

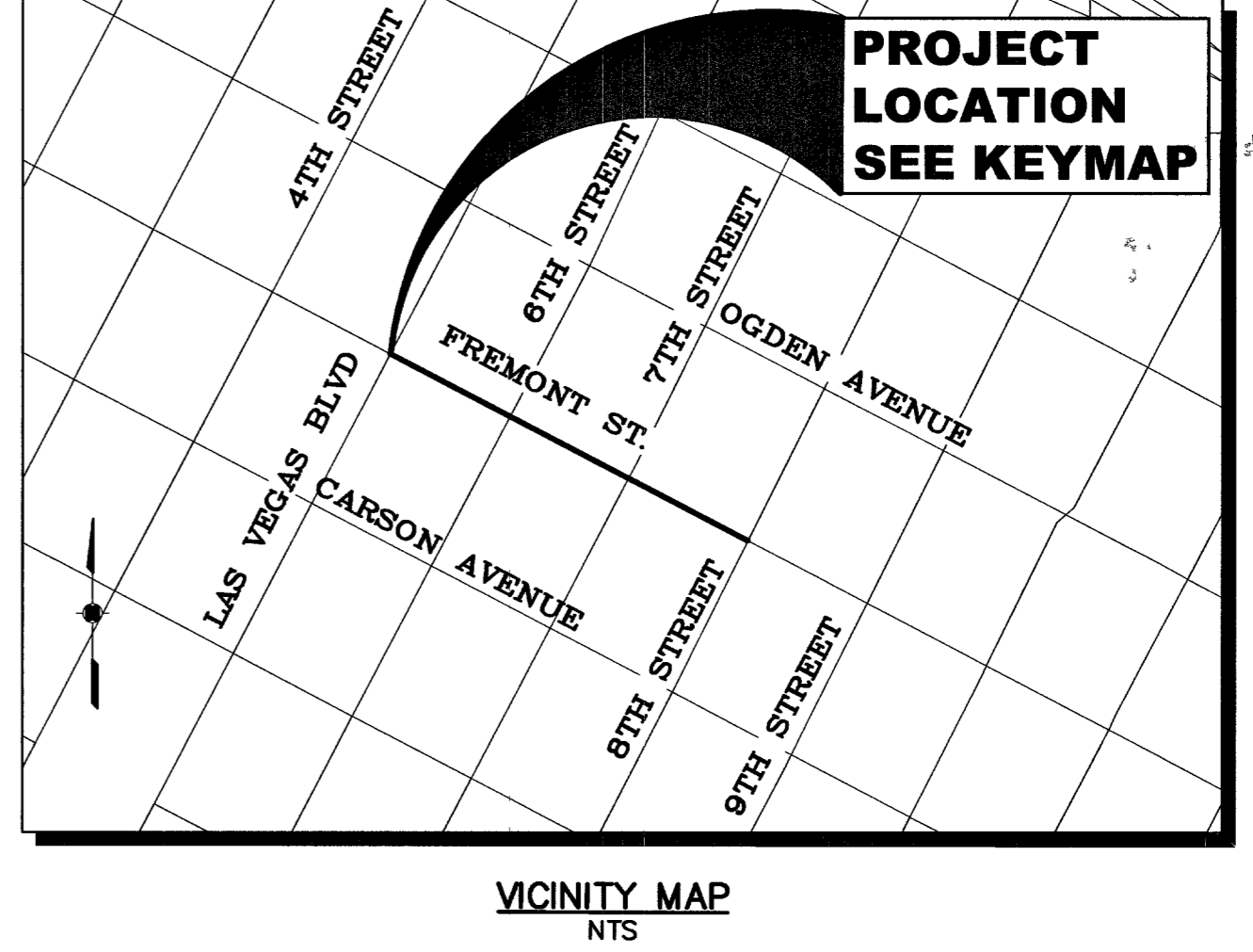
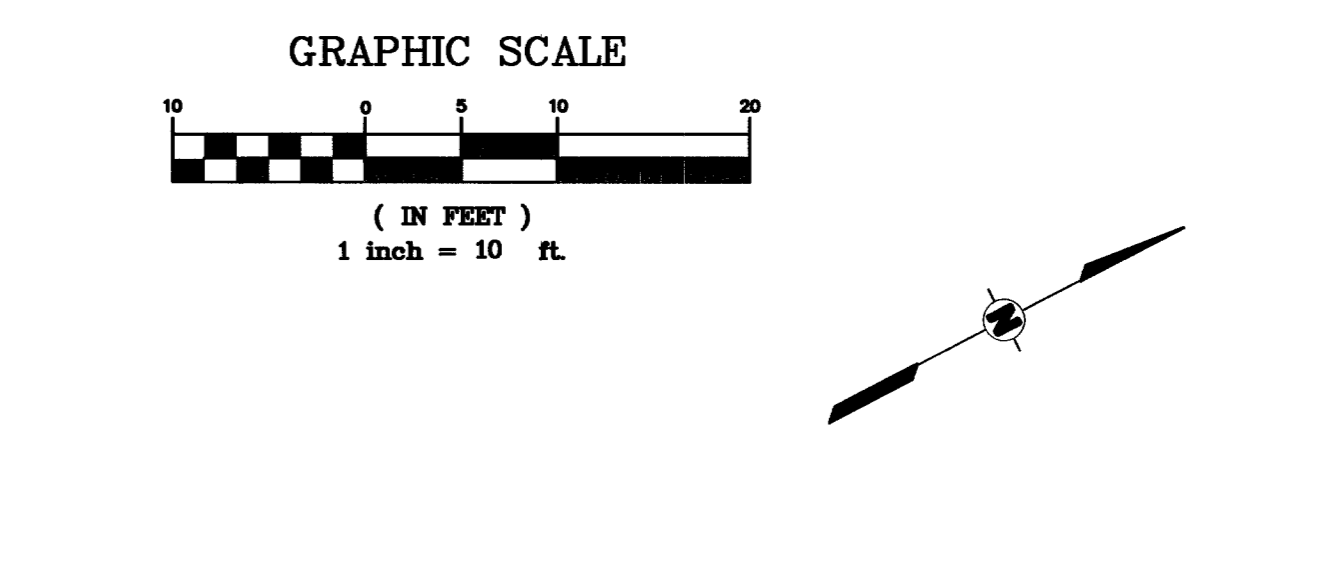
- WATER NOTES:**
- INSTALL 12" 45° BEND W/ THRUST BLOCKS PER UDACS PLATE No. 5.
  - START STEEL CASING PER WATER CROSSING DETAIL THIS SHEET.0
  - END STEEL CASING PER WATER CROSSING DETAIL THIS SHEET.
  - INSTALL 12" DIP WATER LINE.
  - ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS 1 CLSM. ESN. 038A, REV.04/20/05.
  - INSTALL FIRE HYDRANT PER UDACS PLATE No. 7, CONDITION A. FIRE FLOW IS 150 GPM AT 20PSI RESIDUAL.
  - INSTALL 12"x6" MECHANICAL JOINT TAPPING SLEEVE WITH 6" TAPPING VALVE PER UDACS PLATE No. 22.
  - INSTALL 6" PVC WATER LINE.
  - INSTALL LINE STOP, SEE BELOW FOR LINE STOP DETAIL.
  - CONTRACTOR TO PROTECT WATER VALVE IN PLACE AND CONSTRUCT CUR AROUND VALVE.

**LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES**  
SEE SHEET GN-3.

- NOTES:**
- ALL CASINGS ARE TO BE SYMMETRICAL ABOUT THE CENTER LINE OF PIPE.
  - STEEL PIPE CASING SHALL BE FABRICATED FROM A MINIMUM OF 1/4" THICK STEEL PLATES, CONFORMING TO THE REQUIREMENTS OF ASTM A283, GRADE B, C, OR D. ALL JOINTS SHALL BE WELDED. INTERIOR JOINTS SHALL BE GROUNDED TO A SMOOTH FINISH. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C201.4 AWWA STANDARD FOR FABRICATED ELECTRICALLY WELDED STEEL WATER PIPE. COATINGS FOR STEEL CASING ARE NOT REQUIRED.
  - PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
  - THE PIPE SHALL BE SUPPORTED AT EACH END OF EACH JOINT WITH SKIDS. THE ANNULAR SPACE BETWEEN THE PIPE AND THE CASING SHALL BE BACKFILLED WITH CLASS 1 CLSM. AFTER INSTALLATION OF THE PIPE, THE CASING SHALL BE SEALED AT BOTH ENDS WITH MORTARED BRICK OR CEMENT BRICK.
  - WHERE THE WATER LINE IS LESS THAN 18 INCHES OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE, AND WHERE THE HORIZONTAL SEPARATION, AS REQUIRED BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF THE STORM/SEWER LINE AS FOLLOWS:
    - EXTRA HEAVY CAST IRON PIPE;
    - WATER SUPPLY QUALITY MATERIALS; OR
    - CONCREMENT WITH FOUR INCHES, MINIMUM, OF CONCRETE OR SLEEVING WITH WATER SUPPLY QUALITY PIPE.

EACH OF THESE PROVISIONS SHALL ALSO BE EXTENDED FOR OTHER THAN 90 DEGREE CROSSINGS TO THE POINT AT WHICH THE TEN FOOT SEPARATION BETWEEN THE WATER AND SEWER LINES IS ACHIEVED (10/SINE OF CROSSING ANGLE.)

- NOTES:**
- ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.19 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR PORTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES. ESN. 064, REV.06/01/04.
  - INSTALL WATERLINE IN STEEL CASING PER UDACS PLATES NO. 15 AND 16. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF THE CASING. FROM THE UPPER BENDS THROUGHOUT THE LOWERED SECTION OF PIPE, DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED. IN ADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS. ESN. 038, REV.06/01/04.
  - ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS).
  - ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTE WATER COLLECTION SYSTEMS FOR SOUTHERN NEVADA.
  - DISPOSAL OF ABESTOS CEMENT PIPE SHALL BE IN ACCORDANCE WITH AWWA, LOCAL, STATE AND FEDERAL REGULATIONS. (ESN. 053 REVISED 6/1/04)

