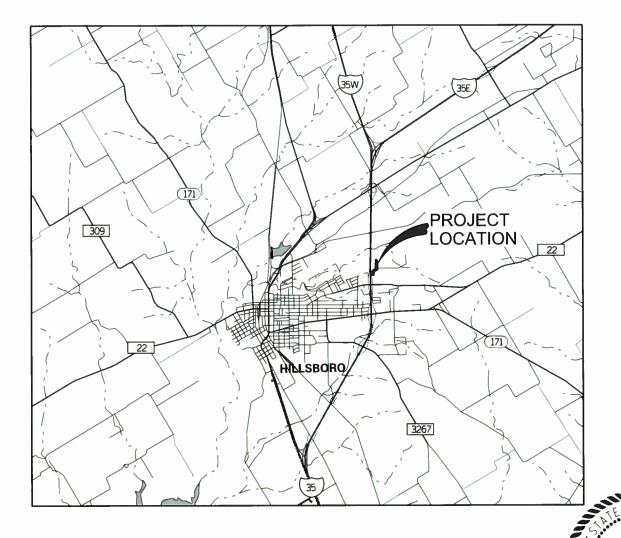
# **CONSTRUCTION PLANS**

**FOR** 

# SCOTT McDANIEL WATER LINE EXTENSION

OWNER:
SCOTT McDANIEL



SHEET INDEX									
NO.	DESCRIPTION								
1	GENERAL NOTES, OVERALL LAYOUT AND SURVEY CONTROL POINTS								
2	WATER LINE PLAN								
3	WATER DETAILS								

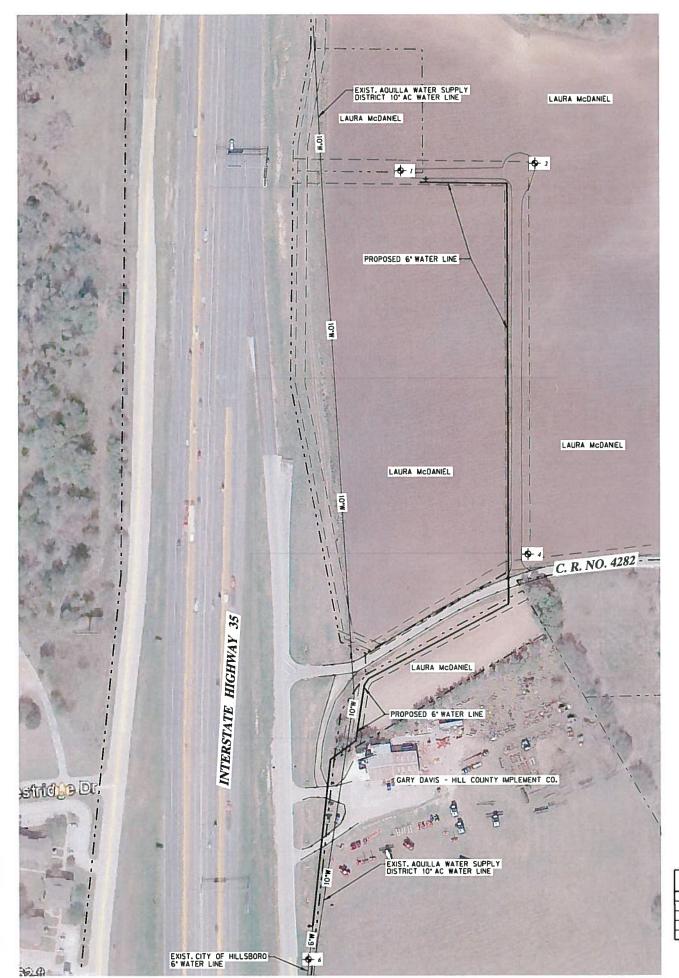
2013 HILLSBORO, TEXAS



211 N. RIDGEWAY DRIVE CLEBURNE, TEXAS 76033 TEX. REG. NO. F-702

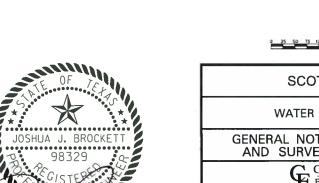
JOSHÚA J. BROCKETT, P.E.

