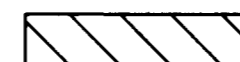

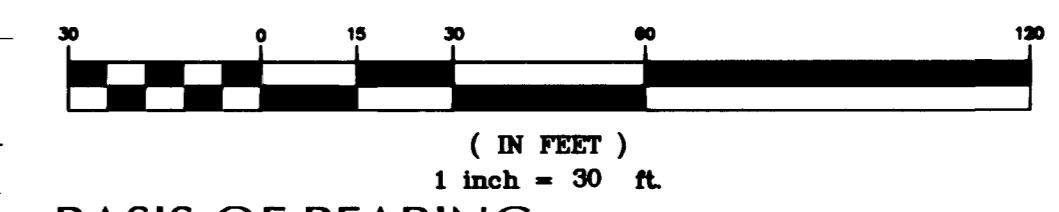


LEGEND

-  SEWER TRENCH
-  PAVEMENT RESTORATION

GRAPHIC SCALE



BASIS OF BEARING

SOUTH LINE OF THE SE 1/4 SW 1/4 OF SECTION 26, T 20 S, R 61 E, AS DELINEATED ON THAT CERTAIN RECORD OF SURVEY IN FILE 104, PAGE 88, BEING S 80°55'02"E.

BENCHMARK

CITY OF LAS VEGAS BM 2LV01-2654 RIVET AND SQUARE PLATE IN TOP OF CURB, NE CORNER OF BONANZA ROAD AND N. BRUCE STREET. NAVD 88 ELEVATION 572.629 METERS (1878.70 FEET)

CONSTRUCTION NOTES

No.	ITEM
1	CONSTRUCT 48" SEWER MANHOLE PER SD-1 AND PER SPECIAL PROVISION 630. BID ITEM 630.02.
2	CONSTRUCT 60" SEWER MANHOLE PER SD-1 AND PER SPECIAL PROVISION SECTION 630. BID ITEM 630.03.
3	CONSTRUCT 8" SDR35 SEWER PER SPECIAL PROVISION 630. BID ITEM 630.04. TRENCH BACKFILL PER DETAIL 1 ON SHEET C45.
4	CONSTRUCT 21" F679 PVC SEWER PER SPECIAL PROVISION 630. BID ITEM 630.05. TRENCH BACKFILL PER DETAIL 1 ON SHEET C45.
5	CONSTRUCT 21" C905 SEWER PER SPECIAL PROVISION 630. BID ITEM 630.06. TRENCH BACKFILL PER DETAIL 1 ON SHEET C45.
6	CONSTRUCT CONCRETE COLLAR AROUND MANHOLE PER SD-3B AND PER SPECIAL PROVISION SECTION 630. BID ITEM 630.07.
7	REMOVE EXISTING SEWER MANHOLE PER SPECIAL PROVISION 630. BID ITEM 630.08.
8	PLUG EXISTING 21" SEWER ENDS WITH 12" OF CONCRETE PER SPECIAL PROVISION 630. BID ITEM 630.09.
9	GROUT EXISTING SEWER WITH SAND OR SLURRY PER SPECIAL PROVISION 630. PRIOR TO GROUTING, CONTRACTOR TO CCTV THE SEWER LINE TO LOCATE THE BURIED MANHOLES. IF MANHOLES ARE LOCATED AND EXPOSED, ABANDON PER ITEM NO. 10. BID ITEM 630.10.
10	ABANDON EXISTING SEWER MANHOLE PER SPECIAL PROVISION 630. BID ITEM 630.11.
11	ABANDON EXISTING 8" SEWER PER SPECIAL PROVISION 630. BID ITEM 630.12.
12	CONSTRUCT ASPHALT CONCRETE PAVEMENT RESTORATION PER SPECIAL PROVISION 402. BID ITEM 402.01.