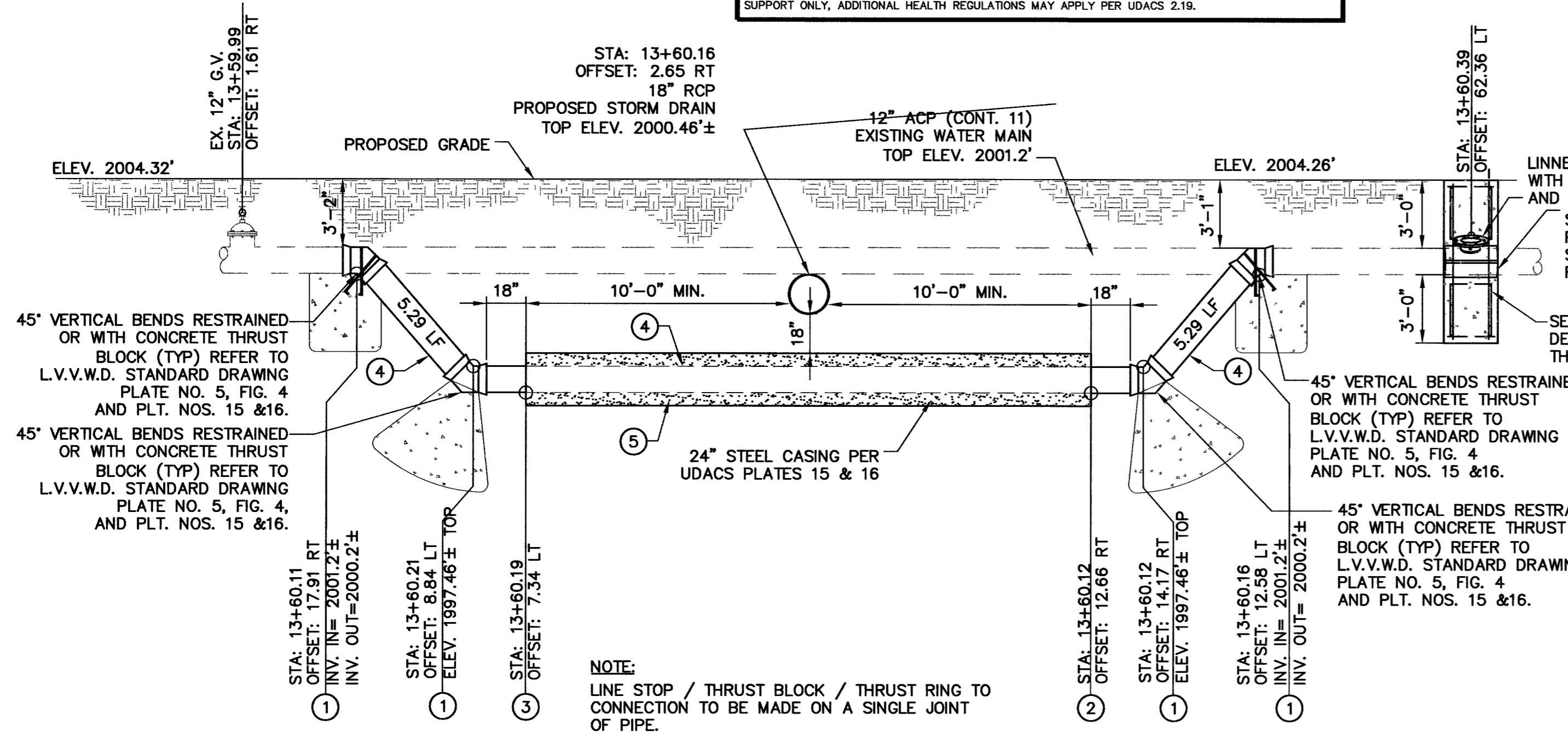


- ALL EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
- CONTRACTOR TO FIELD VERIFY EXISTING INVERT ELEVATION PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ON-SITE UTILITIES ARE TO BE INSTALLED PER THE CURRENTLY ADOPTED DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER AND POTABLE WATER SYSTEMS.