10/25/2013 DATE



- THE EXISTING UTILITIES ARE SHOWN FOR REFERENCE ONLY. THEIR LOCATIONS ARE APPROXIMATE AND NOT TO BE CONSIDERED ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES WELL IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE AS NECESSARY. THE CONTRACTOR SHALL VERIFY THE DEPTH OF ALL EXISTING UTILITIES WELL IN ADVANCE OF PIPE LAYING ACTIVITIES SO THAT GRADE ADJUSTMENTS CAN BE MADE PRIOR TO THE CROSSING, FAILURE TO DO SO WILL RESULT IN GRADE ADJUSTMENTS AT THE CONTRACTOR'S EXPENSE.
- CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTROL POINTS ARE FURNISHED FOR THE CONTRACTOR'S USE TO STAKE THE PROPOSED IMPROVEMENTS. HE SHALL BE RESPONSIBLE FOR PROTECTING THESE POINTS AND TRANSFERRING THEM TO AM AREA OUTSIDE THE CONSTRUCTION LIMITS IF NECESSARY. THE PIPELINE IS LAID OUT USING NORTHING AND EASTING COORDINATES. THE CONTRACTOR IS REQUIRED TO USE A SURVEYOR WITH THE ABILITY TO STAKE THESE COORDINATES.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF HILLSBORD A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGED LITILITIES AT THE CONTRACTOR'S EXPENSE.
- WATER SHALL NOT BE TAKEN FROM THE CITY'S MAIN WITHOUT PRIOR KNOWLEDGE AND APPROVAL.
- THE CONTRACTOR SHALL STRIP AND STOCKPILE 6 INCHES OF TOP SOIL FROM THE CONSTRUCTION AREA PRIOR TO EXCAVATION. UPON COMPLETION OF THE CONSTRUCTION, THE TOP SOIL SHALL BE SPREAD IN A WORKMANLIKE MANNER.
- 7. EXCESS EXCAVATED MATERIAL SHALL BE SPREAD ON SITE AT THE DIRECTION OF THE OWNER/ENGINEER, LARGE ROCKS AND OTHER CONSTRUCTION DEBRIS SHALL BE HAULED OFFSITE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL RETURN ALL EXCAVATED AREAS, FENCES, SIDEWALKS, UTILITIES, PAVED AREAS, ETC. TO THEIR PRECONSTRUCTION CONDITION OR BETTER. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NOT A SEPARATE BID ITEM, UNLESS OTHERWISE SHOWN ON THE BID SCHEDULE.
- THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES AND SHALL BE RESPONSIBLE FOR ALL STORM WATER CONTROL, PUMPING, AND DEWATERING NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND NOT A SEPARATE PAY ITEM.
- 10. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AGAINST EROSION AND SILTATION, THIS SHALL INCLUDE BUT NOT BE LIMITED TO HAY BALE DIKES AND SILT FENCES AS REQUIRED.
- THE MINIMUM COVER SHALL BE 42 UNLESS OTHERWISE SHOWN ON PLANS. THE MINIMUM COVER AT COMBINATION AIR AND VACUUM RELEASE VALVES SHALL BE 60 TO PROVIDE ADEQUATE SPACE FOR ALL ASSOCIATED PLUMBING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVEGETATION (SEEDING, SODDING, HYDROMULCHING, ETC.) IN THE AREAS OF DISTURBED SOIL. THE REVEGETATED AREA(S) SHALL MATCH EXISTING GRASS OR GROUND COVER. HYDROMULCHING OR SODDING MAY BE SUBSTITUTED FOR SEEDING AT THE CONTRACTOR'S OPTION. THE COST OF REVEGETATION SHALL BE INCLUDED IN THE PER LF PIPE PRICE UNLESS OTHERWISE SHOWN ON THE BIO SCHEDULE.
- 13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL EXCAVATION WORK AND SITE CONDITIONS ARE WITHIN THE REGULATIONS AS ESTABLISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS AS CONTAINED IN SUBPART P, PART 1926 OF THE CODE OF FEDERAL REGULATIONS, OR LATEST REVISION THEREOF. OTHER OSHA STANDARDS ALSO APPLY.
- 14. ALL VALVE BOXES, MANHOLES, CLEAN OUTS OR OTHER APPURTENANCES REMAINING WITHIN THE CONSTRUCTION AREA SHALL BE ADJUSTED FLUSH WITH THE EXISTING GRADE.
