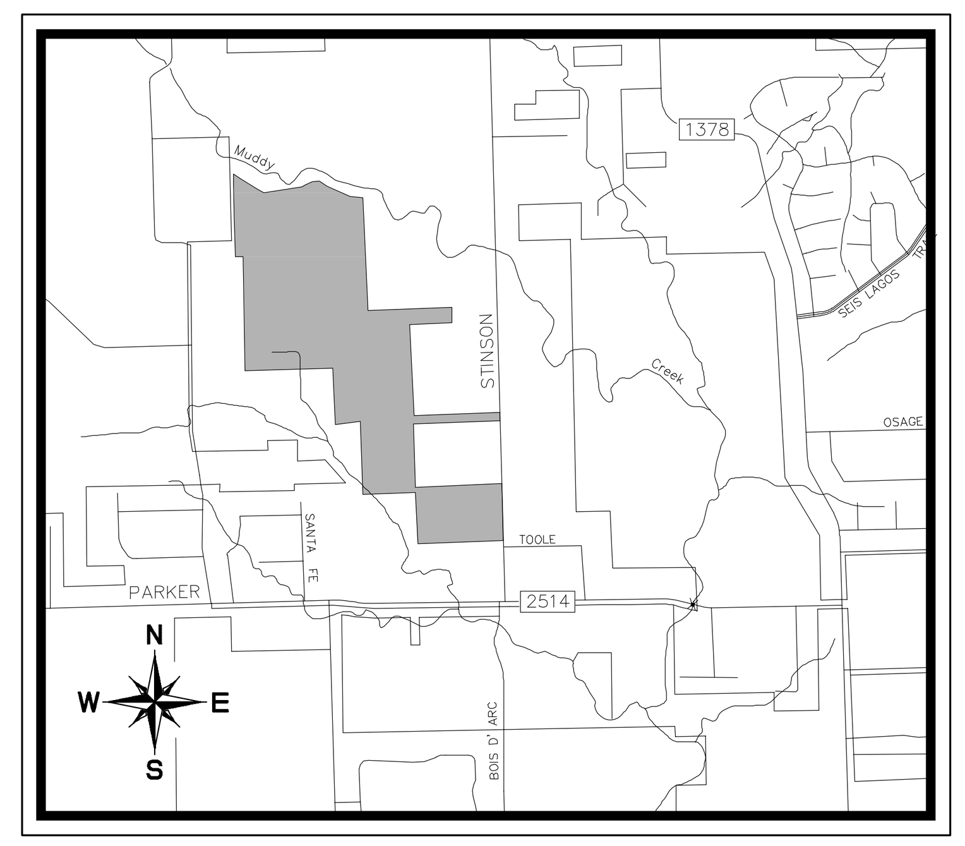
CIVIL PLANS FOR
STINSON HIGHLANDS - PHASE 2
CONSTRUCTION SET

THIS PLAN SET IS FOR PHASE 2 CONSTRUCTION ONLY.

PHASE 1 (CONSTRUCTED), PHASE 3, AND OFF-SITE 12" WATERLINE PLANS ARE REFERENCED IN THE SHEET INDEX ONLY BUT ARE NOT IN THIS SET.



LOCATION MAP
N.T.S.

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 (PHASE 1 ONLY)	10/05/2011
CIVIL ENGINEER PACKAGE ISSUED FOR CONSTRUCTION	05/10/2013
ADDED SHEET C-9 AND C-32	07/02/2013
HIGHLAND DRIVE AND WATER LINE REVISIONS	09/18/2013

INDEX OF SHEETS

	SHEET NO.	DESCRIPTION	REVISION
	CIVIL ENGINEERING (KIMLEY-HORN AND ASSOCIATES)		
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		FINAL PLAT	
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	C-2A	PHASING PLAN	
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NOT IN CONTRACT	~~C-4~~	~~PAVING PLAN & PROFILE - CAMAN PARK DRIVE (12+00-23+00)~~	
NOT IN CONTRACT	~~C-5~~	~~PAVING PLAN & PROFILE - CAMAN PARK DRIVE (23+00-END)~~	
NOT IN CONTRACT	~~C-6~~	~~PAVING PLAN & PROFILE - TURNBERRY LANE (BEG.-END)~~	
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NOT IN CONTRACT	~~C-54~~	~~OFFSITE WATER PLAN (6 OF 8) (NOT IN CONTRACT)~~	
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	C-57	EROSION CONTROL PLAN	
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LUCAS, TEXAS
COLLIN COUNTY
MAY 10, 2013

PREPARED FOR

D.R. HORTON
4306 MILLER ROAD
SUITE A
ROWLETT, TEXAS 75088
PH. (214) 607-4244
CONTACT: DAVID BOOTH

ENGINEER

Kimley-Horn and Associates, Inc.

12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

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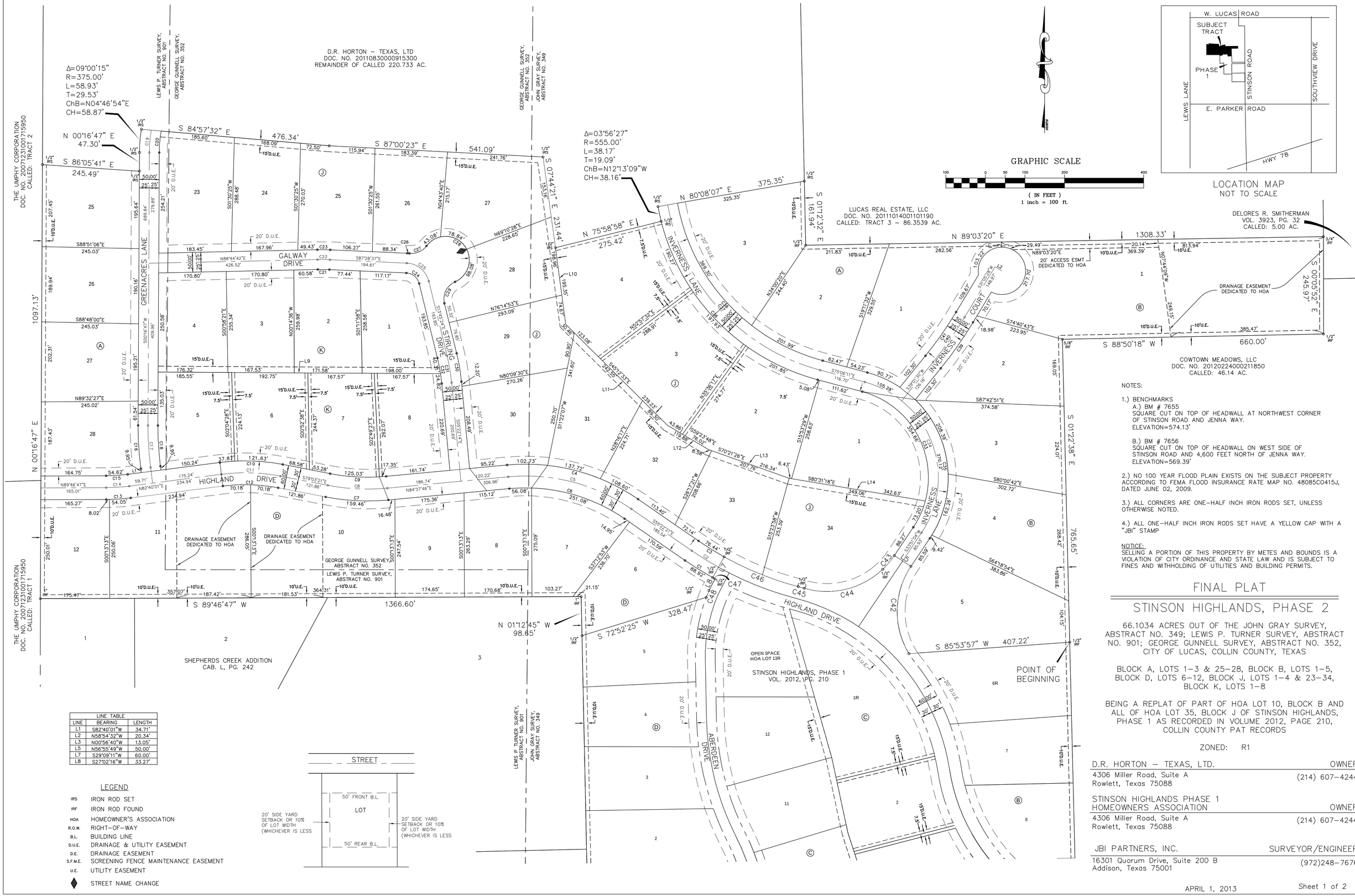
"Record Drawings"
These drawings have been revised to show those changes during the construction process reported by the contractor to Kimley-Horn and Associates, Inc. and considered to be significant. These drawings are not guaranteed to be "As-Built", but are based on the information made available.

DATE: 4-14-2014 BY: [signature]

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014



LINE TABLE		
LINE	BEARING	LENGTH
L1	S82°40'01"W	34.71'
L2	N58°54'32"W	20.34'
L3	N00°56'40"W	13.05'
L5	N56°55'49"W	50.00'
L7	S29°09'11"W	60.00'
L8	S27°02'16"W	33.27'

LEGEND

IRS	IRON ROD SET
IRF	IRON ROD FOUND
HOA	HOMEOWNER'S ASSOCIATION
R.O.W.	RIGHT–OF–WAY
B.L.	BUILDING LINE
D.U.E.	DRAINAGE & UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.F.M.E.	SCREENING FENCE MAINTENANCE EASEMENT
U.E.	UTILITY EASEMENT
◆	STREET NAME CHANGE

NOTES:

1.) BENCHMARKS
A.) BM # 7655
SQUARE CUT ON TOP OF HEADWALL AT NORTHWEST CORNER OF STINSON ROAD AND JENNA WAY.
ELEVATION=574.13'

B.) BM # 7656
SQUARE CUT ON TOP OF HEADWALL ON WEST SIDE OF STINSON ROAD AND 4,600 FEET NORTH OF JENNA WAY.
ELEVATION=569.39'

2.) NO 100 YEAR FLOOD PLAIN EXISTS ON THE SUBJECT PROPERTY ACCORDING TO FEMA FLOOD INSURANCE RATE MAP NO. 48085C0415J, DATED JUNE 02, 2009.

3.) ALL CORNERS ARE ONE–HALF INCH IRON RODS SET, UNLESS OTHERWISE NOTED.

4.) ALL ONE–HALF INCH IRON RODS SET HAVE A YELLOW CAP WITH A "JBI" STAMP

NOTICE:
SELLING A PORTION OF THIS PROPERTY BY METES AND BOUNDS IS A VIOLATION OF CITY ORDINANCE AND STATE LAW AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.

FINAL PLAT

STINSON HIGHLANDS, PHASE 2

66.1034 ACRES OUT OF THE JOHN GRAY SURVEY, ABSTRACT NO. 349; LEWIS P. TURNER SURVEY, ABSTRACT NO. 901; GEORGE GUNNELL SURVEY, ABSTRACT NO. 352, CITY OF LUCAS, COLLIN COUNTY, TEXAS

BLOCK A, LOTS 1–3 & 25–28, BLOCK B, LOTS 1–5, BLOCK D, LOTS 6–12, BLOCK J, LOTS 1–4 & 23–34, BLOCK K, LOTS 1–8

BEING A REPLAT OF PART OF HOA LOT 10, BLOCK B AND ALL OF HOA LOT 35, BLOCK J OF STINSON HIGHLANDS, PHASE 1 AS RECORDED IN VOLUME 2012, PAGE 210, COLLIN COUNTY PAT RECORDS

ZONED: R1

D.R. HORTON – TEXAS, LTD.	OWNER
4306 Miller Road, Suite A Rowlett, Texas 75088	(214) 607–4244
STINSON HIGHLANDS PHASE 1 HOMEOWNERS ASSOCIATION	OWNER
4306 Miller Road, Suite A Rowlett, Texas 75088	(214) 607–4244
JBI PARTNERS, INC.	SURVEYOR/ENGINEER
16301 Quorum Drive, Suite 200 B Addison, Texas 75001	(972)248–7676

APRIL 1, 2013

OWNER'S CERTIFICATION

STATE OF TEXAS~
COUNTY OF COLLIN~

WHEREAS, D.R. HORTON–TEXAS, Ltd. and STINSON HIGHLANDS, PHASE 1 HOMEOWNERS ASSOCIATION, are the owners of that parcel of land located in the City of Lucas, Collin County, Texas, being a part of the John Gray Survey, Abstract Number 349, being a part of the George Gunnell Survey, Abstract No. 352, being a part of the Lewis P. Turner Survey, Abstract No. 901, being part of a called 220.733 acre tract of land described in a Special Warranty Deed to D.R. Horton–Texas, Ltd., as recorded in Document Number 20110830000915300, of the Deed Records of Collin County, Texas, (D.R.C.C.T.), being a part of HOA Lot 10, Block B and all of HOA Lot 35, Block J both in Stinson Highland, Phase 1, an addition to the City of Lucas, as recorded in Volume 2012, Page 210 (P.R.C.C.T.), and being further described as follows:

BEGINNING at a one–half inch iron rod found for the northeast corner of Lot 6, Block B of said Stinson Highlands, Phase 1, said point being in the east line of said 220.733 acre tract of land, and said point being in the west line of a called 46.14 acre tract of land described in a Special Warranty Deed with Vendor's Lien to Cowtown Meadows, LLC, as recorded in Document No. 20120224000211850, (D.R.C.C.T.);

THENCE South 85 degrees 53 minutes 57 seconds West, 407.22 feet to a one–half inch iron rod set in the northeast right–of–way line of Highland Drive (a 50 foot wide right–of–way), said point being in the west line of said HOA Lot 10;

THENCE Northeasterly, 233.03 feet along the west line of said HOA Lot 10 and along a curve to the right having a central angle of 65 degrees 07 minutes 47 seconds, a radius of 205.00 feet, a tangent of 130.93 feet, and whose chord bears North 01 degrees 17 minutes 11 seconds East, 220.68 feet to a one–half inch iron rod set in the east right–of–way line of Inverness Lane (a 50 foot wide right–of–way);

THENCE North 56 degrees 55 minutes 49 seconds West, 50.00 feet to a one–half inch iron rod found in the west right–of–way line of said Inverness Lane;

THENCE Southwesterly, 45.17 feet along the west right–of–way line of said Inverness Lane and along a curve to the right having a central angle of 12 degrees 37 minutes 28 seconds, a radius of 205.00 feet, a tangent of 22.68 feet, and whose chord bears South 40 degrees 09 minutes 48 seconds West, 45.08 feet to a one–half inch iron rod found for the east corner of said HOA Lot 35;

THENCE along the south line of said HOA Lot 35 as follows:
Southwesterly, 213.94 feet along a curve to the right having a central angle of 59 degrees 47 minutes 38 seconds, a radius of 205.00 feet, a tangent of 117.87 feet, and whose chord bears South 76 degrees 22 minutes 20 seconds West, 204.36 feet to a one–half inch iron rod found in the north right–of–way line of said Highland Drive;
Northwesterly, 15.62 feet along the north right–of–way line of said Highland Drive and along a curve to the left having a central angle of 01 degrees 35 minutes 54 seconds, a radius of 560.00 feet, a tangent of 7.81 feet, and whose chord bears North 74 degrees 31 minutes 48 seconds West, 15.62 feet to a one–half inch iron rod found for corner;
Northwesterly, 202.21 feet along the north right–of–way line of said Highland Drive and along a curve to the right having a central angle of 14 degrees 28 minutes 56 seconds, a radius of 800.00 feet, a tangent of 101.65 feet, and whose chord bears North 68 degrees 05 minutes 17 seconds West, 201.67 feet to a one–half inch iron rod found for corner;

THENCE along the north line of said Stinson Highlands, Phase 1, as follows:
South 29 degrees 09 minutes 11 seconds West, 60.00 feet to a one–half inch iron rod found in the south right–of–way line of said Highland Drive;
Southeasterly, 6.75 feet along the south right–of–way line of said Highland Drive and along a curve to the left having a central angle of 00 degrees 26 minutes 58 seconds, a radius of 860.00 feet, a tangent of 3.37 feet, and whose chord bears South 61 degrees 04 minutes 18 seconds East, 6.75 feet to a one–half inch iron rod found at the intersection of the south right–of–way line of said Highland Drive with the west right–of–way line of Aberdeen Drive (a 50 foot wide right–of–way);
South 27 degrees 02 minutes 16 seconds West, 33.27 feet along the west right–of–way line of said Aberdeen Drive to a one–half inch iron rod found for corner;
Southwesterly, 18.44 feet along the west right–of–way line of said Aberdeen Drive and along a curve to the left having a central angle of 02 degrees 29 minutes 07 seconds, a radius of 425.00 feet, a tangent of 9.22 feet, and whose chord bears South 22 degrees 00 minutes 26 seconds West, 18.43 feet to a one–half inch iron rod found for the northeast corner of Lot 5, Block D, of said Stinson Highlands, Phase 1;
South 72 degrees 52 minutes 25 seconds West, 328.47 feet to a one–half inch iron rod found for the northwest corner of said Lot 5, said point being in the east line of Lot 3 of Shepherds Creek Addition, an addition to the City of Lucas, as recorded in Cabinet L, Page 242, (P.R.C.C.T.);

THENCE North 01 degrees 12 minutes 45 seconds West, 98.65 feet to a one inch iron rod found for the northeast corner of said Lot 3;

THENCE South 89 degrees 46 minutes 47 seconds West, 1366.60 feet to a one inch iron rod found for the northwest corner of Lot 1 of said Shepherds Creek Addition, said point being in the west line of said 220.733 acre tract of land, and said point being in the east line of a called 30 acre tract of land (Tract 1) described in a warranty deed to The Umphy Corporation, as recorded in Document No. 20071231001715950, (D.R.C.C.T.);

THENCE North 00 degrees 16 minutes 47 seconds East, 1097.13 feet to a one–half inch iron rod set in the west line of said 220.773 acre tract of land, said point being in the east line of a called 30.55 acre tract of land (Tract 2) described in a warranty deed to The Umphy Corporation, as recorded in Document No. 20071231001715950, (D.R.C.C.T.);

THENCE over and across said 220.773 acre tract of land as follows:
South 86 degrees 05 minutes 41 seconds East, 245.49 feet to a one–half inch iron rod set;
North 00 degrees 16 minutes 47 seconds East, 47.30 feet to a one–half inch iron rod set;
Northeasterly, 58.93 feet along a curve to the right having a central angle of 09 degrees 00 minutes 15 seconds, a radius of 375.00 feet, a tangent of 29.53 feet, and whose chord bears North 04 degrees 46 minutes 54 seconds East, 58.87 feet to a one–half inch iron rod set for corner;
South 84 degrees 57 minutes 32 seconds East, 476.34 feet to a one–half inch iron rod set for corner;
South 87 degrees 00 minutes 23 seconds East, 541.09 feet to a one–half inch iron rod set for corner;
South 07 degrees 44 minutes 21 seconds East, 231.44 feet to a one–half inch iron rod set for corner;
North 75 degrees 58 minutes 58 seconds East, 275.42 feet to a one–half inch iron rod set for corner;
Northwesterly, 38.17 feet along a curve to the right having a central angle of 03 degrees 56 minutes 27 seconds, a radius of 555.00 feet, a tangent of 19.09 feet, and whose chord bears North 12 degrees 13 minutes 09 seconds West, 38.16 feet to a one–half inch iron rod set for corner;
North 80 degrees 08 minutes 07 seconds East, 375.35 feet to a one–half inch iron rod set in the east line of said 220.773 acre tract of land, and said point being in the west line of a called 86.3539 acre tract of land (Tract 3), described in a Special Warranty Deed to Lucas Real Estate, LLC., as recorded in Document No. 20111014001101190, (D.R.C.C.T.);

THENCE South 01 degrees 12 minutes 32 seconds East, 161.94 feet to a one–half inch iron rod found for the southwest corner of said 86.3539 acre tract of land;

THENCE North 89 degrees 03 minutes 20 seconds East, 1308.33 feet to a three–fourths inch iron pipe found for the southeast corner of said 86.3539 acre tract of land, said point being in the west line of a called 5.00 acre tract of land described in a Special Warranty Deed to Delores R. Smitherman, as recorded in Vol. 3932, Pg. 32, (D.R.C.C.T.);

THENCE South 00 degrees 05 minutes 52 seconds East, 245.97 feet to a one–half inch iron rod found for an interior ell corner of said 46.14 acre tract of land;

THENCE South 88 degrees 50 minutes 18 seconds West, 660.00 feet to a five–eighths inch iron rod found for the most westerly northwest corner of said 46.14 acre tract of land;

THENCE South 01 degrees 22 minutes 38 seconds East, 765.65 feet to the POINT OF BEGINNING and containing 2,879,464 square feet or 66.1034 acres of land.

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHD. BEARING	CHORD	CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHD. BEARING	CHORD
C1	82.17'	860.00'	5°28'28"	41.12'	S58°06'35"E	82.14'	C25	77.20'	60.00'	73°43'13"	44.98'	N50°37'00"W	71.98'
C2	79.30'	830.00'	5°28'28"	39.68'	S58°06'35"E	79.27'	C26	5.67'	85.00'	3°49'30"	2.84'	N85°33'52"W	5.67'
C3	76.44'	800.00'	5°28'28"	38.25'	S58°06'35"E	76.41'	C27	49.16'	47.00'	59°55'33"	27.09'	N66°23'07"E	46.95'
C4	349.05'	500.00'	39°59'53"	181.98'	N75°22'17"W	342.00'	C28	220.00'	60.00'	210°04'47"	223.30'	N38°32'16"W	115.89'
C5	328.11'	470.00'	39°59'53"	171.06'	N75°22'17"W	321.48'	C29	65.84'	47.00'	80°15'31"	39.62'	S26°22'22"W	60.58'
C6	307.16'	440.00'	39°59'53"	160.14'	N75°22'17"W	300.96'	C30	72.45'	495.00'	8°23'10"	36.29'	N09°33'49"W	72.39'
C7	159.46'	560.00'	16°18'53"	80.27'	S87°12'47"E	158.92'	C31	68.79'	470.00'	8°23'10"	34.46'	N09°33'49"W	68.73'
C8	150.91'	530.00'	16°18'53"	75.97'	S87°12'47"E	150.41'	C32	65.13'	445.00'	8°23'10"	32.62'	N09°33'49"W	65.07'
C9	142.37'	500.00'	16°18'53"	71.67'	S87°12'47"E	141.89'	C33	427.86'	225.00'	108°57'15"	315.17'	N20°37'33"W	366.25'
C10	159.50'	500.00'	18°16'38"	80.43'	N88°11'40"W	158.82'	C34	475.40'	250.00'	108°57'15"	350.19'	N20°37'33"W	406.94'
C11	149.93'	470.00'	18°16'38"	75.61'	N88°11'40"W	149.29'	C35	382.10'	275.00'	79°36'37"	229.16'	N05°57'14"W	352.10'
C12	140.36'	440.00'	18°16'38"	70.78'	N88°11'40"W	139.76'	C36	628.21'	555.00'	64°51'15"	352.58'	S42°40'33"E	595.21'
C13	62.07'	500.00'	7°06'46"	31.07'	N86°13'24"E	62.03'	C37	599.75'	530.00'	64°50'10"	336.58'	S42°41'06"E	568.26'
C14	58.35'	470.00'	7°06'46"	29.21'	N86°13'24"E	58.31'	C38	571.28'	505.00'	64°48'58"	320.58'	S42°41'42"E	541.31'
C15	54.62'	440.00'	7°06'46"	27.35'	N86°13'24"E	54.59'	C39	141.93'	1025.00'	7°56'02"	71.08'	N35°03'29"E	141.82'
C16	109.61'	825.00'	7°36'46"	54.89'	S03°31'36"E	109.53'	C40	138.47'	1000.00'	7°56'02"	69.35'	N35°03'29"E	138.36'
C17	106.29'	800.00'	7°36'46"	53.22'	S03°31'36"E	106.21'	C41	135.01'	975.00'	7°56'02"	67.61'	N35°03'29"E	134.90'
C18	102.97'	775.00'	7°36'46"	51.56'	S03°31'36"E	102.90'	C42	233.03'	205.00'	65°07'47"	130.93'	N01°17'11"E	220.68'
C19	56.86'	350.00'	9°18'28"	28.49'	S04°56'01"W	56.80'	C43	45.17'	205.00'	12°37'28"	22.68'	S40°09'48"W	45.08'
C20	54.79'	325.00'	9°39'30"	27.46'	S05°06'32"W	54.72'	C44	213.94'	205.00'	59°47'38"	117.87'	S76°22'20"W	204.36'
C21	29.34'	445.00'	3°46'41"	14.68'	N89°21'58"W	29.34'	C45	15.62'	560.00'	1°35'54"	7.81'	N74°31'48"W	15.62'
C22	30.99'	470.00'	3°46'41"	15.50'	N89°21'58"W	30.99'	C46	202.21'	800.00'	14°28'56"	101.65'	N68°05'17"W	201.67'
C23	32.64'	495.00'	3°46'41"	16.33'	N89°21'58"W	32.63'	C47	6.75'	860.00'	0°26'58"	3.37'	S61°04'18"E	6.75'
C24	45.03'	35.00'	73°43'13"	26.24'	N50°37'00"W	41.99'	C48	18.44'	425.00'	2°29'07"	9.22'	S22°00'26"W	18.43'

OWNER'S DEDICATION

STATE OF TEXAS §
COUNTY OF COLLIN §
CITY OF LUCAS§

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:
That D.R. HORTON–TEXAS, LTD. and STINSON HIGHLANDS PHASE 1 HOMEOWNERS ASSOCIATION, do hereby bind themselves and their heirs, assignees and successors of title this plat designating the hereinabove described property as STINSON HIGHLANDS, PHASE 2, an addition to the City of Lucas, and do hereby dedicate to the public use forever the streets, alleys, and right–of–way easements shown thereon, and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths that in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easements strips, and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, without the necessity at any time of procuring the permission of anyone. Additionally, D.R. HORTON–TEXAS, Ltd. and STINSON HIGHLANDS, PHASE 1 HOMEOWNERS ASSOCIATION, certify that, D.R. HORTON–TEXAS, Ltd. and STINSON HIGHLANDS, PHASE 1 HOMEOWNERS ASSOCIATION are the sole owners of the dedicated property and that no other's interest is attached to this property unless otherwise indicated on the required Mortgage Holder Certification that is included on this plat. Furthermore, as the owner of the property described herein, and in consideration of establishing the subdivision described herein, D.R. Horton–Texas, Ltd., agree to the following:

*Every owner of fee simple title to every individual lot within the subdivision shall be a member of the homeowners' association;
*The homeowners' association shall have the authority to collect membership fees;
*As applicable as it pertains to conditions shown herein, the homeowners' association shall be responsible for the maintenance of all common areas, screening walls, landscaped areas, private streets and alleys.
*The homeowners' association shall grant the City the right of access to any areas to abate any nuisances on such areas, and attach a lien upon each individual lot for the prorated costs of abatement.
*The homeowners' association shall indemnify and hold the City harmless from any and all costs, expenses, suits, demands, liabilities, damages, or otherwise, including attorney fees and costs of suit, in connection with the City's maintenance of common areas.
*The homeowners' association shall, where additional rights–of–way has been dedicated for the purpose of providing landscaping, additional areas for sidewalks, walls or other amenities, enter into a license agreement with the City and shall be responsible for the installation and maintenance of all landscape areas in the public rights–of–way.
*The homeowners' association is to maintain rights–of–way including Drainage and Utility easements to the edge of pavement.
*The homeowners' association is to maintain street lights.
*The homeowners' association is to maintain entry features and screening fences.
*Wrought iron fences will be allowed to be constructed within drainage easements.
*The HOA is responsible for maintaining all drainage and utility easements including detention and retention ponds within the sub–division in case of HOA failure, the property owner will maintain all drainage and utility easements on their property including detention and retention ponds. Any alteration to a drainage easement, detention/retention pond, or utility easement requires prior approval from the City of Lucas.

This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Lucas, Texas.

_____
David L. Booth, an Authorized Agent for D.R. Horton–Texas, Ltd.

STATE OF TEXAS §
COUNTY OF DALLAS §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared David L. Booth, Assistant Vice President, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they each executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this _____ day of _____, 2013.

_____
Notary Public in and for the State of Texas

_____
David L. Booth, an Authorized Agent for Stinson Highlands Phase 1 HOMEOWNERS ASSOCIATION

STATE OF TEXAS §
COUNTY OF DALLAS §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared David L. Booth, Assistant Vice President, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they each executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this _____ day of _____, 2013.

_____
Notary Public in and for the State of Texas

ON–SITE SEWAGE FACILITY NOTE:

ALL LOTS MUST UTILIZE ALTERNATIVE TYPE ON–SITE SEWAGE FACILITIES.

A CERTIFICATE OF ELEVATION (SHOWING FINISHED FLOOR 1'+ ABOVE BASE FLOOD ELEVATION) WILL BE REQUIRED FOR ANY STRUCTURE CONSTRUCTED IN THE 100–YEAR FLOODPLAIN.

MUST MAINTAIN STATE–MANDATED SETBACK OF ALL ON–SITE SEWAGE FACILITY COMPONENTS FROM ANY/ALL EASEMENTS AND DRAINAGE AREAS, WATER DISTRIBUTION LINES, SHARP BREAKS AND/OR CREEKS/RIVERS/PONDS, ETC. (PER STATE REGULATIONS).

TREE REMOVAL AND/OR GRADING FOR OSSF MAY BE REQUIRED ON INDIVIDUAL LOTS.

INDIVIDUAL SITE EVALUATIONS AND OSSF DESIGN PLANS (MEETING ALL STATE AND COUNTY REQUIREMENTS) MUST BE SUBMITTED TO AND APPROVED BY COLLIN COUNTY FOR EACH LOT PRIOR TO CONSTRUCTION OF ANY OSSF SYSTEM.

HEALTH DEPARTMENT CERTIFICATION:

I HEREBY CERTIFY THAT THE ON–SITE SEWAGE FACILITIES DESCRIBED ON THIS PLAT CONFORM TO THE APPLICABLE OSSF LAWS OF THE STATE OF TEXAS, THAT SITE EVALUATIONS HAVE BEEN SUBMITTED REPRESENTING THE SITE CONDITIONS IN THE AREA IN WHICH ON–SITE SEWAGE FACILITIES ARE PLANNED TO BE USED.

_____
Registered Sanitarian or Designated Representative
Collin County Development Services

SURVEYOR'S CERTIFICATION

KNOW ALL MEN BY THESE PRESENTS:

That I, Steven E. Hines, do hereby certify, that I prepared this plat from an actual on the ground survey of the land as described and that the corner monuments shown thereon were properly placed under my personal supervision in accordance with the Platting Rules and Regulations of the City of Lucas Planning and Zoning Commission.

_____
Steven E. Hines, R.P.L.S. No. 5380

STATE OF TEXAS §
COUNTY OF DALLAS §

Before me, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared Steven E. Hines, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this _____ day of _____, 2013.

_____
Notary Public in and for
the State of Texas

APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF LUCAS, TEXAS,
ON THE _____ DAY OF _____ , 2013.
ATTEST:

_____ _____
Chairperson, Planning and Zoning Commission

_____ _____
City Secretary

"Approved for Preparation of Final Plat"

_____
Director of Planning and Community Development Date

_____
Director of Public Works Date

BLOCK/LOT	LOT AREA TABLE SQUARE FEET	AREA
A-1	75,506	1.7334
A-2	66,879	1.5353
A-3	74,209	1.7036
A-25	49,378	1.1336
A-26	46,562	1.0689
A-27	48,696	1.1179
A-28	46,203	1.0607
B-1	195,173	4.4805
B-2	58,493	1.3428
B-3	64,848	1.4887
B-4	68,719	1.5776
B-5	88,252	2.0260
D-6	53,596	1.2304
D-7	47,169	1.0829
D-8	46,184	1.0602
D-9	44,609	1.0241
D-10	94,694	2.1739
D-11	96,115	2.2065
D-12	43,594	1.0008
J-1	71,242	1.6355
J-2	66,493	1.5265
J-3	66,804	1.5336
J-4	74,173	1.7028
J-23	55,645	1.2774
J-24	46,849	1.0755
J-25	49,624	1.1392
J-26	44,499	1.0216
J-27	53,153	1.2202
J-28	48,191	1.1063
J-29	50,138	1.1510
J-30	51,460	1.1814
J-31	49,112	1.1275
J-32	44,586	1.0236
J-33	54,170	1.2436
J-34	80,568	1.8496
K-1	43,630	1.0016
K-2	44,144	1.0134
K-3	43,583	1.0005
K-4	43,897	1.0077
K-5	44,555	1.0228
K-6	43,752	1.0044
K-7	44,221	1.0152
K-8	44,010	1.0103

LOT TABLE

BLOCK	RESIDENTIAL LOTS	OPEN SPACE LOTS	DETENTION POND LOTS
A	7		
B	5		
D	7		
J	16		
K	8		

FINAL PLAT

STINSON HIGHLANDS, PHASE 2

66.1034 ACRES OUT OF THE JOHN GRAY SURVEY, ABSTRACT NO. 349; LEWIS P. TURNER SURVEY, ABSTRACT NO. 901; GEORGE GUNNELL SURVEY, ABSTRACT NO. 352, CITY OF LUCAS, COLLIN COUNTY, TEXAS

BLOCK A, LOTS 1–3 & 25–28, BLOCK B, LOTS 1–5, BLOCK D, LOTS 6–12, BLOCK J, LOTS 1–4 & 23–34, BLOCK K, LOTS 1–8

BEING A REPLAT OF PART OF HOA LOT 10, BLOCK B AND ALL OF HOA LOT 35, BLOCK J OF STINSON HIGHLANDS, PHASE 1 AS RECORDED IN VOLUME 2012, PAGE 210, COLLIN COUNTY PAT RECORDS

ZONED: R1

D.R. HORTON – TEXAS, LTD. OWNER
4306 Miller Road, Suite A (214) 607–4244
Rowlett, Texas 75088

STINSON HIGHLANDS PHASE 1 HOMEOWNERS ASSOCIATION OWNER
4306 Miller Road, Suite A (214) 607–4244
Rowlett, Texas 75088

JBI PARTNERS, INC. SURVEYOR/ENGINEER
16301 Quorum Drive, Suite 200 B (972)248–7676
Addison, Texas 75001

APRIL 1, 2013

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. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS WAS TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY CONTRACTOR. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF A DISCREPANCY AND/OR CONFLICT IS DISCOVERED. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES DURING CONSTRUCTION.
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. CONTRACTOR IS RESPONSIBLE FOR PROPER MAINTENANCE OF THE REQUIRED EROSION CONTROL DEVICES THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. THE EROSION CONTROL DEVICES SHOULD REMAIN IN PLACE, WHERE PRACTICAL, UPON COMPLETION OF CONSTRUCTION.
16. CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS OFFSITE FROM THE EXISTING ROADWAYS AND PROJECT SITE THAT ARE A RESULT OF THE PROPOSED CONSTRUCTION AS REQUESTED BY THE CITY OF LUCAS. AS A MINIMUM, THIS TASK SHOULD OCCUR ONCE A WEEK.
17. CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT AND PROFESSIONAL MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS (FOR APPROVAL) OF METHODS PROPOSED.
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. THIS STABILIZED EXIT SHALL BE CONSTRUCTED PER CITY DETAILS.
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. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY STANDARDS, TEXAS STATE LAW, AND O.S.H.A. STANDARDS FOR ALL EXCAVATION IN EXCESS OF FIVE FEET IN DEPTH. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT WITHOUT THE PRIOR SPECIFIC WRITTEN APPROVAL OF THE CITY OF LUCAS PUBLIC WORKS DEPARTMENT. ONSITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
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. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN SCOPE OF CONSTRUCTION. IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT HIS OWN EXPENSE.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER AND CITY) AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION REQUIREMENTS. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
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. THE CONTRACTOR SHALL SUBMIT A TRENCH EXCAVATION PROTECTION PLAN, SEALED BY AN ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR ALL TRENCHES DEEPER THAN FIVE (5) FEET.
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. THE OWNER SHALL PAY FOR ALL INSPECTION FEES EXCEPT OVERTIME AND RE-INSPECTIONS .
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. ADD .50' TO PAVING GRADE FOR TOP OF CURB GRADE. THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF PAVEMENT.
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. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN SCOPE OF CONSTRUCTION. IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT HIS OWN EXPENSE.
4. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER AND CITY) AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION REQUIREMENTS. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION. CONTRACTOR IS RESPONSIBLE FOR FILING N.O.I. AND N.O.T. WITH THE TNRCC. CONTRACTOR SOLELY RESPONSIBLE FOR ALL MANDATED SWPPP RECORD KEEPING AND REPORTING.
5. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY AND ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.
6. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE BY THE GRADING CONTRACTOR AT HIS EXPENSE.
7. BEFORE ANY EARTHWORK IS PERFORMED, THE OWNER SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED BY THE PLANS. THE OWNER SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
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. BASED ON THE BENCHMARK SHOWN, CONTRACTOR SHALL REFERENCE SAME BENCHMARK.
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. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
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. THE NOMINATION OF THE TESTING LABORATORY AND THE PAYMENTS FOR SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. THE OWNER SHALL APPROVE THE LABORATORY NOMINATED TO DO THE TESTING OF MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITY'S SPECIFICATIONS AND THESE PLANS.
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. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
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. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE.
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. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORM RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.

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. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN SCOPE OF CONSTRUCTION. IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT HIS OWN EXPENSE.
3. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER AND CITY) AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
4. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE BY THE GRADING CONTRACTOR AT HIS EXPENSE.
5. BEFORE ANY EARTHWORK IS DONE, THE OWNER SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED BY THE PLANS. THE OWNER SHALL PROVIDE ALL NECESSARY SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
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 (REFER TO CTL THOMPSON'S GEOTECHNICAL REPORT FOR JOB NO. DA07448-125). THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
8. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAVEMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. THE OWNER SHALL APPROVE THE LABORATORY NOMINATED TO DO THE TESTING OF MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITY'S SPECIFICATIONS AND THESE PLANS.
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. ALL PAINT FOR PAVEMENT MARKINGS SHALL ADHERE TO SECTION 2.9 OF THE N.C.T.C.O.G. STANDARD SPECIFICATIONS UNDER "TRAFFIC PAINT".
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. SIGN HEIGHT, LOCATION, AND STRUCTURE SHALL BE SUCH THAT THE SIGNS POSE NO THREAT TO PUBLIC SAFETY.
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, FIELD ADJUSTMENTS OF LOCATION AND ORIENTATION OF THE SIGNS ARE TO BE MADE TO ACCOMPLISH THIS.
22. CONTRACTOR RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, AND ARCHITECT) SHALL BE CONSULTED.
23. REFER TO GEOTECHNICAL REPORT FOR SOIL COMPACTION SPECIFICATION.

"Record Drawings"
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4-14-2014
DATE: BY: [signature]

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

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

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

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 18, EXCEPT WHEN OTHERWISE NOTED.
4. ALL PIPE EMBEDMENT TO BE CLASS B+ AS SHOWN ON DETAIL PAGE C-62.
5. ALL VALVE BOXES SHALL HAVE CONCRETE PAD ON GRADE.
6. BLUE REFLECTORS SHALL BE PLACED ON PAVING ADJACENT TO VALVE BOXES.
7. ALL VALVE BOXES, FIRE HYDRANTS, AND WATER MAIN TAPS SHALL BE STAKED.
8. ALL WATER TAP VALVES TO BE 1" FULL OPEN.
9. MARK PAVING WITH A LINE ADJACENT TO METER TAPS, MARK PAVING WITH A V ADJACENT TO VALVES.
10. SEWER PIPE SHALL BE MINIMUM SDR 35 PVC OR ULTRA RIB PVC SDR 26.
11. WATER MAINS SHALL HAVE THE FOLLOWING MINIMUM COVER BELOW STREET GRADES:

SIZE	COVER
6"	3.5'
8"	4.0'
10"	4.0'
12"	5.0'
LARGER	AS SHOWN ON PLANS

12. PLASTIC TAPE FOR UTILITY SERVICES SHALL BE ATTACHED TO THE ENDS OF ALL WATER AND SEWER SERVICE LINES AND EXTEND ABOVE GROUND LEVEL. THE TAPE SHALL MEET THE FOLLOWING SPECIFICATION:

    A. "ALLEN MARKING TAPE" OR APPROVED EQUAL.
    B. ROLL MARKED CONTINUOUSLY, "CAUTION WATER LINE" OR "CAUTION SEWER LINE".
    C. SIX (6) INCHES IN WIDTH.
    D. RED TAPE FOR SEWER SERVICES.
    E. BLUE TAPE FOR WATER SERVICES.

13. ALL FIRE HYDRANTS SHALL BE MOELLER OR APPROVED EQUAL. ALL MECHANICAL JOINTS SHALL HAVE MEGALUGS INSTALLED.
14. 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., OR EQUAL, APPROVED BY THE CITY OF LUCAS.
15. VIDEO TAPE OF SEWER LINE TO BE PROVIDED TO DIRECTOR OF PUBLIC SERVICES, BY THE CONTRACTOR.
16. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY EXACT LOCATIONS OF EXISTING PUBLIC AND PRIVATE UTILITIES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL CALL 1-800-DIG-TESS FOR FIELD LOCATION OF EXISTING UTILITIES. CALL AT LEAST 48 HOURS BEFORE LOCATIONS ARE NEEDED. NOTE THAT THE DIG TESS SERVICE DOES NOT LOCATE ALL UTILITIES, ONLY THOSE REGISTERED WITH THE SERVICE.
17. REFER TO SITE GRADING PLANS, PAVING PLANS, AND LANDSCAPE PLANS FOR FINAL GRADES FOR DETERMINING PROPOSED MANHOLE RIM ELEVATIONS.
18. LOCATIONS AND SIZES OF EXISTING PUBLIC AND PRIVATE UTILITIES SHOWN ON THESE PLANS ARE FROM CITY AND UTILITY COMPANY RECORDS ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
19. 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.
20. 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.
21. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE UTILITIES. ALL PUBLIC PIPE, STRUCTURES, AND FITTINGS SHALL BE INSPECTED BY THE CITY INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING DISINFECTION AND PRESSURE TESTING OF ALL MAINS. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
22. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE TRENCH SAFETY DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A TRENCH EXCAVATION PROTECTION PLAN, SEALED BY A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR ALL TRENCHES DEEPER THAN FIVE (5) FEET.
23. 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.
24. THE OWNER SHALL PROVIDE CONSTRUCTION STAKING FOR ALL WATER AND SANITARY SEWER LINES AND OTHER UTILITIES.
25. REFER TO TNRCC/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. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON A PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY. WHEN WASHING IS REQUIRED TO REMOVE SEDIMENT PRIOR TO ENTRANCE TO A PUBLIC ROADWAY, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN. ALL FINES IMPOSED FOR TRACKING ONTO PUBLIC ROADS SHALL BE PAID BY THE CONTRACTOR.
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, UNLESS ADDITIONAL CONSTRUCTION ON THE AREA IS EXPECTED WITHIN 14 DAYS OF THE LAST DISTURBANCE.
4. ALL STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. OTHERWISE, COVERING OR ENCIRCLING WITH SOME PROTECTIVE MEASURE WILL BE NECESSARY.
5. UPON COMPLETION OF THE FINAL GRADING, ALL SURFACE AREAS DISTURBED WITHIN OR ADJACENT TO THE CONSTRUCTION LIMITS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS OBTAINED WHEN THE SITE IS COVERED WITH IMPERVIOUS STRUCTURES AND PAVING AND/OR A UNIFORM PERENNIAL VEGETATIVE COVER. THE PERENNIAL VEGETATIVE COVER MUST HAVE A COVERAGE OF AT LEAST 70 PERCENT, AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
6. EROSION CONTROL DEVICES MAY BE ADDED OR REDUCED IN THE FIELD AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
7. MAINTENANCE - EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS INSPECTION DEEMS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ACCUMULATED SILT AT ANY EROSION CONTROL DEVICE SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6", AND SHALL BE DISTRIBUTED ON SITE IN A MANNER NOT CONTRIBUTING TO ADDITIONAL SILTATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR REESTABLISHING ANY EROSION CONTROL DEVICE WHICH HE DISTURBS. EACH CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DEFICIENCIES IN THE ESTABLISHED EROSION CONTROL MEASURES WHICH MAY LEAD TO UNAUTHORIZED DISCHARGE OR STORM WATER POLLUTION, SEDIMENTATION OR OTHER POLLUTANTS. UNAUTHORIZED POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO, EXCESS CONCRETE DUMPING OR CONCRETE RESIDUE, PAINTS, SOLVENTS, GREASES, FUEL AND LUBE OIL, PESTICIDES, ANY SOLID WASTE MATERIALS.
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 DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES A MINIMUM OF ONCE A WEEK OR AFTER EACH RAINFALL EVENT, AND REPAIR OR REPLACEMENT OF THE DEVICES SHALL BE MADE PROMPTLY AS NEEDED. THE CONTRACTOR SHALL DOCUMENT EACH INSPECTION IN WRITING TO THE CITY INSPECTOR WITH A SCHEDULE OF THE REPAIRS.

No.	Date	Revisions	App.

