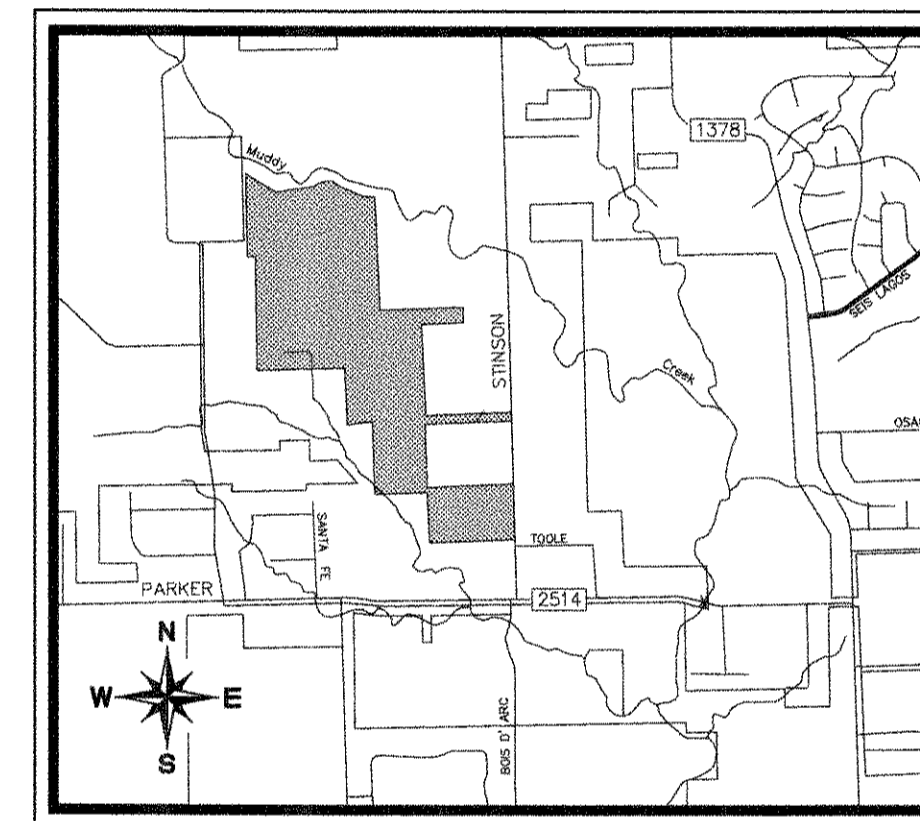


CIVIL PLANS FOR STINSON HIGHLANDS CONSTRUCTION SET

THIS PLAN SET IS FOR PHASE 1 CONSTRUCTION ONLY.

PHASE 2, PHASE 3, AND OFF-SITE 12" WATERLINE ARE
SHOWN FOR REFERENCE PURPOSES ONLY.
OFF-SITE WATERLINE REQUIRES THE OWNER TO
SECURE EASEMENTS PRIOR TO CONSTRUCTION.



LOCATION MAP
N.T.S.

LUCAS, TEXAS
COLLIN COUNTY
OCTOBER 5, 2011

PLANS SUBMITTAL/REVIEW LOG

CIVIL ENGINEERING PACKAGE 1ST SUBMITTAL - NOT FOR CONSTRUCTION	11/01/2007
CIVIL ENGINEERING PACKAGE 2ND SUBMITTAL FOR BIDDING PURPOSES ONLY - NOT FOR CONSTRUCTION	12/11/2007
CIVIL ENGINEERING PACKAGE 3RD SUBMITTAL ISSUED FOR CONSTRUCTION - GRADING ONLY	06/04/2008
CIVIL ENGINEERING PACKAGE ISSUED FOR BID	08/19/2011
CIVIL ENGINEERING PACKAGE 4th SUBMITTAL	09/17/2011
CIVIL ENGINEERING PACKAGE 5th SUBMITTAL	09/30/2011
ISSUED FOR CONSTRUCTION	10/05/2011

PREPARED FOR

D.R. HORTON
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CONTACT: DAVID BOOTH

ENGINEER



**Kimley-Horn
and Associates, Inc.**

Texas Registered Engineering Firm No. F-928
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INDEX OF SHEETS

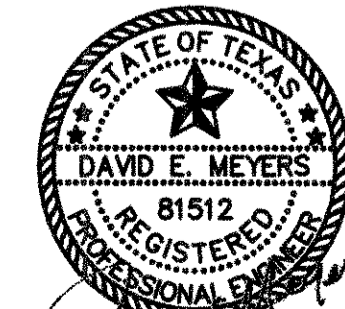
SHEET NO.	DESCRIPTION	REVISION
CIVIL ENGINEERING (KIMLEY-HORN AND ASSOCIATES)		
*C-1	COVER SHEET	
*C-2	PRELIMINARY PLAN - (6 SHEETS)	
*C-2A	GENERAL NOTES PLAN	
*C-3	PHASING PLAN	
*C-4	PAVING PLAN & PROFILE - CAMAN PARK DRIVE (BEG.-12+ 00)	
*C-5	PAVING PLAN & PROFILE - CAMAN PARK DRIVE (12+ 00-23+ 00)	
*C-6	PAVING PLAN & PROFILE - CAMAN PARK DRIVE (23+ 00-END)	
*C-7	PAVING PLAN & PROFILE - TURNBERRY LANE (BEG.-END)	
*C-8	PAVING PLAN & PROFILE - BRAE BURN WAY (BEG.-END)	
*C-9	PAVING PLAN & PROFILE - ABERDEEN DRIVE (BEG.-5+ 00)	
*C-10	PAVING PLAN & PROFILE - ABERDEEN DRIVE (5+ 00-END)	
*C-11	PAVING PLAN & PROFILE - CAIRN DRIVE (BEG.-END)	
*C-12	PAVING PLAN & PROFILE - INVERNESS COURT (BEG.-END)	
*C-13	PAVING PLAN & PROFILE - HIGHLAND DRIVE (BEG.-12+ 00)	
*C-14	PAVING PLAN & PROFILE - HIGHLAND DRIVE (12+ 00-23+ 00)	
*C-15	PAVING PLAN & PROFILE - HIGHLAND DRIVE (23+ 00-34+ 00)	
*C-16	PAVING PLAN & PROFILE - HIGHLAND DRIVE (34+ 00-END)	
*C-17	PAVING PLAN & PROFILE - INVERNESS LANE (BEG.-8+ 00)	
*C-18	PAVING PLAN & PROFILE - INVERNESS LANE (8+ 00-18+ 00)	
*C-19	PAVING PLAN & PROFILE - INVERNESS LANE (18+ 00-END)	
*C-20	PAVING PLAN & PROFILE - GALWAY DRIVE (BEG.-11+ 00)	
*C-21	PAVING PLAN & PROFILE - STIRLING DRIVE (11+ 00-END)	
*C-22	PAVING PLAN & PROFILE - BELMONT COURT (BEG.-END)	
*C-23	PAVING PLAN & PROFILE - GREENACRES LANE (BEG.-12+ 00)	
*C-24	PAVING PLAN & PROFILE - GREENACRES LANE (12+ 00-END)	
*C-25	PAVING PLAN & PROFILE - GLENDALE DRIVE (BEG.-9+ 00)	
*C-26	PAVING PLAN & PROFILE - GLENDALE DRIVE (9+ 00-END)	
*C-27	PAVING PLAN - STINSON ROAD	
*C-28	TRAFFIC SIGNAGE AND LIGHTING PLAN	
*C-29 - C-32	GRADING PLAN - (10 SHEETS)	
*C-33	DRAINAGE AREA MAP - SOUTH	
*C-34	DRAINAGE AREA MAP - NORTH	
*C-35	EXISTING DRAINAGE AREA MAP	
*C-36	STORM CULVERT PROFILE - CULVERTS "A" - "F"	
*C-37	STORM CULVERT PROFILE - CULVERTS "H" - "M"	
*C-38	STORM CULVERT PROFILE - CULVERTS "N" - "S"	
*C-39 - C-46	WATER PLAN - (9 SHEETS)	
*C-47	12" WATER PROFILE - LINE "A" (BEG.-23+ 00)	
*C-48	12" WATER PROFILE - LINE "A" (23+ 00-END)	
*C-49	OFFSITE WATER PLAN (1 OF 8) (NOT IN CONTRACT)	
*C-50	OFFSITE WATER PLAN (2 OF 8) (NOT IN CONTRACT)	
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*C-56	OFFSITE WATER PLAN (8 OF 8) (NOT IN CONTRACT)	
*C-57	EROSION CONTROL PLAN	
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*C-59	HYDROLOGY CALCULATIONS	
*C-60	HYDROLOGY DETAILS	
*C-61	PAVING DETAILS & CROSS SECTION	
*C-62	UTILITY DETAILS	
*C-63	WATER DETAILS	
*C-64	WATER DETAILS	
*C-65	STORM DETAILS	

*INCLUDED IN THIS RECORD DRAWING SET

PLAN REVISION LOG

NO.	DATE	DESCRIPTION

"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
DATE: 5-3-2012 BY: David E. Meyers



GENERAL NOTES:

- 1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS AND THE CITY OF LUCAS DEVELOPMENT SERVICES' STANDARD CONSTRUCTION DETAILS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OFFSITE OF ANY EXISTING PAVING AND STRUCTURES REMOVED.
4. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES WHERE PROPOSED UTILITIES ARE BEING CONNECTED.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE CONSTRUCTION RECORD PLANS.
6. OWNER SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEYING.
7. WATER SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LUCAS STANDARDS AND SPECIFICATIONS.
8. ALL EXISTING TRAFFIC AND STREET SIGNS DISTURBED SHALL BE REINSTALLED WHERE APPLICABLE BY THE CONTRACTOR.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING STRUCTURES, UTILITIES, AND SERVICES PRIOR TO EXCAVATION AND CONSTRUCTION.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY COMPANIES FOR THE RELOCATION OF ANY EXISTING UTILITIES.
11. CONTRACTOR SHALL USE ALL NECESSARY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES.
12. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS, INCLUDING EXISTING GRADES AND UTILITY FLOW LINES, AND SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
13. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES DUE TO HIS CONSTRUCTION ACTIVITIES AT NO COST TO THE OWNER.
14. ALL EXISTING SHRUBS, TREES, PLANTING, AND OTHER VEGETATION, OUTSIDE OF PROPERTY LIMITS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH EQUIVALENT MATERIAL BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
15. THE CONTRACTOR SHALL CONSTRUCT SILT SCREENS OR OTHER APPROVED DEVICES PRIOR TO CONSTRUCTION TO PREVENT ADVERSE OFF SITE IMPACT OF STORM WATER QUALITY, AS REQUIRED BY THE CITY OF LUCAS.
16. CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS OFFSITE FROM THE EXISTING ROADWAYS AND AREAS THAT ARE A RESULT OF THE PROPOSED CONSTRUCTION AS REQUESTED BY THE CITY OF LUCAS.
17. CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT AND PROFESSIONAL MANNER.
18. WATER SHALL NOT BE PERMITTED IN OPEN TRENCHES DURING CONSTRUCTION.
19. CONTRACTOR SHALL CONTACT THE CITY ENGINEERING DEPARTMENT'S INSPECTOR ASSIGNED TO THIS PROJECT AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
20. CONTRACTOR IS RESPONSIBLE FOR GRASSING DISTURBED AREAS FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY AND AREAS OTHERWISE SPECIFIED ON THE PLANS.
21. ALL PRIVATE LANDSCAPE AREA DRAINS SHALL BE OF MATERIAL APPROVED BY BOTH ENGINEER AND CITY OF LUCAS.
22. CONTRACTOR IS TO CONSTRUCT A STABILIZED CONSTRUCTION EXIT AT ALL PRIMARY POINTS OF ACCESS.
23. ANY WATER SERVICE LOCATED OUTSIDE OF A STREET, ALLEY, OR EASEMENT SHALL BE INSTALLED BY A PLUMBER AND BE INSPECTED BY CODE ENFORCEMENT.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TRENCH SAFETY PLAN TO THE CITY OF LUCAS PUBLIC WORKS DEPARTMENT AT THE TIME OF THE PRECONSTRUCTION MEETING, OR PRIOR TO BEGINNING CONSTRUCTION OF THESE IMPROVEMENTS.
25. DURING CONSTRUCTION, ALL MATERIAL TESTING SHALL BE COORDINATED WITH THE CITY OF LUCAS'S CONSTRUCTION INSPECTOR.
26. CONTRACTOR SHALL CONTACT THE CITY BUILDING OFFICIAL TO LEARN OF ANY UNUSUAL CONSTRUCTION SEQUENCING REQUIREMENTS THE CITY MAY REQUIRE.
27. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH CITY SPECIFICATIONS FOR PAVING CONSTRUCTION, COMPACTION REQUIREMENTS, AND SUBGRADE PREPARATION.
28. CONTRACTOR TO REVIEW DESIGN INTENT OF THESE PLANS AND SUBMIT REQUESTS-FOR-INFORMATION IN A TIMELY MANNER PRIOR TO COMMENCING THAT WORK.
29. REFER IRRIGATION PLANS PROVIDED BY OTHERS FOR SLEEVING REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH FRANCHISE UTILITY COMPANIES FOR SLEEVING REQUIREMENTS PRIOR TO ANY PAVING ACTIVITIES.
30. ALL APPURTENANCES INSTALLED IN PAVEMENT AREAS SHALL BE ADJUSTED AS REQUIRED TO BE FLUSH WITH FINISHED PAVEMENT.
31. ALL SLEEVES NOTED ON PLANS SHALL BE SCH 40 PVC. SLEEVES SHALL BE INSTALLED 3' BELOW FINISH GRADE, AND EXTENDED 5' BEYOND EDGE OF PAVEMENT.

STORM DRAINAGE

- 1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF LUCAS STANDARD SPECIFICATIONS AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER OF ANY CONFLICTS DISCOVERED.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION.
4. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE TRENCH SAFETY DURING ALL PHASES OF CONSTRUCTION.
6. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
7. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
8. THE INSPECTOR SHALL INSPECT ALL "PUBLIC" CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
10. ALL PVC TO RCP CONNECTIONS SHALL BE CONSTRUCTED WITH CONCRETE COLLARS.
11. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION, AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY OF LUCAS.
12. THE OWNER SHALL PROVIDE CONSTRUCTION STAKING FOR ALL STORM SEWER LINES AND OTHER UTILITIES.
13. EMBEDMENT FOR ALL ONSITE SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY OF LUCAS STANDARD DETAILS.
14. REFER TO TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR ALL UTILITY CROSSINGS.

GRADING

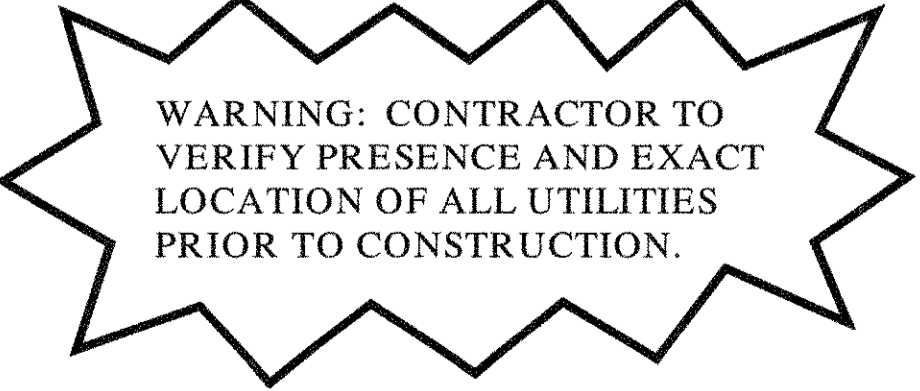
- 1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF LUCAS STANDARD SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREAS REFLECT TOP OF PAVEMENT SURFACE.
3. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER OF ANY CONFLICTS DISCOVERED.
4. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION.
5. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST.
6. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
7. BEFORE ANY EARTHWORK IS PERFORMED, THE OWNER SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED BY THE PLANS.
8. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. THAT ARE TO REMAIN OR BE RELOCATED DURING ALL CONSTRUCTION PHASES.
9. EXISTING OFFSITE CONTOURS AS SHOWN ON THIS PLAN WERE TAKEN FROM AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY OTHERS.
10. REFERENCE STRUCTURAL DRAWINGS AND SPECIFICATIONS AND GEOTECHNICAL REPORT FOR BUILDING PAD AND PAVING SUBGRADE INFORMATION.
11. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS.
12. GRADING CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS.
13. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS.
14. CONTRACTOR SHALL CALL 1-800-DIG-TESS AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION FOR FIELD LOCATIONS OF UTILITIES IN THE VICINITY OF THE SITE.
15. PROPOSED CONTOURS ARE APPROXIMATE.
16. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS PRIOR TO CONSTRUCTION.
17. REFER TO EROSION CONTROL PLAN FOR EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
18. NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE.
19. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL PRIOR TO COMMENCING CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE CONSTRUCTION COMMENCES.
20. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING.

PAVING

- 1. ALL CONSTRUCTION SHALL BE IN GENERAL ACCORDANCE WITH THESE PLANS, CITY OF LUCAS STANDARD SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER OF ANY CONFLICTS DISCOVERED.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION.
4. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
5. BEFORE ANY EARTHWORK IS DONE, THE OWNER SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED BY THE PLANS.
6. THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. THAT ARE TO REMAIN OR BE RELOCATED DURING ALL CONSTRUCTION PHASES.
7. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS.
8. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS.
9. BARRIER FREE RAMPS SHALL BE CONSTRUCTED AT ALL DRIVEWAY APPROACHES PER CITY STANDARDS.
10. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
11. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS.
12. REFER TO GEOTECHNICAL REPORT (ALPHA REPORT NO. G051082) FOR PAVING RECOMMENDATIONS, REINFORCEMENT STEEL, AND SOIL COMPACTION SPECIFICATION.
13. REFER TO GEOTECHNICAL REPORT FOR REINFORCEMENT STEEL.
14. ALL HANDICAP RAMPING, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT OF 1990.
15. REFERENCE CITY OF LUCAS STANDARD CONSTRUCTION DETAILS FOR HANDICAP RAMP AND OTHER PAVING DETAILS.
16. REFERENCE LANDSCAPE PLANS FOR LOCATION AND TYPE OF HANDICAP RAMPS TO BE PROVIDED AND FOR FLATWORK.
17. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION, AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY OF LUCAS.
18. CONTRACTOR RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY CITY OF LUCAS OF TRAFFIC CONTROL PLAN PRIOR TO START OF CONSTRUCTION.
19. SIDEWALKS ADJACENT TO CURB SHALL BE CONNECTED TO BACK OF CURB USING LONGITUDINAL BUTT JOINT.
20. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE LOCATED OUT OF THE PEDESTRIAN AND AUTOMOBILE ROUTES AND SHALL BE LOCATED BETWEEN THREE TO FIVE FEET BEHIND THE NEAREST BACK OF CURB.
21. UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
22. CONTRACTOR RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT.
23. REFER TO GEOTECHNICAL REPORT FOR SOIL COMPACTION SPECIFICATION.

REFER TO TNRC/TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR ALL UTILITY CROSSINGS.

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WATER

- 1. ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE REQUIREMENTS SET FORTH IN THE CITY OF LUCAS MANUAL FOR GENERAL PROCEDURES FOR THE DESIGN OF WATER AND SEWER LINES.
2. IN THE EVENT AN ITEM IS NOT COVERED BY THIS MANUAL, THEN THE N.T.C.O.G. GENERAL SPECIFICATIONS COVERING SUCH ITEMS SHALL APPLY.
3. WATER MAINS SHALL BE PVC C-900 DR 14, EXCEPT WHEN OTHERWISE NOTED.
4. SEWER PIPE SHALL BE MINIMUM SDR 35 PVC OR ULTRA RIB PVC SDR 26.
5. WATER MAINS SHALL HAVE THE FOLLOWING MINIMUM COVER BELOW STREET GRADES:
6. PLASTIC TAPE FOR UTILITY SERVICES SHALL BE ATTACHED TO THE ENDS OF ALL WATER AND SEWER SERVICE LINES AND EXTEND ABOVE GROUND LEVEL.
7. ALL FIRE HYDRANTS SHALL BE MOELLER OR APPROVED EQUAL.
8. ALL FIRE HYDRANTS SHALL BE FURNISHED WITH ONE (1) "AG-45 4-1/2" N.S.T. HYDRANT COMPONENT" AS MANUFACTURED BY HYDRA-LOK, INC.
9. VIDEO TAPE OF SEWER LINE TO BE PROVIDED TO DIRECTOR OF PUBLIC SERVICES, BY THE CONTRACTOR.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LOCATIONS OF EXISTING PUBLIC AND PRIVATE UTILITIES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION.
11. REFER TO SITE GRADING PLANS, PAVING PLANS, AND LANDSCAPE PLANS FOR FINAL GRADES FOR DETERMINING PROPOSED MANHOLE RIM ELEVATIONS.
12. LOCATIONS AND SIZES OF EXISTING PUBLIC AND PRIVATE UTILITIES SHOWN ON THESE PLANS ARE FROM CITY AND UTILITY COMPANY RECORDS ONLY.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING "RECORD" PLANS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN, COORDINATING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING AND/OR CROSSING OTHER UTILITIES.
15. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE UTILITIES.
16. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE TRENCH SAFETY DURING ALL PHASES OF CONSTRUCTION.
17. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION, AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY OF LUCAS.
18. THE OWNER SHALL PROVIDE CONSTRUCTION STAKING FOR ALL WATER AND SANITARY SEWER LINES AND OTHER UTILITIES.
19. REFER TO TNRC/TCEQ DESIGN GUIDELINES (CHAPTER 290) FOR ALL UTILITY CROSSINGS.

EROSION CONTROL GENERAL NOTES :

- 1. SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS.
2. A BERMED OR OTHERWISE SPILL PROTECTED AREA SHALL BE SPECIFIED BY THE CONTRACTOR FOR THE LOCATION OF ANY ON-SITE FUEL STORAGE TANKS.
3. TEMPORARY SEEDING OR OTHER METHOD OF STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
4. ALL STAGING AREAS, STOCKPILES, SPOOLS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY.
5. UPON COMPLETION OF THE FINAL GRADING, ALL SURFACE AREAS DISTURBED WITHIN OR ADJACENT TO THE CONSTRUCTION LIMITS SHALL BE PERMANENTLY STABILIZED.
6. EROSION CONTROL DEVICES MAY BE ADDED OR REDUCED IN THE FIELD AS DIRECTED BY THE OWNERS REPRESENTATIVE.
7. MAINTENANCE - EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS INSPECTION DEMANDS NECESSARY OR AS DIRECTED BY THE OWNERS REPRESENTATIVE.
8. THE CONTRACTOR IS RESPONSIBLE FOR REESTABLISHING ANY EROSION CONTROL DEVICE WHICH HE DISTURBS.
9. OPEN ENDS OF STORM SEWER PIPES SHALL BE ADEQUATELY PROTECTED AT THE END OF EACH DAY BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRTY SPRAYS AND SCATTERINGS IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE MEASURES TO CONTROL DUST.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES A MINIMUM OF ONCE A WEEK OR AFTER EACH RAINFALL EVENT.

Record Drawings These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. DATE: 5-3-2011 BY: David E. Meyer

Table with columns: No., Date, Revisions, App.

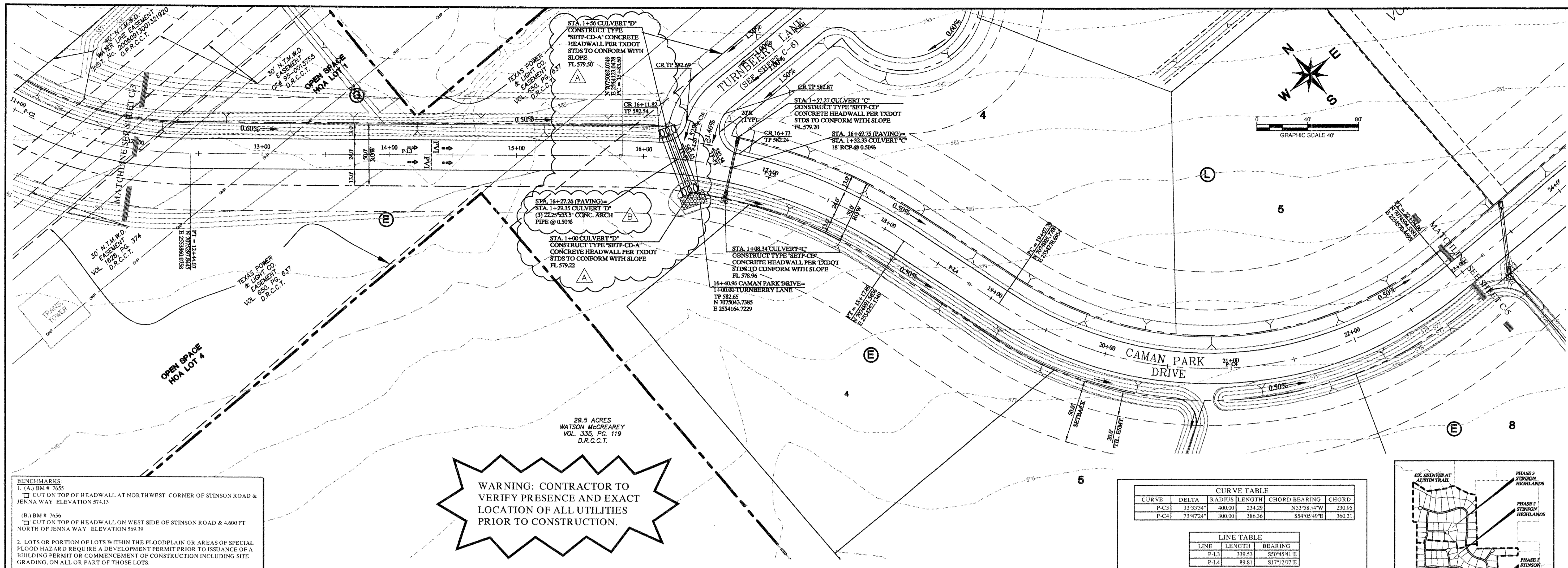
Kimley-Horn and Associates, Inc. Registered Engineering Firm, No. 12700 State Park Circle, Suite 1800, Dallas, Texas 75261. Seal of David E. Meyer, State of Texas, No. 8187, Exp. 08/31/2011.

STINSON HIGHLANDS LUCAS, TEXAS

GENERAL NOTES

Table with columns: Scale, N/A, Designed by: RHA, Drawn by: RYG, Checked by: LRO, Date: JANUARY 9, 2012, Project No.: 064347001

IMAGES: MK01, XAS0, XAR0, XRF, XDR0, XAS1, XAS2, XAS3, XAS4, XAS5, XAS6, XAS7, XAS8, XAS9, XAS10, XAS11, XAS12, XAS13, XAS14, XAS15, XAS16, XAS17, XAS18, XAS19, XAS20, XAS21, XAS22, XAS23, XAS24, XAS25, XAS26, XAS27, XAS28, XAS29, XAS30, XAS31, XAS32, XAS33, XAS34, XAS35, XAS36, XAS37, XAS38, XAS39, XAS40, XAS41, XAS42, XAS43, XAS44, XAS45, XAS46, XAS47, XAS48, XAS49, XAS50, XAS51, XAS52, XAS53, XAS54, XAS55, XAS56, XAS57, XAS58, XAS59, XAS60, XAS61, XAS62, XAS63, XAS64, XAS65, XAS66, XAS67, XAS68, XAS69, XAS70, XAS71, XAS72, XAS73, XAS74, XAS75, XAS76, XAS77, XAS78, XAS79, XAS80, XAS81, XAS82, XAS83, XAS84, XAS85, XAS86, XAS87, XAS88, XAS89, XAS90, XAS91, XAS92, XAS93, XAS94, XAS95, XAS96, XAS97, XAS98, XAS99, XAS100

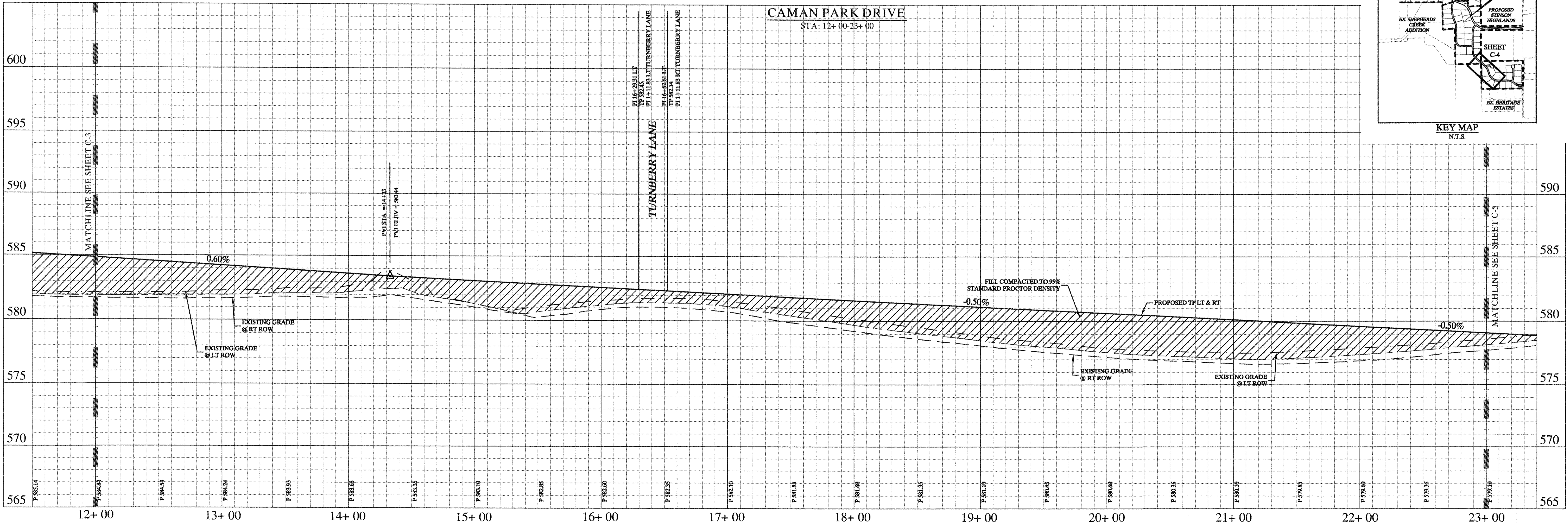
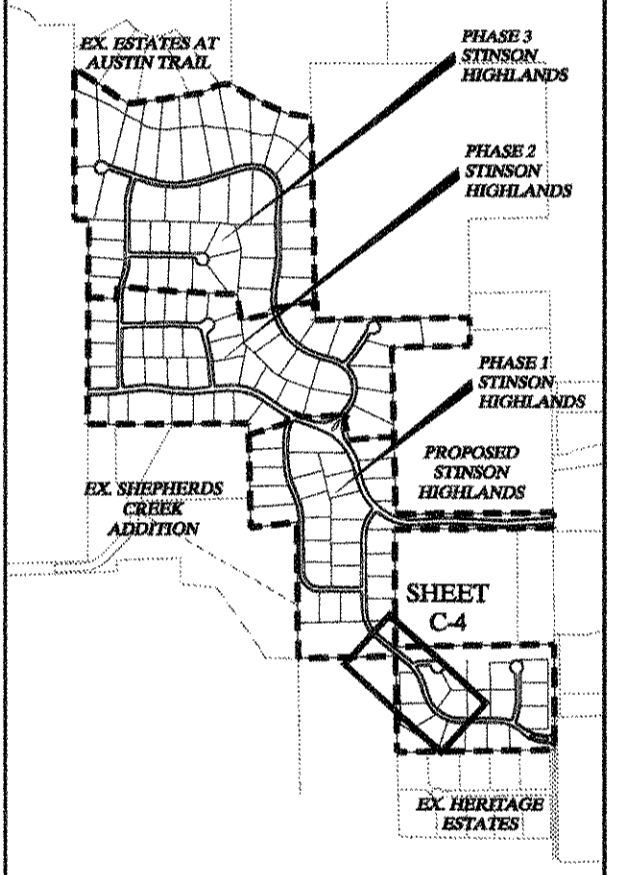


BENCHMARKS:
 1. (A) BM # 7655
 CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
 CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4.600 FT NORTH OF JENNA WAY ELEVATION 569.39
 2. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.

WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C3	33°33'34"	400.00	234.29	N33°33'34"W	230.95
P-C4	73°47'24"	300.00	386.36	S54°05'49"E	360.21

LINE TABLE	
LINE	BEARING
P-L3	S89°55'41"E
P-L4	S17°12'07"E



STOP!
CALL BEFORE YOU DIG
 DIG TESS
 1-800-DIG-TESS
 (at least 72 hours prior to digging)

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "as-built", but are based on the information made available.
 DATE: 5-3-2011 BY: Carol Mayfield

NOTES:
 1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 3. REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

NO.	DATE	REVISIONS
09-17-11		REVISED CULVERT SIZE
07-23-08		CULVERT D ALIGNMENT REVISED

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-5228
 12700 Park Center Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 735-1300
 Fax No. (972) 735-1820

STINSON HIGHLANDS
LUCAS, TEXAS

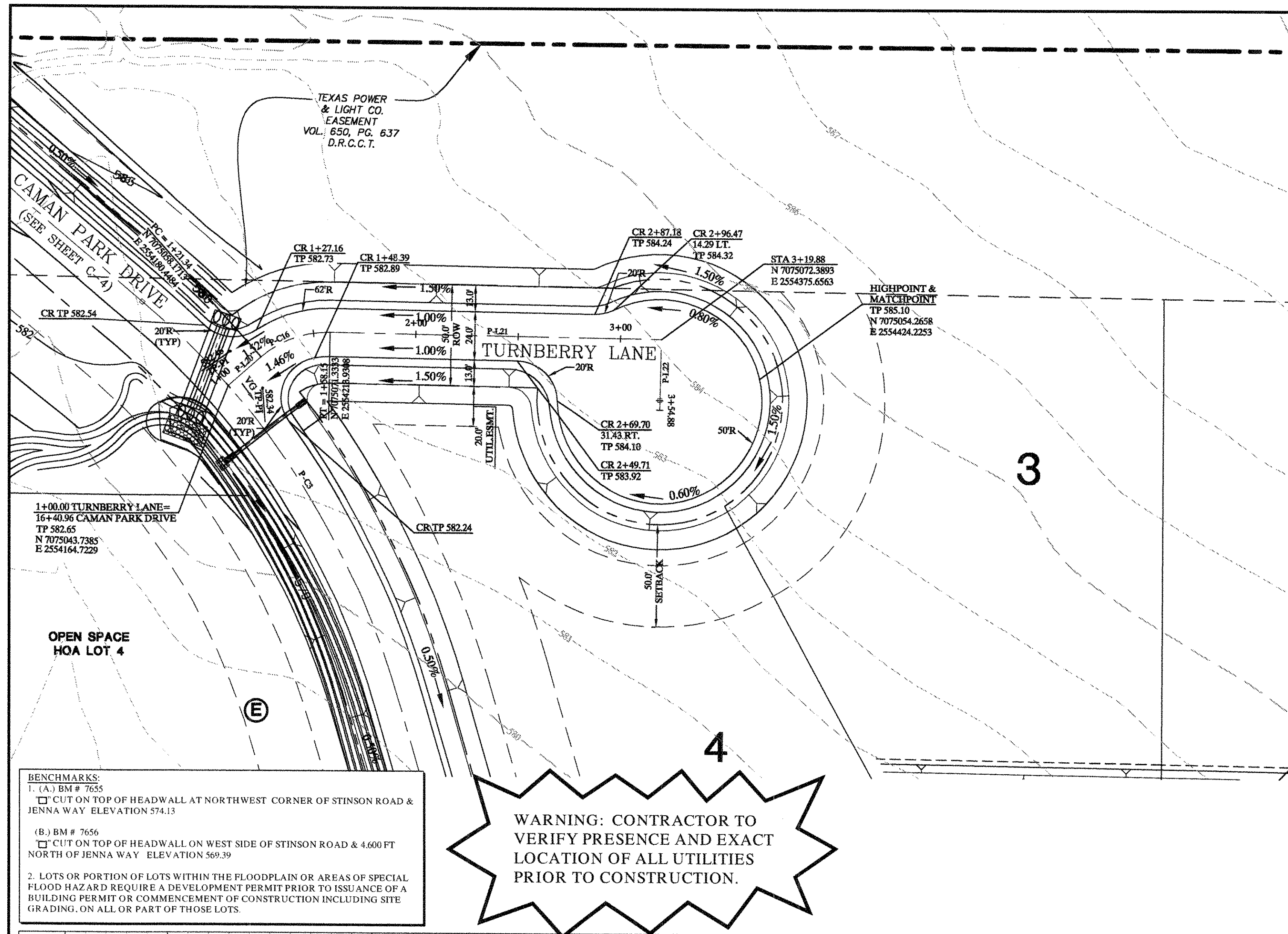
PAVING PLAN AND PROFILE
CAMAN PARK DRIVE
(STA: 12+ 00 - 23+ 00)

Scale: 1" = 40' H, 1" = 4' V

Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

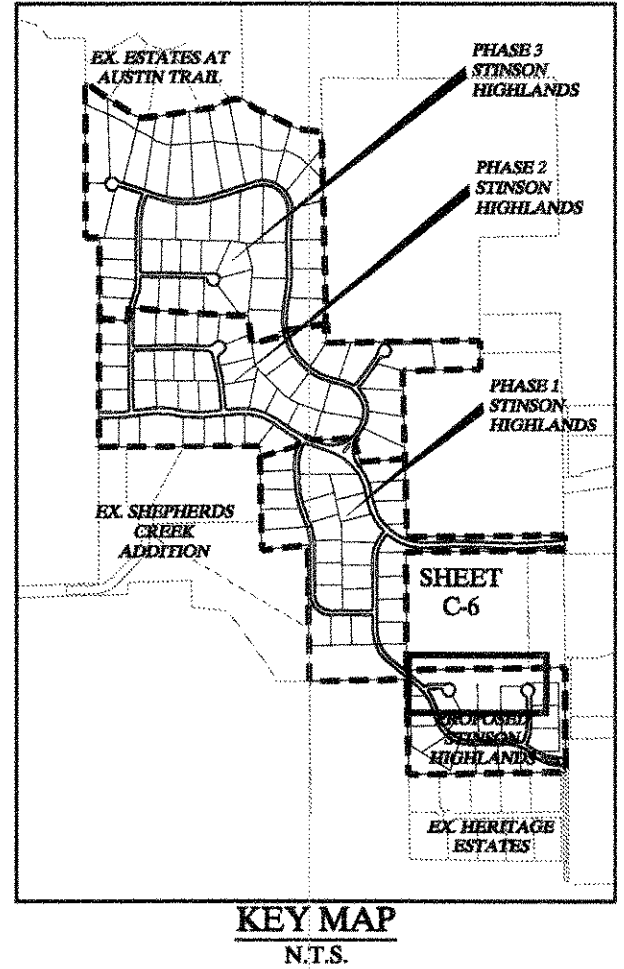
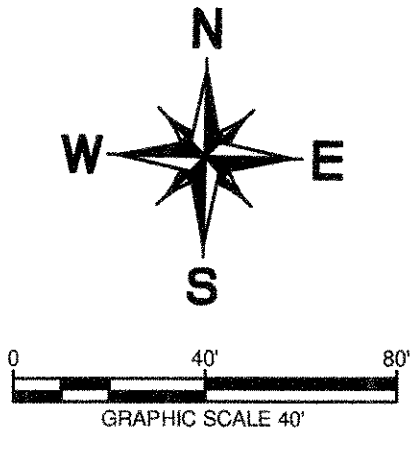
SHEET
C-4

IMAGES: COURTESY OF STINSON HIGHLANDS
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 DWG NAME: K:\04\CIVIL\2011\07\PAVING.DWG



CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C16	42°10'18"	50.00	36.80	S68°32'24"W	35.98

LINE TABLE		
LINE	LENGTH	BEARING
P-L20	21.34	N47°27'16"E
P-L21	161.23	N89°37'33"E
P-L22	35.00	S00°00'00"E



"Record Drawings"
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 S-3-2012
 DATE: BY: *David E. Meyer*

- BENCHMARKS:**
- (A) BM # 7655
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 - (B) BM # 7656
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STOP!
CALL BEFORE YOU DIG
 DIG TESS
 1-800-DIG-TESS
 (at least 72 hours prior to digging)

- NOTES:**
- REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

App.	
Revisions	
No.	Date

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-928
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 770-1300
 Fax. No. (972) 259-5820

DAVID E. MEYER
 8154

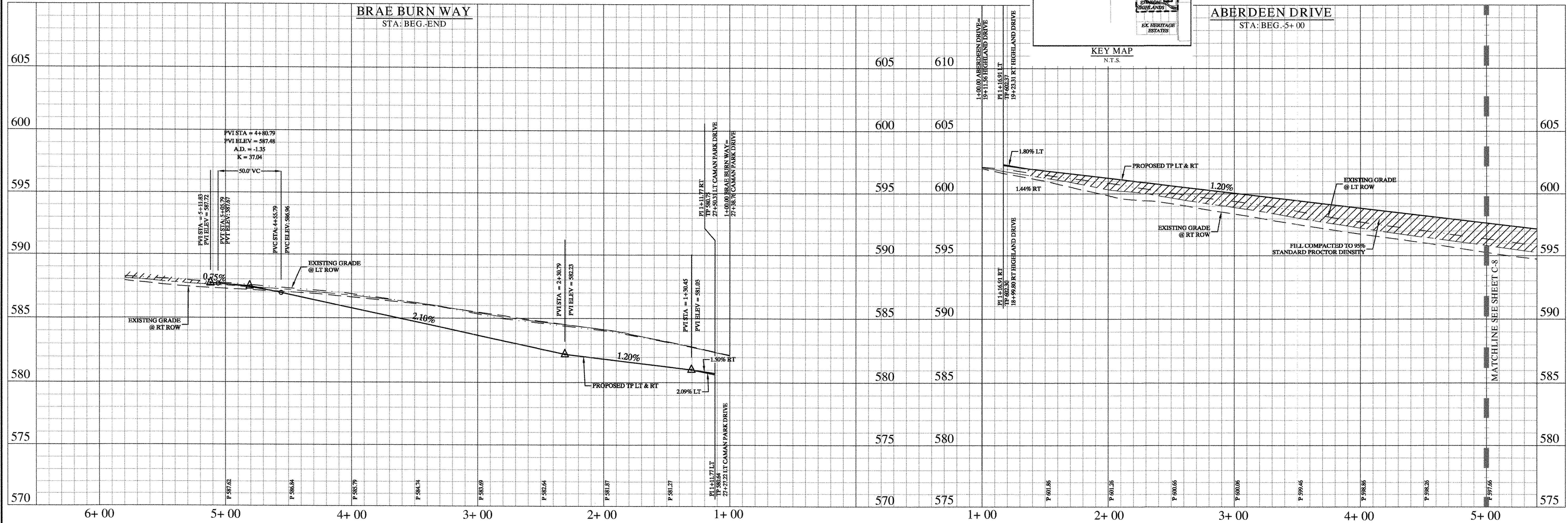
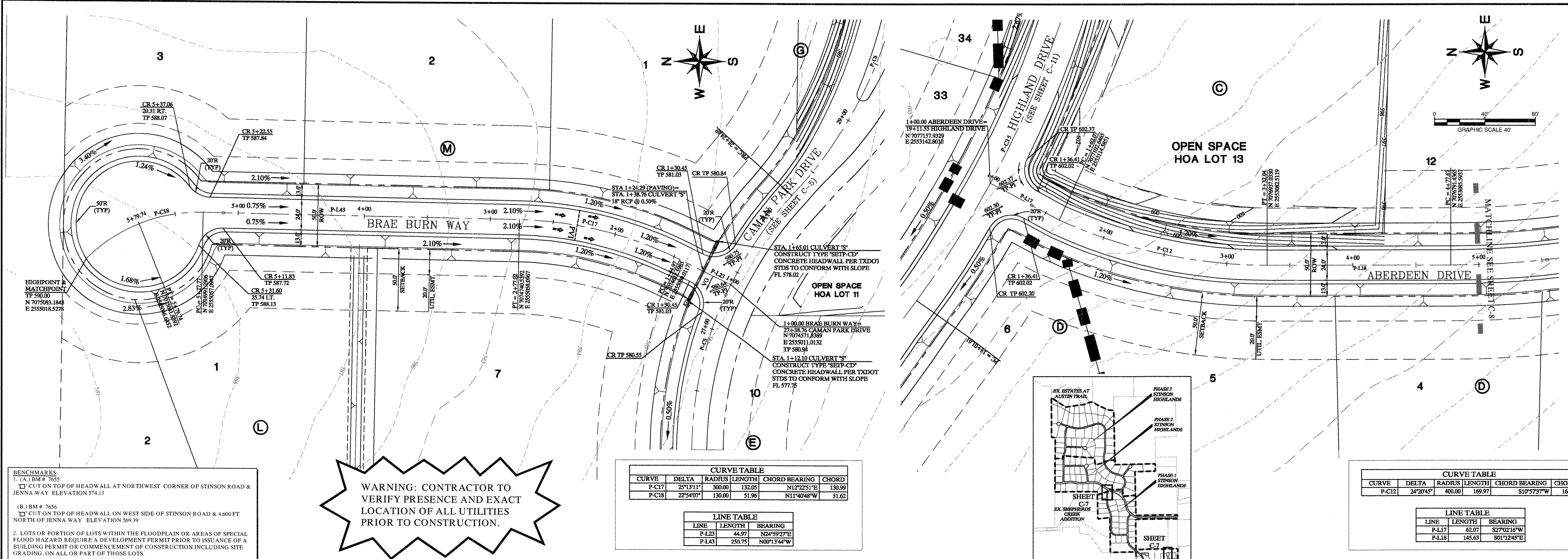
STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
TURNBERRY LANE
(STA: BEG. - END)

Scale: 1" = 40' H, 1" = 4' V
 Designed by: JTH
 Drawn by: BJS
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No. 064347001

SHEET
C-6

IMAGES: 04/11/2012 10:41:00 AM 04/11/2012 10:41:00 AM 04/11/2012 10:41:00 AM 04/11/2012 10:41:00 AM 04/11/2012 10:41:00 AM
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Record Drawings
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 5-5-2011 BY: David L. Murphy

- NOTES:**
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 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-528
 12400 Park Center Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 733-1365
 Fax No. (972) 733-3820