- 15. THE CONTRACTOR SHALL ADHERE TO THE TCEO RULES GOVERNING SEPARATION DISTANCES AS FOUND IN THE RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS \$ 290,44 (e) AND THE DESIGN CRITERIA FOR SEWERAGE SYSTEMS \$ 217.53(d).
- 16. ALTHOUGH JOINTS MAY BE DEFLECTED ACCORDING TO MANUFACTURERS RECOMMENDATIONS IN ORDER TO AVOID MINOR P.I.'S IN THE ALIGNMENT, THE ALIGNMENT SHALL NOT VARY AS TO CAUSE THE PIPELINE TO EXTEND BEYOND THE EASEMENT LINE,
- 17. ALL C900, C805 OR C909 PVC PIPE SHALL BE DR 18 (CLASS 235).
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL OF THE NECESSARY FITTINGS, JOINT RESTRAINTS, BLOCKING AND INCIDENTALS AS REQUIRED TO CONSTRUCT THE PIPELINE AS SHOWN ON THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL RESTRAIN ALL FITTINGS, VALVES AND OTHER APPURTENANCES BY THE METHODS SPECIFIED. CONCRETE THRUST BLOCKS MAY BE USED IN ADDITION TO THE SELECTED JOINT RESTRAINT METHOD, BUT THE RESTRAINING AGENT AND THE RESTRAINED LENGTH SHALL BE DESIGNED TO WITHSTAND THE GENERATED THRUSTS WITH NO CONCRETE BLOCKING.
- 20. JOINTS OF PVC PIPE THAT ARE WITHIN THE REQUIRED RESTRAINED LENGTH AND THAT ARE LOCATED WITHIN STEEL CASING, SHALL BE RESTRAINED WITH CONCRETE BLOCKING.
- 21. CONCRETE THRUST BLOCKING SHALL NOT BE REQUIRED ON FITTINGS WHERE MECHANICAL JOINT RESTRAINTS ARE USED, EXCEPT THAT DEAD LINES SHALL BE BLOCKED.
- 22. ALL DUCTILE IRON PIPE, FITTINGS, VALVES, FIRE HYDRANT BASES, ETC. SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT.
- 23. ALL EXPOSED BOLTS AND NUTS SHALL BE OF 304 STAINLESS STEEL.
- 24. THE CONTRACTOR SHALL INSTALL 3°LOCATOR TAPE MARKED WATER ABOVE THE BEDDING.
- 25. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A STORM WATER POLLUTION PREVENTION PLAN AND SUBMITTING ALL REQUIRED TPDES DOCUMENTATION, INCLUDING N.O.I. AND N.O.T. FORMS, AND MEETING ALL REQUIREMENTS OF THE TOEO REGULATIONS.
- 26. ALL PAVEMENT SHALL BE SAW CUT TO A SMOOTH EDGE PRIOR TO REPAIRS BEING MADE.
- 27. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL HOUSES AND BUSINESSES EACH NIGHT AND SHALL FACILITATE AND DIRECT TRAFFIC AS REQUIRED DURING CONSTRUCTION ACTIVITIES.
- IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS, THE MOST RESTRICTIVE SHALL GOVERN.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL HOUSES AND BUSINESSES EACH NIGHT AND SHALL FACILITATE AND DIRECT TRAFFIC AS REQUIRED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL NOT DISTURB LARGE TREES IN THE TEMPORARY CONSTRUCTION EASEMENT, TREES THAT OVERHANG THE PERMANENT EASEMENT MAY BE TRIMMED AS NECESSARY.
- A TRENCH SAFETY SYSTEM DESIGN SHALL BE PROVIDED BY THE CONTRACTOR AS A SEPARATE SPECIFICATION ITEM FOR THIS PROJECT. THE TRENCH SAFETY SYSTEM PLANS AND SPECIFICATIONS MUST BE DESIGNED, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER CURRENTLY LICENSED TO PERFORM WORK IN THE STATE OF TEXAS, TRENCH EXCAVATION, SHORING ETC. SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PROVIDED THEREOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL EXCAVATION WORK AND SITE CONDITIONS ARE WITHIN REQULATIONS SETABLISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS AS CONTAINED IN SUBPART P, PART 1926 OF THE CODE OF FEDERAL REGULATIONS, OR LATEST REVISION THEREOF, OTHER OSHA STANDARDS APPLY. ANY PROPERTY DAMAGE OR BOOILY INJURY (INCLUDING DEATH) THAT ARISES FROM THE USE OF THE TRENCH EXCAVATION PLANS, FROM THE CONTRACTOR.