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WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED
PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

GENERAL NOTES

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

SHEET
C-2

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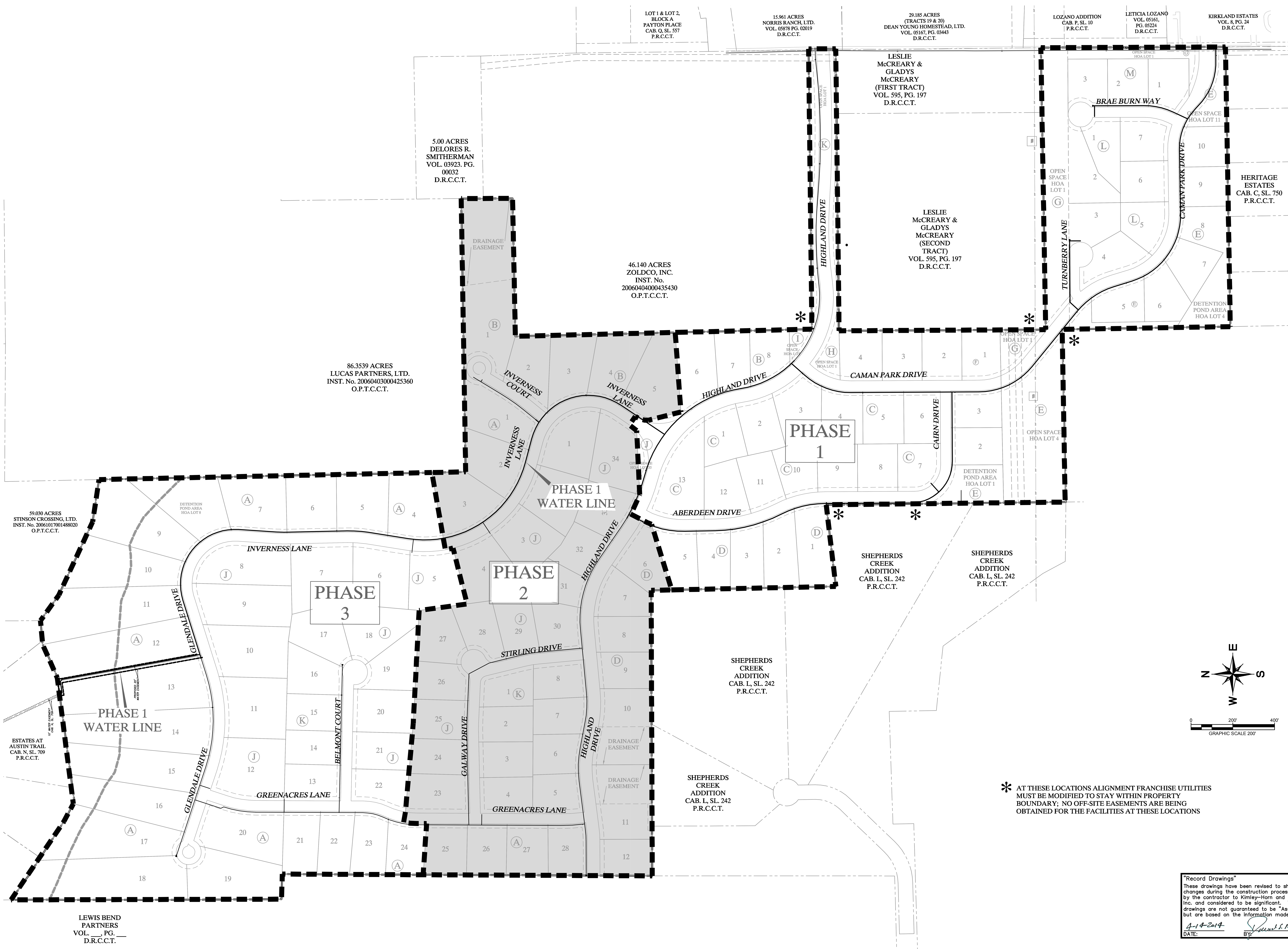

* AT THESE LOCATIONS ALIGNMENT FRANCHISE UTILITIES MUST BE MODIFIED TO STAY WITHIN PROPERTY BOUNDARY; NO OFF-SITE EASEMENTS ARE BEING OBTAINED FOR THE FACILITIES AT THESE LOCATIONS

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER — 4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

PHASING PLAN

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

SHEET
C-2A

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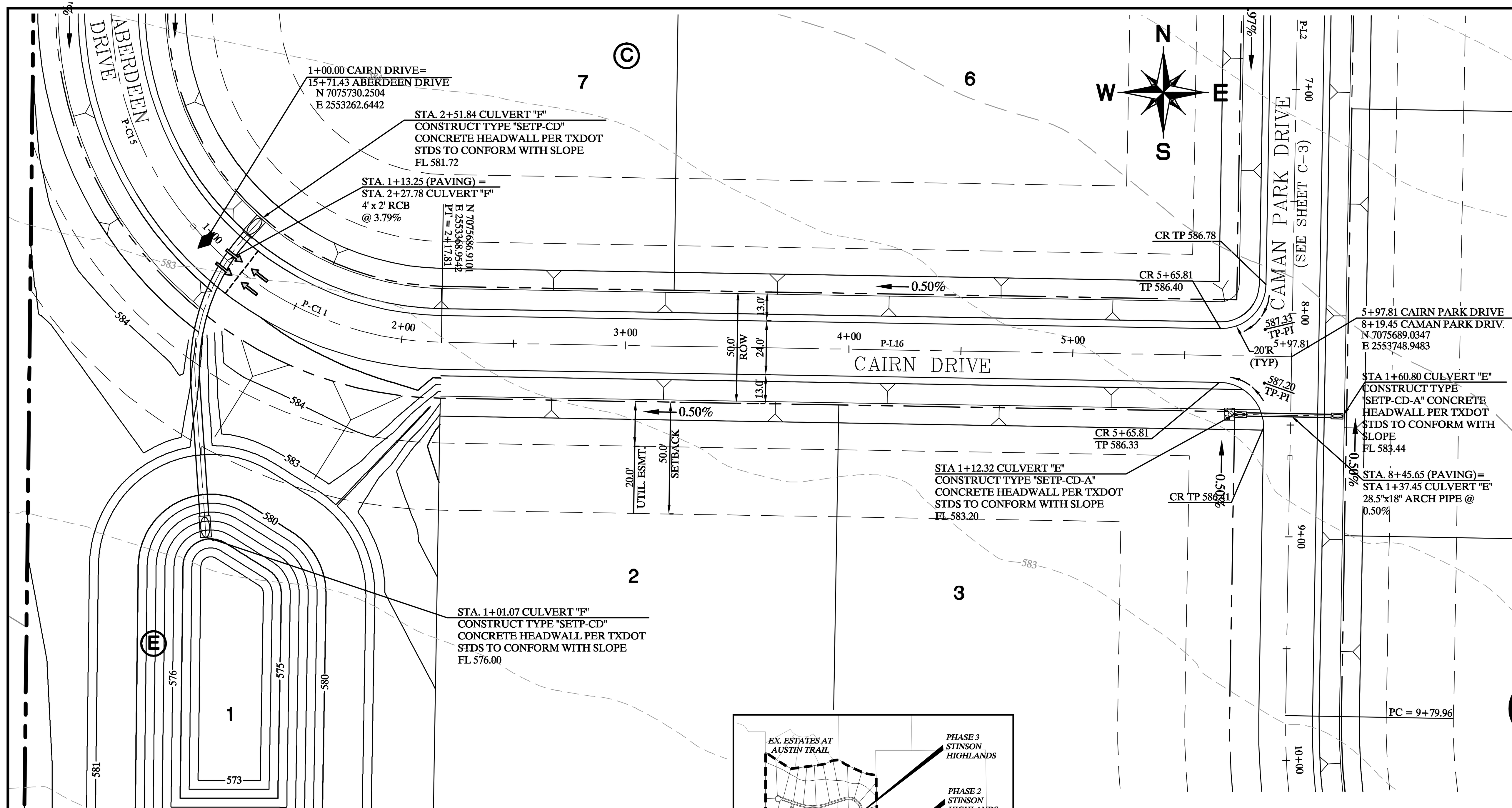

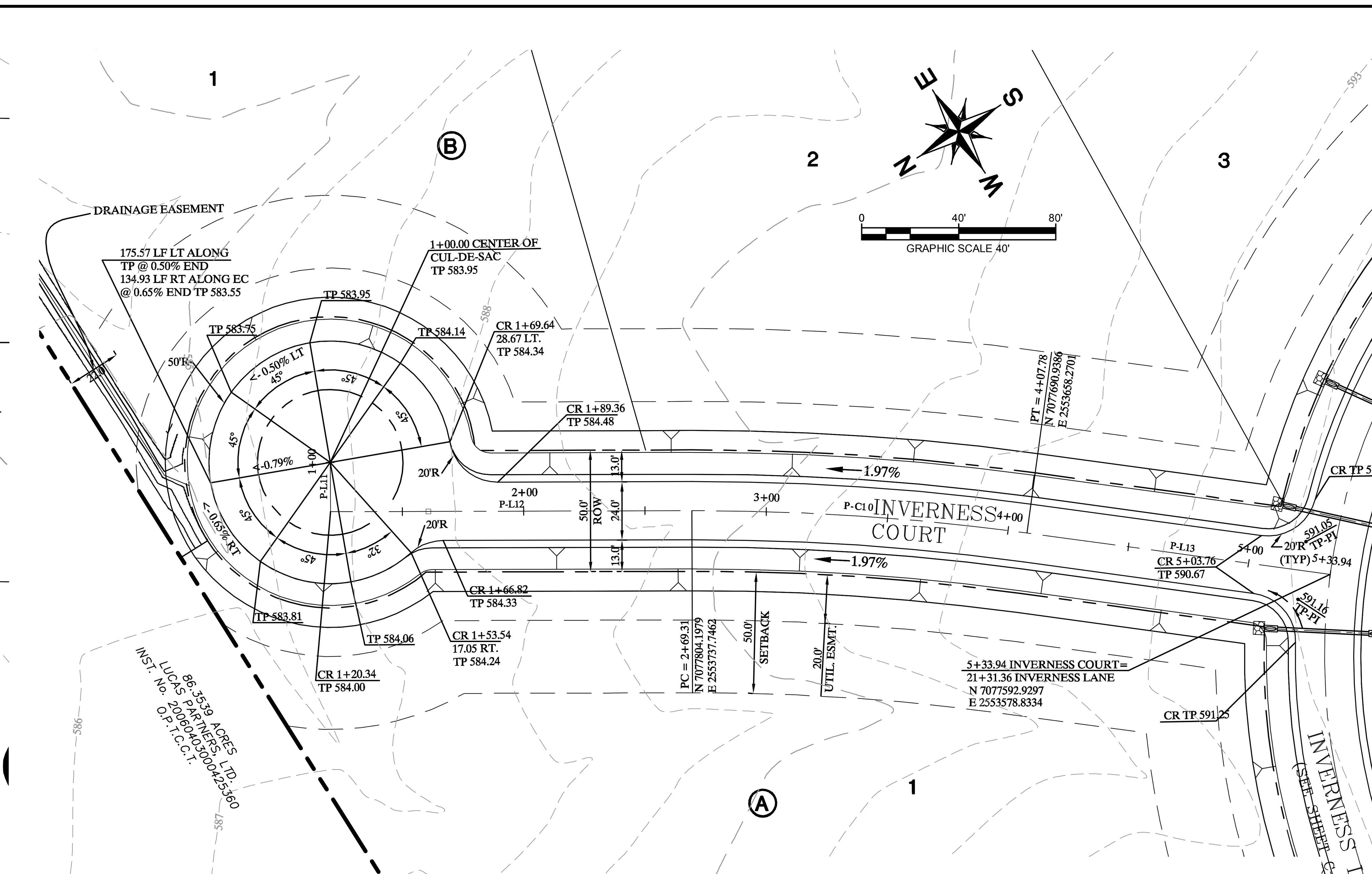

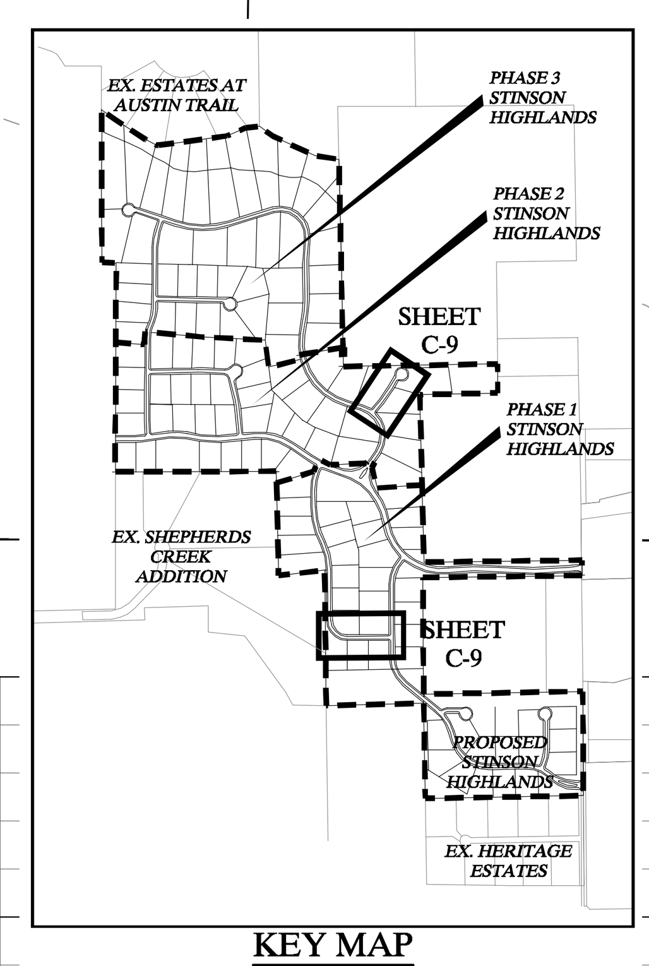

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C11	45°00'00"	150.00	117.81	S67°49'13"E	114.81

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

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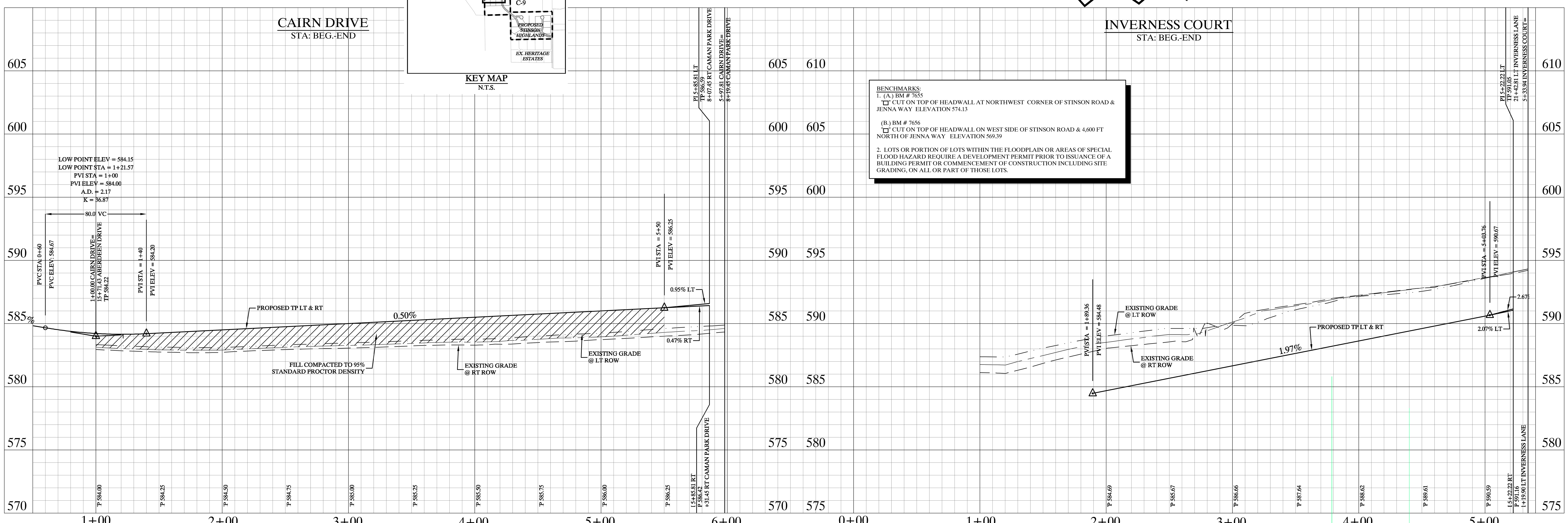
CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C10	7°56'02"	1000.00	138.47	N35°03'29"E	138.36

LINE TABLE		
LINE	LENGTH	BEARING
P-L11	20.34	N58°54'32"W
P-L12	148.97	S31°05'28"W
P-L13	126.16	S39°01'30"W



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.

STOP!
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(at least 72 hours prior to digging)

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DATE: 4-14-2014 BY: [signature]

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.

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STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER

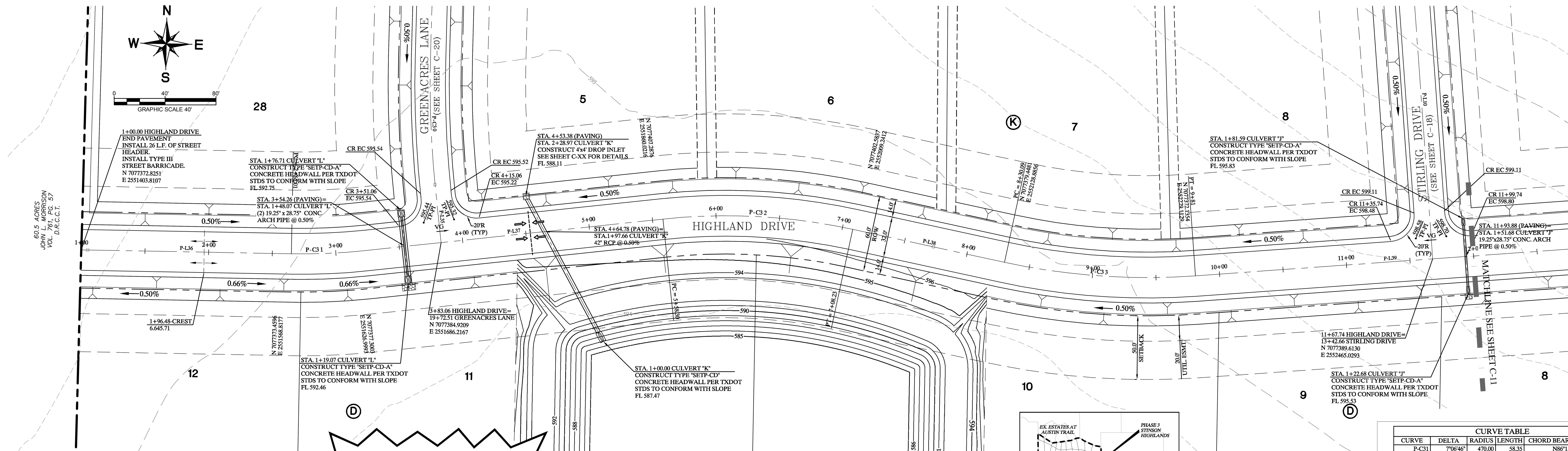
No.	Revisions	Date	App.

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
CAIRN DRIVE (STA: BEG-END)
INVERNESS CT (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-9



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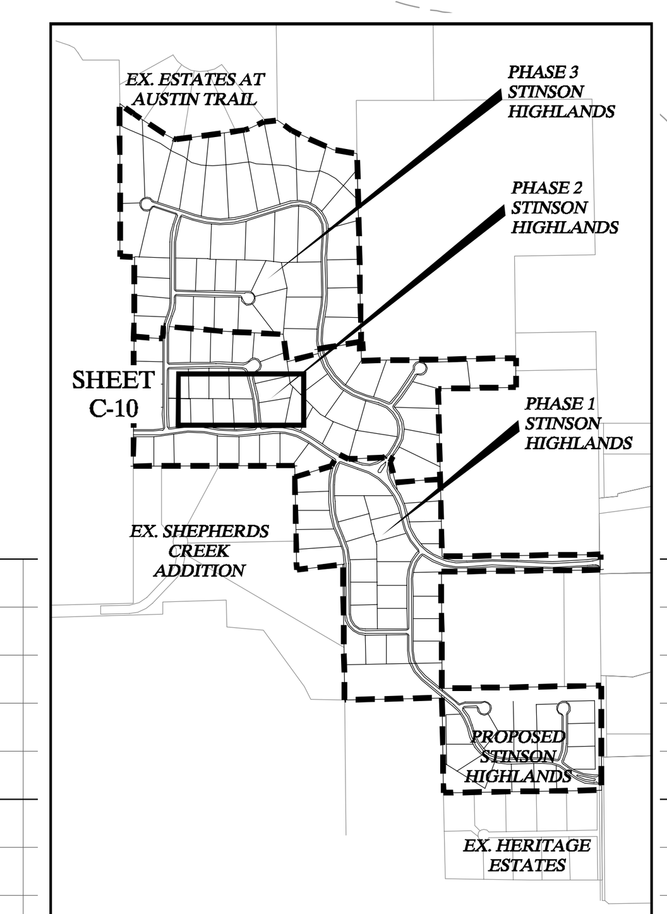


KEY MAP
N.T.S.

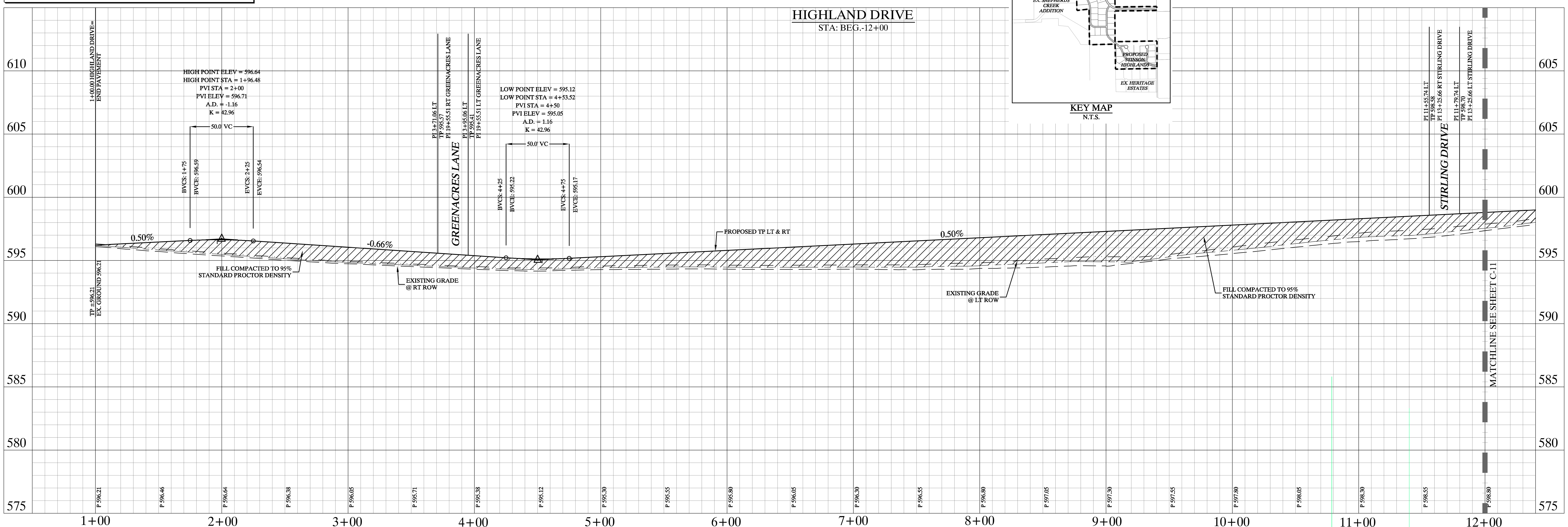
CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C31	7°06'46"	470.00	58.35	N86°13'24"E	58.31
P-C32	18°16'38"	470.00	149.93	N88°11'40"W	149.29
P-C33	16°18'53"	530.00	150.91	S87°12'47"E	150.41

LINE TABLE

LINE	LENGTH	BEARING
P-L36	165.01	N89°46'47"E
P-L37	234.94	N82°40'01"E
P-L38	121.86	S79°03'21"E
P-L39	306.96	N84°37'46"E

HIGHLAND DRIVE
STA: BEG.-12+00



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No.	Date	Revisions	App.

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WWW.KIMLEY-HORN.COM TX F-928

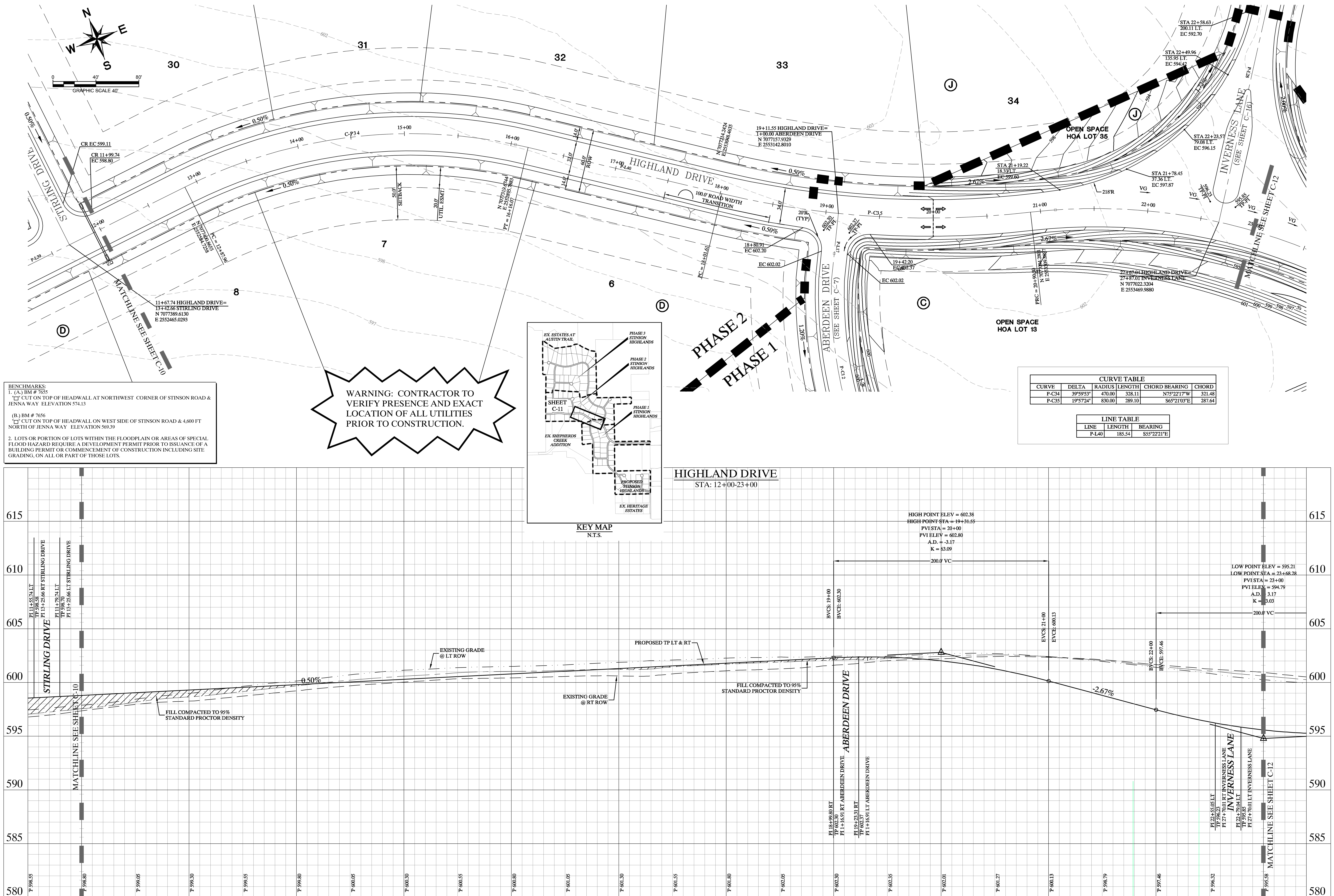
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED
PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

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

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-10



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CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C34	39°59'53"	470.00	328.11	N75°22'17"W	321.48
P-C35	19°57'24"	830.00	289.10	S65°21'03"E	287.64

LINE TABLE

LINE	LENGTH	BEARING
P-L40	185.54	S55°22'21"E

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No.	Date	Revisions	App.

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12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

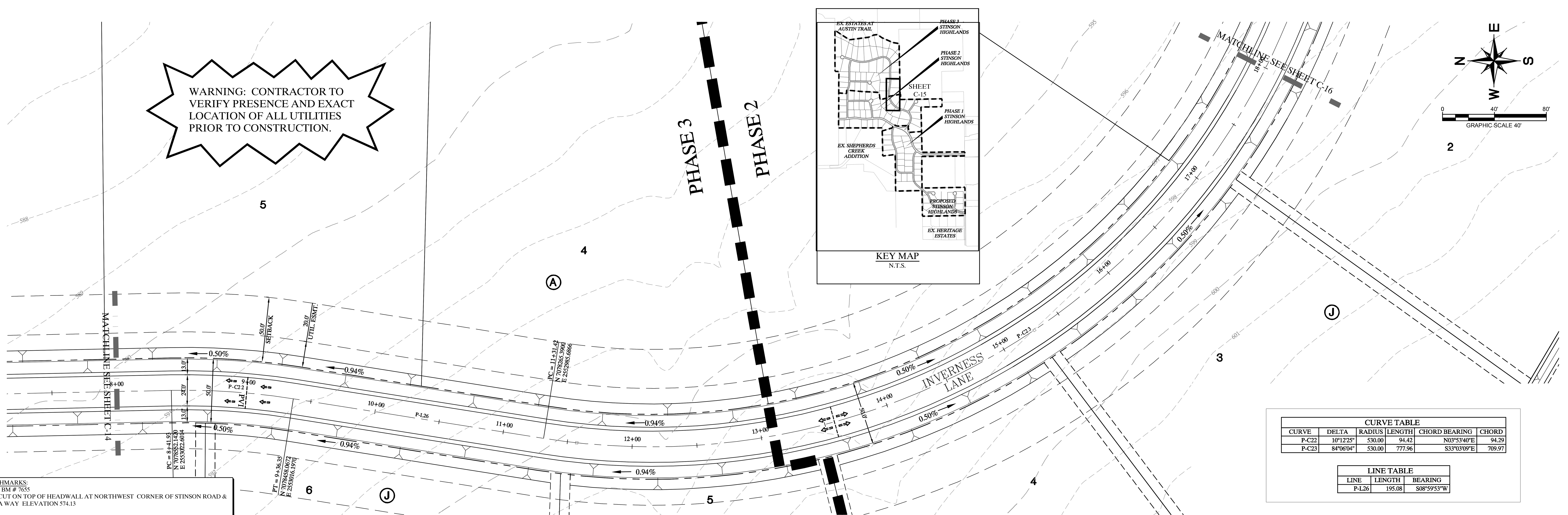
STINSON HIGHLANDS
LUCAS, TEXAS

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

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

SHEET
C-11

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
"□" 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.

CURVE TABLE

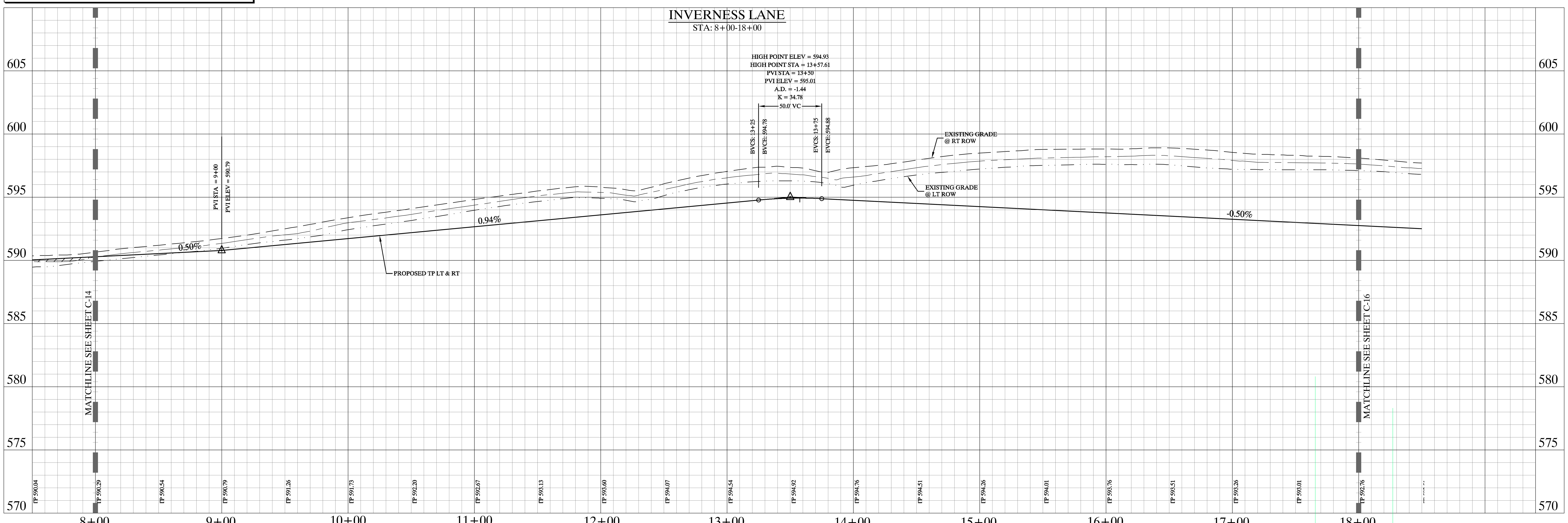
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C22	10°12'25"	530.00	94.42	N03°53'40"E	94.29
P-C23	84°06'04"	530.00	777.96	S33°03'09"E	709.97

LINE TABLE

LINE	LENGTH	BEARING
P-L26	195.08	S08°59'53"W

INVERNESS LANE

STA: 8+00-18+00



STOP!
CALL BEFORE YOU DIG
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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.
4-14-2014
DATE:
BY: [signature]

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	App.

Kimley-Horn and Associates, Inc.

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WWW.KIMLEY-HORN.COM TX F-928

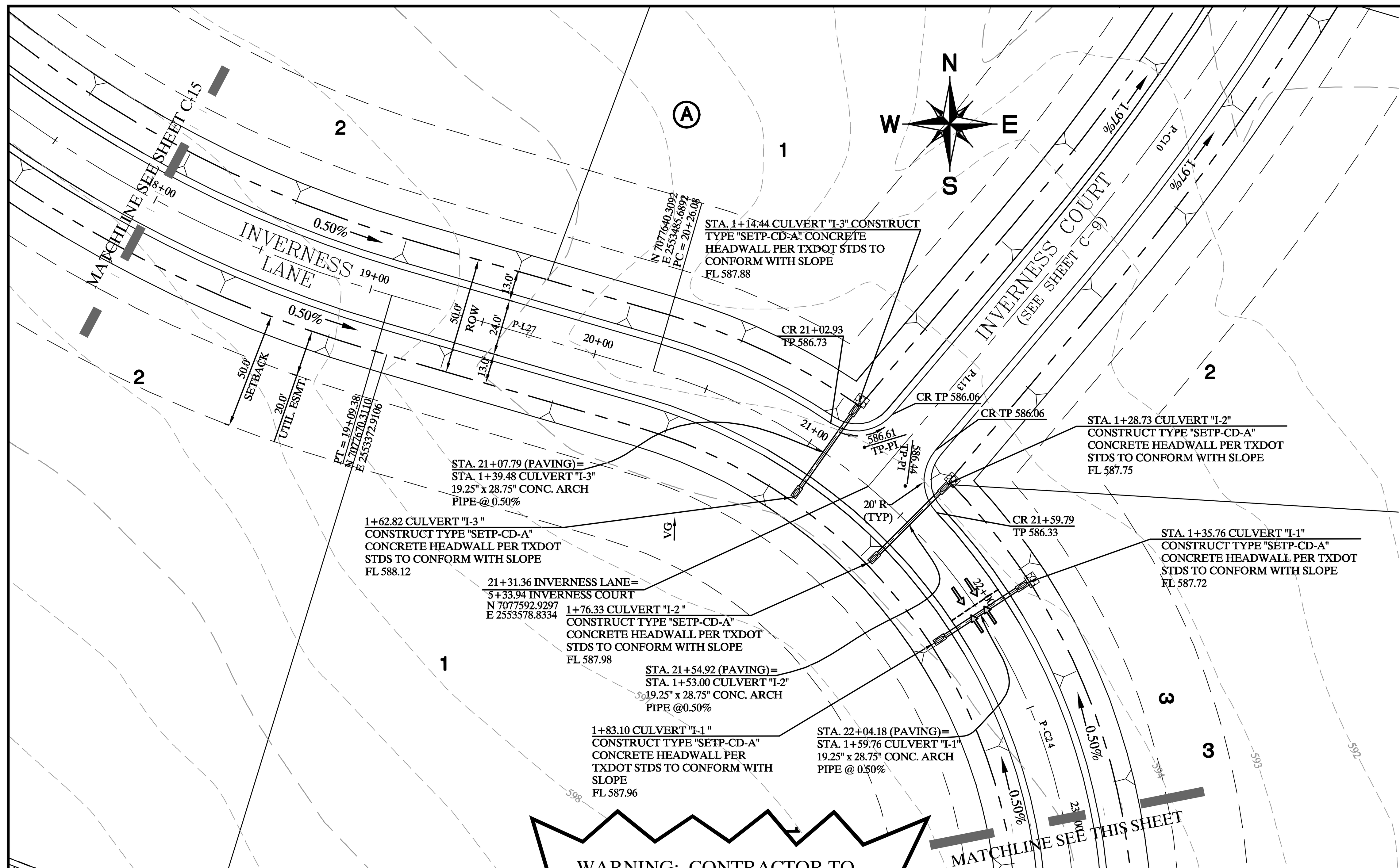
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
INVERNESS LANE
(STA: 8+00 - 18+00)

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-15



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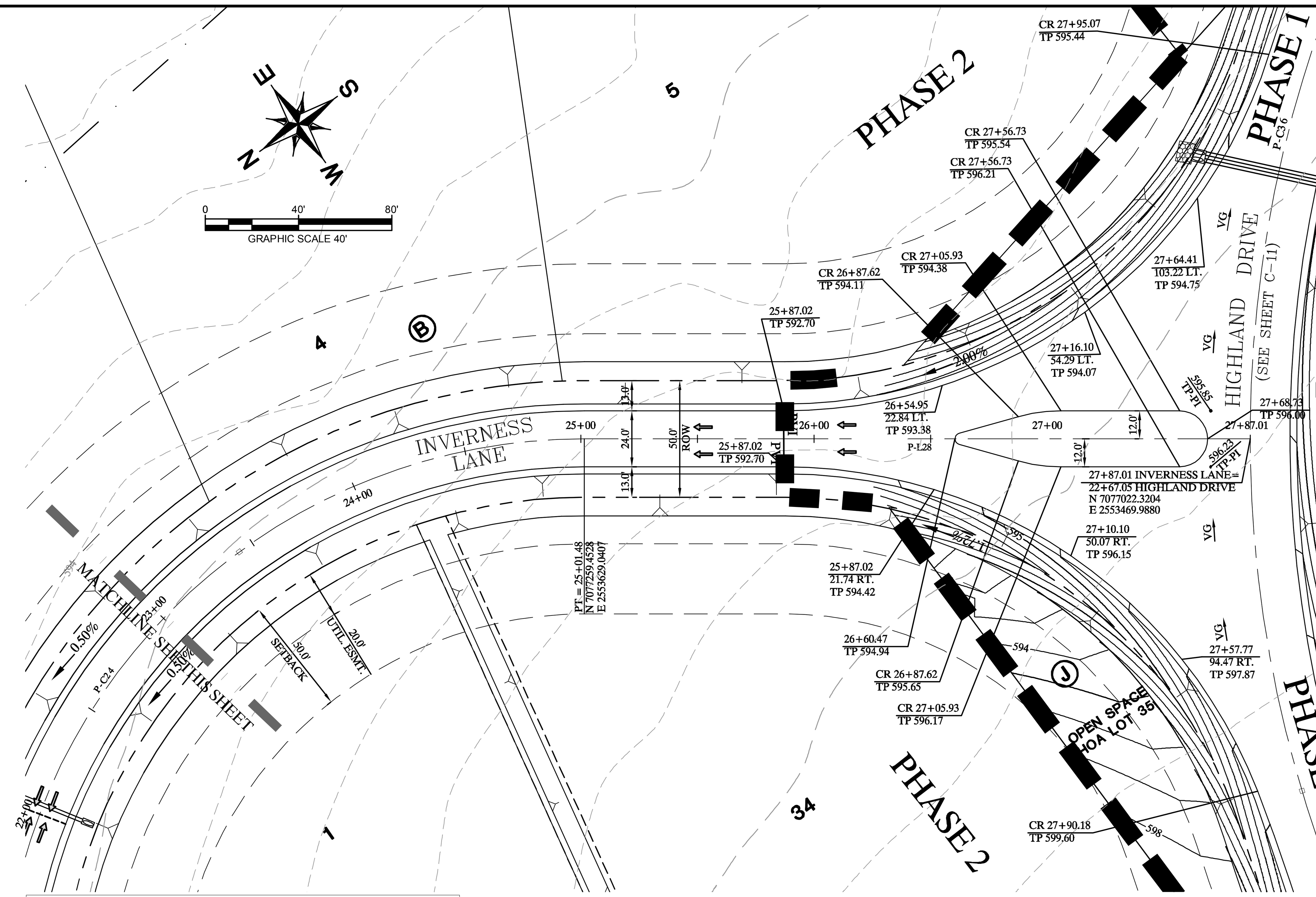
WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C24	108°57'15"	250.00	475.40	N20°37'33"W	406.94

LINE TABLE

LINE	LENGTH	BEARING
P-L27	116.70	S75°06'11"E

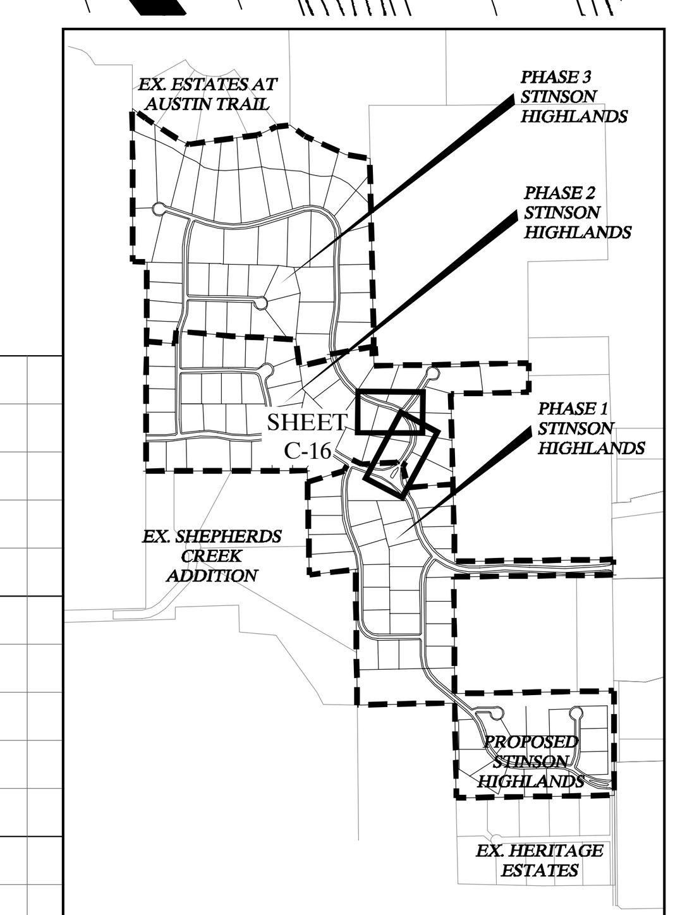


CURVE TABLE

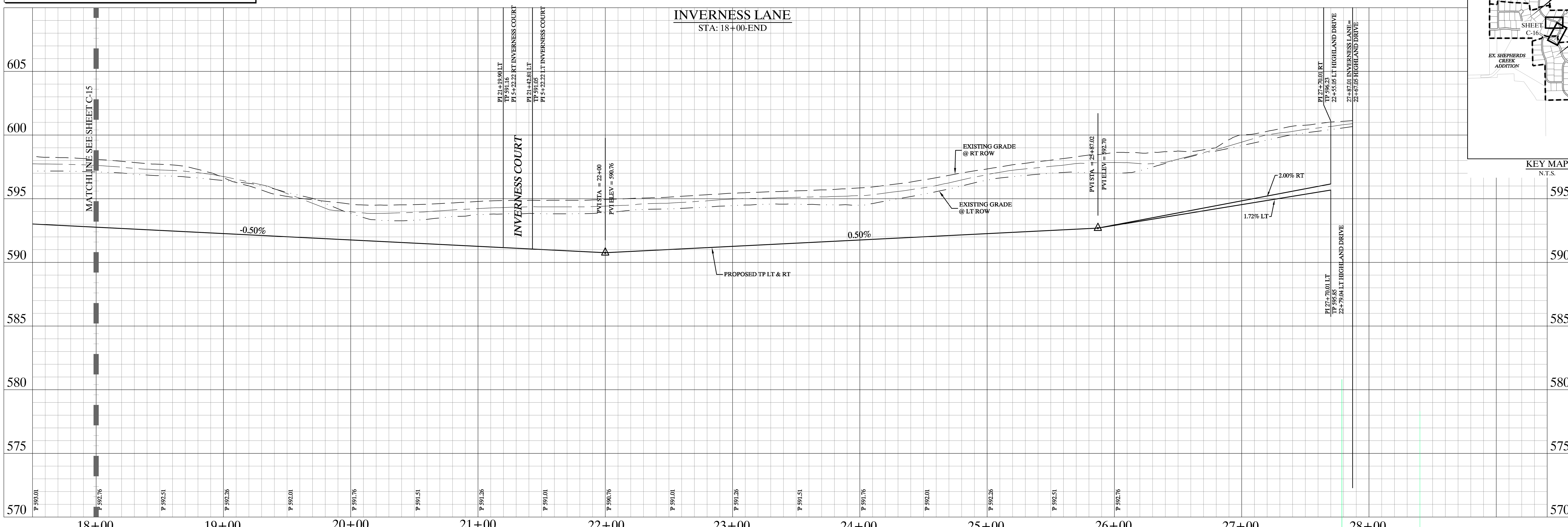
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C24	108°57'15"	250.00	475.40	N20°37'33"W	406.94

LINE TABLE

LINE	LENGTH	BEARING
P-L28	285.53	S33°51'04"W



KEY MAP
N.T.S.



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DATE: 4-14-2014
BY: [signature]

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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.

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WWW.KIMLEY-HORN.COM TX F-928

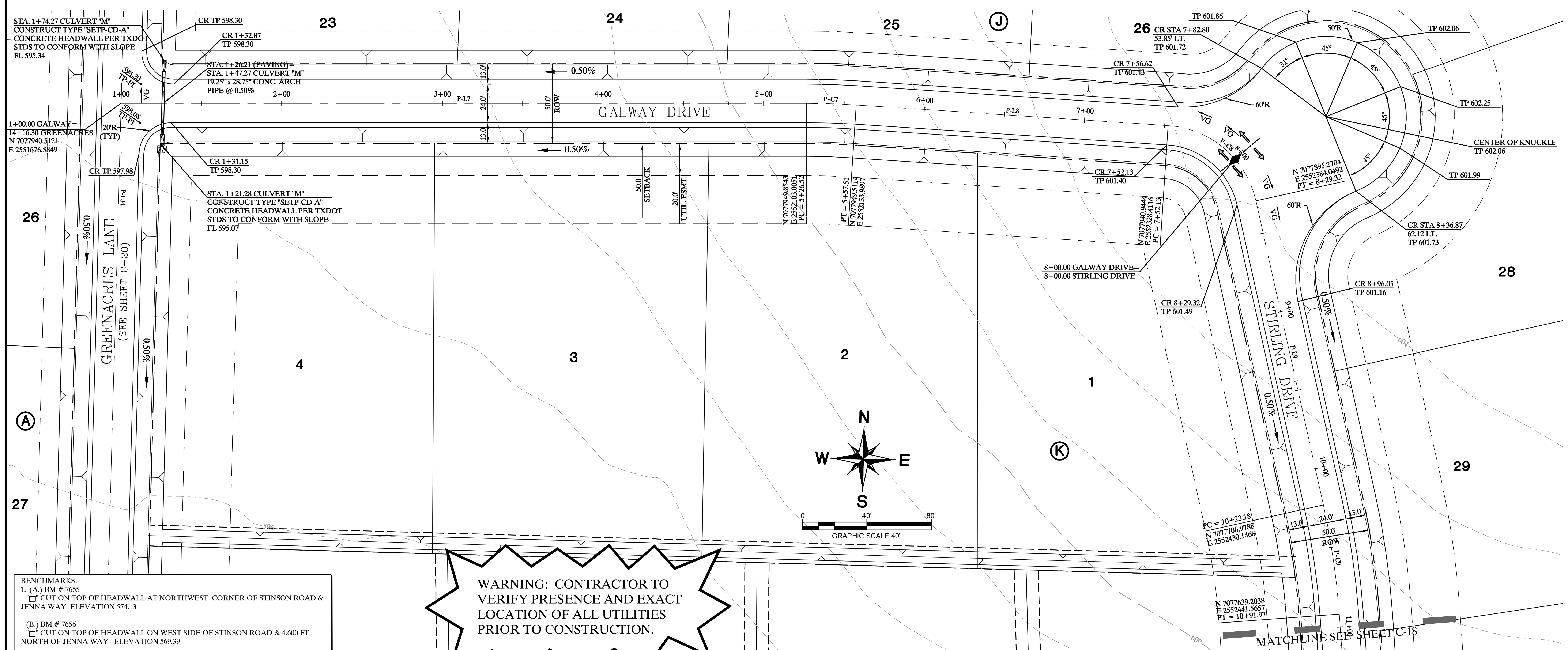
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

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

SHEET
C-16



BENCHMARKS:
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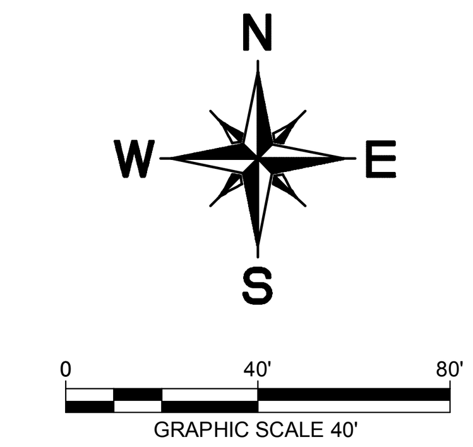
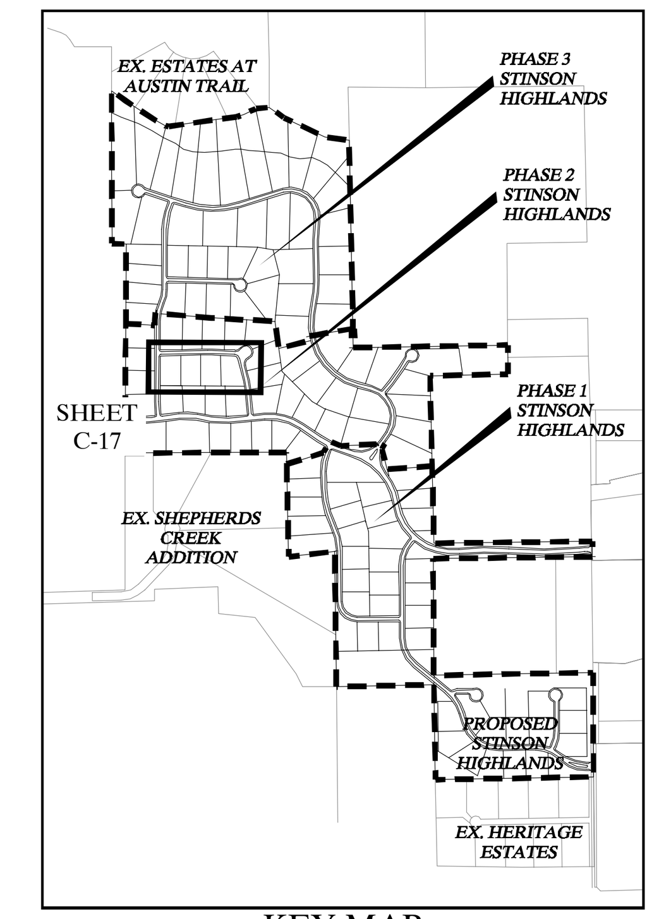


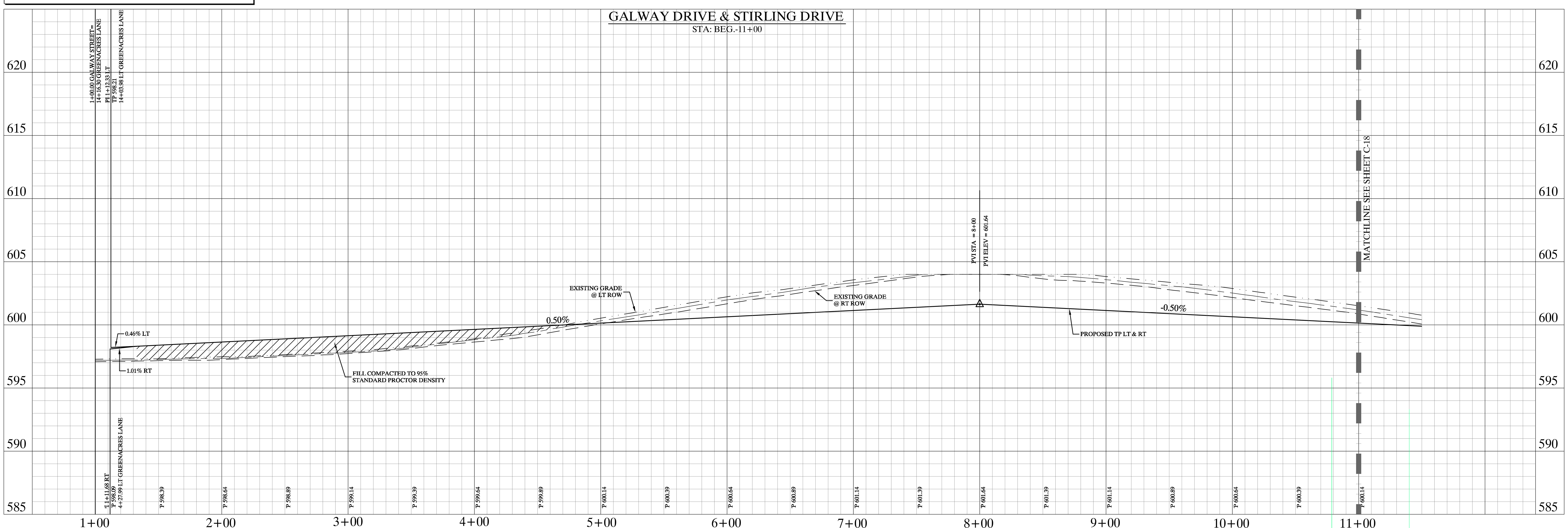


KEY MAP
N.T.S.