STINSON HIGHLANDS LUCAS, TEXAS

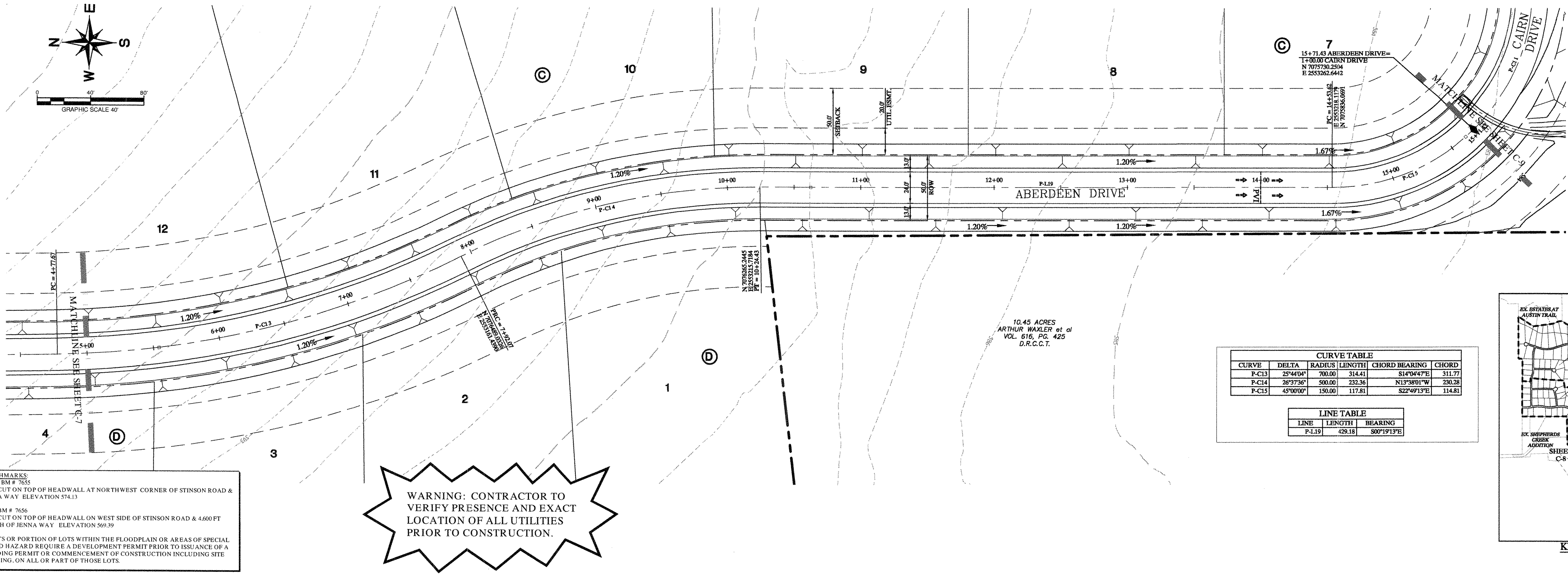
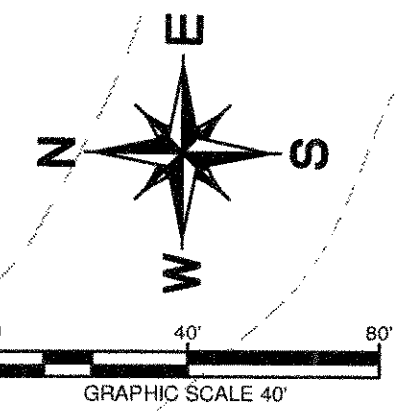
PAVING PLAN AND PROFILE
BRAE BURN (STA: BEG. -END)
ABERDEEN (STA: BEG. - 5+00)

Scale: 1" = 40' H, 1" = 4' V

Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-7

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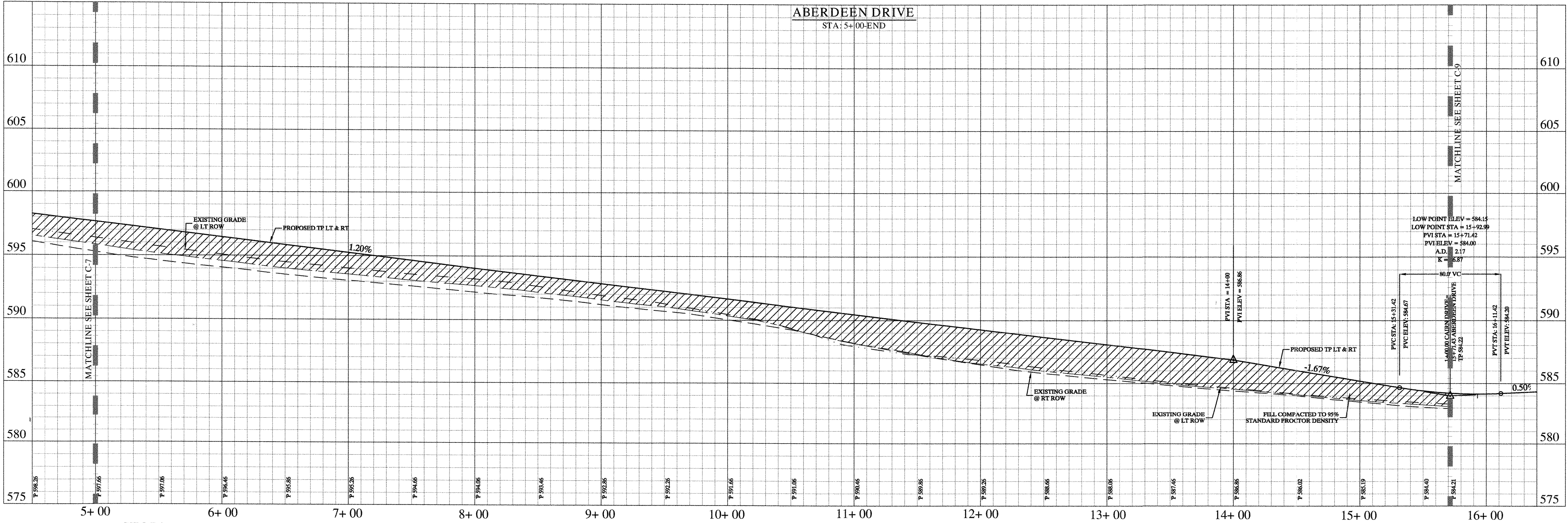
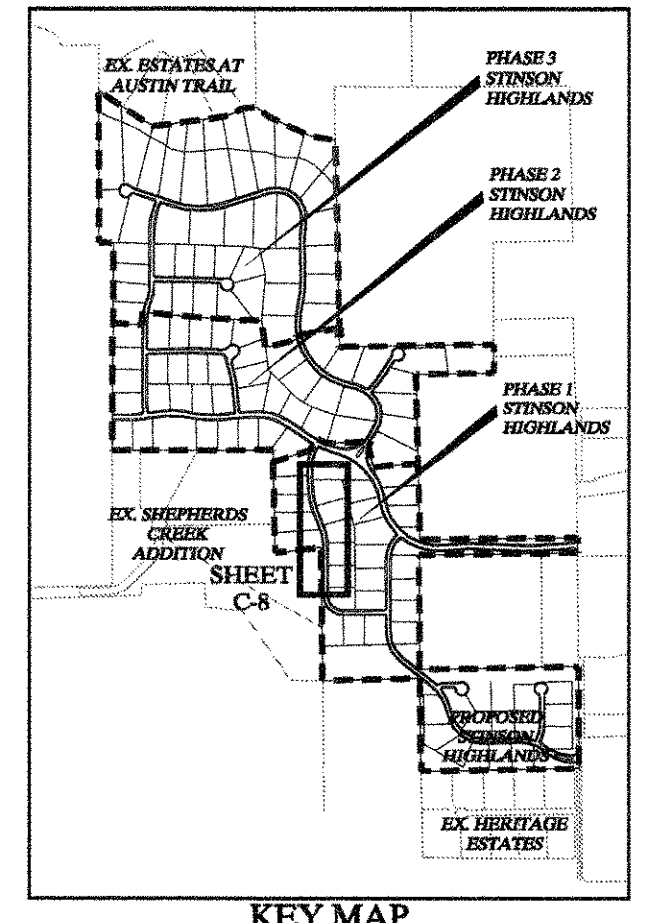


WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

BENCHMARKS
 1. (A) BM # 7655
 □ CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
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CURVE TABLE				
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING
P-C13	25°44'04"	700.00	314.41	S14°04'47"E 313.77
P-C14	28°37'36"	500.00	232.36	N1°38'01"W 230.28
P-C15	45°00'00"	150.00	117.81	S22°49'13"E 114.81

LINE TABLE		
LINE	LENGTH	BEARING
P-1.19	428.18	S00°19'13"E



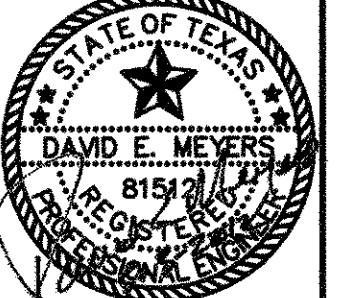
STOP!
CALL BEFORE YOU DIG
 DIG TESS
 1-800-DIG-TESS
 (at least 72 hours prior to digging)

"Record Drawings"
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 DATE: 1-5-2012 BY: [Signature]

- NOTES:**
- REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

MARGES
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No.	Date	Revisions	App.



STINSON HIGHLANDS
LUCAS, TEXAS

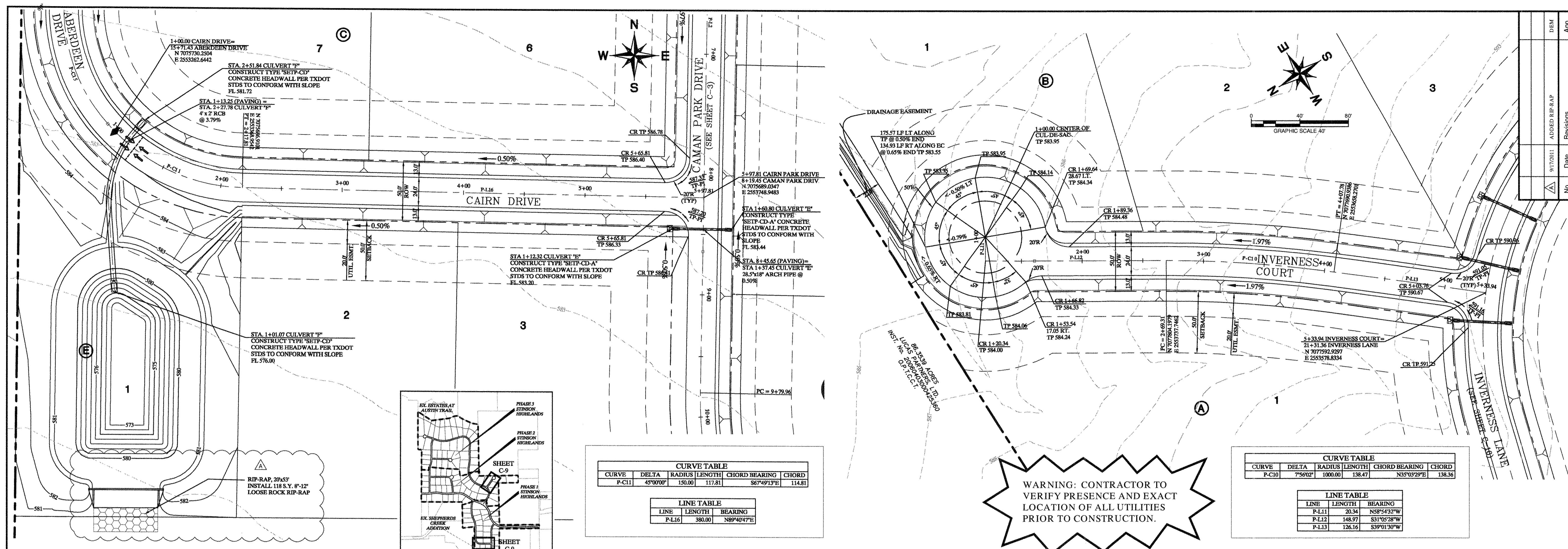
PAVING PLAN AND PROFILE
ABERDEEN DRIVE
(STA: 5+00 - END)

Scale: 1" = 40'H, 1" = 4'V
 Designed by: JTH
 Drawn by: BIS
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No.: 064317001

SHEET
C-8

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-528
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75241
 Tel. No. (972) 720-1300
 Fax No. (972) 720-3828

MAKES: STINSON HIGHLANDS
 LAST SAVED: 7/10/2012 10:57 AM
 DRAWN BY: JTH
 CHECKED BY: LRO
 DATE: JANUARY 9, 2012
 PROJECT NO: 064347001

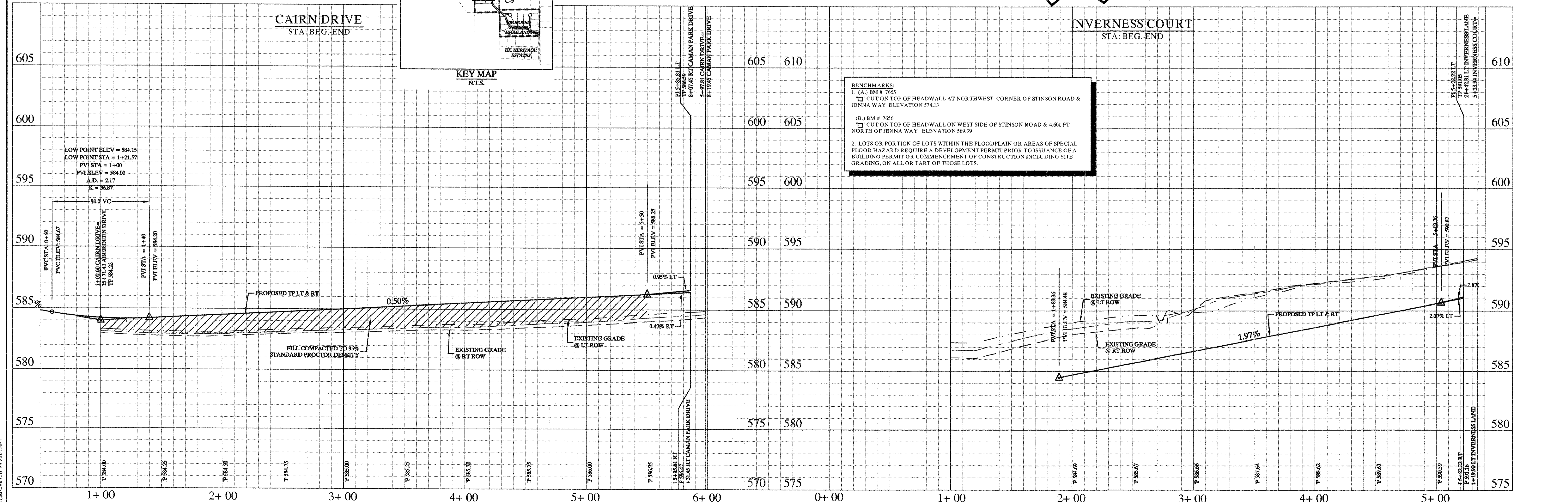


CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C11	45°00'00"	150.00	117.81	S67°49'13"E	114.81

LINE	LENGTH	BEARING
P-L16	380.00	N89°40'47"E

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C10	7°56'02"	1000.00	138.47	N55°05'29"E	138.56

LINE	LENGTH	BEARING
P-L11	20.34	N53°54'32"W
P-L12	148.97	S31°05'28"W
P-L13	126.16	S39°01'30"W



Record Drawings
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 S-3-2012
 DATE: BY: David L. Murphy

- NOTES:**
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 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

Scale: 1" = 40' H, 1" = 4' V
 Designed by: JTH
 Drawn by: BJS
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No: 064347001

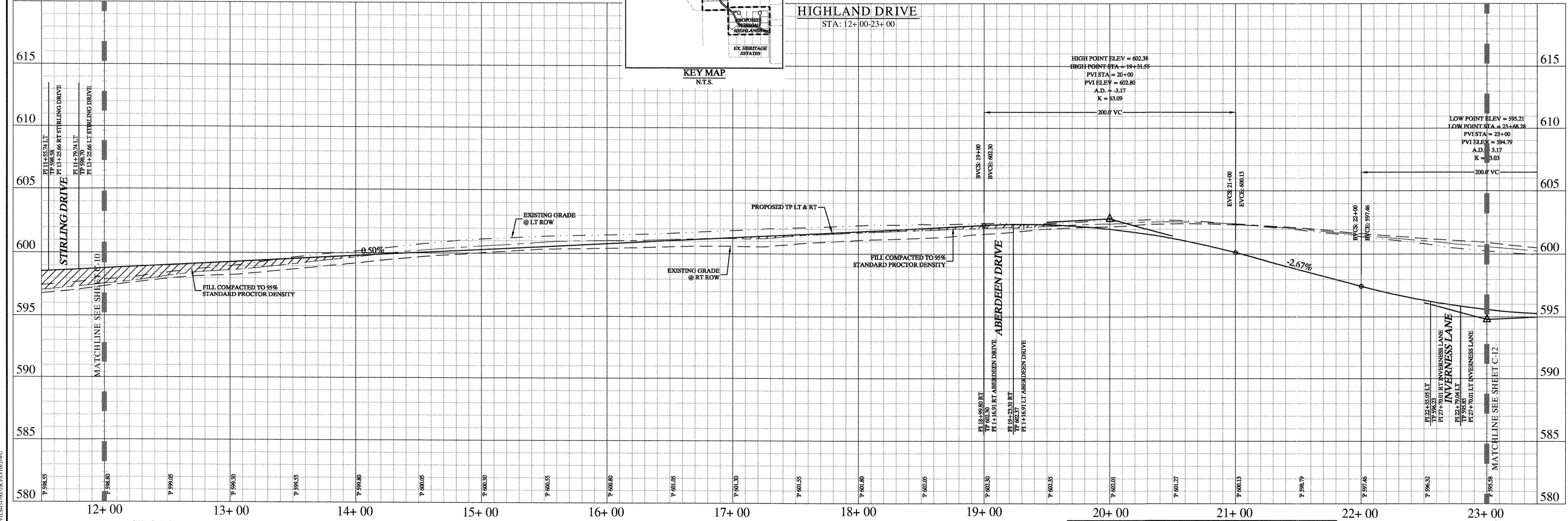
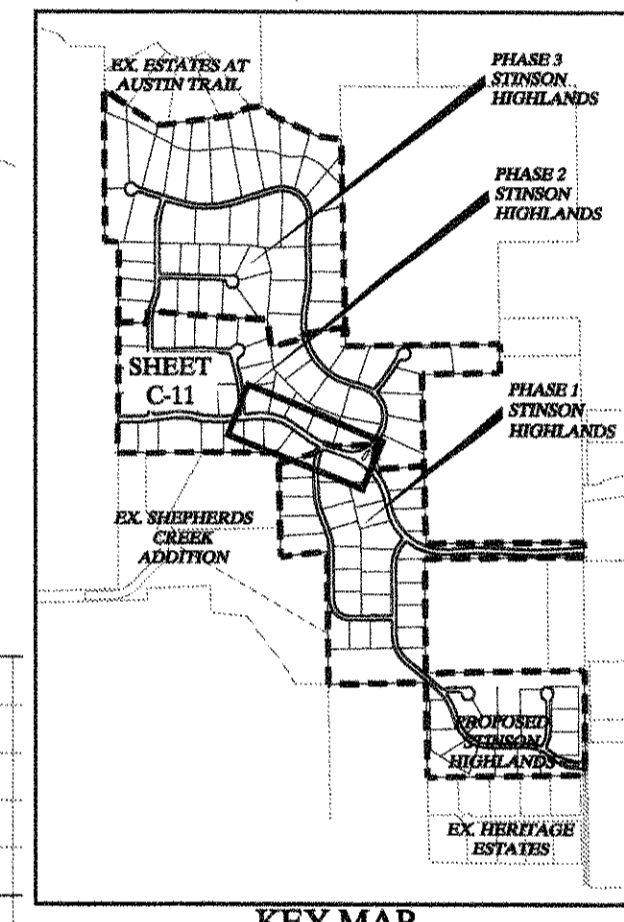
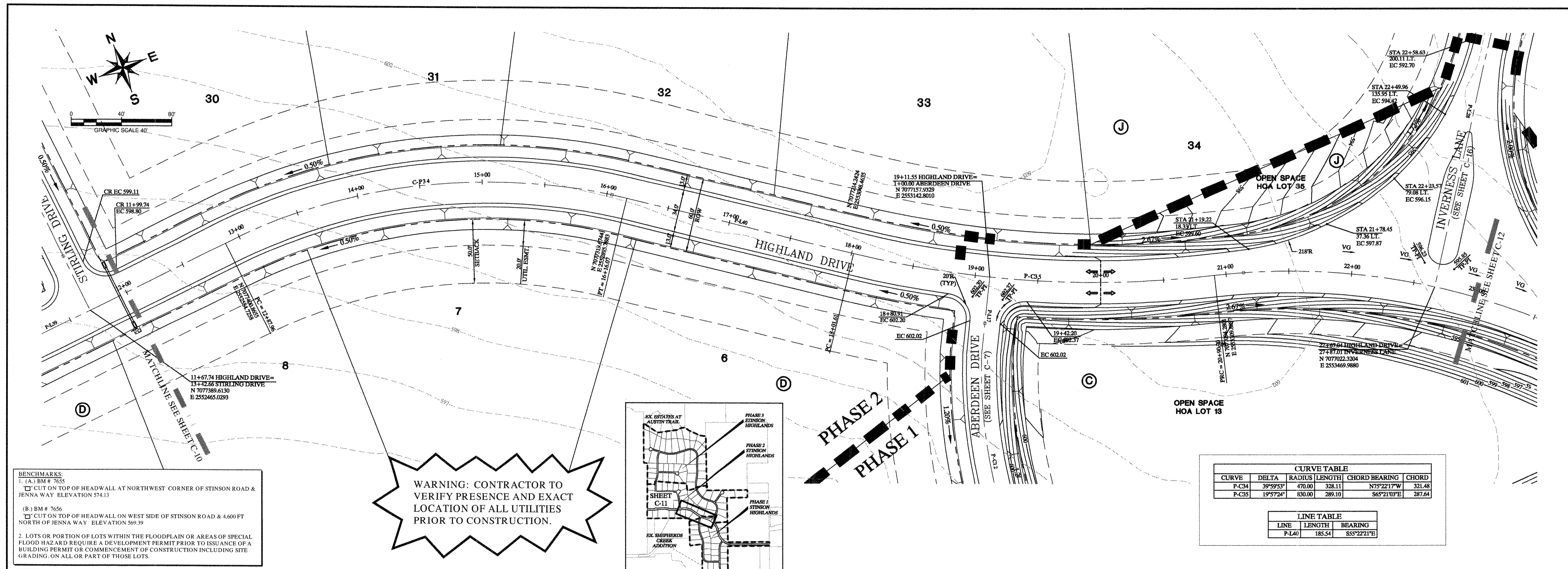
STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
CAIRN DRIVE (STA: BEG-END)
INVERNESS CT (STA: BEG-END)

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 Texas Registered Engineering Firm No. E-228
 12700 Park Center Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 770-1300
 Fax No. (972) 259-3828

STATE OF TEXAS
 DAVID F. MEYERS
 8152
 REGISTERED PROFESSIONAL ENGINEER
 EXPIRES 12/31/2014

SHEET
C-9



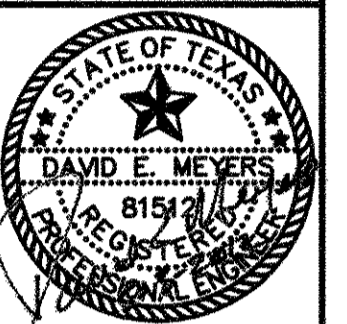
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 S-3202
 DATE: 1/9/2012 BY: David Murphy

NOTES:
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 2. REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 3. REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm, No. F-5228
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 235-1800
 Fax No. (972) 235-3820



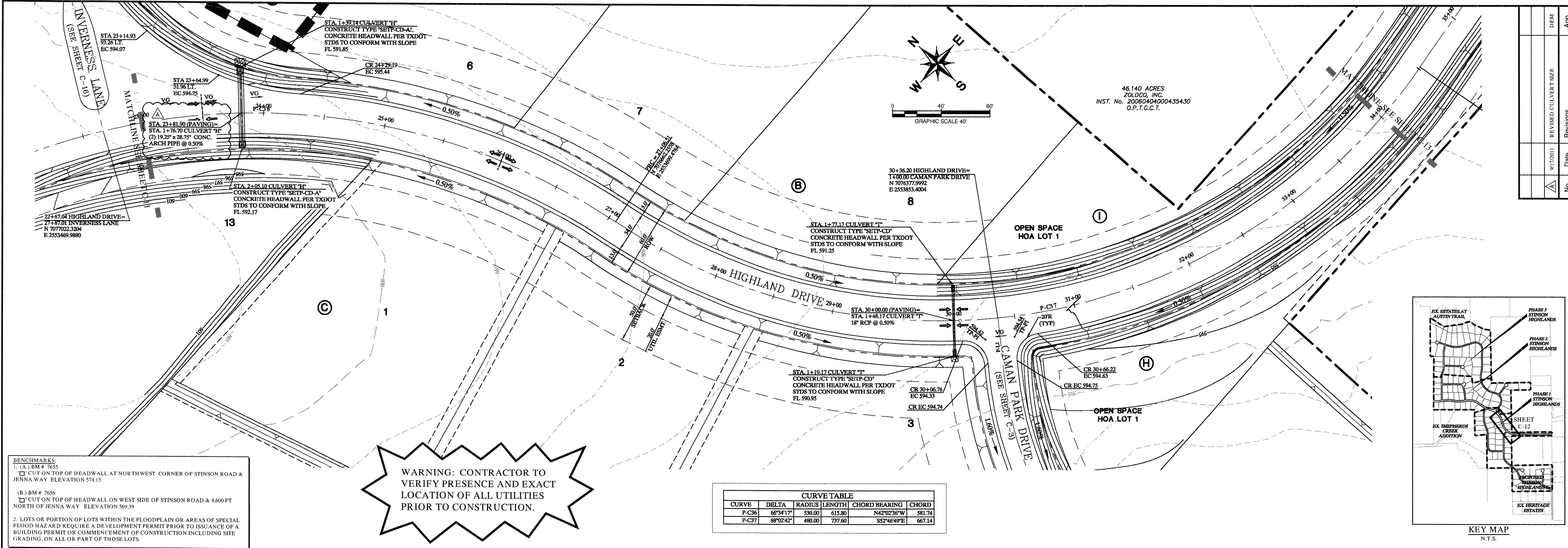
STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
HIGHLAND DRIVE
(STA: 12+00 - 23+00)

Scale: 1" = 40' H, 1" = 4' V

Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

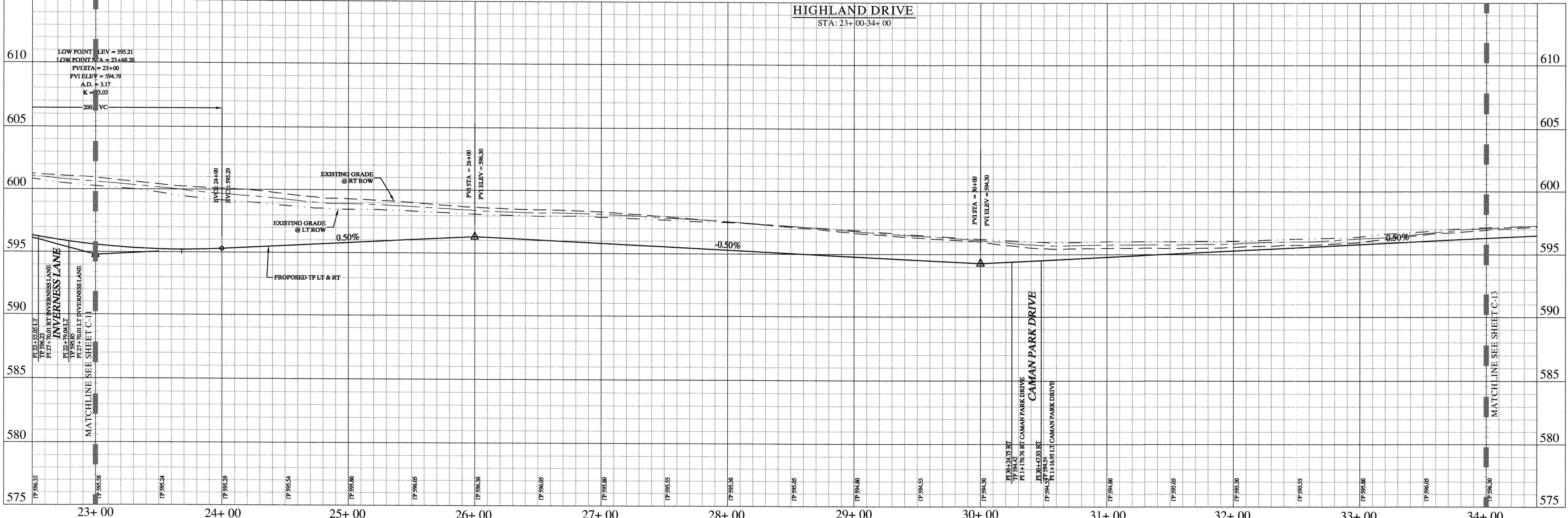
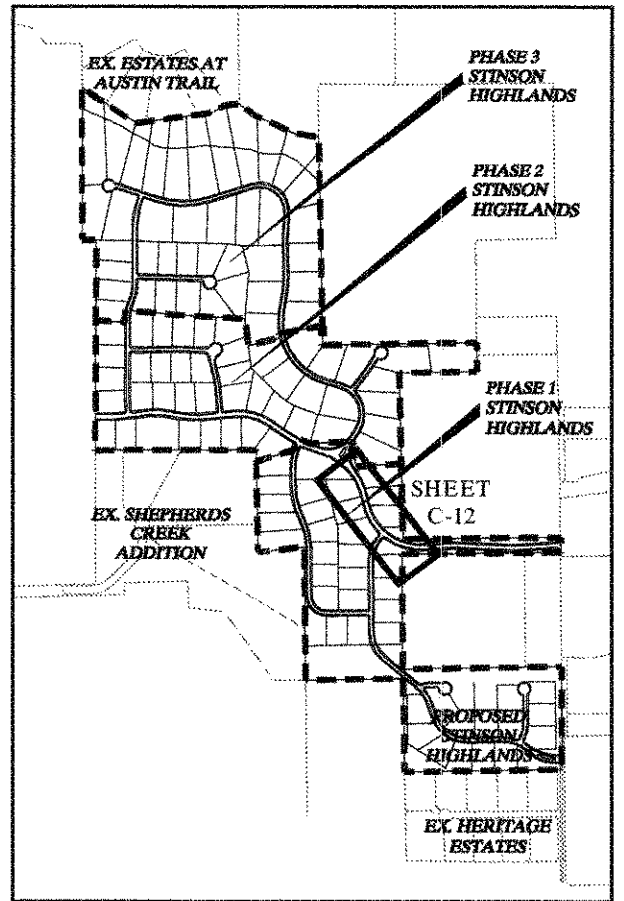
SHEET
C-11



BENCHMARKS:
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 □ CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
 □ CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4,600 FT NORTH OF JENNA WAY ELEVATION 569.39
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WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C36	66°34'17"	530.00	615.80	N42°02'36"W	581.74
P-C37	88°02'42"	480.00	757.60	S52°46'49"E	667.14



STOP!
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 (at least 72 hours prior to digging)

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 S-3-2012
 DATE: BY: *David E. Meyer*

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 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

DRAWN BY: JTH
 CHECKED BY: LRO
 DATE: JANUARY 9, 2012
 PROJECT NO: 064147001

Kimley-Horn and Associates, Inc.
 Registered Professional Engineer
 License No. 12700
 Dallas, Texas 75251
 Tel. No. (972) 770-1300
 Fax No. (972) 239-5820

DAVID E. MEYER
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 8154

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
HIGHLAND DRIVE
(STA: 23+00 - 34+00)

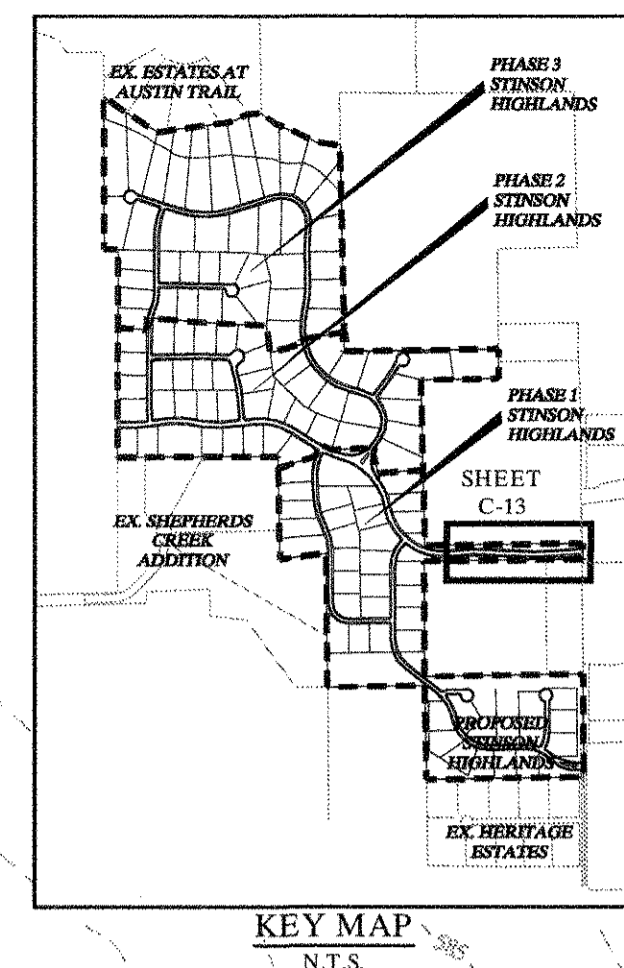
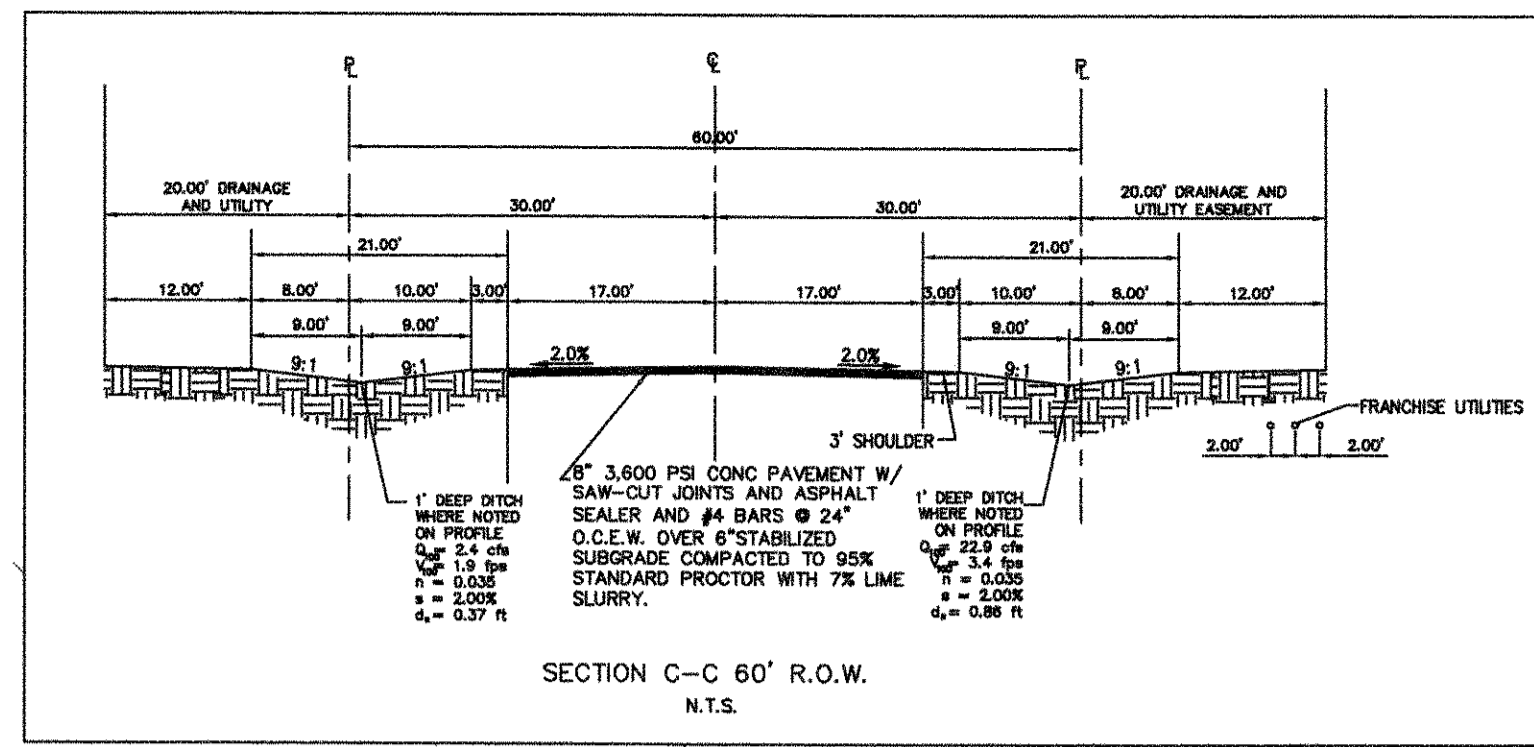
Scale: 1" = 40' H, 1" = 4' V
 Designed by: JTH
 Drawn by: BUS
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No: 064147001

SHEET C-12

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C38	12°45'22"	2000.00	422.00	S89°14'31"W	421.22
P-C39	11°26'25"	3000.00	599.01	N89°33'59"E	598.02
P-C40	9°55'29"	5000.00	51.70	S89°48'31"W	51.88

LINE TABLE		
LINE	LENGTH	BEARING
P-L41	44.60	N83°50'47"E
P-L42	15.01	N89°46'10"E

BENCHMARKS
 1. (A.) BM # 7655
 CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B.) BM # 7656
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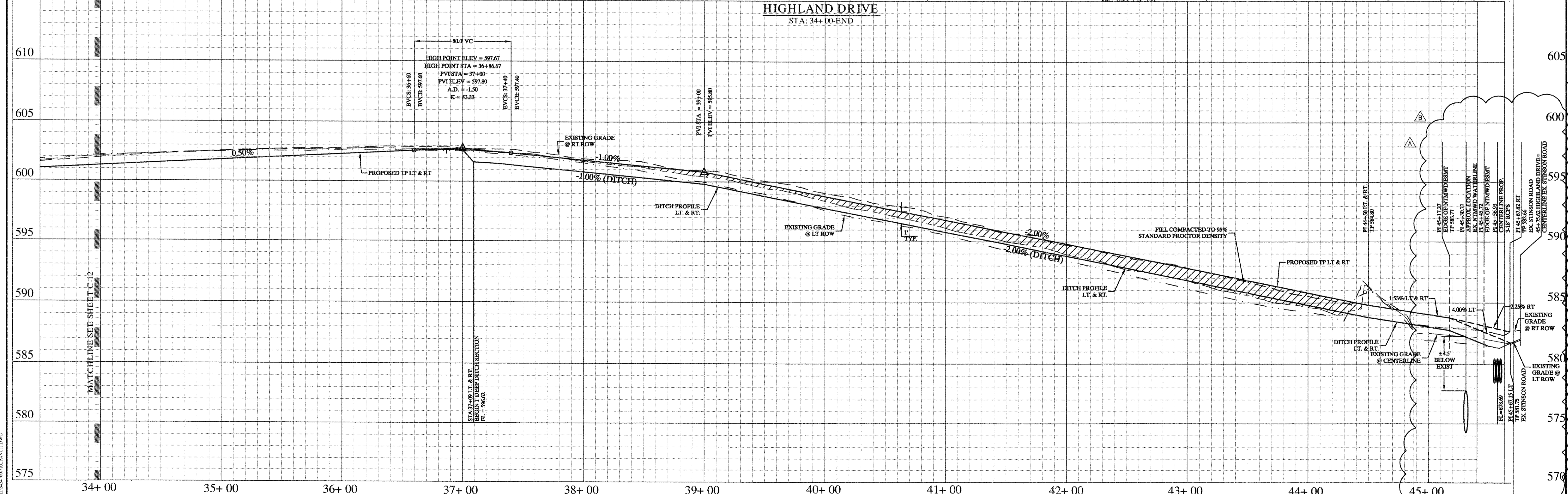
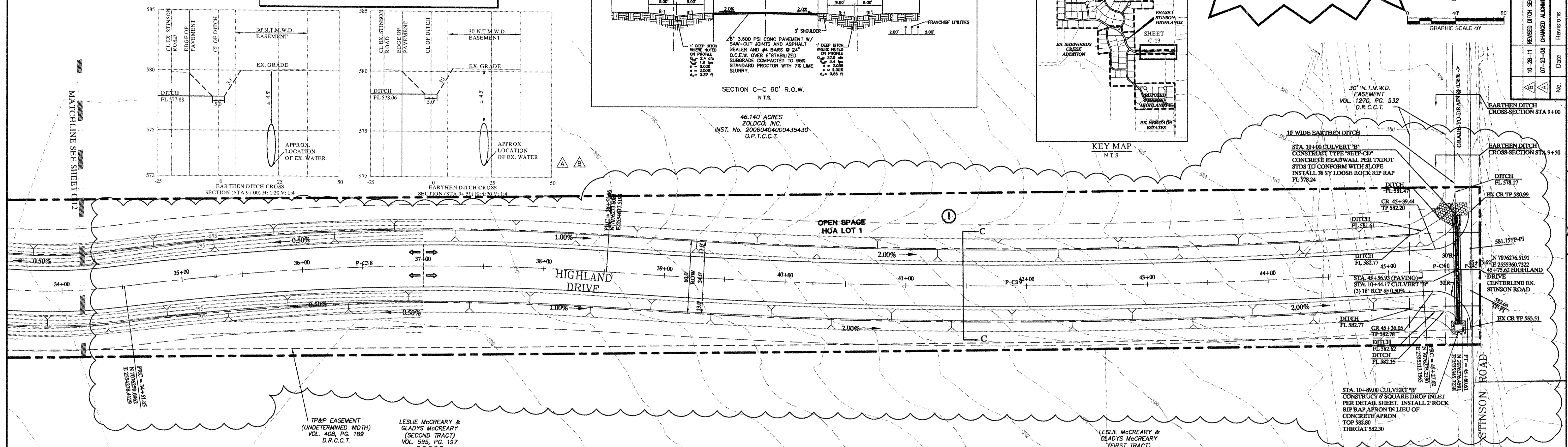
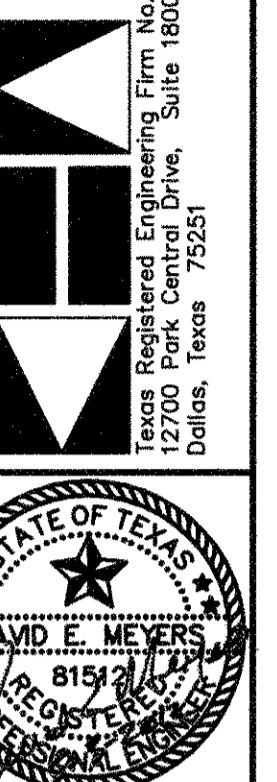


WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

GRAPHIC SCALE 40'

REV	DESCRIPTION	DATE
10-28-11	REVISED DITCH SECTION AND DRAINAGE CHANGED ALIGNMENT OF HIGHWAY DRIVE	
07-23-08		

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. E-1228
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 770-1300
 Fax No. (972) 253-3820



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 (at least 72 hours prior to digging)

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 DATE: 5-3-2012 BY: *David E. Meyers*

NOTES:
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 2. REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 3. REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.
 4. CONTRACTOR SHALL CONTACT NTHWD (972) 442-5405, PAUL LYDAY) 48 HOURS IN ADVANCE OF WORK TO SCHEDULE A NTHWD REPRESENTATIVE TO BE ON SITE.
 NO WORK IN NTHWD EASEMENT ON WEEKENDS.