  CONTRACTOR'S NEGLIGENCE IN PERFORMANCE OF CONTRACT WORK, OR FROM THE OWNER'S FAILURE TO NOTE EXCEPTIONS TO THE EXCAVATION PLAN SHALL REMAIN THE SOLE RESPONSIBILITY AND LIABILITY OF THE CONTRACTOR.



SCOTT McDANIEL

WATER LINE EXTENSION

GENERAL NOTES, OVERALL LAYOUT AND SURVEY CONTROL POINTS



DESIGNED BY: JJB DRAWN BY: JDL/MDS

REV. BY DATE SYMBOL DATE: OCTOBER 2013

### SURVEY CONTROL POINTS

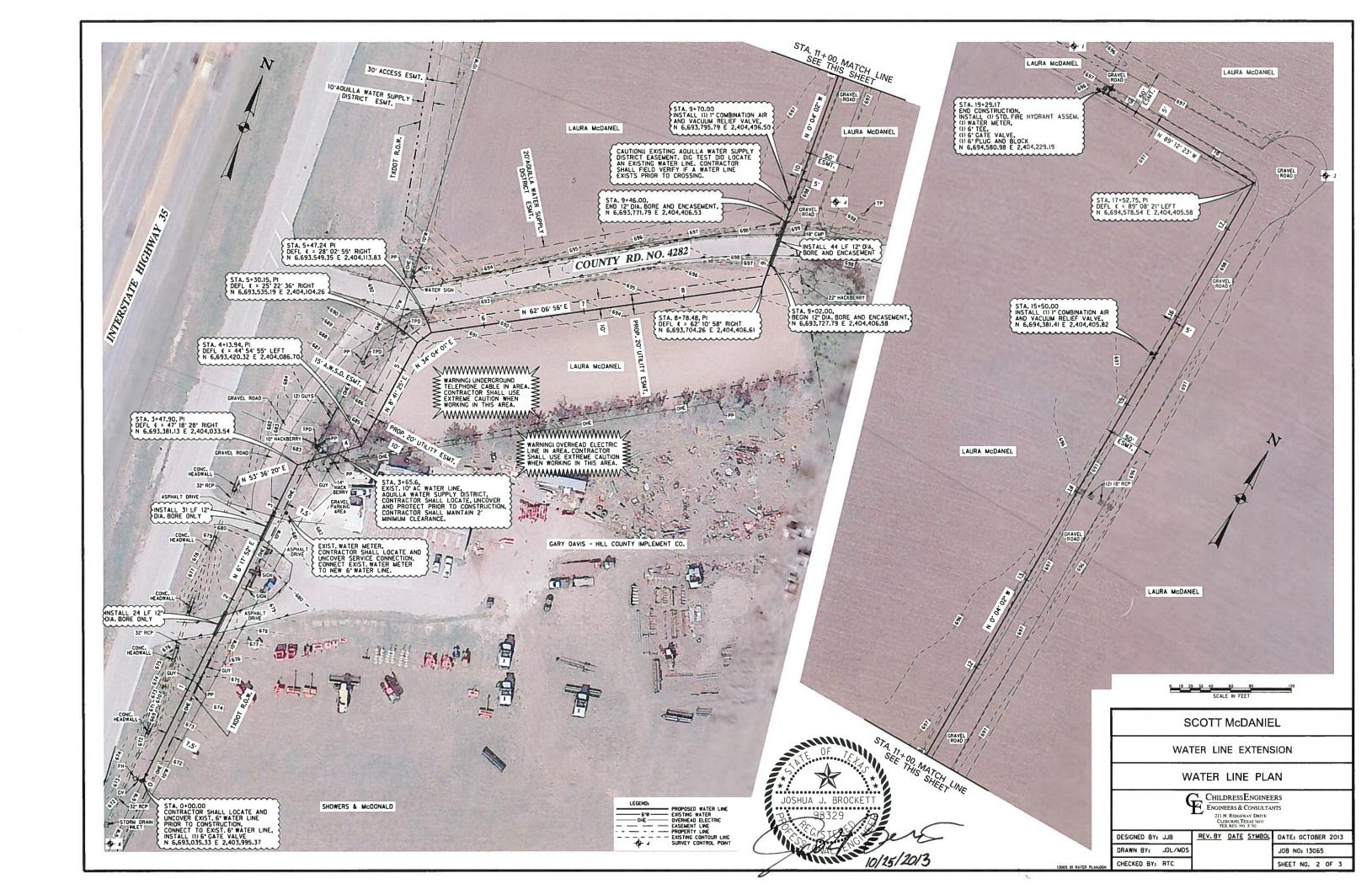
PNT.	NORTHING	EASTING	ELEVATION	DESCRIPTION		
1	6,694,606.03	2,404,183.14	696.23	% CAPPED IRON ROD		
2	6,694,620.13	2,404,463.61	697.65	% CAPPED IRON ROD		
4	6,693,807.56	2,404,446.75	697.80	% CAPPED IRON ROD		
6	6,692,965,36	2.403.985.91	670.61	54° CAPPED IRON ROD		