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C7	3°46'41"	470.00	30.99	N89°21'58"W	30.99
P-C8	73°43'13"	60.00	77.20	N50°37'00"W	71.98
P-C9	8°23'10"	470.00	68.79	N09°33'49"W	68.73

LINE TABLE		
LINE	LENGTH	BEARING
P-L7	426.52	N88°44'42"E
P-L8	194.61	S87°28'37"E
P-L9	193.85	S13°45'24"E

GALWAY DRIVE & STIRLING DRIVE
STA: BEG.-11+00



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No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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WWW.KIMLEY–HORN.COM TX F–928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED
PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
GALWAY DRIVE
(STA: BEG-11+00)

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-17

IMAGES: dfwmaps_nctims01241279161 4893 -
XREFS: XREF xAsbt - XREF xBndy - XREF xProf-Road - XREF xPavi - XREF x2436 - XREF xLots - XREF xGrad - XREF xStrm - XREF xTopo - XREF DEMSEAL
LAST SAVED: 5/9/2013 5:09 PM
PLOTTED BY: MARGOLIT, BEN 4/11/2014 2:31 PM
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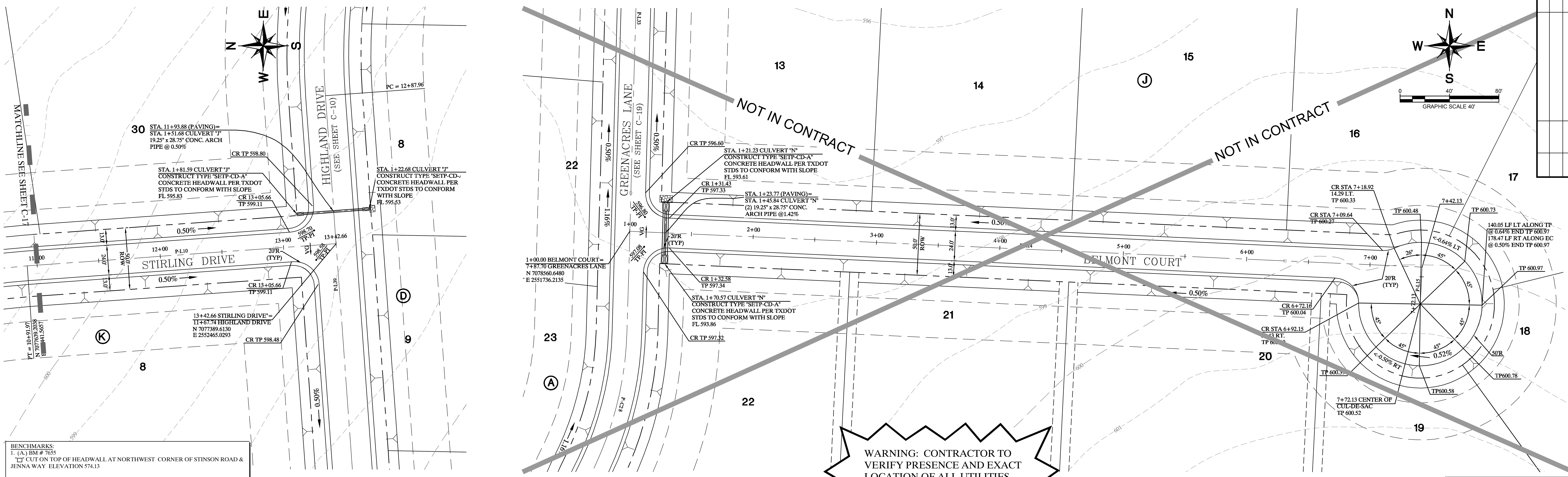

BENCHMARKS:

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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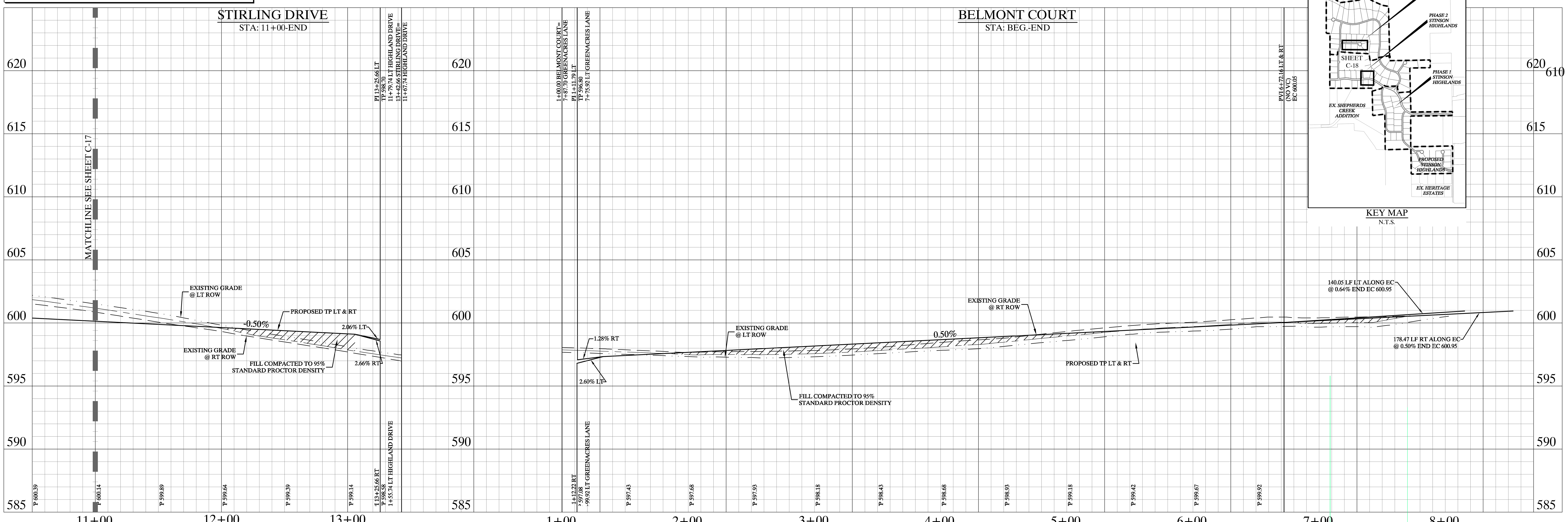
LINE TABLE

LINE	LENGTH	BEARING
P-L10	250.69	S05°22'14"E

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

LINE TABLE

LINE	LENGTH	BEARING
P-L14	642.13	S88°41'44"E
P-L15	30.00	S01°18'16"W



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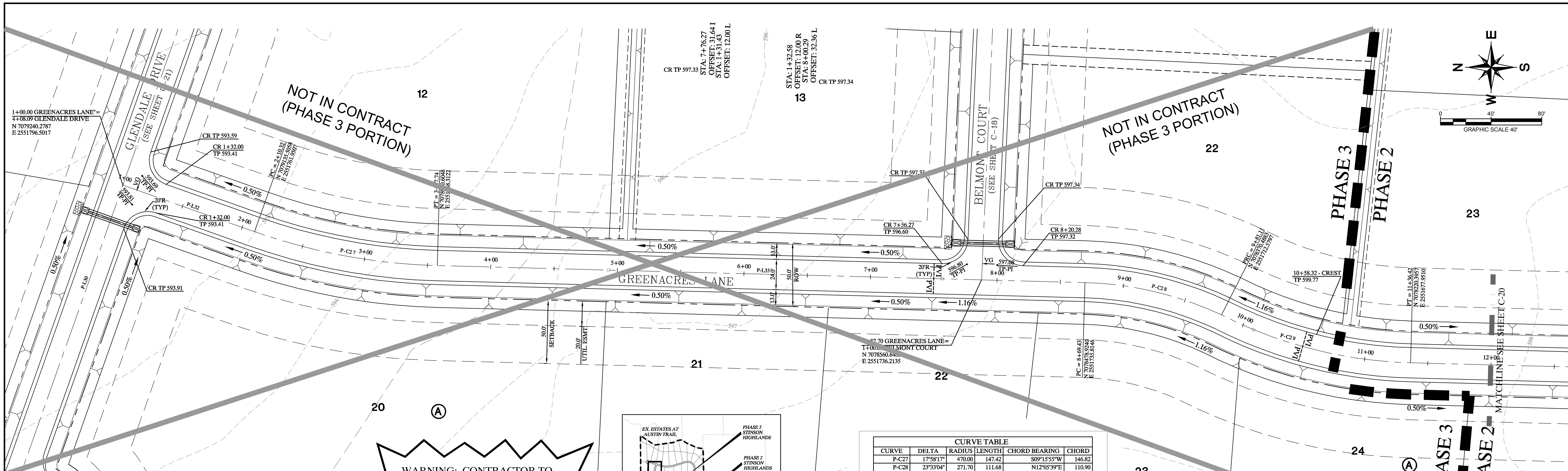
STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
STIRLING (STA: 11+00 - END)
BELMOUT (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-18



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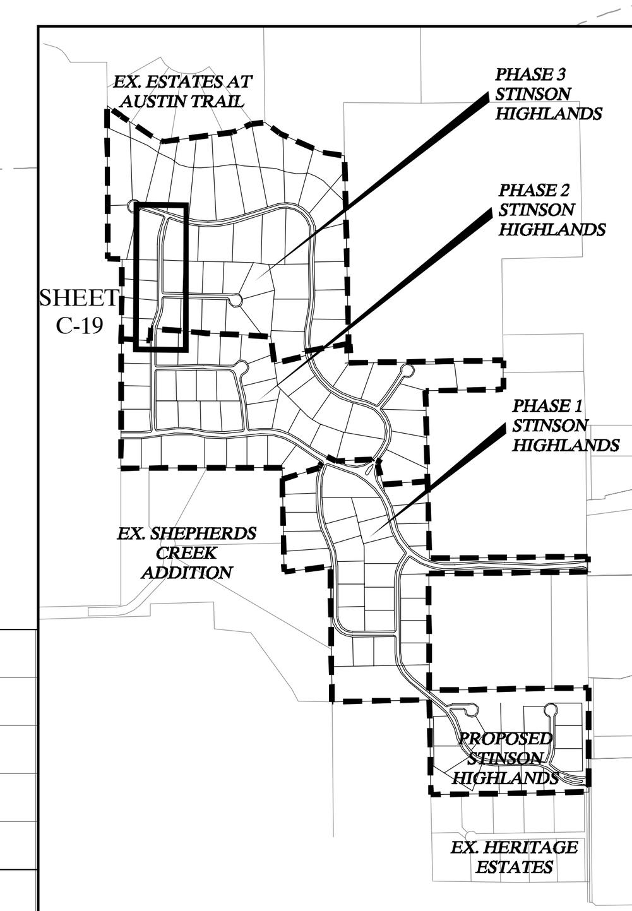


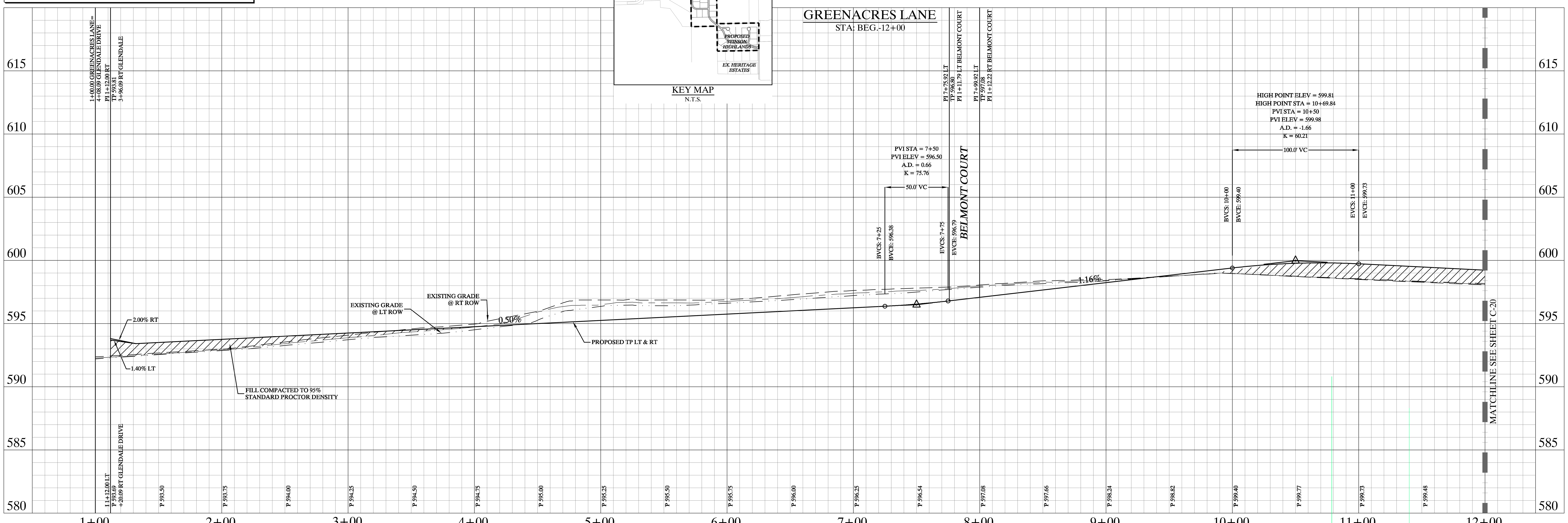
KEY MAP
N.T.S.

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C27	17°58'17"	470.00	147.42	S09°15'55"W	146.82
P-C28	23°33'04"	271.70	111.68	N12°05'39"E	110.90
P-C29	25°25'26"	350.00	155.31	S12°59'30"W	154.04

LINE TABLE

LINE	LENGTH	BEARING
P-L32	110.32	S18°15'04"W
P-L33	511.69	S00°16'47"W



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BY: [signature]

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PHONE: 972-770-1300 FAX: 972-239-3820
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STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER — 4-14-2014

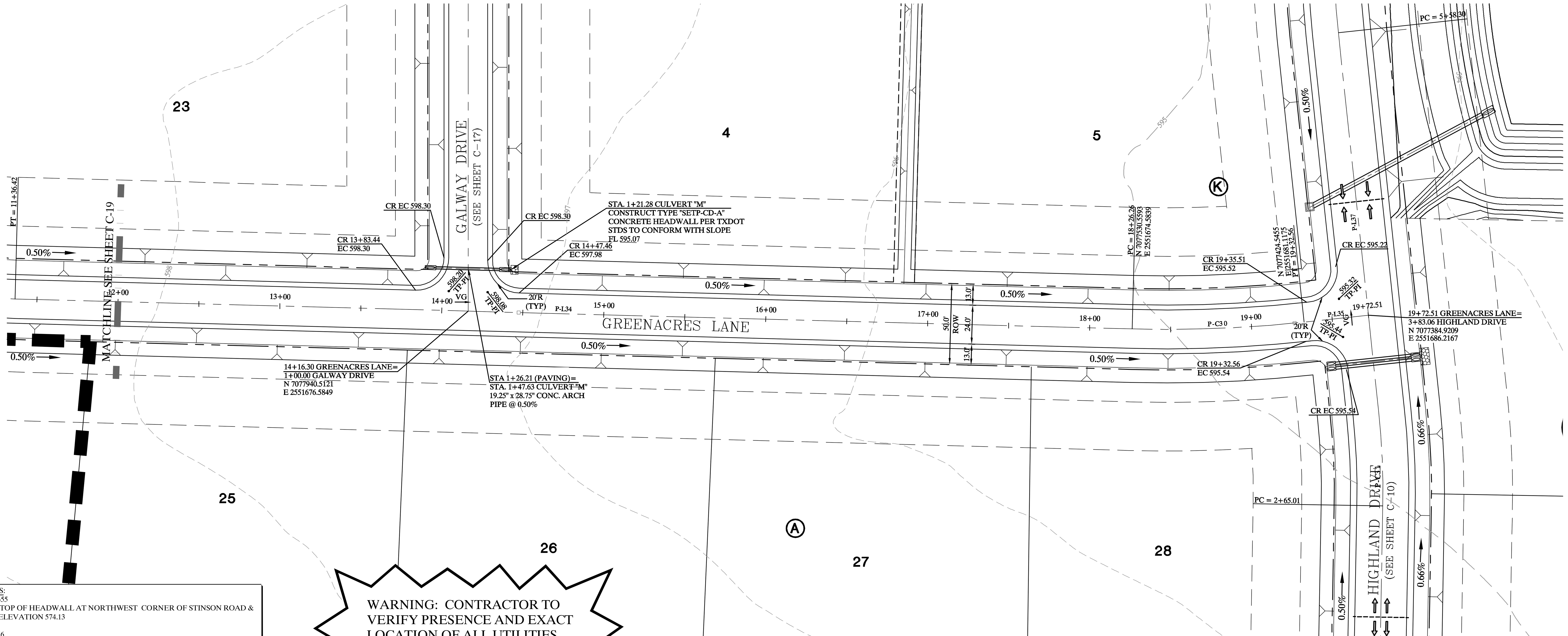
STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
GREENACRES LANE
(STA: BEG. - 12+00)

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

SHEET
C-19

IMAGES dfwmaps_netims012412791614893 -
XREFS XREF xAsbt - XREF xBndy - XREF xStrm - XREF xPavi - XREF x2436 - XREF xLots - XREF xGrad - XREF xTopo - XREF xProf-Road - XREF 10cPavi16 - XREF 10cPavi19 - XREF DEMSEAL
LAST SAVED 4/11/2014 2:37 PM
PLOTTED BY MARGOLIT, BEN 4/11/2014 2:37 PM
DWG NAME K:\DAL_CIVIL\064347001\10CPAVI17.DWG



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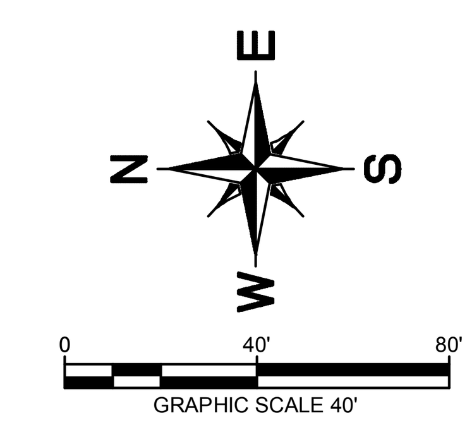
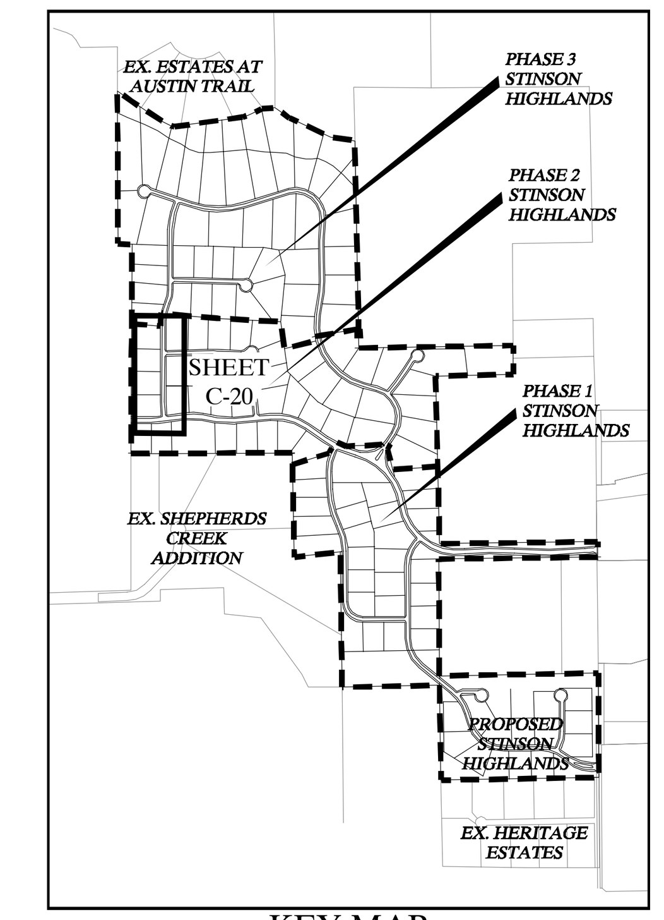
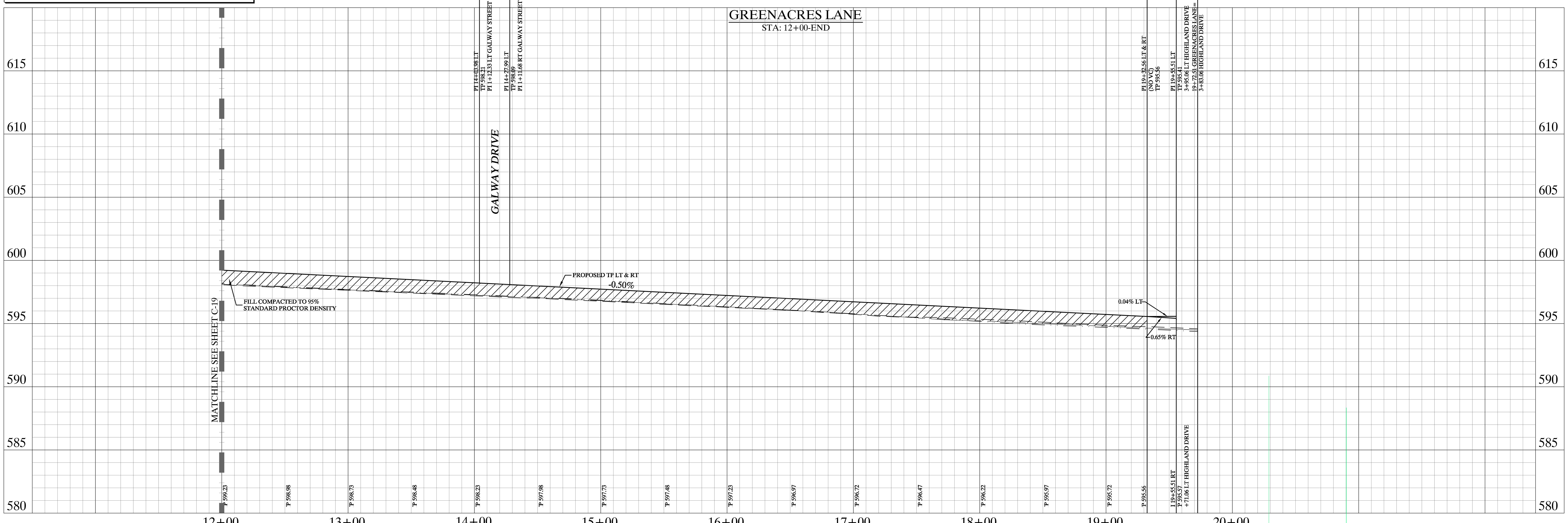




KEY MAP
N.T.S.

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
P-C30	7°36'46"	800.00	106.29	S03°31'36"E	106.21

LINE TABLE		
LINE	LENGTH	BEARING
P-L34	689.84	S00°16'47"W
P-L35	39.95	S07°19'59"E



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4-14-2014
DATE: BY:

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3. REFER TO SHEET C-39 FOR PAVING CROSS SECTIONS.

No.	Revisions	Date	App.

Kimley-Horn and Associates, Inc.
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STATE OF TEXAS
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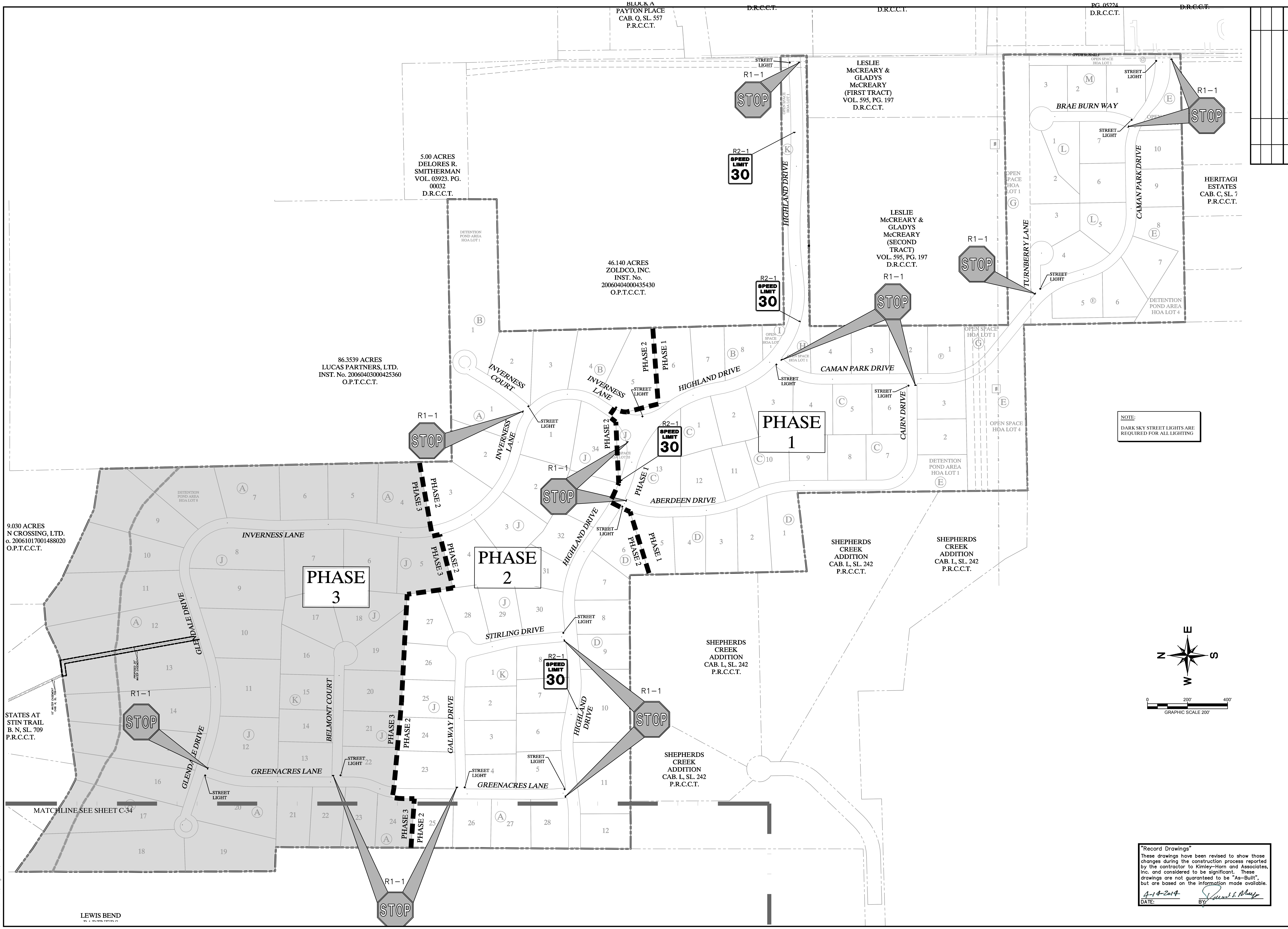
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING PLAN AND PROFILE
GREENACRES LANE
(STA: 12+00 - END)

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

SHEET
C-20


BLOCK A
PAYTON PLACE
CAB. Q, SL. 557
P.R.C.C.T.
D.R.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.
5.00 ACRES
DELORES R.
SMITHERMAN
VOL. 03923. PG.
00032
D.R.C.C.T.
46.140 ACRES
ZOLDCO, INC.
INST. No.
20060404000435430
O.P.T.C.C.T.
86.3539 ACRES
LUCAS PARTNERS, LTD.
INST. No. 20060403000425360
O.P.T.C.C.T.
9.030 ACRES
N CROSSING, LTD.
o. 20061017001488020
O.P.T.C.C.T.
HERITAGE
ESTATES
CAB. C, SL. 7
P.R.C.C.T.
SHEPHERDS
CREEK
ADDITION
CAB. L, SL. 242
P.R.C.C.T.
STATES AT
STIN TRAIL
B. N, SL. 709
P.R.C.C.T.
LEWIS BEND
PHASE 1
PHASE 2
PHASE 3
R1–1
STOP
R2–1
SPEED LIMIT 30
STREET LIGHT
HIGHLAND DRIVE
BRAE BURN WAY
CAMAN PARK DRIVE
TURNBERRY LANE
CAIRN DRIVE
INVERNESS COURT
INVERNESS LANE
ABERDEEN DRIVE
STIRLING DRIVE
GALWAY DRIVE
GREENACRES LANE
BELMONT COURT
GLENDALE DRIVE
DETENTION POND AREA HOA LOT 1
DETENTION POND AREA HOA LOT 4
OPEN SPACE HOA LOT 1
OPEN SPACE HOA LOT 4
MATCHLINE SEE SHEET C-34
NOTE:
DARK SKY STREET LIGHTS ARE REQUIRED FOR ALL LIGHTING
N
E
S
W
0
200'
400'
GRAPHIC SCALE 200'

"Record Drawings"
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4-14-2014
DATE:
BY:

No.	Revisions	Date	App.

Kimley-Horn and Associates, Inc.

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12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

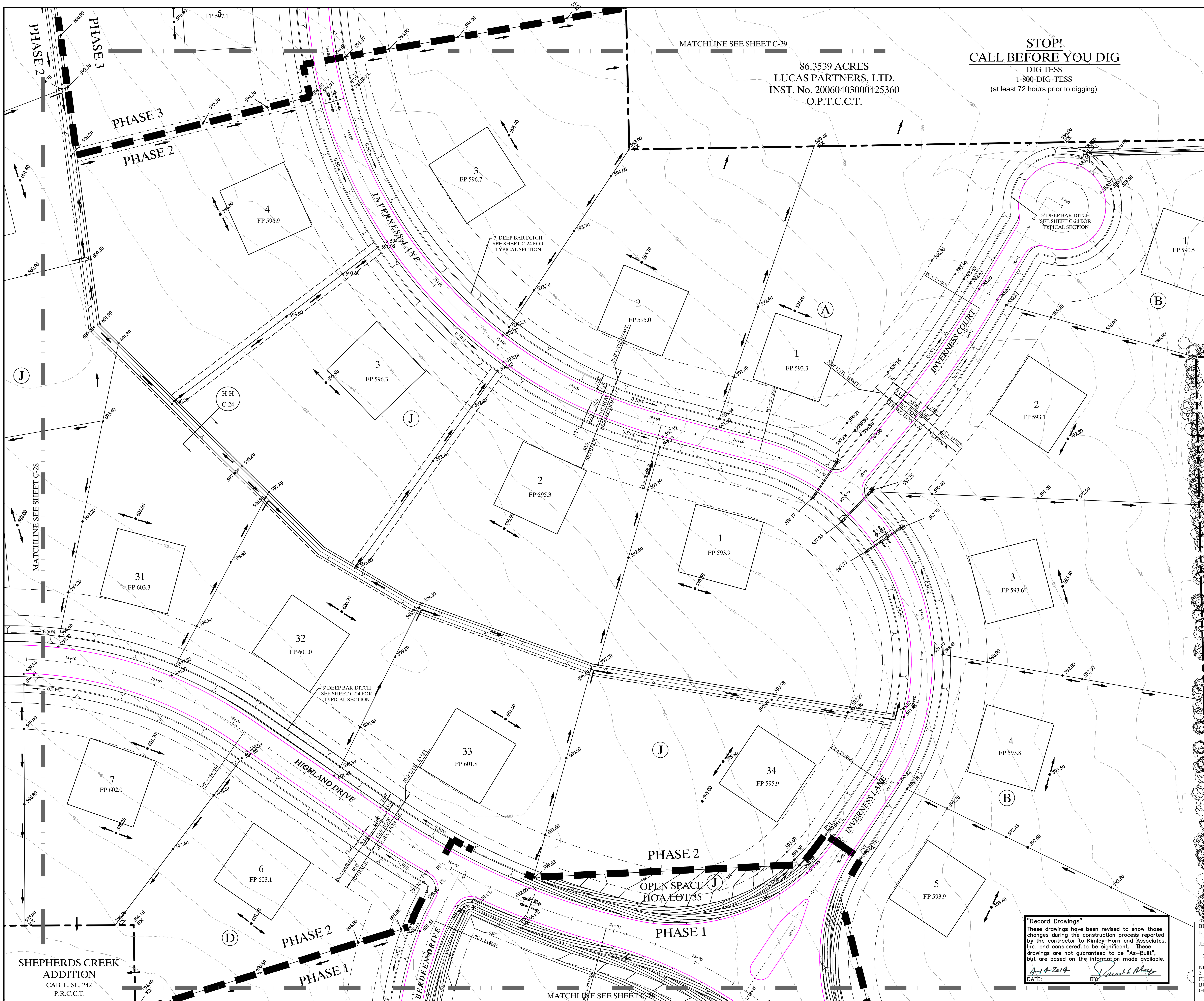
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

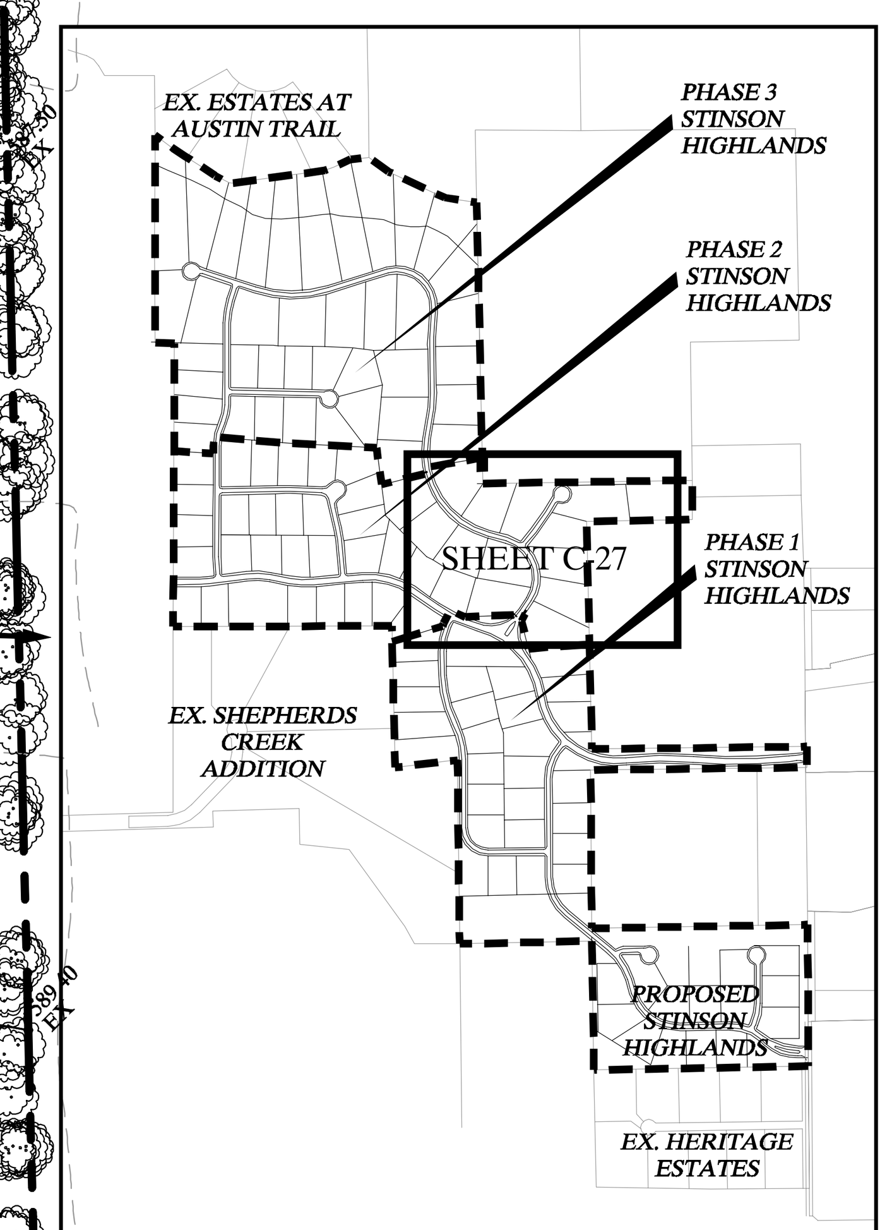
STINSON HIGHLANDS
LUCAS, TEXAS

TRAFFIC SIGNAGE AND LIGHTING PLAN

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

SHEET
C-22B





KEY MAP
N.T.S.

LEGEND:

- DIRECTION OF FLOW
- DAYLIGHT LINE
- 656.50 — SPOT ELEVATION
- EX. 656.50 — EX. SPOT ELEVATION
- FP 659.00 — FINISHED BUILDING PAD ELEVATION

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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.

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

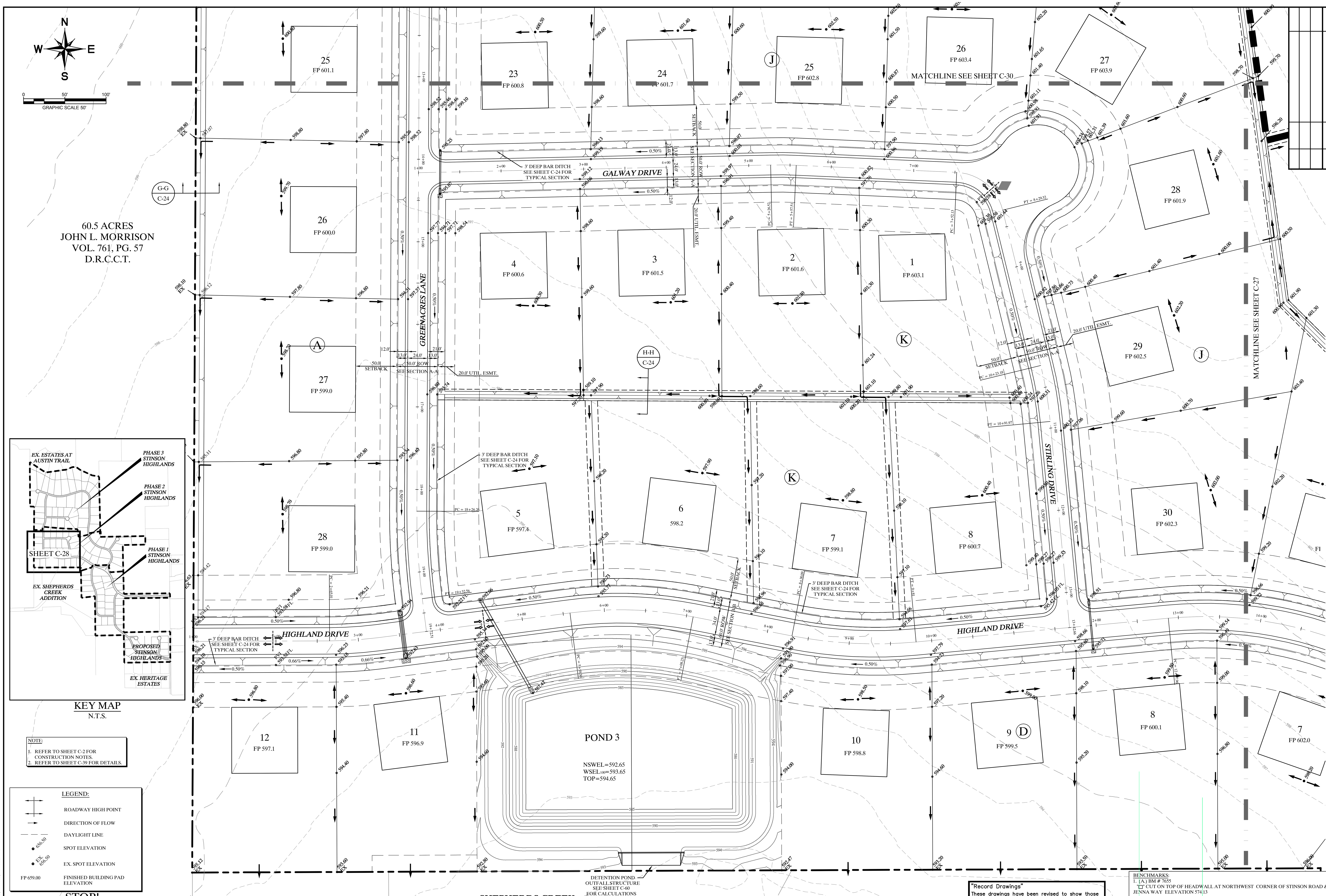
STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER

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



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
- FP 659.00 FINISHED BUILDING PAD ELEVATION

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: 4-14-2014 BY: [signature]

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No.	Date	Revisions	App.

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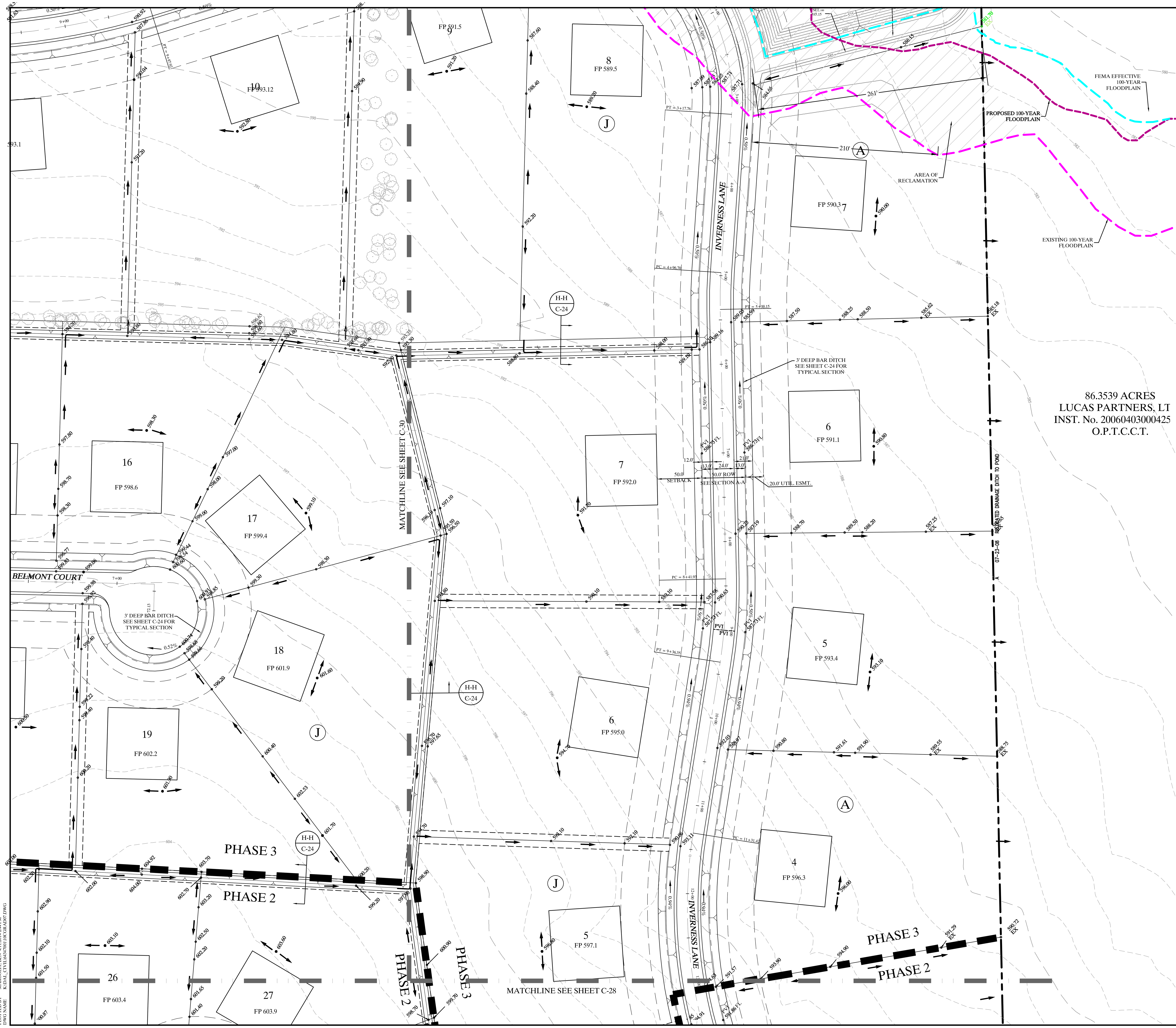
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

GRADING PLAN
(6 OF 10)

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

SHEET
C-28



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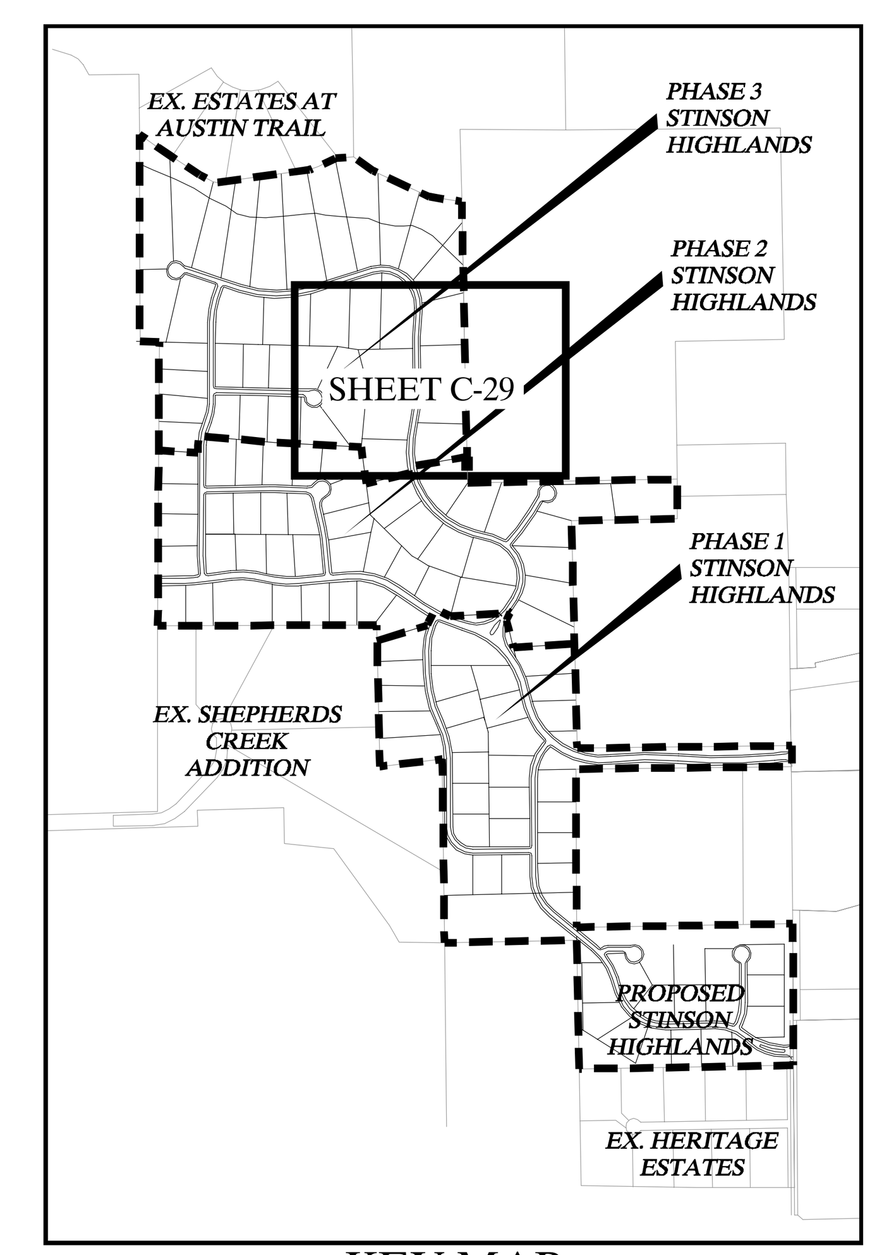
(at least 72 hours prior to digging)

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

LEGEND:

→	DIRECTION OF FLOW
— — —	DAYLIGHT LINE
× 656.50	SPOT ELEVATION
EX. × 656.50	EX. SPOT ELEVATION
FP 659.00	FINISHED BUILDING PAD ELEVATION



KEY MAP
N.T.S.

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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No.	Date	Revisions	App.