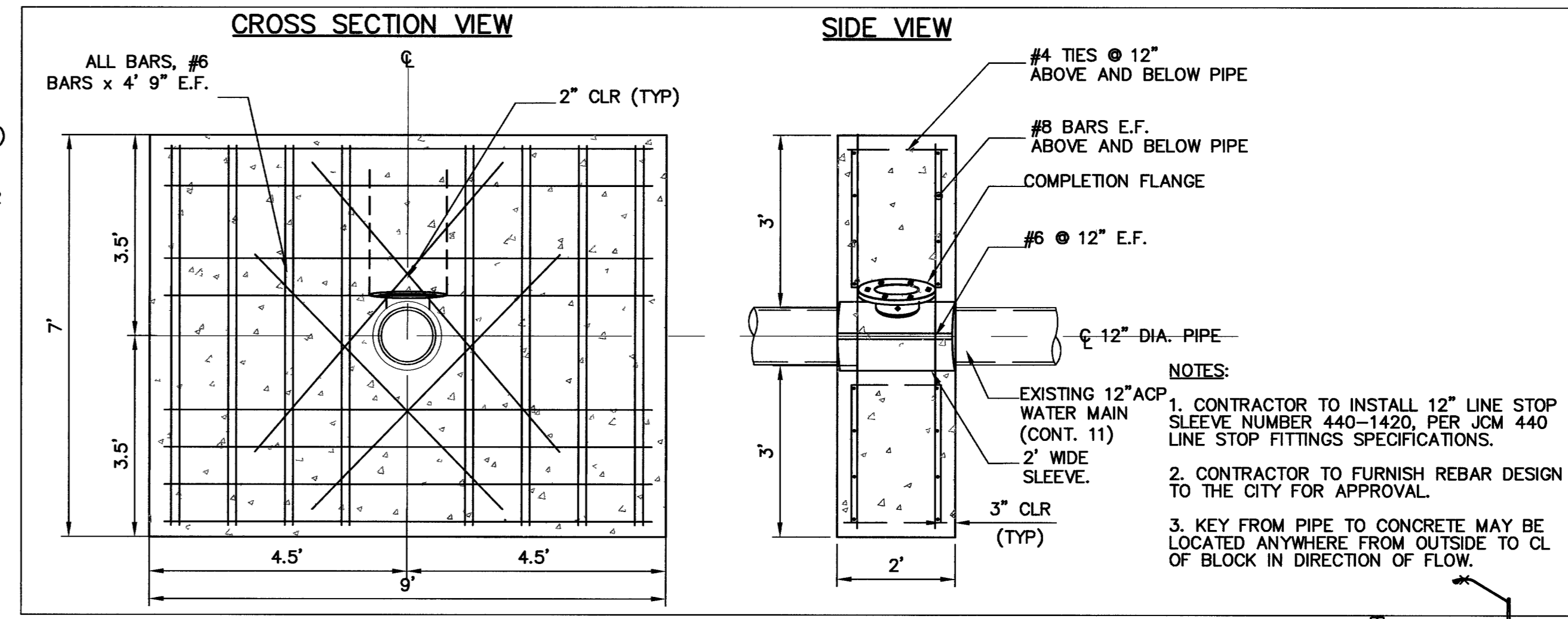
APPROVED FOR CONSTRUCTION  
*[Signature]* 10.12.06  
DATE

LAS VEGAS VALLEY WATER DISTRICT # 112802  
APNS# 139-34-699-003-005(OPTION 03)

PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS WITHIN 18" ABOVE A STORM DRAIN LINE, OR WHERE COMPACTION UNDER A WATERLINE CAN NOT BE MET, BACKFILL TRENCH WITH CEMENT SLURRY OR FLOWABLE FILL TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.19.



**STORM DRAIN WATER CROSSING DETAIL**  
NOT TO SCALE



**LINE STOP DETAIL**  
SCALE 1"=2"

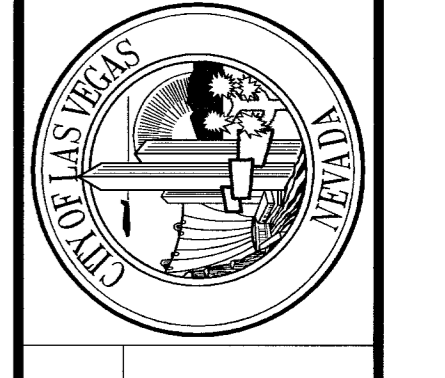
SEE GN-1 FOR SIGNATURE  
LAS VEGAS FIRE AND RESCUE  
DATE

**SAFETY ALERT**  
Call before you Dig  
1-800-227-2600

**Call before you Dig**  
UnderGround  
1-702-455-7511  
1-702-229-6611

DATE	REVISIONS
MARCH, 2006 <td></td>	

**Kimley-Horn and Associates, Inc.**  
Engineering, Planning, and Environmental Consultants  
1650 E. Flamingo Road, Suite S210, Las Vegas, NV 89119  
Ph. (702) 734-5666 Fax. (702) 734-5666



**DEPARTMENT OF PUBLIC WORKS**  
PROJECT: **FREMONT STREET PEDESTRIAN IMPROVEMENTS**  
LAS VEGAS BLVD. - 8TH ST.

SHEET: **STORM DRAIN WATER MAIN CROSSING**

**AMRIKANI ENGINEERS-STATE OF NEVADA**  
Exp. 12-31-06  
No. 14366  
CIVIL

SHEET NO. **LT-1**  
SHEET 26 OF 30  
DRAWING NO. **107V45681**