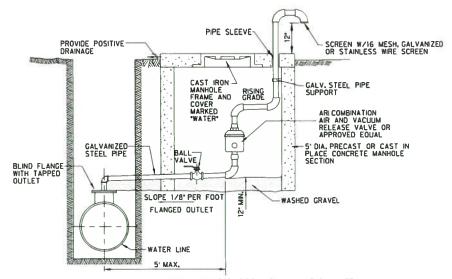
LEGEND:

2 SURVEY CONTROL POINT

CHECKED BY: RTC

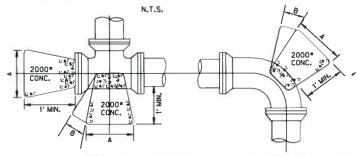
JOB NO: 13065 SHEET NO. 1 OF 3





• SIZE OF SERVICE CONNECTION, STEEL PIPE & BALL VALVE SHALL BE THE SAME SIZE AS INLET OPENING ON AIR/VACUUM BODY.

#### COMBINATION AIR AND VACUUM RELEASE VALVE N.T.S.



	TEES & PLUGS		90° BENDS		45° BENDS		22.5° BENDS	
PIPE SIZE	A	В	A	В	A	8	A	В
3°	18*	12"	18*	12*	12*	12*	12*	6.
4*	24'	18°	24°	18*	18*	12*	12*	12*
6*	36°	24°	36.	24"	24°	18*	18*	12°
8°	36°	24"	36.	24"	36*	24°	24"	18"
10'	42°	30.	42°	30°	40°	24°	30,	24*
12*	60°	36°	60'	45*	40"	30*	30°	24*

DIMENSIONS OF CONCRETE FOR THRUST BLOCKS AT FITTINGS

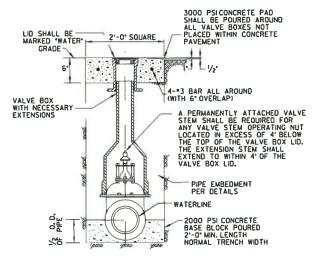
#### TYPICAL THRUST BLOCK DETAILS

CORPORATION STOP, MUELLER H-15025 OR EQUAL SERVICE CLAMP MUELLER H-10457 OR EQUAL STD. TEE 25" -45" 25" -45"

#### **DUCTILE IRON, STEEL OR PVC SERVICE TAPS**

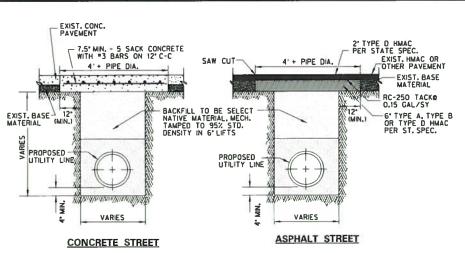
HDPE METER BOX AS REQUIRED BY THE WATER SUPPLY ANGLE STOPS MUELLER H-14250 OR EQUAL SEE TAP DETAILS MINIMUM 2° -PIT-RUN GRAVEL WATER METER

N.T.S.