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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

GRADING PLAN
(7 OF 10)

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

SHEET
C-29

IMAGES dfwmaps_netims01241279161 4893 -
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DWG NAME K:\DAL_CIVIL\064347001\0CGRAD07.DWG

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

GRADING PLAN
(8 OF 10)

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

SHEET
C-30

IMAGES
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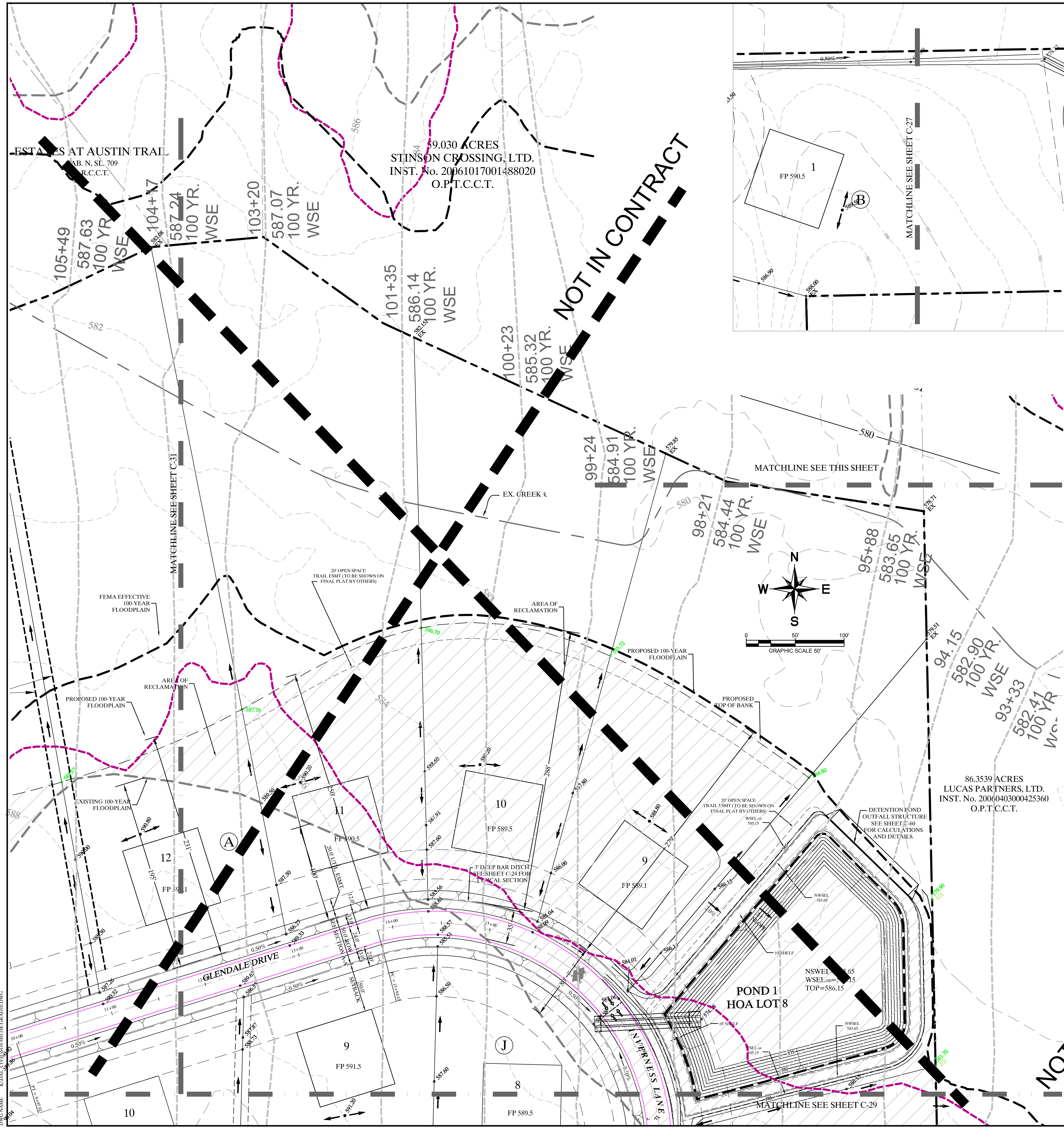

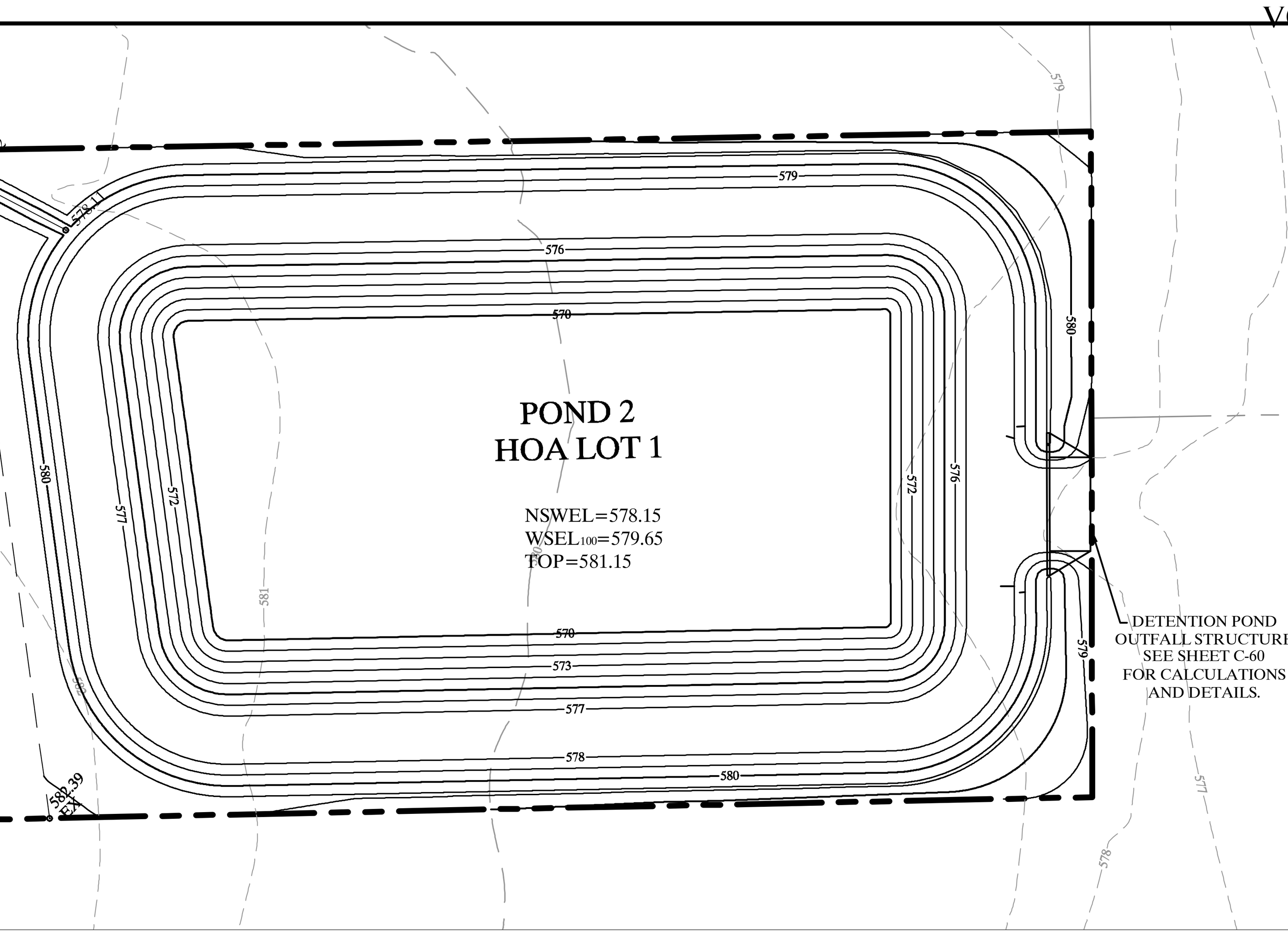

NOTE:

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

LEGEND:

→	DIRECTION OF FLOW
— — —	DAYLIGHT LINE
• 656.50	SPOT ELEVATION
• EX. 656.50	EX. SPOT ELEVATION
FP 659.00	FINISHED BUILDING PAD ELEVATION

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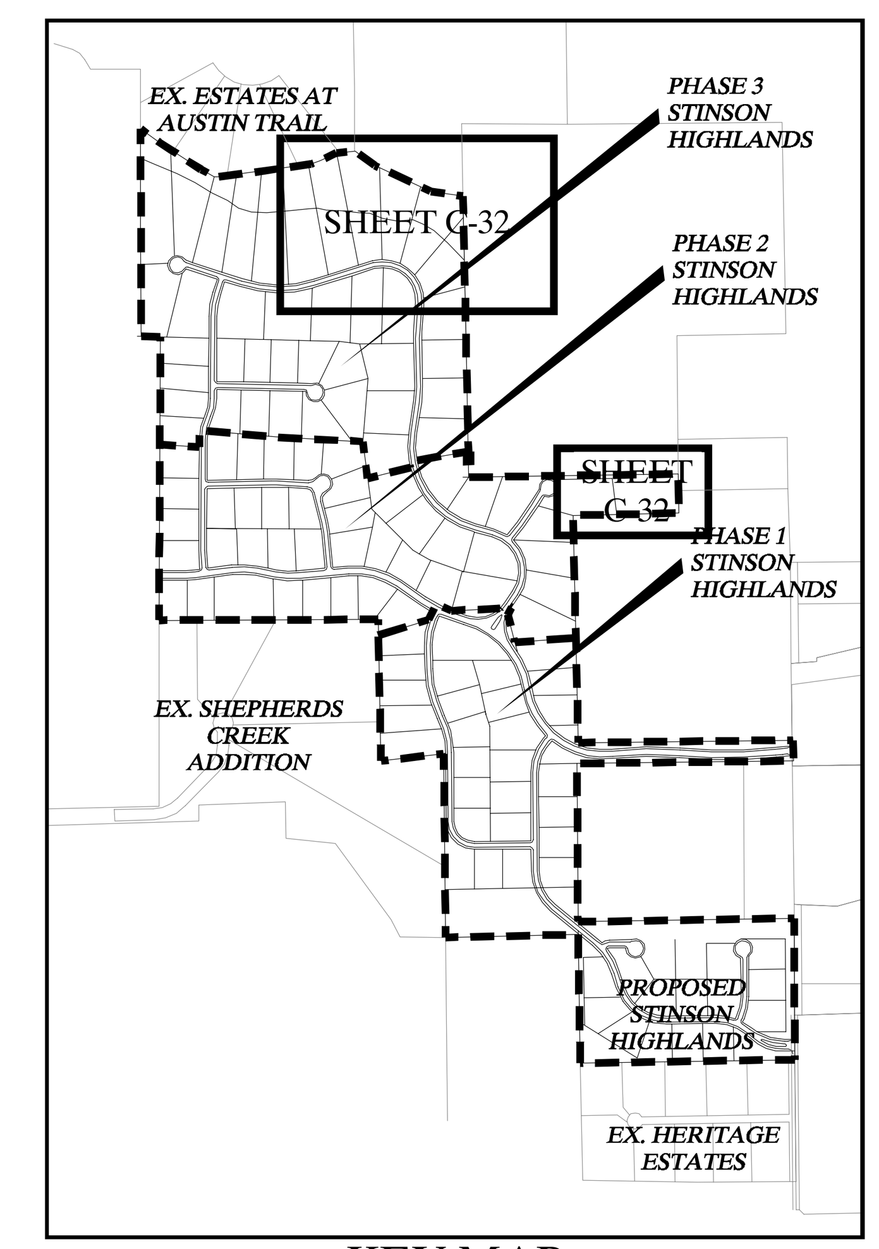
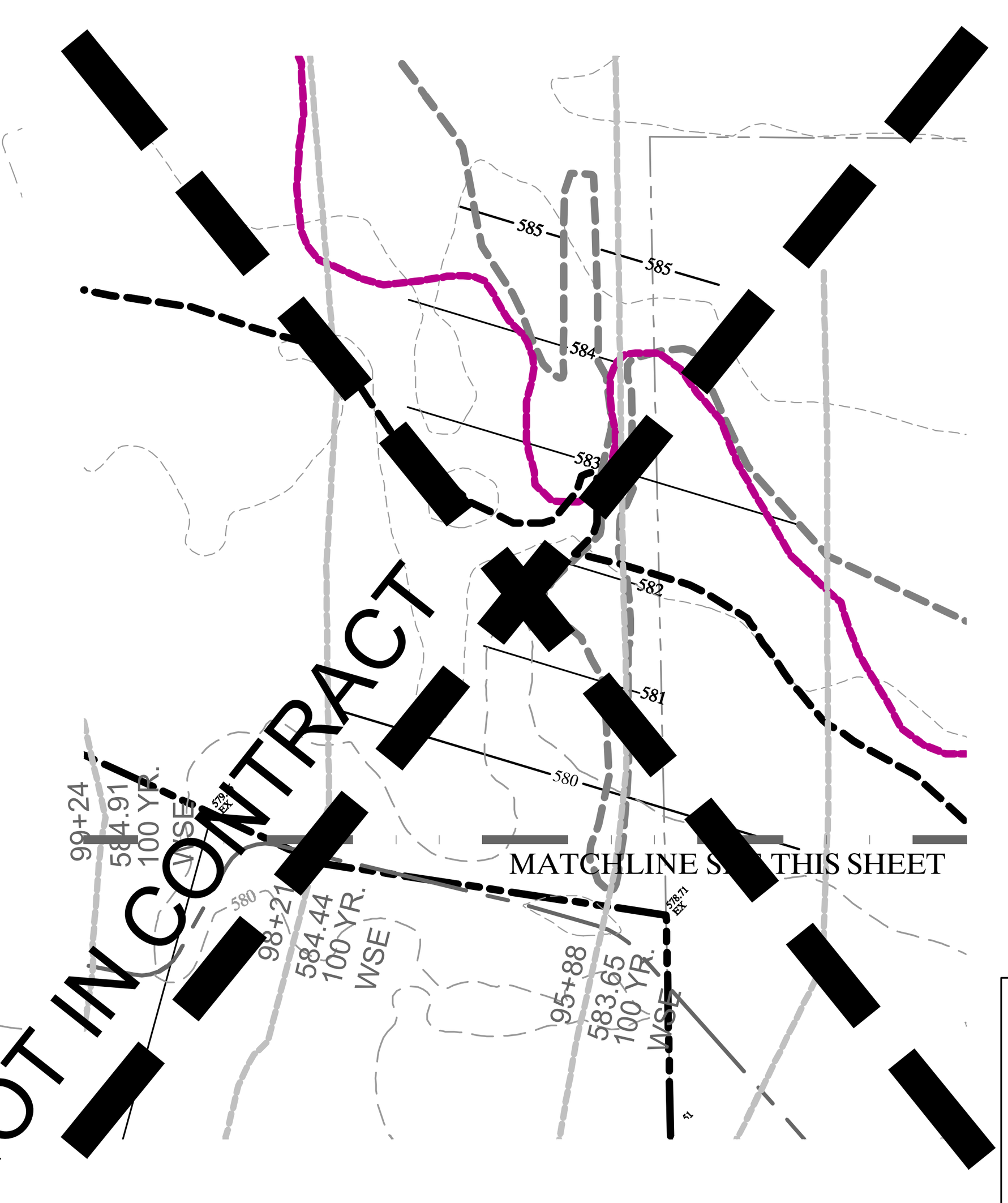


KEY MAP
N.T.S.



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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

GRADING PLAN
(10 OF 10)

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

SHEET
C-32

IMAGES
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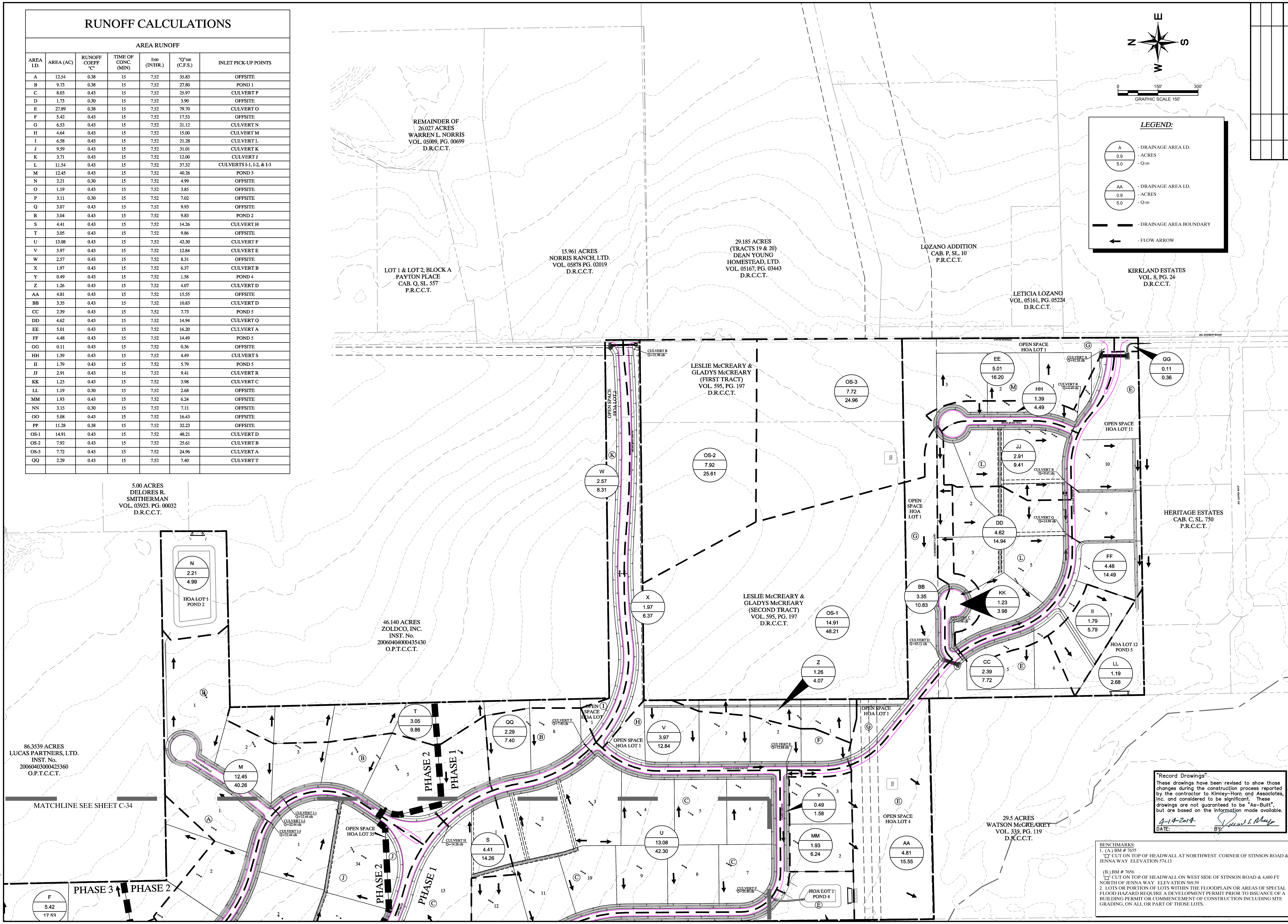
RUNOFF CALCULATIONS

AREA RUNOFF

AREA I.D.	AREA (AC)	RUNOFF COEFF "C"	TIME OF CONC. (MIN)	I_{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	7.73	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	CULVERT S
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



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No.	Date	Revisions	App.

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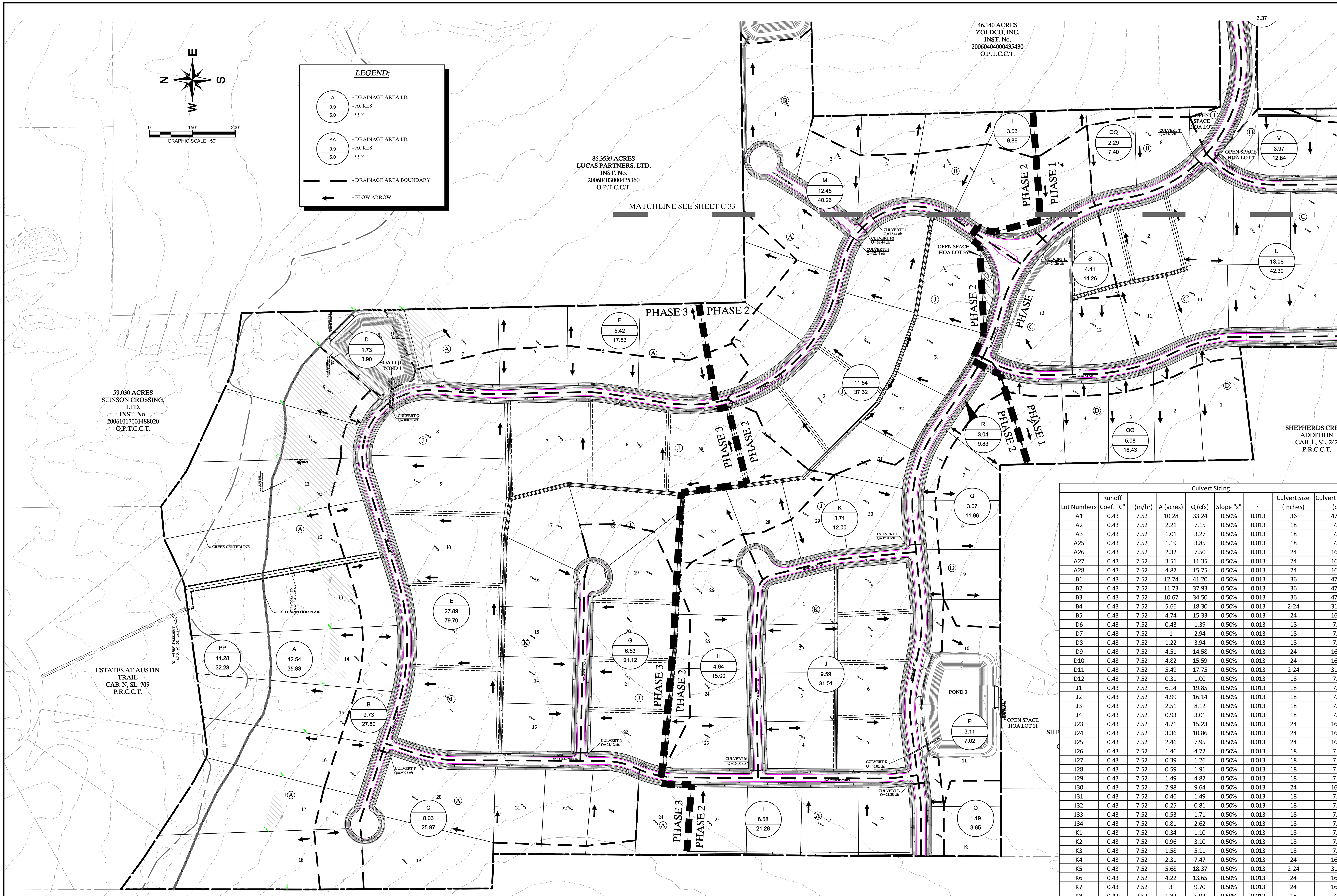
STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER — 4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

DRAINAGE AREA MAP - SOUTH

Scale:	1" = 150'
Designed by:	JTH
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.	064347001

SHEET
C-33



Culvert Sizing								
Lot Numbers	Runoff Coef. "C"	I (in/hr)	A (acres)	Q (cfs)	Slope "s"	n	Culvert Size (inches)	Culvert Capacity (cfs)
A1	0.43	7.52	10.28	33.24	0.50%	0.013	36	47.16
A2	0.43	7.52	2.21	7.15	0.50%	0.013	18	7.43
A3	0.43	7.52	1.01	3.27	0.50%	0.013	18	7.43
A25	0.43	7.52	1.19	3.85	0.50%	0.013	18	7.43
A26	0.43	7.52	2.32	7.50	0.50%	0.013	24	16.00
A27	0.43	7.52	3.51	11.35	0.50%	0.013	24	16.00
A28	0.43	7.52	4.87	15.75	0.50%	0.013	24	16.00
B1	0.43	7.52	12.74	41.20	0.50%	0.013	36	47.16
B2	0.43	7.52	11.73	37.93	0.50%	0.013	36	47.16
B3	0.43	7.52	10.67	34.50	0.50%	0.013	36	47.16
B4	0.43	7.52	5.66	18.30	0.50%	0.013	2-24	31.99
B5	0.43	7.52	4.74	15.33	0.50%	0.013	24	16.00
D6	0.43	7.52	0.43	1.39	0.50%	0.013	18	7.43
D7	0.43	7.52	1	2.94	0.50%	0.013	18	7.43
D8	0.43	7.52	1.22	3.94	0.50%	0.013	18	7.43
D9	0.43	7.52	4.51	14.58	0.50%	0.013	24	16.00
D10	0.43	7.52	4.82	15.59	0.50%	0.013	24	16.00
D11	0.43	7.52	5.49	17.75	0.50%	0.013	2-24	31.99
D12	0.43	7.52	0.31	1.00	0.50%	0.013	18	7.43
J1	0.43	7.52	6.14	19.85	0.50%	0.013	18	7.43
J2	0.43	7.52	4.99	16.14	0.50%	0.013	18	7.43
J3	0.43	7.52	2.51	8.12	0.50%	0.013	18	7.43
J4	0.43	7.52	0.93	3.01	0.50%	0.013	18	7.43
J23	0.43	7.52	4.71	15.23	0.50%	0.013	24	16.00
J24	0.43	7.52	3.36	10.86	0.50%	0.013	24	16.00
J25	0.43	7.52	2.46	7.95	0.50%	0.013	24	16.00
J26	0.43	7.52	1.46	4.72	0.50%	0.013	18	7.43
J27	0.43	7.52	0.39	1.26	0.50%	0.013	18	7.43
J28	0.43	7.52	0.59	1.91	0.50%	0.013	18	7.43
J29	0.43	7.52	1.49	4.82	0.50%	0.013	18	7.43
J30	0.43	7.52	2.98	9.64	0.50%	0.013	24	16.00
J31	0.43	7.52	0.46	1.49	0.50%	0.013	18	7.43
J32	0.43	7.52	0.25	0.81	0.50%	0.013	18	7.43
J33	0.43	7.52	0.53	1.71	0.50%	0.013	18	7.43
J34	0.43	7.52	0.81	2.62	0.50%	0.013	18	7.43
K1	0.43	7.52	0.34	1.10	0.50%	0.013	18	7.43
K2	0.43	7.52	0.96	3.10	0.50%	0.013	18	7.43
K3	0.43	7.52	1.58	5.11	0.50%	0.013	18	7.43
K4	0.43	7.52	2.31	7.47	0.50%	0.013	24	16.00
K5	0.43	7.52	5.68	18.37	0.50%	0.013	2-24	31.99
K6	0.43	7.52	4.22	13.65	0.50%	0.013	24	16.00
K7	0.43	7.52	3	9.70	0.50%	0.013	24	16.00
K8	0.43	7.52	1.83	5.92	0.50%	0.013	18	7.43

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4-14-2014
DATE: BY: David E. Meyers

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

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.

Kimley-Horn and Associates, Inc.
12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

DRAINAGE AREA MAP - NORTH

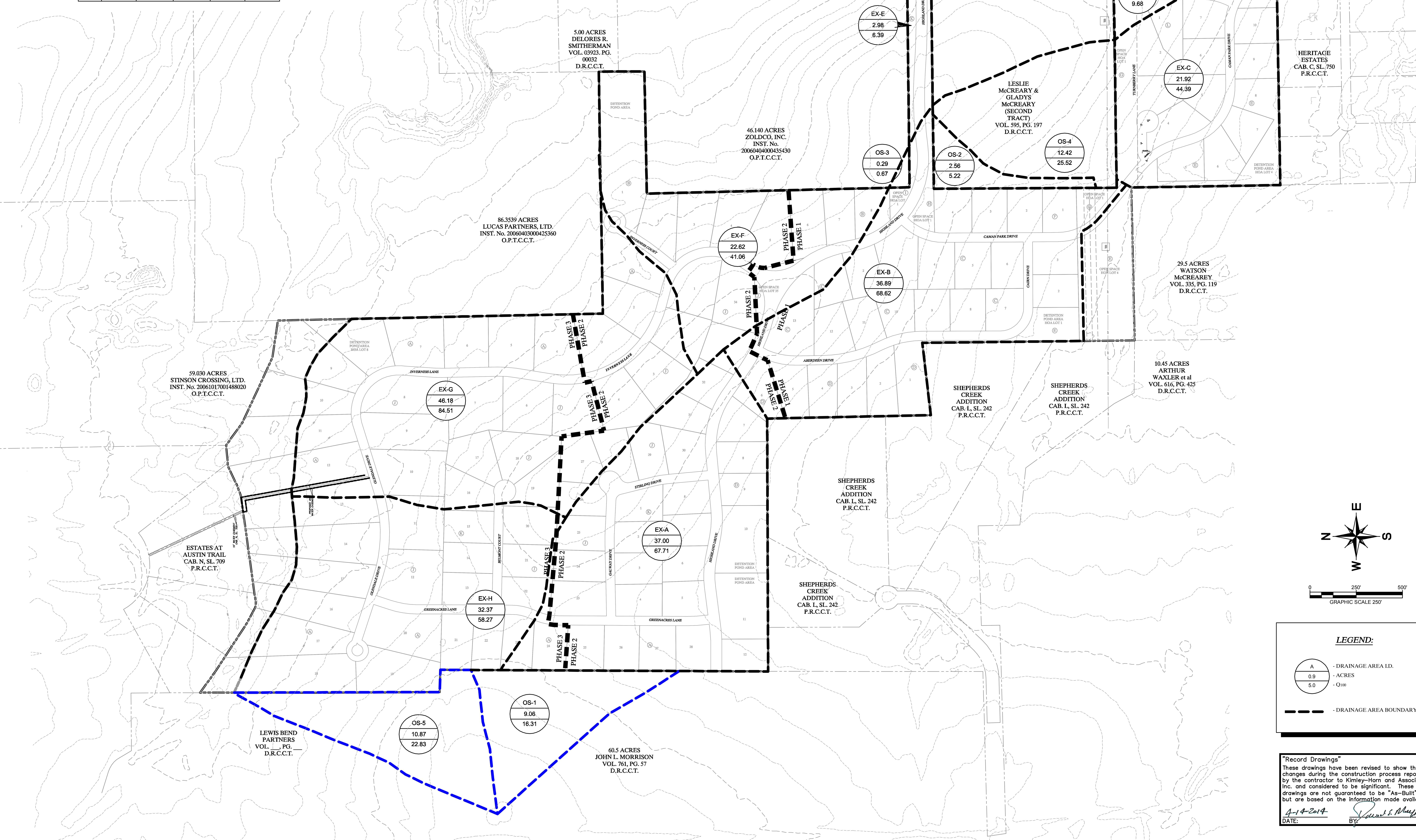
Scale:	1" = 150'
Designed by:	JTH
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.	064347001

SHEET
C-34

RUNOFF CALCULATIONS

AREA RUNOFF

AREA I.D.	AREA (AC)	RUNOFF COEFF "C"	TIME OF CONC. (MIN)	I_{100} (IN/HR.)	"Q"$_{100}$ (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



LEGEND:

(A / 0.9 / 5.0) - DRAINAGE AREA I.D. - ACRES - Q_{100}

— — — - DRAINAGE AREA BOUNDARY

"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: 4-14-2014 BY: [signature]

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
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WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS — DAVID E. MEYERS 81512 REGISTERED PROFESSIONAL ENGINEER 4-14-2014

STINSON HIGHLANDS LUCAS, TEXAS

EXISTING DRAINAGE AREA MAP

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

SHEET C-34A

IMAGES
XREFS XREF X2436 - XREF xAsbt - XREF xBndy - XREF xPavi - XREF xLots - XREF xExUt - XREF xtopo-cog - XREF DEMSEAL
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PLOTTED BY MARGOLIT, BEN 4/11/2014 2:52 PM
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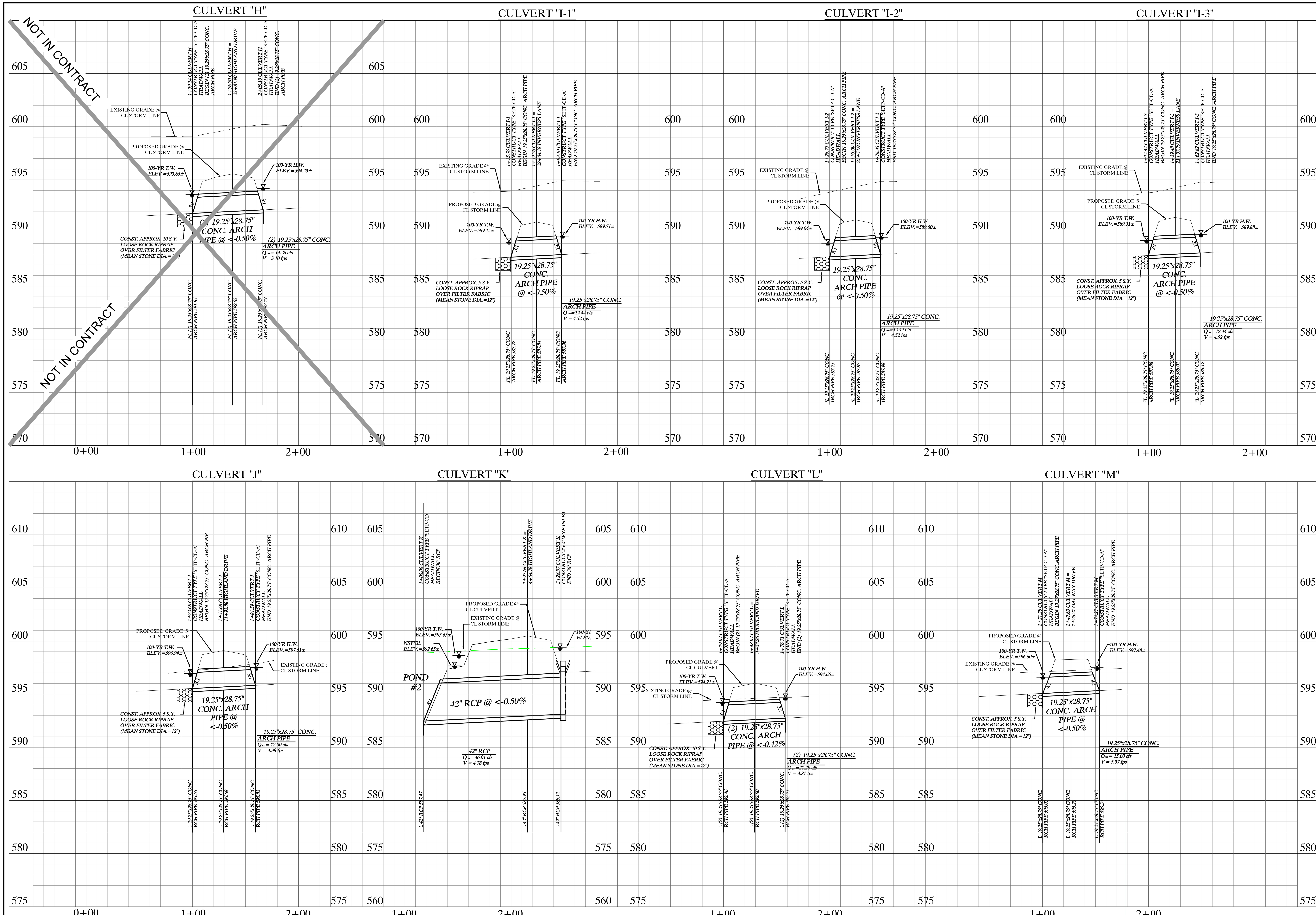

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

NOTES:

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

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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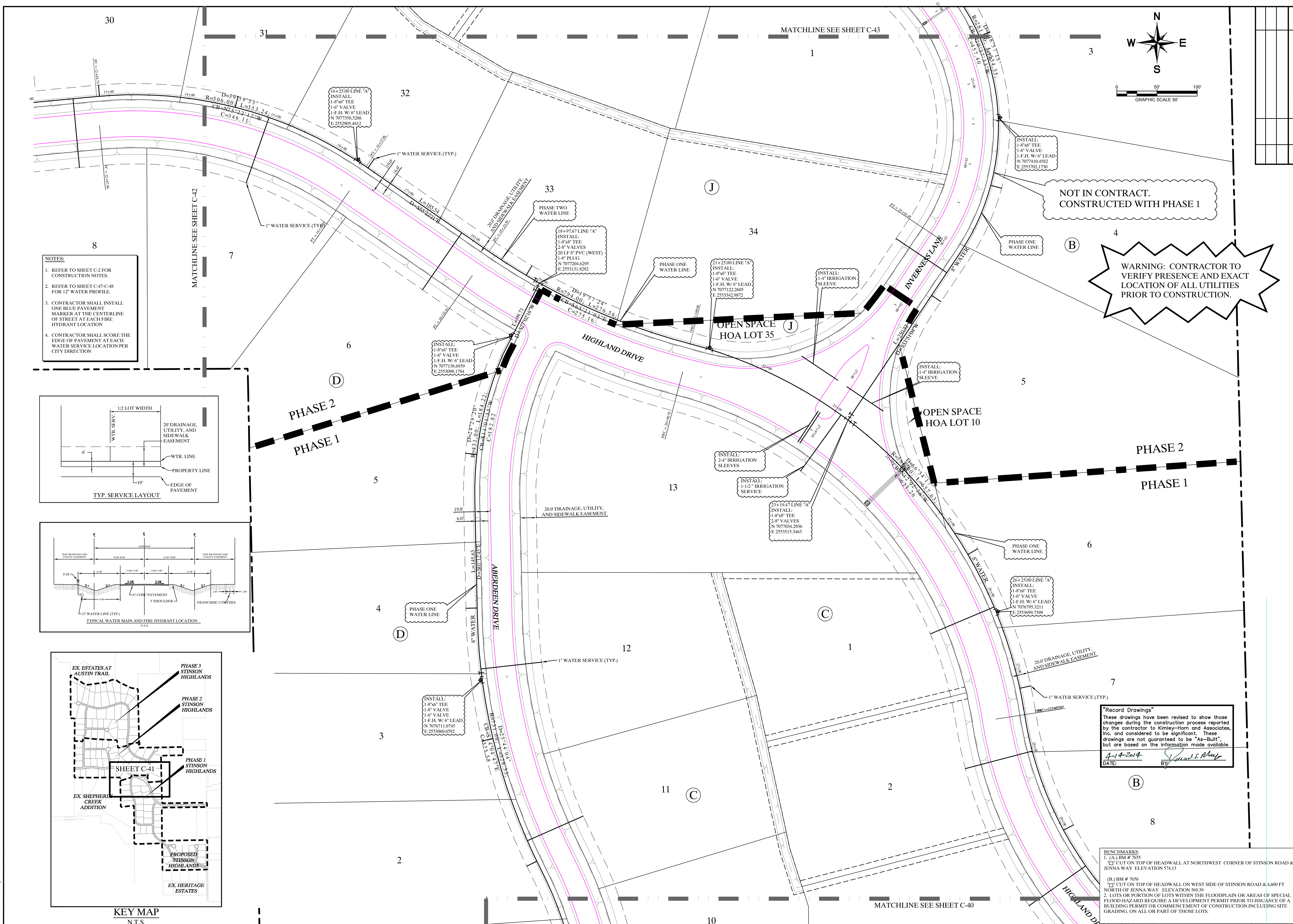
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

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

SHEET
C-36


MATCHLINE SEE SHEET C-43
MATCHLINE SEE SHEET C-42
MATCHLINE SEE SHEET C-40
GRAPHIC SCALE 50'
HIGHLAND DRIVE
INVERNESS LANE
ABERDEEN DRIVE
PHASE 2
PHASE 1
OPEN SPACE HOA LOT 35
OPEN SPACE HOA LOT 10
NOT IN CONTRACT. CONSTRUCTED WITH PHASE 1
WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
PHASE ONE WATER LINE
PHASE TWO WATER LINE
1" WATER SERVICE (TYP.)
20.0' DRAINAGE, UTILITY, AND SIDEWALK EASEMENT
8" WATER
16+25.00 LINE "A" INSTALL: 1-8"x6" TEE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7077356.5286 E 2552905.4812
18+97.67 LINE "A" INSTALL: 1-8"x8" TEE 2-8" VALVES 20 LF 8" PVC (WEST) 1-8" PLUG N 7077204.6295 E 2553131.8292
21+25.00 LINE "A" INSTALL: 1-8"x6" TEE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7077122.2605 E 2553342.9872
INSTALL: 1-4" IRRIGATION SLEEVE
INSTALL: 1-8"x6" TEE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7077410.4582 E 2553702.1730
INSTALL: 1-8"x6" TEE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7077138.6939 E 2553098.1784
INSTALL: 2-4" IRRIGATION SLEEVES
INSTALL: 1-1/2" IRRIGATION SERVICE
23+19.47 LINE "A" INSTALL: 1-8"x8" TEE 2-8" VALVES N 7077034.2936 E 2553515.3463
26+25.00 LINE "A" INSTALL: 1-8"x6" TEE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7076795.3211 E 2553699.7399
INSTALL: 1-8"x6" TEE 1-8" VALVE 1-6" VALVE 1-F.H. W/ 6" LEAD N 7076711.0745 E 2553060.6592
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
TYP. SERVICE LAYOUT
1/2 LOT WIDTH
WTR. SERV.
20' DRAINAGE, UTILITY, AND SIDEWALK EASEMENT
WTR. LINE
PROPERTY LINE
EDGE OF PAVEMENT
TYPICAL WATER MAIN AND FIRE HYDRANT LOCATION
N.T.S.
KEY MAP
N.T.S.
EX. ESTATES AT AUSTIN TRAIL
PHASE 3 STINSON HIGHLANDS
PHASE 2 STINSON HIGHLANDS
PHASE 1 STINSON HIGHLANDS
SHEET C-41
EX. SHEPHERDS CREEK ADDITION
PROPOSED STINSON HIGHLANDS
EX. HERITAGE ESTATES
"Record Drawings"
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DATE: 4-14-2014
BY:
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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Kimley-Horn and Associates, Inc.

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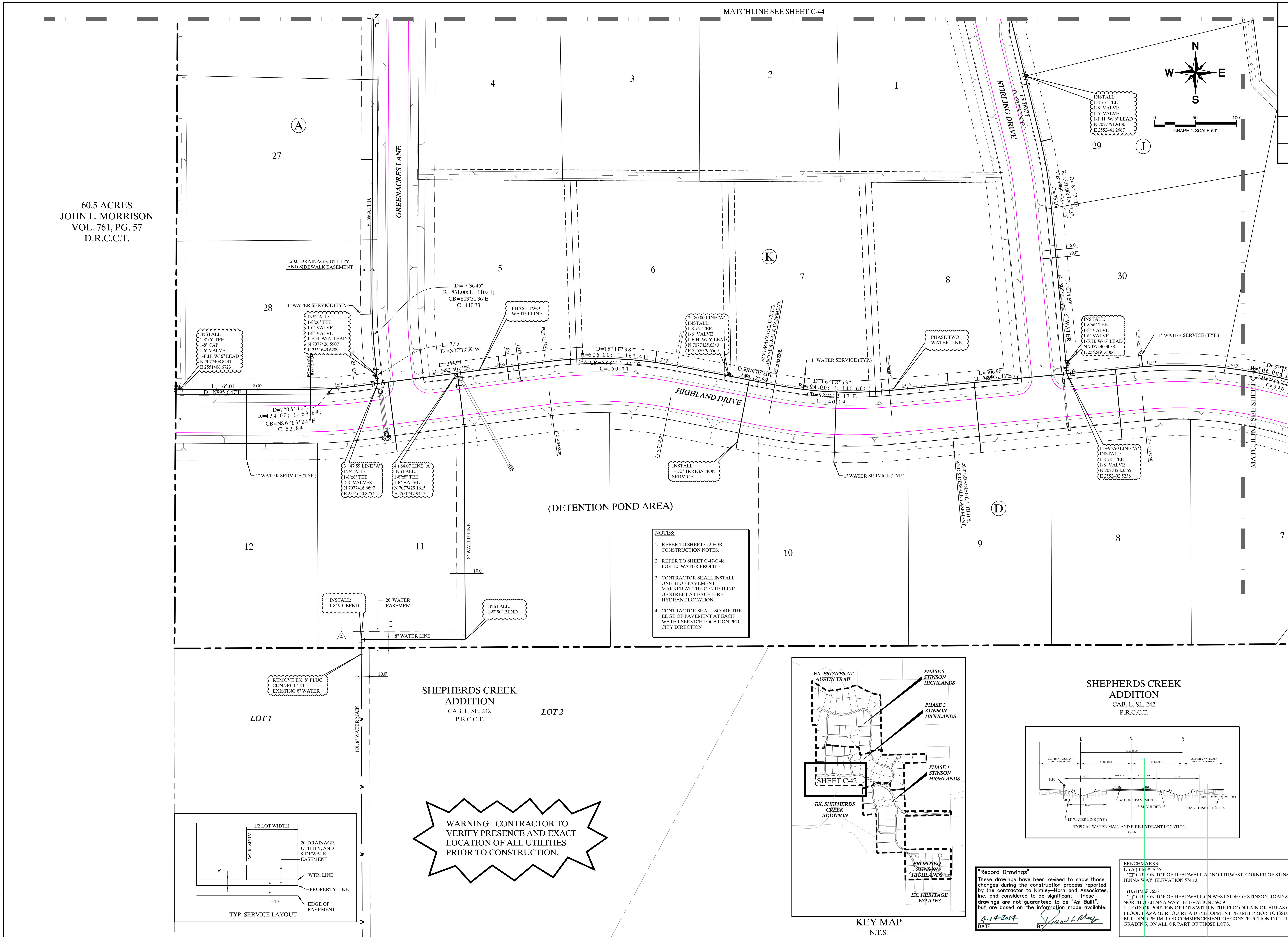
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

WATER PLAN
(4 OF 9)

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

SHEET
C-41



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

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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No.	Date	Revisions	App.

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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

WATER PLAN
(5 OF 9)

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

SHEET
C-42

IMAGES dfwmaps_netims01241279161 4893 -
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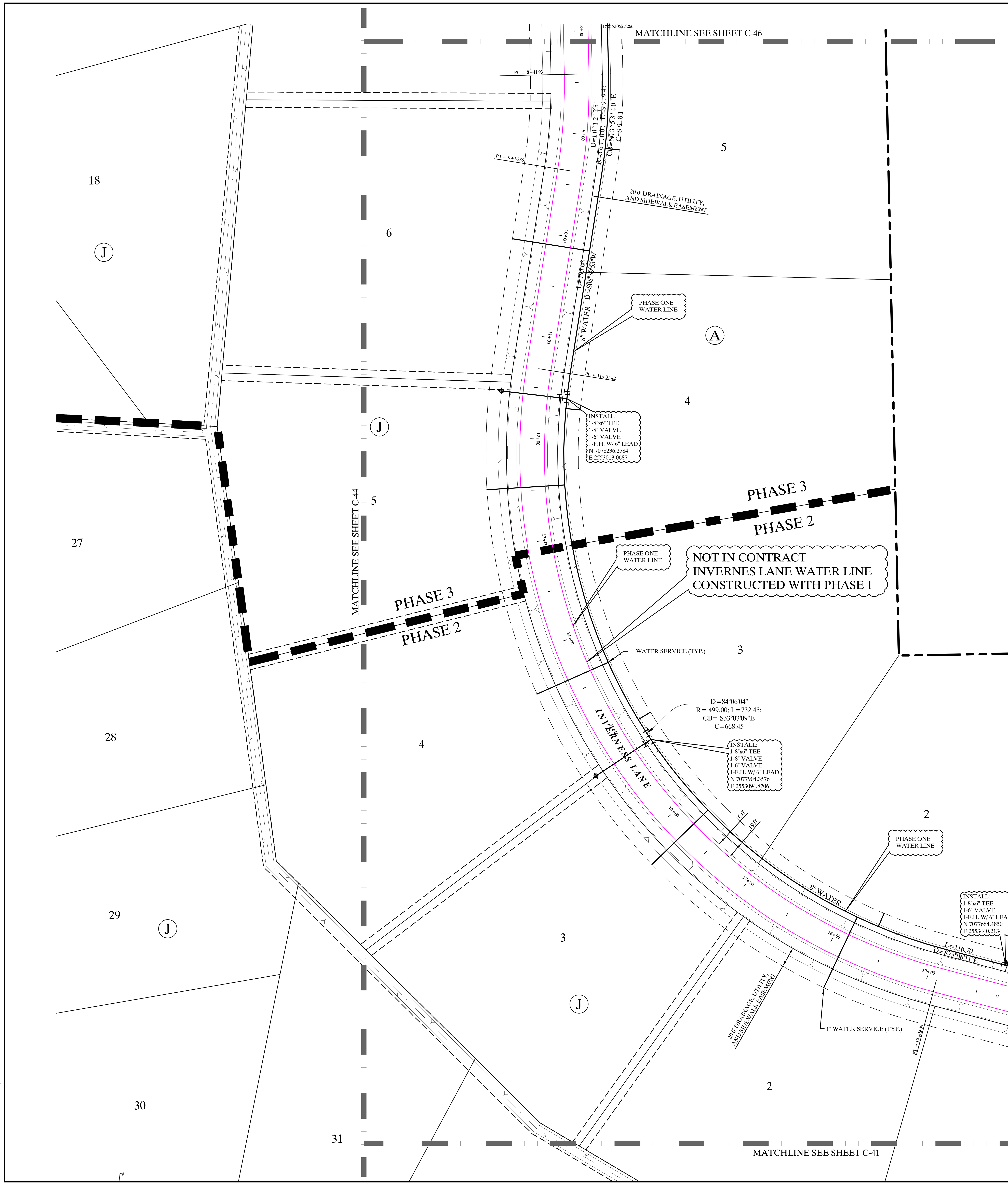
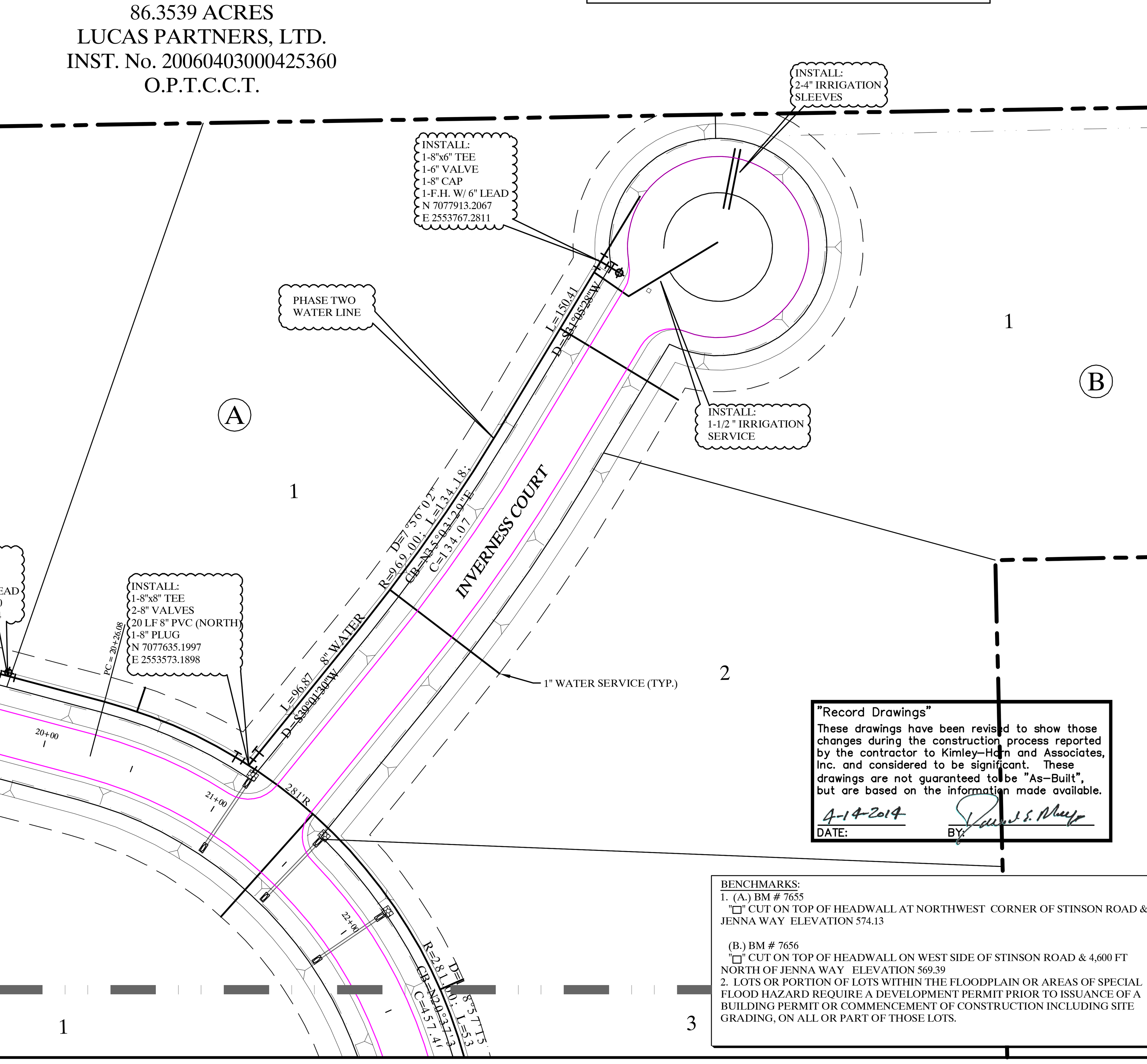
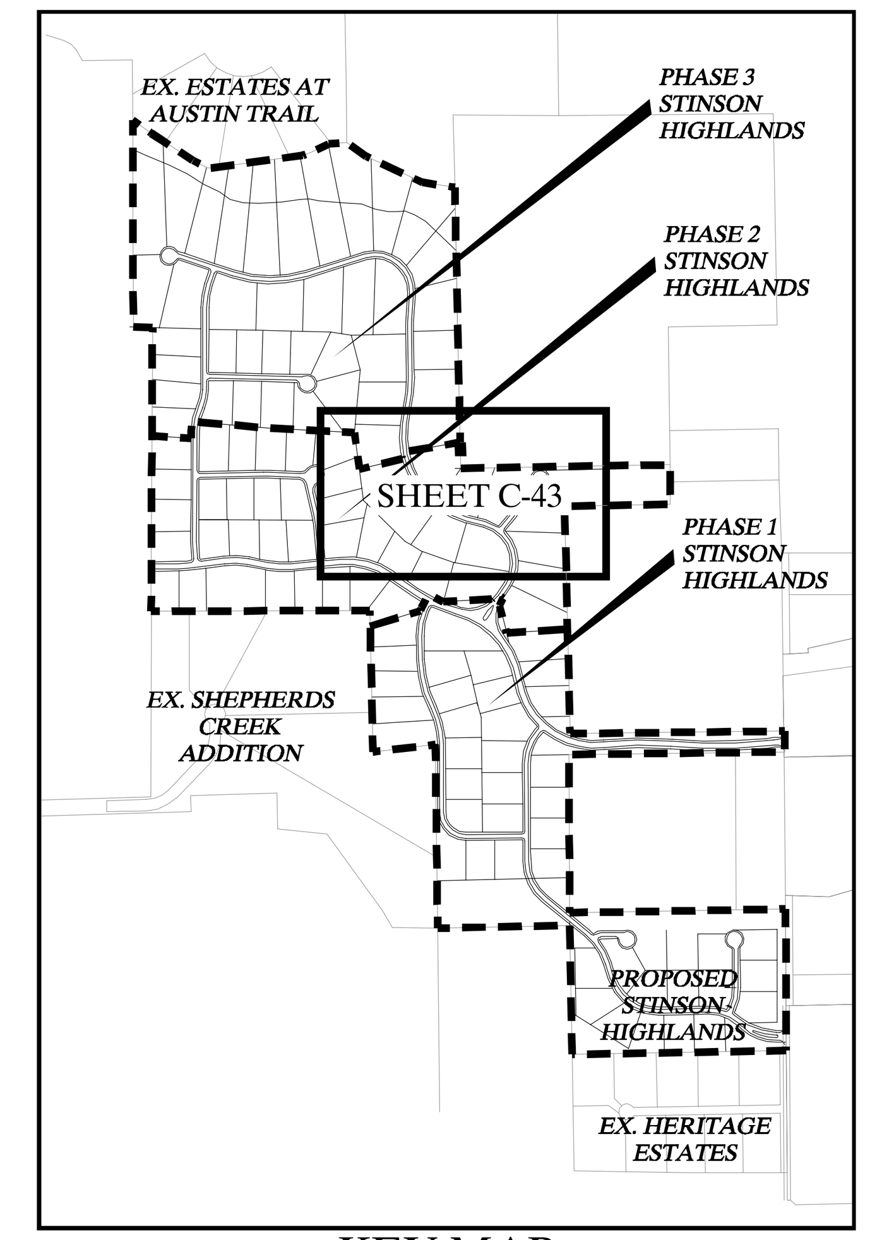
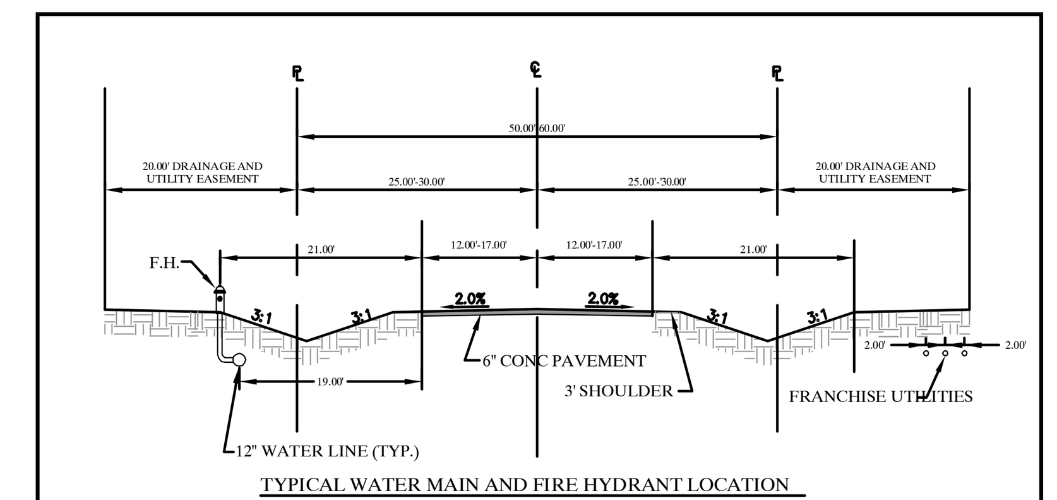


MATCHLINE SEE SHEET C-46
MATCHLINE SEE SHEET C-44
MATCHLINE SEE SHEET C-41
20.0' DRAINAGE, UTILITY, AND SIDEWALK EASEMENT
PHASE ONE WATER LINE
8" WATER
INSTALL:
1-8"x6" TEE
1-8" VALVE
1-6" VALVE
1-F.H. W/ 6" LEAD
N 7078236.2584
E 2553013.0687
PHASE 3
PHASE 2
NOT IN CONTRACT
INVERNES LANE WATER LINE
CONSTRUCTED WITH PHASE 1
86.3539 ACRES
LUCAS PARTNERS, LTD.
INST. No. 20060403000425360
O.P.T.C.C.T.
1" WATER SERVICE (TYP.)
D=84°06'04"
R= 499.00; L=732.45;
CB= S33°03'09"E
C=668.45
INSTALL:
1-8"x6" TEE
1-8" VALVE
1-6" VALVE
1-F.H. W/ 6" LEAD
N 7077904.3576
E 2553094.8706
INVERNESS LANE
INSTALL:
1-8"x6" TEE
1-6" VALVE
1-F.H. W/ 6" LEAD
N 7077684.4850
E 2553440.2134
INSTALL:
1-8"x8" TEE
2-8" VALVES
20 LF 8" PVC (NORTH)
1-8" PLUG
N 7077635.1997
E 2553573.1898
PHASE TWO WATER LINE
INSTALL:
1-8"x6" TEE
1-6" VALVE
1-8" CAP
1-F.H. W/ 6" LEAD
N 7077913.2067
E 2553767.2811
INSTALL:
2-4" IRRIGATION SLEEVES
INSTALL:
1-1/2" IRRIGATION SERVICE
INVERNESS COURT
L=116.70
18
6
5
4
3
2
1
27
28
29
30
31
J
A
B



KEY MAP
N.T.S.



