12/03			
<b>COX RESIDENCE SEWER LINE RELOCATION</b>							
THOMPSON-LANGFORD CORP. ENGINEERS AND LAND SURVEYORS 529 25 1/2 RD., SUITE B210 GRAND JUNCTION, COLORADO PH. (970) 243-6067 FAX (970) 241-2845 tlc@tlcwest.com							