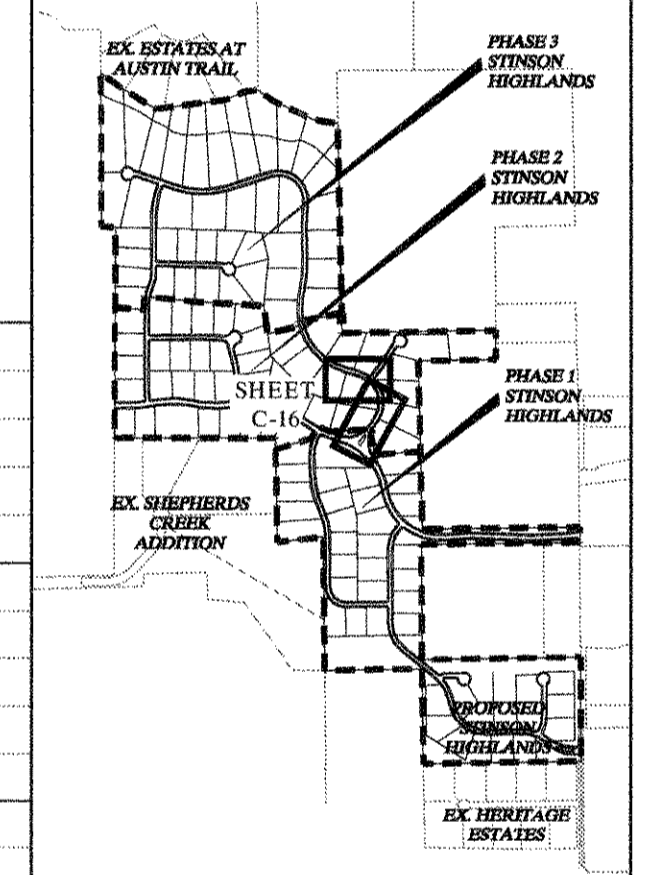
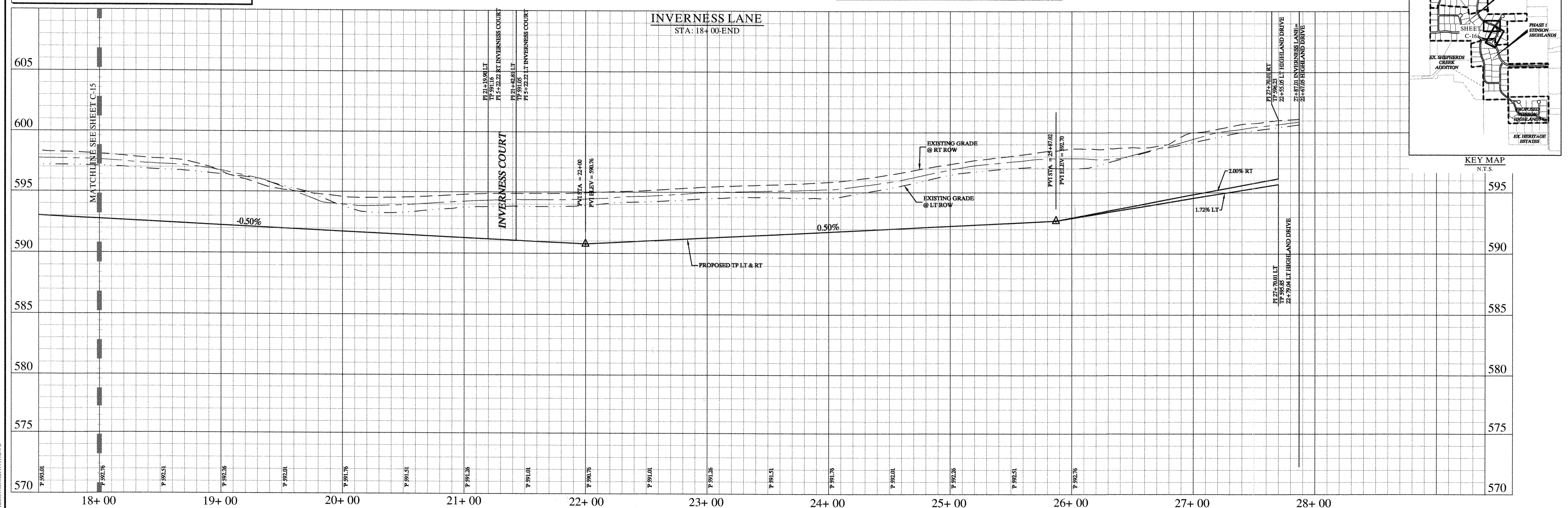
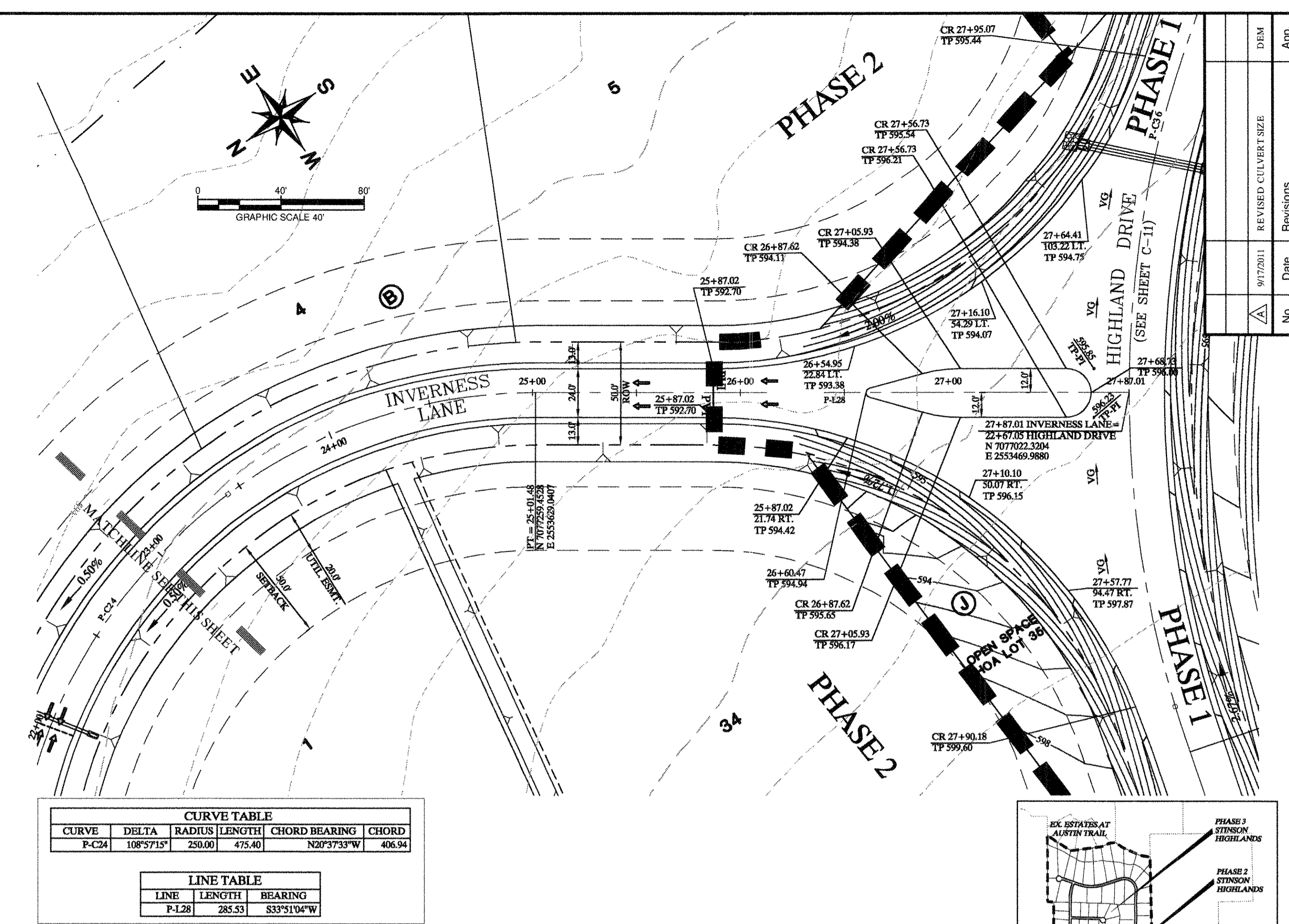
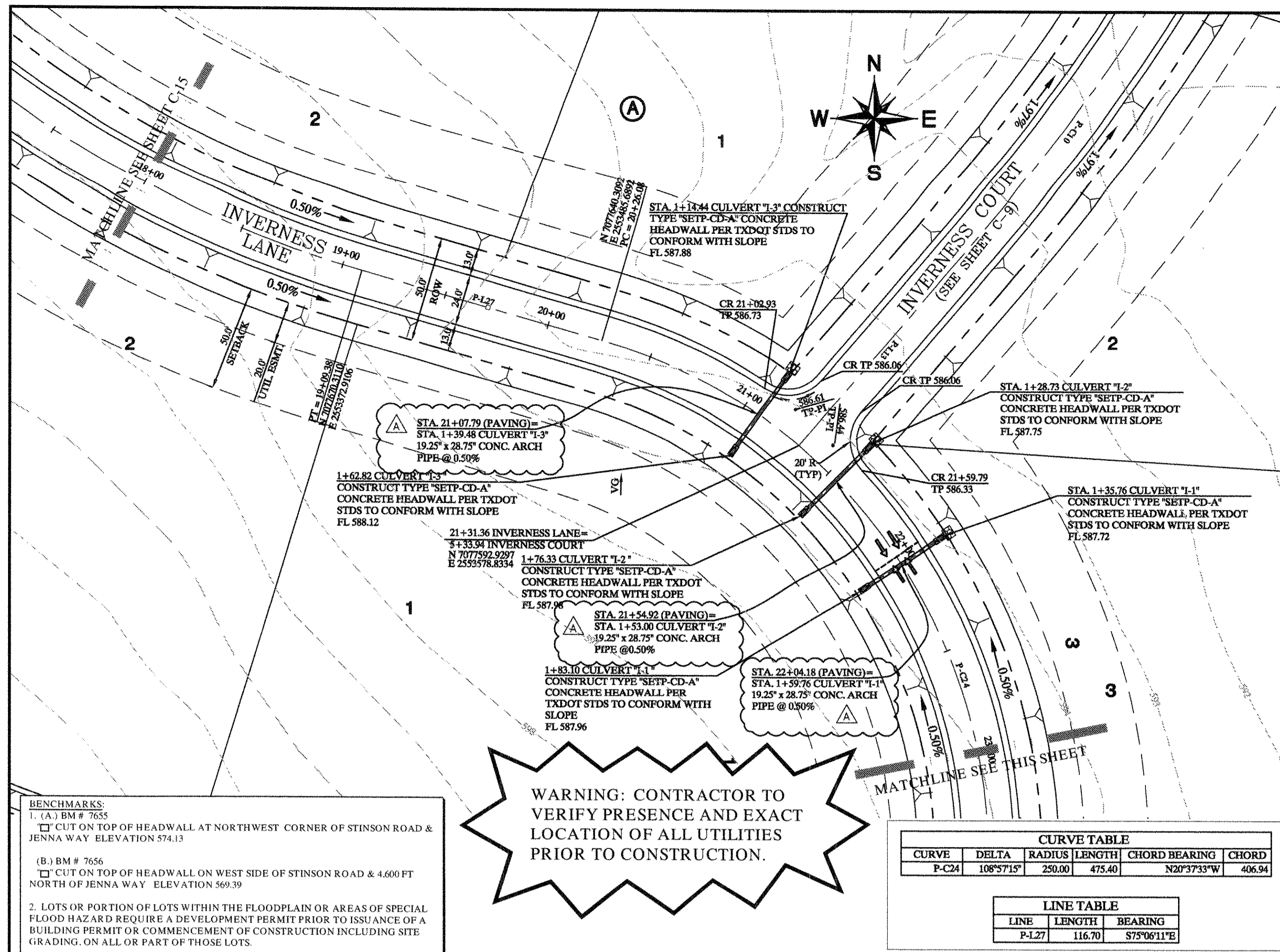
STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
HIGHLAND DRIVE
(STA: 34+00 - END)

Scale:	1" = 40' H, 1" = 4' V
Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-13

I:\projects\2012\12700\12700.dwg
 5/3/2012 10:28 AM
 LAST SAVED
 DWGNAME
 K:\AL\CVL\62670\12700\FINAL.DWG



Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-528
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75245
 Tel. No. (972) 232-1500
 Fax No. (972) 232-3828

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
INVERNESS LANE
(STA: 18+00 - END)

Scale: 1" = 40' H, 1" = 4' V

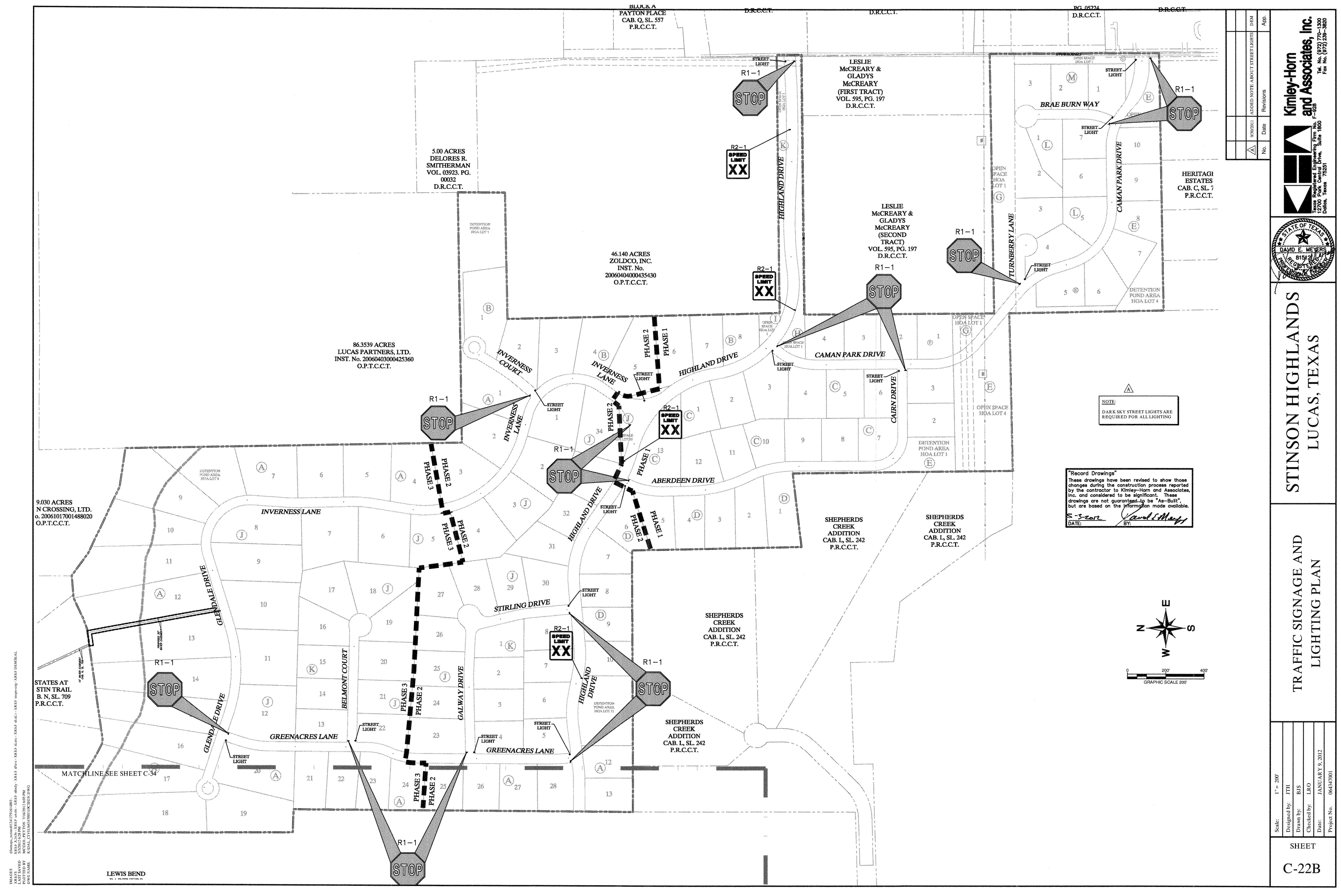
Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

Record Drawings
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 3-2-2012 BY: David C. Smith

- NOTES:**
- REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 - REFER TO SHEET C-14 FOR PAVING LINE AND CURVE TABLES.
 - REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

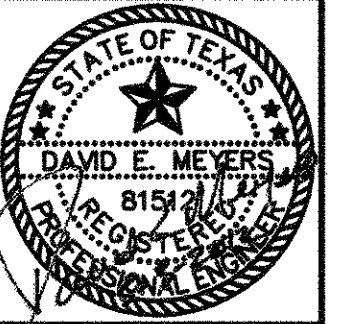
MAKES: Kimley-Horn and Associates, Inc. 12700 Park Central Drive, Suite 1800, Dallas, Texas 75245
 LAST SAVED: 1/9/2012 10:00 PM
 DRAWN BY: JTH
 CHECKED BY: LRO
 DATE: 1/9/2012 10:00 PM
 PROJECT NO: 064347001

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 (at least 72 hours prior to digging)



No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-928
 12700 Park Center Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 291-1300
 Fax No. (972) 291-3800



**STINSON HIGHLANDS
 LUCAS, TEXAS**

**TRAFFIC SIGNAGE AND
 LIGHTING PLAN**

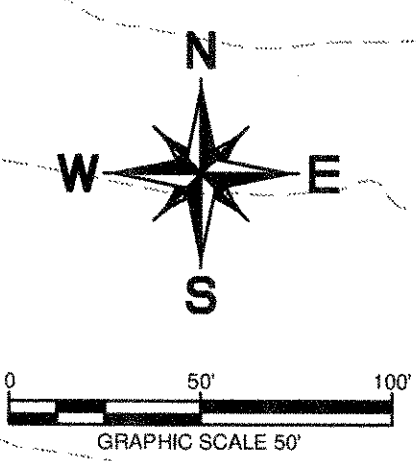
Scale:	1" = 200'
Designed by:	JTH
Drawn by:	BJS
Checked by:	LKO
Date:	JANUARY 9, 2012
Project No.:	064347001

"Record Drawings"
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 DATE: 5-3-2011 BY: Carol S. Meffert

LEGEND:

	ROADWAY HIGH POINT
	DIRECTION OF FLOW
	DAYLIGHT LINE
	SPOT ELEVATION
	EX. SPOT ELEVATION
	FINISHED BUILDING PAD ELEVATION

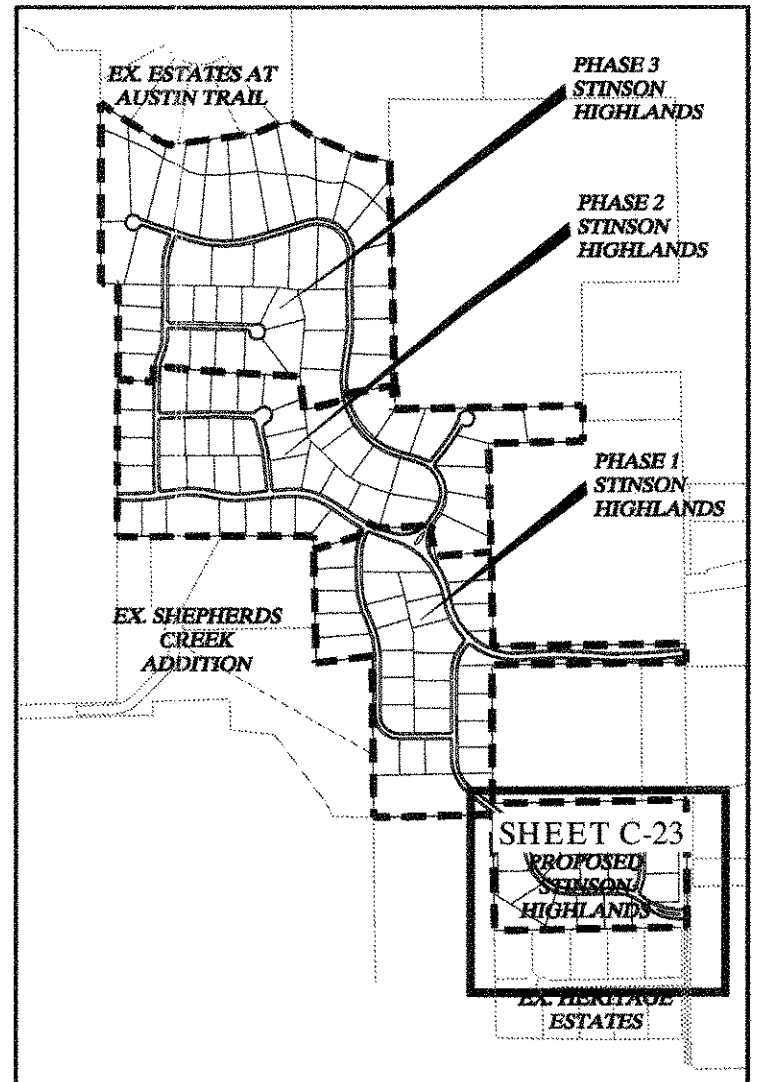
NOTE:
 1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-39 FOR DETAILS.



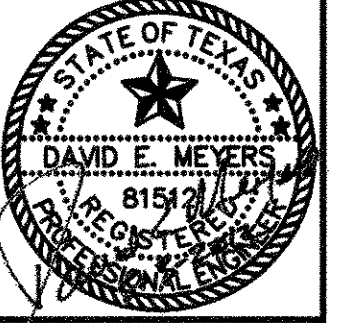
BENCHMARKS:
 1. (A) BM # 7655
 2. CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
 3. CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4.600 FT NORTH OF JENNA WAY ELEVATION 569.39
 2. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.

LESLIE McCREARY &
 GLADYS McCREARY
 (SECOND TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.

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 (at least 72 hours prior to digging)



No.	Date	Revisions	App.
07-23-08		RELOCATED DRAINAGE DITCH TO POND	

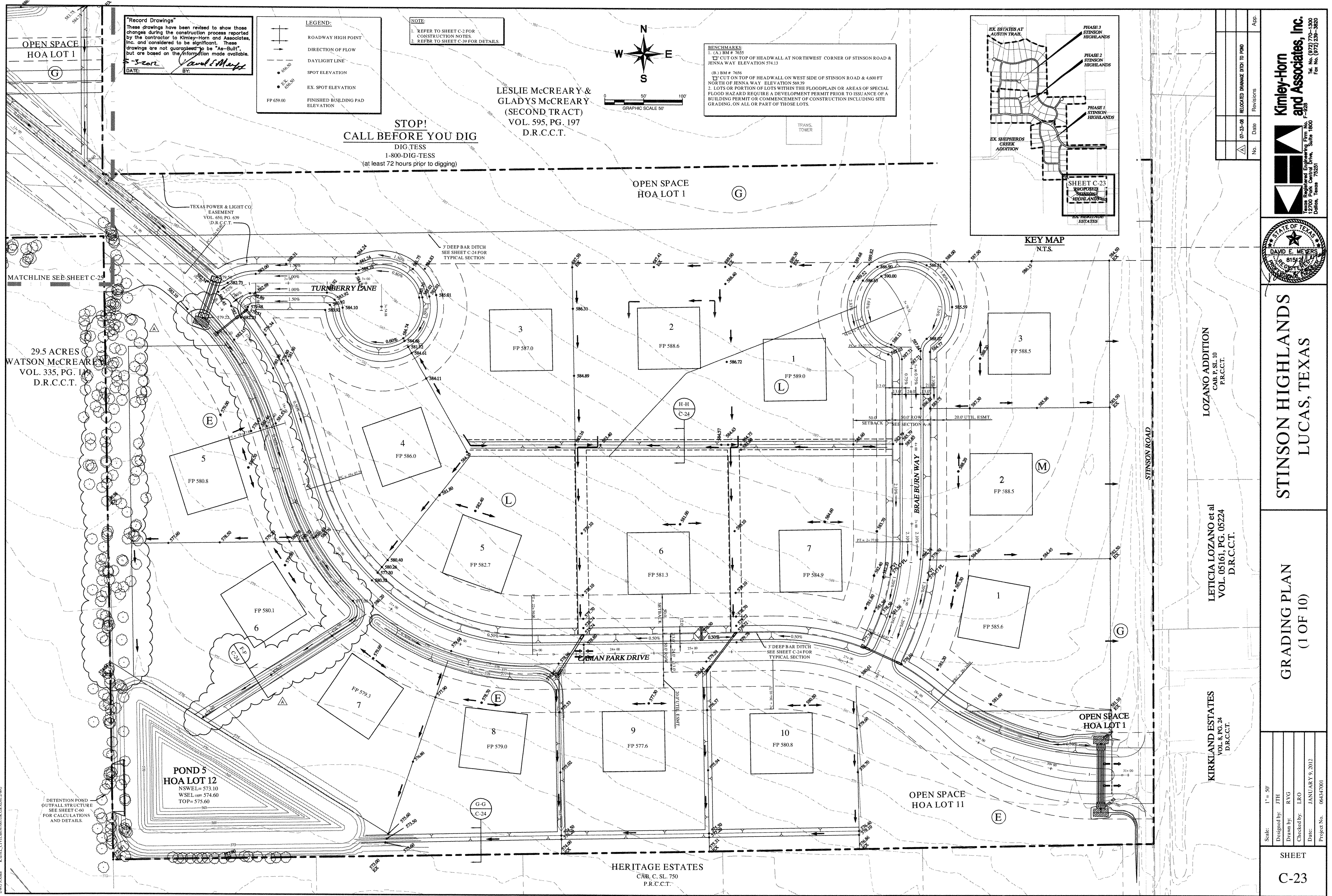


STINSON HIGHLANDS
 LUCAS, TEXAS

GRADING PLAN
 (1 OF 10)

Scale: 1" = 50'
 Designed by: JTH
 Drawn by: RVG
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No. 064347001

SHEET
 C-23



29.5 ACRES
 WATSON McCREARY
 VOL. 335, PG. 149
 D.R.C.C.T.

LOZANO ADDITION
 CAB. P. SL. 10
 P.R.C.C.T.

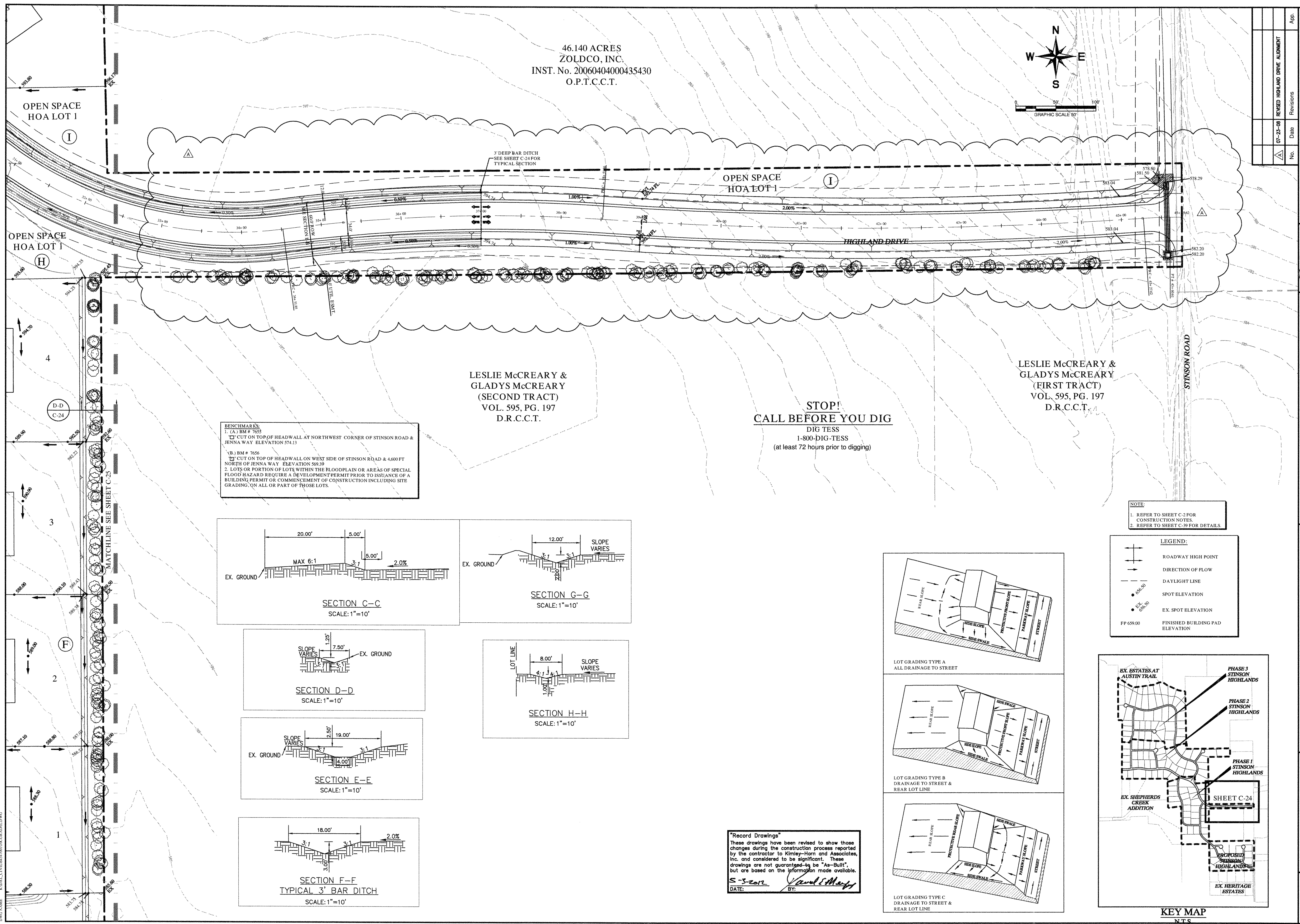
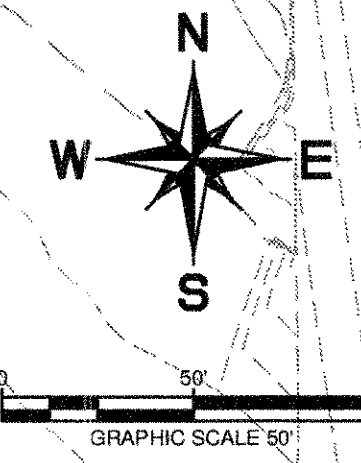
LETICIA LOZANO et al
 VOL. 05161, PG. 05224
 D.R.C.C.T.

KIRKLAND ESTATES
 VOL. 8, PG. 24
 D.R.C.C.T.

HERITAGE ESTATES
 CAB. C. SL. 750
 P.R.C.C.T.

PLOT PLAN FOR LOT 10, SHEET C-23, PROJECT NO. 064347001, DATE: JANUARY 9, 2012, DRAWN BY: RVG, CHECKED BY: LRO, DESIGNED BY: JTH, SCALE: 1" = 50'.
 THIS DRAWING IS THE PROPERTY OF KIMLEY-HORN AND ASSOCIATES, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF KIMLEY-HORN AND ASSOCIATES, INC.

46.140 ACRES
ZOLDCO, INC.
INST. No. 20060404000435430
O.P.T.C.C.T.

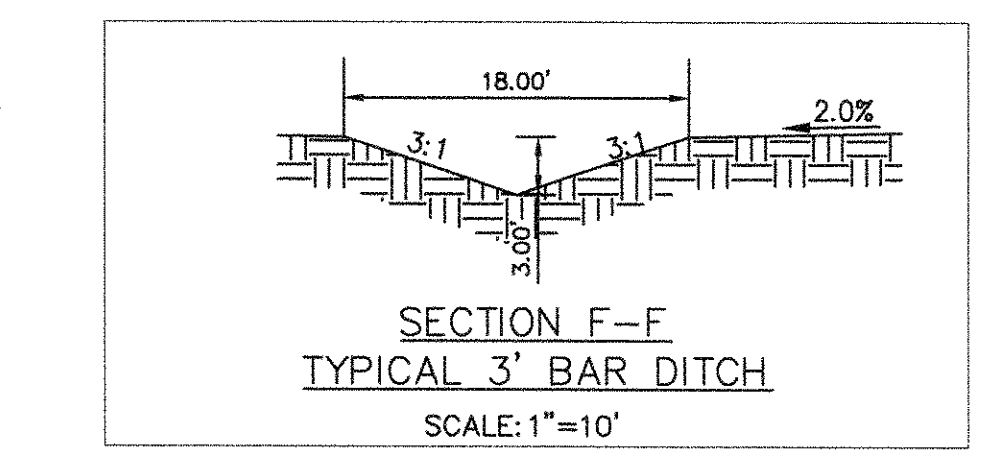
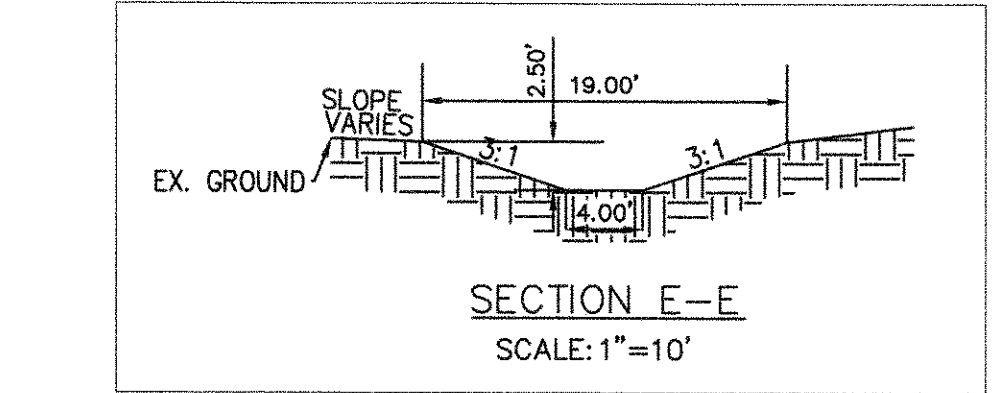
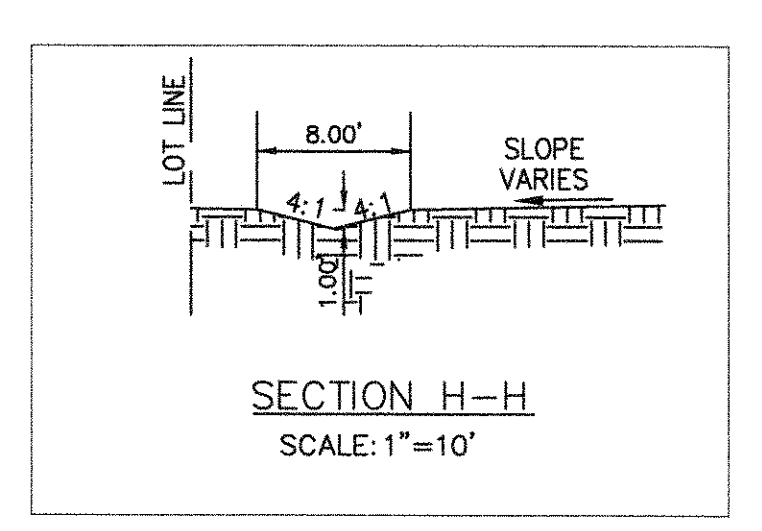
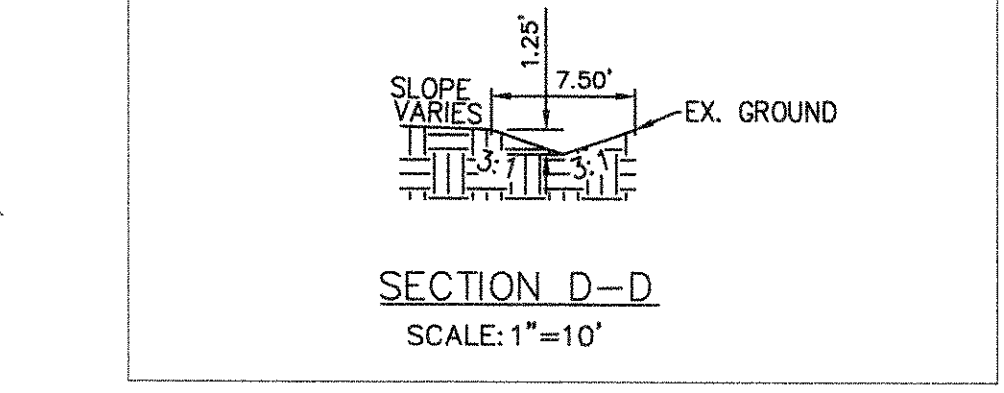
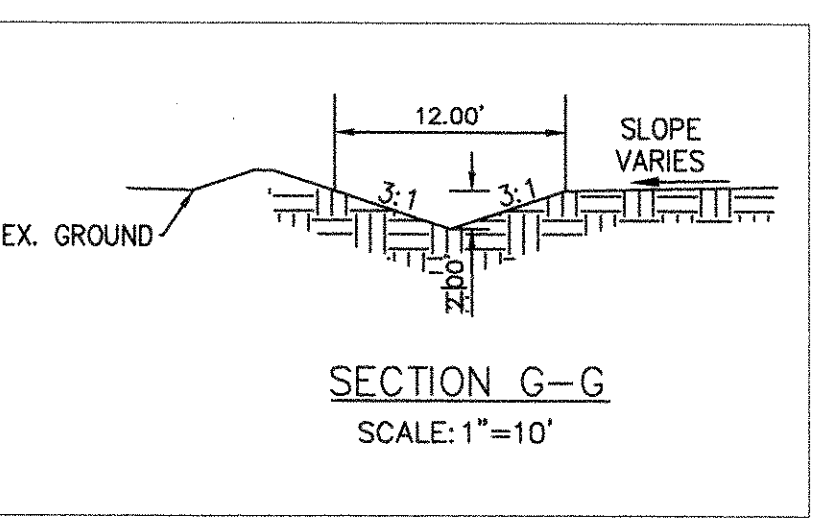
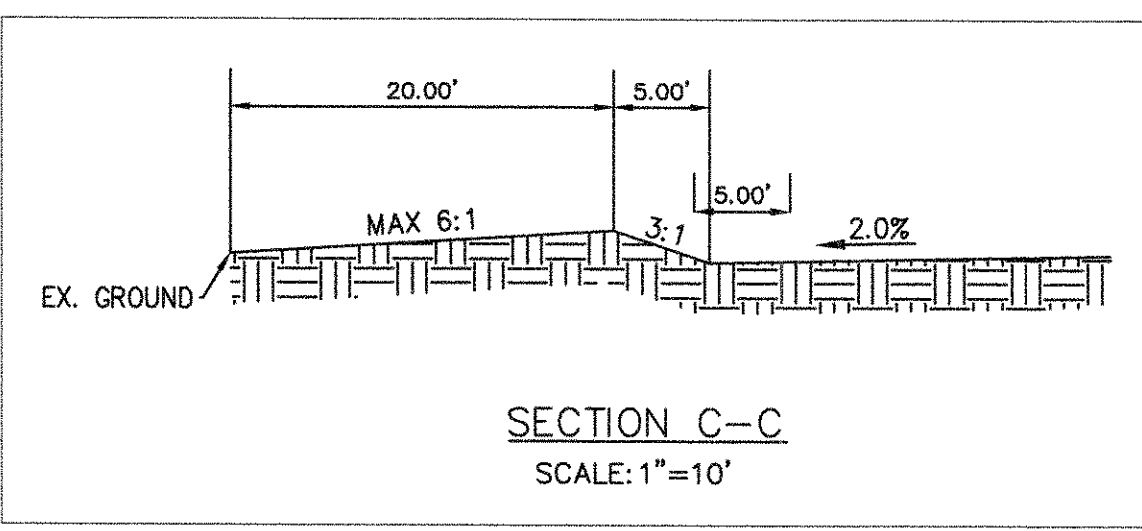


BENCHMARKS
 1. (A) BM # 7655
 CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 2. (B) BM # 7656
 CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4,600 FT NORTH OF JENNA WAY ELEVATION 569.39
NOTES
 1. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING ON ALL OR PART OF THOSE LOTS.

STOP!
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 DIG TESS
 1-800-DIG-TESS
 (at least 72 hours prior to digging)

LESLIE McCREARY &
 GLADYS McCREARY
 (SECOND TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.

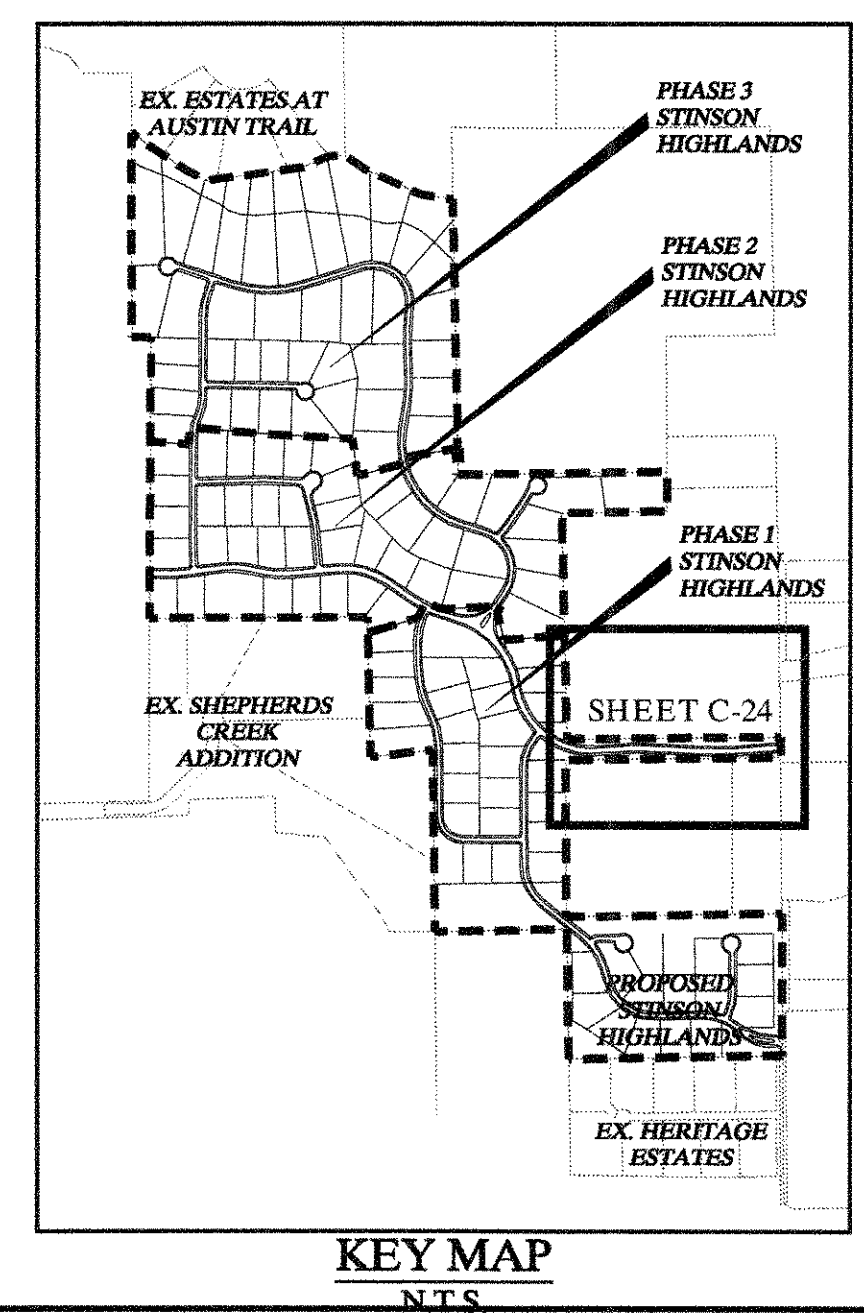
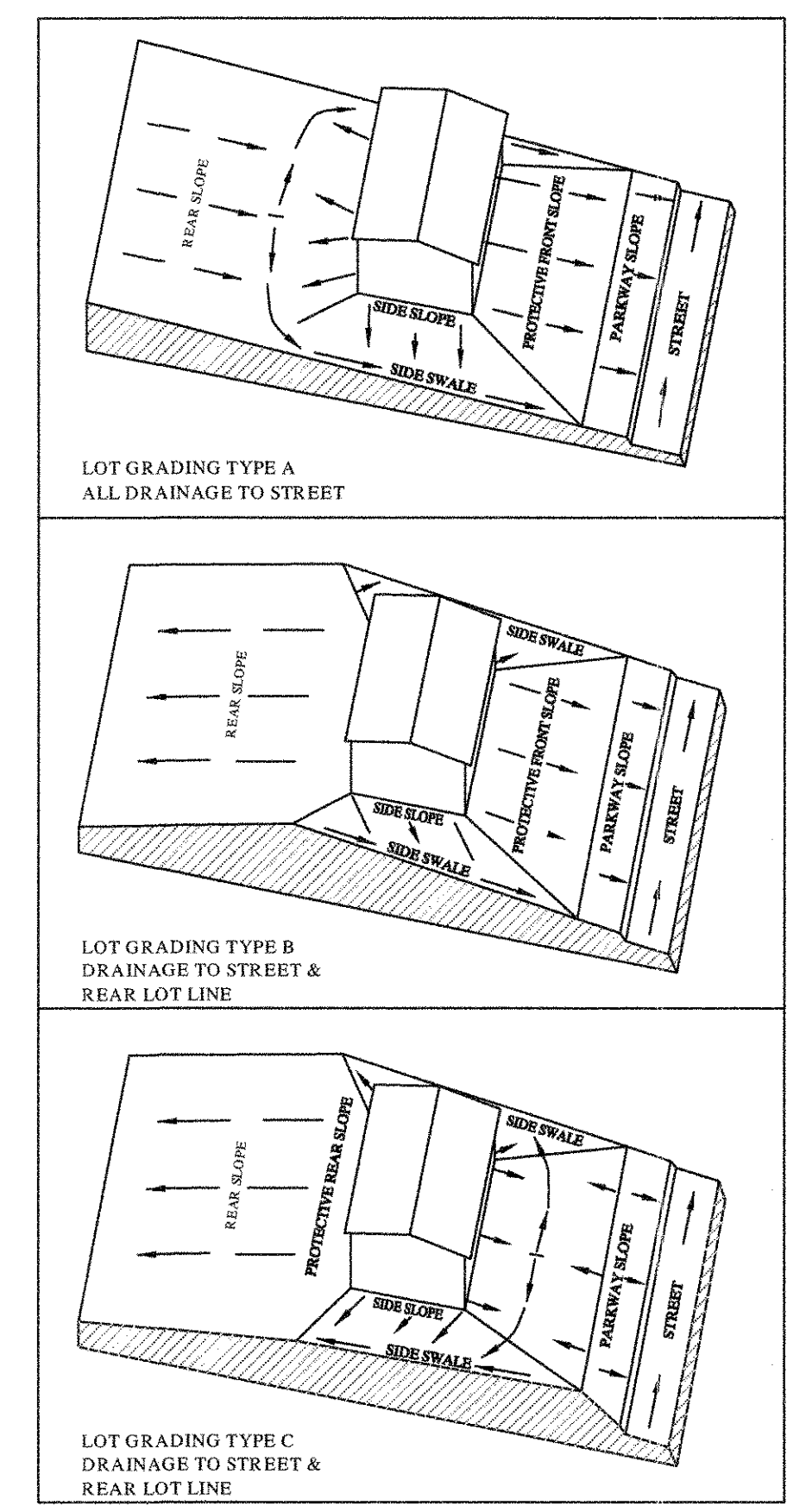
LESLIE McCREARY &
 GLADYS McCREARY
 (FIRST TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.



NOTE:
 1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-39 FOR DETAILS.

LEGEND:

- ROADWAY HIGH POINT
- DIRECTION OF FLOW
- DAYLIGHT LINE
- SPOT ELEVATION
- EX. SPOT ELEVATION
- FINISHED BUILDING PAD ELEVATION



"Record Drawings"
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 DATE: 5-3-2012 BY: David E. Meyer

No.	Date	Revisions	App.
07-23-08		REVISED HIGHLAND DRIVE ALIGNMENT	

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-528
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75244
 Tel. No. (972) 236-3800
 Fax. No. (972) 236-3820

STATE OF TEXAS
 DAVID E. MEYER
 8159
 05/03/2012

STINSON HIGHLANDS
 LUCAS, TEXAS

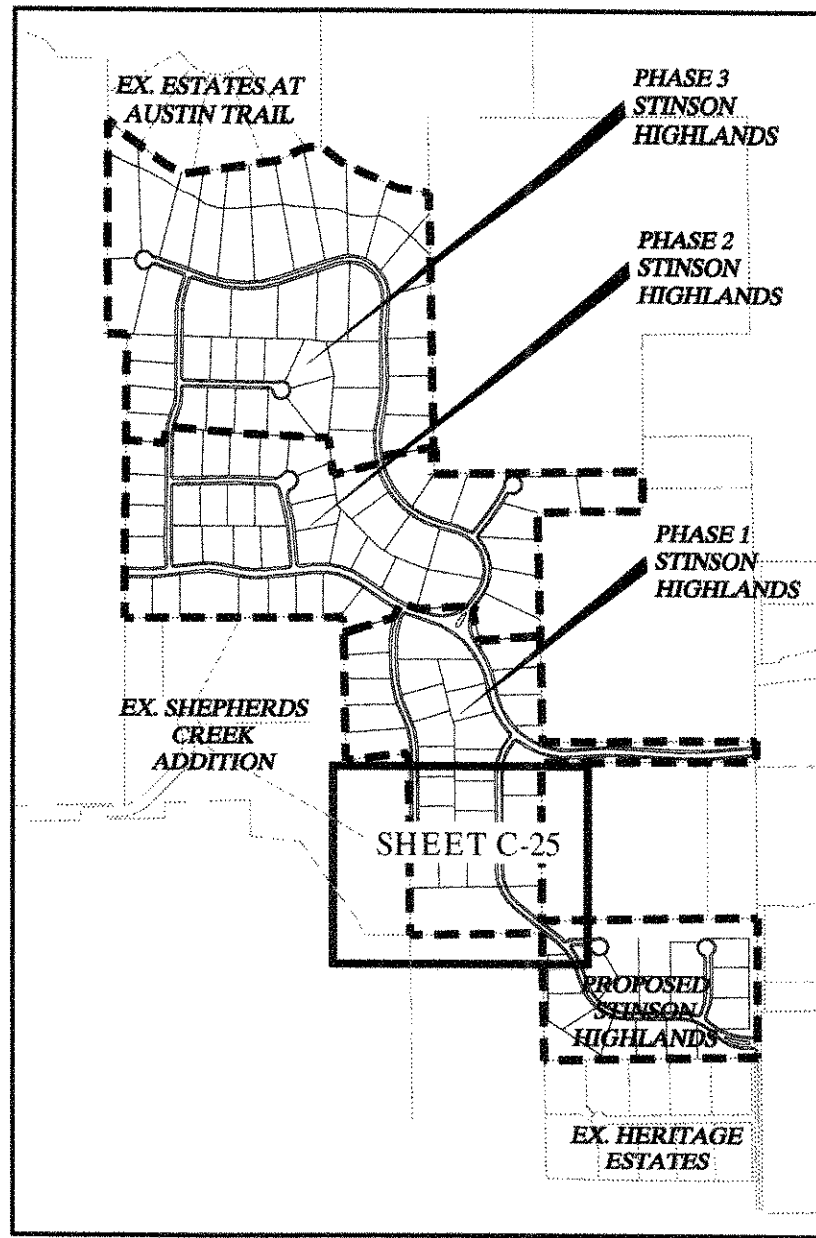
GRADING PLAN
 (2 OF 10)

Scale: 1" = 50'

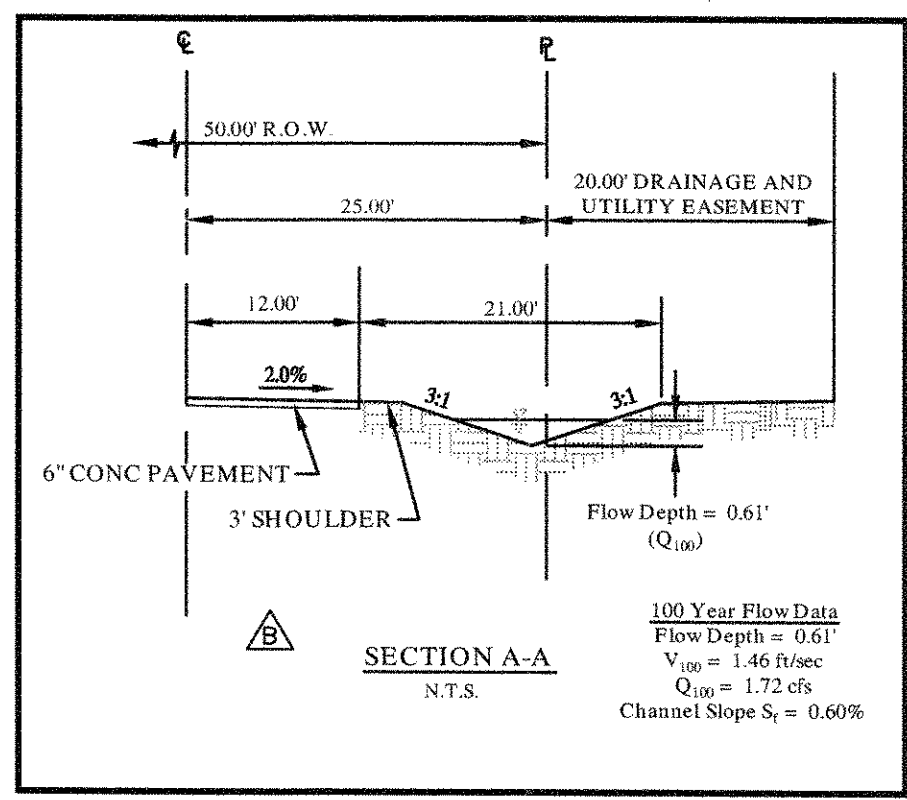
Designed by:	JTH
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
 C-24

SHEET NO. C-24 OF 10
 DATE: 5-3-2012
 DRAWN BY: R. V. GARDNER
 CHECKED BY: L. R. O'NEILL
 PROJECT NO. 064347001



KEY MAP
N.T.S.