TYPICAL WATER MAIN AND FIRE HYDRANT LOCATION
N.T.S.

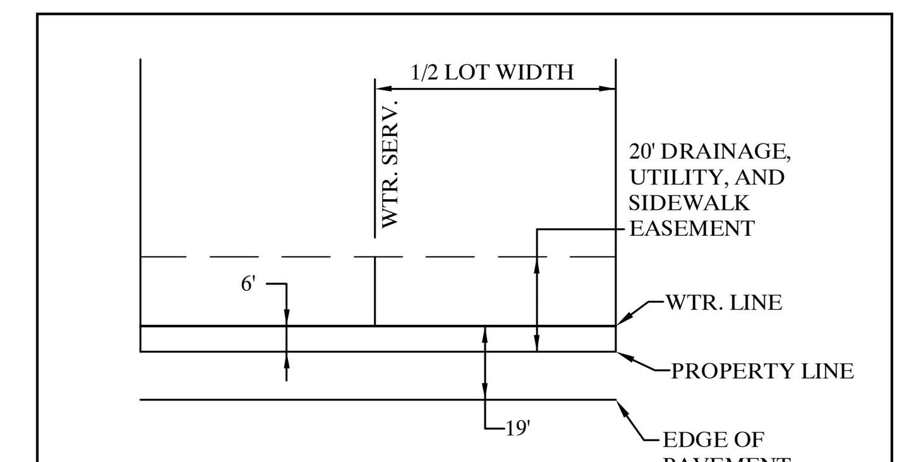
N
W E
S

GRAPHIC SCALE 50'

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

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



TYP. SERVICE LAYOUT

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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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No.	Date	Revisions	App.

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WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

WATER PLAN
(6 OF 9)

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

SHEET
C-43

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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

NOTES:

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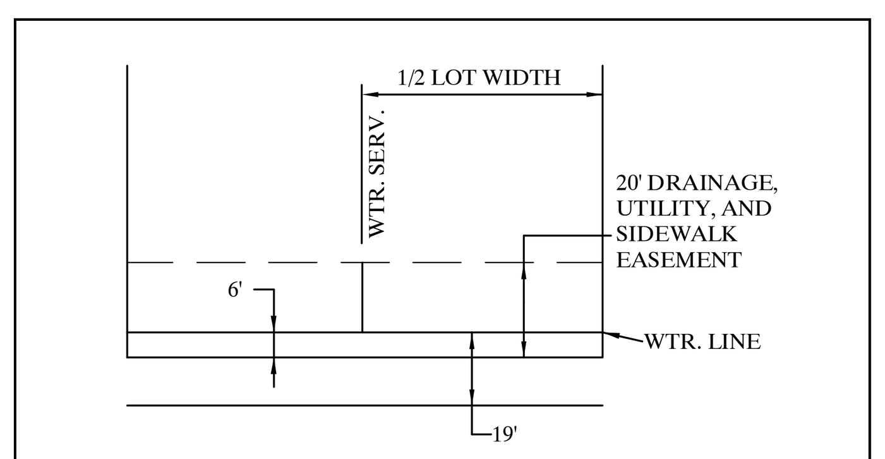
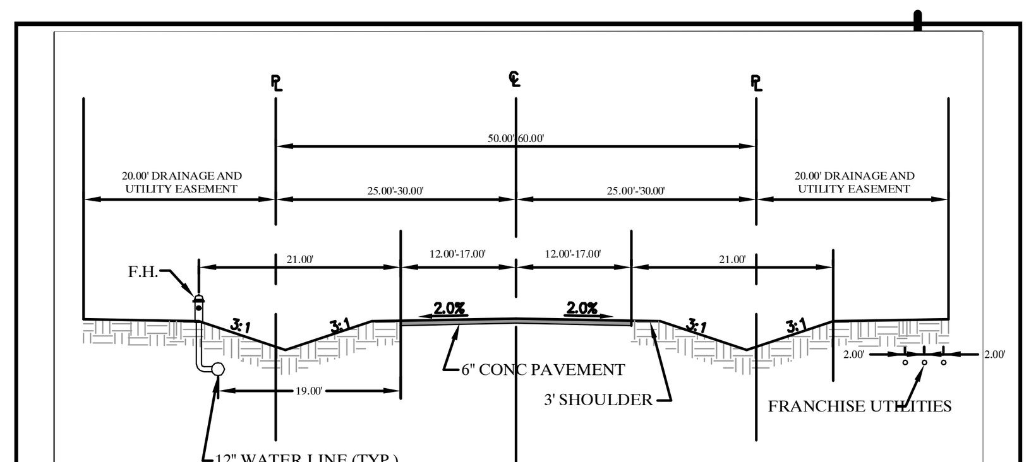
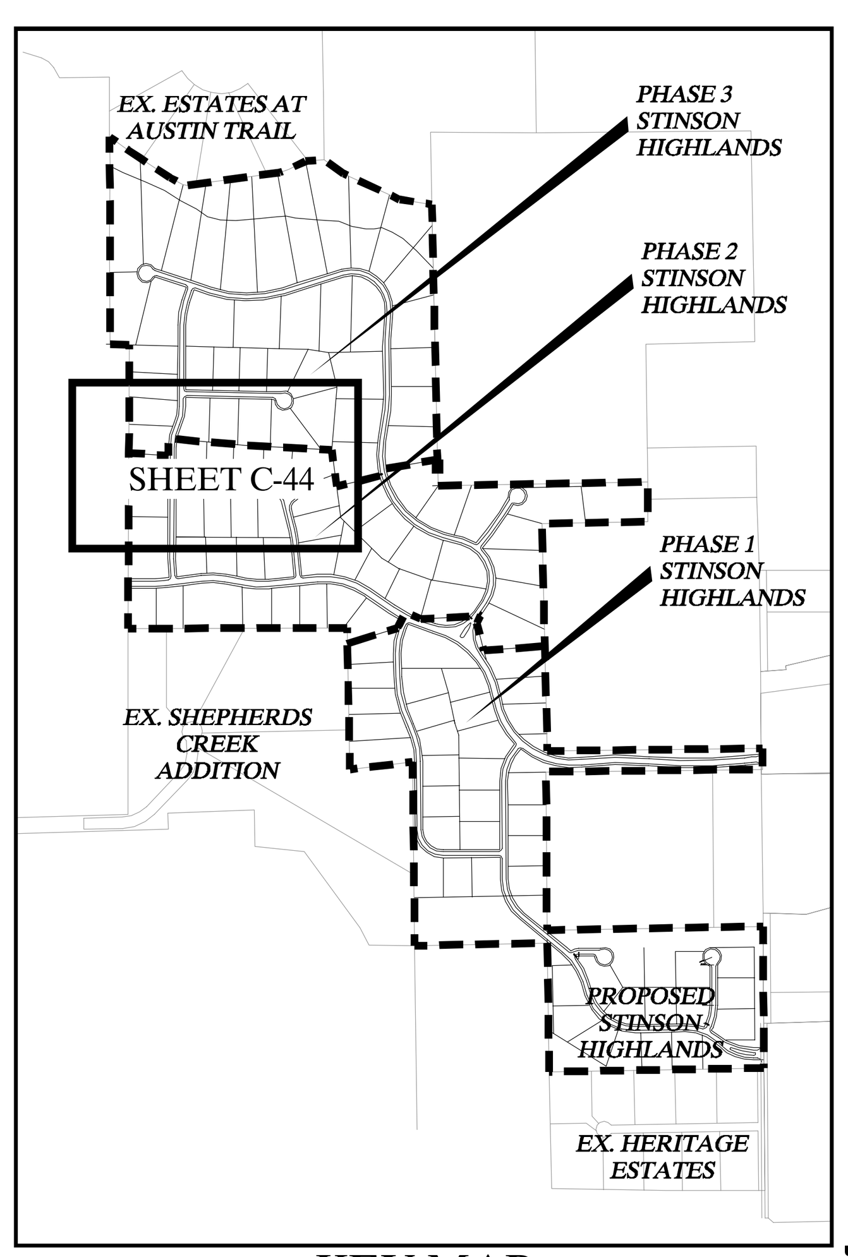
4. CONTRACTOR SHALL SCORE THE EDGE OF PAVEMENT AT EACH WATER SERVICE LOCATION PER CITY DIRECTION



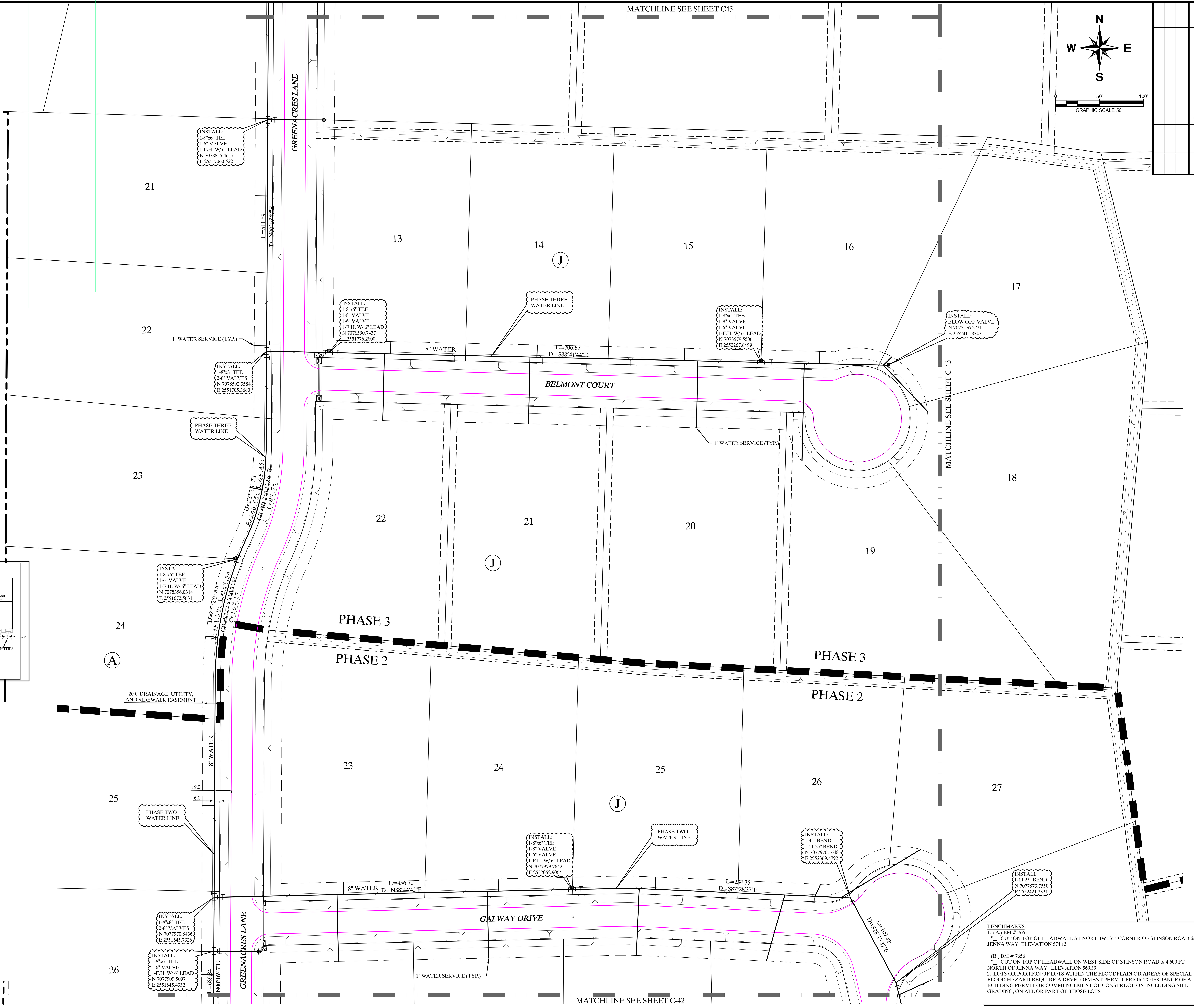
TYP. SERVICE LAYOUT



TYPICAL WATER MAIN AND FIRE HYDRANT LOCATION
N.T.S.



KEY MAP
N.T.S.



BENCHMARKS:
1. (A.) BM # 7655
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(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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No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
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PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

WATER PLAN
(7 OF 9)

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

SHEET
C-44

IMAGES dfwmaps_netims01241279161 4893 -
XREFS XREF xStrm - XREF xExUt - XREF xBndy - XREF xAsbt - XREF X2436 - XREF xLots - XREF xPavi - XREF xUtil - XREF xGrad - XREF DEMSEAL
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PLOTTED BY MARGOLIT, BEN 4/11/2014 3:00 PM
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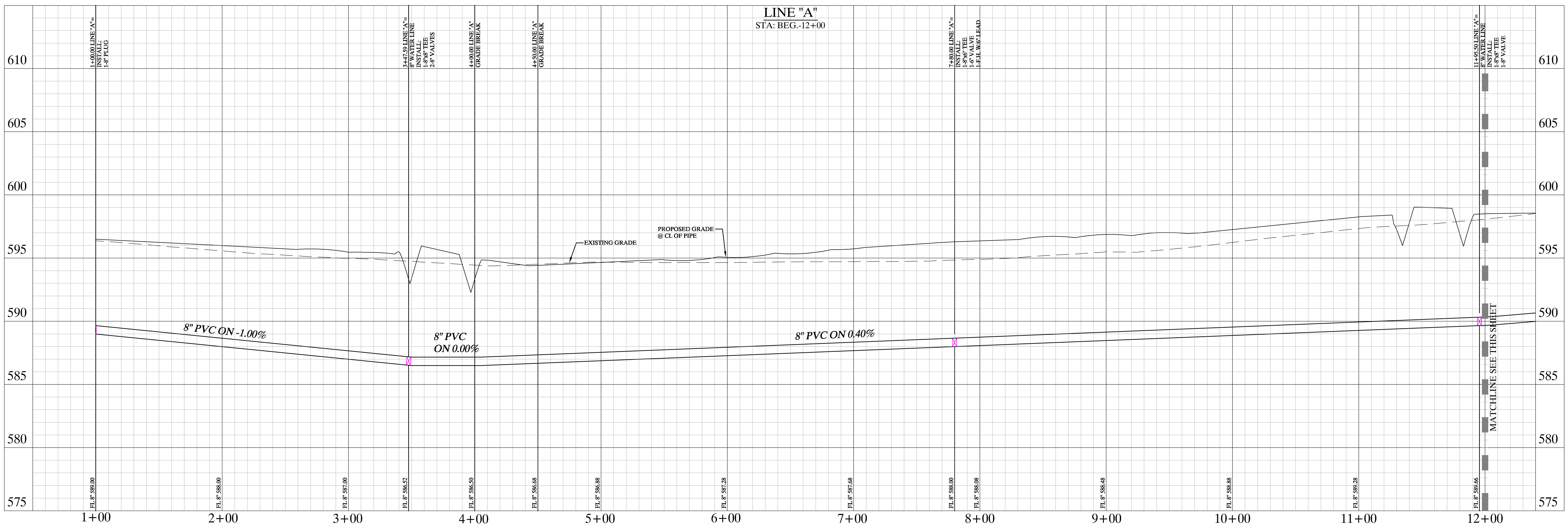

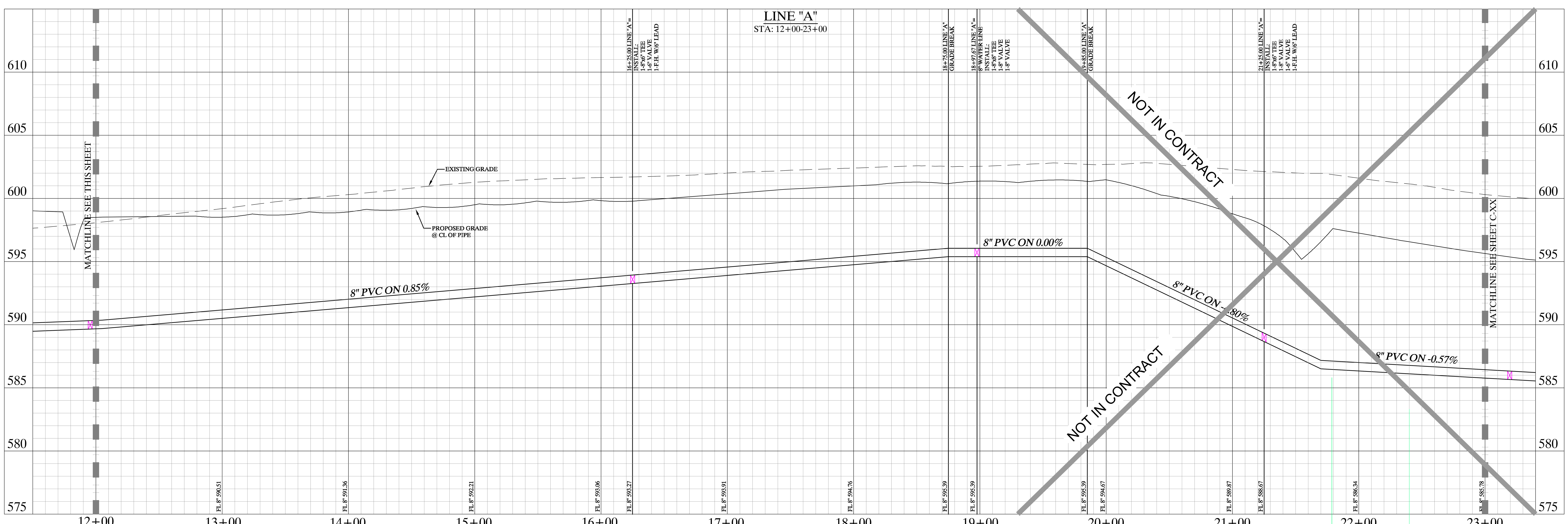

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DATE: 4-14-2014

BY: [signature]

No.	Date	Revisions	App.

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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

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

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

SHEET
C-47

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

"Record Drawings"
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DATE: 4-14-2014 BY: [signature]

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.

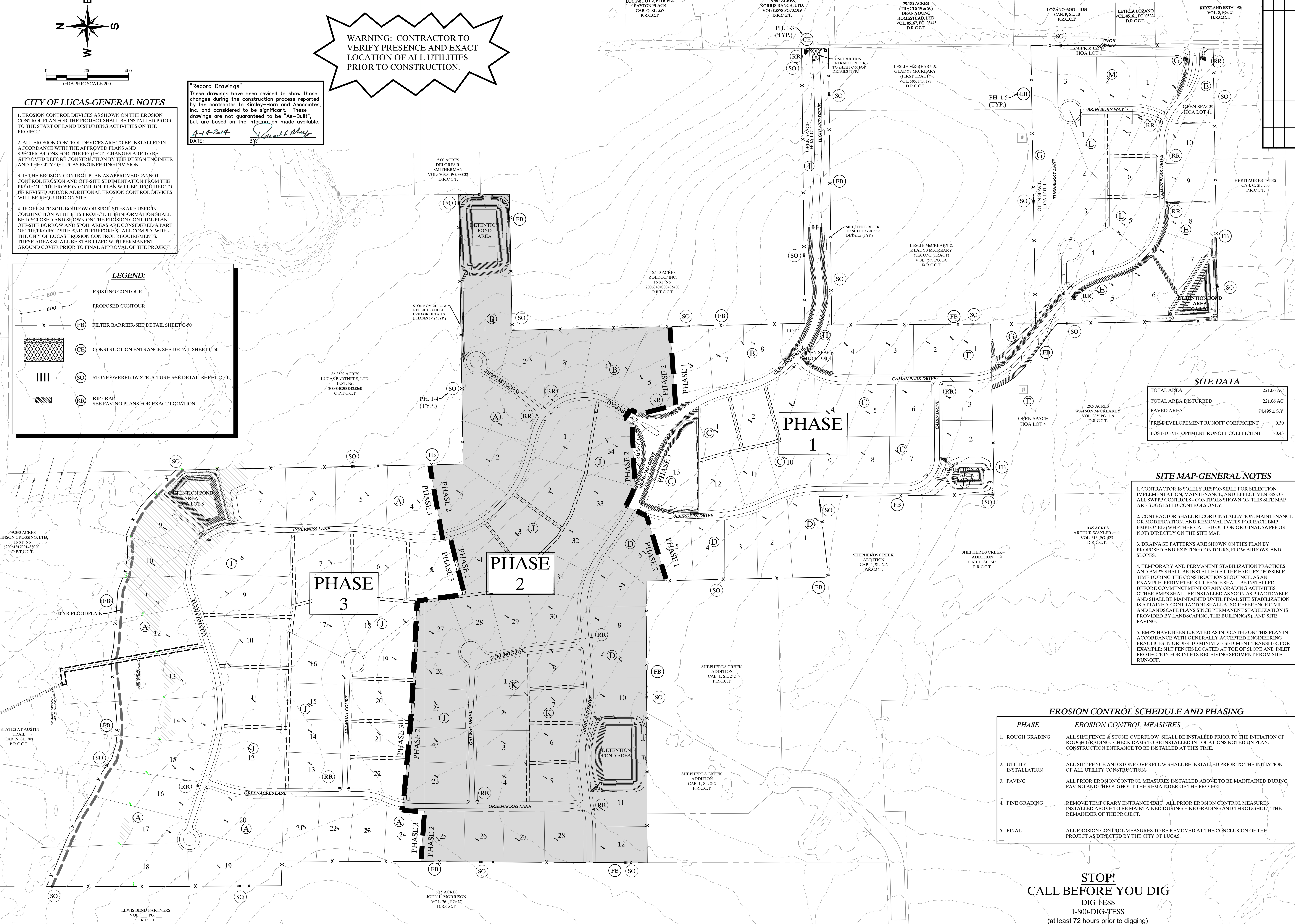
2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY OF LUCAS ENGINEERING DIVISION.

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:

- 600 — EXISTING CONTOUR
- 600 — PROPOSED CONTOUR
- —x— (FB) FILTER BARRIER-SEE DETAIL SHEET C-50
- (CE) CONSTRUCTION ENTRANCE-SEE DETAIL SHEET C-50
- IIII (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-DEVELOPEMENT RUNOFF COEFFICIENT	0.30
POST-DEVELOPEMENT 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 CONTOURS, 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/EXIT. 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)

IMAGES dfwmaps_netims01241279161489З-
XREFS XREF X2436 - XREF xAsbt - XREF xBndy - XREF xExUt - XREF xStrm - XREF xPavi - XREF xLots - XREF xGrad - XREF xtopo-cog - XREF DEMSEAL
LAST SAVED 5/14/2013 3:53 PM
PLOTTED BY MARGOLIT, BEN 4/11/2014 3:04 PM
DWG NAME K:\DAL_CIVIL\64347001\10CEROS.DWG

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.
12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER [signature] 4-14-2014

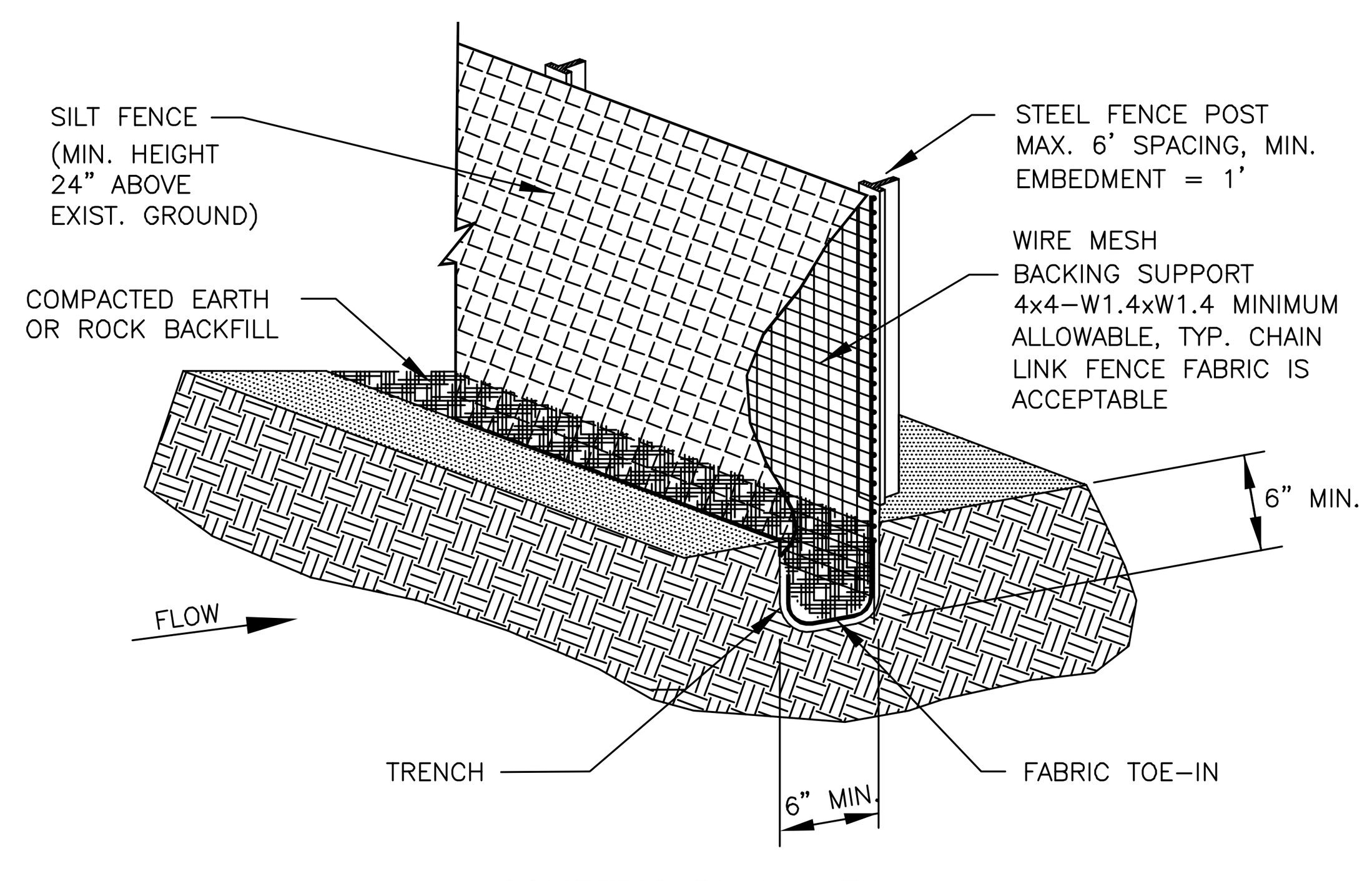
STINSON HIGHLANDS
LUCAS, TEXAS

EROSION CONTROL PLAN

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

SHEET
C-57

SILT FENCE



ISOMETRIC PLAN VIEW
N.T.S.

SILT FENCE GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

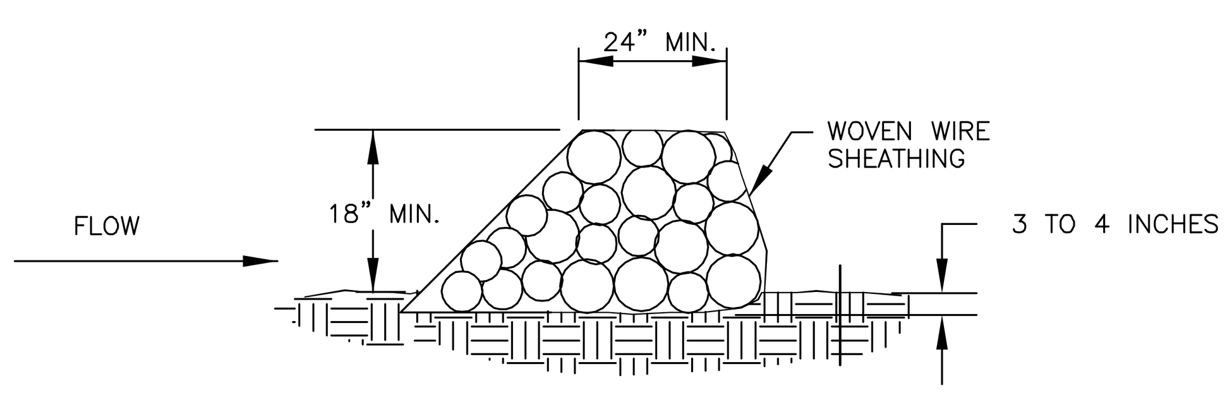
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

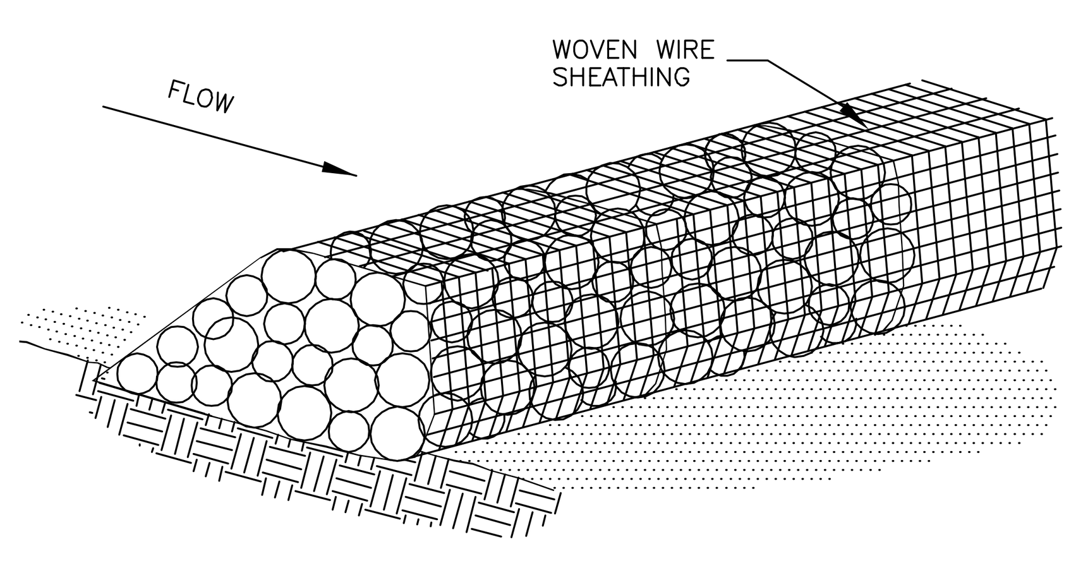
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

ROCK BERM



CROSS SECTION
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.

ROCK BERM GENERAL NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.

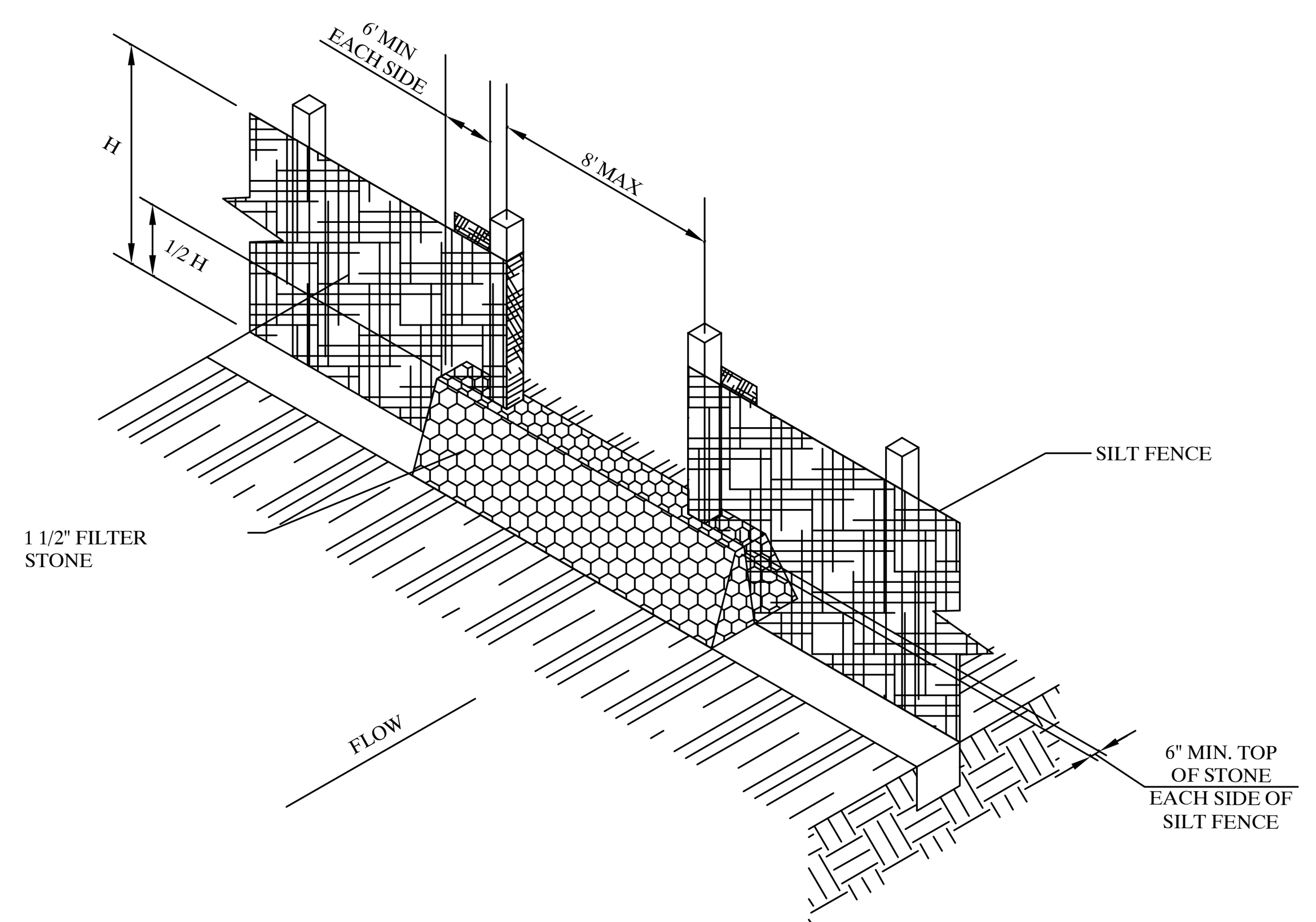
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.

3. THE ROCK BERM SHALL BE INSPECTED EVERY TWO WEEKS OR AFTER EACH 1/2" RAIN EVENT AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTEDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.

5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

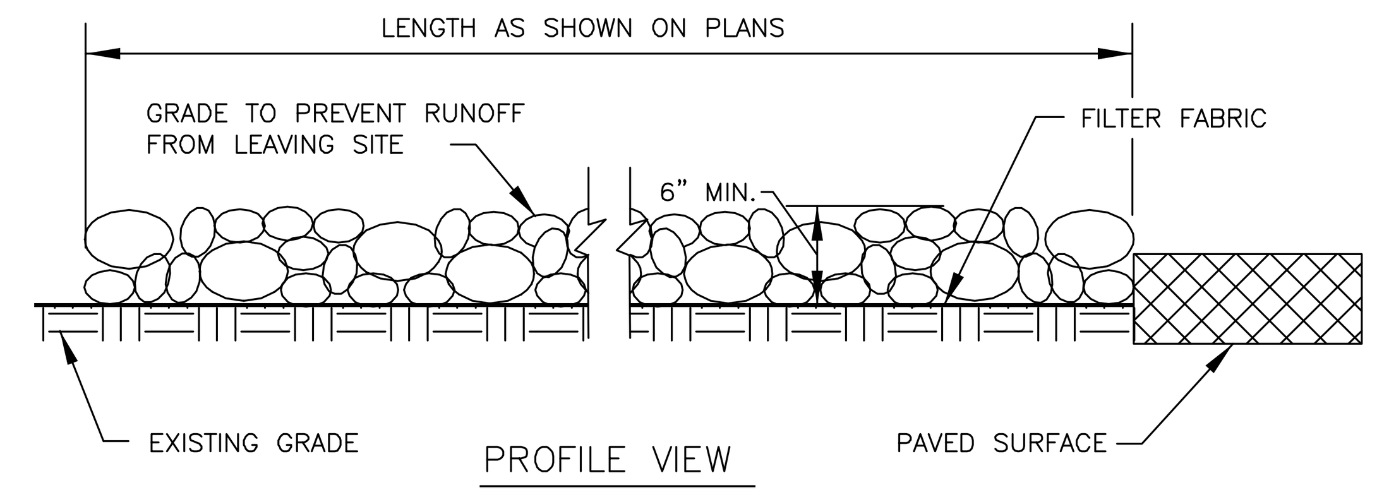
6. ROCK BERM SHOULD BE USED AS CHECK DAMS FOR CONCENTRATED FLOW AND ARE NOT INTENDED FOR USE IN PERIMETER PROTECTION.



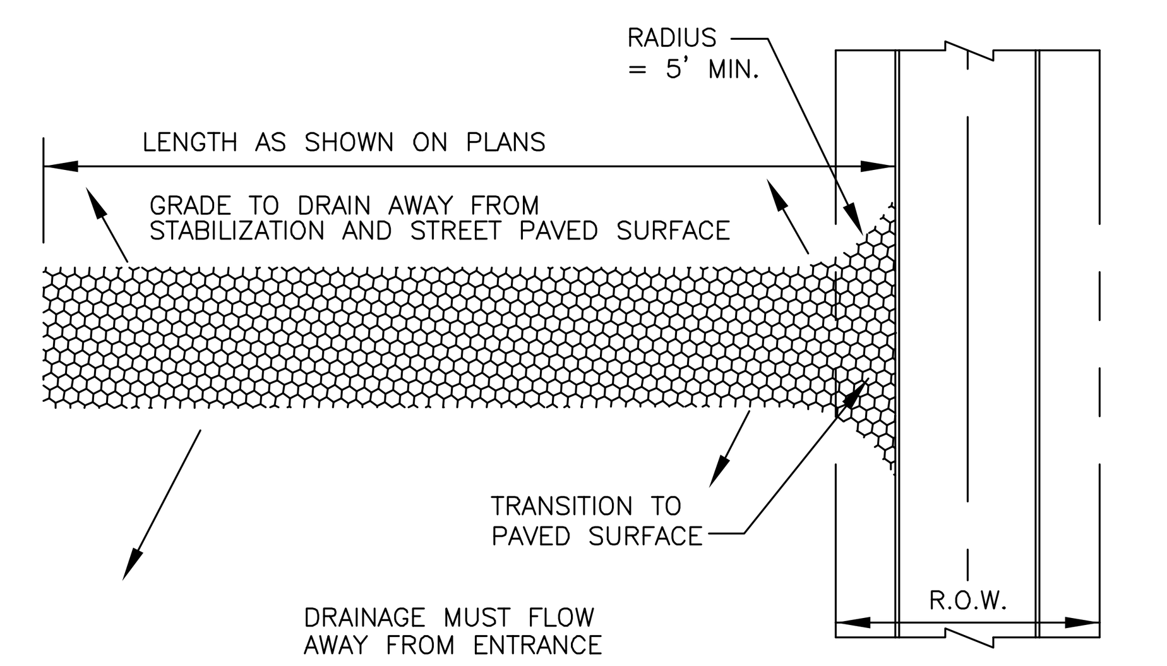
STONE OVERFLOW STRUCTURE (SO)

(TO BE INSTALLED WHERE NEEDED) N.T.S.

STABILIZED CONSTRUCTION ENTRANCE



PROFILE VIEW
N.T.S.



PLAN VIEW
N.T.S.

STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. STONE SHALL BE 3 TO 5 INCH DIAMETER CRUSHED ROCK OR ACCEPTABLE CRUSHED PORTLAND CEMENT CONCRETE.

2. LENGTH SHALL BE SHOWN ON PLANS, WITH A MINIMUM LENGTH OF 30 FEET FORLOTS WHICH ARE LESS THAN 150 FEET FROM EDGE OF PAVEMENT. THE MINIMUMDEPTH IN ALL OTHER CASES SHALL BE 50 FEET.

3. THE THICKNESS SHALL NOT BE LESS THAN 6 INCHES.

4. THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.

7. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

VEGETATIVE STABILIZATION REQUIREMENTS

TEMPORARY SEEDING

ALL DISTURBED AREAS WHICH WILL BE LEFT DORMANT FOR GREATER THAN 14 DAYS SHALL BE SEEDED WITH FAST-GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING OPERATIONS. SELECTION OF THE SEED WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED (SEE DESCRIPTIONS IN TABLE 2). REFERENCE LANDSCAPE PLAN FOR PERMANENT STABILIZATION REQUIREMENTS.

TABLE 2
VEGETATION TABLE*

TEMPORARY SEEDING

SPECIES	PLANTING RATE	PLANTING-DATES
CRIMSON CLOVER	7#/ACRE	8/15 - 11/30
MILLET, FOXTAIL	30#/ACRE	5/1 - 8/31
RYEGRASS, ANNUAL	30#/ACRE	8/15 - 9/30
SPRANGLETOP, GREEN	2.5#/ACRE	2/1 - 5/1
TALL FESCUE	7#-10#/1000 SF	9/1 - 10/15

*USE ONLY USDA CERTIFIED SEED.

SURFACE PREPARATION FOR TEMPORARY SEEDING

1. INSTALL EROSION STRUCTURES SUCH AS DIKES, DIVERSIONS, ETC. PRIOR TO SEEDING.

2. FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR LINE BEFORE SEEDING.

3. ENSURE SEED BED IS PULVERIZED, LOOSE, AND UNIFORM.

APPLICATION

1. WHEN HYDROMULCHING IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES PRIOR TO APPLICATION.

2. APPLY SEED EVENLY USING PROPER EQUIPMENT AND WATER TO AID VEGETATION GROWTH.

3. EROSION CONTROL NETTING SHALL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT AGAINST EROSION. MULCH (STRAW OR FIBER) SHALL BE USED ON RELATIVELY FLAT SLOPES.

NOTES

1. THE OWNER AND CONTRACTOR SHALL EACH SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. OWNER AND CONTRACTOR ARE RESPONSIBLE FOR RETAINING PROOF THAT THE NOI WAS SUBMITTED TO TCEQ (PROOF MUST CONSIST OF CERTIFIED MAIL WITH RETURN RECEIPT).

2. TCEQ TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) CONSTRUCTION GENERAL PERMIT TXR150000, LANDSCAPE PLANS, GEOTECHNICAL INVESTIGATION, AND CIVIL ENGINEERING PLANS AND SPECIFICATIONS ARE HEREBY INCORPORATED INTO THIS SWPPP. CONTRACTOR SHALL OBTAIN AND KEEP A CURRENT COPY OF THESE DOCUMENTS AT THE CONSTRUCTION SITE.

3. ALL EROSION AND SEDIMENTATION CONTROLS MUST BE DESIGNED, INSTALLED AND MAINTAINED TO RETAIN SEDIMENT ON-SITE TO THE EXTENT PRACTICABLE.

4. ALL CONTROL MEASURES MUST BE SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES.

5. OFF-SITE ACCUMULATIONS OF SEDIMENT ESCAPING PROJECT SITE MUST BE REMOVED AT A FREQUENCY NECESSARY TO MINIMIZE OFF-SITE IMPACTS. FOR EXAMPLE, SEDIMENTATION WITHIN STREETS ADJACENT TO THE PROJECT SITE MUST BE REMOVED PRIOR TO RAINFALL EVENTS. ALL FINES IMPOSED FOR TRACKING ONTO PUBLIC ROADS SHALL BE PAID BY THE CONTRACTOR. IN ANY EVENT SILT SHALL ALWAYS BE REMOVED SUCH THAT PONDING IN A STREET IS PREVENTED.

6. CONTRACTOR MUST REMOVE SEDIMENT FROM ALL APPLICABLE CONTROLS WHEN DESIGN SILT STORAGE CAPACITY HAS BEEN REDUCED BY 50%.

7. CONTRACTOR SHALL ENSURE THAT ALL LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS ARE PREVENTED FROM BECOMING POLLUTANT SOURCES.

8. OFF-SITE MATERIAL STORAGE AREAS USED SOLELY FOR THIS PROJECT, INCLUDING DIRT STOCKPILES AND BORROW AREAS (AS APPLICABLE), MUST BE PREVENTED FROM BECOMING POLLUTANT SOURCES BY INSTALLATION OF BMP'S.

9. CONTRACTOR SHALL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE.

10. DISTURBED PORTIONS OF SITE MUST BE STABILIZED. STABILIZATION PRACTICES MUST BE INITIATED WITHIN 14 DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION HAS BEEN EITHER TEMPORARILY OR PERMANENTLY CEASED, UNLESS EXCEPTED WITHIN THE TPDES PERMIT.

11. CONTRACTOR MUST MAINTAIN RECORDS OF DATES IN THE SWPPP OF WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES EITHER TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED.

12. CONTRACTOR SHALL ENSURE THAT SWPPP IS CONSISTENT WITH SEDIMENT AND EROSION SITE PLANS, STORM WATER PERMITS, AND STORM WATER MANAGEMENT PLANS APPROVED BY STATE, TRIBAL, OR LOCAL OFFICIALS. UPDATES TO SWPPP ARE REQUIRED UPON WRITTEN NOTICE TO PERMITTEE OF CHANGES APPLICABLE TO STORM WATER PERMITS, SEDIMENT AND EROSION CONTROL PLANS, OR STORM WATER MANAGEMENT PLANS BY SUCH OFFICIALS.

13. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND ANY OTHER PROTECTIVE MEASURES IDENTIFIED IN THE SWPPP MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. WHEN INSPECTIONS IDENTIFY CONTROLS OPERATING INEFFECTIVELY, THE CONTROLS SHALL BE MAINTAINED PRIOR TO THE NEXT RAINFALL EVENT OR AS NECESSARY TO MAINTAIN EFFECTIVENESS OF THE CONTROL, OR AS SOON AS PRACTICABLE.

14. CONTRACTOR SHALL INSPECT DISTURBED AREAS, MATERIAL STORAGE AREAS EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND VEHICLE ENTRY AND EXIT AREAS AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER.

15. CONTRACTOR SHALL INSPECT STABILIZED AREAS AND AREAS WHERE RUNOFF IS UNLIKELY DUE TO FROZEN OR ARID WEATHER CONDITIONS AT LEAST ONCE PER MONTH.

16. CONTRACTOR SHALL INSPECT ACCESSIBLE DISCHARGE LOCATIONS (OR NEARBY DOWNSTREAM LOCATIONS IF DISCHARGE POINT IS NOT ACCESSIBLE) IN ORDER TO ASCERTAIN WHETHER OR NOT EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.

17. STRUCTURAL BMP'S SHOULD NOT, TO THE DEGREE ATTAINABLE, BE PLACED WITHIN FLOODPLAINS.

18. BASED ON INSPECTION RESULTS, REVISIONS TO SWPPP MUST BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION. NEW OR MODIFIED CONTROL MEASURES MUST BE INSTALLED PRIOR TO THE NEXT RAINFALL EVENT, OR AS SOON AS PRACTICABLE.

19. REPORTS SUMMARIZING THE SCOPE OF ALL INSPECTIONS, INCLUDING NAME AND QUALIFICATIONS OF INSPECTOR, DATE OF INSPECTION, AND MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWPPP (INCLUDING LOCATION OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS, LOCATION OF CONTROLS THAT NEED TO BE MAINTAINED, LOCATIONS WHERE CONTROLS ARE INADEQUATE OR ARE OPERATING IMPROPERLY, AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED) MUST BE SIGNED BY THE INSPECTOR PER 30 TEXAS ADMINISTRATIVE CODE (TAC) SECTION 305.128, AND RETAINED WITHIN THE SWPPP FOR AT LEAST 3 YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. REPORTS THAT DO NOT IDENTIFY INCIDENTS OF NON-COMPLIANCE SHALL CONTAIN A CERTIFICATION STATING THAT THE SITE IS IN COMPLIANCE WITH THE SWPPP AND THE GENERAL PERMIT.
THE CONTRACTOR SHALL CERTIFY AS FOLLOWS:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

20. CONTRACTOR SHALL IDENTIFY ALL SOURCES OF ALLOWABLE NON-STORM WATER THAT WILL BE COMBINED WITH STORM WATER AT THE SITE (EXCEPT FIRE-FIGHTING ACTIVITIES) AND ENSURE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR NON-STORM WATER COMPONENT(S) OF DISCHARGE.