FLOW DIVERSION NOTES

No.	ITEM
7	EXISTING SEWER MEASURED FLOW RATE IN NOVEMBER 2002. AVERAGE = 0.20 MILLION GALLONS PER DAY (MGD) PEAK = 0.32 MILLION GALLONS PER DAY (MGD) MEASURED AT EXISTING MANHOLE IN FIFTEENTH STREET & EAST BONANZA ROAD.
2	PROVIDE FLOW DIVERSION EITHER BY PUMPING OR GRAVITY FLOW TO BYPASS NEW CONSTRUCTION, AS DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER. PROVIDE NECESSARY TRAFFIC CONTROL. BID ITEM 630.09.

NOTE:

PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CONTROL LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY, ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.19.

NOTE TO CONTRACTOR:

CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO LVWD BEFORE CONSTRUCTION TO SHOW HOW WATERLINES SPANNING A TRENCH WILL BE SUPPORTED DURING EXCAVATION AND BACKFILL. DRAWINGS WILL INCLUDE ALL LOCATIONS WHERE WATERLINES SPAN A TRENCH GREATER THAN 4 (FOUR) FEET WIDE AND WHERE VALVES AND THRUST BLOCKS ARE EXPOSED. DRAWINGS MUST BE SEALED BY A NEVADA LICENSED ENGINEER.

NOTE:

IT IS THE CONTRACTORS RESPONSIBILITY TO POTHOLE ALL GAS LINE AND WATER LINE CROSSINGS WITH PROPOSED SEWER CONSTRUCTION PLANS. NOTIFY LVWD AND SWG 48 HRS PRIOR TO CONSTRUCTION. PLEASE NOTIFY ENGINEER IN CASE OF ANY CONFLICTS.

Robert J. Morgan 12/15/03
L.V.W.D. ENGINEER DATE

MARTIN & MARTIN ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY. FOR LVWD FACILITIES, ENGINEER SHALL SUBMIT REVISED DRAWING FOR CONFLICT RESOLUTION.

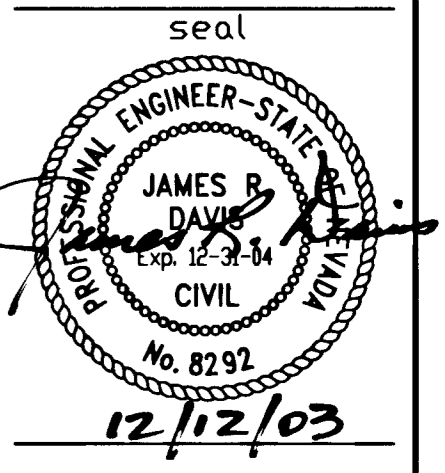
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY. Call before you Dig- 1-800-227-2600 UNDERGROUND SERVICE ALERT (USA)

AVOID OVERHEAD POWER LINE CONTACT Call before you OVERHEAD 1-702-593-6111 NEW MEXICO DEPARTMENT OF SAFETY SERVICES DEPARTMENT