"Record Drawings"
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DATE: 5-5-2012 BY: David S. Murphy

BENCHMARKS
1. (A.) BM # 7655
CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
(B.) BM # 7656
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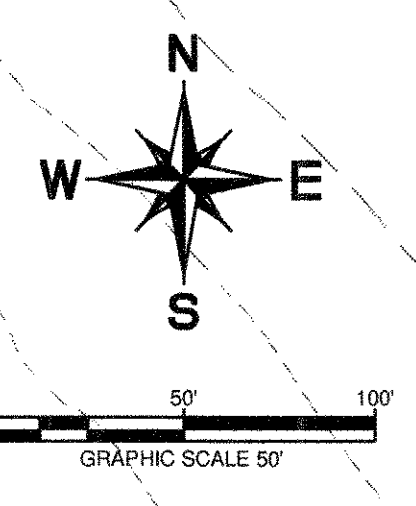
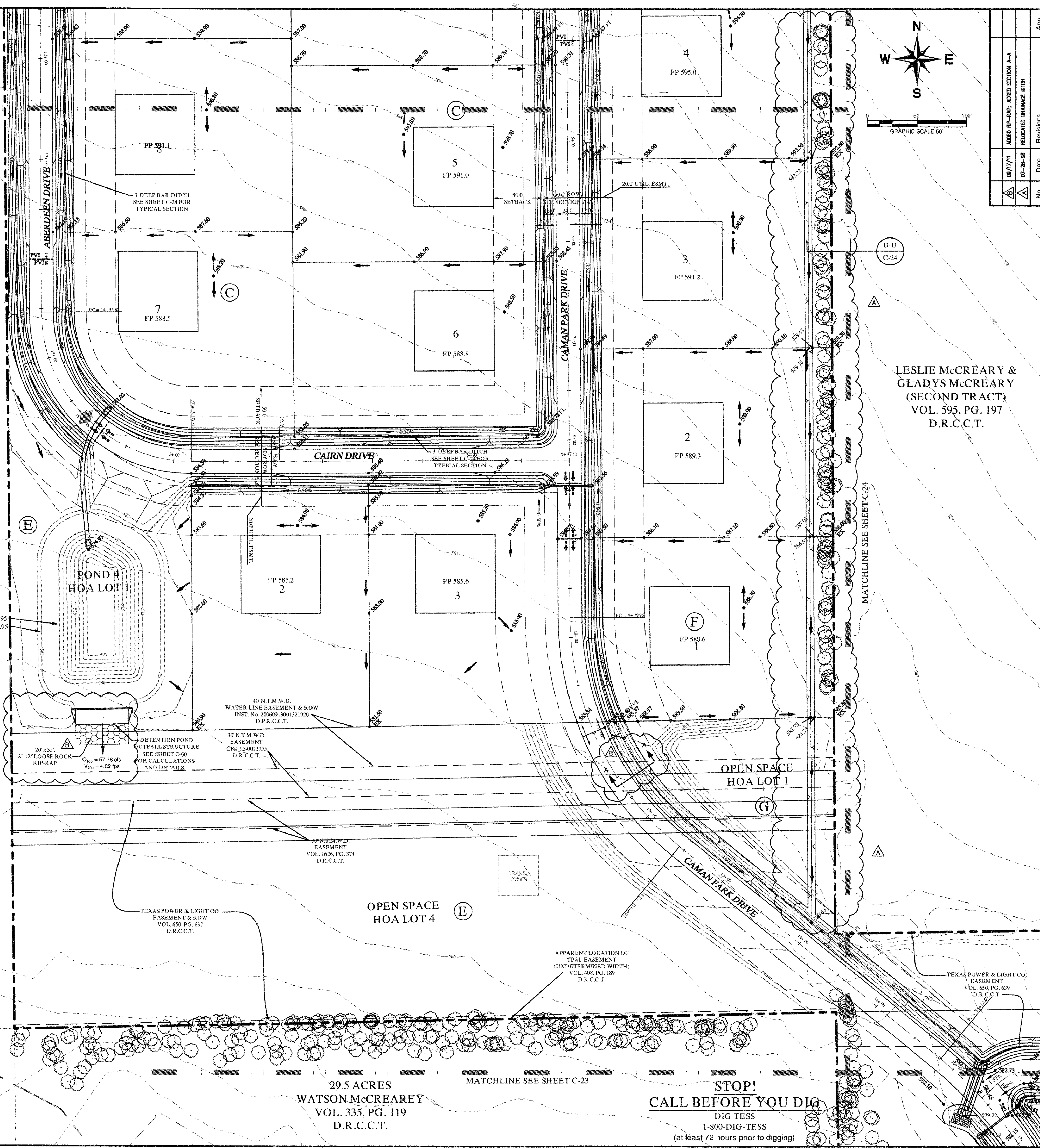
NOTE:
1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
2. REFER TO SHEET C-39 FOR DETAILS.

LEGEND:	
	ROADWAY HIGH POINT
	DIRECTION OF FLOW
	DAYLIGHT LINE
	SPOT ELEVATION
	EX. SPOT ELEVATION
	FINISHED BUILDING PAD ELEVATION

SHEPHERDS CREEK ADDITION
CAB. L. SL. 242
P.R.C.C.T.

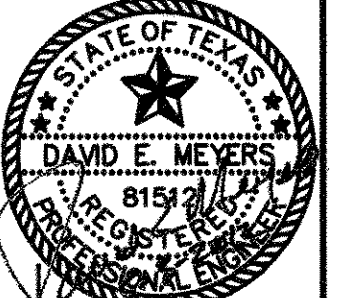
SHEPHERDS CREEK ADDITION
CAB. L. SL. 242
P.R.C.C.T.

10.45 ACRES
ARTHUR WAXLER et al
VOL. 616, PG. 425
D.R.C.C.T.



No.	Date	Revisions	App.
1	09/17/11	ADD RP-RP; ADD SECTION A-A	
2	07-28-08	RELOCATED DRAINAGE DITCH	

Kimley-Horn and Associates, Inc.
Texas Registered Engineering Firm No. F-528
12700 Park Central Drive, Suite 1800
Dallas, Texas 75251



STINSON HIGHLANDS
LUCAS, TEXAS

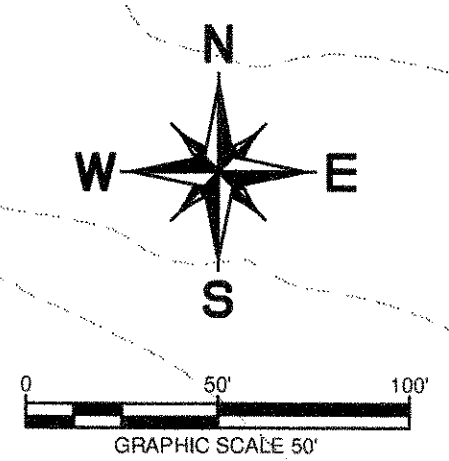
GRADING PLAN
(3 OF 10)

Scale:	1" = 50'
Designed by:	JTH
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-25

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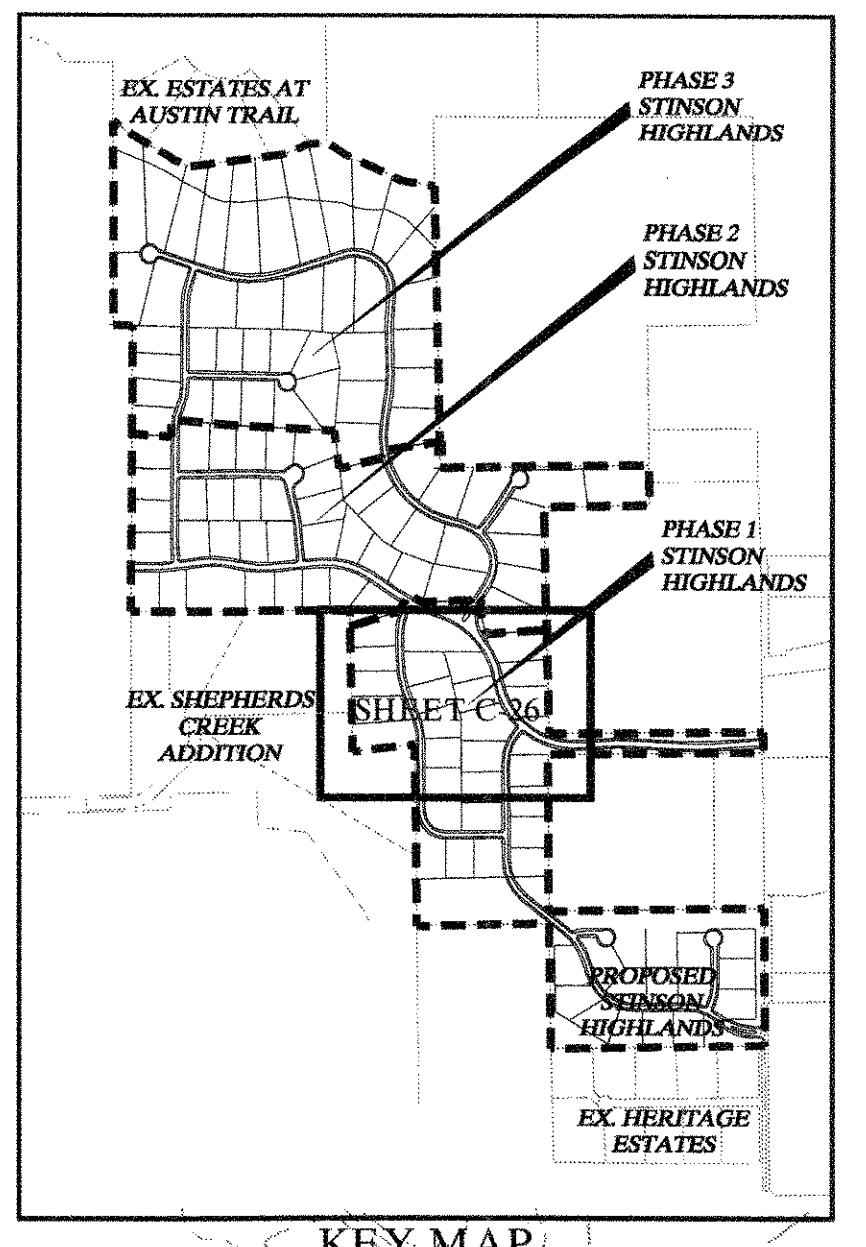
IMAGES: KIMLEY-HORN AND ASSOCIATES, INC. (KHA) 12700 PARK CENTRAL DRIVE, SUITE 1800, DALLAS, TEXAS 75251
 SHEET: SHEET C-25 OF 10
 DATE: 01/09/2012 10:00 AM
 DWG: SHEET C-25.DWG



SHEPHERDS CREEK ADDITION
CAB. L. SL. 242
P.R.C.C.T.

BENCHMARKS:
 1. (A) BM # 7655
 [] CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
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 S. Szostak
 DATE: _____ BY: *David S. Hardy*

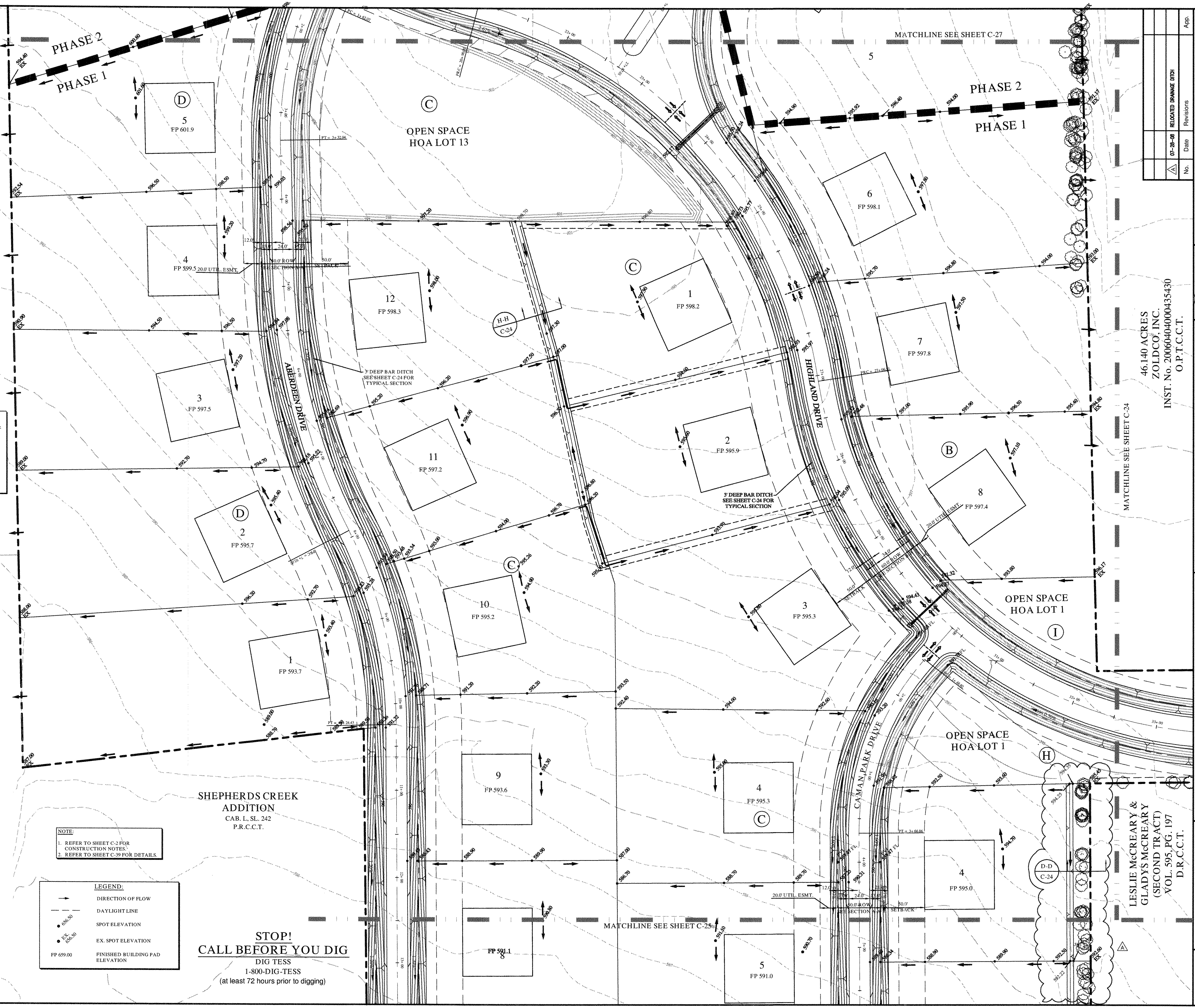


NOTE:
 1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-30 FOR DETAILS.

LEGEND:

	DIRECTION OF FLOW
	DAYLIGHT LINE
	SPOT ELEVATION
	EX. SPOT ELEVATION
	FINISHED BUILDING PAD ELEVATION

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 (at least 72 hours prior to digging)



46.140 ACRES
 ZOLDCO, INC.
 INST. NO. 20060404000435430
 O.P.T.C.C.T.

LESIE MCCREARY &
 GLADYS MCCREARY
 (SECOND TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.

No.	Date	Revisions	App.
07-28-08		RELOCATED DRAINAGE DITCH	

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm, No. F-528
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75244
 Tel. No. (972) 770-1300
 Fax No. (972) 539-3828

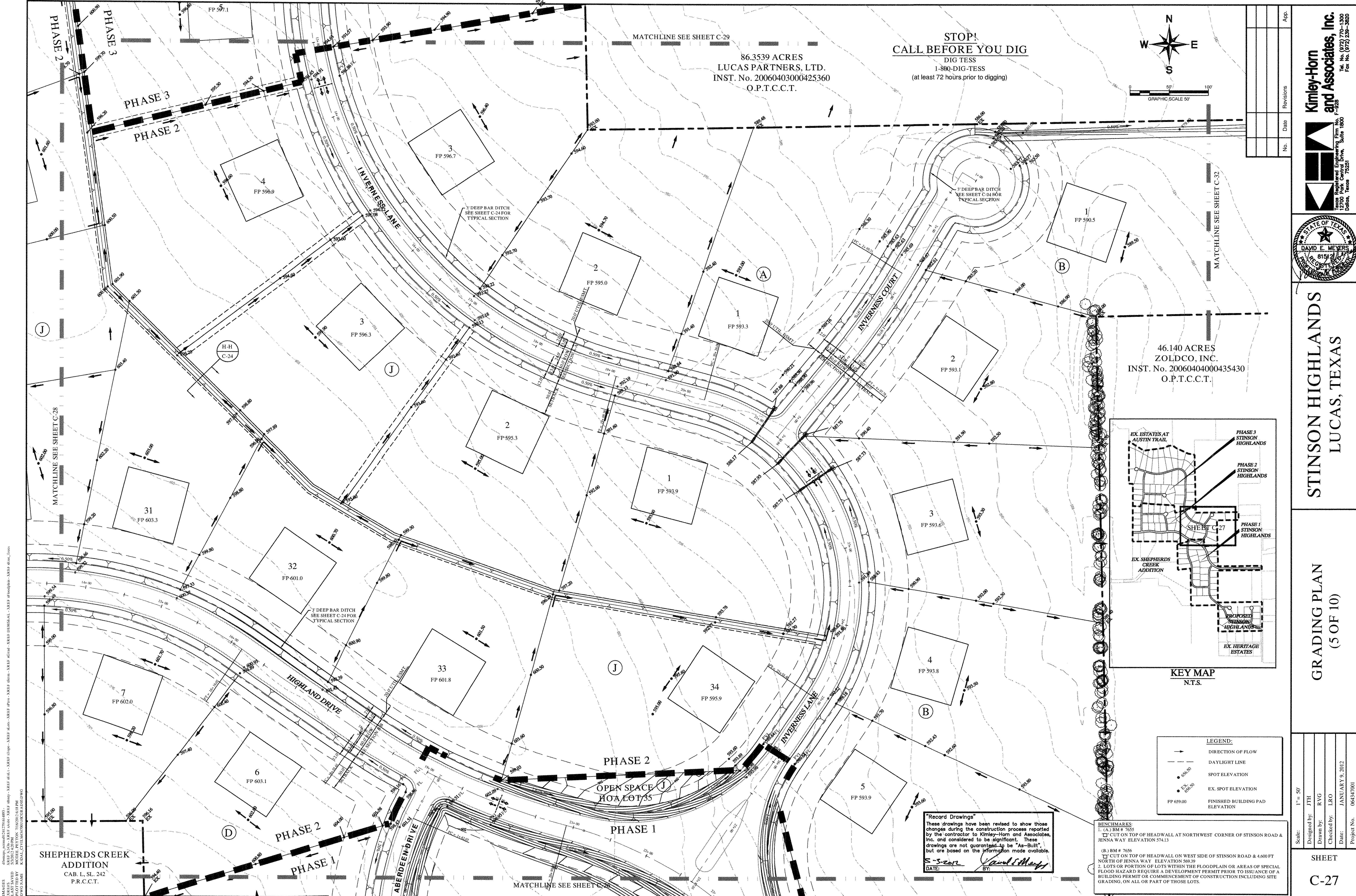
DAVID F. MEYERS
 8154
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF TEXAS

STINSON HIGHLANDS LUCAS, TEXAS

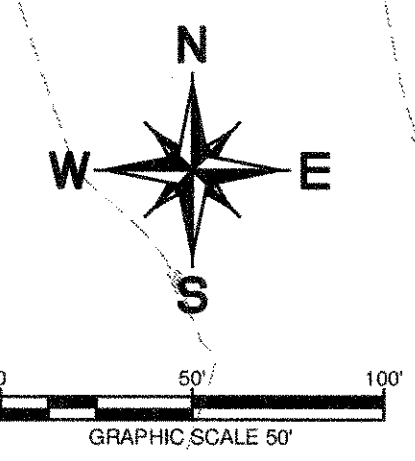
GRADING PLAN (4 OF 10)

Scale: 1" = 50'
 Designed by: JTH
 Drawn by: R/VG
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No. 064347001

SHEET C-26

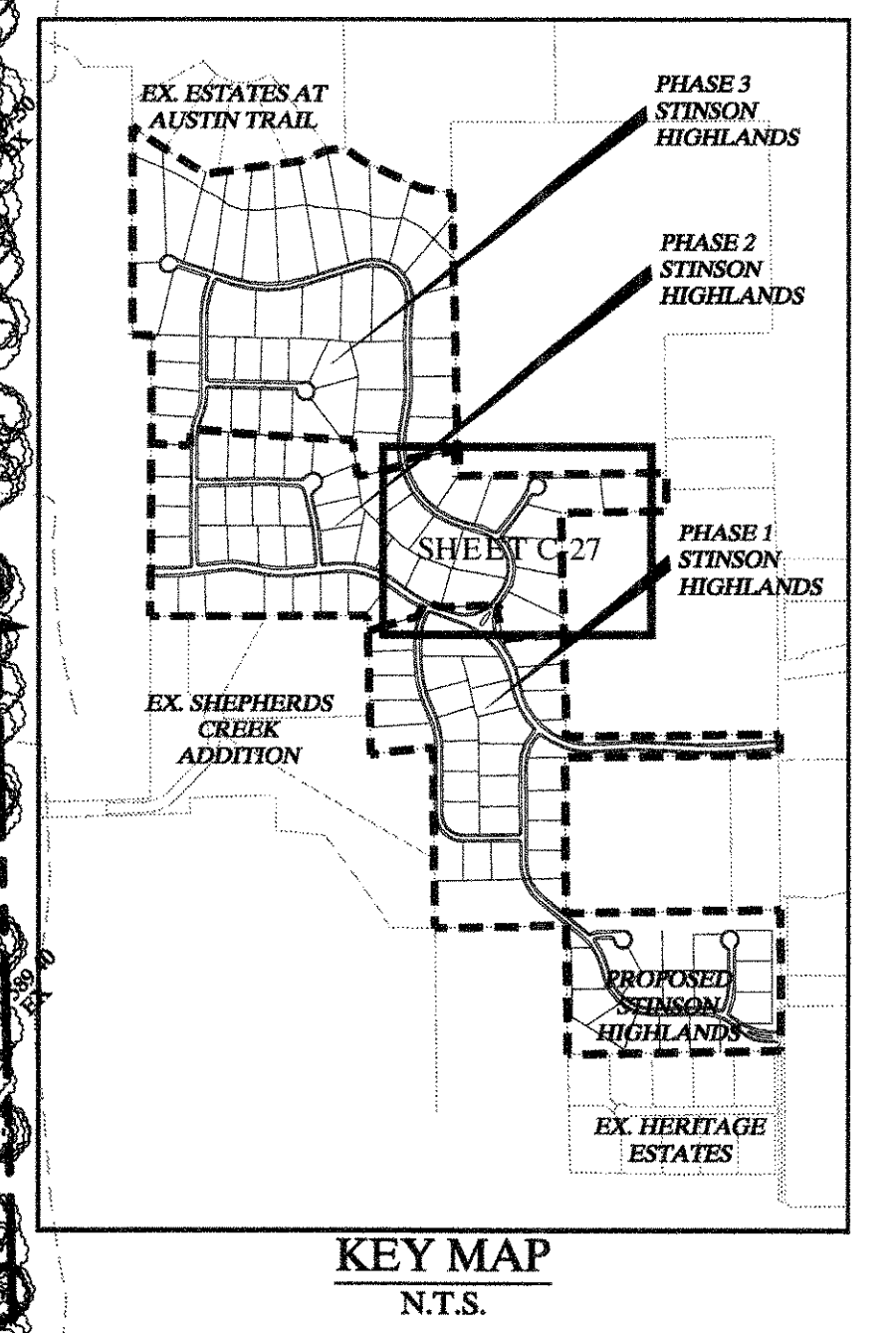


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 (at least 72 hours prior to digging)



86.3539 ACRES
 LUCAS PARTNERS, LTD.
 INST. No. 20060403000425360
 O.P.T.C.C.T.

46.140 ACRES
 ZOLDCO, INC.
 INST. No. 20060404000435430
 O.P.T.C.C.T.



LEGEND:

	DIRECTION OF FLOW
	DAYLIGHT LINE
	SPOT ELEVATION
	EX. SPOT ELEVATION
	FINISHED BUILDING PAD ELEVATION

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 DATE: 5-2-2012 BY: David E. Harty

BENCHMARKS:
 1. (A) BM # 7655
 CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 (B) BM # 7656
 CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4.600 FT NORTH OF JENNA WAY ELEVATION 569.39
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06/01/2012 10:51:29 AM
 LAST SAVED
 03/01/2012 10:51:29 AM
 DAVE N. HARTY
 KIMLEY-HORN AND ASSOCIATES, INC.
 12700 PARK CENTRAL DRIVE, SUITE 1600
 DALLAS, TEXAS 75228

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. P-228
 12700 Park Central Drive, Suite 1600
 Dallas, Texas 75228
 Tel. No. (972) 770-1300
 Fax. No. (972) 238-3626

STINSON HIGHLANDS
LUCAS, TEXAS

GRADING PLAN
(5 OF 10)

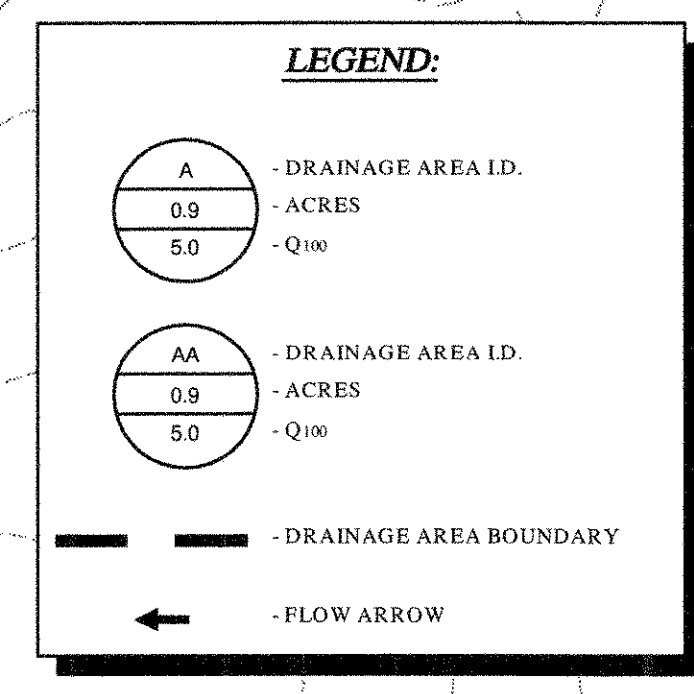
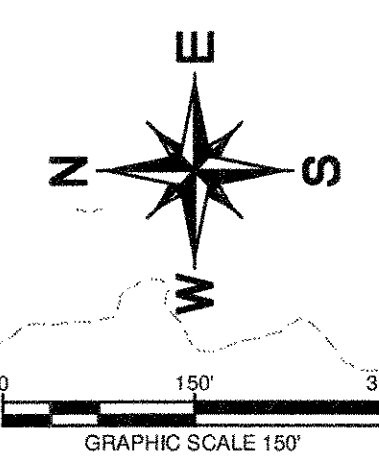
Scale: 1" = 50'

Designed by:	JTH
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-27

RUNOFF CALCULATIONS

AREA RUNOFF						
AREA ID.	AREA (AC)	RUNOFF COEFF %	TIME OF CONC. (MIN)	100 (IN/HR.)	Q ¹⁰⁰ (C.F.S.)	INLET PICK-UP POINTS
A	12.54	0.38	15	7.52	35.83	OFFSITE
B	9.73	0.38	15	7.52	27.80	POND 1
C	8.03	0.43	15	7.52	25.97	CULVERT P
D	1.73	0.30	15	7.52	3.90	OFFSITE
E	27.89	0.38	15	7.52	79.70	CULVERT O
F	5.42	0.43	15	7.52	17.53	OFFSITE
G	6.53	0.43	15	7.52	21.12	CULVERT N
H	4.64	0.43	15	7.52	15.00	CULVERT M
I	6.58	0.43	15	7.52	21.28	CULVERT L
J	9.59	0.43	15	7.52	31.01	CULVERT K
K	3.71	0.43	15	7.52	12.00	CULVERT J
L	11.54	0.43	15	7.52	37.32	CULVERTS I-1, I-2, & I-3
M	12.45	0.43	15	7.52	40.26	POND 3
N	2.21	0.30	15	7.52	4.99	OFFSITE
O	1.19	0.43	15	7.52	3.85	OFFSITE
P	3.11	0.30	15	7.52	7.02	OFFSITE
Q	3.07	0.43	15	7.52	9.93	OFFSITE
R	3.04	0.43	15	7.52	9.83	POND 2
S	4.41	0.43	15	7.52	14.26	CULVERT H
T	3.05	0.43	15	7.52	9.86	OFFSITE
U	13.08	0.43	15	7.52	42.30	CULVERT F
V	3.97	0.43	15	7.52	12.84	CULVERT E
W	2.57	0.43	15	7.52	8.31	OFFSITE
X	1.97	0.43	15	7.52	6.37	CULVERT B
Y	0.49	0.43	15	7.52	1.58	POND 4
Z	1.26	0.43	15	7.52	4.07	CULVERT D
AA	4.81	0.43	15	7.52	15.55	OFFSITE
BB	3.35	0.43	15	7.52	10.83	CULVERT D
CC	2.39	0.43	15	7.52	7.72	POND 5
DD	4.62	0.43	15	7.52	14.94	CULVERT Q
EE	5.01	0.43	15	7.52	16.20	CULVERT A
FF	4.48	0.43	15	7.52	14.49	POND 5
GG	0.11	0.43	15	7.52	0.36	OFFSITE
HH	1.39	0.43	15	7.52	4.49	OFFSITE
II	1.79	0.43	15	7.52	5.79	POND 5
JJ	2.91	0.43	15	7.52	9.41	CULVERT R
KK	1.23	0.43	15	7.52	3.98	CULVERT C
LL	1.19	0.30	15	7.52	2.68	OFFSITE
MM	1.93	0.43	15	7.52	6.24	OFFSITE
NN	3.15	0.30	15	7.52	7.11	OFFSITE
OO	5.08	0.43	15	7.52	16.43	OFFSITE
PP	11.28	0.38	15	7.52	32.23	OFFSITE
OS-1	14.91	0.43	15	7.52	48.21	CULVERT D
OS-2	7.92	0.43	15	7.52	25.61	CULVERT B
OS-3	7.72	0.43	15	7.52	24.96	CULVERT A
QQ	2.29	0.43	15	7.52	7.40	CULVERT T



No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-4923
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75241
 Tel. No. (972) 770-1300
 Fax No. (972) 258-3820

STATE OF TEXAS
 DAVID R. HORN
 8159
 12/15/11

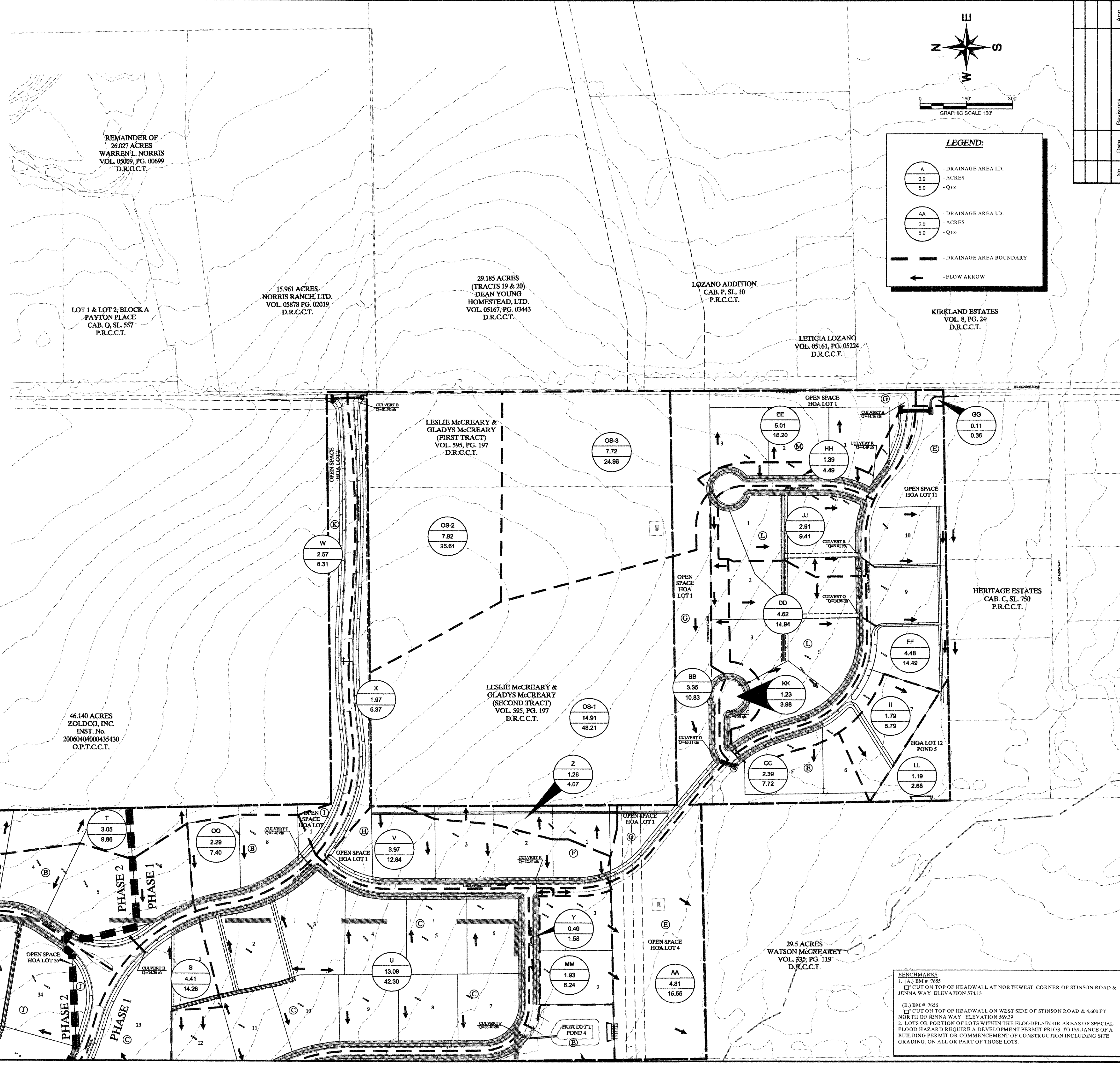
STINSON HIGHLANDS
 LUCAS, TEXAS

DRAINAGE AREA MAP
 - SOUTH

Scale: 1" = 150'

Designed by: JTH
 Drawn by: RYG
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No. 064347001

SHEET
 C-33



5.00 ACRES
 DELORES R.
 SMITHERMAN
 VOL. 03923, PG. 00032
 D.R.C.C.T.

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 S-3-2012
 DATE: *David R. Horn*
 BY: *David R. Horn*

86.3539 ACRES
 LUCAS PARTNERS, LTD.
 INST. No.
 20060403000425360
 O.P.T.C.C.T.

N
 2.21
 4.99
 HOA LOT 1
 POND 2

46.140 ACRES
 ZOLDCO, INC.
 INST. No.
 20060404000435430
 O.P.T.C.C.T.

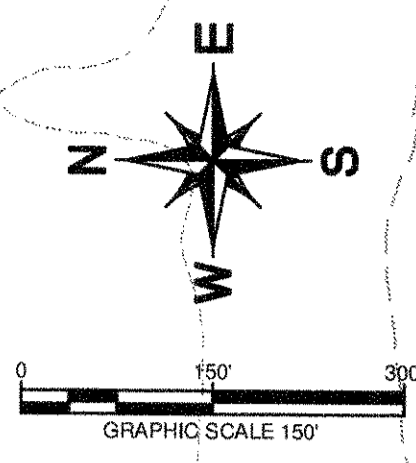
LESLIE McCREARY &
 GLADYS McCREARY
 (FIRST TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.

LESLIE McCREARY &
 GLADYS McCREARY
 (SECOND TRACT)
 VOL. 595, PG. 197
 D.R.C.C.T.

29.5 ACRES
 WATSON McCREARY
 VOL. 335, PG. 119
 D.R.C.C.T.

BENCHMARKS:
 1. (A) BM # 7656
 2. CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4,600 FT NORTH OF JENNA WAY ELEVATION 569.39
 3. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.

MAJORS: 06/05/2012 12:29:14 PM
 LAST SAVED: 5/20/2012 12:29:14 PM
 DRAWN BY: RYG
 CHECKED BY: LRO
 DATE: JANUARY 9, 2012
 PROJECT NO: 064347001



LEGEND:

DRAINAGE AREA I.D.
 0.9 - ACRES
 5.0 - Q₁₀₀

DRAINAGE AREA I.D.
 0.9 - ACRES
 5.0 - Q₁₀₀

DRAINAGE AREA BOUNDARY
 FLOW ARROW

86.3539 ACRES
LUCAS PARTNERS, LTD.
INST. No.
2006040300425360
O.P.T.C.C.T.

46.140 ACRES
ZOLDCO, INC.
INST. No.
20060404000435430
O.P.T.C.C.T.

59.030 ACRES
STINSON CROSSING,
LTD.
INST. No.
20061017001488020
O.P.T.C.C.T.

ESTATES AT AUSTIN
TRAIL
CAB. N. SL. 709
P.R.C.C.T.

SHEPHERDS CREEK
ADDITION
CAB. L. SL. 242
P.R.C.C.T.

60.5 ACRES
JOHN L. MORRISON
VOL. 761, PG. 57
D.R.C.C.T.

LEWIS BEND
PARTNERS
VOL. 761, PG. 57
D.R.C.C.T.

"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built" but are based on the information made available.

DATE: 5-5-2011 BY: David C. Smith

NOTES:
1. REFER TO SHEET C-33 FOR RUN-OFF CALCULATION TABLE.

BENCHMARKS:
1. (A) BM # 7655
2. CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
(B) BM # 7656
3. CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4.600 FT NORTH OF JENNA WAY ELEVATION 569.39
2. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.

Lot Numbers	Runoff						Culvert Size (inches)	Culvert Capacity (cfs)
	Coef. "C"	I (in/hr)	A (acres)	Q (cfs)	Slope "s"	n		
B6	0.43	7.52	0.67	2.17	0.50%	0.013	18	7.43
B7	0.43	7.52	1.79	5.79	0.50%	0.013	18	7.43
B8	0.43	7.52	1.79	5.79	0.50%	0.013	18	7.43
C1	0.43	7.52	3.65	11.80	0.50%	0.013	24	16.00
C2	0.43	7.52	3.65	11.80	0.50%	0.013	24	16.00
C3	0.43	7.52	3.65	11.80	0.50%	0.013	24	16.00
C4	0.43	7.52	5.66	18.30	1.60%	0.013	24	28.62
C5	0.43	7.52	5.66	18.30	0.97%	0.013	24	22.28
C6	0.43	7.52	9.6	31.04	0.50%	0.013	2-24	31.99
C7	0.43	7.52	9.6	31.04	0.50%	0.013	2-24	31.99
C8	0.43	7.52	6.15	19.89	1.20%	0.013	24	24.78
C9	0.43	7.52	5.47	17.69	1.20%	0.013	24	24.78
C10	0.43	7.52	4.56	14.75	1.20%	0.013	24	24.78
C11	0.43	7.52	3.28	10.61	1.20%	0.013	18	11.51
C12	0.43	7.52	2.3	7.44	1.20%	0.013	18	11.51
D1	0.43	7.52	1.49	4.82	1.20%	0.013	18	11.51
D2	0.43	7.52	1.49	4.82	1.20%	0.013	18	11.51
D3	0.43	7.52	1.49	4.82	1.20%	0.013	18	11.51
D4	0.43	7.52	1.49	4.82	1.20%	0.013	18	11.51
D5	0.43	7.52	1.49	4.82	1.20%	0.013	18	11.51
E2	0.43	7.52	6.06	19.60	0.50%	0.013	2-24	31.99
E3	0.43	7.52	6.06	19.60	0.50%	0.013	2-24	31.99
E4	0.43	7.52	21.3	68.88	0.50%	0.013	2-36	94.33
E5	0.43	7.52	21.3	68.88	0.50%	0.013	2-36	94.33
E7	0.43	7.52	0.54	1.75	0.50%	0.013	18	7.43
E8	0.43	7.52	0.54	1.75	0.50%	0.013	18	7.43
F1	0.43	7.52	5.61	18.14	0.60%	0.013	2-24	35.05
F2	0.43	7.52	5.61	18.14	0.97%	0.013	24	22.28
F3	0.43	7.52	5.61	18.14	0.97%	0.013	24	22.28
F4	0.43	7.52	5.61	18.14	0.97%	0.013	24	22.28
M1	0.43	7.52	1.39	4.49	0.50%	0.013	18	7.43
M2	0.43	7.52	1.39	4.49	1.20%	0.013	18	11.51
M3	0.43	7.52	1.39	4.49	2.10%	0.013	18	15.22
L1	0.43	7.52	2.4	7.76	2.10%	0.013	18	15.22
L2	0.43	7.52	2.4	7.76	2.10%	0.013	18	15.22
L3	0.43	7.52	0.74	2.39	0.50%	0.013	18	7.43
L4	0.43	7.52	1.81	5.85	0.50%	0.013	18	7.43
L5	0.43	7.52	3.01	9.73	0.50%	0.013	24	16.00

Kimley-Horn and Associates, Inc.
Texas Registered Engineering Firm No. F-528
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Fax. No. (972) 256-3880

STINSON HIGHLANDS LUCAS, TEXAS

DRAINAGE AREA MAP - NORTH

Scale: 1" = 150'

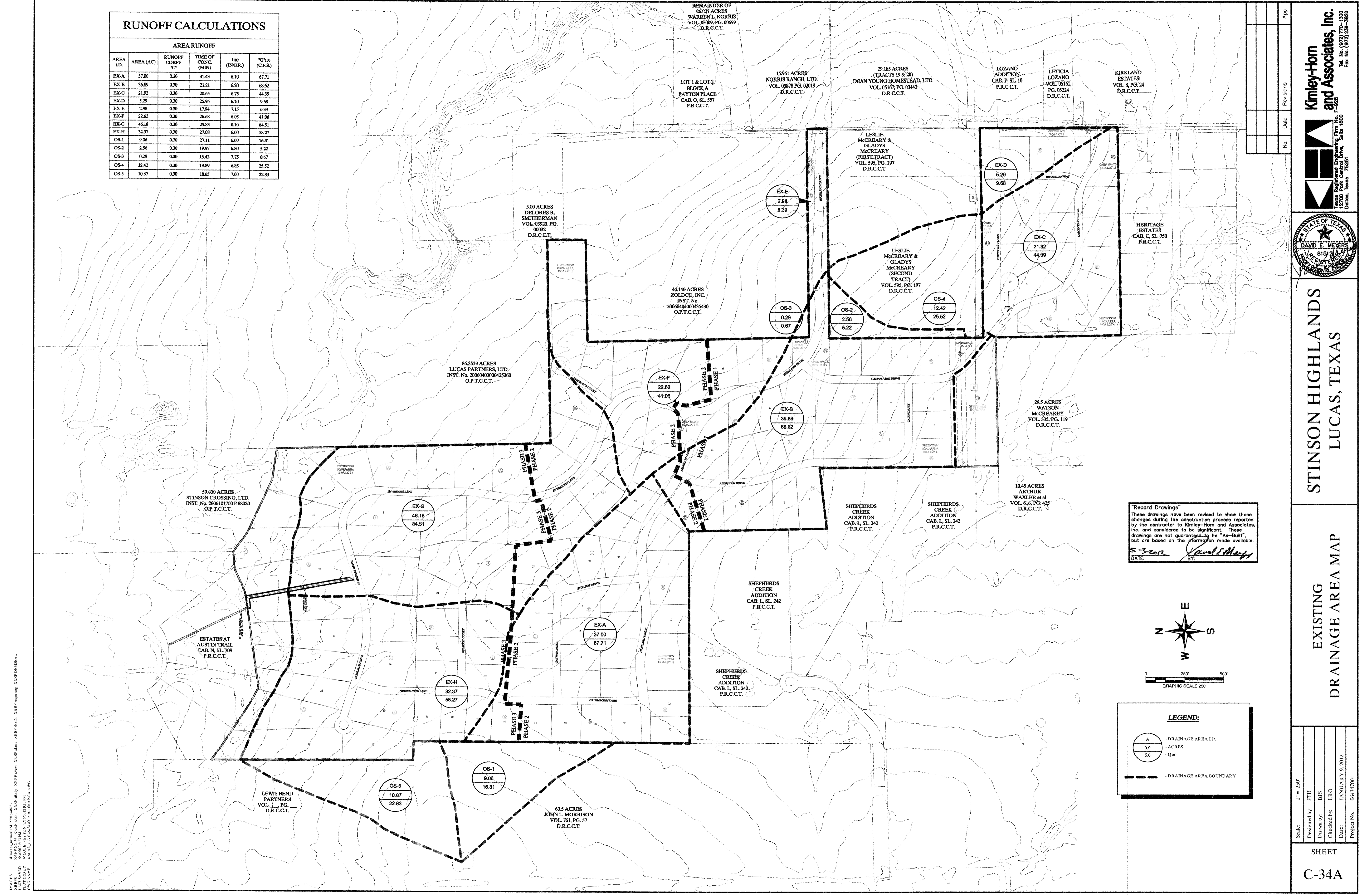
Designed by: JTH
Drawn by: RYG
Checked by: LRO
Date: JANUARY 9, 2012
Project No.: 064347001

SHEET C-34

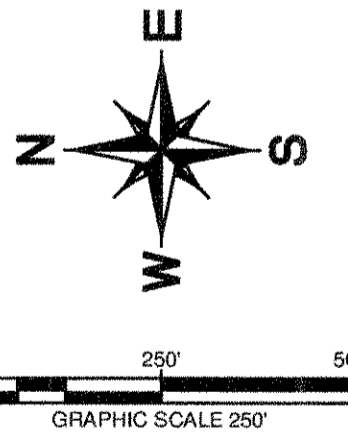
No.	Date	Revisions
1		REVISED DRIVEWAY CULVERTS TO 18" MINIMUM

DRAWN: JTH
 CHECKED: LRO
 DATE: 1/9/12
 PROJECT: 064347001

RUNOFF CALCULATIONS					
AREA RUNOFF					
AREA I.D.	AREA (AC)	RUNOFF COEFF %	TIME OF CONC. (MIN)	I100 (IN/HR.)	Q100 (C.F.S.)
EX-A	37.00	0.30	31.43	6.10	67.71
EX-B	36.89	0.30	21.21	6.20	68.62
EX-C	21.92	0.30	20.65	6.75	44.39
EX-D	5.29	0.30	25.96	6.10	9.68
EX-E	2.98	0.30	17.94	7.15	6.39
EX-F	22.62	0.30	26.68	6.05	41.06
EX-G	46.18	0.30	25.83	6.10	84.51
EX-H	32.37	0.30	27.08	6.00	58.27
OS-1	9.06	0.30	27.11	6.00	16.31
OS-2	2.56	0.30	19.97	6.80	5.22
OS-3	0.29	0.30	15.42	7.75	0.67
OS-4	12.42	0.30	19.89	6.85	25.52
OS-5	10.87	0.30	18.65	7.00	22.83



"Record Drawings"
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 DATE: 5-3-2012 BY: David E. Murphy



LEGEND:	
(A)	- DRAINAGE AREA I.D.
0.9	- ACRES
5.0	- Q100
---	- DRAINAGE AREA BOUNDARY

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm, No. F-5723
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75221
 Tel. No. (972) 720-3800
 Fax. No. (972) 720-3820

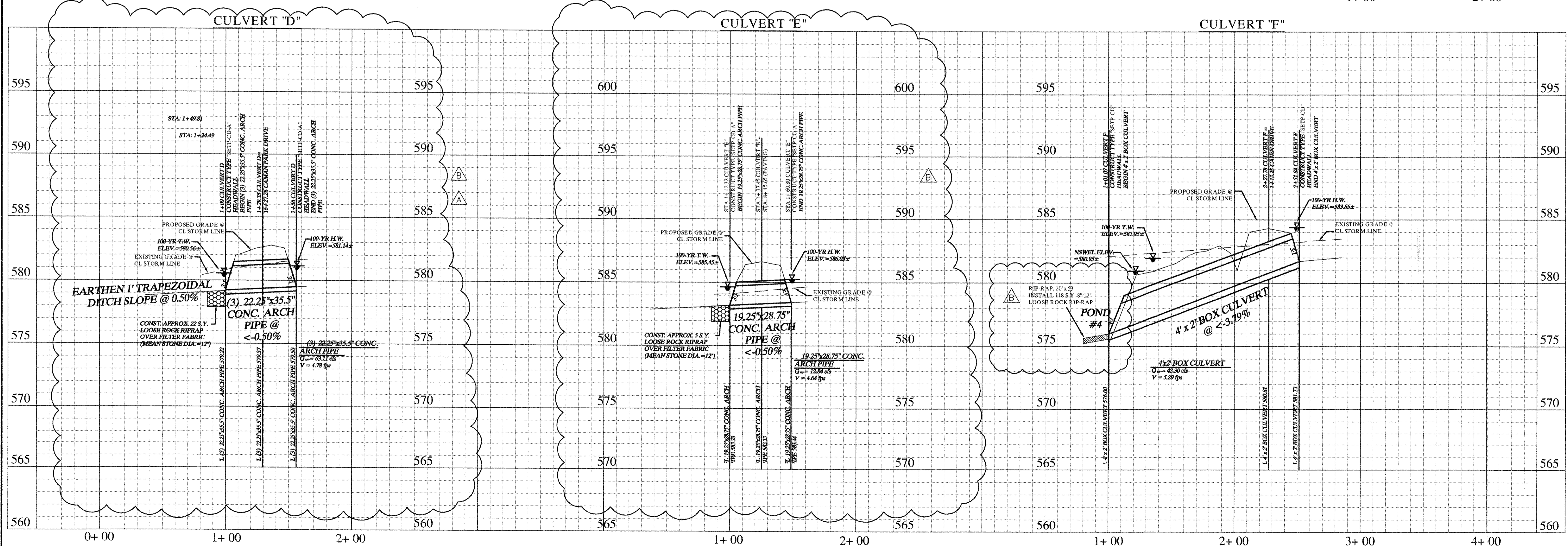
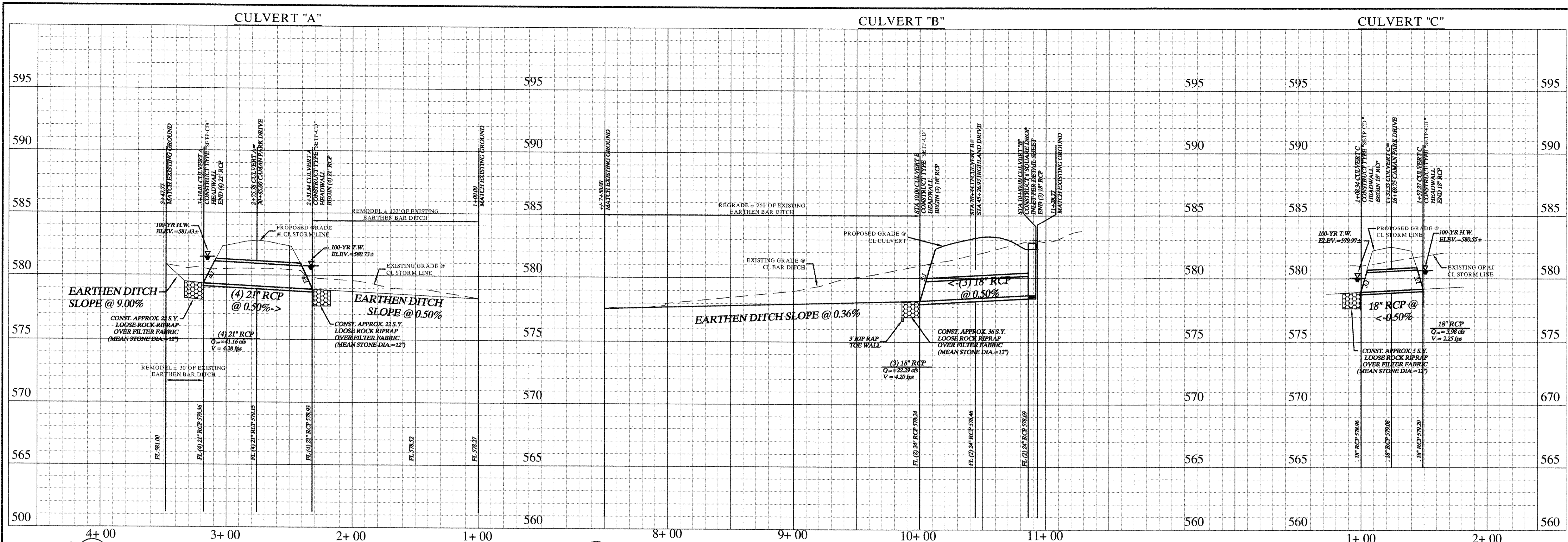
STINSON HIGHLANDS
 LUCAS, TEXAS

EXISTING
 DRAINAGE AREA MAP

Scale:	1" = 250'
Designed by:	JTH
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
 C-34A

IMAGES: C:\Users\jth\Documents\2012\01\09\064347001\064347001.dwg
 LAST SAVED: 5/3/2012 10:13 PM
 DWG NAME: 064347001.dwg
 KIMLEY-HORN AND ASSOCIATES, INC.