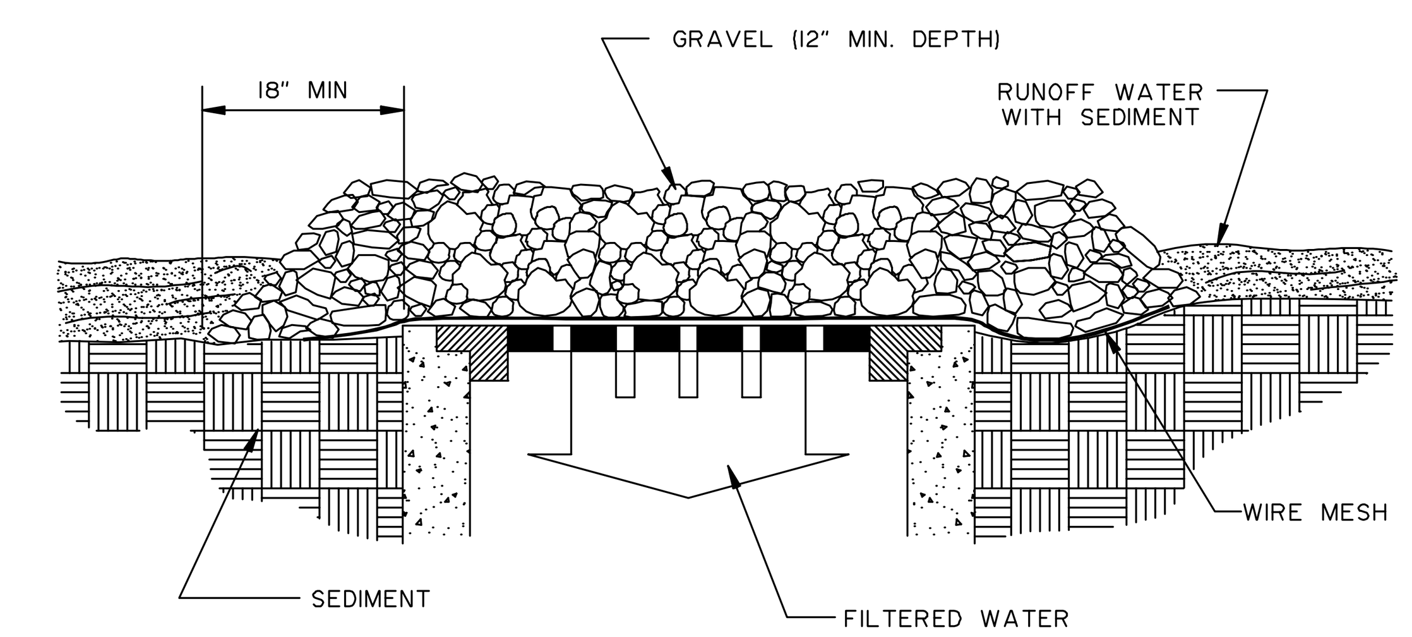
21. CONTRACTOR SHALL ENSURE THAT THE INDIVIDUAL SIGNING THE SWPPP MAKES THE CERTIFICATION UNDER PART VI.G.2.d OF THE GENERAL PERMIT. THIS CERTIFICATION MUST APPEAR WITHIN THE SWPPP.

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

22. CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) TO TCEQ WHEN THE SITE NO LONGER HAS ANY STORM WATER DISCHARGES ASSOCIATED WITH AN INDUSTRIAL ACTIVITY AS DEFINED WITHIN 40 CFR 122.26(b)(14), OR WHEN THE CONTRACTOR IS NO LONGER DEFINED AS THE SITE OPERATOR.

"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: 4-14-2014 BY: [signature]

INLET PROTECTION WIRE MESH AND GRAVEL

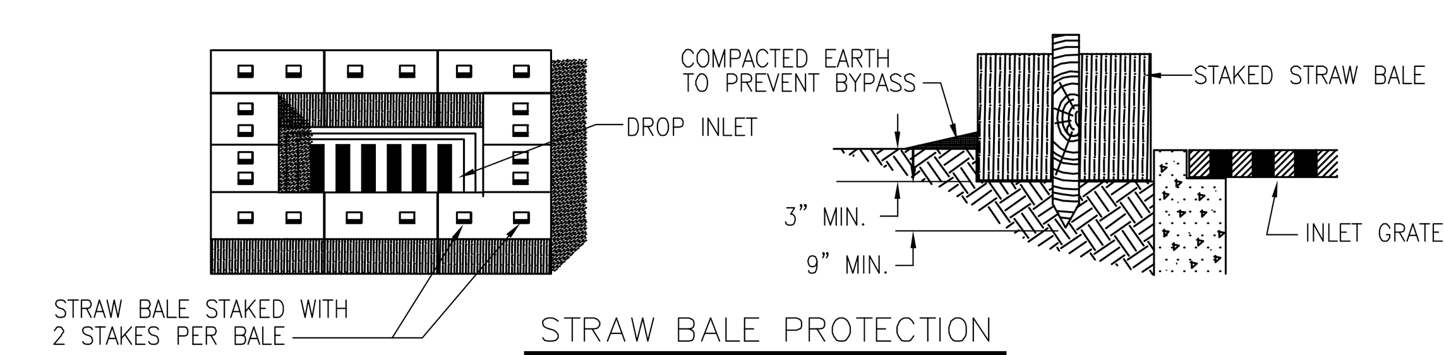


CROSS SECTION
N.T.S.

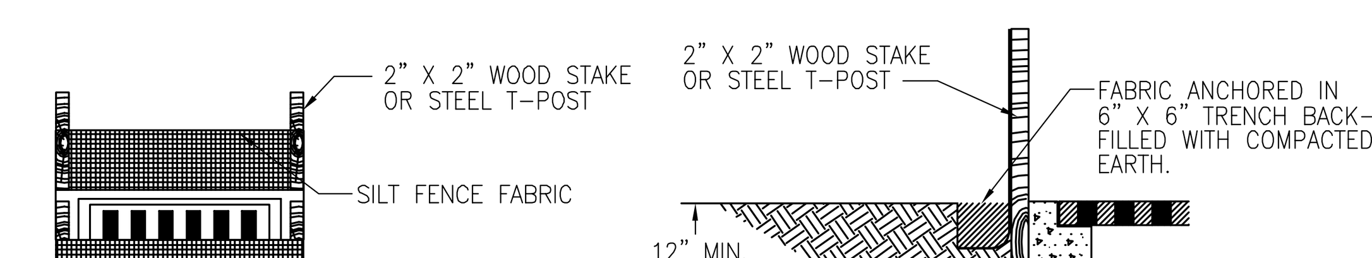
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATION FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE AND UNPROTECTED AREAS.

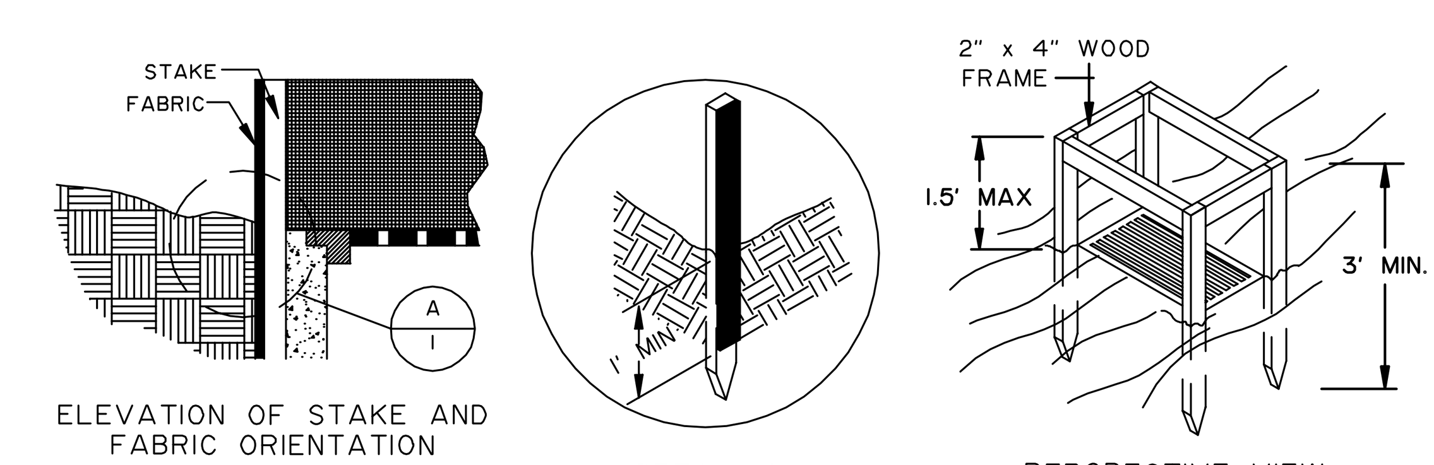
INLET PROTECTION WIRE MESH AND GRAVEL



STRAW BALE PROTECTION
N.T.S.



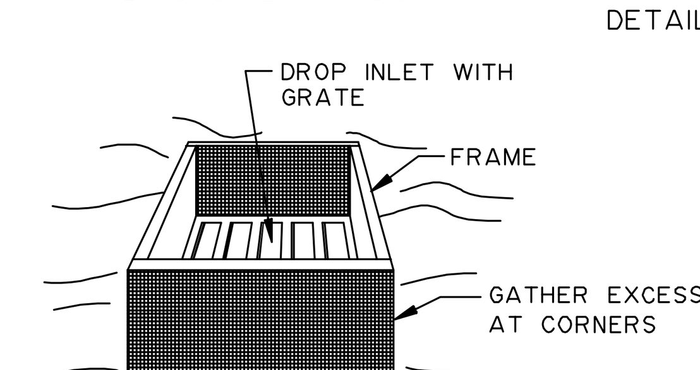
I. STANDARD INSTALLATION



ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL A

PERSPECTIVE VIEW



II. ALTERNATE INSTALLATION

PERSPECTIVE VIEW

FILTER FABRIC PROTECTION
N.T.S.

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVER-LAND FLOWS (NOT TO EXCEED 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS. SUCH AS IN STREETS OR HIGHWAY MEDIANS.

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

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STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED
PROFESSIONAL ENGINEER
4-14-2014

STINSON HIGHLANDS
LUCAS, TEXAS

EROSION CONTROL DETAILS

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

SHEET
C-58

Modified Rational Method

Pond 1

Area	78.55	acres
Time ([illegible])	25.83	minutes
C value	0.30	
I-100yr	6.1	in/hr

Area	10.87	acres
Time (Tc)	18.65	minutes
C value	0.30	
I-100yr	7	in/hr

Area*	[illegible]	acres
Time (Tc)	[illegible]	minutes
C value**	[illegible]	
I-100yr	[illegible]	in/hr

Area	18.33	acres
Time (Tc)	15.53	minutes
C value	0.39	
I-100yr	7.56	in/hr

Time (min.)	I-100yr	C value	Area (ac)	Runoff (cfs)
10	8.74	[illegible]	64.78	215.15
15	7.62	0.38	64.78	187.58
20	6.80	0.38	64.78	167.39
30	5.80	0.38	64.78	142.78
40	5.02	0.38	64.78	123.57
50	4.45	0.38	64.78	109.54
60	3.98	0.38	[illegible]	97.97
70	3.65	0.38	[illegible]	89.85
80	3.34	0.38	[illegible]	82.22
90	3.08	0.38	[illegible]	75.82
100	2.89	0.38	[illegible]	71.14
110	2.69	0.38	[illegible]	66.22
120	2.52	0.38	64.78	62.03
130	2.39	0.38	64.78	58.83
140	2.28	0.38	64.78	56.13
150	2.16	0.38	64.78	53.17
160	2.07	0.38	64.78	[illegible]
170	1.98	0.38	64.78	[illegible]
180	1.90	0.38	64.78	[illegible]
190	1.81	0.38	64.78	[illegible]

Storm Event	Runoff	Inflow (ft^3)
10	215.15	129,088
15	187.58	168,819
20	167.39	200,870
30	142.78	256,995
40	123.57	296,578

Storm	Time	Release	Outflow (ft^3)
10	34.17	112.53	115,354
15	39.17	112.53	[illegible]
20	44.17	112.53	[illegible]
30	54.17	112.53	[illegible]
40	64.17	112.53	[illegible]

Storm	Inflow	Outflow	Storage (ft^3)
10	129,088	[illegible]	13,735
15	168,819	[illegible]	36,586
20	200,870	[illegible]	51,757
30	256,995	[illegible]	74,124
40	296,578	216,630	

NOT IN CONTRACT

NOT IN CONTRACT

* Area includes portions of off site flow that continue to flow onto property after fully developed.
**C value is weighted based on 2-acre, 1.5-acre, 1.0 acre, and OS C's.

Modified Rational Method

Pond 2

Area	37.00	acres
Time (Tc)	31.43	minutes
C value	0.30	
I-100yr	6.1	in/hr

Area	9.06	acres
Time (Tc)	27.11	minutes
C value	0.30	
I-100yr	6	in/hr

Area*	39.73	acres
Time (Tc)	20.73	minutes
C value**	0.41	
I-100yr	6.75	in/hr

Area	1.19	acres
Time (Tc)	15.65	minutes
C value	0.43	
I-100yr	7.5	in/hr

Area	3.70	acres
Time (Tc)	15.85	minutes
C value	0.43	
I-100yr	7.42	in/hr

Time (min.)	I-100yr	C value	Area (ac)	Runoff (cfs)
10	8.74	0.41	39.73	142.37
15	7.62	0.41	39.73	124.12
20	6.80	0.41	39.73	110.77
30	5.80	0.41	39.73	94.48
40	5.02	0.41	39.73	81.77
50	4.45	0.41	39.73	72.49
60	3.98	0.41	39.73	64.83
70	3.65	0.41	39.73	59.46
80	3.34	0.41	39.73	54.41
90	3.08	0.41	39.73	50.17
100	2.89	0.41	39.73	47.08
110	2.69	0.41	39.73	43.82
120	2.52	0.41	39.73	41.05
130	2.39	0.41	39.73	38.93
140	2.28	0.41	39.73	37.14
150	2.16	0.41	39.73	35.18
160	2.07	0.41	39.73	33.72
170	1.98	0.41	39.73	32.25
180	1.90	0.41	39.73	30.95
190	1.81	0.41	39.73	29.48

Storm Event	Runoff	Inflow (ft^3)
10	142.37	85,421
15	124.12	111,712
20	110.77	132,921
30	94.48	170,060
40	81.77	196,253
50	72.49	217,462

Storm	Time	Release	Outflow (ft^3)
10	30.73	68.38	63,035
15	35.73	68.38	73,291
20	40.73	68.38	83,547
30	50.73	68.38	104,060
40	60.73	68.38	124,572
50	70.73	68.38	145,085

Storm	Inflow	Outflow	Storage (ft^3)
10	85,421	63,035	22,386
15	111,712	73,291	38,421
20	132,921	83,547	49,373
30	170,060	104,060	66,000
40	196,253	124,572	71,681
50	217,462	145,085	

* Area includes portions of off site flow that continue to flow onto property after fully developed.
**C value is weighted based on 2-acre, 1.5-acre, 1.0 acre, and OS C's.

Modified Rational Method

Pond 3

Area	22.62	acres
Time (Tc)	26.68	minutes
C value	0.30	
I-100yr	6.05	in/hr

Area	35.65	acres
Time (Tc)	22.53	minutes
C value**	0.41	
I-100yr	6.5	in/hr

Area	3.05	acres
Time (Tc)	15.5	minutes
C value	0.43	
I-100yr	7.58	in/hr

Time (min.)	I-100yr	C value	Area (ac)	Runoff (cfs)
10	8.74	0.41	35.65	127.75
15	7.62	0.41	35.65	111.38
20	6.80	0.41	35.65	99.39
30	5.80	0.41	35.65	84.78
40	5.02	0.41	35.65	73.37
50	4.45	0.41	35.65	65.04
60	3.98	0.41	35.65	58.17
70	3.65	0.41	35.65	53.35
80	3.34	0.41	35.65	48.82
90	3.08	0.41	35.65	45.02
100	2.89	0.41	35.65	42.24
110	2.69	0.41	35.65	39.32
120	2.52	0.41	35.65	36.83
130	2.39	0.41	35.65	34.93
140	2.28	0.41	35.65	33.33
150	2.16	0.41	35.65	31.57
160	2.07	0.41	35.65	30.26
170	1.98	0.41	35.65	28.94
180	1.90	0.41	35.65	27.77
190	1.81	0.41	35.65	26.46

Storm Event	Runoff	Inflow (ft^3)
10	127.75	76,649
15	111.38	100,240
20	99.39	119,271
30	84.78	152,596
40	73.37	176,100
50	65.04	195,130
60	58.17	209,425
70	53.35	224,071
80	48.82	234,332
90	45.02	243,102
100	42.24	253,450
110	39.32	259,501
120	36.83	265,202
130	34.93	272,481
140	33.33	279,935
150	31.57	284,145
160	30.26	290,459
170	28.94	295,195
180	27.77	299,931
190	26.46	301,597

Storm	Time	Release	Outflow (ft^3)
10	32.53	31.11	30,364
15	37.53	31.11	35,031
20	42.53	31.11	39,699
30	52.53	31.11	49,033
40	62.53	31.11	58,367
50	72.53	31.11	67,701
60	82.53	31.11	77,035
70	92.53	31.11	86,370
80	102.53	31.11	95,704
90	112.53	31.11	105,038
100	122.53	31.11	114,372
110	132.53	31.11	123,707
120	142.53	31.11	133,041
130	152.53	31.11	142,375
140	162.53	31.11	151,709
150	172.53	31.11	161,044
160	182.53	31.11	170,378
170	192.53	31.11	179,712
180	202.53	31.11	189,046
190	212.53	31.11	198,381

Storm	Inflow	Outflow	Storage (ft^3)
10	76,649	30,364	46,285
15	100,240	35,031	65,209
20	119,271	39,699	79,572
30	152,596	49,033	103,564
40	176,100	58,367	117,733
50	195,130	67,701	127,429
60	209,425	77,035	132,390
70	224,071	86,370	137,701
80	234,332	95,704	138,628
90	243,102	105,038	138,063
100	253,450	114,372	
110	259,501	123,707	135,795
120	265,202	133,041	132,161
130	272,481	142,375	130,106
140	279,935	151,709	128,226
150	284,145	161,044	123,101
160	290,459	170,378	120,081
170	295,195	179,712	115,483
180	299,931	189,046	110,884
190	301,597	198,381	103,216

**C value is weighted based on 2-acre, 1.5-acre, 1.0 acre, and OS C's.

Modified Rational Method

Pond [illegible]

Area	36.89	acres
Time (Tc)	[illegible]	minutes
C value	[illegible]	
I-100yr	[illegible]	in/hr

Area	2.56	acres
Time (Tc)	19.97	minutes
C value	0.30	
I-100yr	6.8	in/hr

Area*	17.94	acres
Time (Tc)	20.42	minutes
C value**	0.41	
I-100yr	6.7	in/hr

Area	5.08	acres
Time (Tc)	16.17	minutes
C value	0.43	
I-100yr	7.4	in/hr

Area	1.93	acres
Time (Tc)	15.79	minutes
C value	0.43	
I-100yr	7.48	in/hr

Time (min.)	I-100yr	C value	Area (ac)	Runoff (cfs)
10	8.74	0.41	17.94	64.29
15	7.62	0.41	17.94	56.05
20	6.80	0.41	17.94	50.02
30	5.80	0.41	17.94	42.66
40	5.02	0.41	17.94	36.92
50	4.45	0.41	17.94	32.73
60	3.98	0.41	17.94	29.27
70	3.65	0.41	17.94	26.85
80	3.34	0.41	17.94	24.57
90	3.08	0.41	17.94	22.65
100	2.89	0.41	17.94	21.26
110	2.69	0.41	17.94	19.79
120	2.52	0.41	17.94	18.54
130	2.39	0.41	17.94	17.58
140	2.28	0.41	17.94	16.77
150	2.16	0.41	17.94	15.89
160	2.07	0.41	17.94	15.23
170	1.98	0.41	17.94	14.56
180	1.90	0.41	17.94	13.98
190	1.81	0.41	17.94	13.31

Storm Event	Runoff	Inflow (ft^3)
10	64.29	38,572
15	56.05	50,443
20	50.02	60,020
30	42.66	76,790

Storm	Time	Release	Outflow (ft^3)
10	30.73	51.47	47,446
15	35.73	51.47	55,166
20	40.73	51.47	62,886
30	50.73	51.47	78,325
40	60.73	51.47	93,765

Storm	Inflow	Outflow	Storage (ft^3)
10	38,572	47,446	(8,874)
15	50,443	55,166	(4,723)
20	60,020	62,886	(2,866)
30	76,790	78,325	

NOT IN CONTRACT

* Area includes portions of off site flow that continue to flow onto property after fully developed.
**C value is weighted based on 2-acre, 1.5-acre, 1.0 acre, and OS C's.

Modified Rational Method

Pond 5

Area	21.92	acres
Time (Tc)	20.65	minutes
C value	0.30	
I-100yr	6.75	in/hr

Area	5.29	acres
Time (Tc)	25.96	minutes
C value	0.30	
I-100yr	6.1	in/hr

Area	12.43	acres
Time (Tc)	19.89	minutes
C value	0.30	
I-100yr	6.85	in/hr

Area*	39.51	acres
Time (Tc)	22.45	minutes
C value**	0.38	
I-100yr	6.99	in/hr

Area	5.12	acres
Time (Tc)	16.14	minutes
C value	0.43	
I-100yr	7.41	in/hr

Time (min.)	I-100yr	C value	Area (ac)	Runoff (cfs)
10	8.74	0.38	39.51	131.22
15	7.62	0.38	39.51	114.41
20	6.80	0.38	39.51	102.09
30	5.80	0.38	39.51	87.08
40	5.02	0.38	39.51	75.37
50	4.45	0.38	39.51	66.81
60	3.98	0.38	39.51	59.75
70	3.65	0.38	39.51	54.80
80	3.34	0.38	39.51	50.15
90	3.08	0.38	39.51	46.24
100	2.89	0.38	39.51	43.39
110	2.69	0.38	39.51	40.39
120	2.52	0.38	39.51	37.83
130	2.39	0.38	39.51	35.88
140	2.28	0.38	39.51	34.23
150	2.16	0.38	39.51	32.43
160	2.07	0.38	39.51	[illegible]
170	1.98	0.38	39.51	[illegible]
180	1.90	0.38	39.51	[illegible]
190	1.81	0.38	39.51	27.17

Storm Event	Runoff	Inflow (ft^3)
10	131.22	78,732
15	114.41	102,965
20	102.09	[illegible]
30	87.08	[illegible]
40	75.37	[illegible]
50	66.81	[illegible]

Storm	Time	Release	Outflow (ft^3)
10	32.45	63.30	61,621
15	37.45	63.30	71,116
20	42.45	63.30	[illegible]
30	52.45	63.30	[illegible]
40	62.45	63.30	[illegible]
50	72.45	63.30	[illegible]

Storm	Inflow	Outflow	Storage (ft^3)
10	78,732	61,621	17,111
15	102,965	71,116	31,849
20	122,513	80,611	41,902
30	156,744	99,600	57,144
40	180,886	118,590	62,297
50	200,434	137,579	

NOT IN CONTRACT

* Area includes portions of off site flow that continue to flow onto property after fully developed.
**C value is weighted based on 2-acre, 1.5-acre, 1.0 acre, and OS C's.

"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.

4-14-2014
DATE: BY:

No.	Date	Revisions	App.

Kimley-Horn and Associates, Inc.

12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

HYDROLOGY CALCULATIONS

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

SHEET
C-59

IMAGES
XREFS XREF X24X36 - XREF wetfall details - XREF DEMSEAL
LAST SAVED 5/9/2013 5:17 PM
PLOTTED BY MARGALIT, BEN 4/11/2014 3:05 PM
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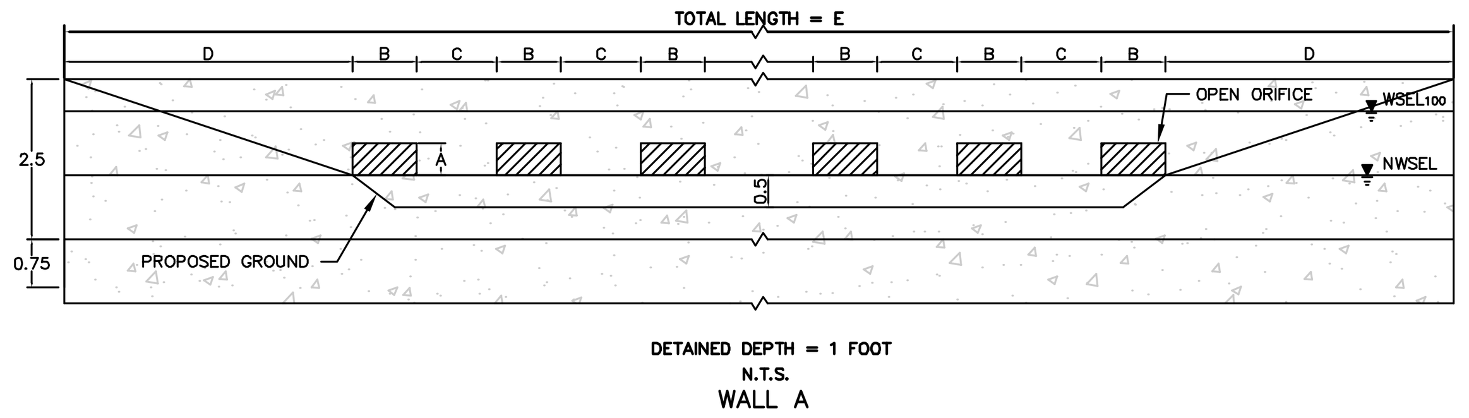
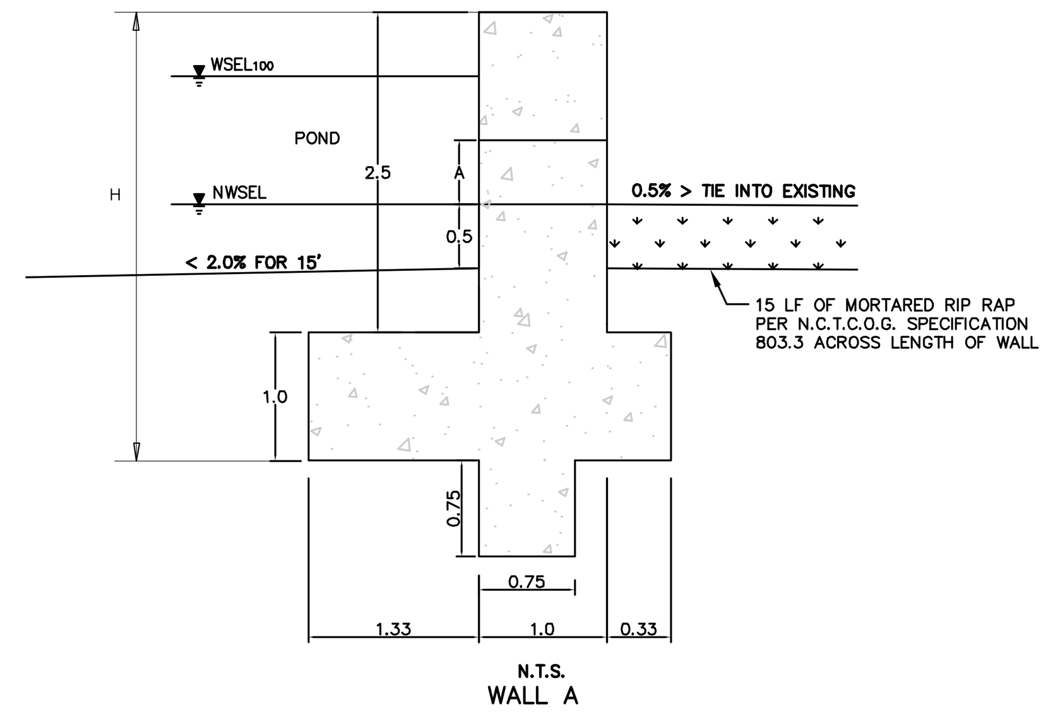
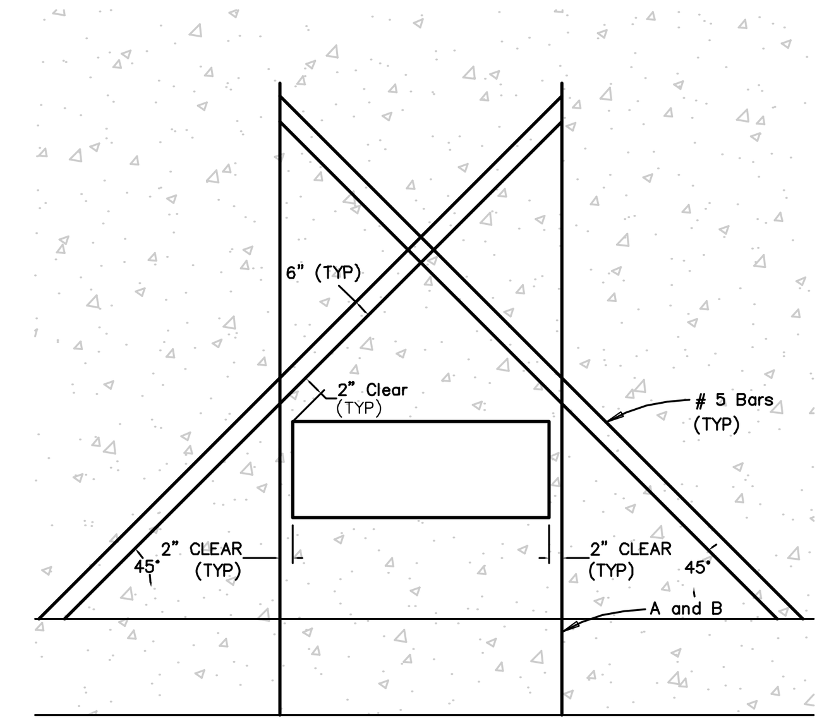


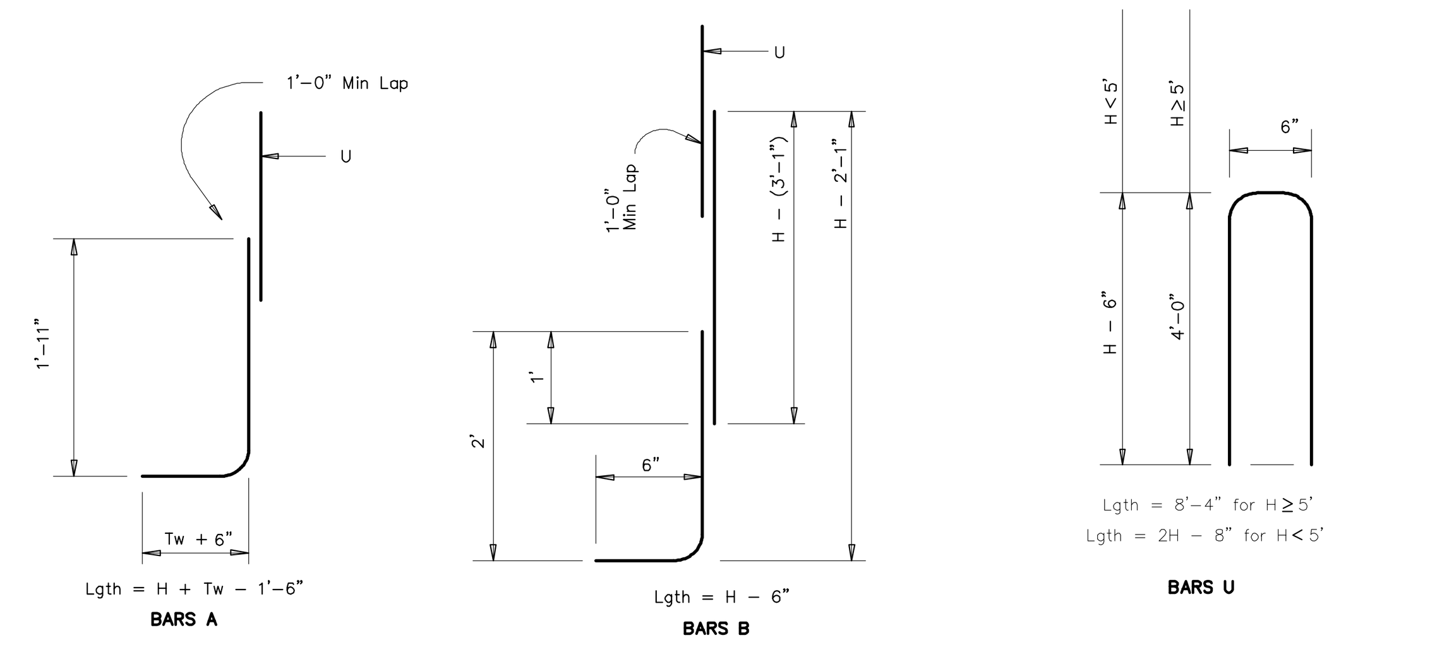


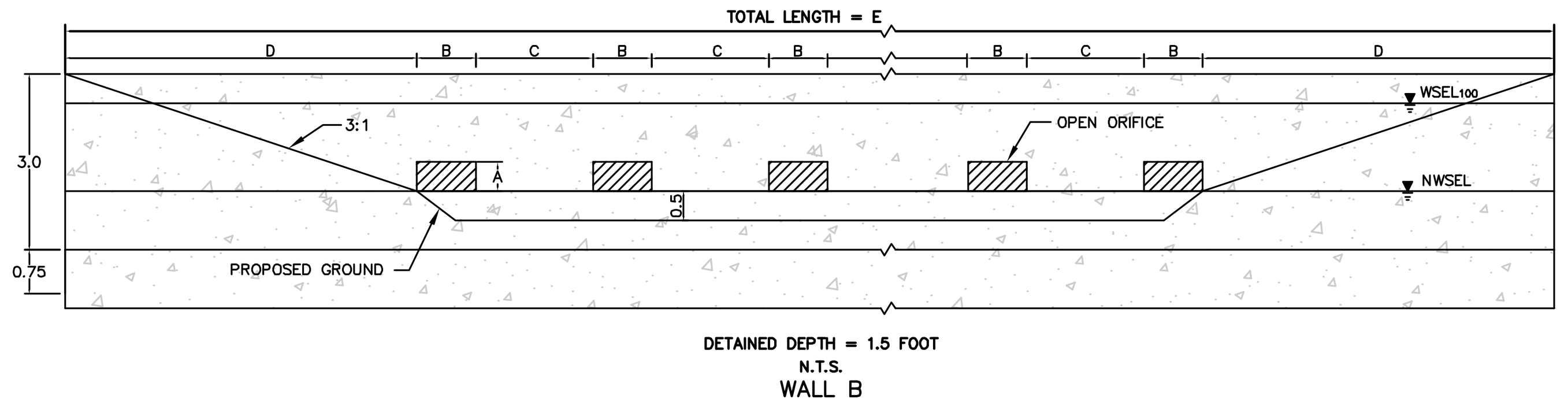


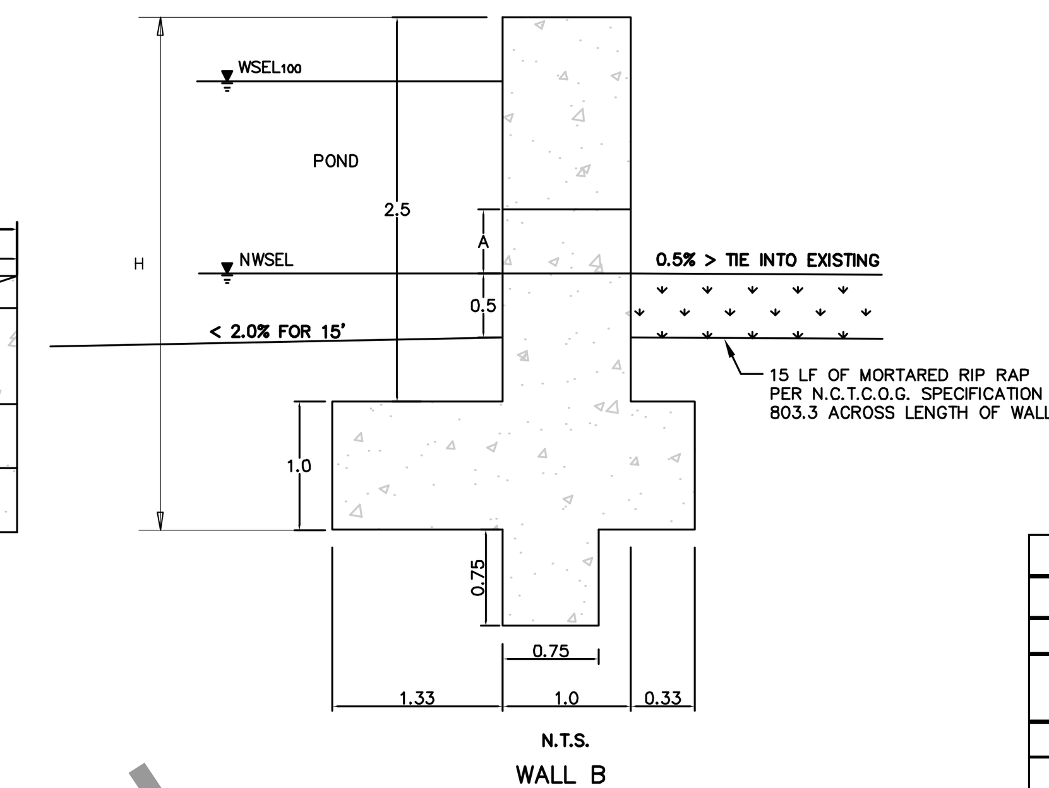
Note:

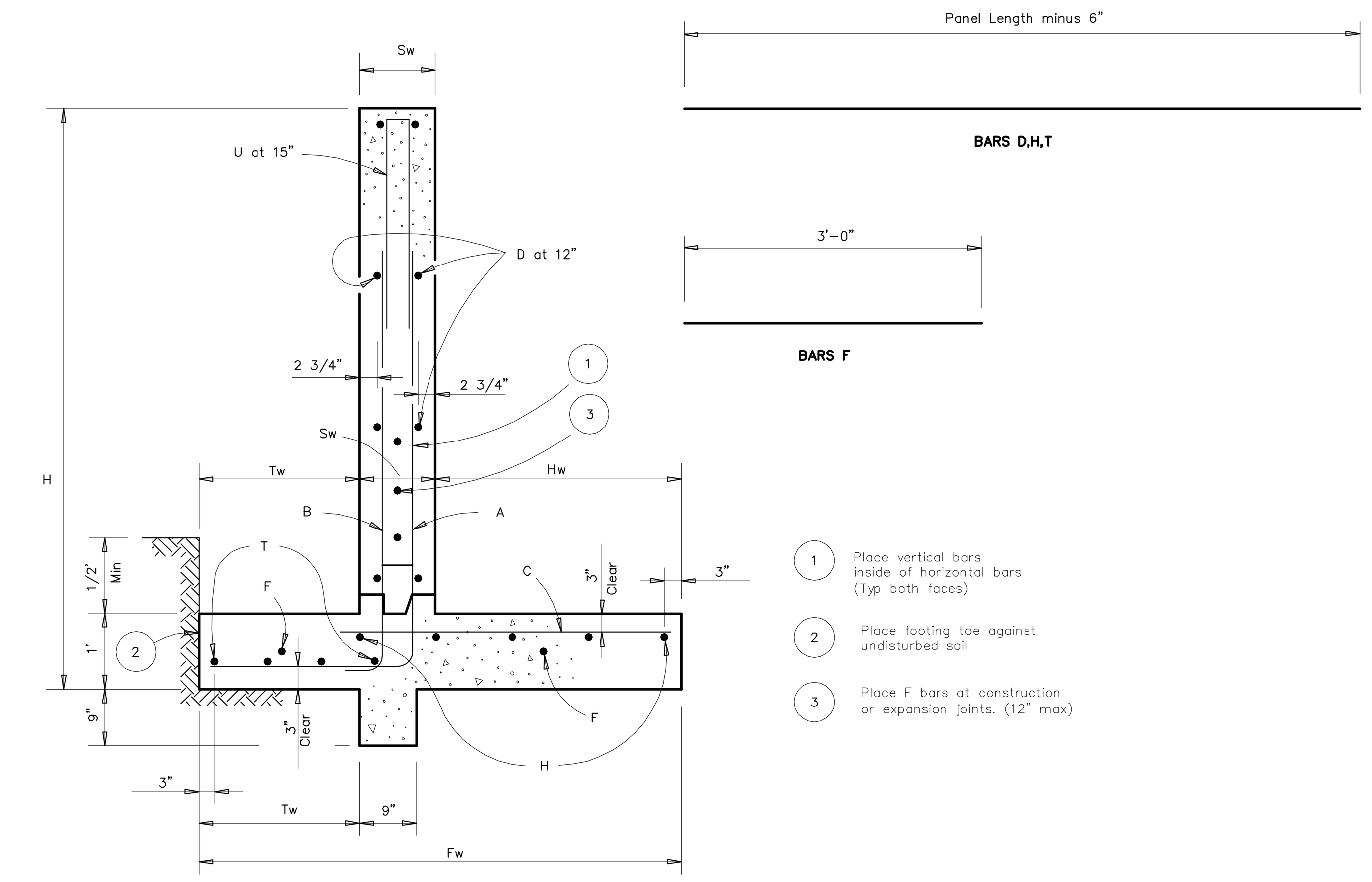
1) Field cut reinforcing at opening. Provide 2" clearance from edge of opening to field cut rebar.

2) Extend cross bars from top of footer to opposite 2" clearance line.





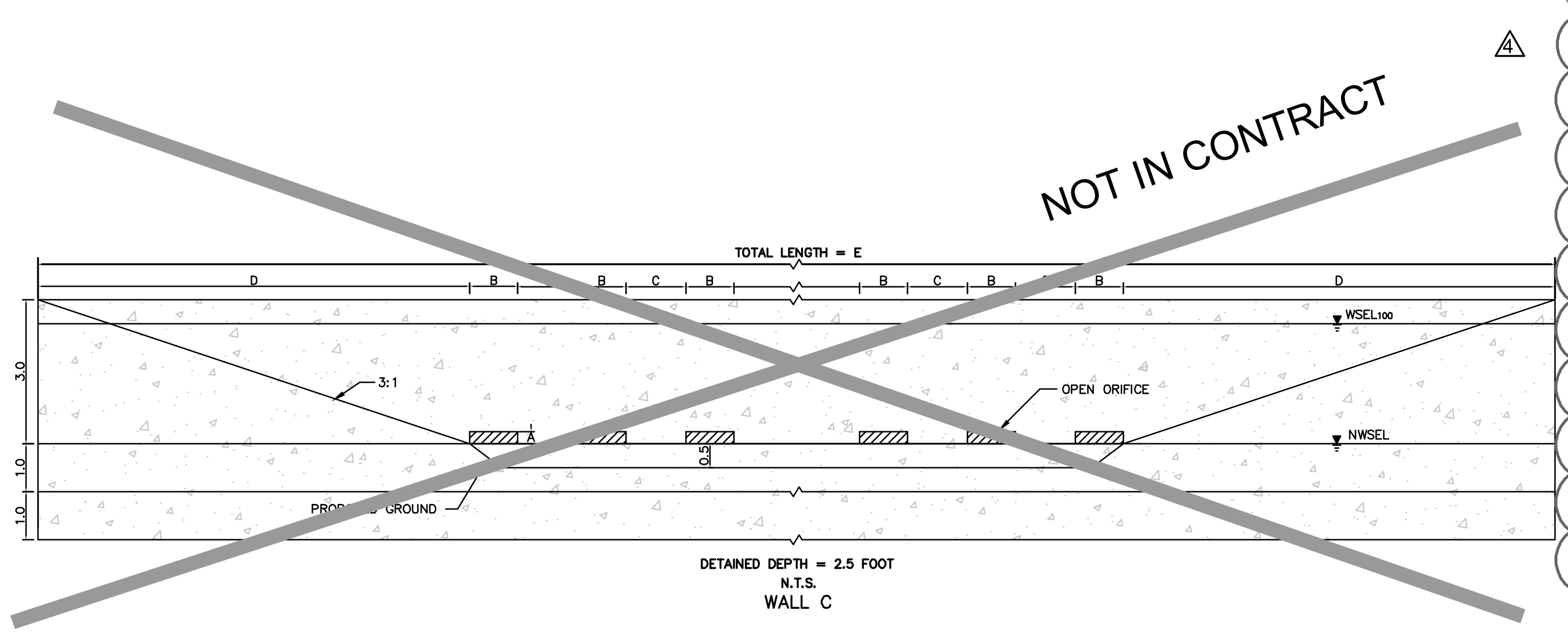


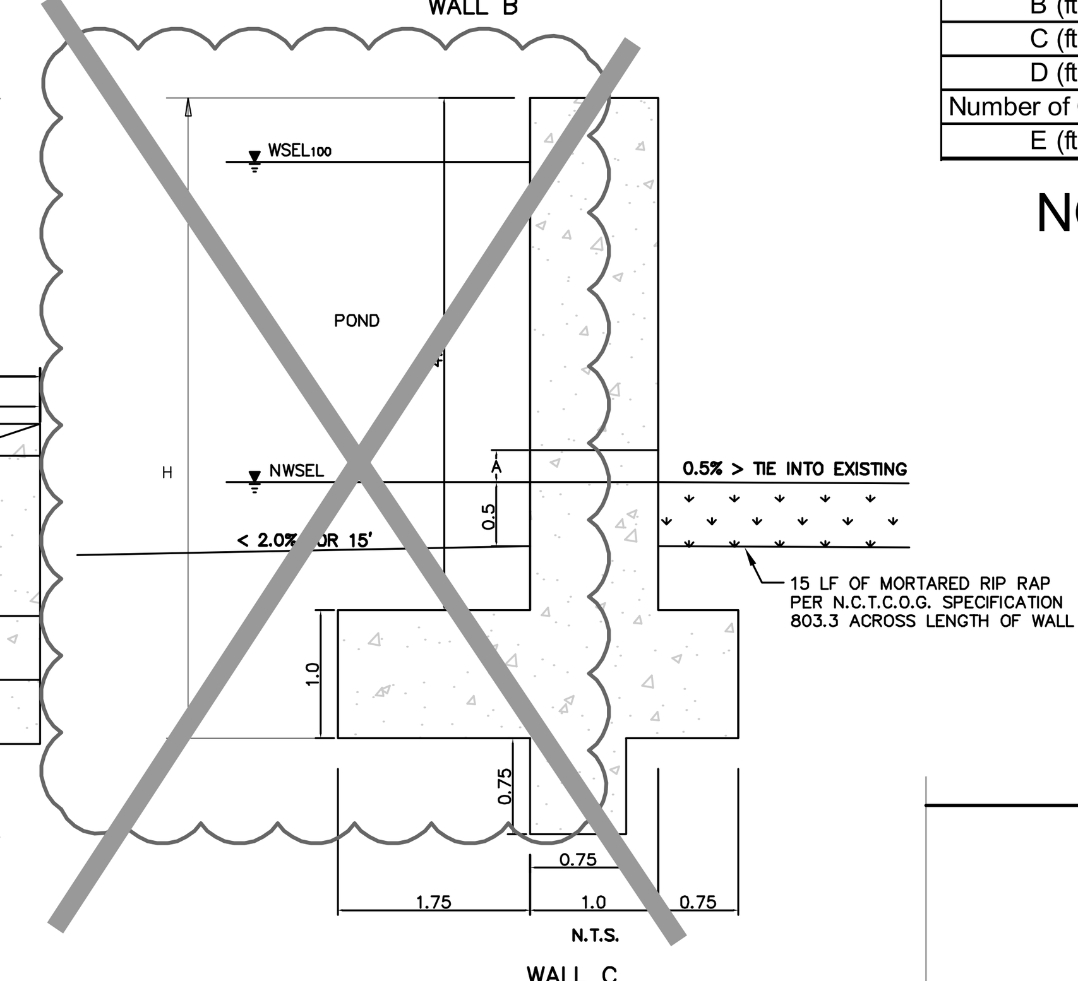


Stinson Highlands Detention Pond Design					
	Pond 1	Pond 3	Pond 2	Pond 4	Pond 5
Wall Design					
Wall	B	A	B	A	B
A (ft)	[illegible]	0.50	0.25	0.50	0.50
B (ft)	[illegible]	1.00	1.00	1.00	1.00
C (ft)	1.75	1.25	1.25	[illegible]	1.75
D (ft)	6.00	4.50	9.00	[illegible]	[illegible]
Number of Orifices	41	32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

NOT IN CONTRACT NOT IN CONTRACT

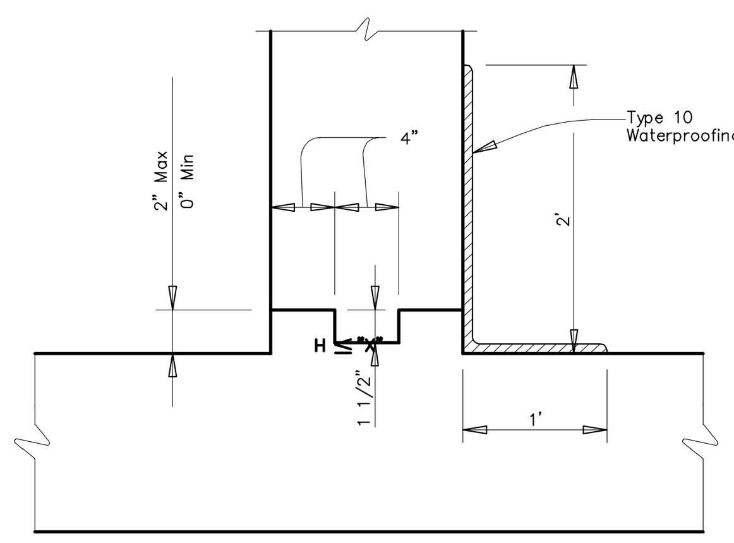
NOT IN CONTRACT





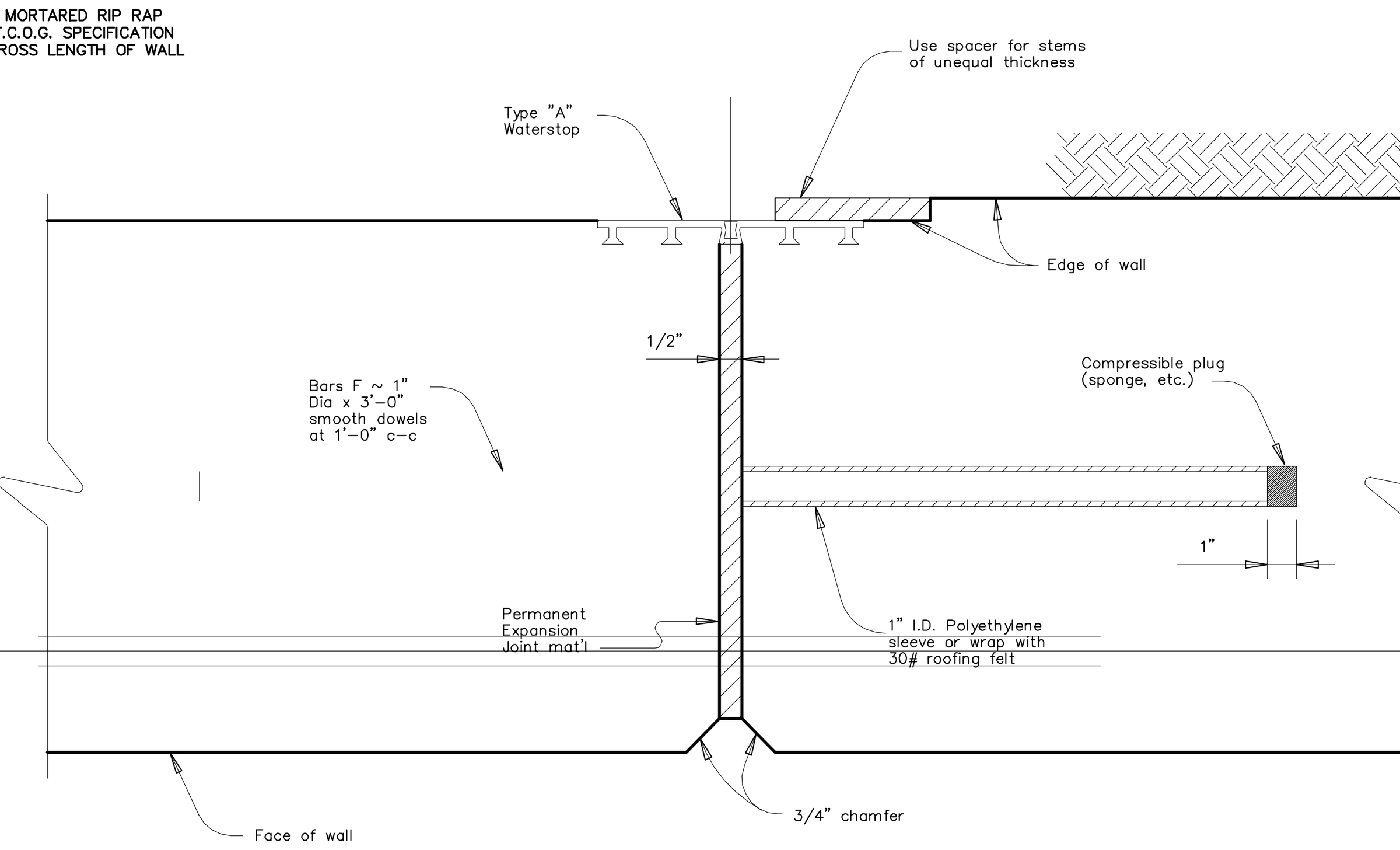
REBAR SPECIFICATIONS

Wall	H	Fw	Tw	A (26 #5 @ 8" c-c) Length	A Wt	B (26 #5 @ 8" c-c) Length	B Wt	C Size	C No	C Span	C Length	C Wt	D (#5 @ 12" c-c) No	D Wt	F (@ 12" c-c) No	F Wt	H (#5 @ 12" c-c) No	H Wt	T (#5 @ 12" c-c) No	T Wt	U (26 #5 @ 15" c-c) Length	U Wt
A	3.5	2' - 8"	1' - 4"	3' - 10"	104	3' - 6"	95	26	#4	15"	1' - 10"	32	8	263	6	48	2	66	2	66	7' - 4"	199
B	4	2' - 8"	1' - 4"	3' - 10"	104	3' - 6"	95	26	#4	15"	1' - 10"	32	8	263	6	48	2	66	2	66	7' - 4"	199
C	5	3' - 6"	1' - 9"	5' - 3"	142	4' - 6"	122	26	#4	15"	2' - 3"	39	10	329	7	56	2	66	3	99	8' - 4"	226