BID# 04.1730.06

name	date	description of revisions

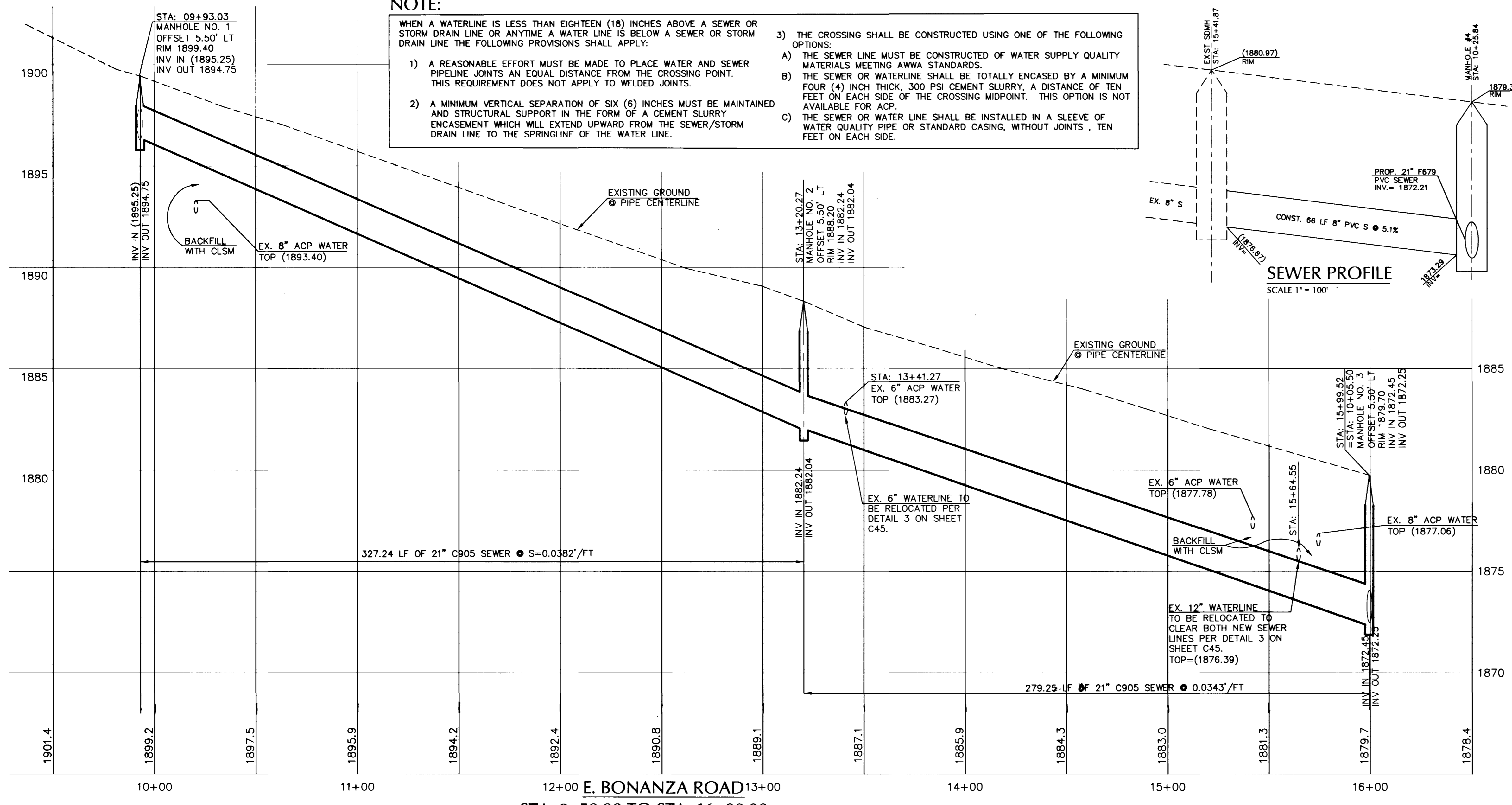
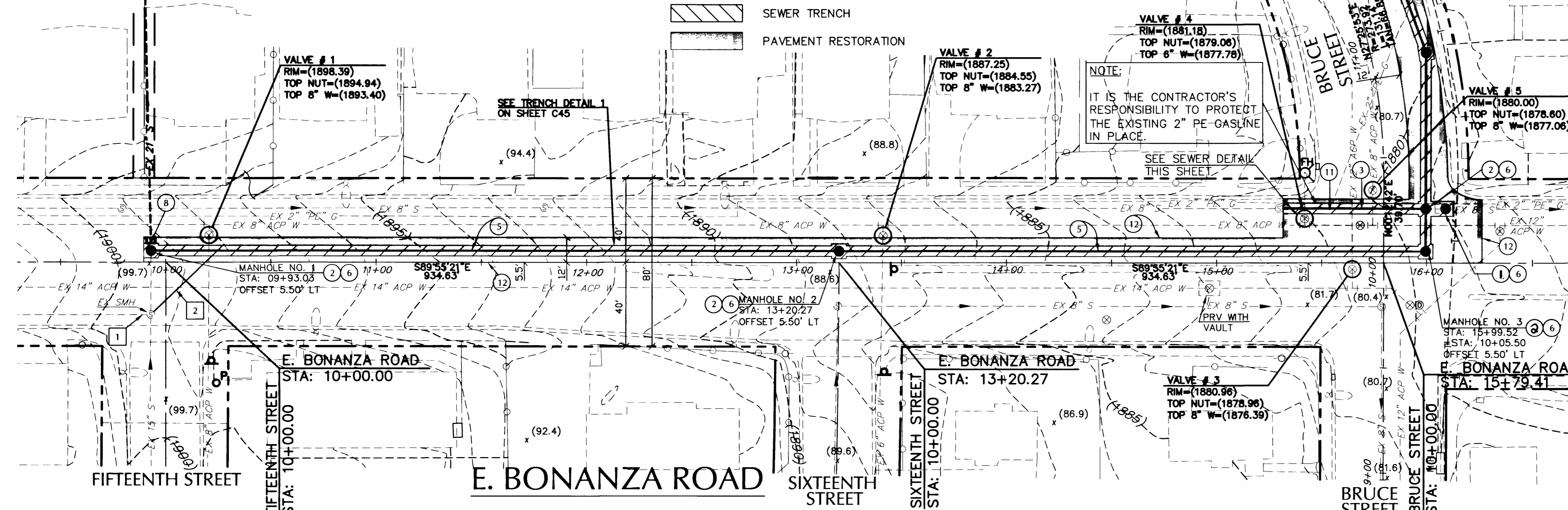
PROJECT NO. 1939.00
DATE 05-12-03
DRAWN BY JDM
DESIGN BY ARS
CHECKED BY DHM



