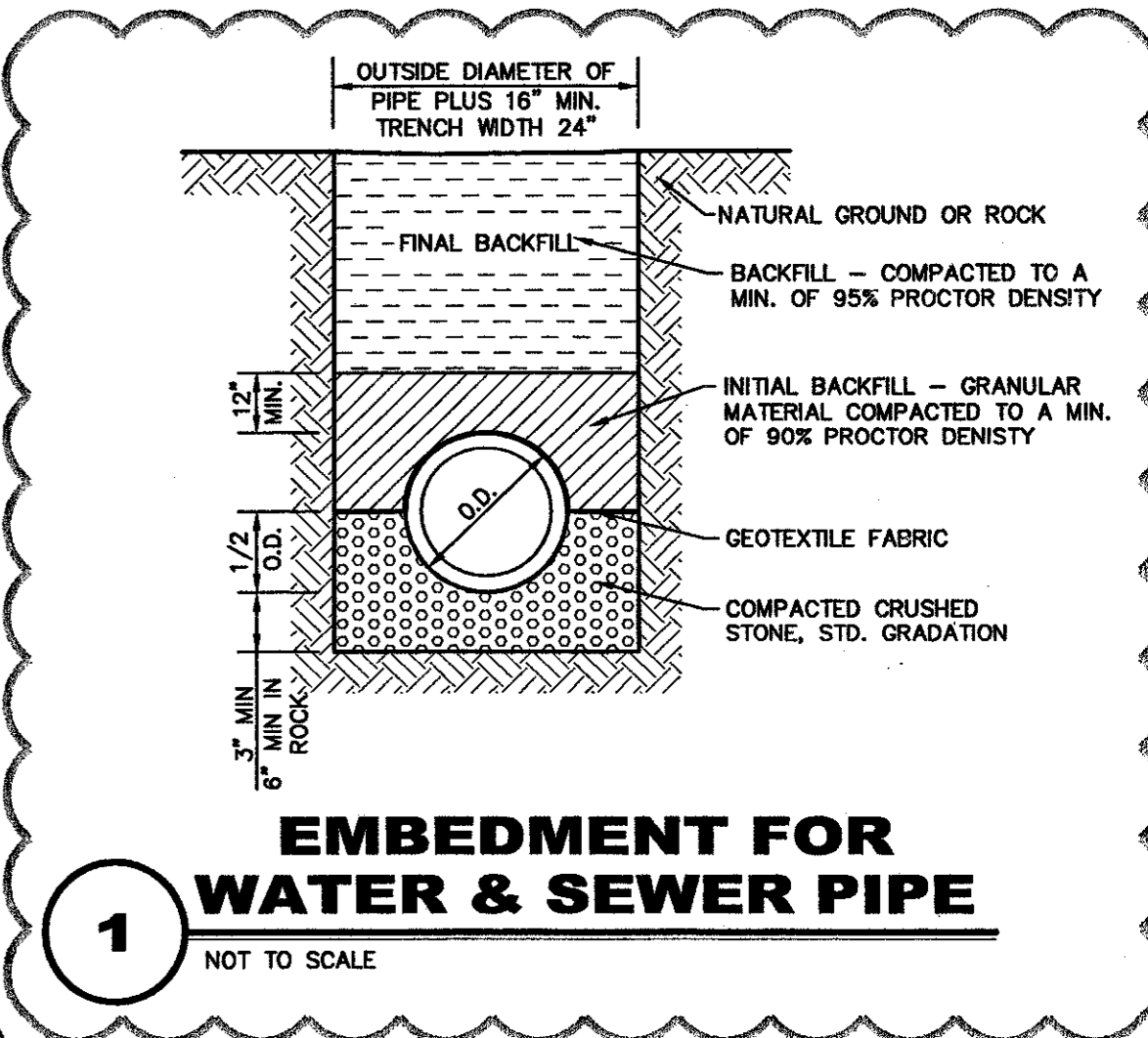


LEGEND

B	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
TR	TRAFFIC SIGN
IR	1/2" INCH IRON ROD
W/P	PACHECO KOCH CAP SET
CM	CONTROLLING MONUMENT
---	PROPERTY LINE
-X-	FENCE
OH	OVERHEAD UTILITY LINE
UW	UNDERGROUND WATER LINE
E	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
C	UNDERGROUND CABLE LINE
6"SS	UNDERGROUND SANITARY SEWER LINE