No.	Date	Revisions	App.
1	09-17-11	REVISED CULVERT SIZE, ADDD RIPRAP	
2	07-23-08	CULVERT D ALIGNMENT REISED	

Kimley-Horn and Associates, Inc.
 Registered Professional Engineer
 State of Texas License No. 1-228
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75245
 Tel. No. (972) 770-1300
 Fax No. (972) 238-3680

STINSON HIGHLANDS LUCAS, TEXAS

STORM CULVERT PROFILES CULVERTS "A" - "F"

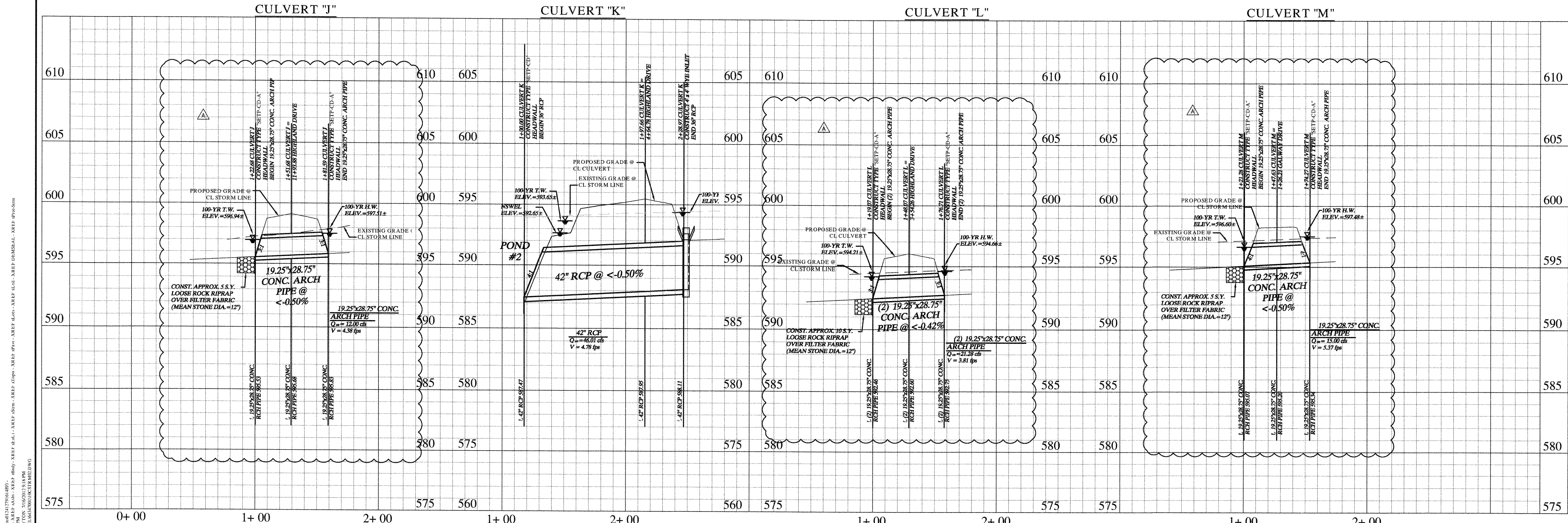
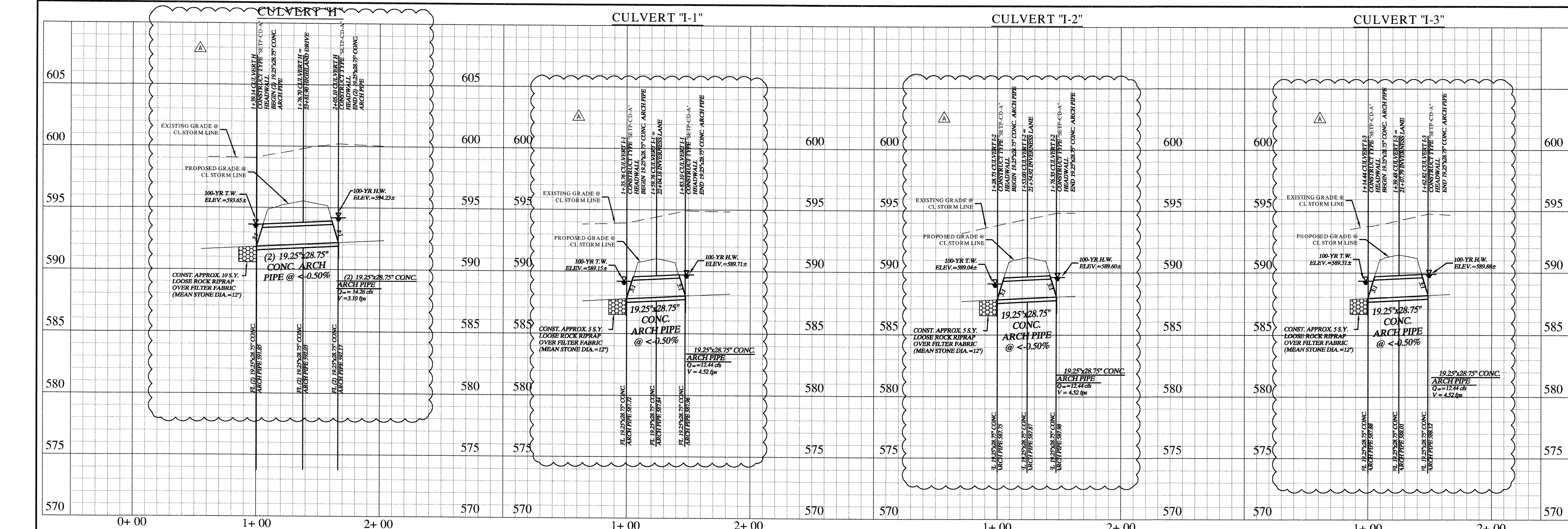
Scale: 1" = 40' H, 1" = 4' V

Designed by:	BIS
Drawn by:	BIS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 3-3-2012 BY: Paul Murphy

NOTES:
 1. REFER TO SHEET C-37 FOR MODIFIED TYPE C HEADWALL DETAIL.
 2. CONTRACTOR SHALL CONTACT NTMWD 972-443-5465, PAUL LYDAY 48 HOURS IN ADVANCE OF WORK TO SCHEDULE A NTMWD REPRESENTATIVE TO BE ON SITE. NO WORK IN NTMWD EASEMENT ON WEEKENDS.

DRAWING NO. 064347001-03
 LAST SAVED 3/3/2012 10:37 PM
 DWG NAME K:\AL\CULVERT\064347001\03.DWG
 DWG NUMBER 03



IMAGES: C:\temp\p0121278164893 -
 LAST SAVID: 5/25/2012 1:53 PM
 PLOTTED BY: MCHB: PLYTON: 7060321248 PM
 PLOT DATE: 5/25/2012 1:53 PM

REV	DATE	BY	REVISIONS

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-268
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75221
 Tel. No. (972) 770-1300
 Fax No. (972) 239-3620

STINSON HIGHLANDS
LUCAS, TEXAS

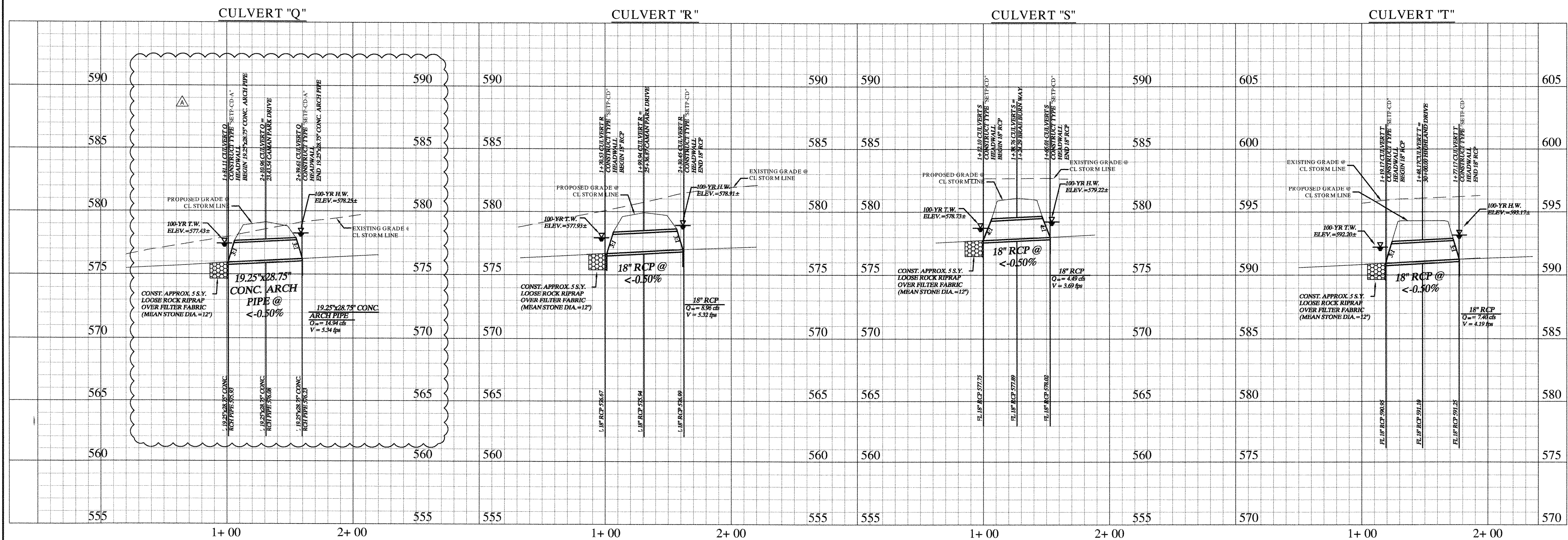
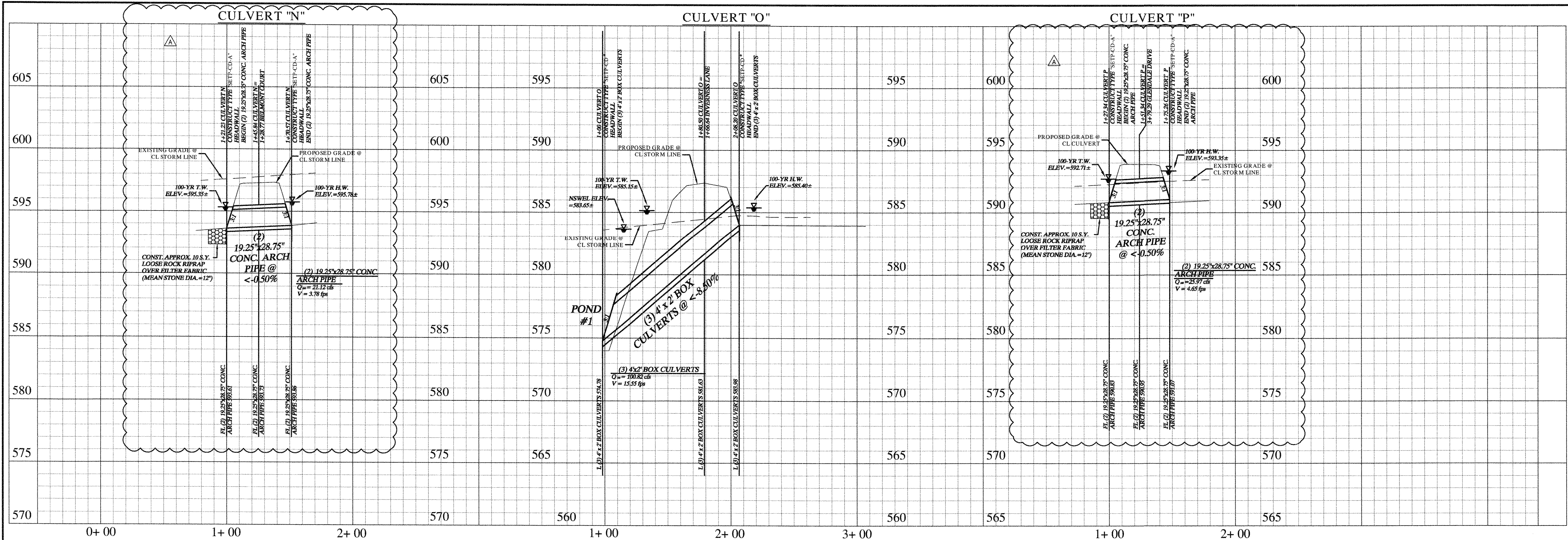
STORM CULVERT PROFILES
CULVERTS "H" - "M"

Scale: 1" = 40' H, 1" = 4' V

Designed by:	BJS
Drawn by:	BJS
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 5-3-2012 BY: David L. Harty

NOTES
 1. REFER TO SHEET C-37 FOR MODIFIED TYPE C HEADWALL DETAIL.



I:\Projects\2012\127014\Drawings\Storm\Storm_Culverts\Storm_Culverts.dwg
 LAST SAVED: 2/1/2012 11:57 AM
 DRAWN BY: JRO
 CHECKED BY: JRO
 PROJECT NO: 064347001

No.	Date	Revisions
1	1/11/2012	REVISED CULVERT SIZE

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. 12700
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75241
 Tel. No. (972) 770-1300
 Fax No. (972) 250-3828

STINSON HIGHLANDS LUCAS, TEXAS

STORM CULVERT PROFILES CULVERTS "N" - "T"
 Scale: 1" = 40' H, 1" = 4' V
 Designed by: BIS
 Drawn by: BIS
 Checked by: JRO
 Date: JANUARY 9, 2012
 Project No: 064347001

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 S. J. [Signature]
 DATE: [Signature]

OPEN SPACE
HOA LOT 1

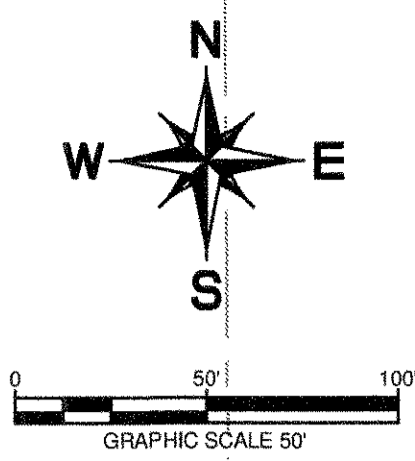
MATCHLINE SEE SHEET C-40

"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.

DATE: 5-3-2012 BY: David S. Meyer

LESLIE McCREARY &
GLADYS McCREARY
(SECOND TRACT)
VOL. 595, PG. 197
D.R.C.C.T.

- NOTES:**
1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-47-C-48 FOR 8" WATER PROFILE.
 3. CONTRACTOR SHALL MARK THE LOCATION OF WATER METER BOXES WITH STAKES AND FLAGGING
 4. CONTRACTOR SHALL INSTALL ONE BLUE PAVEMENT MARKER AT THE CENTERLINE OF STREET AT EACH FIRE HYDRANT LOCATION
 5. CONTRACTOR SHALL SCORE THE EDGE OF PAVEMENT AT EACH WATER SERVICE LOCATION PER CITY DIRECTION



LESLIE McCREARY &
GLADYS McCREARY
(FIRST TRACT)
VOL. 595, PG. 197
D.R.C.C.T.

Revisions	Date	No.	App.
ADDED FIRE HYDRANT MARKER AND SERVICE SCORING NOTE		9902011	

Kimley-Horn and Associates, Inc.
Texas Registered Engineering Firm, No. F-528
12700 Park Center Drive, Suite 1600
Dallas, Texas 75251
Tel. No. (972) 238-3800
Fax No. (972) 238-3820

STINSON HIGHLANDS
LUCAS, TEXAS

LETICIA VOL. 051
D.I.

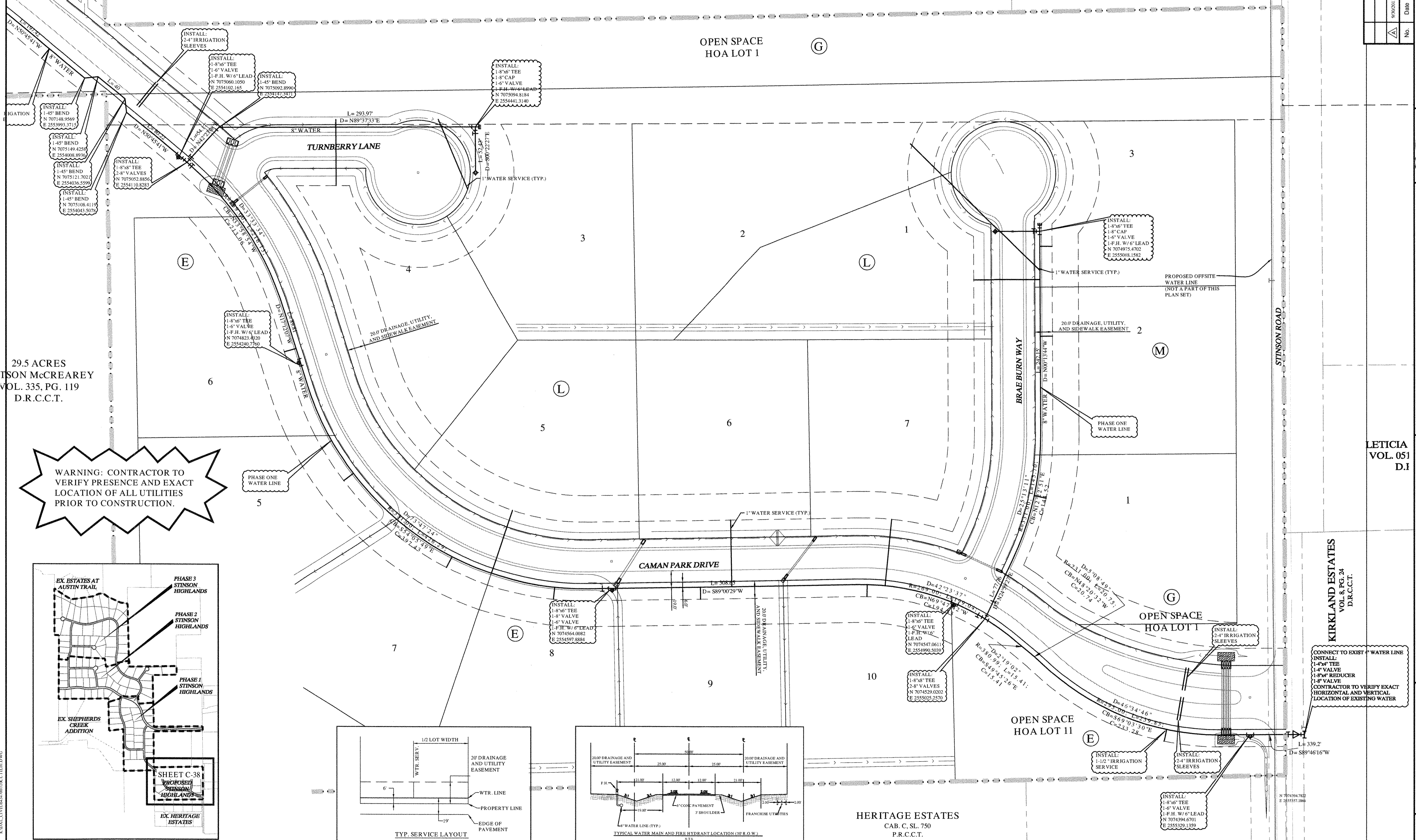
WATER PLAN
(1 OF 9)

KIRKLAND ESTATES
VOL. 8, PG. 24
D.R.C.C.T.

Scale: 1" = 50'

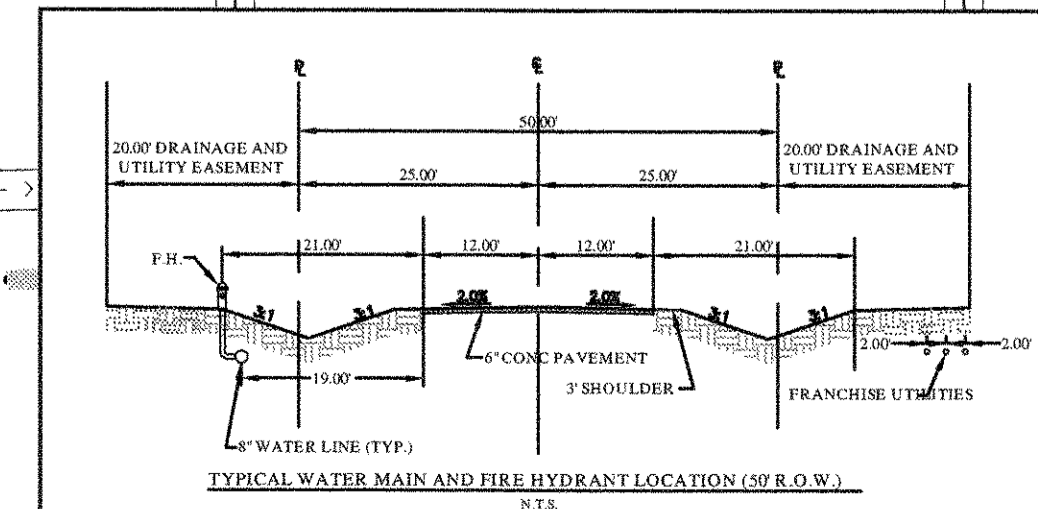
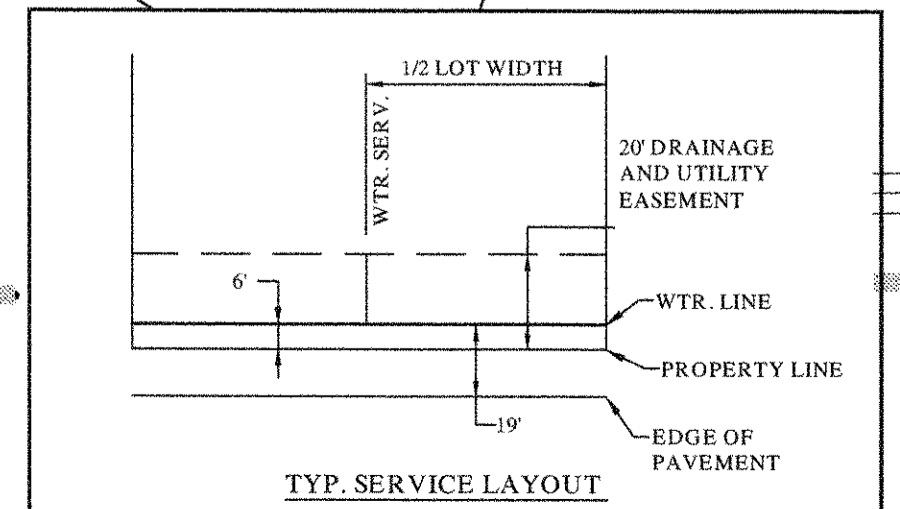
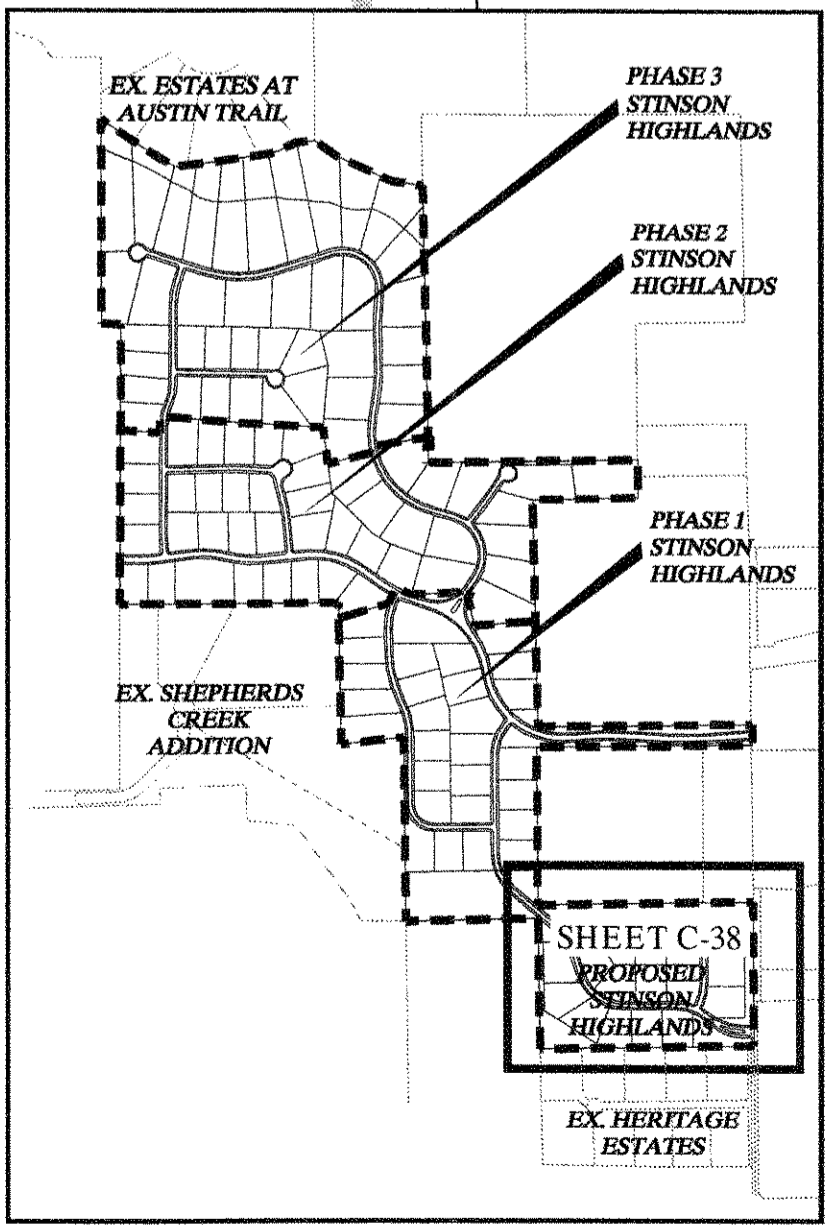
Designed by: BIS
Drawn by: RYG
Checked by: LRO
Date: JANUARY 9, 2012
Project No. 064347001

SHEET
C-38



29.5 ACRES
LESLIE McCREARY
VOL. 335, PG. 119
D.R.C.C.T.

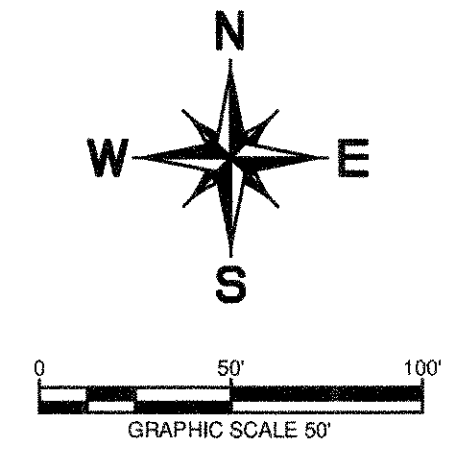
WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.



HERITAGE ESTATES
CAB. C. SL. 750
P.R.C.C.T.

NOTE: WATERLINE NOT
CONSTRUCTED IN HIGHLAND
DRIVE

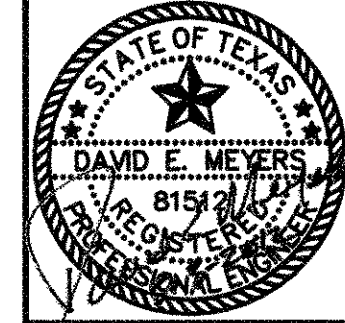
46.140 ACRES
ZOLDCO, INC.
INST. No. 20060404000435430
O.P.T.C.C.T.



15.961 ACRES
NORRIS RANCH, LTD.
VOL. 05878 PG. 02019
D.R.C.C.T.

App.	Revisions	Date	No.
	ADDED FIRE HYDRANT MARKER AND SERVICE SCORING NOTE		

**Kimley-Horn
and Associates, Inc.**
Texas Registered Engineering Firm No. 1500
2700 Park Center Drive, Suite 1800
Dallas, Texas 75201
Tel. No. (972) 242-1500
Fax No. (972) 242-3820

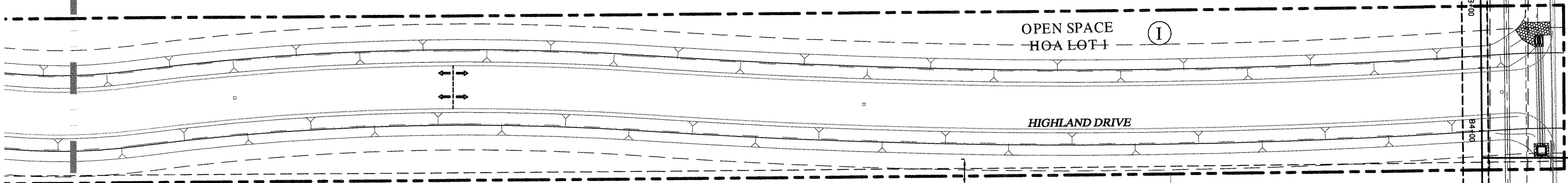


**STINSON HIGHLANDS
LUCAS, TEXAS**

**WATER PLAN
(2 OF 9)**

Scale:	1" = 50'
Designed by:	BJS
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

**SHEET
C-39**

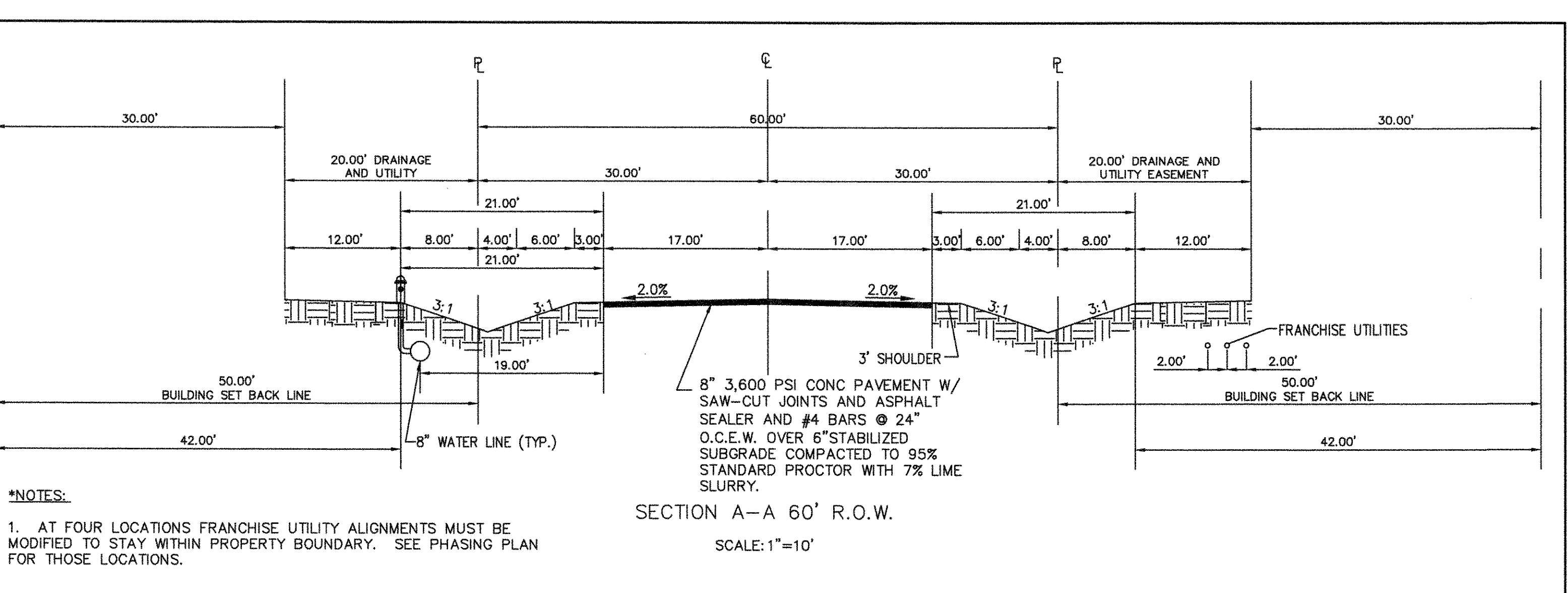
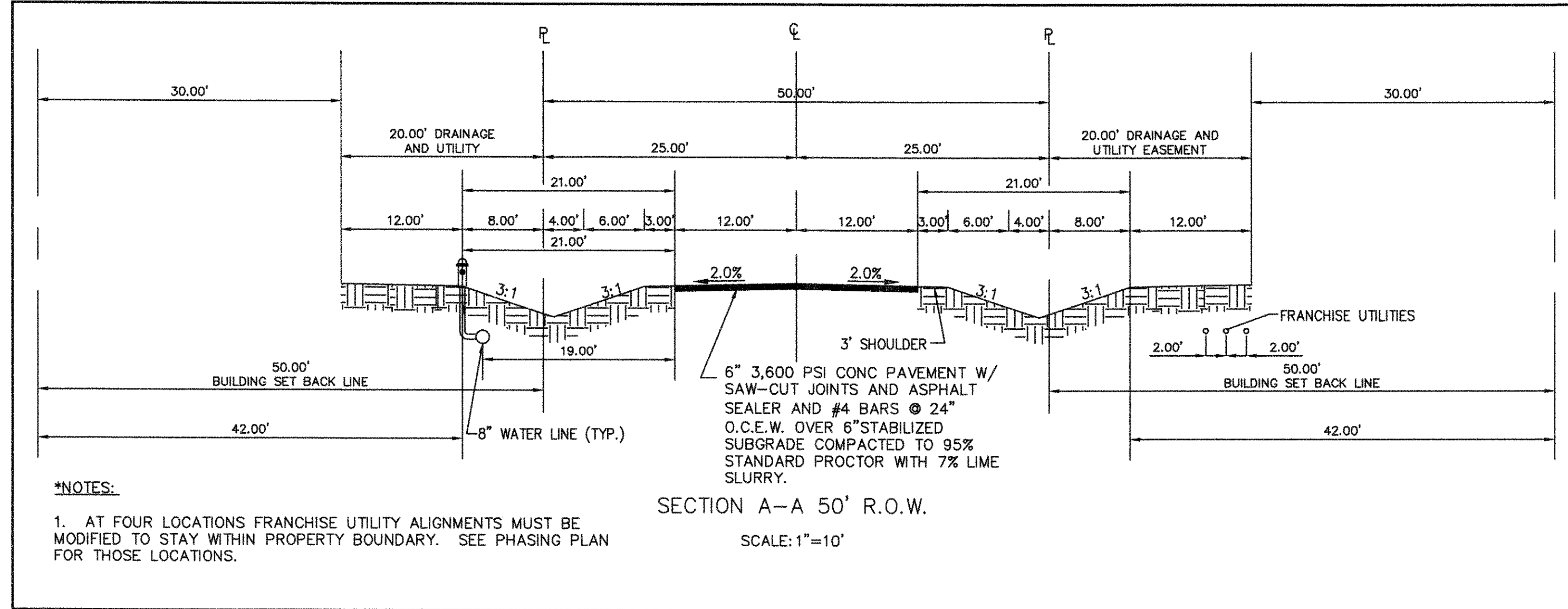
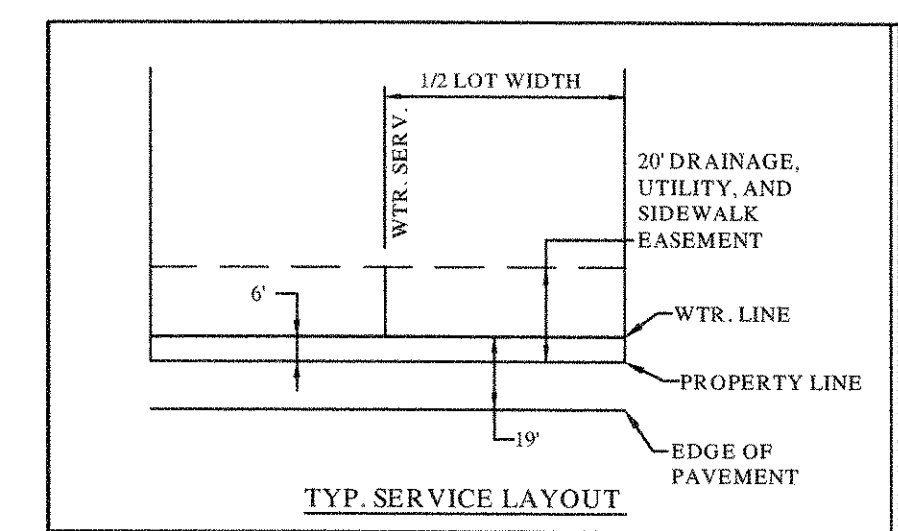


**WARNING: CONTRACTOR TO
VERIFY PRESENCE AND EXACT
LOCATION OF ALL UTILITIES
PRIOR TO CONSTRUCTION.**

LESLIE McCREARY &
GLADYS McCREARY
(SECOND TRACT)
VOL. 595, PG. 197
D.R.C.C.T.

LESLIE McCREARY &
GLADYS McCREARY
(FIRST TRACT)
VOL. 595, PG. 197
D.R.C.C.T.

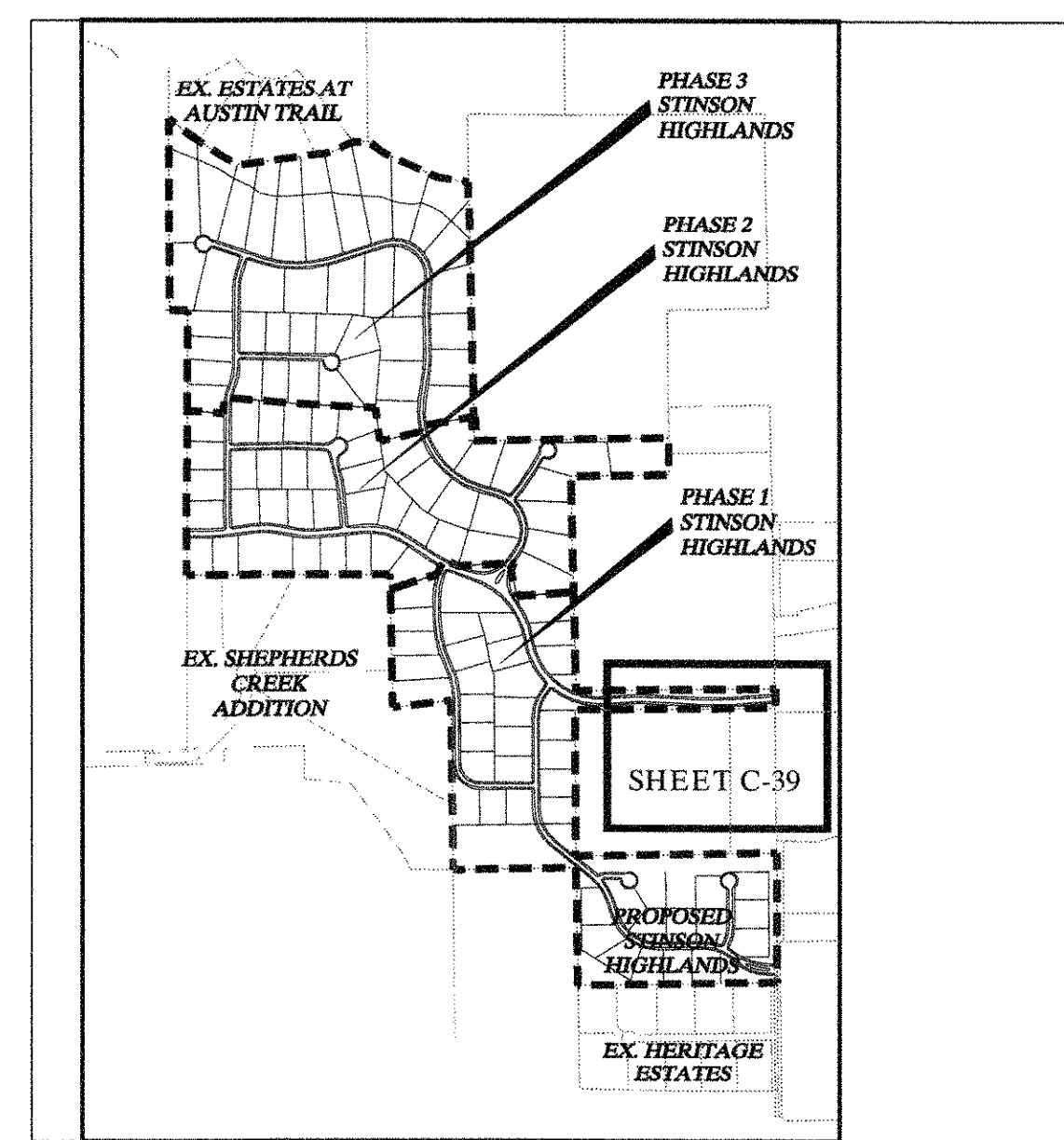
29.185 ACRES
(TRACTS 19 & 20)
DEAN YOUNG HOMESTEAD, LTD.
VOL. 05167, PG. 03443
D.R.C.C.T.