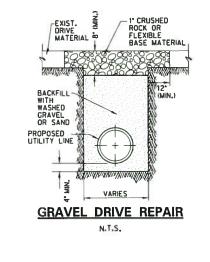


**GATE VALVE AND BOX** 

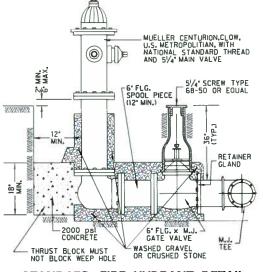
N.T.S.



**PAVEMENT REPAIR** 



N.T.S.



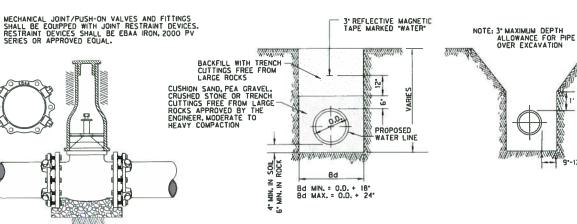
STANDARD FIRE HYDRANT DETAIL

DOUBLE SPACERS

R.O.W.

PLUG DOWNSTREAM— ENDS OF ENCASEMENT PIPE WITH PSI MODEL C END SEALS OR APPROVED EQUAL

N.T.S.



JOINT RESTRAINT DETAIL

R.O.W.

PLUG DOWNSTREAM ENDS OF ENCASEMENT PIPE WITH PSI MODEL C END SEALS OR APPROVED EQUAL

WATER MAIN

-12° DIA. WELDED STEEL CASING. 0.25 MIN. WALL THICKNESS



TRENCH DETAIL

N.T.S.

YAYAYA . YAYAYA

#### VALVE MARKER LINE MARKER

(FURNISH ONE VALVE MARKER PER VALVE, AND FURNISH TWO LINE MARKERS PER ROAD CROSSING, TYPICAL).

## N.T.S. GENERAL NOTES: WHERE A BORE PIT EXCEEDS FIVE (5) FEET IN DEPTH THE CONTRACTOR SHALL INSTALL SHORING OF THE PIT WALLS AS REQUIRED BY TEXAS STATE LAW (HB 662 AND HB 665) REGARDING THE SAFETY SYSTEMS TO BE USED DURING TRENCH EXCAVATION (AS STATED IN THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARDS).

RECON 'RACI' CASING SPACERS
OR APPROVED EQUAL, INSTALLED
PER MANUFACTORS SPECIFICATIONS
(DUCTILE IRON PIPE)

ALL BORE PITS SHALL BE BACKFILLED WITHIN FORTY EIGHT (48) HOURS OF UTILITY INSTALLATION, NO BORE PIT SHALL REMAIN OPEN IN EXCESS OF SEVENTY TWO (72) HOURS WITHOUT SHORING TO PREVENT CAVING OF PIT WALLS.

LENGTH AND I.D. SHOWN ON PLANS DITCH LINE TO DITCH LINE (TYP.)

**HIGHWAY CROSSING** 

WHERE A BORE IS TO BE PARTIALLY OR COMPLETELY ABANDONED, SAID BORE SHALL BE COMPLETELY FILLED WITH HYDRAULICALLY PLACED GROUT.

MINIMUM SLOPE OF ENCASEMENT PIPE 0.25%



WATER DETAILS

SCOTT McDANIEL

WATER LINE EXTENSION

CHILDRESS ENGINEERS
ENGINEERS & CONSULTANTS 211 N. RIDGEWAY DRIVE CLEBURNE. TEXAS 76033 TEX. REG. NO. F-702

DESIGNED BY: JJB DRAWN BY: JDL/MD CHECKED BY: RTC

REV. BY DATE SYMBOL DATE: OCTOBER 2013 JOB NO: 13065

SHEET NO. 3 OF 3