WATER AND SANITARY SEWER GENERAL NOTES

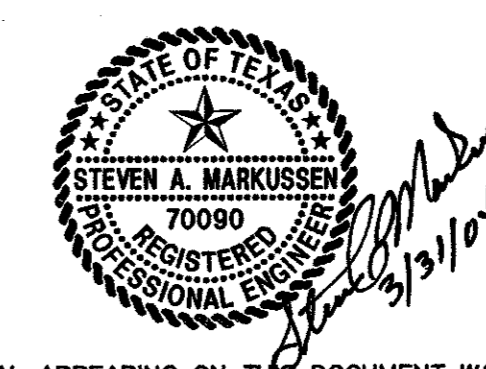
- UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL BE CLASS "A", (3000 PSI).
- ALL WATER MAINS SHALL BE PVC C909, OR 14, CLASS 150.
- WATER AND SANITARY SEWER SERVICES SHALL MEET PLUMBING CODE REQUIREMENTS.
- ALL WATER MAINS UNLESS OTHERWISE NOTED SHALL HAVE A MINIMUM COVER OF 48" BELOW FINISHED GRADE.
- SANITARY SEWER PIPE SHALL BE PVC SDR-35.
- WHEN WATER MAINS AND SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO EACH OTHER THAN NINE FEET IN ALL DIRECTIONS AND PARALLEL LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING GUIDELINES SHALL APPLY:
 - WHERE A SANITARY SEWER PARALLELS A WATERLINE, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING ASTM SPECIFICATIONS WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR FEET BETWEEN OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATERLINE.
 - WHERE A SANITARY SEWER CROSSES A WATERLINE AND THE SEWER IS CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI, AN ABSOLUTE MINIMUM SEPARATION OF SIX INCHES BETWEEN OUTSIDE DIAMETERS SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
 - WHERE A SEWER CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKETED JOINTS, A MINIMUM TWO FOOT SEPARATION DISTANCE SHALL BE MAINTAINED. IN ADDITION, THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
 - WHERE A SEWER CROSSES OVER A WATERLINE ALL PORTIONS OF THE SEWER WITHIN NINE FEET OF THE WATERLINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC PIPE WITH A PRESSURE RATING OF AT LEAST 150 PSI USING APPROPRIATE ADAPTERS. IN LIEU OF THIS PROCEDURE, THE NEW CONVEYANCE MAY BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE FEET INTERVALS WITH SPACERS OR BE FILLED TO THE SPRING LINE WITH WASH SAND. THE ENCASEMENT PIPE SHOULD BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.

- THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO BE INSTALLED PARALLEL TO AN EXISTING SEWER THAT SHOWS NO EVIDENCE OF LEAKAGE AND THE WATERLINE IS INSTALLED ABOVE THE SEWER A MINIMUM OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBPARAGRAPHS (A) OR (D) OF THIS PARAGRAPH.
- THE SEWER NEED NOT BE DISTURBED WHERE A NEW WATERLINE IS TO CROSS OVER (BY TWO FEET OR MORE) EXISTING SEWER SHOWING NO EVIDENCE OF LEAKAGE. SHOULD EXCAVATION FOR THE WATERLINE PRODUCE EVIDENCE THAT THE SEWER IS LEAKING, THEN THE SEWER MUST BE REPAIRED OR REPLACED AS DESCRIBED IN SUBSECTIONS (C) OR (D).
- CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL TIE A 1" WIDE PIECE OF RED PLASTIC FLAGGING TO THE END OF SEWER SERVICE AND SHALL LEAVE A MINIMUM OF 36" OF FLAGGING EXPOSED AFTER BACKFILL. AFTER CURB AND PAVING IS COMPLETED, CONTRACTOR SHALL MARK THE LOCATION OF THE SEWER SERVICE ON THE CURB OF ALLEY IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
- ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
- THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT TWO (2) FEET BACK OF THE CURB LINE AT A DEPTH OF 12 INCHES. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION WILL BE MARKED ON THE CURB, WITH A BLUE LETTER "W" BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS".
- ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
- UTILITY TRENCHES SHALL BE BACKFILLED WITH MATERIAL MEETING NCTCOG ITEM 6.2.10 AND MECHANICALLY COMPACTED IN 8" LIFTS TO THE TOP OF THE SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
- VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEAN-UP AND ALIGNMENT HAS BEEN COMPLETED, THE CONTRACTOR SHALL POUR A CONCRETE BOX 24"x24"x6" AROUND ALL VALVE BOXES TOPS SO THE FINISHED GRADE IS LEVEL WITH THE FINISHED GRADE.
- IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTORS EXPENSE.

BENCH MARKS

BM #3:	Cut "+" in walk on outside of curved drive near southeast corner of lower school.	Elev. 586.06
BM #4:	"□" cut - west end conc. headwall, north side Spring Valley, at southeast corner campus.	Elev. 578.47
BM #5:	"□" cut in walk at southeast corner intersection of drive along south side of preschool building and north-south drive into site from Spring Valley.	Elev. 588.20
BM #9:	"□" cut at NEC of electric MH on north side cafeteria, south side of drive along north side of campus.	Elev. 602.80
BM #10:	"□" cut on conc. step near northwest corner of upper school.	Elev. 596.85
BM #11:	"□" cut on conc step on walk exiting west side of library.	Elev. 596.44
BM #12:	"□" cut at intersection of walk along west side of lower school and walk along south side lower school.	Elev. 587.78

NOTE:
ALL WATER LINES SHOWN TO BE REMOVED ARE TO BE ABANDONED IN PLACE.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY STEVEN A. MARKUSSEN, P.E. 70980 ON 03/31/2004. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch Consulting Engineers						
8350 N CENTRAL EXPWY SUITE 1000 DALLAS, TEXAS 75206 972.235.3031						
WATER & SANITARY SEWER PLAN						
GREENHILL SCHOOL						
GREENHILL SCHOOL ADDITION						
THOMAS L. CHENOWETH SURVEY, ABSTRACT NO. 273						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BJM	FJM	NOV. 2003	1"=50'			C4.0

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