"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
S-3-2012
DATE: BY: David S. Mayfield

- NOTES:**
- REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 - REFER TO SHEET C-47-C-48 FOR 12" WATER PROFILE.
 - CONTRACTOR SHALL INSTALL ONE BLUE PAVEMENT MARKER AT THE CENTERLINE OF STREET AT EACH FIRE HYDRANT LOCATION.
 - CONTRACTOR SHALL SCORE THE EDGE OF PAVEMENT AT EACH WATER SERVICE LOCATION PER CITY DIRECTION.

- BENCHMARKS:**
- (A) BM # 7655
CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
 - (B) BM # 7656
CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4.600 FT NORTH OF JENNA WAY ELEVATION 569.39
2. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.



**KEY MAP
N.T.S.**

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 LAST SAVED: 01/09/12 10:48 AM
 DWGNAME: KIMLEY-HORN\064347001\012701010001.DWG

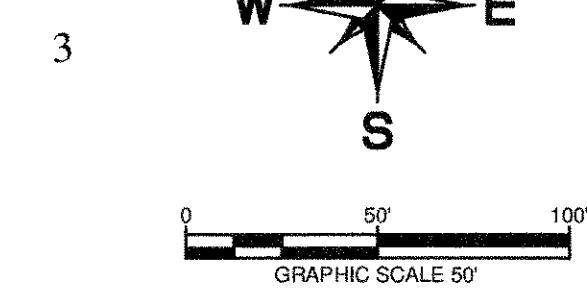
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31

32

33

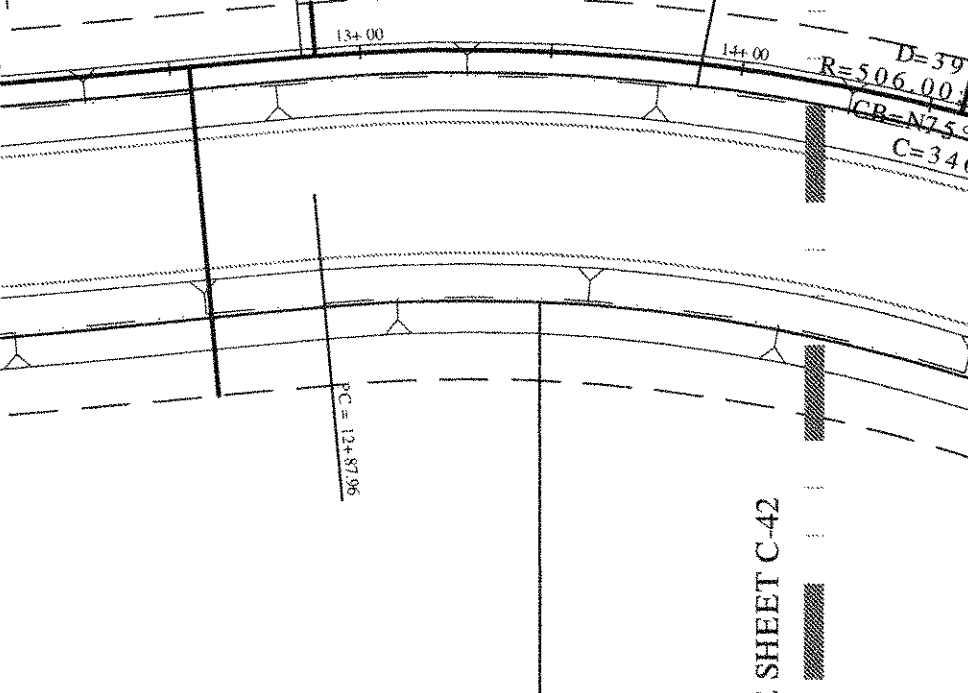
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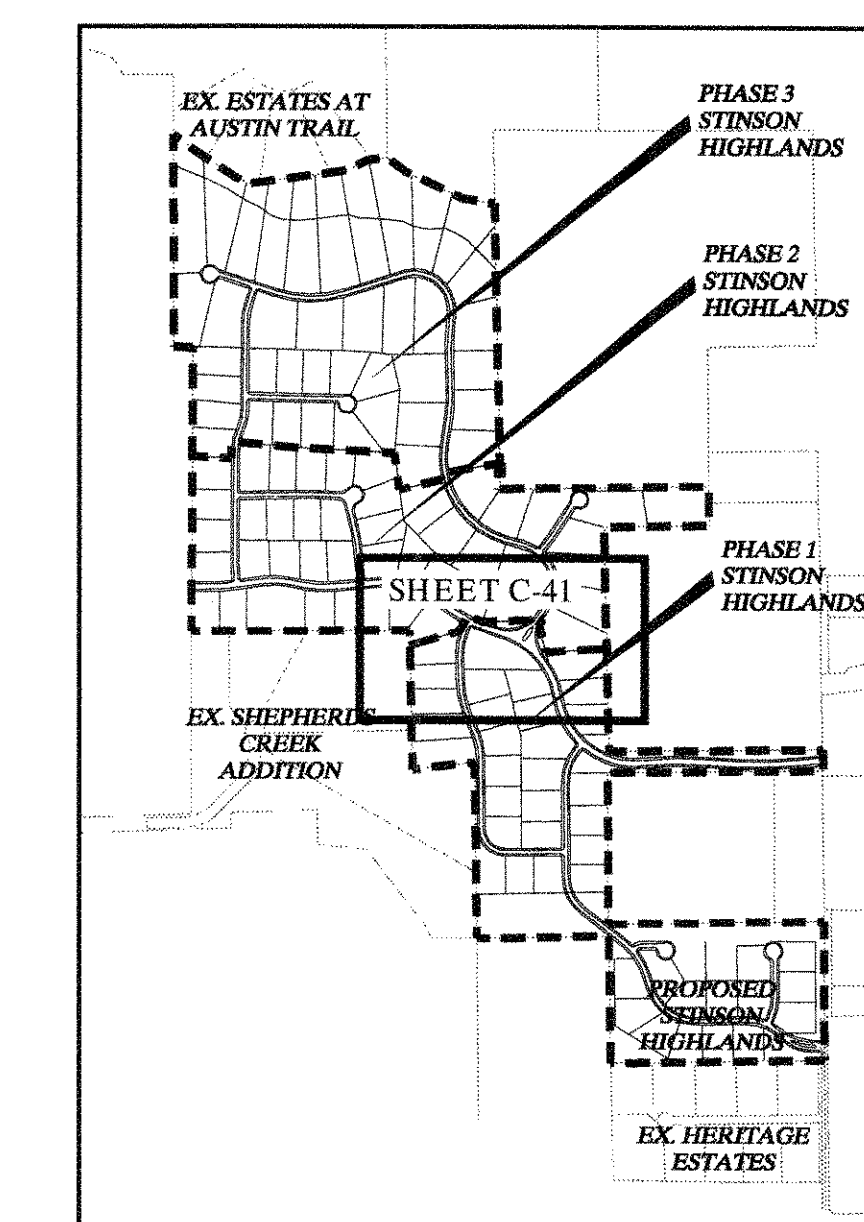
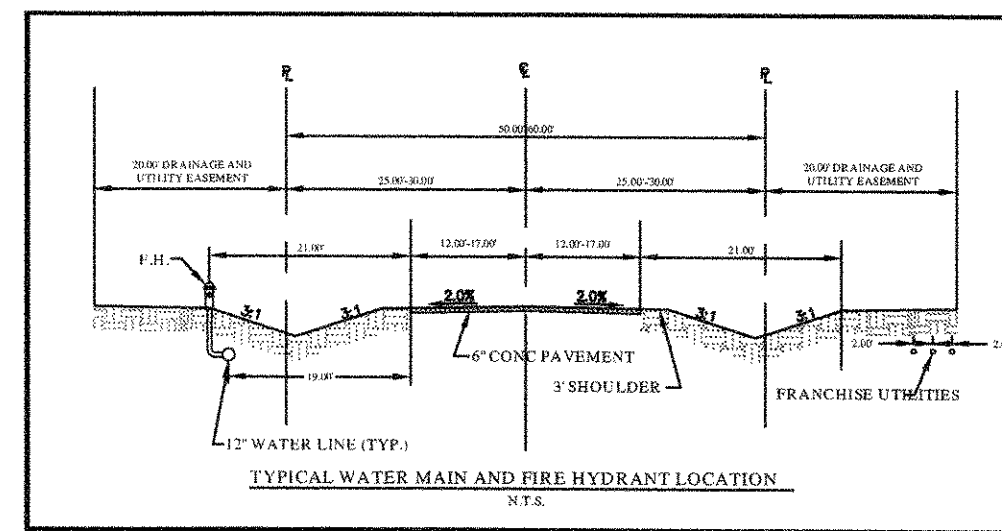
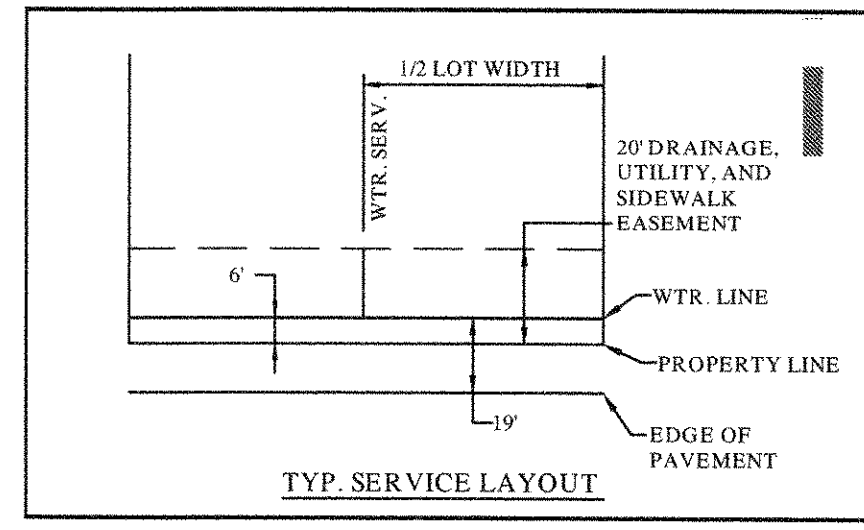
MATCHLINE SEE SHEET C-43

1

3



- NOTES:
1. REFER TO SHEET C-2 FOR CONSTRUCTION NOTES.
 2. REFER TO SHEET C-47-C-48 FOR 12" WATER PROFILE.
 3. CONTRACTOR SHALL INSTALL ONE BLUE PAVEMENT MARKER AT THE CENTERLINE OF STREET AT EACH FIRE HYDRANT LOCATION.
 4. CONTRACTOR SHALL SCORE THE EDGE OF PAVEMENT AT EACH WATER SERVICE LOCATION PER CITY DIRECTION.



KEY MAP N.T.S.

PHASE 2
PHASE 1

D

5

PHASE 1

D

5

4

D

3

2

INSTALL:
1-8" TEE
1-6" VALVE
1-F.H. W/6" LEAD
N 707738.6939
E 2553098.1784

INSTALL:
1-8" TEE
1-8" VALVE
1-6" VALVE
1-F.H. W/6" LEAD
N 707671.0745
E 2553060.6592

18'-97.67' LINE "A"
INSTALL:
1-8" TEE
2-8" VALVES
20 L.F. 8" PVC (WEST)
1-8" PLUG
N 7077204.6295
E 2553131.8292

21'-25.00' LINE "A"
INSTALL:
1-8" TEE
1-6" VALVE
1-F.H. W/6" LEAD
N 707122.2605
E 2553342.9872

23'-19.47' LINE "A"
INSTALL:
1-8" TEE
2-8" VALVES
N 707034.2936
E 2553515.3463

INSTALL:
1-8" TEE
1-6" VALVE
1-F.H. W/6" LEAD
N 7077410.4582
E 2553702.1729

26'-23.00' LINE "A"
INSTALL:
1-8" TEE
1-6" VALVE
1-F.H. W/6" LEAD
N 7076795.3211
E 2553692.7299

WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

"Record Drawings"
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DATE: 5-3-2012 BY: David J. Miller

BENCHMARKS
1. (A.) BM # 7658
CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD & JENNA WAY ELEVATION 574.13
(B.) BM # 7656
CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD & 4,600 FT NORTH OF JENNA WAY ELEVATION 569.39
2. LOTS OR PORTION OF LOTS WITHIN THE FLOODPLAIN OR AREAS OF SPECIAL FLOOD HAZARD REQUIRE A DEVELOPMENT PERMIT PRIOR TO ISSUANCE OF A BUILDING PERMIT OR COMMENCEMENT OF CONSTRUCTION INCLUDING SITE GRADING, ON ALL OR PART OF THOSE LOTS.

No.	Date	Revisions	App.
000001		ADDED FIRE HYDRANT MARKER AND SERVICE SCORING NOTE	DBM

Kimley-Horn and Associates, Inc.
 Registered Professional Engineer
 Texas Registered Engineering Firm No. 1-928
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75228
 Tel. No. (972) 770-1300
 Fax No. (972) 238-3828

STATE OF TEXAS
 DAVID J. MILLER
 8152
 05/03/12

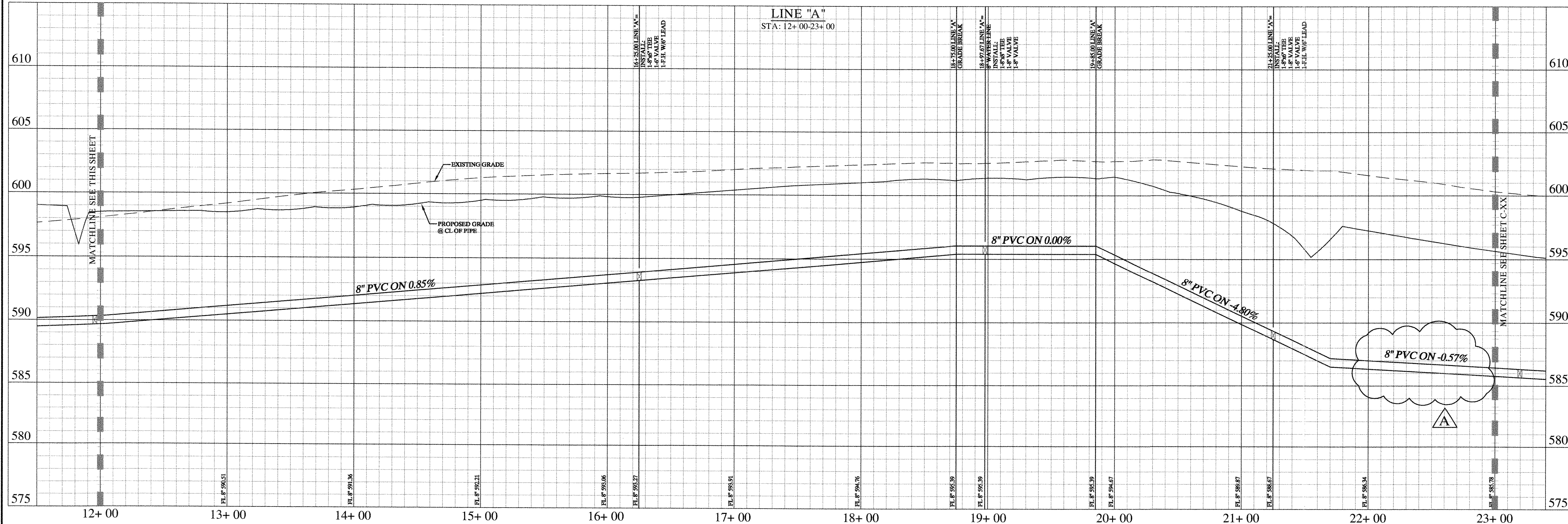
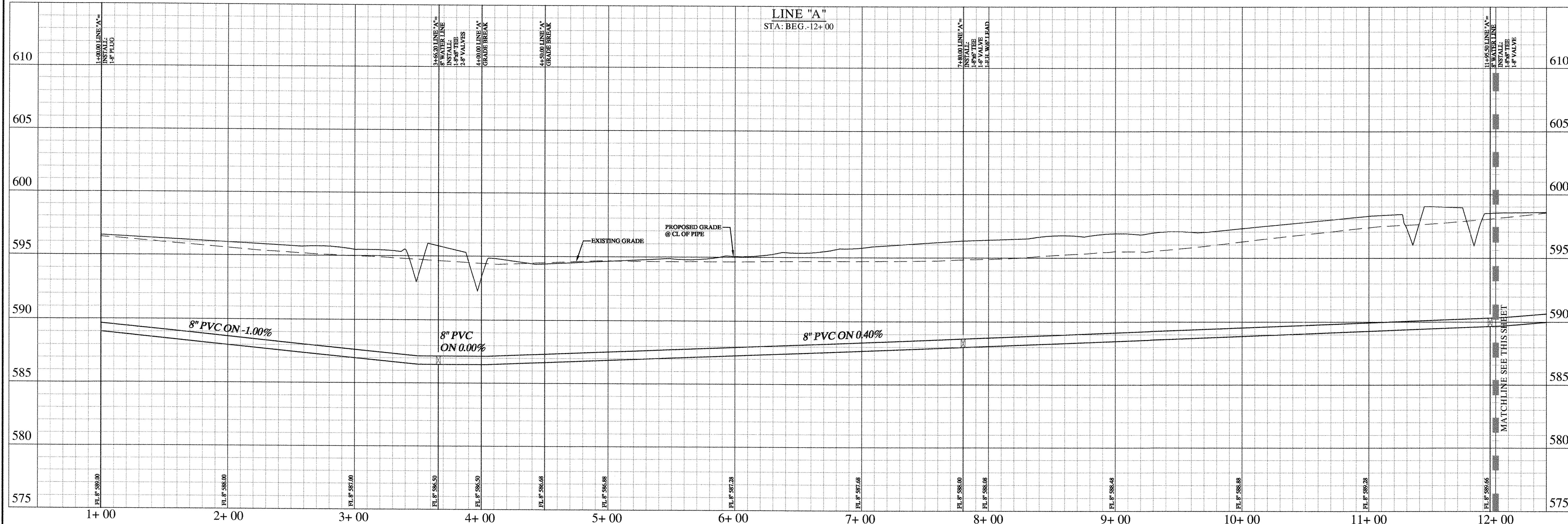
**STINSON HIGHLANDS
LUCAS, TEXAS**

**WATER PLAN
(4 OF 9)**

Scale: 1" = 50'

Designed by:	BIS
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	06437001

SHEET
C-41



"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 5-3-2017 BY: David L. Meyer

No.	Date	Revisions	App.
A	7/28/08	REVISION WATER LINE FOR REISED GRAVING	

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-3228
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 770-1300
 Fax No. (972) 239-5820

STINSON HIGHLANDS
LUCAS, TEXAS

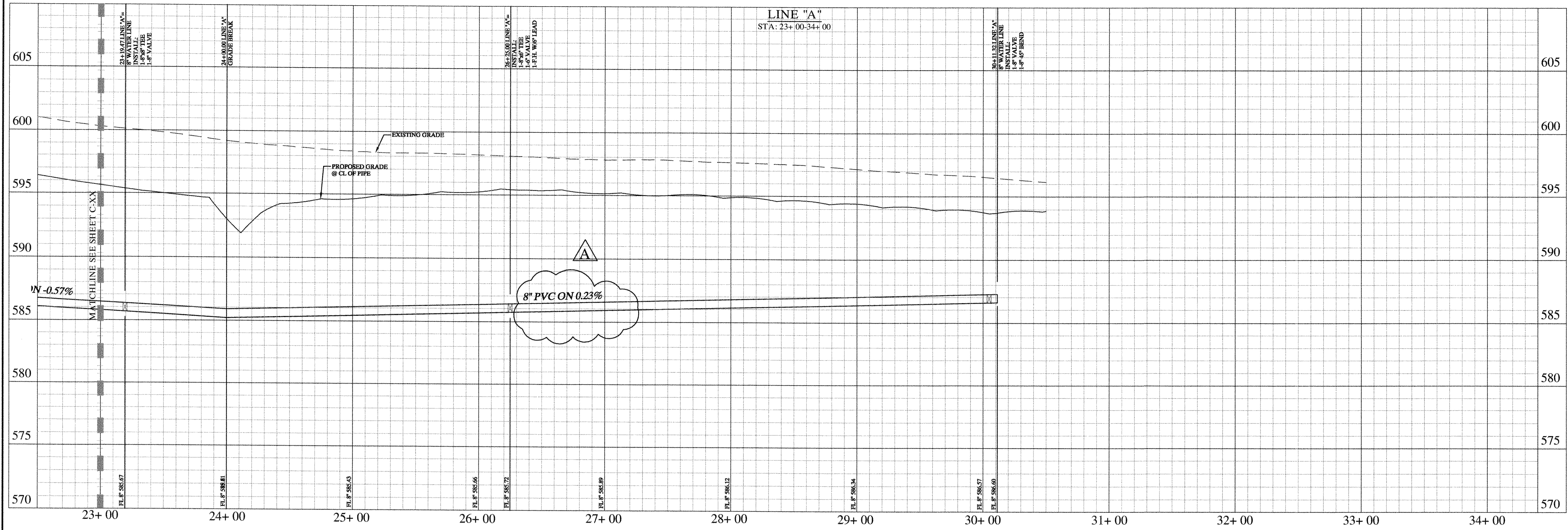
8" WATER PROFILE
LINE "A"
(BEG.-23+ 00)

Scale: 1" = 40' H, 1" = 4' V

Designed by:	BIS
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

IMAGES
 XREF NAME: XREF: APPOINTMENT: XREF: HANDBOOK
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 DWG NAME: K:\SAL_CIVIL\2012\20120109\20120109.DWG

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 XREF NAME: XREF
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"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 5-5-2012 BY: David J. Maffey

No.	Date	Revisions	App.
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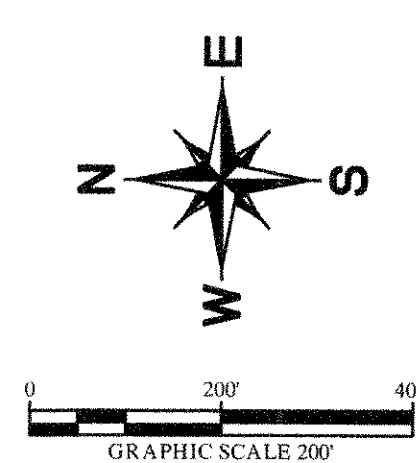
Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-3223
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75261
 Tel. No. (972) 770-1300
 Fax No. (972) 259-3820

STINSON HIGHLANDS LUCAS, TEXAS

8" WATER PROFILE LINE "A" (23+ 00-END)

Scale: 1" = 40' H, 1" = 4' V

Designed by:	BIS
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001



"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed by the "As-Built", but are based on the information made available.
 DATE: 5-3-2012 BY: David E. Meyer

WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CITY OF LUCAS-GENERAL NOTES

1. EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY OF LUCAS ENGINEERING DIVISION.
3. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON-SITE.
4. IF OFF-SITE SOIL BORROW OR SPOIL SITES ARE USED IN CONJUNCTION WITH THIS PROJECT, THIS INFORMATION SHALL BE DISCLOSED AND SHOWN ON THE EROSION CONTROL PLAN. OFF-SITE BORROW AND SPOIL AREAS ARE CONSIDERED A PART OF THE PROJECT SITE AND THEREFORE SHALL COMPLY WITH THE CITY OF LUCAS EROSION CONTROL REQUIREMENTS. THESE AREAS SHALL BE STABILIZED WITH PERMANENT GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- FB FILTER BARRIER-SEE DETAIL SHEET C-50
- CE CONSTRUCTION ENTRANCE-SEE DETAIL SHEET C-50
- SO STONE OVERFLOW STRUCTURE-SEE DETAIL SHEET C-50
- RR RIP-RAP-SEE PAVING PLANS FOR EXACT LOCATION

SITE DATA

TOTAL AREA	221.06 AC.
TOTAL AREA DISTURBED	221.06 AC.
PAVED AREA	74,495± S.Y.
PRE-DEVELOPMENT RUNOFF COEFFICIENT	0.30
POST-DEVELOPMENT RUNOFF COEFFICIENT	0.43

SITE MAP-GENERAL NOTES

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR SELECTION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. DRAINAGE PATTERNS ARE SHOWN ON THIS PLAN BY PROPOSED AND EXISTING CONTROLS, FLOW ARROWS, AND SLOPES.
4. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
5. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.

EROSION CONTROL SCHEDULE AND PHASING

PHASE	EROSION CONTROL MEASURES
1. ROUGH GRADING	ALL SILT FENCE & STONE OVERFLOW SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING. CHECK DAMS TO BE INSTALLED IN LOCATIONS NOTED ON PLAN. CONSTRUCTION ENTRANCE TO BE INSTALLED AT THIS TIME.
2. UTILITY INSTALLATION	ALL SILT FENCE AND STONE OVERFLOW SHALL BE INSTALLED PRIOR TO THE INITIATION OF ALL UTILITY CONSTRUCTION.
3. PAVING	ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED DURING PAVING AND THROUGHOUT THE REMAINDER OF THE PROJECT.
4. FINE GRADING	REMOVE TEMPORARY ENTRANCE EXCEPT ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED DURING FINE GRADING AND THROUGHOUT THE REMAINDER OF THE PROJECT.
5. FINAL	ALL EROSION CONTROL MEASURES TO BE REMOVED AT THE CONCLUSION OF THE PROJECT AS DIRECTED BY THE CITY OF LUCAS.

STOP!
CALL BEFORE YOU DIG
 DIG TESS
 1-800-DIG-TESS
 (at least 72 hours prior to digging)

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-252
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75228
 Tel. No. (972) 770-1300
 Fax No. (972) 258-3820

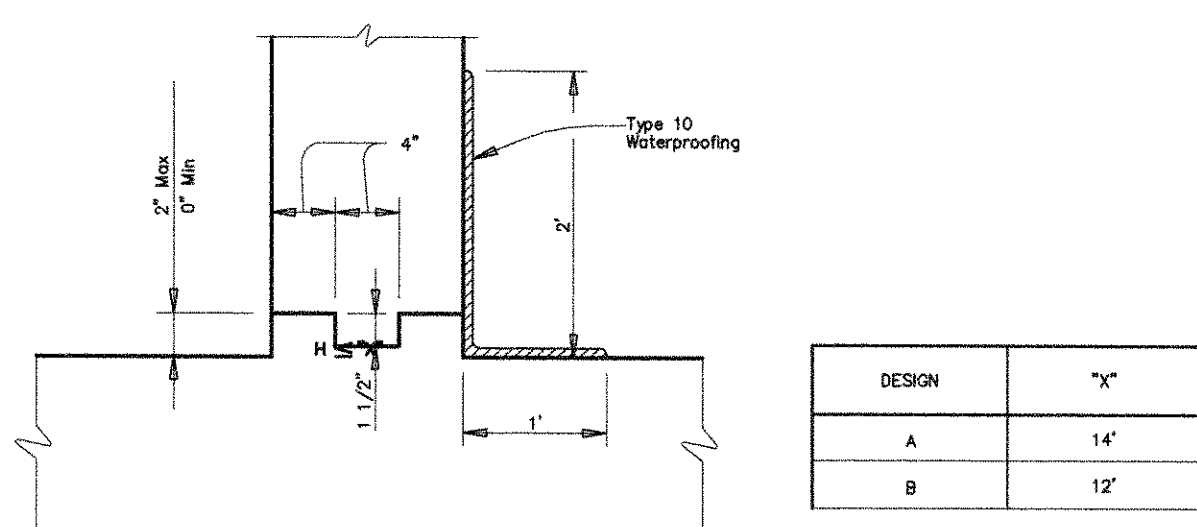
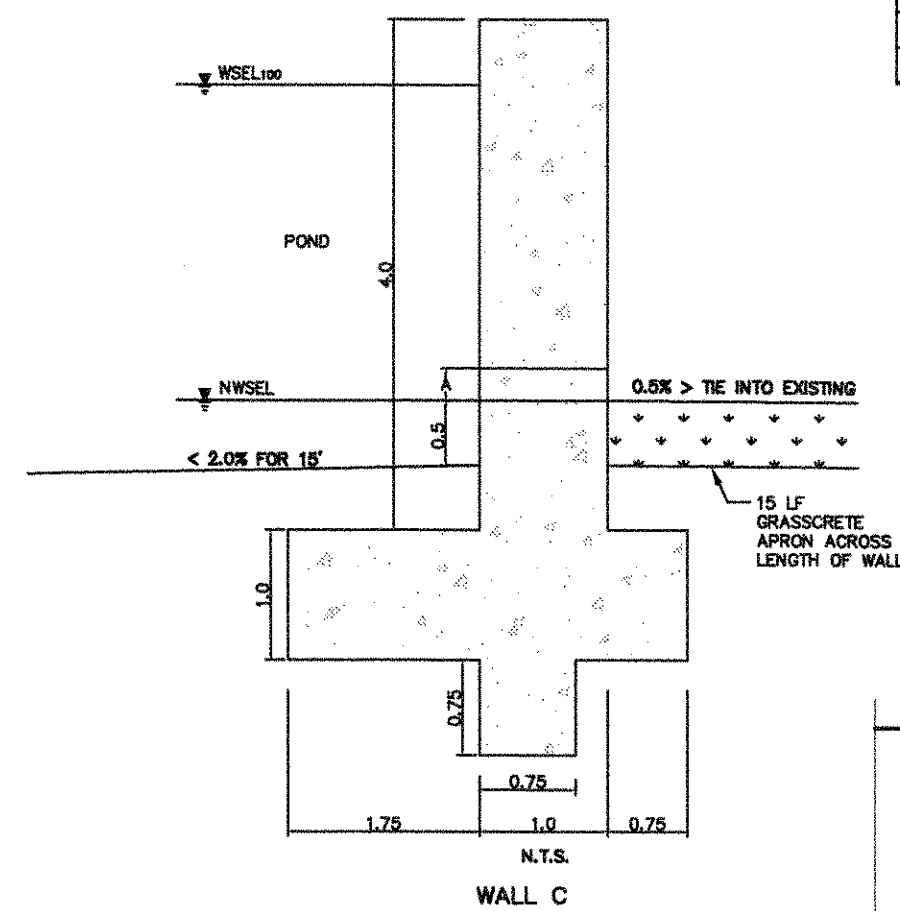
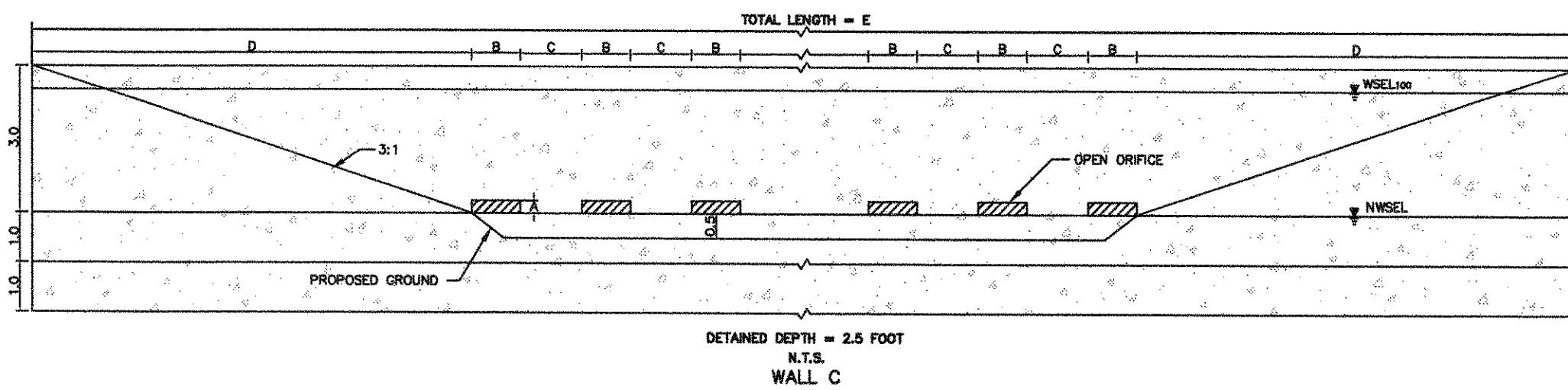
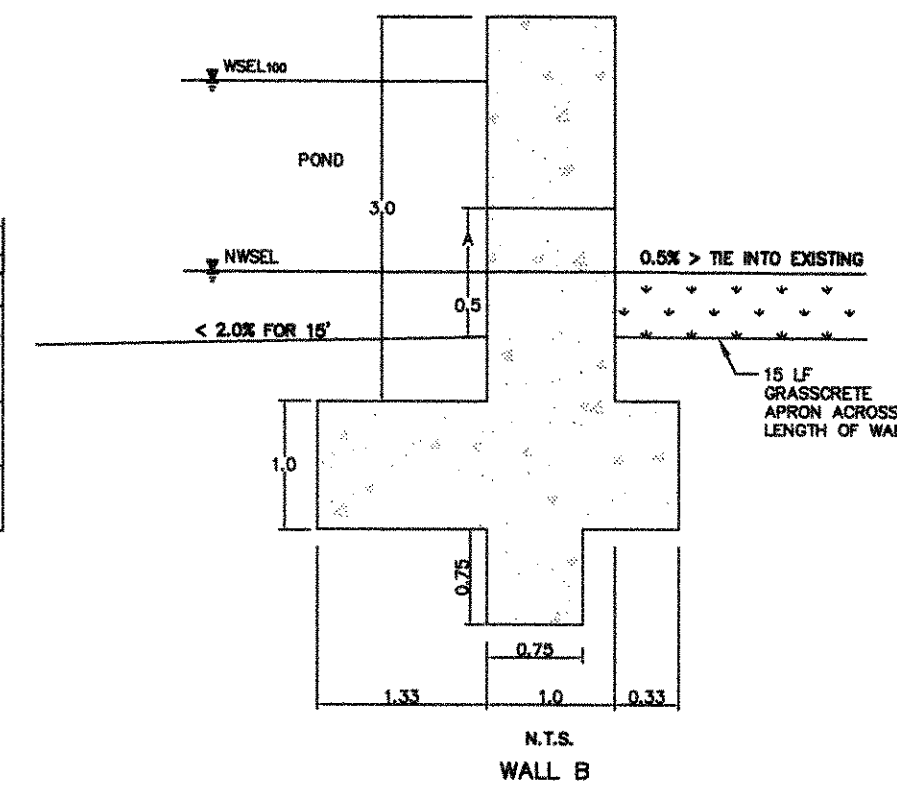
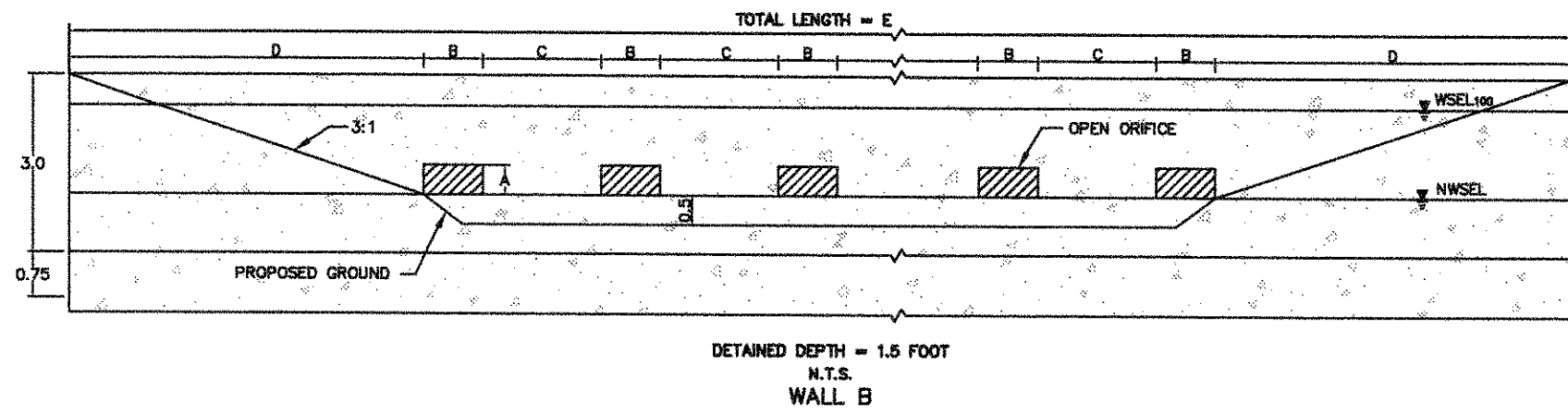
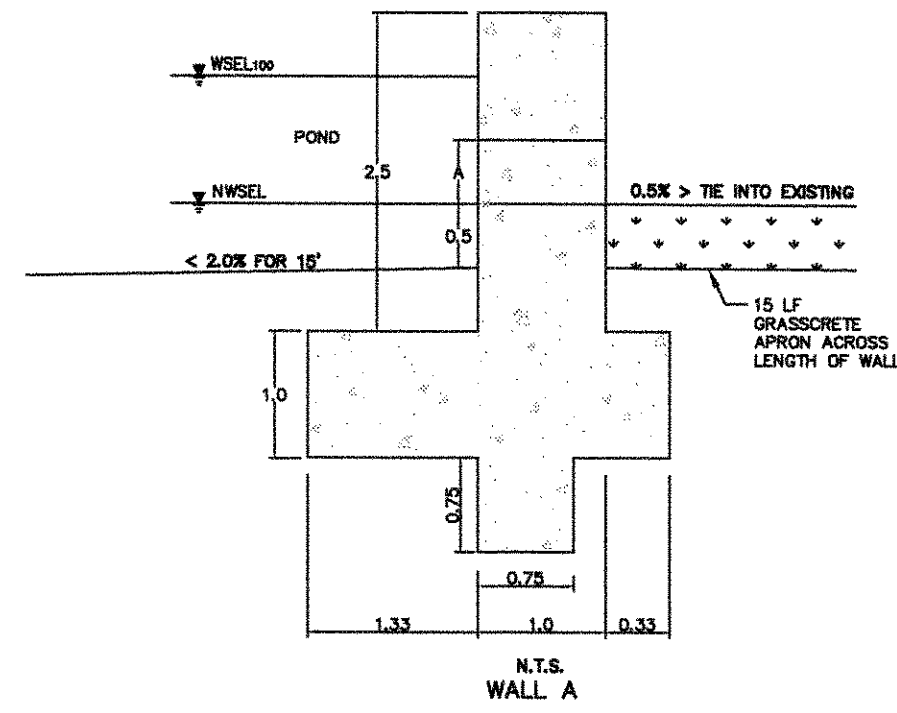
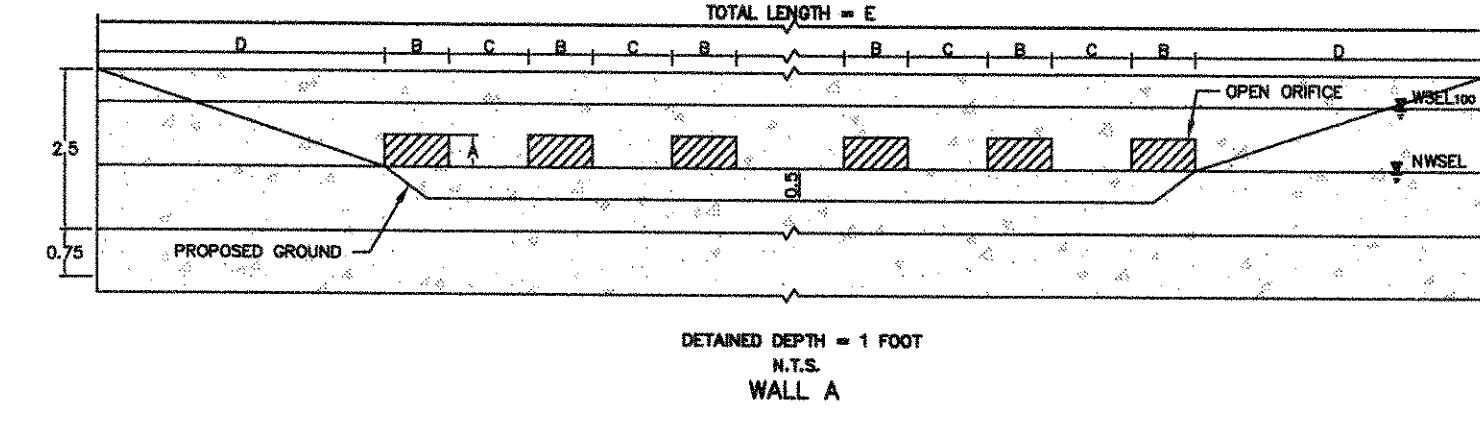
STINSON HIGHLANDS LUCAS, TEXAS

STATE OF TEXAS
 DAVID E. MEYER
 81512

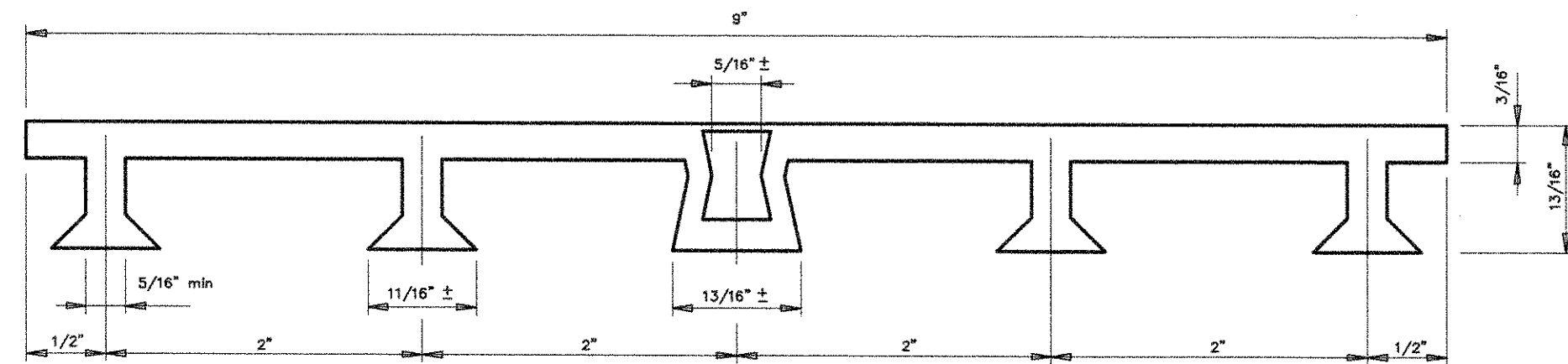
EROSION CONTROL PLAN

Scale: 1" = 200'
 Designed by: BIS
 Drawn by: RYG
 Checked by: LRO
 Date: JANUARY 9, 2012
 Project No. 06437001

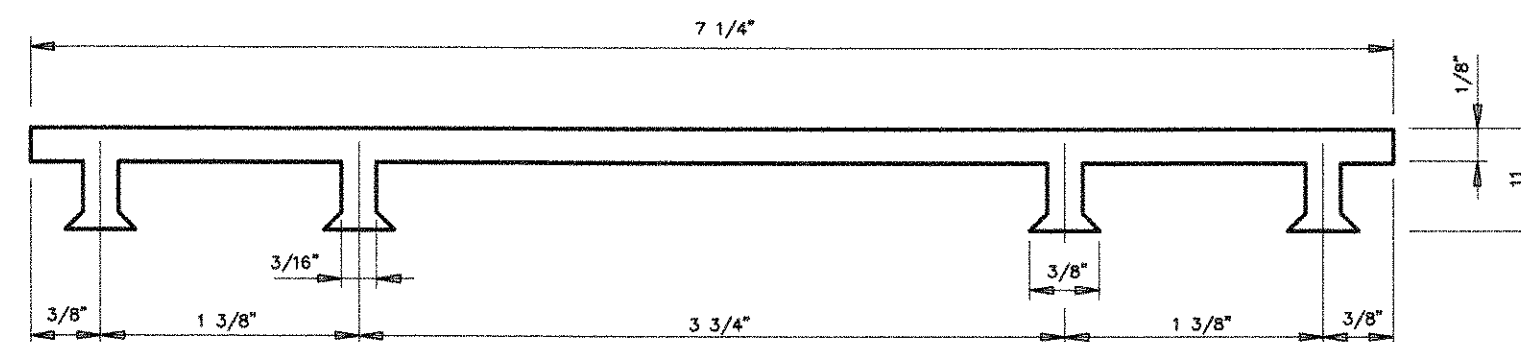
SHEET
C-57



JOINT AND WATERSTOP DETAILS

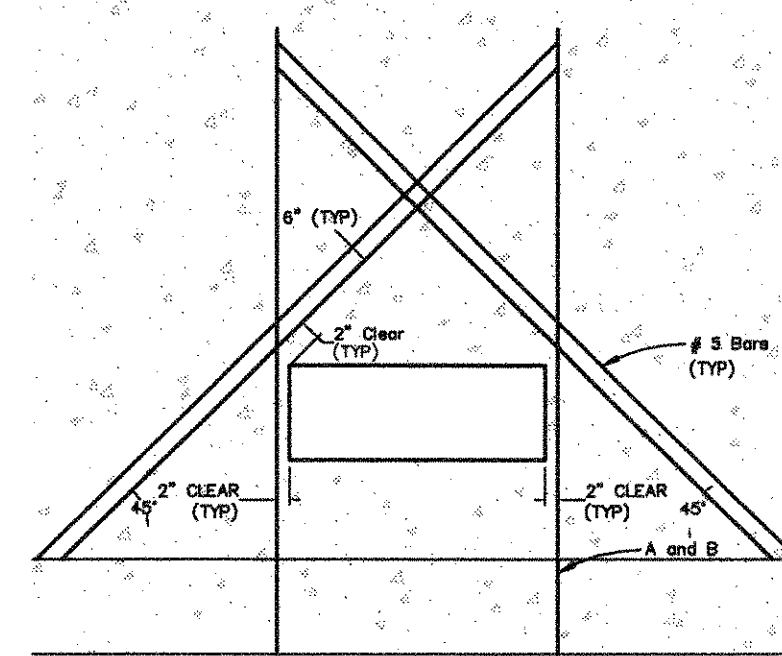


PVC WATERSTOP TYPE "A"

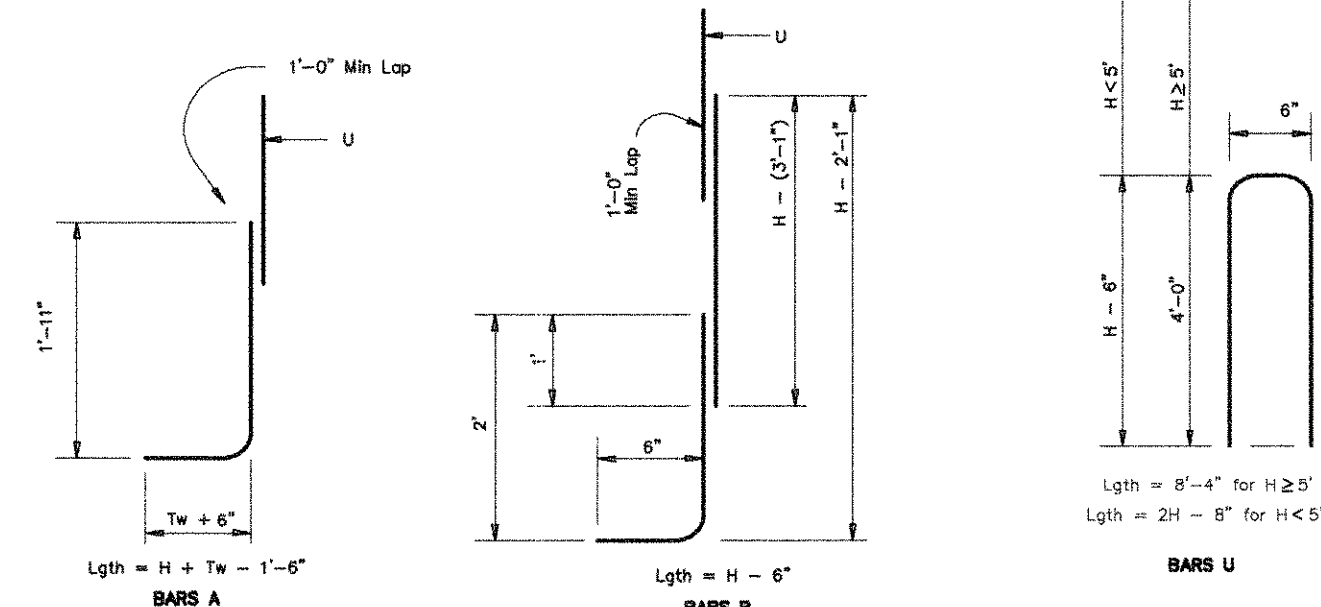


PVC WATERSTOP TYPE "B"

Notes:
 1) Walls shall be poured in 32' Panels with construction joint placed between each panel.
 2) Expansion Joints shall be placed every 96'.