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E-MAIL: MARTMART@LVCM.COM

BRUCE STREET DIVERSION
BONANZA ROAD TO HARRIS AVENUE
PLAN AND PROFILE - BONANZA ROAD
STA: 10+00.00 TO STA: 16+00.00

sheet
C5
SHEET 5 OF 45
drawing number
307-V841



NOTE:
WHEN A WATERLINE IS LESS THAN EIGHTEEN (18) INCHES ABOVE A SEWER OR STORM DRAIN LINE OR ANYTIME A WATER LINE IS BELOW A SEWER OR STORM DRAIN LINE THE FOLLOWING PROVISIONS SHALL APPLY:

- A REASONABLE EFFORT MUST BE MADE TO PLACE WATER AND SEWER PIPELINE JOINTS AN EQUAL DISTANCE FROM THE CROSSING POINT. THIS REQUIREMENT DOES NOT APPLY TO WELDED JOINTS.
- A MINIMUM VERTICAL SEPARATION OF SIX (6) INCHES MUST BE MAINTAINED AND STRUCTURAL SUPPORT IN THE FORM OF A CEMENT SLURRY ENCASEMENT WHICH WILL EXTEND UPWARD FROM THE SEWER/STORM DRAIN LINE TO THE SPRINGLINE OF THE WATER LINE.

3) THE CROSSING SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING OPTIONS:

- THE SEWER LINE MUST BE CONSTRUCTED OF WATER SUPPLY QUALITY MATERIALS MEETING AWWA STANDARDS.
- THE SEWER OR WATERLINE SHALL BE TOTALLY ENCASED BY A MINIMUM FOUR (4) INCH THICK, 300 PSI CEMENT SLURRY, A DISTANCE OF TEN FEET ON EACH SIDE OF THE CROSSING MIDPOINT. THIS OPTION IS NOT AVAILABLE FOR ACP.
- THE SEWER OR WATER LINE SHALL BE INSTALLED IN A SLEEVE OF WATER QUALITY PIPE OR STANDARD CASING, WITHOUT JOINTS, TEN FEET ON EACH SIDE.