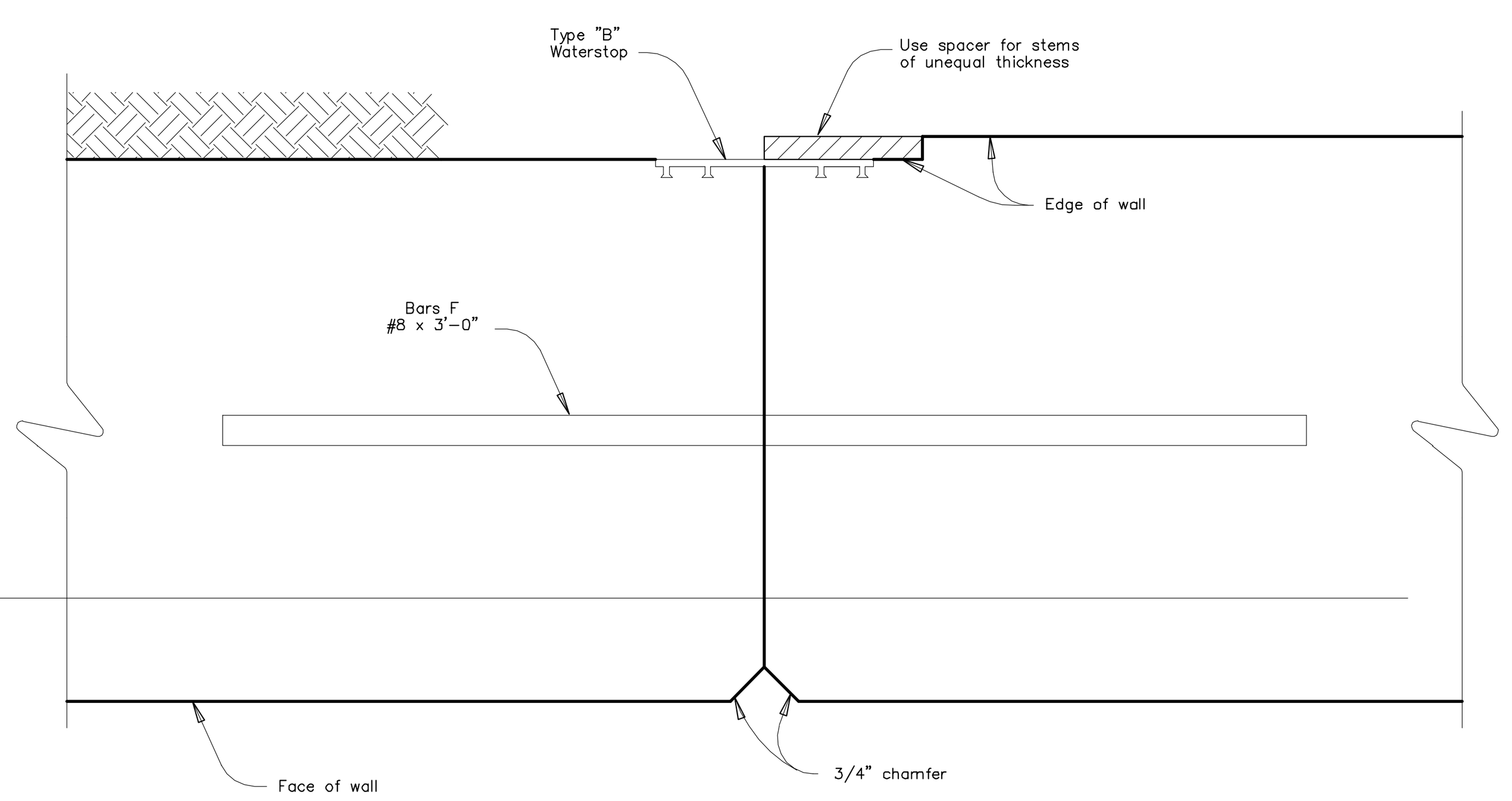


DESIGN	"X"
A	14'
B	12'

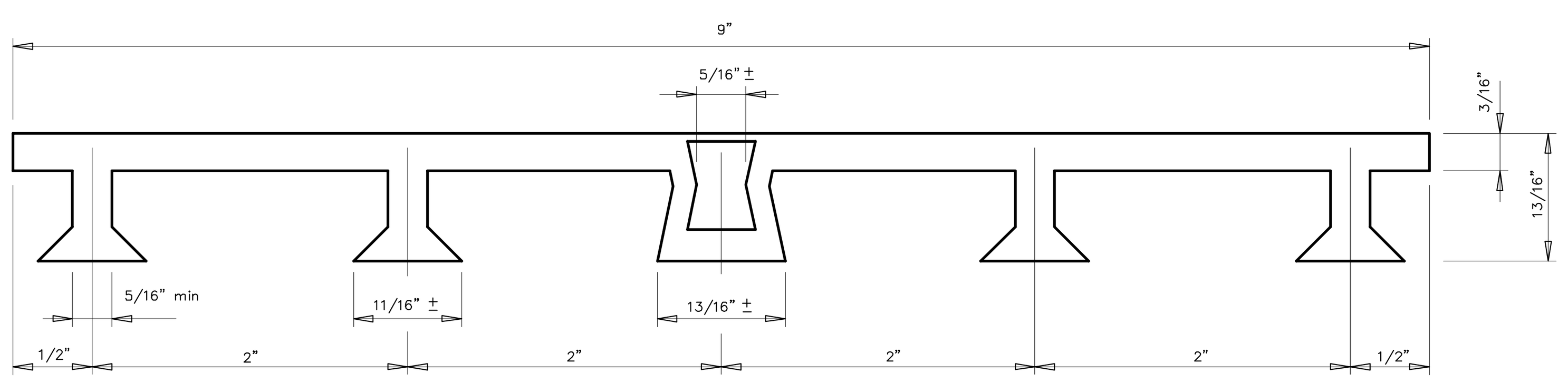
JOINT AND WATERSTOP DETAILS



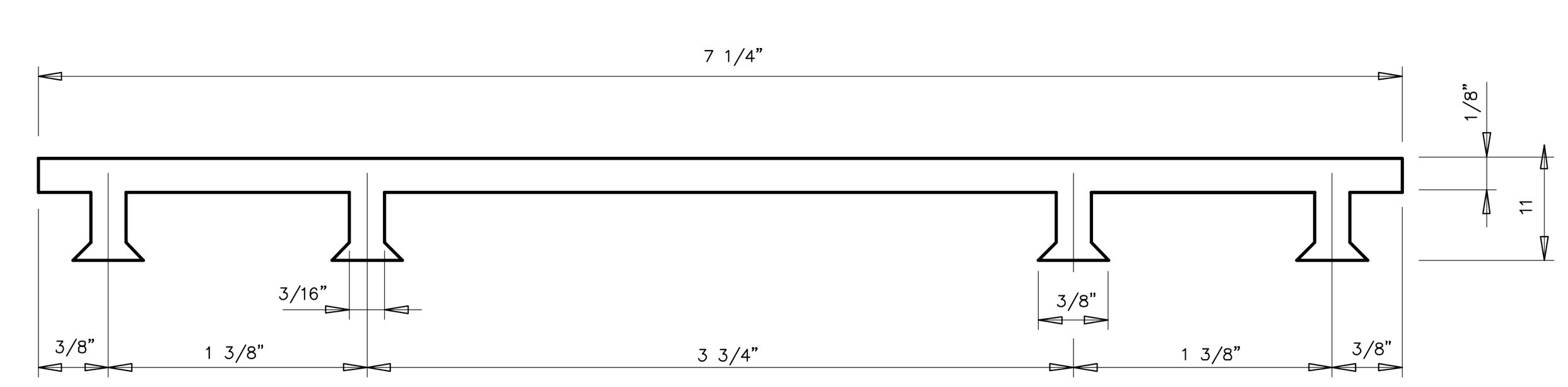
EXPANSION JOINT



CONSTRUCTION JOINT



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'.

"Record Drawings"
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DATE: 4-14-2014 BY:

Kimley-Horn and Associates, Inc.
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12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
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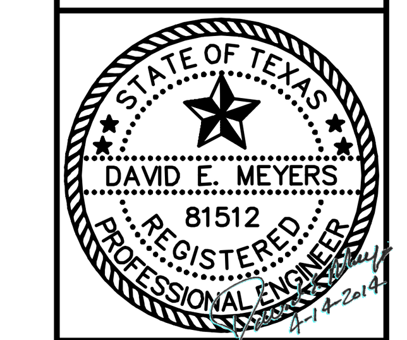
No.	Date	Revisions	App.

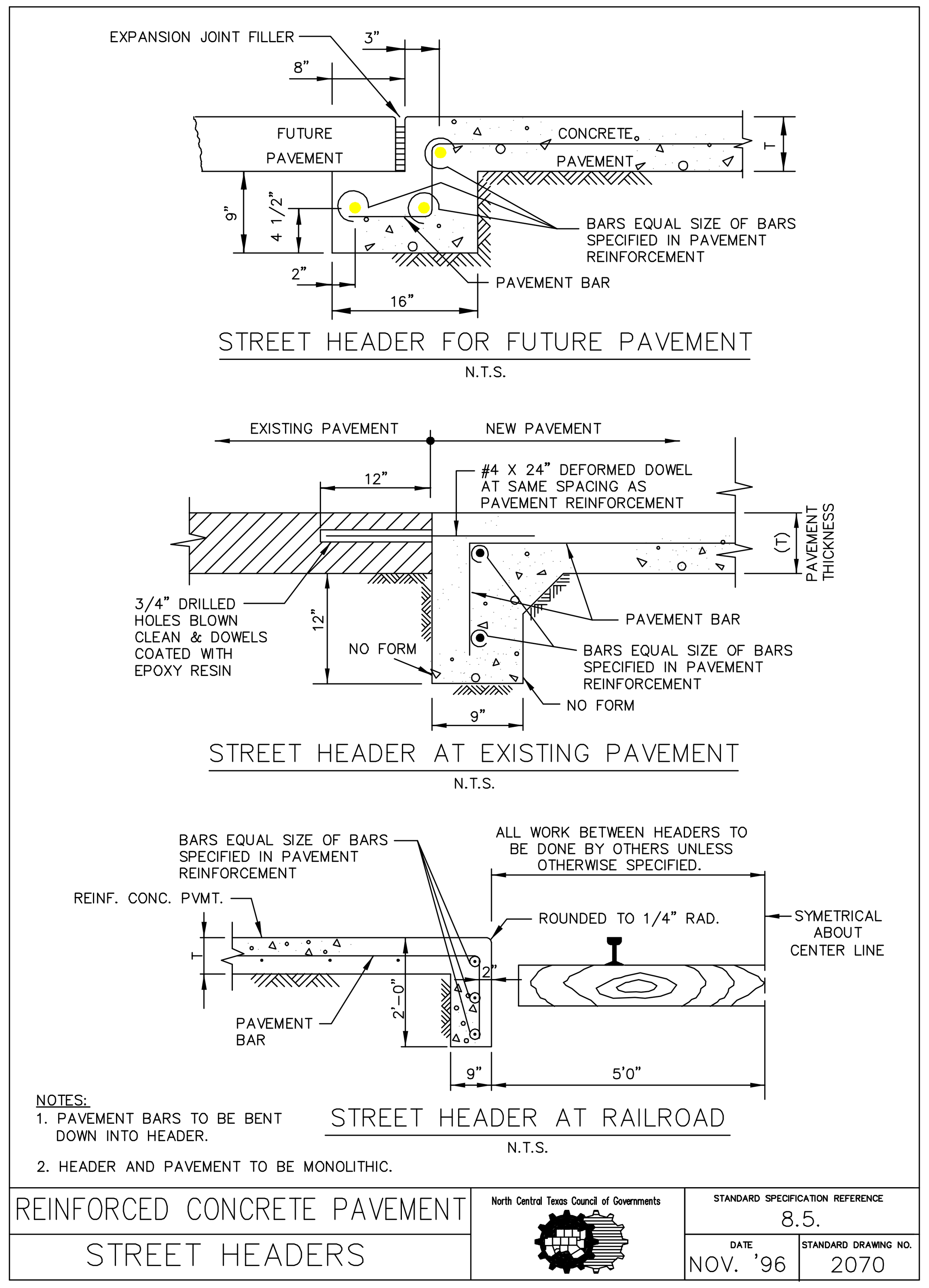


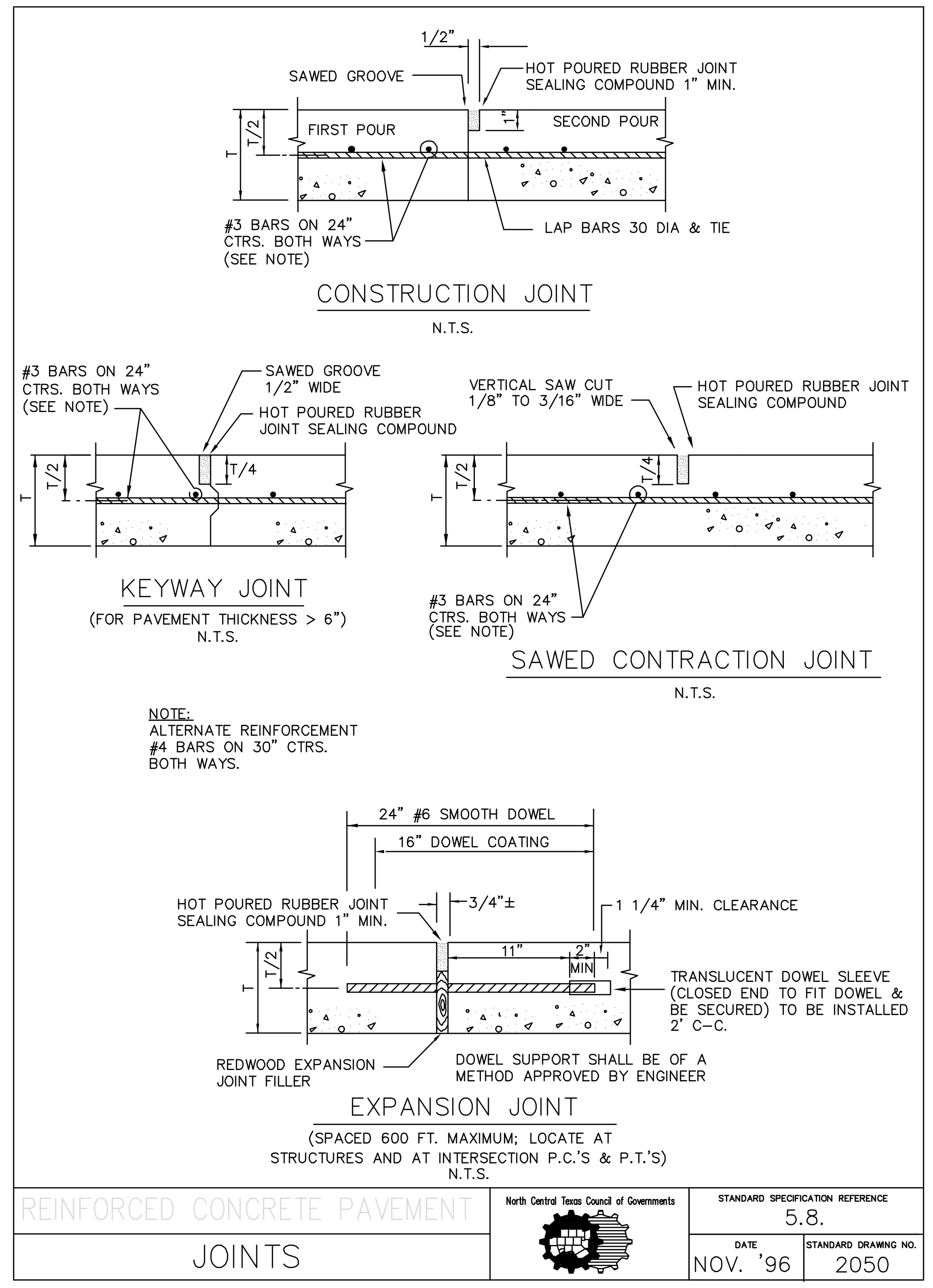
STINSON HIGHLANDS
LUCAS, TEXAS

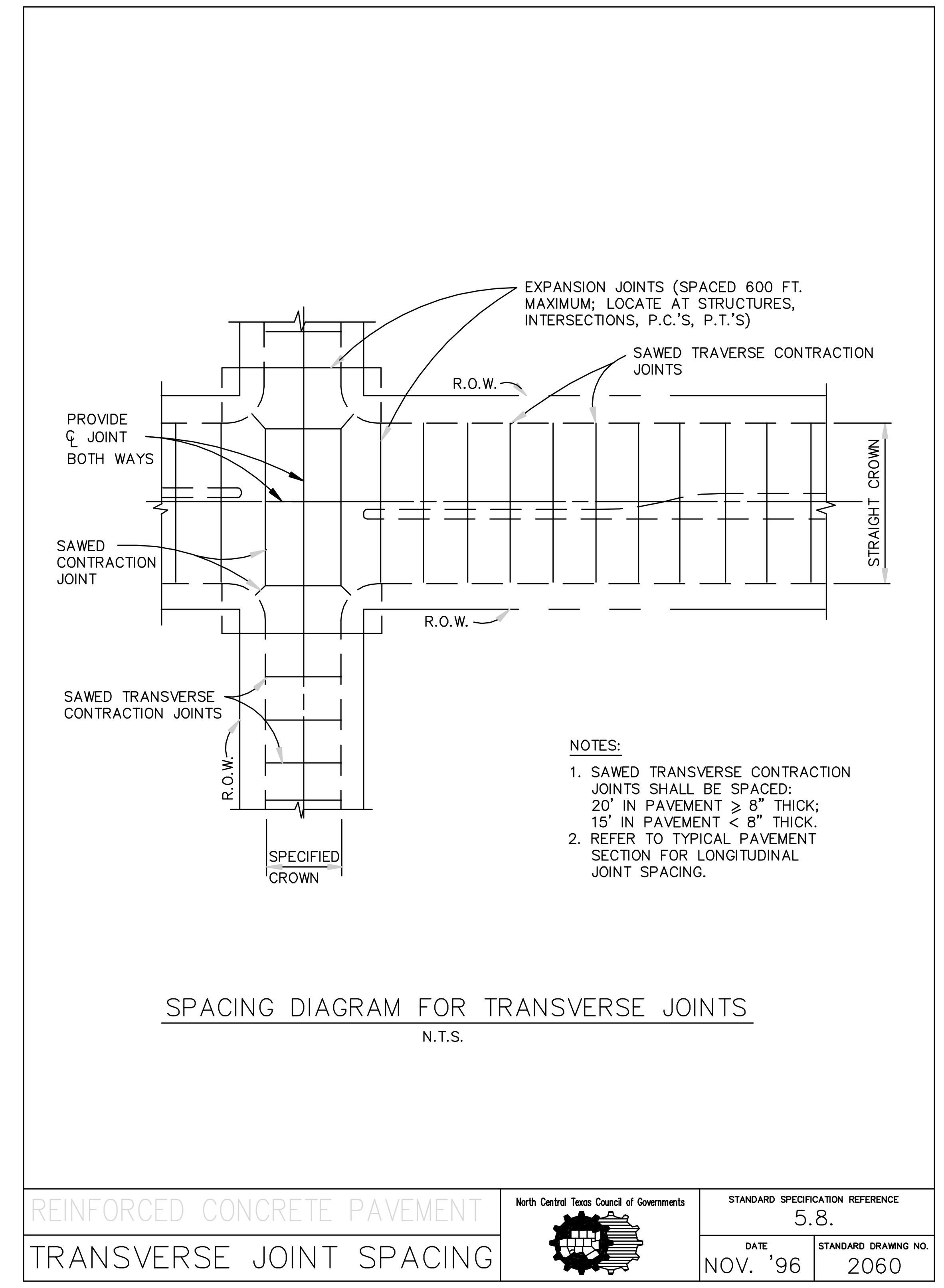
HYDROLOGY DETAILS

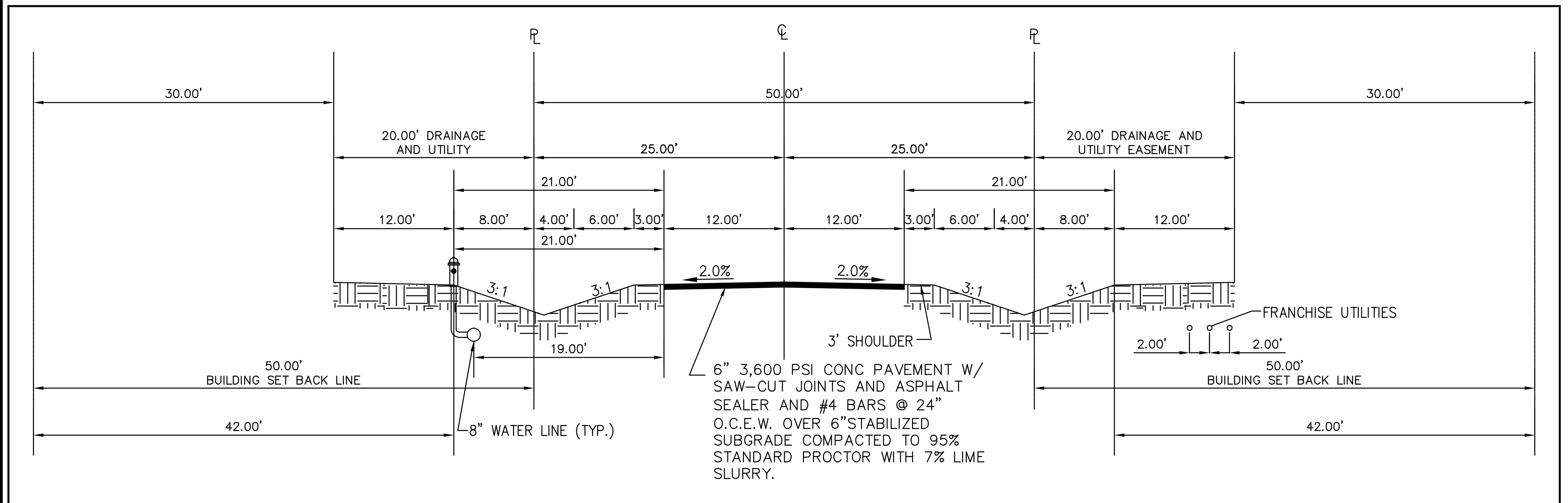
Scale: N/A
Designed by: KHA
Drawn by: CCC
Checked by: LRO
Date: JANUARY 9, 2012
Project No. 064347001

SHEET
C-60

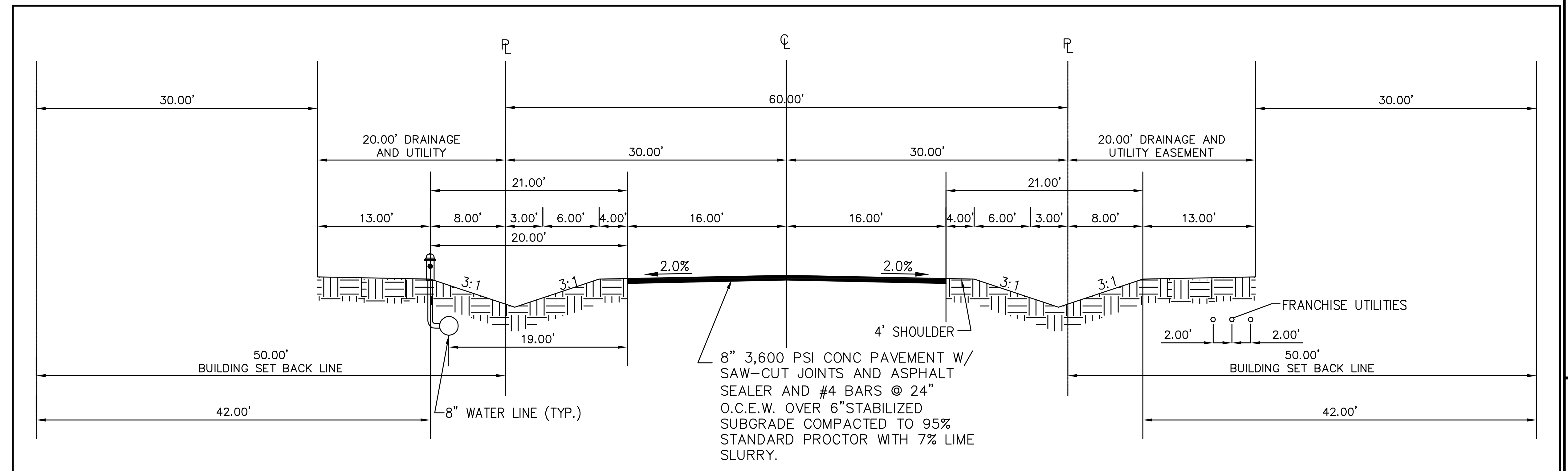








(ALL STREETS EXCEPT HIGHLAND DRIVE)
50' R.O.W.
SCALE: 1"=10'



HIGHLAND DRIVE
60' R.O.W.
SCALE: 1"=10'

"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: 4-14-2014
BY: [signature]

No.	Date	Revisions	DEM	App.

Kimley-Horn and Associates, Inc.
© 2013 KIMLEY-HORN AND ASSOCIATES, INC.
12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

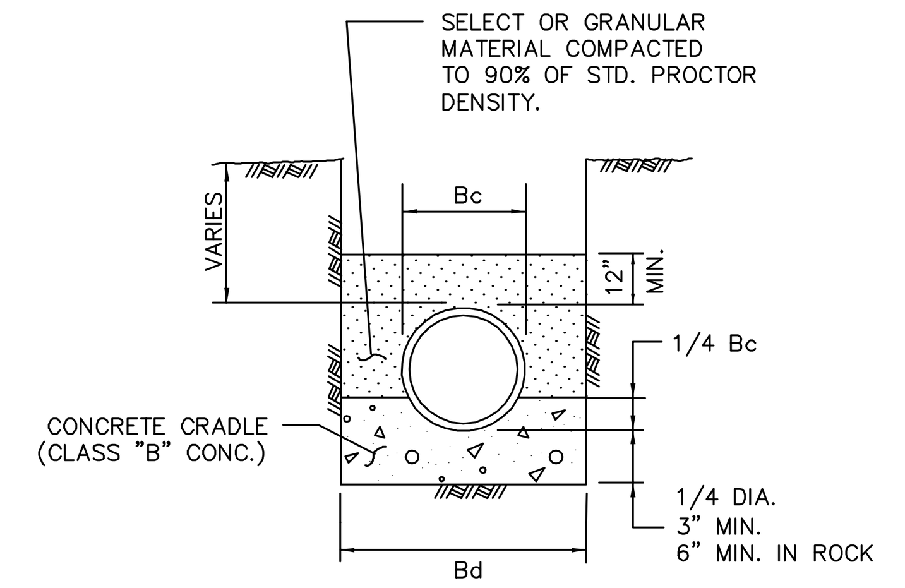
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

PAVING DETAILS & CROSS SECTION

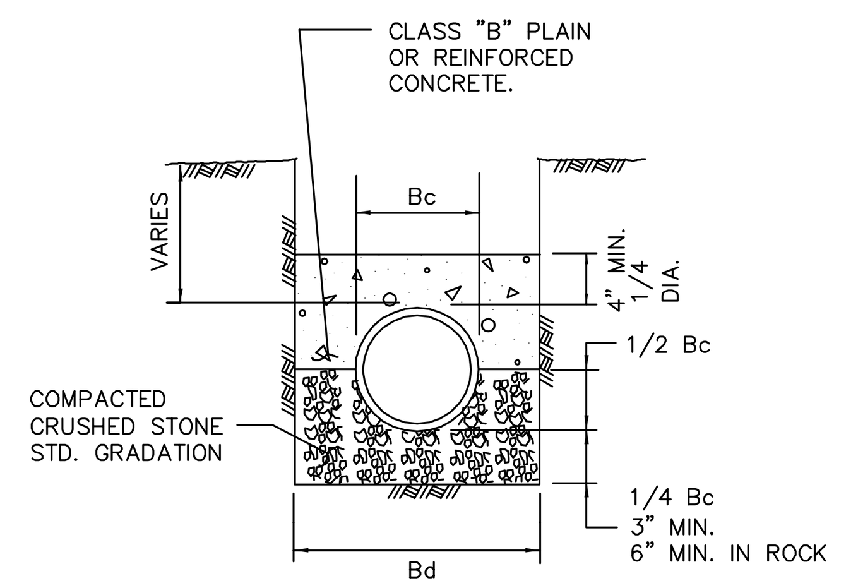
Scale:	N/A
Designed by:	KHA
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.	064347001

SHEET
C-61



CLASS "A"

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



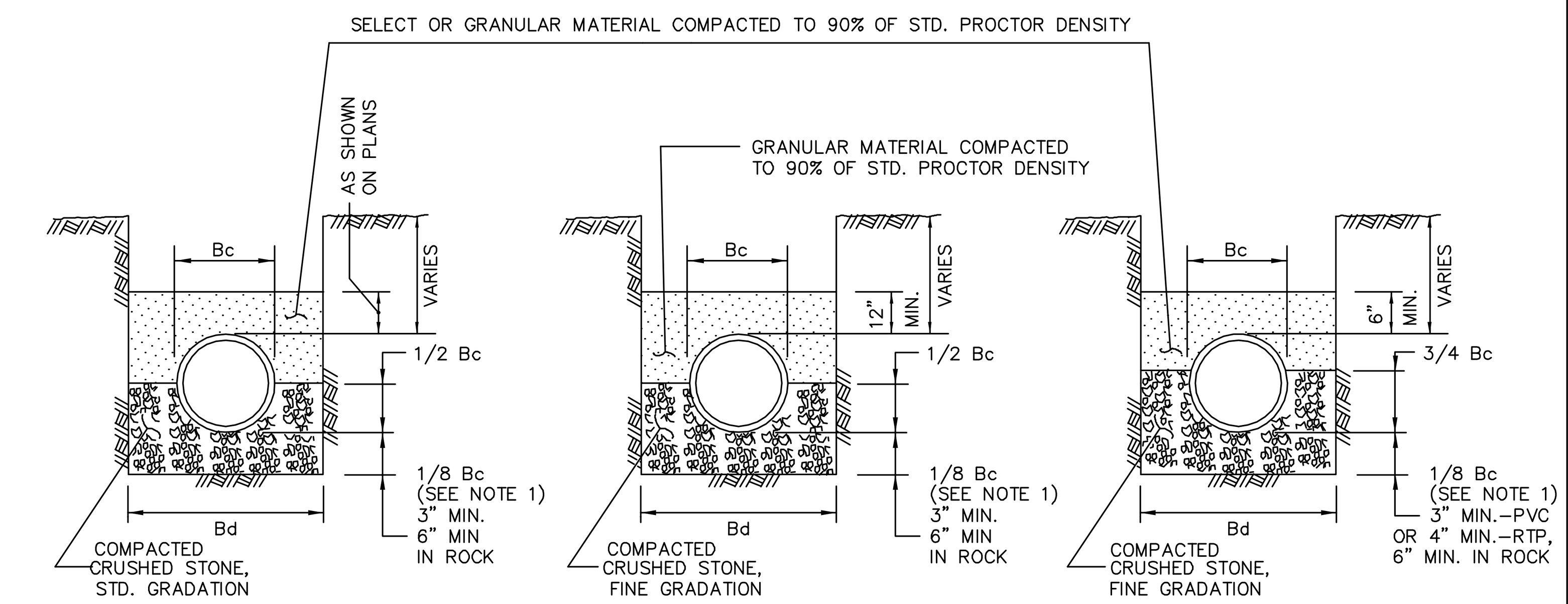
CLASS "A-1"

CLASS "B" CONCRETE CAP N.T.S.
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

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



CLASS "B" N.T.S.

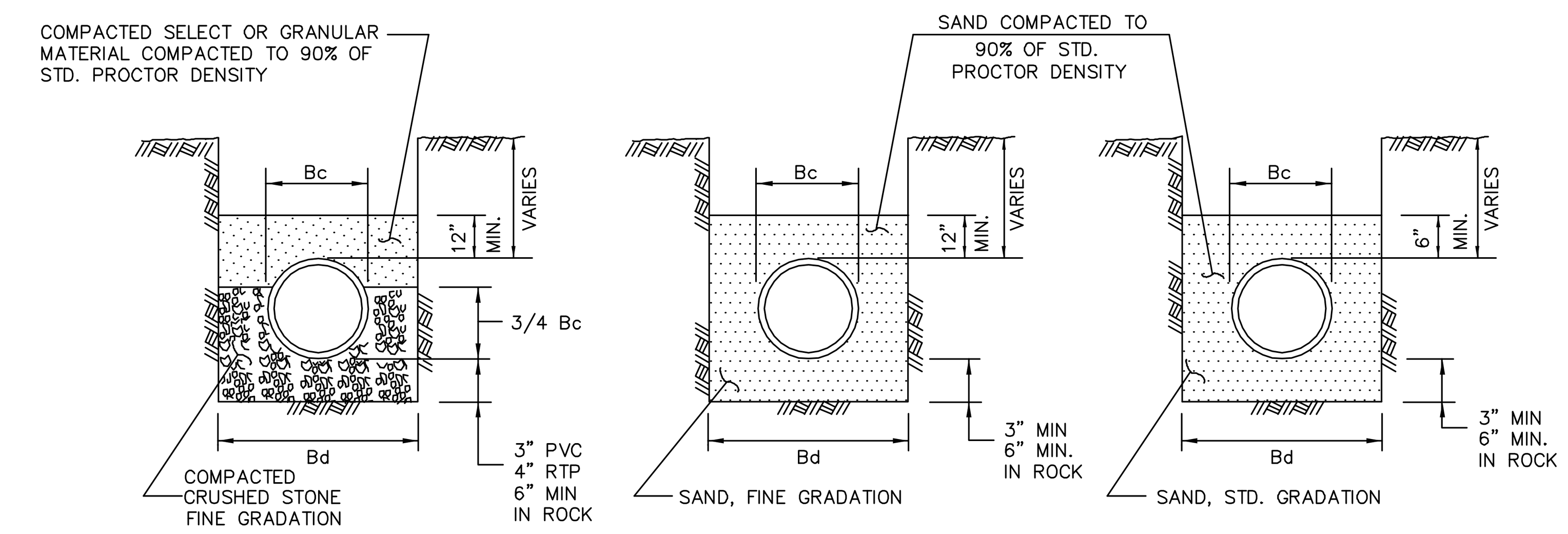
CLASS "B+" N.T.S.

CLASS "B-1" N.T.S.

NOTES:

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

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



CLASS "B-2" N.T.S.

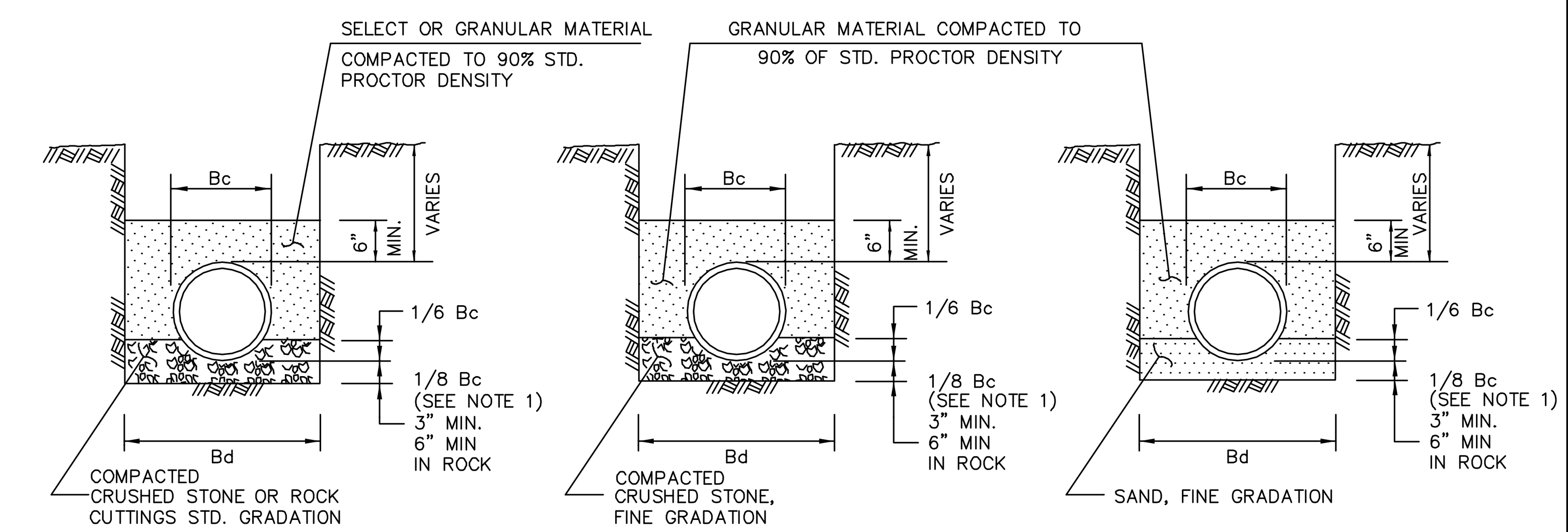
CLASS "B-3" N.T.S.

CLASS "B-4" N.T.S.

NOTES:

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

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



CLASS "C" N.T.S.

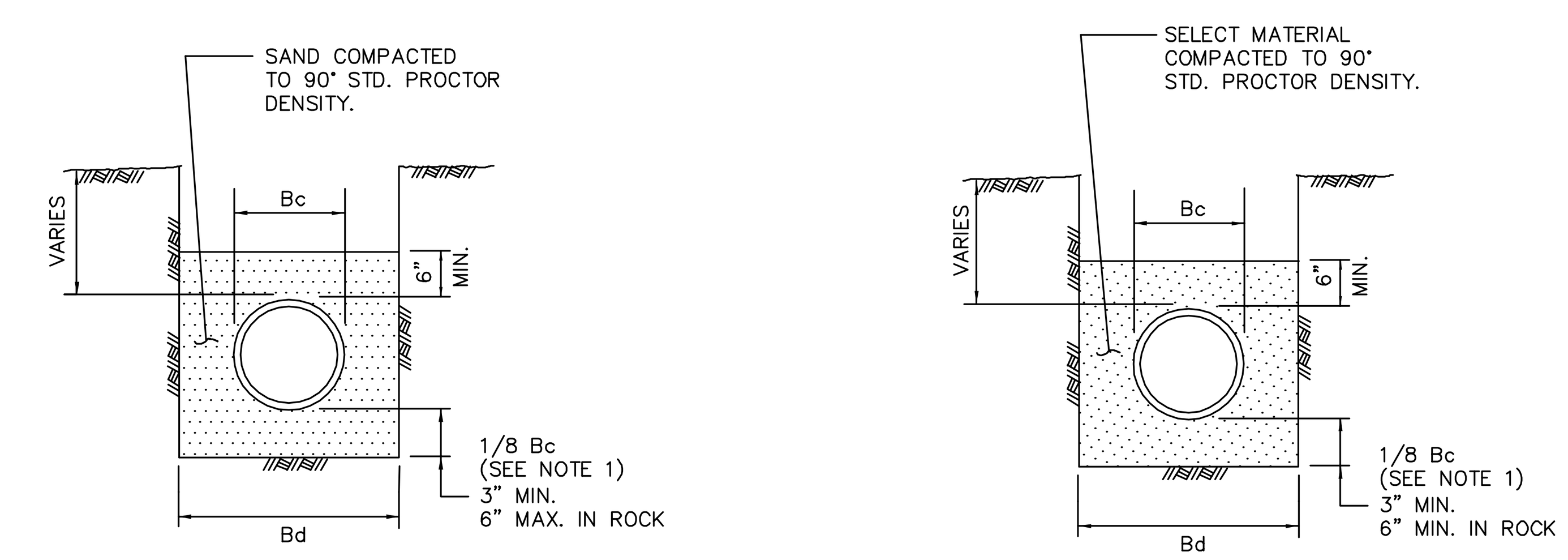
CLASS "C+" N.T.S.

CLASS "C-1" N.T.S.

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

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



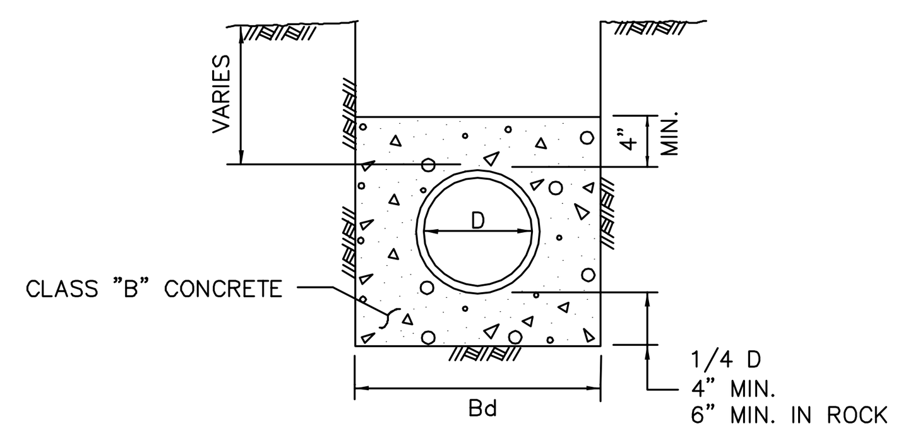
CLASS "C-2" N.T.S.

CLASS "D+" N.T.S.

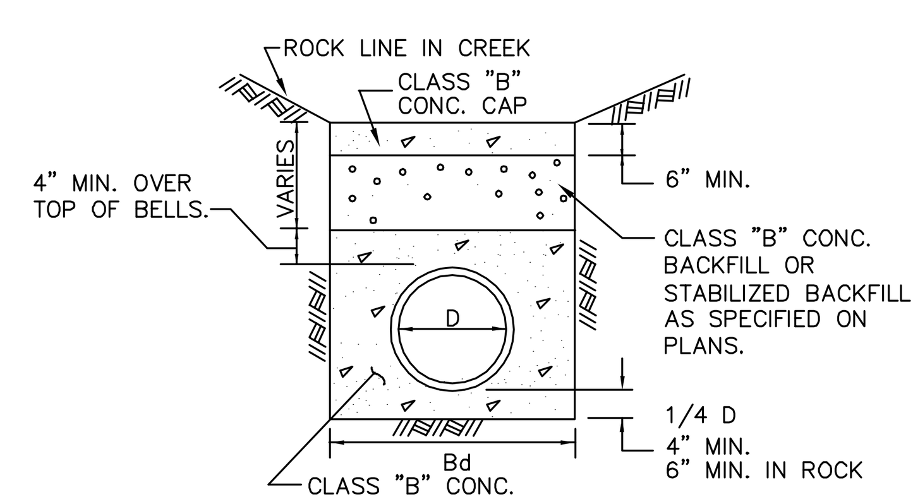
NOTES:

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

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



CLASS "G" N.T.S.



CLASS "G-1"

(FOR ROCK DITCHES IN CREEKS) N.T.S.

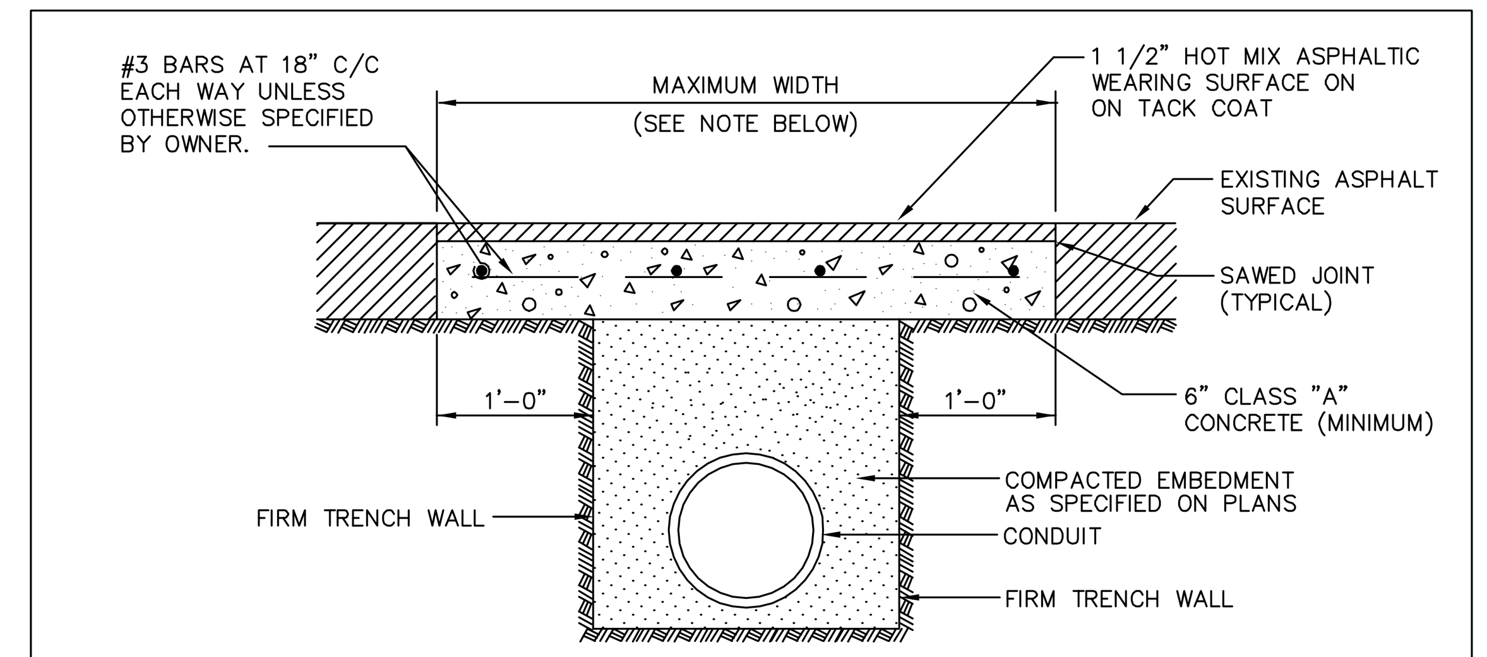
NOTES:

1. D = INSIDE DIAMETER OF PIPE
2. Bd = TRENCH WIDTH

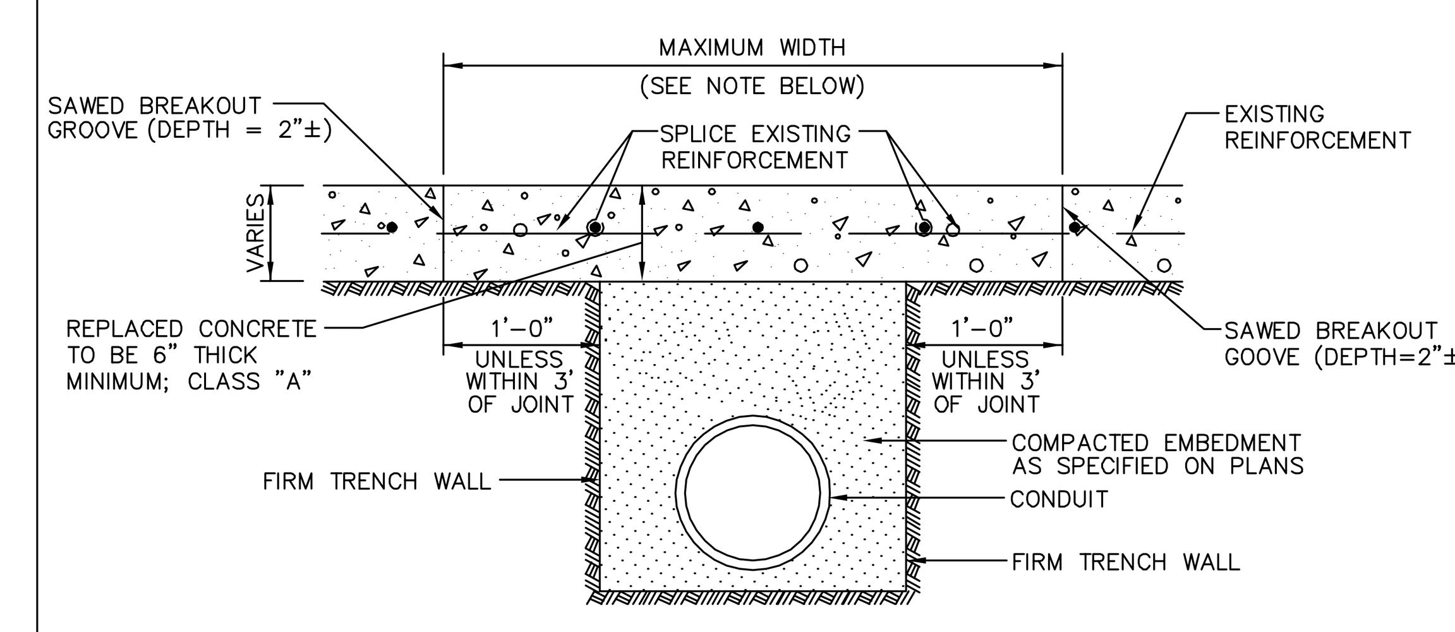
STANDARD DRAWING NO. 3060	EMBEDMENT CLASS "G" & "G-1"	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	DATE NOV. '96	STANDARD DRAWING NO. 3060

NOTE:

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



ASPHALT PAVEMENT
N.T.S.



CONCRETE PAVEMENT
N.T.S.

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.