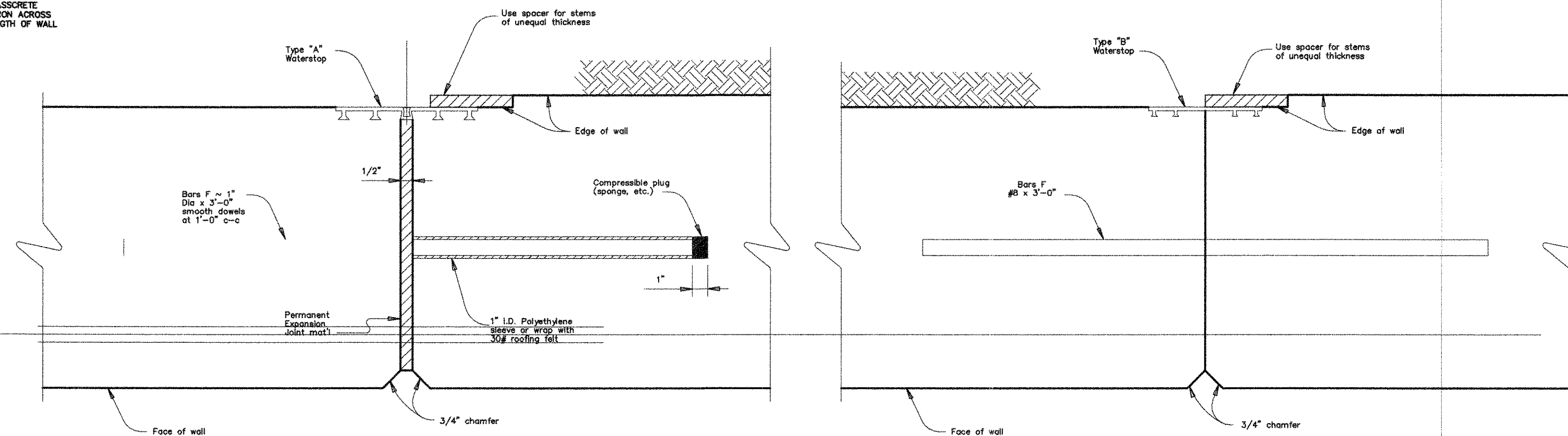
Note:
 1) Field cut reinforcing at opening. Provide 2" clearance from edge of opening to field cut rebar.
 2) Extend cross bars from top of footer to opposite 2" clearance line.



REBAR SPECIFICATIONS

Stinson Highlands Detention Pond Design					
	Pond 1	Pond 2	Pond 3	Pond 4	Pond 5
Wall Design					
Wall	B	A	C	A	B
A (ft)	0.50	0.50	0.25	0.50	0.50
B (ft)	1.00	1.00	1.00	1.00	1.00
C (ft)	1.75	1.25	1.25	1.25	1.75
D (ft)	6.00	4.50	9.00	4.50	6.00
Number of Orifices	41	32	16	24	23
E (ft)	123.00	79.75	52.75	61.75	73.50

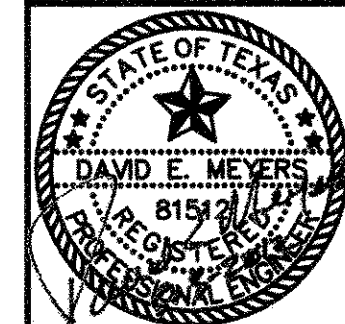
Wall Dimensions		Reinforcing Steel for 1'-32" Panel												
Wall	H	Fw	Tw	A (#5 @ 3' c-c)	B (#5 @ 3' c-c)	C	D (#5 @ 12' c-c)	F (#5 @ 12' c-c)	H (#5 @ 12' c-c)	T (#5 @ 12' c-c)	U (#5 @ 15' c-c)	Length	WI	
A	3.5	2'-8"	1'-4"	3'-10"	104	3'-6"	95	26	#4	15"	1'-10"	32	8	263
B	4	2'-8"	1'-4"	3'-10"	104	3'-6"	95	26	#4	15"	1'-10"	32	8	263
C	5	3'-6"	1'-9"	5'-3"	142	4'-6"	122	26	#4	15"	2'-3"	39	10	329

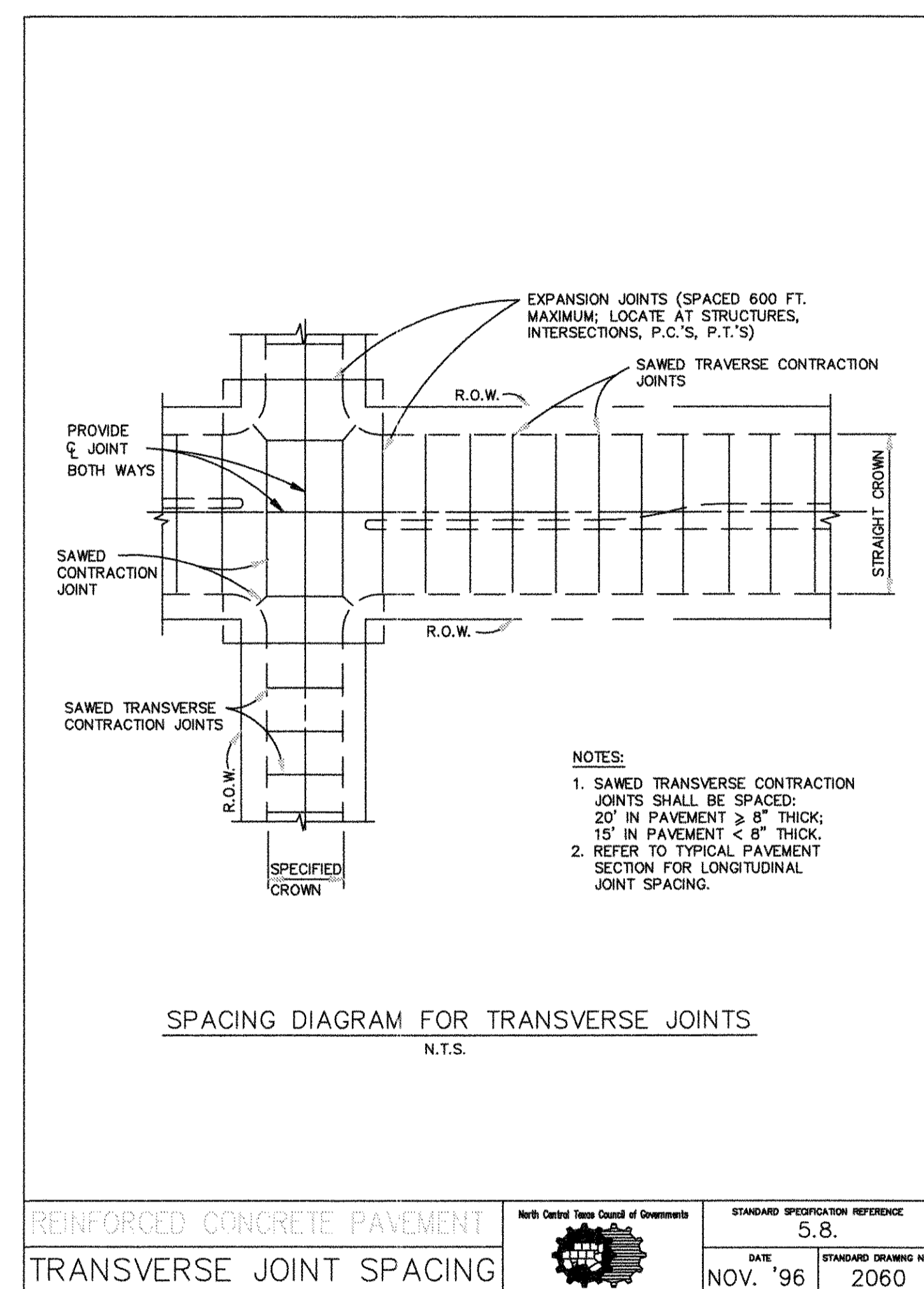
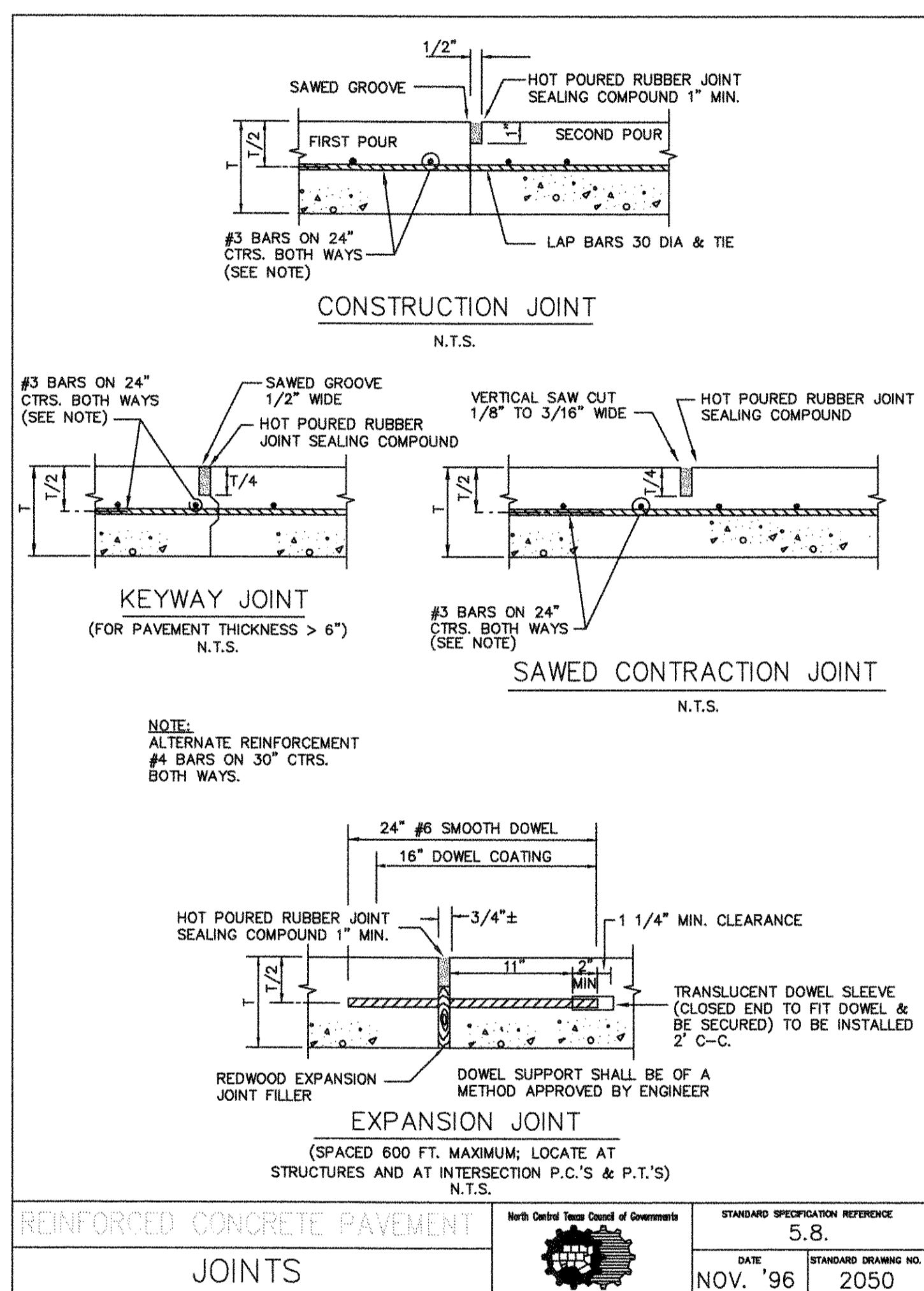
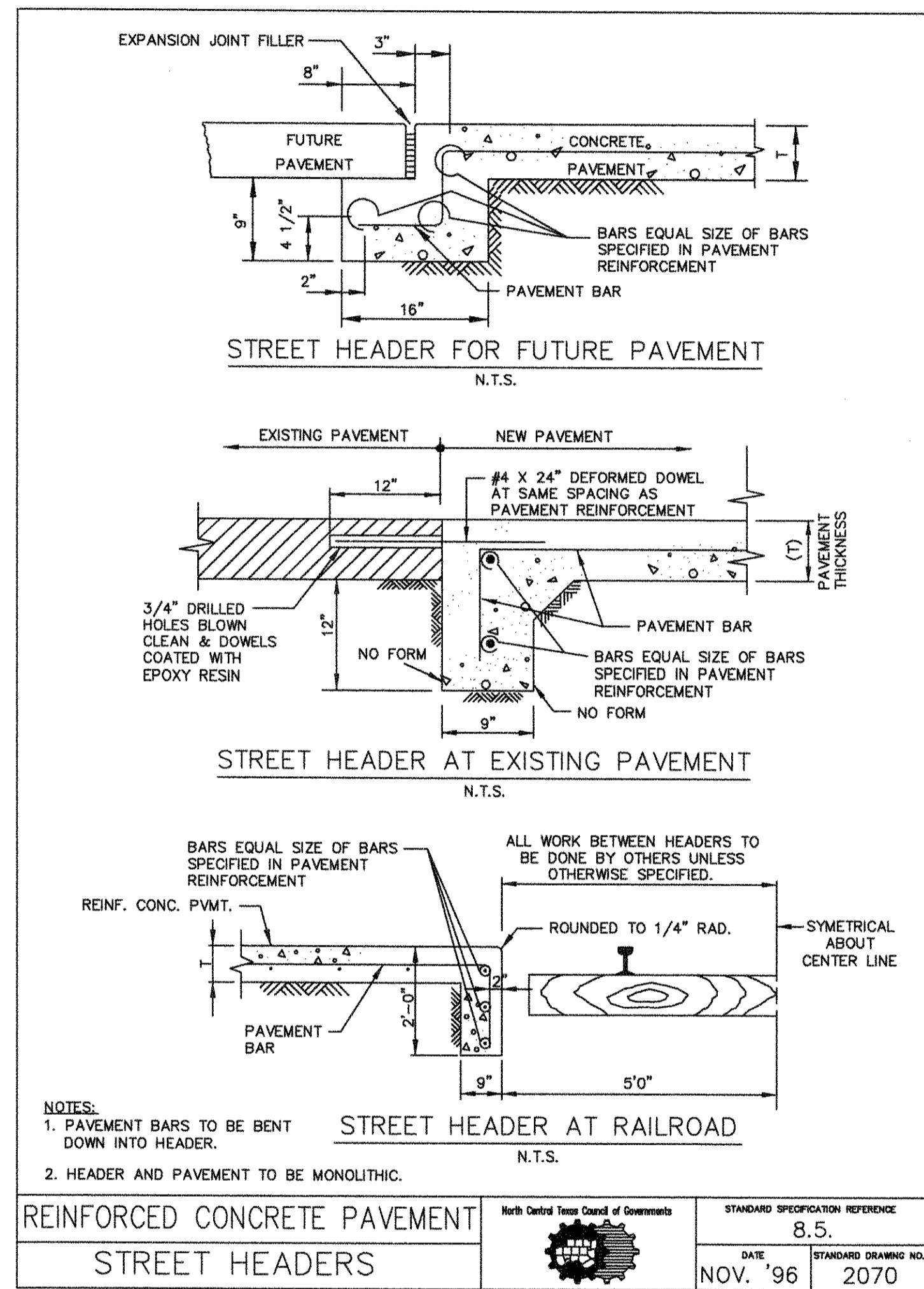


EXPANSION JOINT

CONSTRUCTION JOINT

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 S-5-2012
 DATE: BY: David S. Manoff





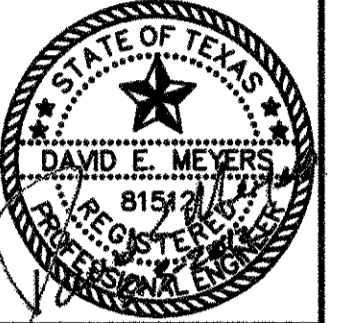
"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.

DATE: 5-3-2012 BY: David E. Meyers

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LAST SAVED: 5/20/12 5:58 PM
DRAWN BY: KIMLEY-HORN AND ASSOCIATES, INC.
DWG NAME: K:\04\211183\211183.DWG

No.	Date	Revisions	App.
1	09/09/01	REMOVED TYPICAL PAVEMENT SECTION FROM THIS SHEET	DEM

Kimley-Horn and Associates, Inc.
Texas Registered Engineering Firm No. F-9228
7700 Park Center Drive, Suite 1800
Dallas, Texas 75251
Tel. No. (972) 714-1900
Fax No. (972) 236-3820

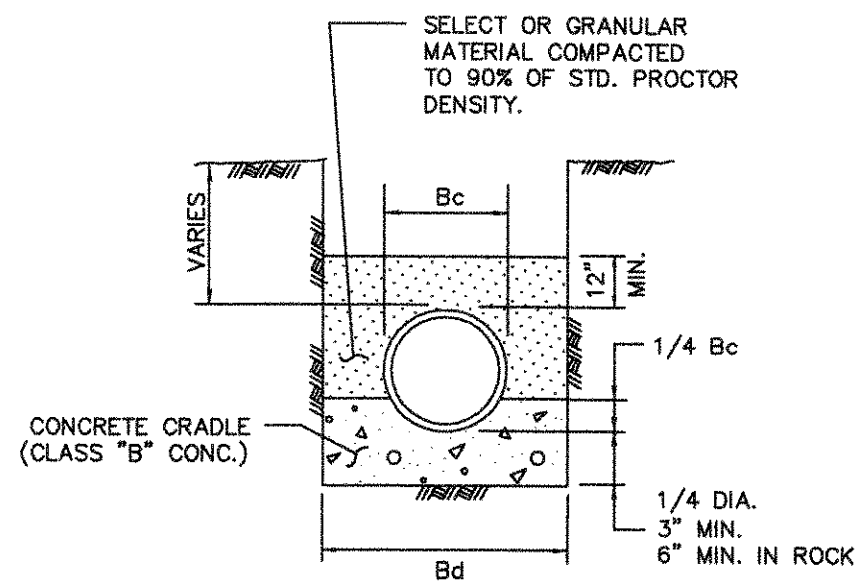


STINSON HIGHLANDS
LUCAS, TEXAS

PAVING DETAILS & CROSS SECTION

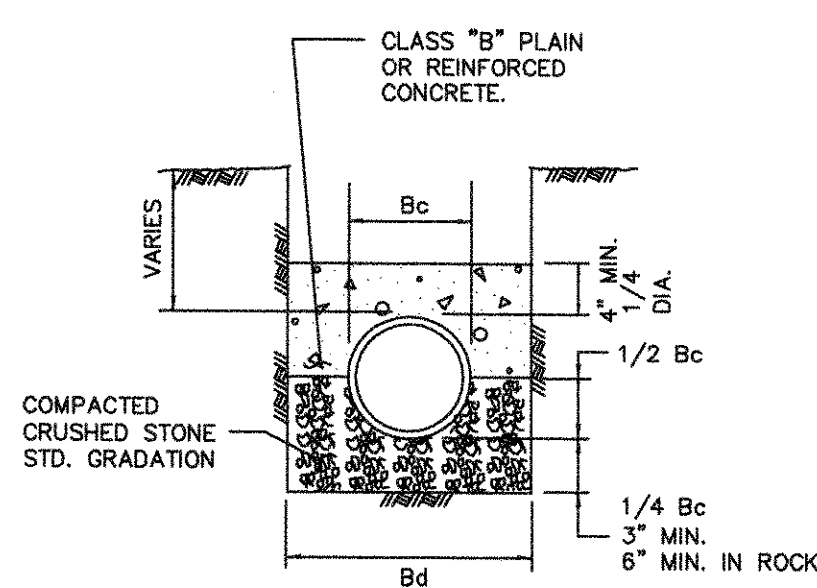
Scale:	N/A
Designed by:	KHA
Drawn by:	RYG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-61



CLASS "A"

CLASS "B" CONCRETE CRADLE
PLAIN CONC. LF 2.8
REINF. CONC. LF 3.4 P=0.4%

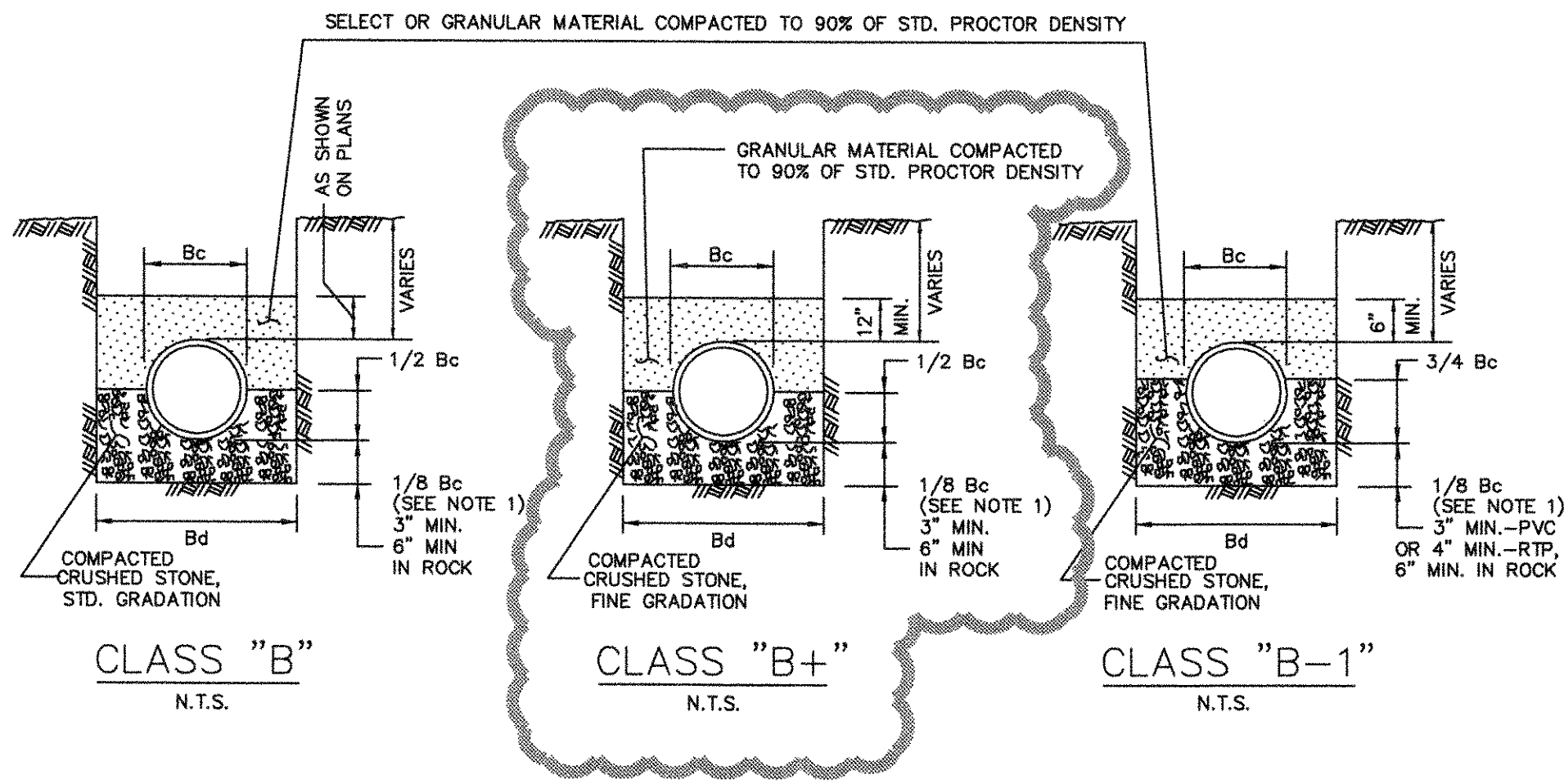


CLASS "A-1"

CLASS "B" CONCRETE CAP
PLAIN CONC. LF 2.8
REINF. CONC. LF 3.4 P=0.4%
REINF. CONC. LF 4.8 P=1.0%

- NOTES:
1. LF = LOAD FACTOR TO BE USED TO DETERMINE 3 EDGE BEARING BASED ON TYPE OF EMBEDMENT.
 2. FREE-FALL OF CONCRETE NOT TO EXCEED 5 FT. MAXIMUM.
 3. P = RHO FOR STEEL %
 4. Bc = OUTSIDE DIAMETER OF PIPE
 5. Bd = TRENCH WIDTH

0103 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3020
	CLASS "A" & "A-1"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3010	



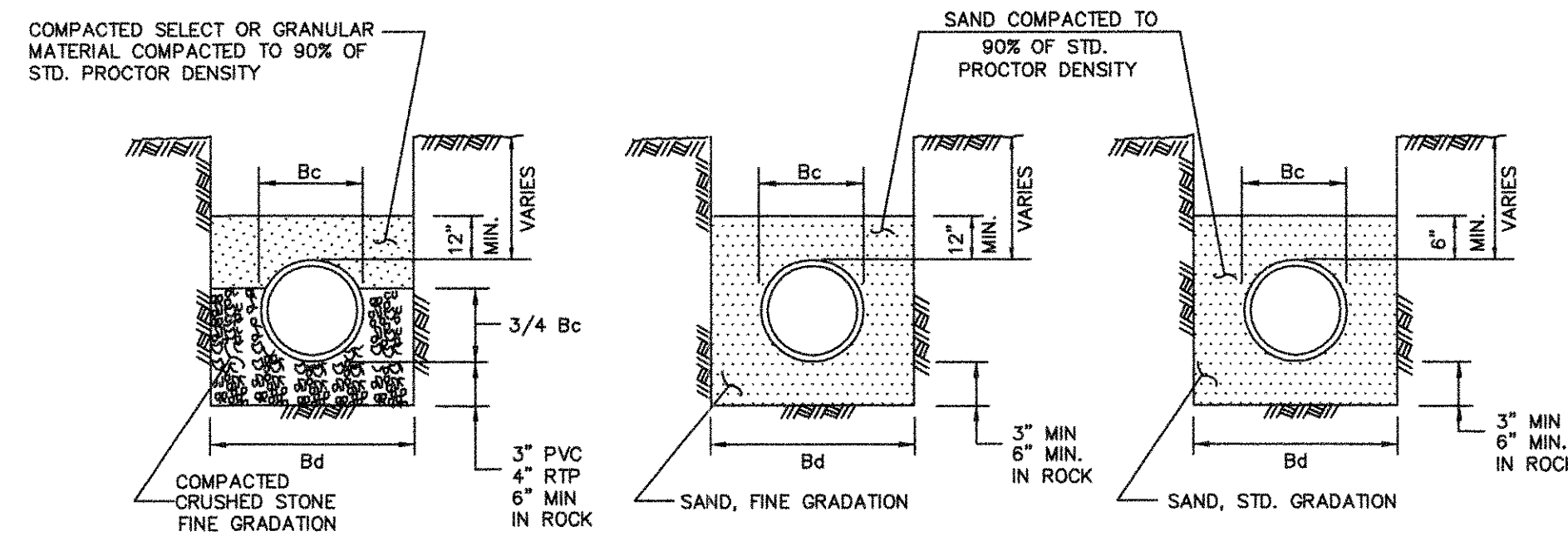
CLASS "B"

CLASS "B+"

CLASS "B-1"

- NOTES:
1. FOR MAINS 42" DIAMETER AND LARGER, 1/8 Bc SHALL BE TAKEN AS 6".
 2. Bc = OUTSIDE DIAMETER OF PIPE
 3. Bd = TRENCH WIDTH

0103 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3030
	CLASS "B", "B+", & "B-1"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3020	



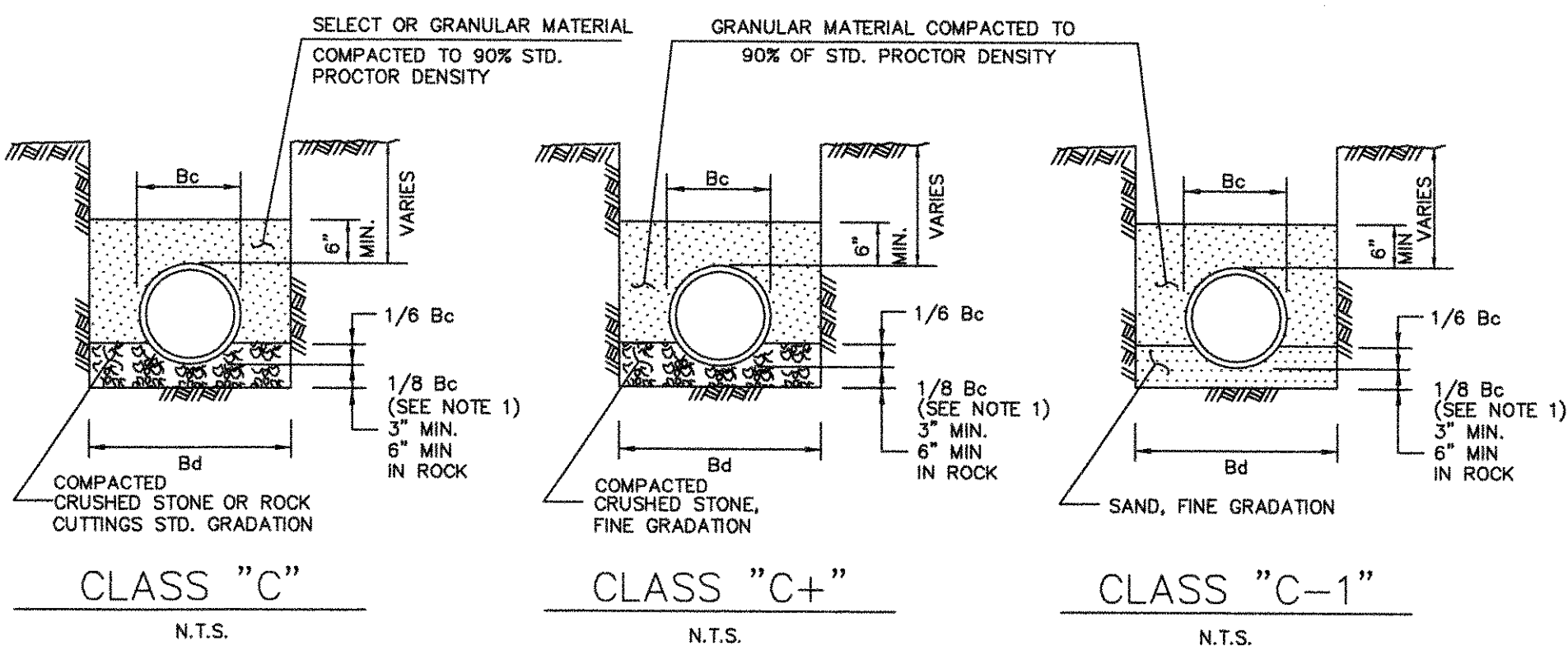
CLASS "B-2"

CLASS "B-3"

CLASS "B-4"

- NOTES:
1. Bc = OUTSIDE DIAMETER OF PIPE
 2. Bd = TRENCH WIDTH

0103 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3030
	CLASS "B-2", "B-3", & "B-4"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3030	



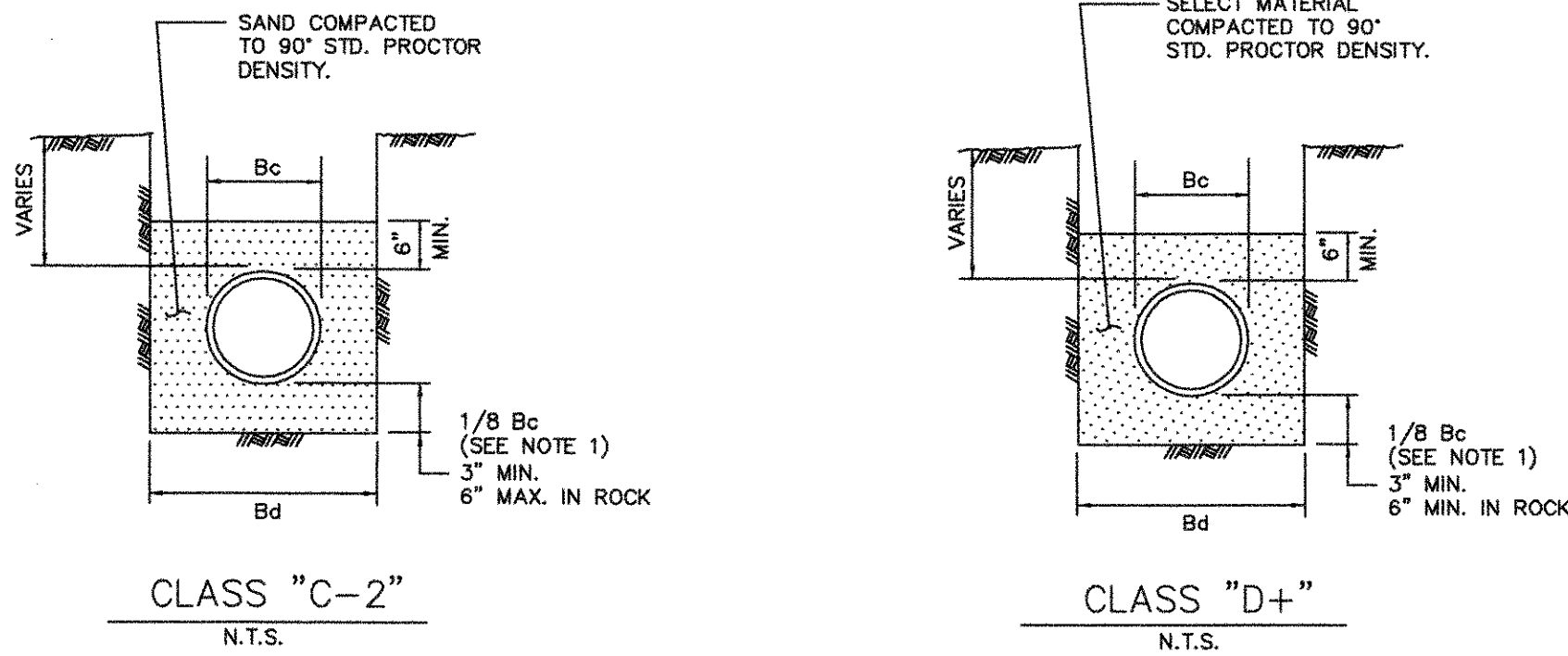
CLASS "C"

CLASS "C+"

CLASS "C-1"

- NOTES:
1. FOR MAINS 42" DIAMETER AND LARGER, 1/8 Bc SHALL BE TAKEN AS 6".
 2. Bc = OUTSIDE DIAMETER OF PIPE
 3. Bd = TRENCH WIDTH

0103 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3050
	CLASS "C", "C+", & "C-1"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3040	

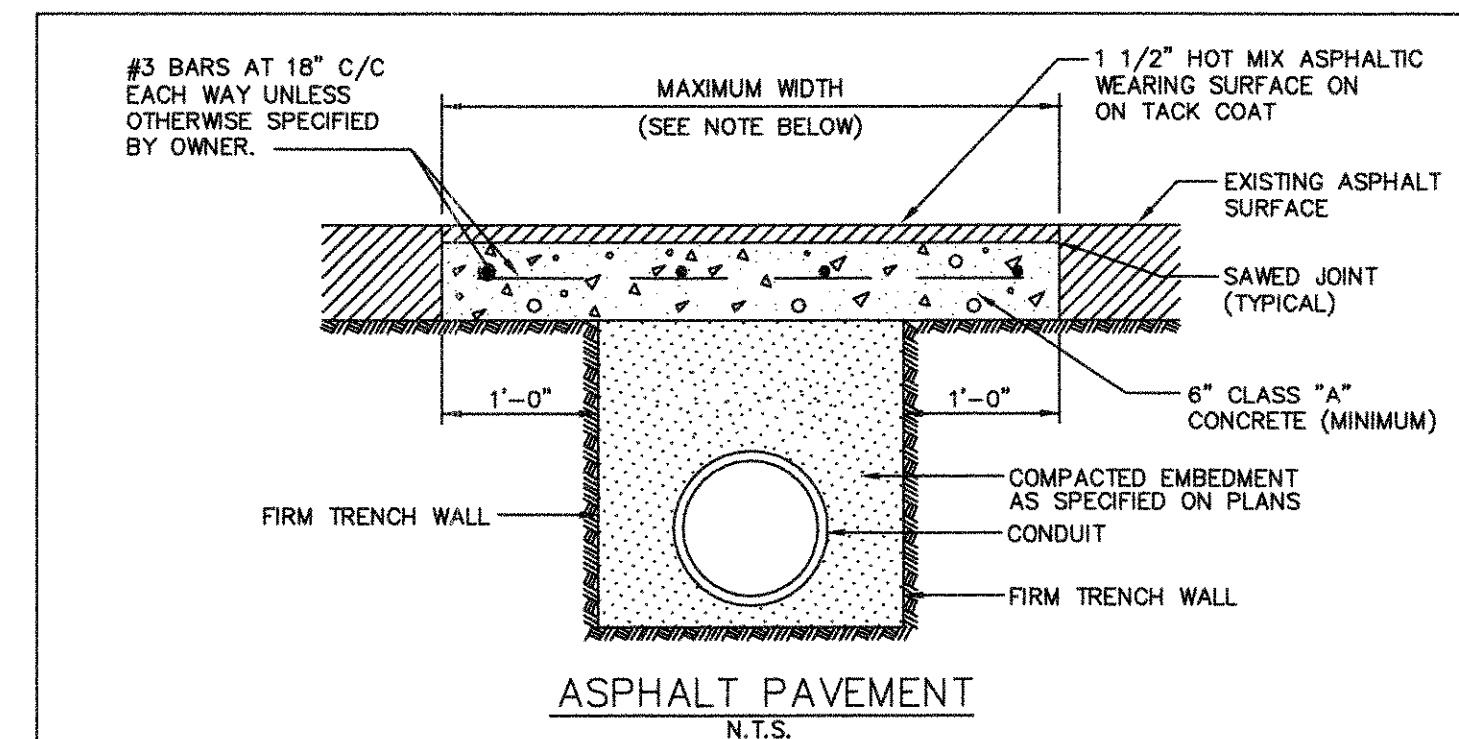


CLASS "C-2"

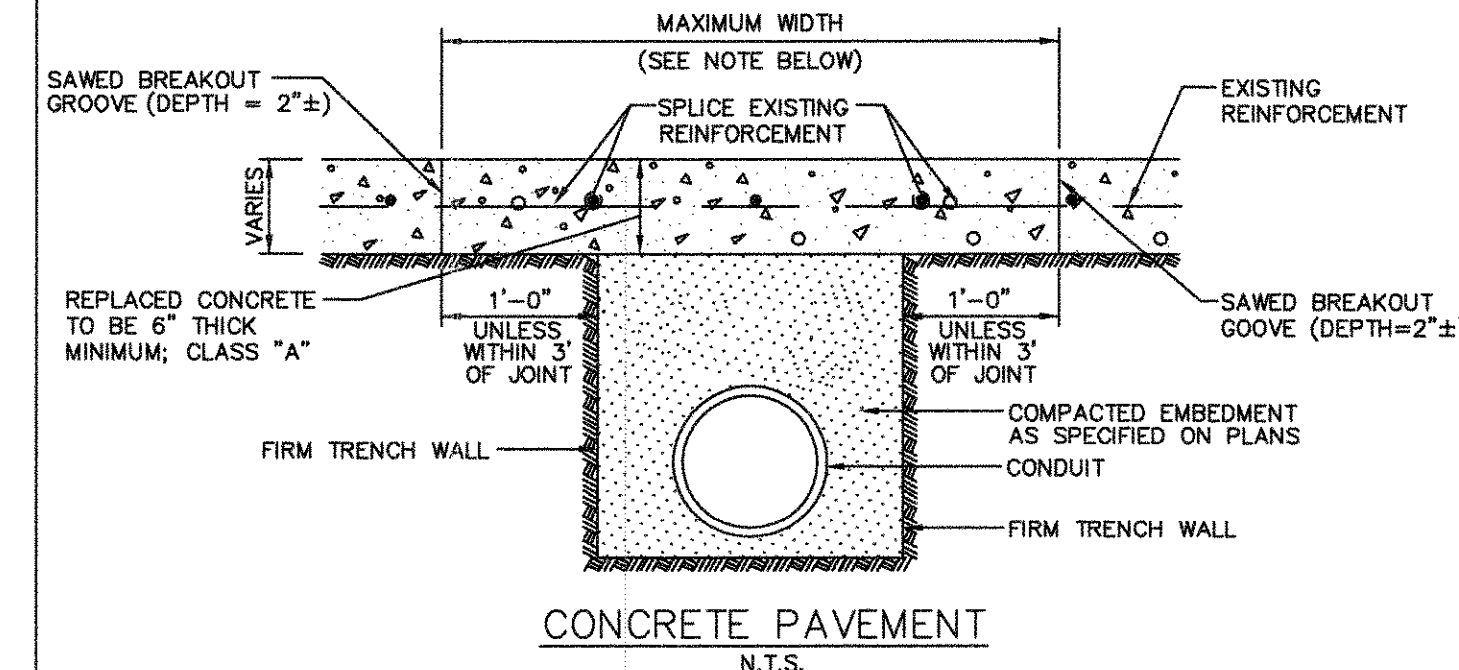
CLASS "D+"

- NOTES:
1. FOR MAINS 42" DIAMETER AND LARGER, 1/8 Bc SHALL BE TAKEN AS 6".
 2. Bc = OUTSIDE DIAMETER OF PIPE
 3. Bd = TRENCH WIDTH

0103 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3050
	CLASS "C-2" & "D+"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3050	



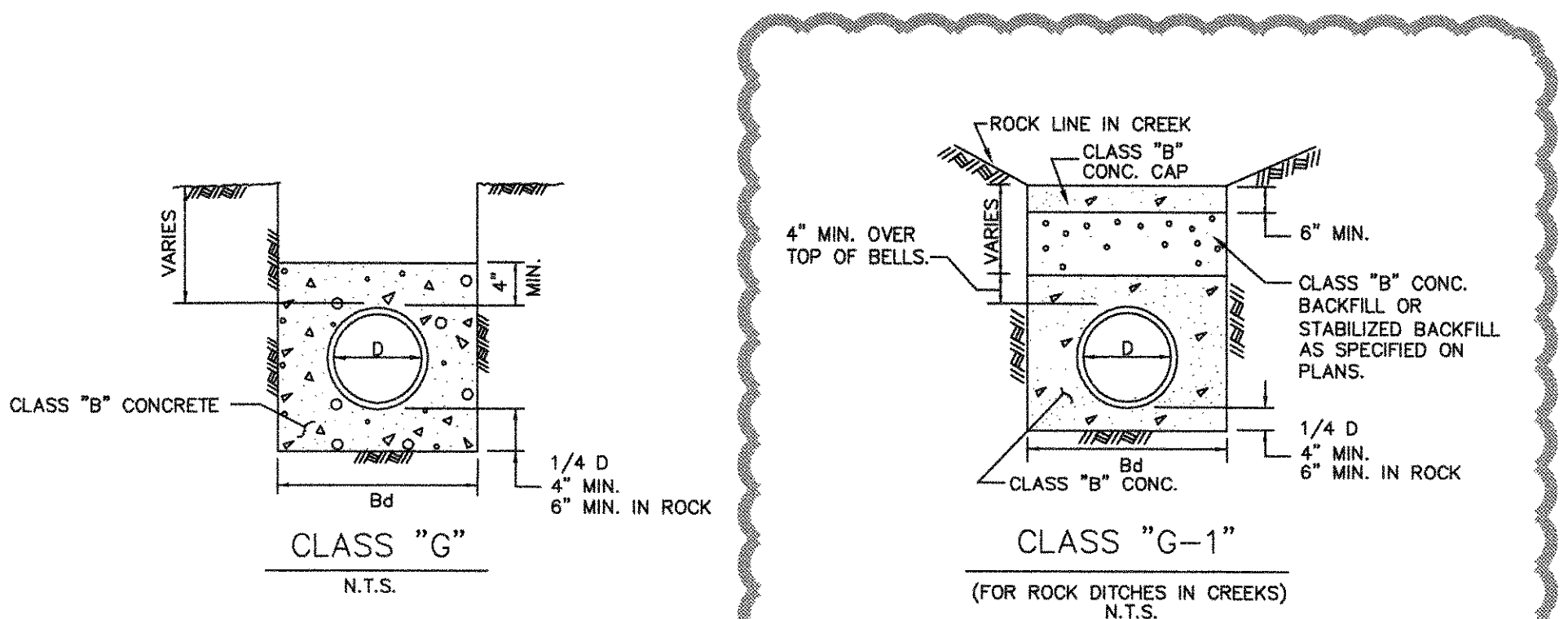
ASPHALT PAVEMENT



CONCRETE PAVEMENT

- NOTES:
1. PAYMENT TO THE CONTRACTOR FOR REPLACEMENT OF PAVEMENT AND/OR DRIVEWAYS WILL BE BASED ON ACTUAL MEASUREMENTS UP TO A MAXIMUM WIDTH EQUAL TO THE SPECIFIED MAXIMUM TRENCH WIDTH (PER STD. SPEC. ITEM 6.2.) PLUS 2 FEET. ANY EXISTING PAVEMENT DAMAGED OR REMOVED IN EXCESS OF THE MAXIMUM LIMITS SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
 2. WHEN REMOVING CONCRETE PAVEMENT THE CONTRACTOR SHALL ENDEAVOR TO LIMIT DAMAGE TO EXISTING REINFORCEMENT SO IT MAY BE EMPLOYED IN THE REPLACEMENT OPERATION. IF ORIGINAL REINFORCEMENT IS CUT OR BROKEN, REPLACEMENT BARS OF THE SAME SIZE SHALL BE INSTALLED BY DRILLING AND DOWELLING AS DIRECTED BY THE OWNER.

0103 ON STANDARD CONTRACT	PAVEMENT CUTS		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3070
	REMOVAL AND REPLACEMENT			6.5.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3070	



CLASS "G"

CLASS "G-1"

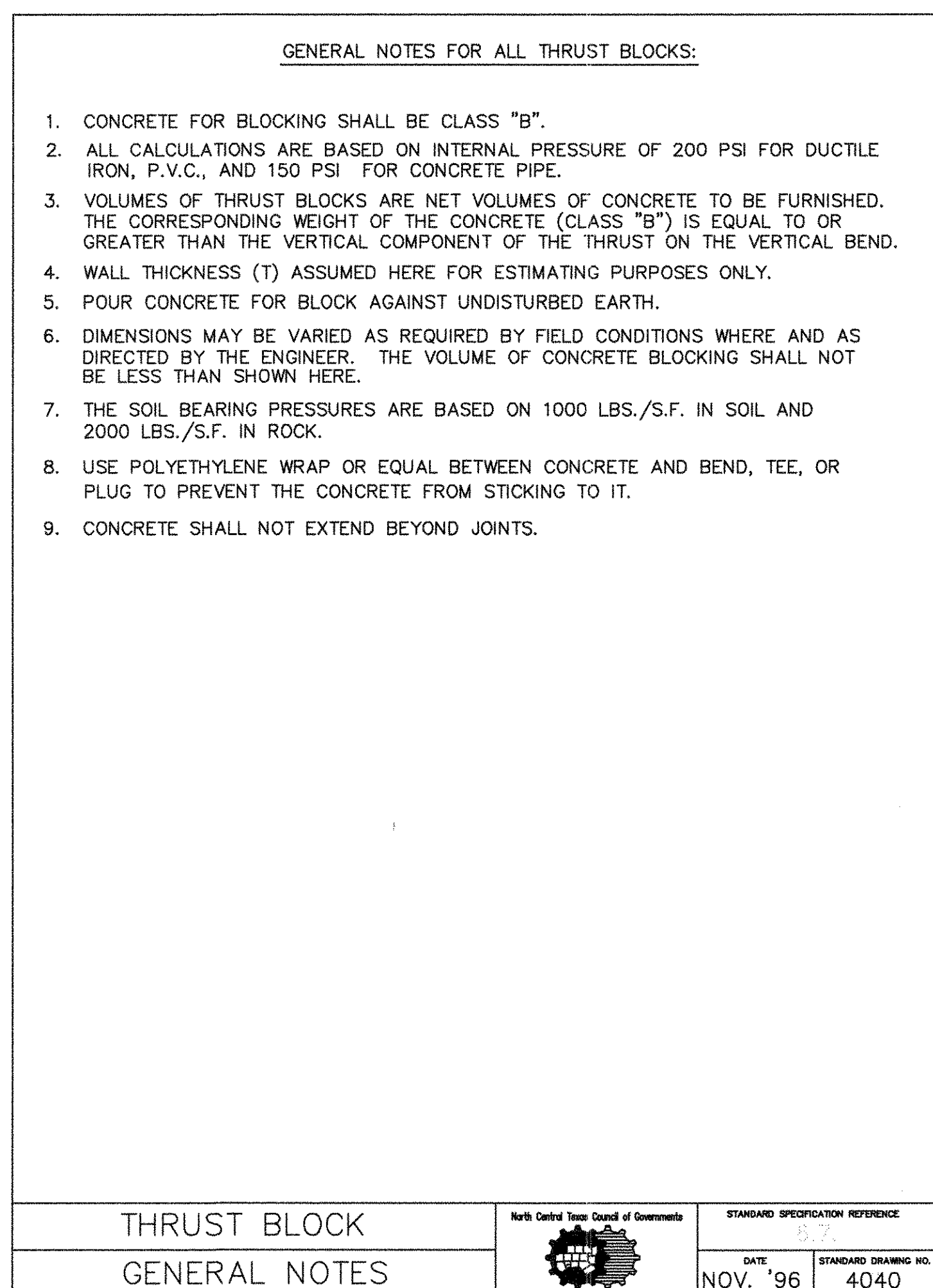
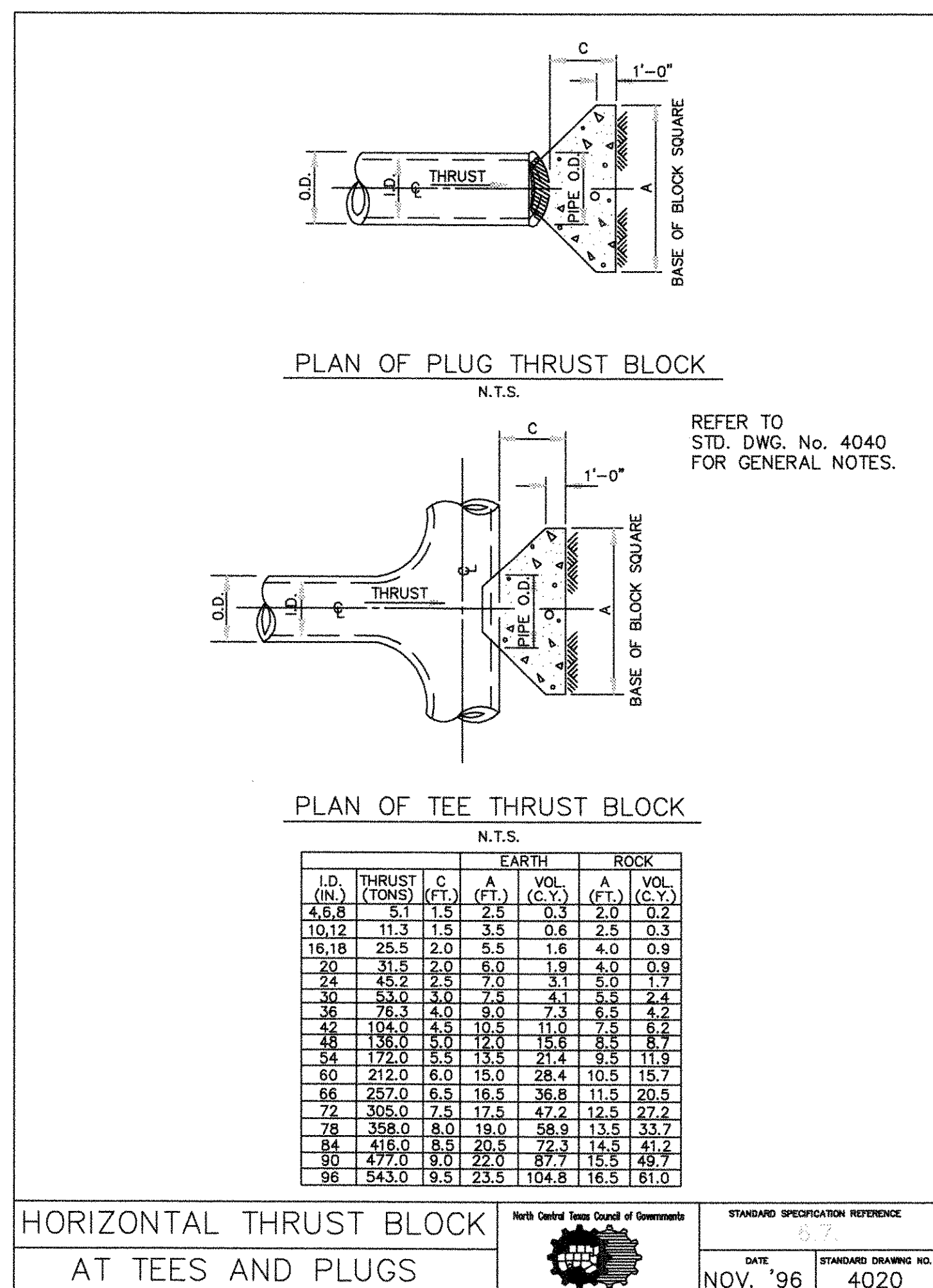
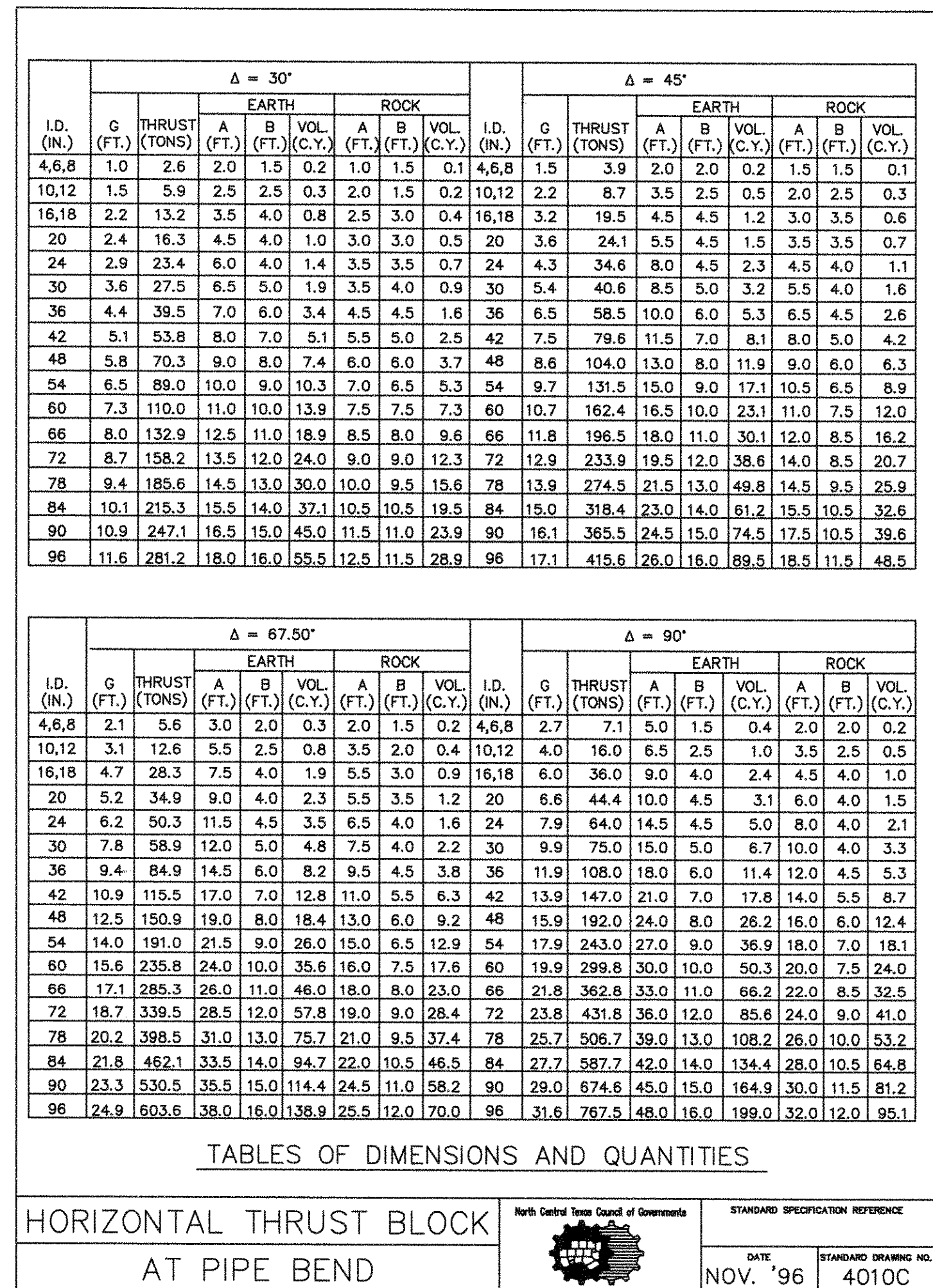
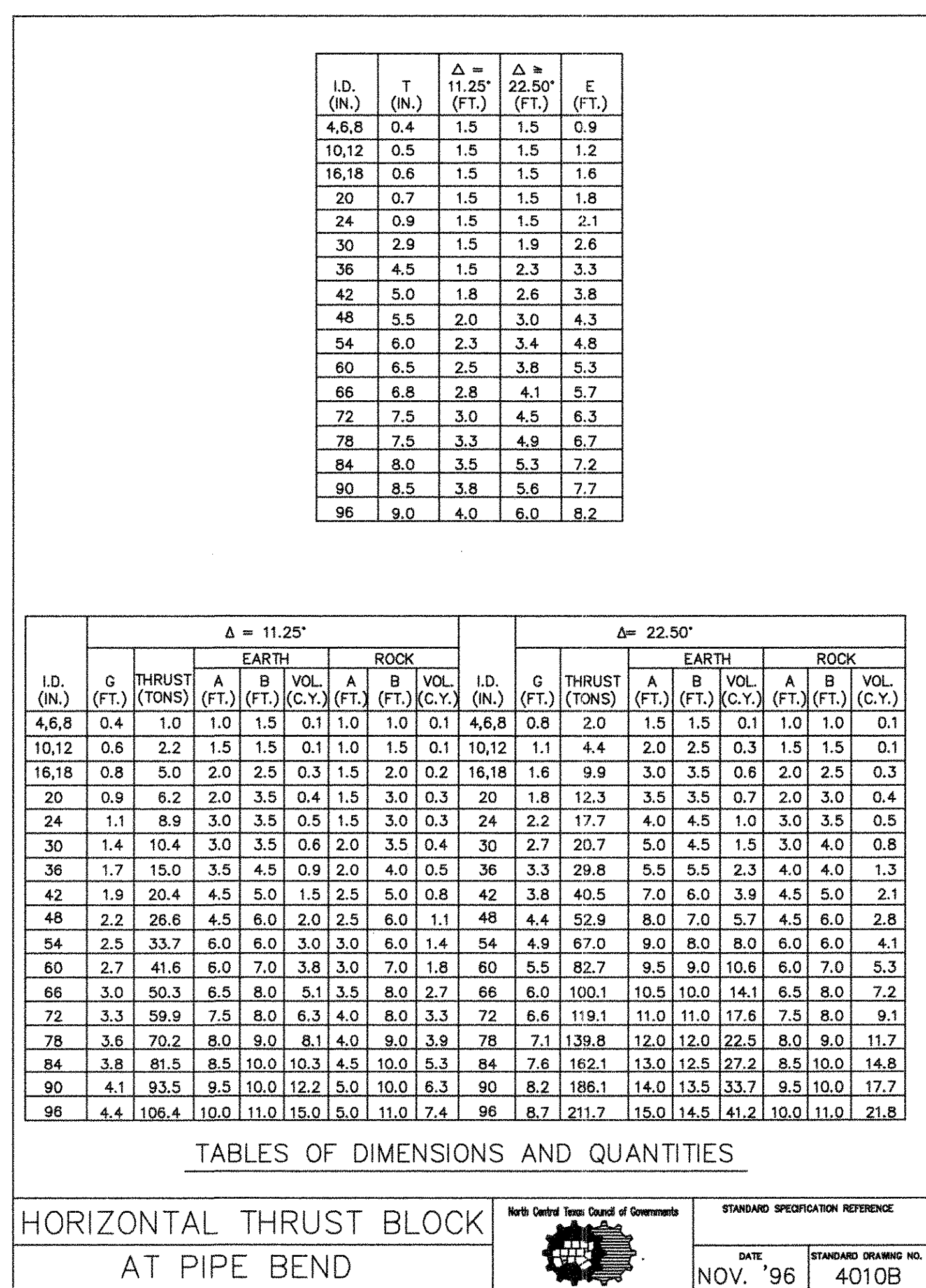
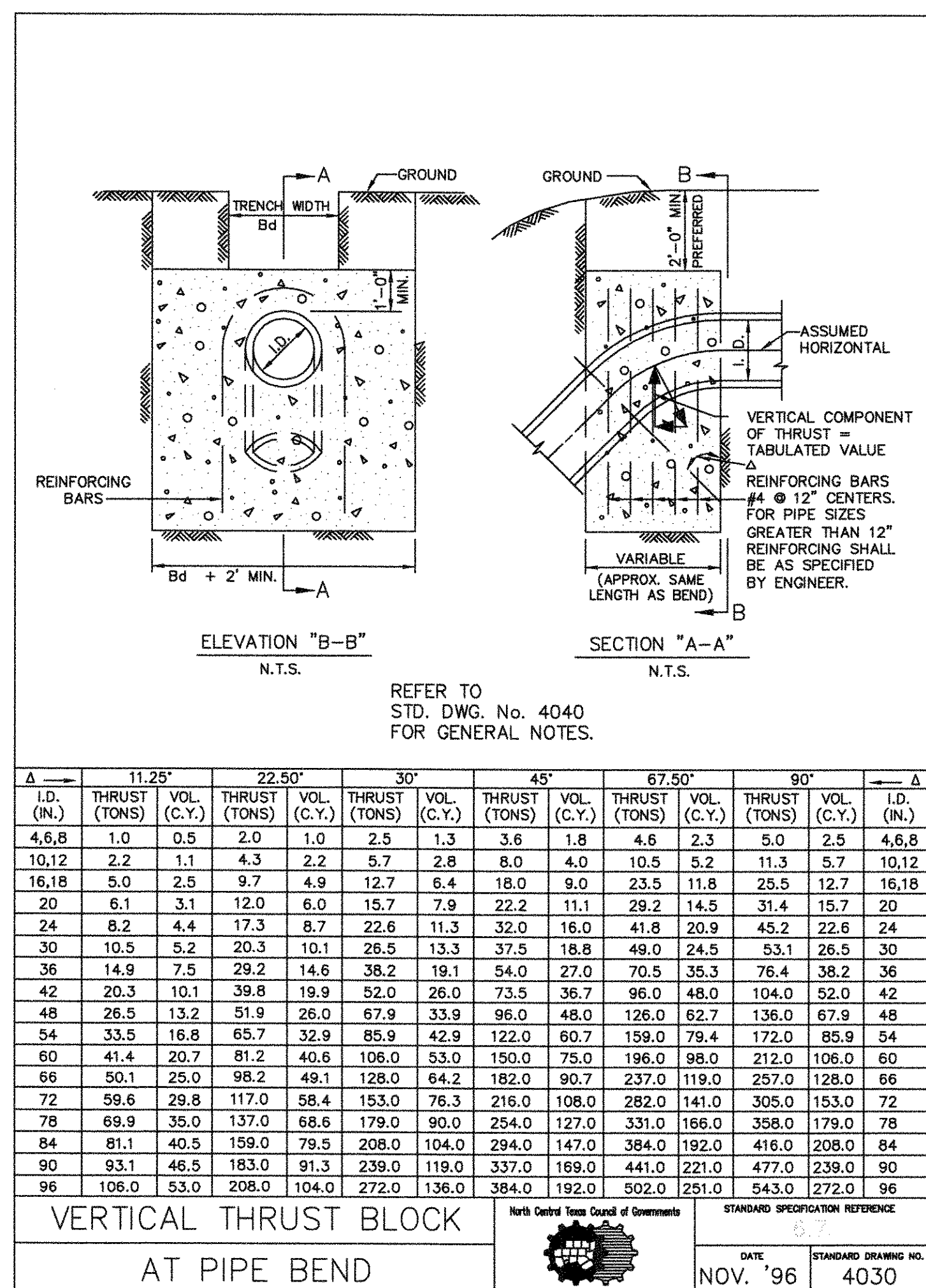
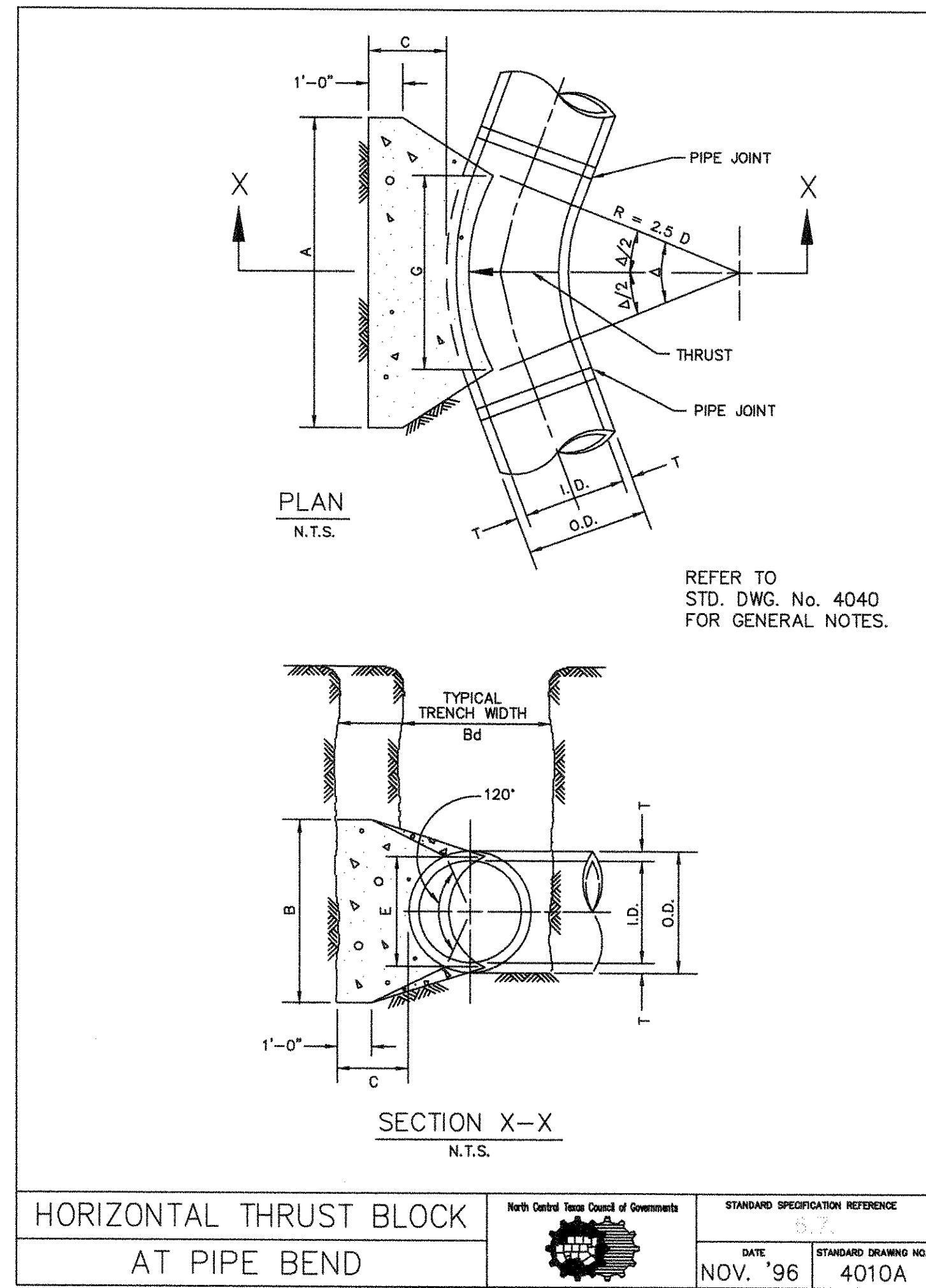
(FOR ROCK DITCHES IN CREEKS)

- NOTE:
- CONTRACTOR SHALL USE "B+" AND "G-1" EMBEDMENT AS APPLICABLE FOR WATER AND STORM SEWER CONSTRUCTION.

"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
S-3-2012
DATE: BY: *David E. Meyers*

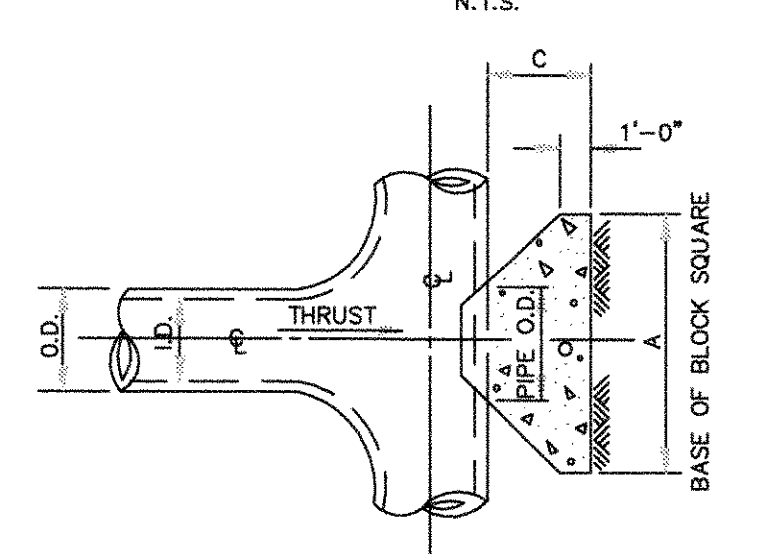
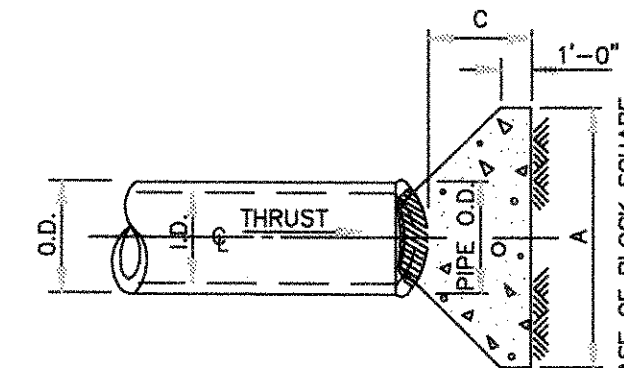
0903 ON STANDARD CONTRACT	EMBEDMENT		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3060
	CLASS "G" & "G-1"			6.2.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3060	

0103 ON STANDARD CONTRACT	PAVEMENT CUTS		North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	3070
	REMOVAL AND REPLACEMENT			6.5.	
			DATE	STANDARD DRAWING NO.	
			NOV. '96	3070	



I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1	4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9	16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6	24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8	36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	17.1	285.5	26.0	11.0	46.0	18.0	8.0	23.0	66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4	72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4	78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5	84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2	90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0	96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1



I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH		ROCK	
			A (FT.)	VOL. (C.Y.)	A (FT.)	VOL. (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	43.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.0	4.7
42	104.0	4.5	10.5	11.0	6.0	6.2
48	136.0	5.0	12.0	15.8	8.5	8.7
54	172.0	5.5	13.5	21.4	9.0	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	59.9	13.5	33.7
84	416.0	8.5	20.5	74.9	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 S-3-2012
 DATE: BY: David S. Meyer

Scale: N/A

Designed by: R/VG

Drawn by: LRO

Checked by: LRO

Date: JANUARY 9, 2012

Project No. 064347001

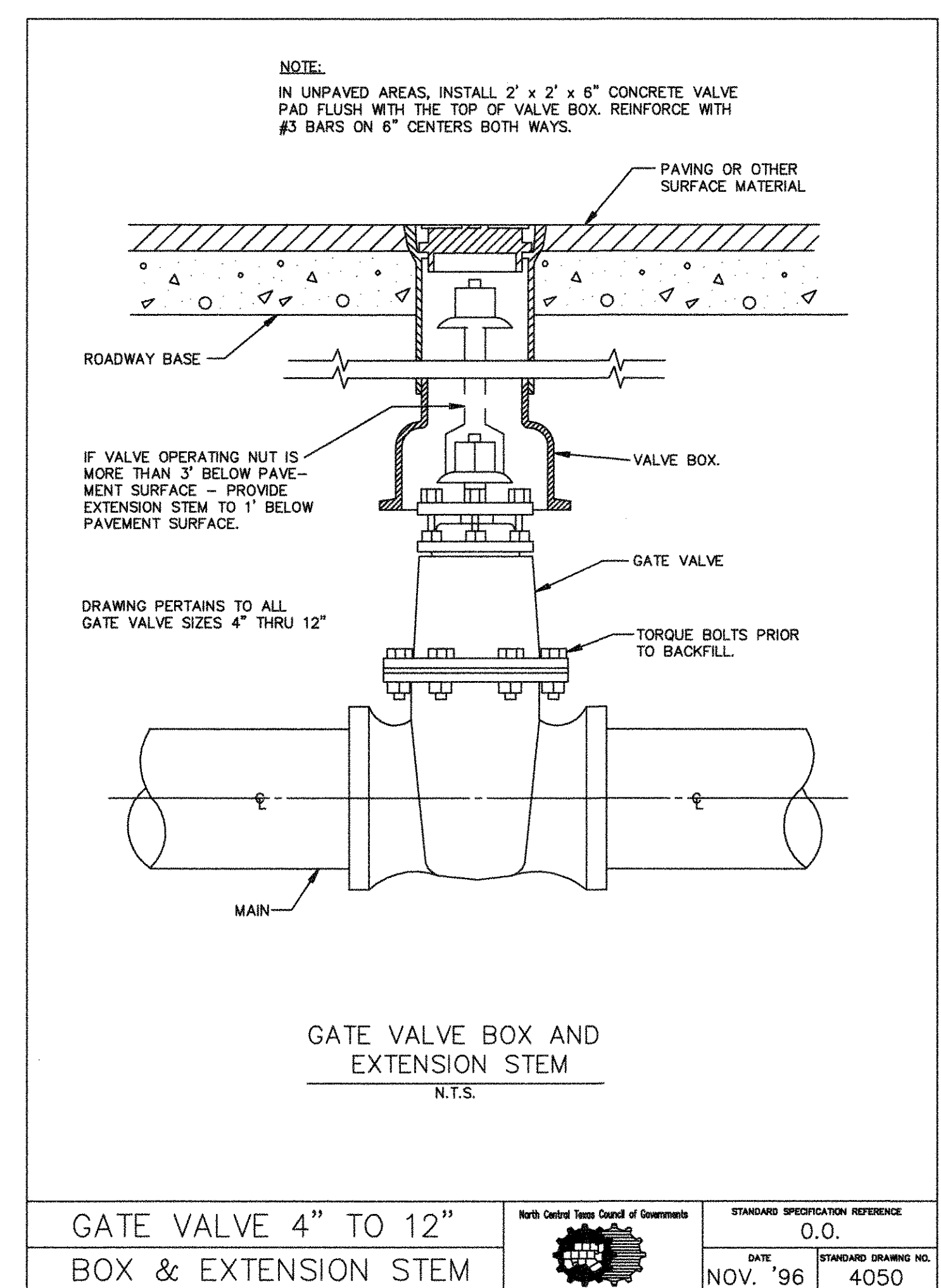
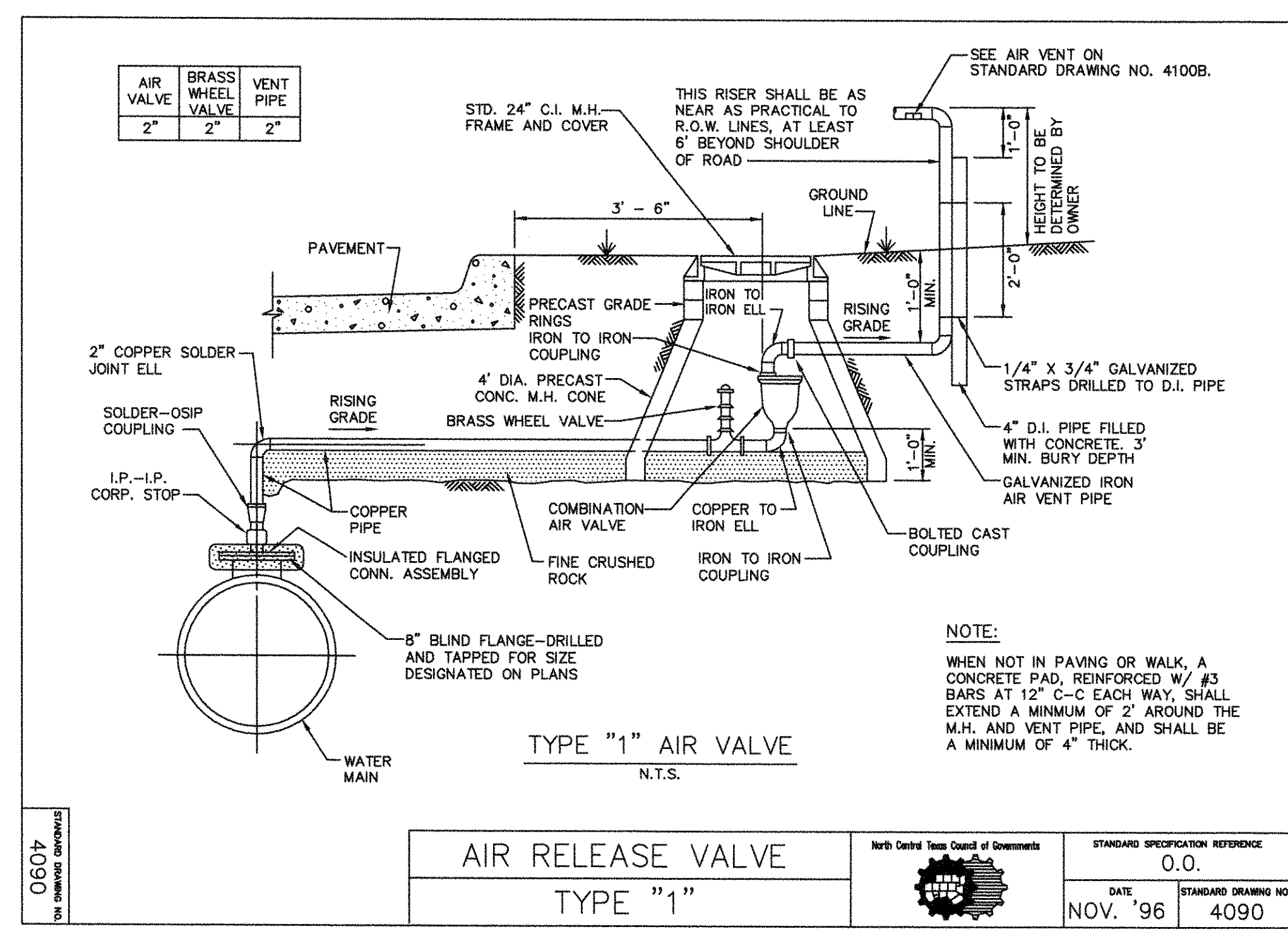
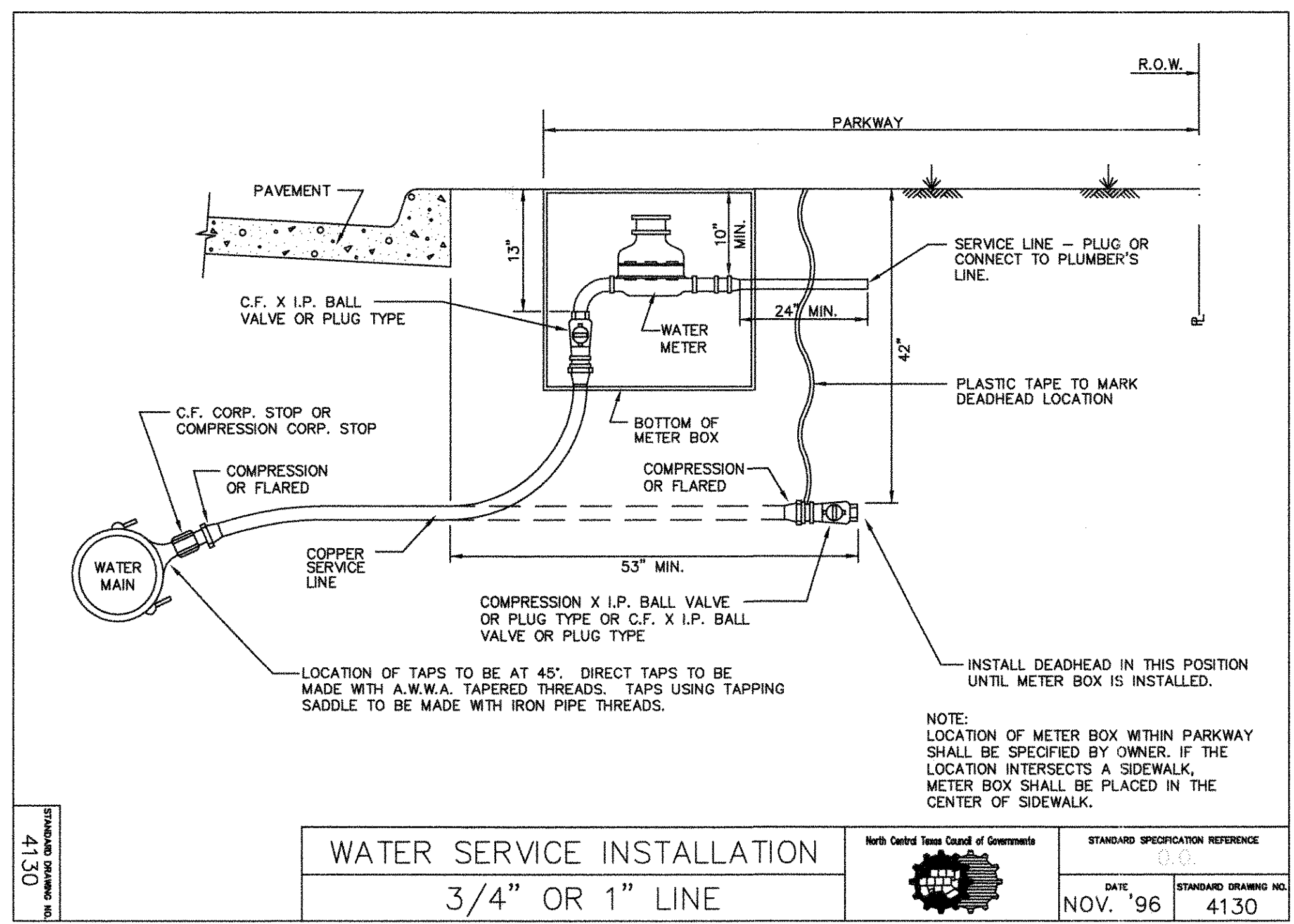
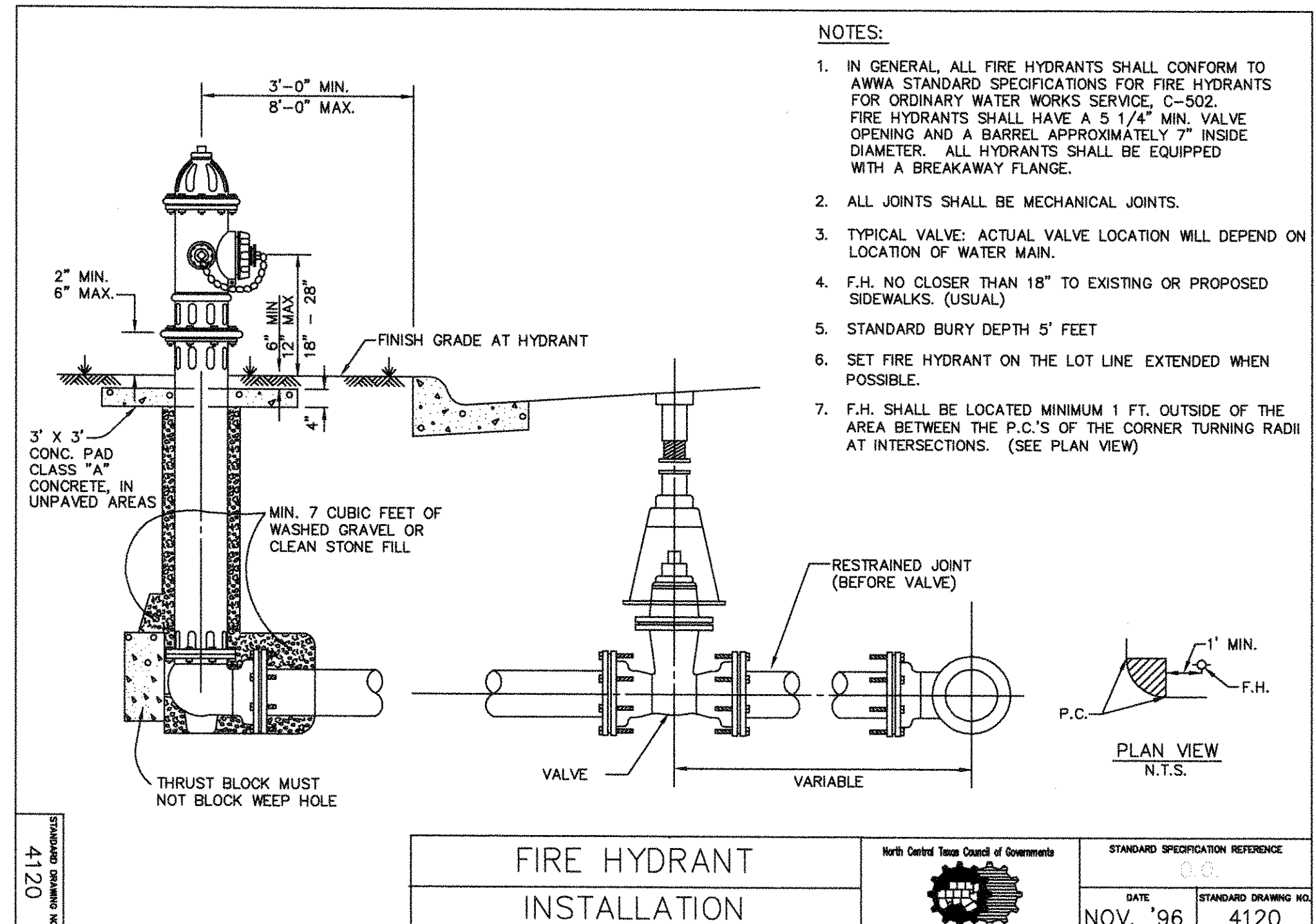
STINSON HIGHLANDS LUCAS, TEXAS

WATER DETAILS

SHEET C-63

Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. F-528
 12700 Park Center Drive, Suite 1800
 Dallas, Texas 75244
 Tel. No. (972) 238-3800
 Fax No. (972) 238-3880

STATE OF TEXAS
 DAVID S. MEYER
 8152



Kimley-Horn and Associates, Inc.
 Texas Registered Engineering Firm No. 12700
 12700 Park Central Drive, Suite 1800
 Dallas, Texas 75251
 Tel. No. (972) 235-5228
 Fax No. (972) 235-3820

STINSON HIGHLANDS LUCAS, TEXAS

WATER DETAILS

Scale:	N/A
Designed by:	KHA
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.:	064347001

SHEET
C-64

"Record Drawings"
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.
 DATE: 5-3-2012 BY: David L. Meff

IMAGES
 LAST SAVED
 2/20/2012 10:00 AM
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 DWG NAME

SECTION DIMENSIONS

SECTION	W	H	T ₁	T ₂	REINFORCING (INCHES) (1)	L ₁	L ₂
1	4	5	1	1	As1, As2, As3, As4, As5, As6, As7, As8, As9, As10, As11, As12, As13, As14, As15, As16, As17, As18, As19, As20, As21, As22, As23, As24, As25, As26, As27, As28, As29, As30, As31, As32, As33, As34, As35, As36, As37, As38, As39, As40, As41, As42, As43, As44, As45, As46, As47, As48, As49, As50, As51, As52, As53, As54, As55, As56, As57, As58, As59, As60, As61, As62, As63, As64, As65, As66, As67, As68, As69, As70, As71, As72, As73, As74, As75, As76, As77, As78, As79, As80, As81, As82, As83, As84, As85, As86, As87, As88, As89, As90, As91, As92, As93, As94, As95, As96, As97, As98, As99, As100	1.0	1.0

BOX DATA

SECTION	W	H	T ₁	T ₂	REINFORCING (INCHES) (1)	L ₁	L ₂
1	4	5	1	1	As1, As2, As3, As4, As5, As6, As7, As8, As9, As10, As11, As12, As13, As14, As15, As16, As17, As18, As19, As20, As21, As22, As23, As24, As25, As26, As27, As28, As29, As30, As31, As32, As33, As34, As35, As36, As37, As38, As39, As40, As41, As42, As43, As44, As45, As46, As47, As48, As49, As50, As51, As52, As53, As54, As55, As56, As57, As58, As59, As60, As61, As62, As63, As64, As65, As66, As67, As68, As69, As70, As71, As72, As73, As74, As75, As76, As77, As78, As79, As80, As81, As82, As83, As84, As85, As86, As87, As88, As89, As90, As91, As92, As93, As94, As95, As96, As97, As98, As99, As100	1.0	1.0

GENERAL NOTES:

- Size of Pipe Runner shall be as shown in the tables. Cross Pipe and Bottom Angler Pipe shall be the next smaller size pipe or shown in the STANDARD PIPE SIZES table.
- Standard allows for the placement of only one pipe runner across span unless otherwise specified. In order to limit the clear opening to be traversed by an error vehicle, the following conditions must be met:
 - For 60" culvert pipes, the clear opening shall not exceed 50".
 - For 48" culvert pipes, the clear opening shall not exceed 38".
 - For 36" culvert pipes, the clear opening shall not exceed 26".
- Standard allows for the placement of only one pipe runner across span unless otherwise specified. In order to limit the clear opening to be traversed by an error vehicle, the following conditions must be met:
 - For 60" culvert pipes, the clear opening shall not exceed 50".
 - For 48" culvert pipes, the clear opening shall not exceed 38".
 - For 36" culvert pipes, the clear opening shall not exceed 26".

SECTION A-A

ISOMETRIC VIEW OF TYPICAL INSTALLATION

PLAN OF TOP SLAB

SECTION A-A

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II - CROSS DRAINAGE

SETP-CD

CROSS PIPE LENGTHS, PIPE RUNNER LENGTHS, & REQUIRED PIPE SIZES

CORRUGATED METAL PIPE CULVERTS

Design	Pipe Culvert Size	Pipe Runner Length	4:1 Slope				6:1 Slope				
			15'	20'	25'	30'	15'	20'	25'	30'	
1	12"	15'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CONCRETE PIPE CULVERTS

Design	Pipe Culvert Size	Pipe Runner Length	4:1 Slope				6:1 Slope				
			15'	20'	25'	30'	15'	20'	25'	30'	
1	12"	15'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED

GENERAL NOTES:

- Size of Pipe Runner shall be as shown in the tables. Cross Pipe and Bottom Angler Pipe shall be the next smaller size pipe or shown in the STANDARD PIPE SIZES table.
- Standard allows for the placement of only one pipe runner across span unless otherwise specified. In order to limit the clear opening to be traversed by an error vehicle, the following conditions must be met:
 - For 60" culvert pipes, the clear opening shall not exceed 50".
 - For 48" culvert pipes, the clear opening shall not exceed 38".
 - For 36" culvert pipes, the clear opening shall not exceed 26".

SAFETY END TREATMENT FOR DESIGN 1 TO 7 ARCH PIPE CULVERTS TYPE III - CROSS DRAINAGE

SETP-CD-A

CROSS PIPE LENGTHS & PIPE RUNNER LENGTHS

Design	Pipe Culvert Size	Pipe Runner Length	4:1 Slope				6:1 Slope				
			15'	20'	25'	30'	15'	20'	25'	30'	
1	12"	15'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY)

Slope	4:1 Slope				6:1 Slope			
	15'	20'	25'	30'	15'	20'	25'	30'
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5

SECTION A-A

ISOMETRIC VIEW OF TYPICAL INSTALLATION

PLAN OF TOP SLAB

SECTION A-A

SAFETY END TREATMENT FOR 12" DIA TO 60" DIA PIPE CULVERTS TYPE II - CROSS DRAINAGE

SETP-CD

SECTION A-A

PLAN OF TOP SLAB

INLET SIZE

INLET SIZE	T	W
2' SQUARE	7"	2'-0"
4' SQUARE	7"	4'-0"
5' SQUARE	8"	5'-0"
6' SQUARE	9"	6'-0"

NOTES:

- MATERIAL AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF NCTCOG STANDARD SPECIFICATIONS FOR STANDARD CONCRETE MANHOLES, MINIMUM CLASS "A" CONCRETE.
- LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACES SHALL HAVE A COVER OF 2" TO THE CENTER OF BARS, UNLESS OTHERWISE NOTED.
- FOR DETAILS OF REINFORCING OF LOWER PORTIONS OF INLET SEE APPROPRIATE SQUARE MANHOLE DETAILS.
- DEPTH OF DROP INLET FROM FINISHED GRADE TO FLOW LINE OF INLET IS VARIABLE. APPROXIMATE DEPTH WILL BE SHOWN ON PLANS AT LOCATION OF INLET.
- ALL STANDARD DROP INLETS SHALL HAVE ONE OPENING ON EACH SIDE UNLESS OTHERWISE SHOWN ON PLANS.
- DECK MAY BE REINFORCED SAME AS 4' SQUARE MANHOLE.

DROP INLET

2', 4', 5' OR 6' SQUARE

STANDARD SPECIFICATION REFERENCE

DATE: NOV. '96

STANDARD DRAWING NO.: 6040

DATE: 11/11/03
 DRAWN BY: KIMLEY-HORN AND ASSOCIATES, INC.
 CHECKED BY: LEO
 PROJECT NO.: 064347001

Kimley-Horn and Associates, Inc.
 Tel. No. (972) 770-1900
 Fax No. (972) 259-3620

STINSON HIGHLANDS LUCAS, TEXAS

STORM DETAILS

Scale: N/A
Designed by: KHA
Drawn by: RYG
Checked by: LRO
Date: JANUARY 9, 2012
Project No.: 064347001

SHEET C-65

Record Drawings
 These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.

DATE: 5-3-2012 BY: David M. Huff