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

"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.
4-14-2014 DATE:
BY:

Kimley-Horn and Associates, Inc.
© 2013 KIMLEY-HORN AND ASSOCIATES, INC.
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PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED
PROFESSIONAL ENGINEER

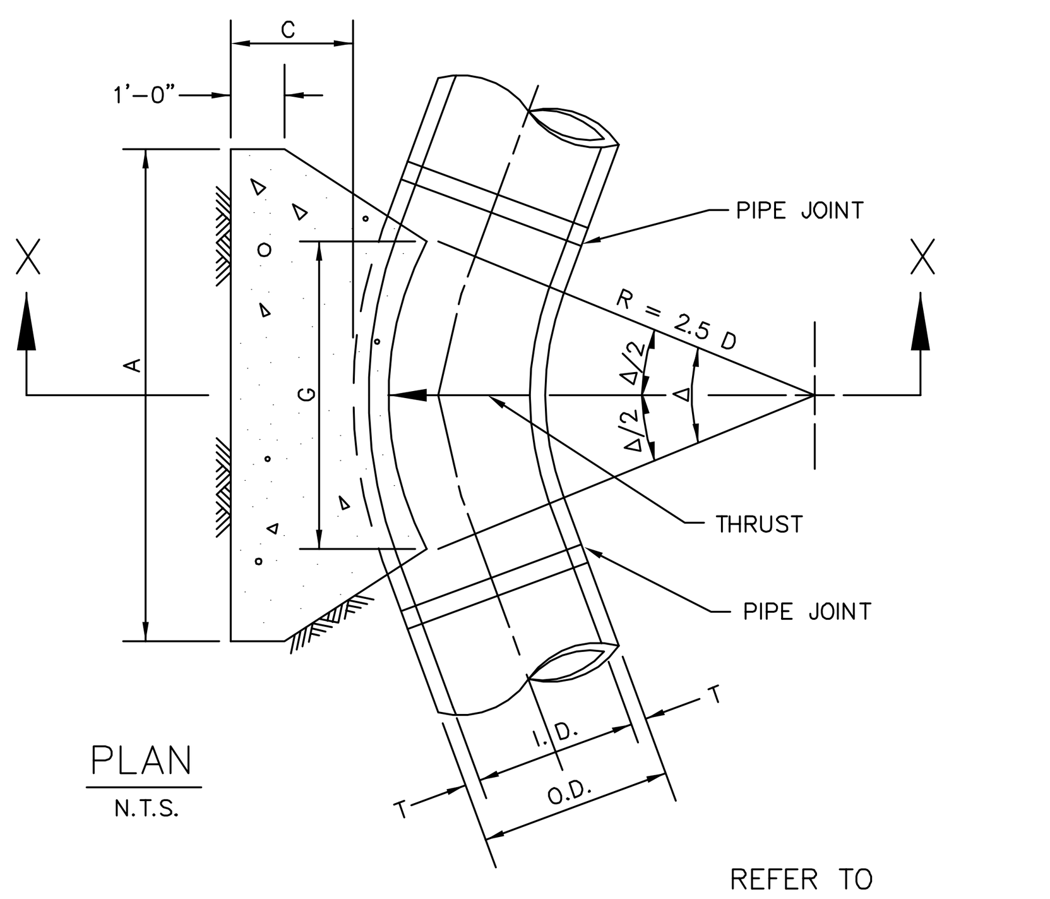
STINSON HIGHLANDS
LUCAS, TEXAS

UTILITY DETAILS

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

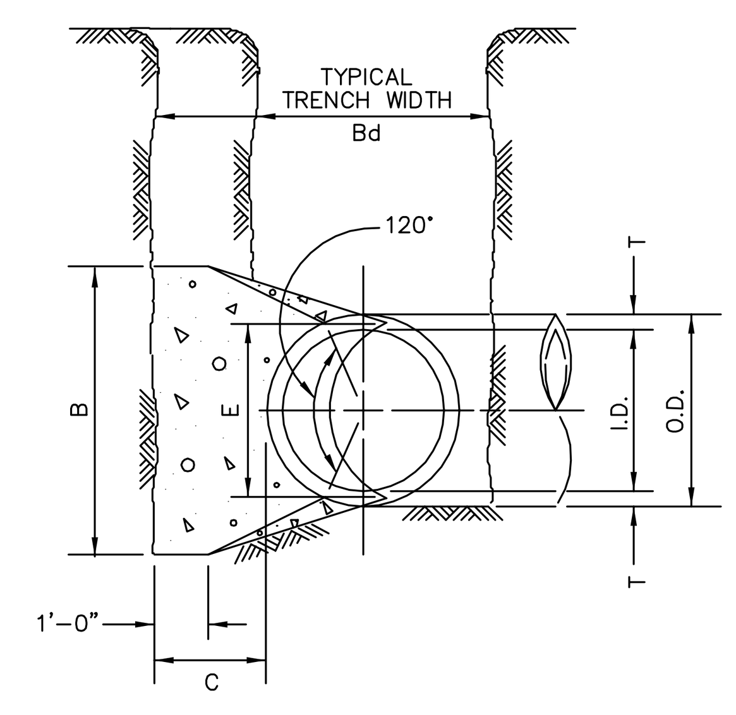
SHEET
C-62

IMAGES
XREFS XREF X24'36 - XREF DEMSEAL
LAST SAVED 5/9/2013 3:17 PM
PLOTTED BY MARGOLT, BEN 4/11/2014 3:16 PM
DWG NAME K:\DAL_CIVIL\064347001\DUTILDET.DWG



PLAN
N.T.S.

REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.



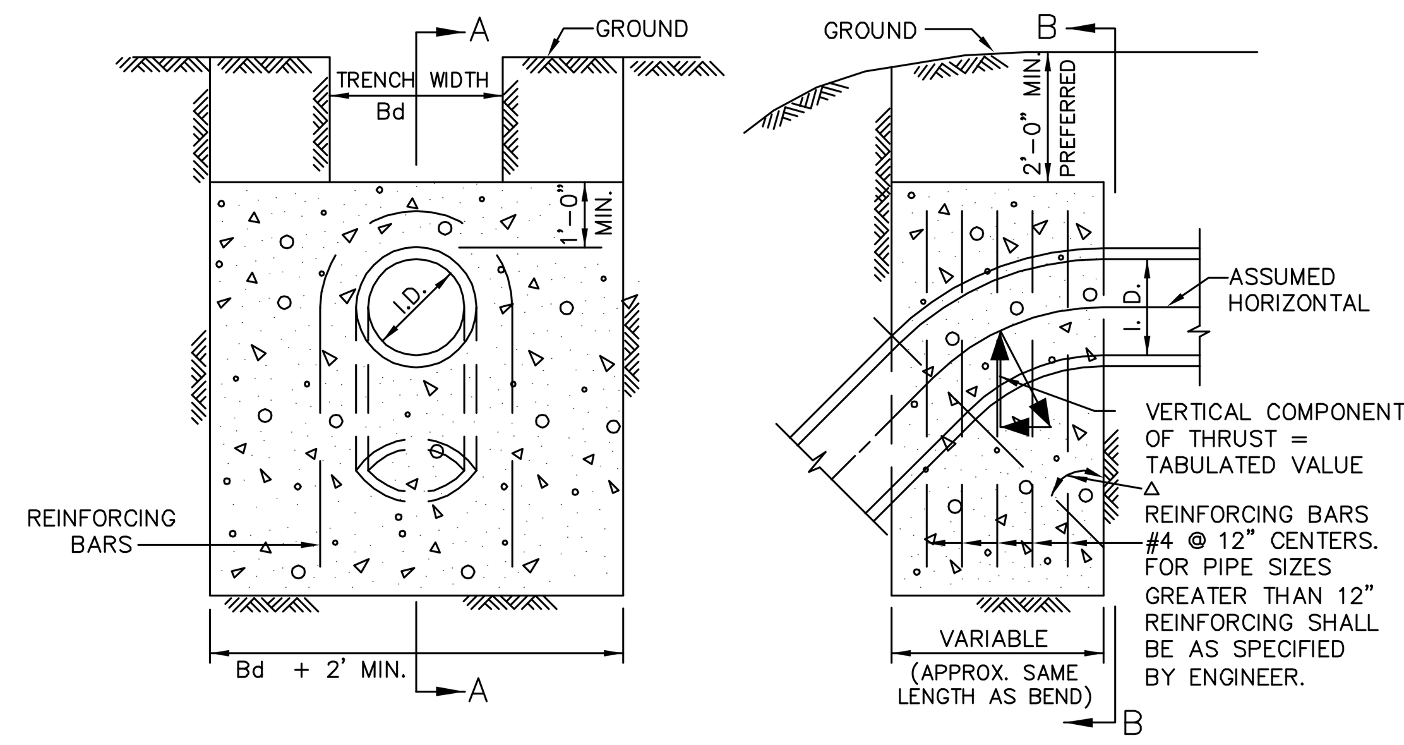
SECTION X-X
N.T.S.

HORIZONTAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE 6.7

DATE NOV. '96 | STANDARD DRAWING NO. 4010A



ELEVATION "B-B"
N.T.S.

SECTION "A-A"
N.T.S.

REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.

Δ →	11.25°		22.50°		30°		45°		67.50°		90°		← Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE 6.7

DATE NOV. '96 | STANDARD DRAWING NO. 4030

I.D. (IN.)	T (IN.)	Δ = 11.25° (FT.)	Δ ≥ 22.50° (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

	Δ = 11.25°									Δ = 22.50°							
			EARTH			ROCK						EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3	20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1	48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4	54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3	72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9	78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4	96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

TABLES OF DIMENSIONS AND QUANTITIES

HORIZONTAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE

DATE NOV. '96 | STANDARD DRAWING NO. 4010B

	Δ = 30°									Δ = 45°							
			EARTH			ROCK						EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	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

	Δ = 67.50°									Δ = 90°							
			EARTH			ROCK						EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	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	285.3	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

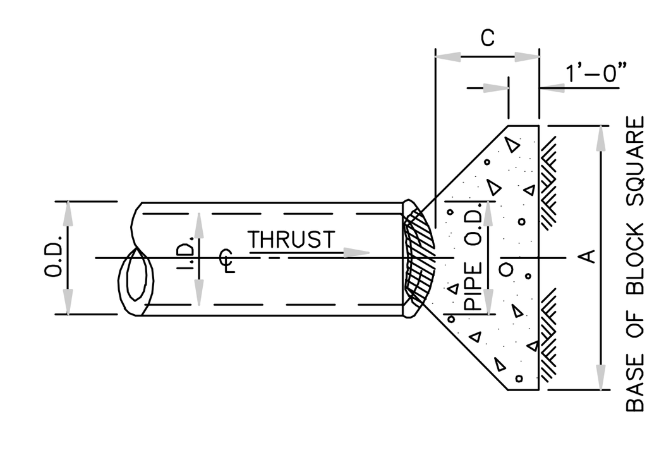
TABLES OF DIMENSIONS AND QUANTITIES

HORIZONTAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Governments

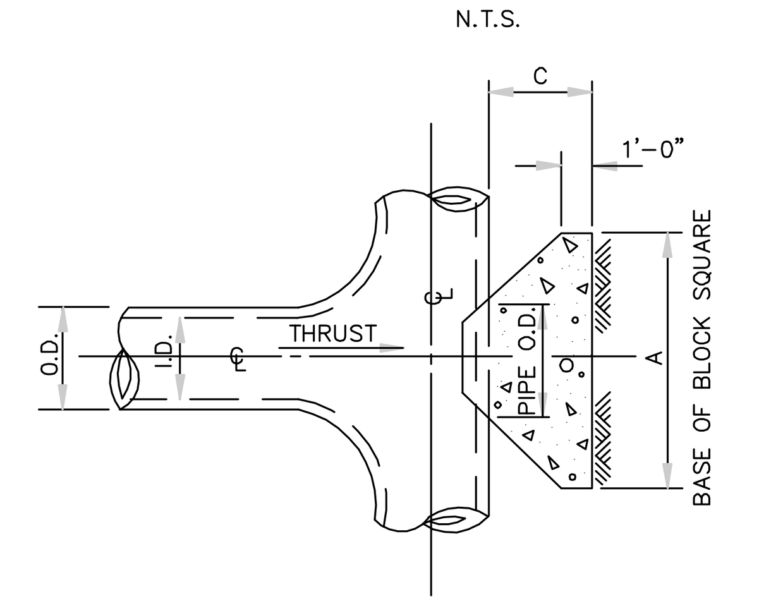
STANDARD SPECIFICATION REFERENCE

DATE NOV. '96 | STANDARD DRAWING NO. 4010C



PLAN OF PLUG THRUST BLOCK
N.T.S.

REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.



PLAN OF TEE THRUST BLOCK
N.T.S.

			EARTH		ROCK	
I.D. (IN.)	THRUST (TONS)	C (FT.)	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	45.2	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	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7
54	172.0	5.5	13.5	21.4	9.5	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	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	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

HORIZONTAL THRUST BLOCK
AT TEES AND PLUGS

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE

DATE NOV. '96 | STANDARD DRAWING NO. 4020

GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOIL AND 2000 LBS./S.F. IN ROCK.
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE, OR PLUG TO PREVENT THE CONCRETE FROM STICKING TO IT.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

THRUST BLOCK
GENERAL NOTES

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE

DATE NOV. '96 | STANDARD DRAWING NO. 4040

"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: 4-14-2014 BY: [signature]

Kimley-Horn and Associates, Inc.
12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
PHONE: 972-770-1300 FAX: 972-239-3820
WWW.KIMLEY-HORN.COM TX F-928

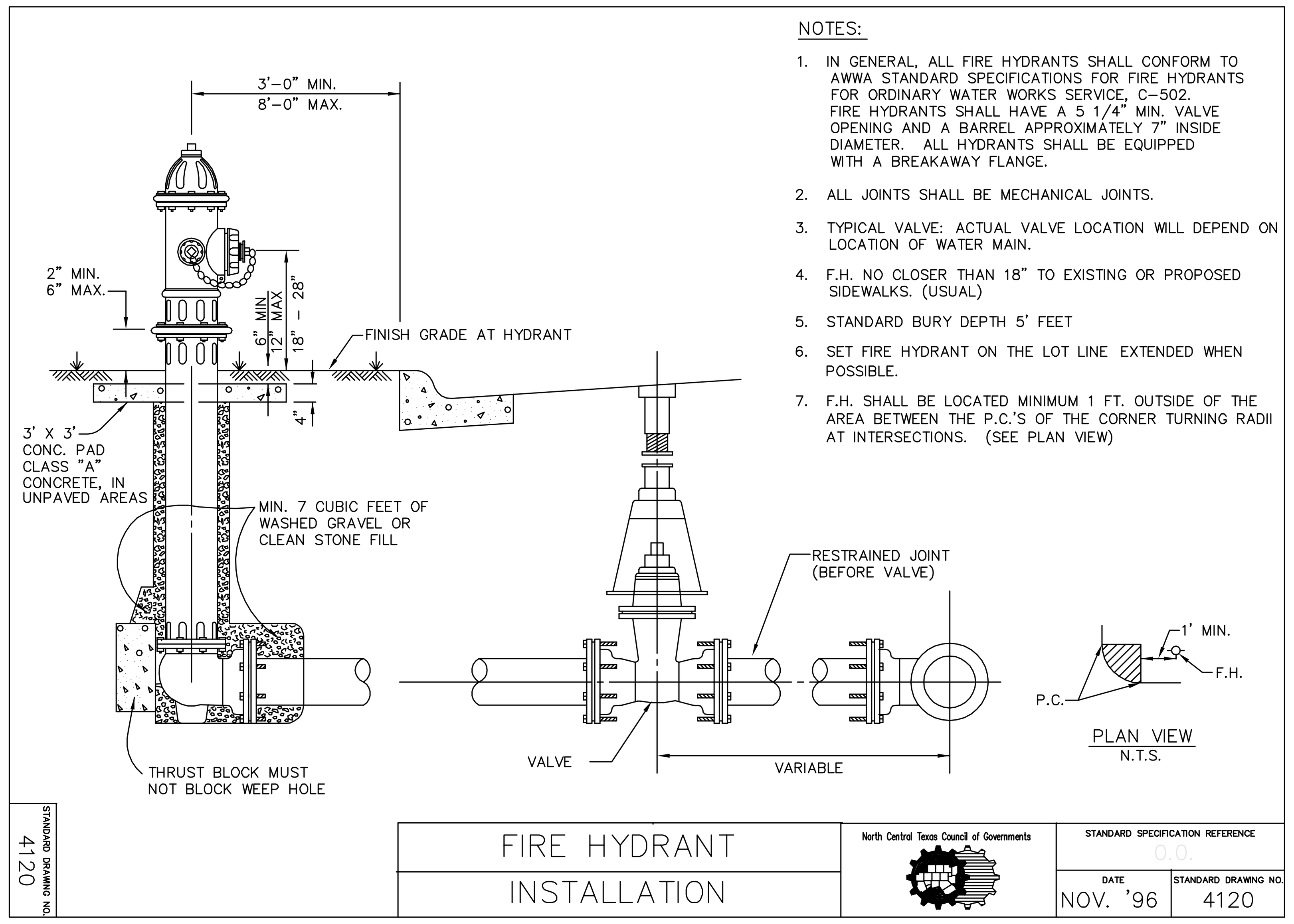
STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

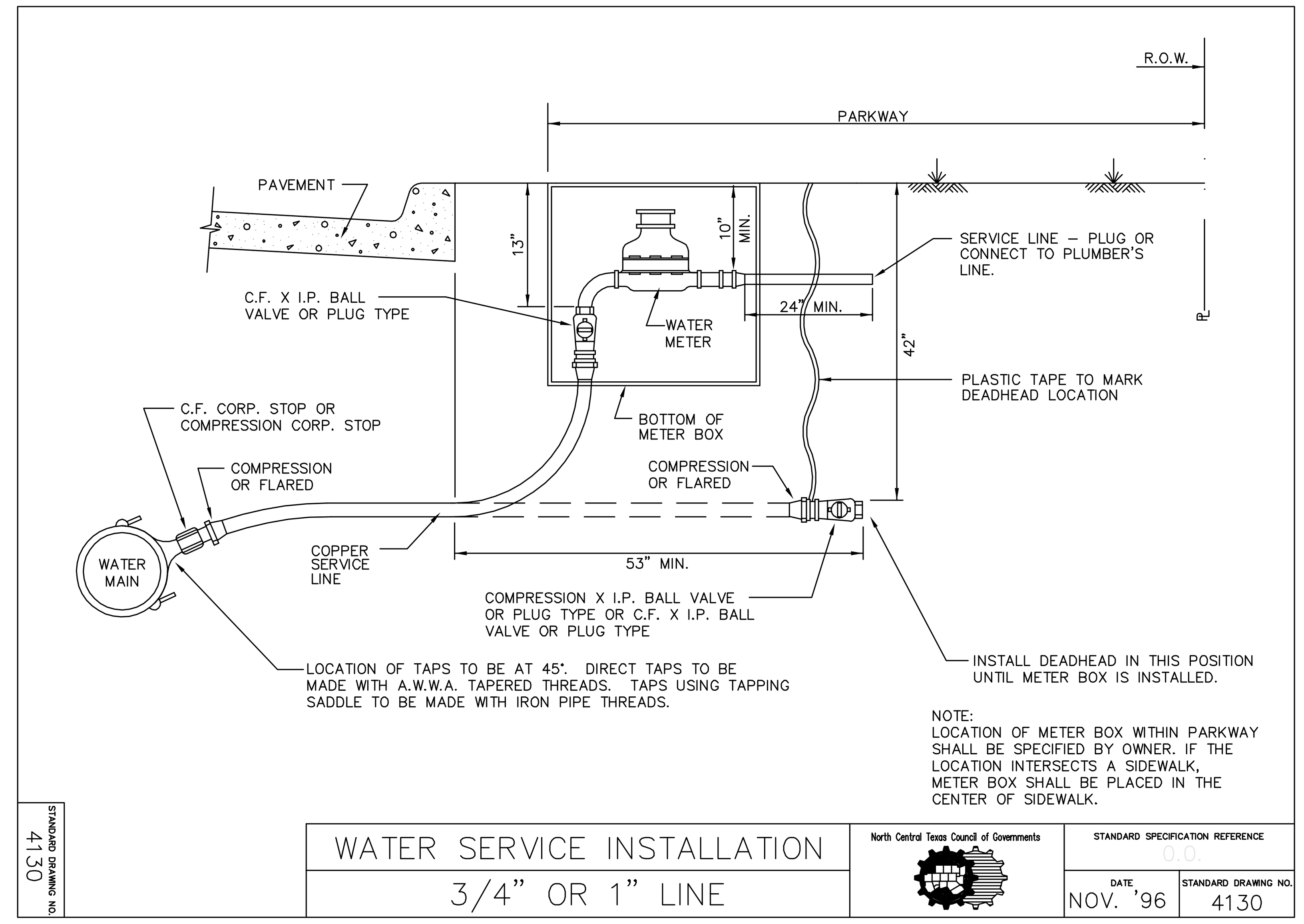
STINSON HIGHLANDS
LUCAS, TEXAS

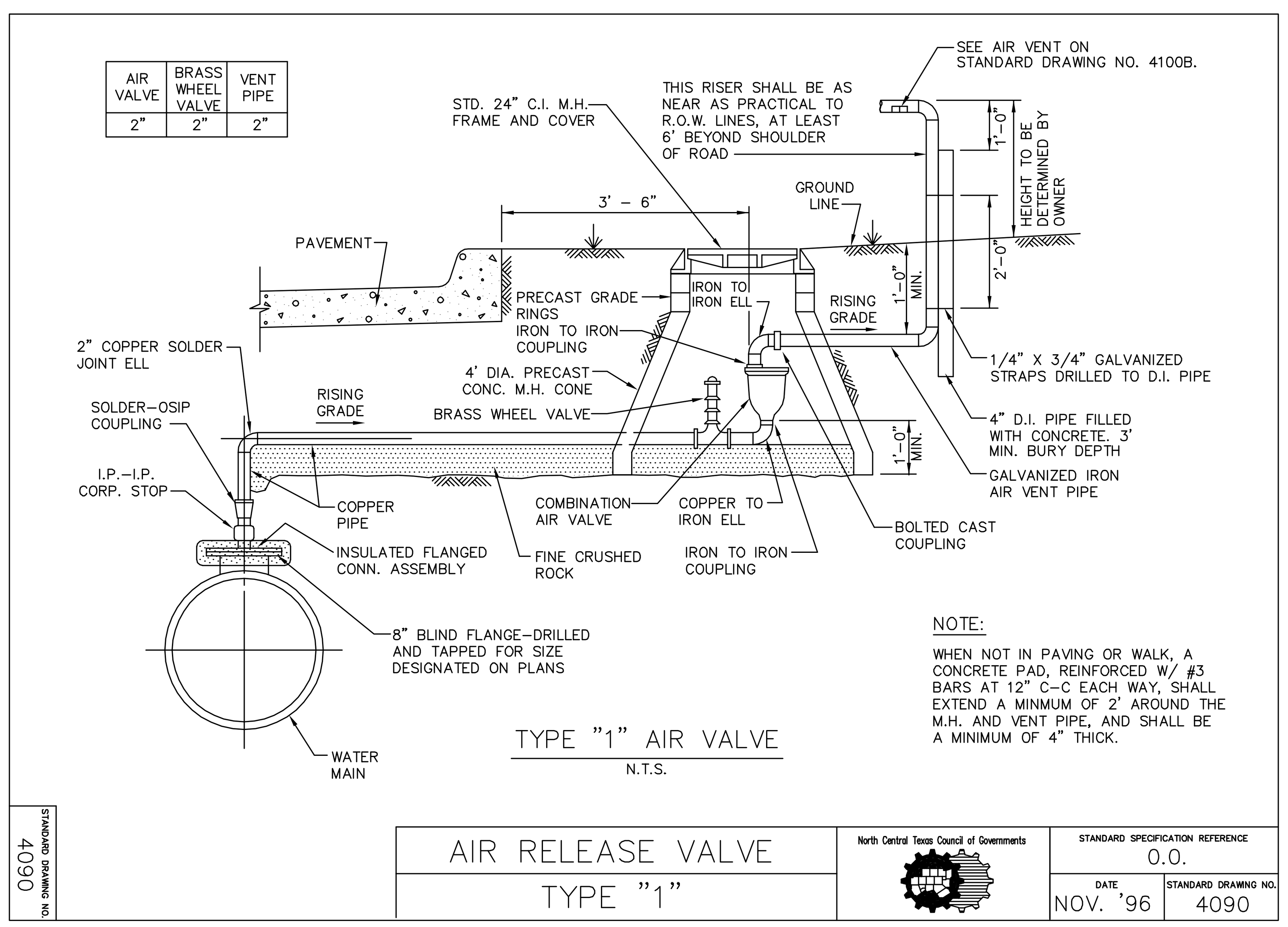
WATER DETAILS

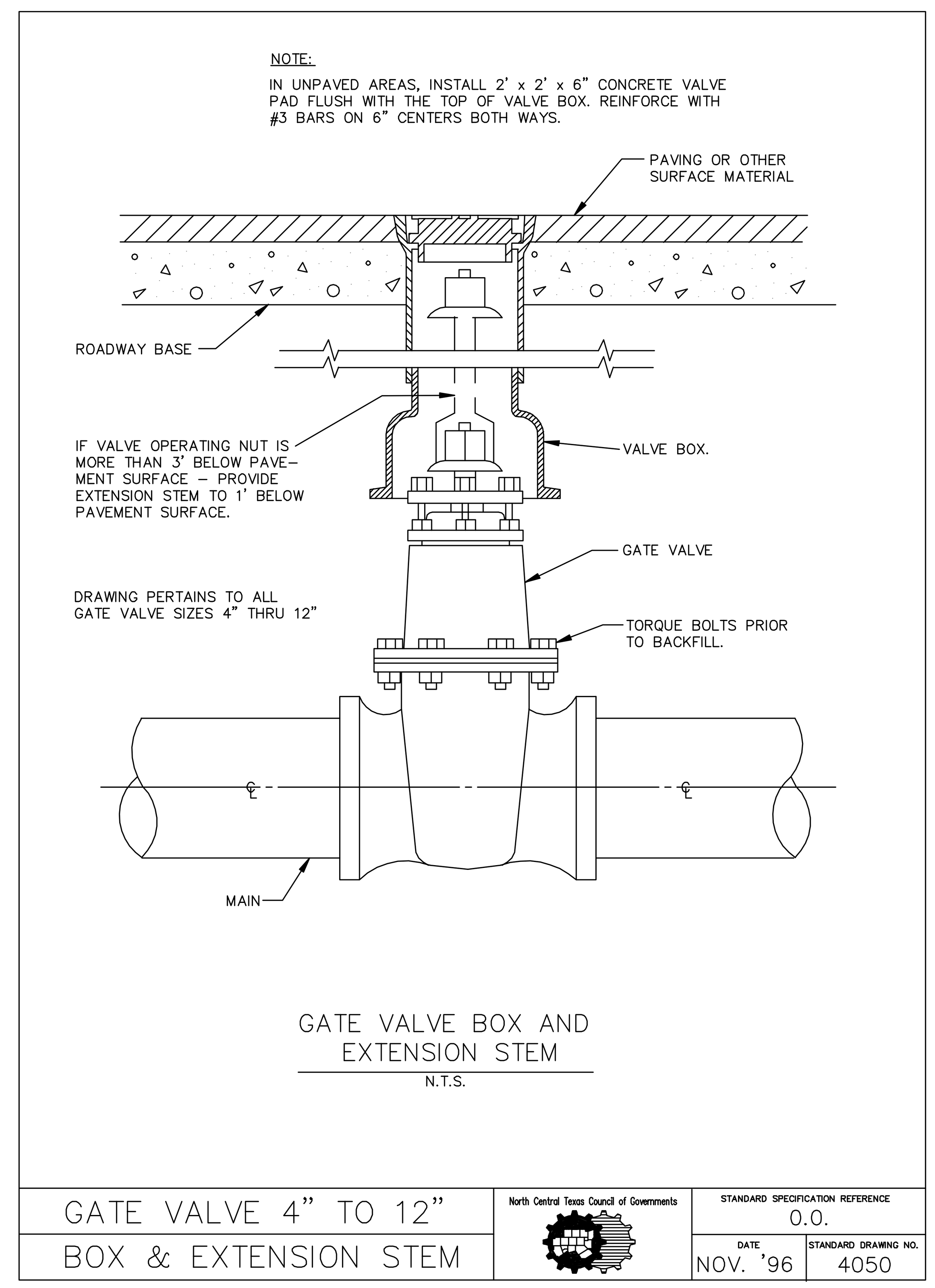
Scale: N/A
Designed by: KHA
Drawn by: RVG
Checked by: LRO
Date: JANUARY 9, 2012
Project No. 064347001

SHEET
C-63


NOTES:
1. IN GENERAL, ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE, C-502. FIRE HYDRANTS SHALL HAVE A 5 1/4" MIN. VALVE OPENING AND A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE.
2. ALL JOINTS SHALL BE MECHANICAL JOINTS.
3. TYPICAL VALVE: ACTUAL VALVE LOCATION WILL DEPEND ON LOCATION OF WATER MAIN.
4. F.H. NO CLOSER THAN 18" TO EXISTING OR PROPOSED SIDEWALKS. (USUAL)
5. STANDARD BURY DEPTH 5' FEET
6. SET FIRE HYDRANT ON THE LOT LINE EXTENDED WHEN POSSIBLE.
7. F.H. SHALL BE LOCATED MINIMUM 1 FT. OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADII AT INTERSECTIONS. (SEE PLAN VIEW)
3'-0" MIN.
8'-0" MAX.
2" MIN.
6" MAX.
6" MIN.
12" MAX.
18" - 28"
4'
FINISH GRADE AT HYDRANT
3' X 3' CONC. PAD CLASS "A" CONCRETE, IN UNPAVED AREAS
MIN. 7 CUBIC FEET OF WASHED GRAVEL OR CLEAN STONE FILL
RESTRAINED JOINT (BEFORE VALVE)
THRUST BLOCK MUST NOT BLOCK WEEP HOLE
VALVE
VARIABLE
1' MIN.
F.H.
P.C.
PLAN VIEW
N.T.S.
STANDARD DRAWING NO. 4120
FIRE HYDRANT
INSTALLATION
North Central Texas Council of Governments
STANDARD SPECIFICATION REFERENCE
0.0.
DATE NOV. '96
STANDARD DRAWING NO. 4120


R.O.W.
PARKWAY
PAVEMENT
13"
10" MIN.
SERVICE LINE – PLUG OR CONNECT TO PLUMBER'S LINE.
C.F. X I.P. BALL VALVE OR PLUG TYPE
WATER METER
24" MIN.
42"
PLASTIC TAPE TO MARK DEADHEAD LOCATION
BOTTOM OF METER BOX
C.F. CORP. STOP OR COMPRESSION CORP. STOP
COMPRESSION OR FLARED
COMPRESSION OR FLARED
COPPER SERVICE LINE
WATER MAIN
53" MIN.
COMPRESSION X I.P. BALL VALVE OR PLUG TYPE OR C.F. X I.P. BALL VALVE OR PLUG TYPE
LOCATION OF TAPS TO BE AT 45°. DIRECT TAPS TO BE MADE WITH A.W.W.A. TAPERED THREADS. TAPS USING TAPPING SADDLE TO BE MADE WITH IRON PIPE THREADS.
INSTALL DEADHEAD IN THIS POSITION UNTIL METER BOX IS INSTALLED.
NOTE:
LOCATION OF METER BOX WITHIN PARKWAY SHALL BE SPECIFIED BY OWNER. IF THE LOCATION INTERSECTS A SIDEWALK, METER BOX SHALL BE PLACED IN THE CENTER OF SIDEWALK.
STANDARD DRAWING NO. 4130
WATER SERVICE INSTALLATION
3/4" OR 1" LINE
North Central Texas Council of Governments
STANDARD SPECIFICATION REFERENCE
DATE NOV. '96
STANDARD DRAWING NO. 4130


AIR VALVE 2"
BRASS WHEEL VALVE 2"
VENT PIPE 2"
SEE AIR VENT ON STANDARD DRAWING NO. 4100B.
STD. 24" C.I. M.H. FRAME AND COVER
THIS RISER SHALL BE AS NEAR AS PRACTICAL TO R.O.W. LINES, AT LEAST 6' BEYOND SHOULDER OF ROAD
1'-0"
HEIGHT TO BE DETERMINED BY OWNER
3' - 6"
GROUND LINE
2'-0"
PAVEMENT
PRECAST GRADE RINGS
IRON TO IRON ELL
1'-0" MIN.
RISING GRADE
IRON TO IRON COUPLING
2" COPPER SOLDER JOINT ELL
4' DIA. PRECAST CONC. M.H. CONE
1/4" X 3/4" GALVANIZED STRAPS DRILLED TO D.I. PIPE
SOLDER-OSIP COUPLING
RISING GRADE
BRASS WHEEL VALVE
4" D.I. PIPE FILLED WITH CONCRETE, 3' MIN. BURY DEPTH
1'-0" MIN.
GALVANIZED IRON AIR VENT PIPE
I.P.-I.P. CORP. STOP
COPPER PIPE
COMBINATION AIR VALVE
COPPER TO IRON ELL
BOLTED CAST COUPLING
INSULATED FLANGED CONN. ASSEMBLY
FINE CRUSHED ROCK
IRON TO IRON COUPLING
8" BLIND FLANGE-DRILLED AND TAPPED FOR SIZE DESIGNATED ON PLANS
NOTE:
WHEN NOT IN PAVING OR WALK, A CONCRETE PAD, REINFORCED W/ #3 BARS AT 12" C-C EACH WAY, SHALL EXTEND A MINIMUM OF 2' AROUND THE M.H. AND VENT PIPE, AND SHALL BE A MINIMUM OF 4" THICK.
WATER MAIN
TYPE "1" AIR VALVE
N.T.S.
STANDARD DRAWING NO. 4090
AIR RELEASE VALVE
TYPE "1"
North Central Texas Council of Governments
STANDARD SPECIFICATION REFERENCE
0.0.
DATE NOV. '96
STANDARD DRAWING NO. 4090


NOTE:
IN UNPAVED AREAS, INSTALL 2' x 2' x 6" CONCRETE VALVE PAD FLUSH WITH THE TOP OF VALVE BOX. REINFORCE WITH #3 BARS ON 6" CENTERS BOTH WAYS.
PAVING OR OTHER SURFACE MATERIAL
ROADWAY BASE
IF VALVE OPERATING NUT IS MORE THAN 3' BELOW PAVEMENT SURFACE – PROVIDE EXTENSION STEM TO 1' BELOW PAVEMENT SURFACE.
VALVE BOX.
GATE VALVE
DRAWING PERTAINS TO ALL GATE VALVE SIZES 4" THRU 12"
TORQUE BOLTS PRIOR TO BACKFILL.
MAIN
GATE VALVE BOX AND EXTENSION STEM
N.T.S.
GATE VALVE 4" TO 12"
BOX & EXTENSION STEM
North Central Texas Council of Governments
STANDARD SPECIFICATION REFERENCE
0.0.
DATE NOV. '96
STANDARD DRAWING NO. 4050

"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: 4-14-2014 BY: [signature]

Kimley-Horn and Associates, Inc.
© 2013 KIMLEY-HORN AND ASSOCIATES, INC.
12750 MERIT DRIVE, SUITE 1000, DALLAS, TX 75251
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WWW.KIMLEY-HORN.COM TX F-928

STATE OF TEXAS
DAVID E. MEYERS
81512
REGISTERED PROFESSIONAL ENGINEER

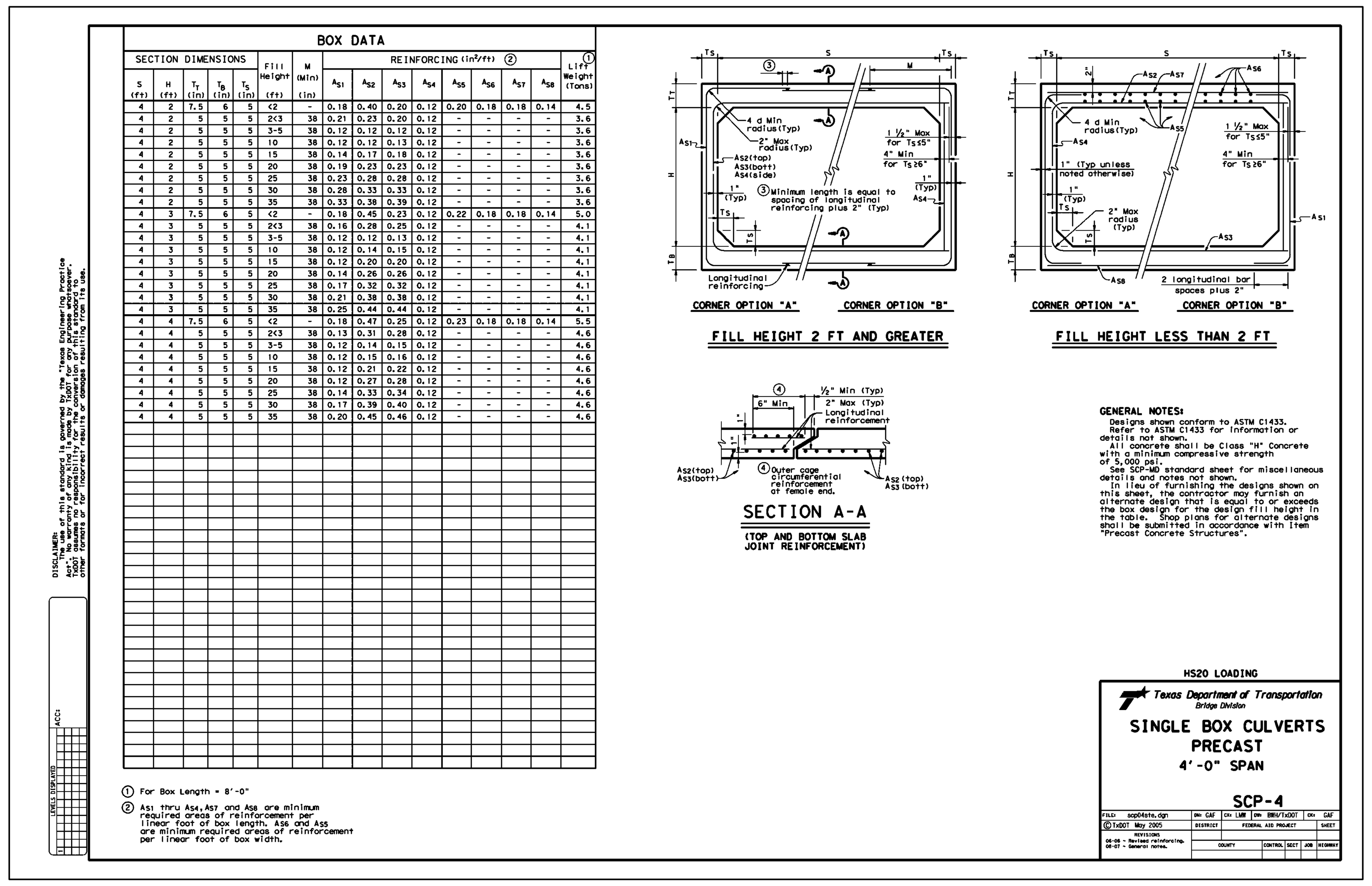
STINSON HIGHLANDS
LUCAS, TEXAS

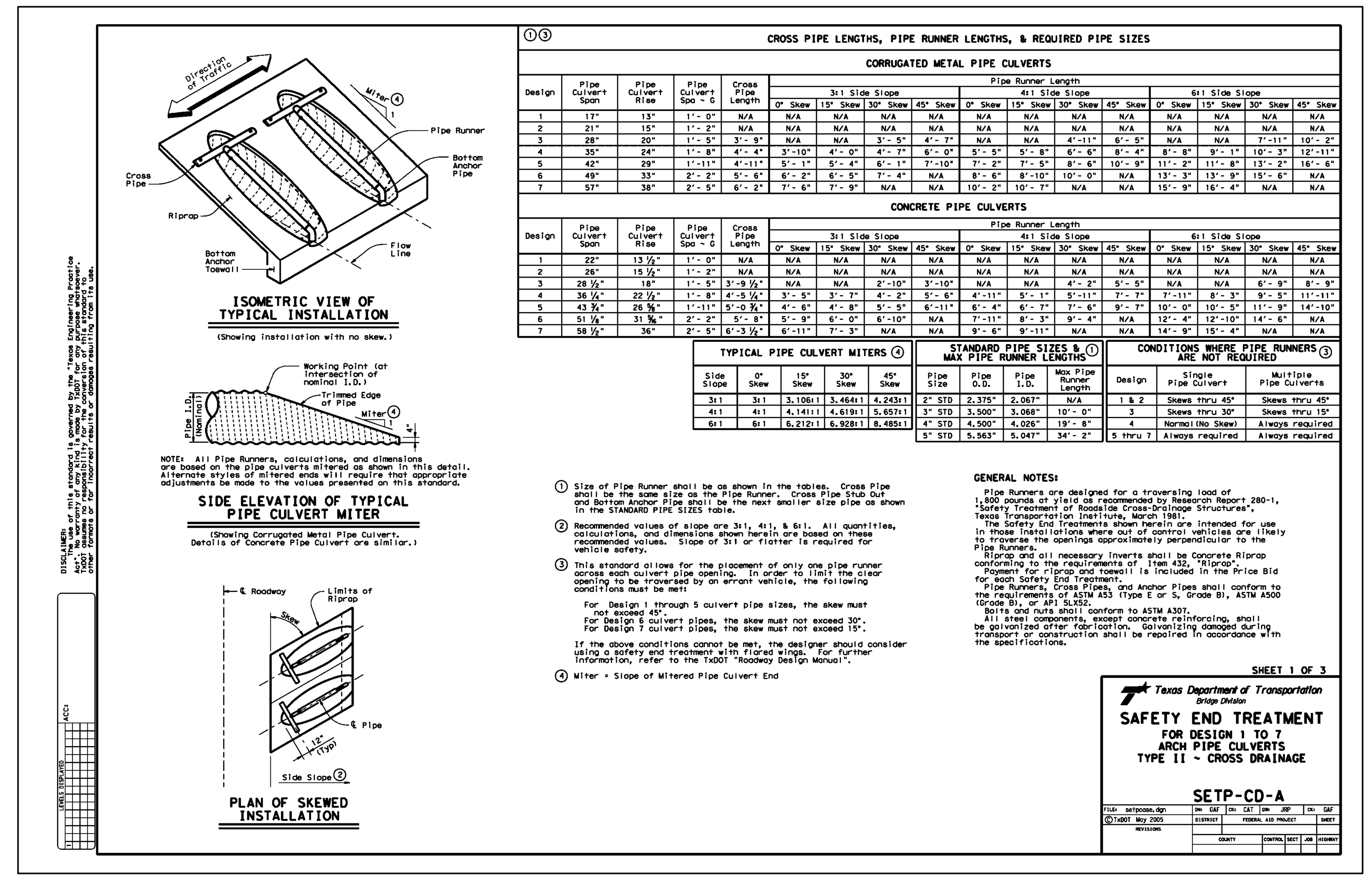
WATER DETAILS

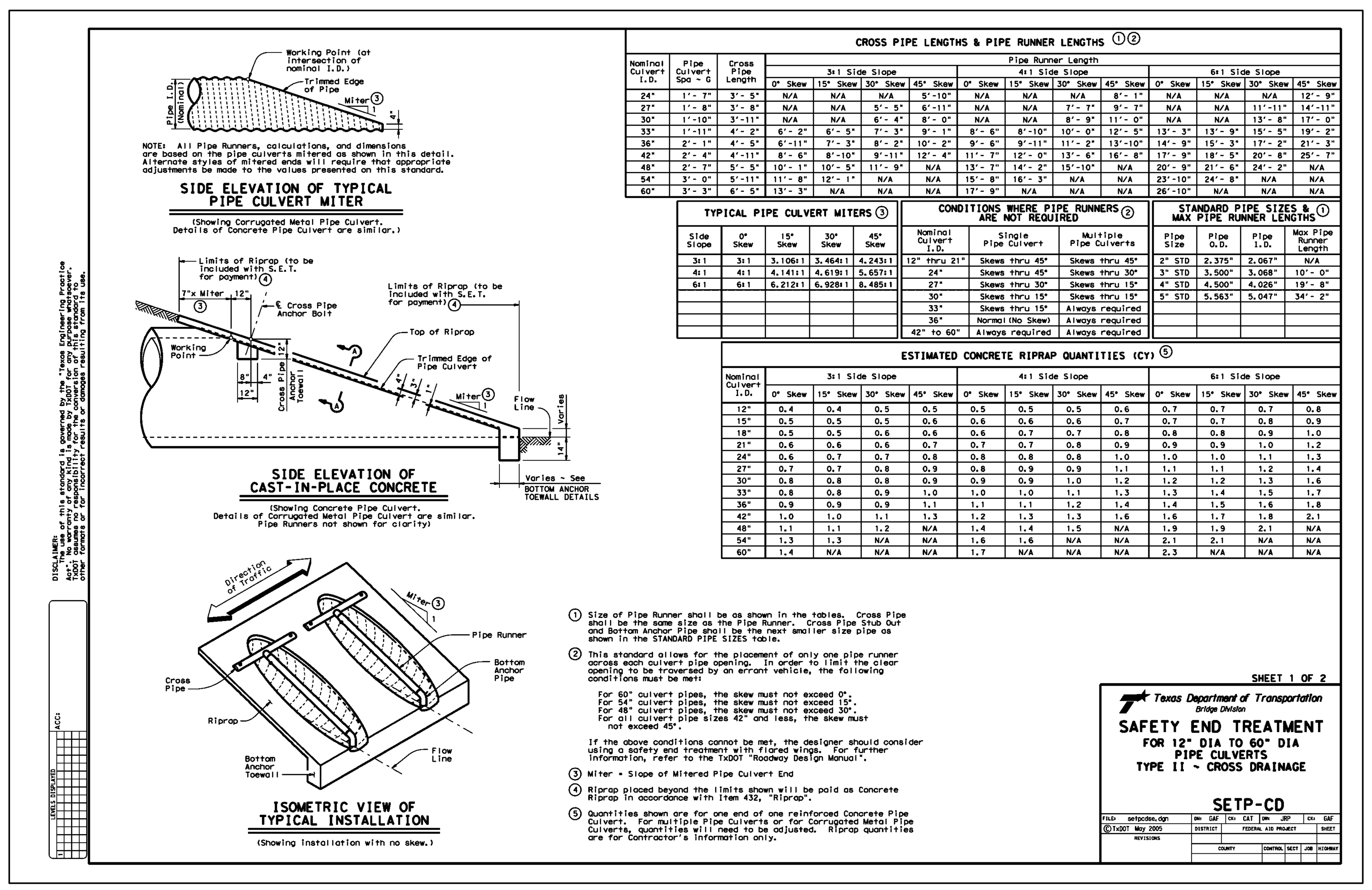
Scale:	N/A
Designed by:	KHA
Drawn by:	RVG
Checked by:	LRO
Date:	JANUARY 9, 2012
Project No.	064347001

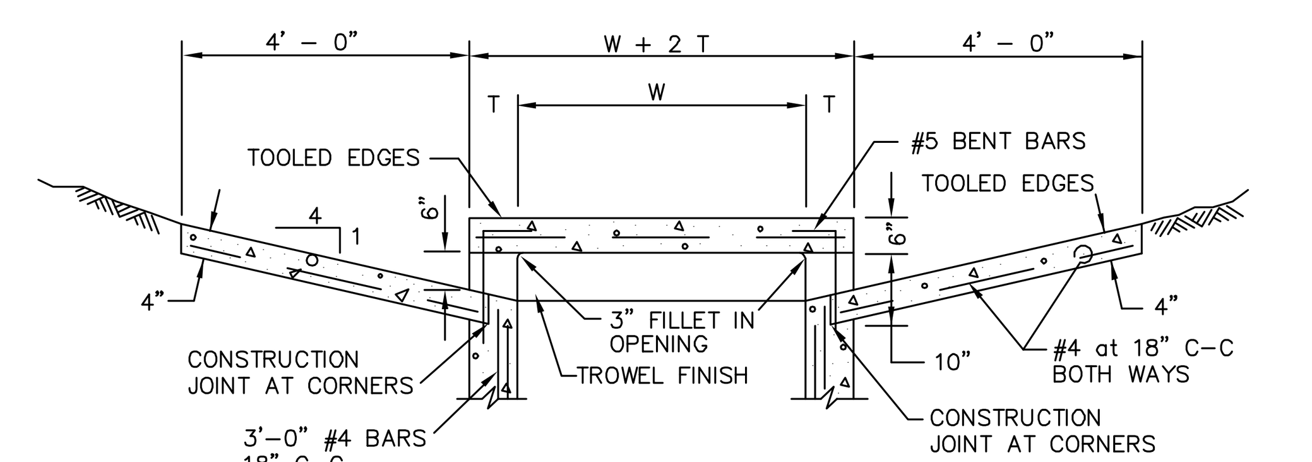
SHEET

C-64



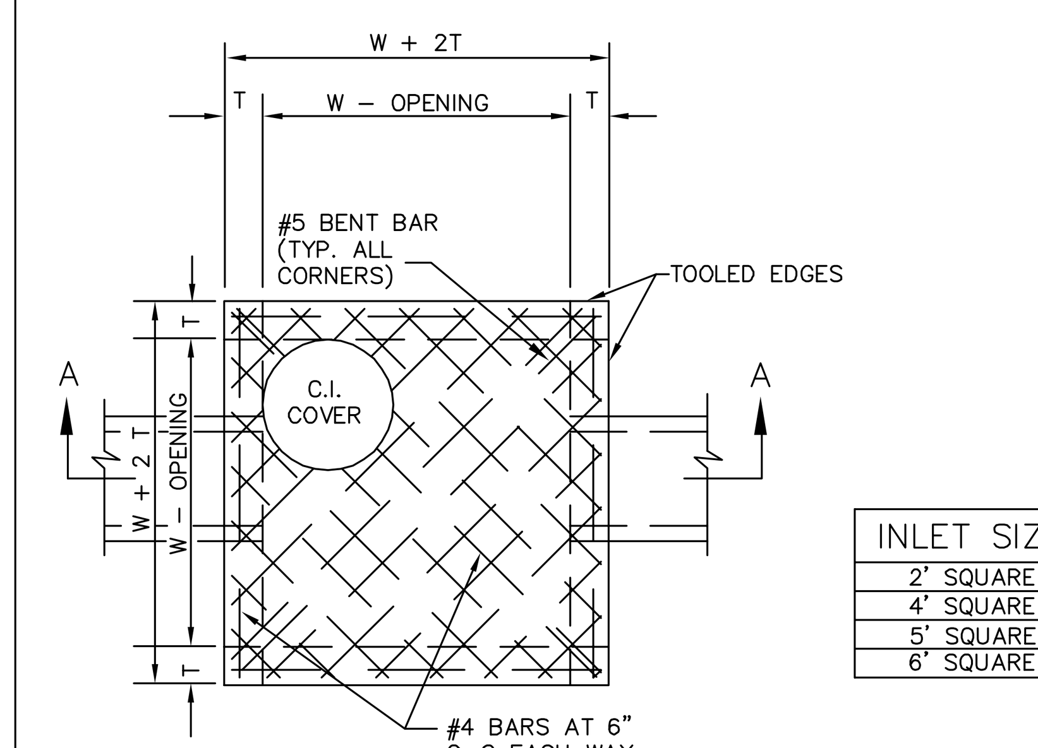






SECTION "A-A"

N.T.S.



PLAN OF TOP SLAB

N.T.S.

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:

1. MATERIAL AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF NCTCOG STANDARD SPECIFICATIONS FOR STANDARD CONCRETE MANHOLES. MINIMUM CLASS "A" CONCRETE.
2. LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACES SHALL HAVE A COVER OF 2" TO THE CENTER OF BARS, UNLESS OTHERWISE NOTED.
3. FOR DETAILS OF REINFORCING OF LOWER PORTIONS OF INLET SEE APPROPRIATE SQUARE MANHOLE DETAILS.
4. 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.
5. ALL STANDARD DROP INLETS SHALL HAVE ONE OPENING ON EACH SIDE UNLESS OTHERWISE SHOWN ON PLANS.
6. DECK MAY BE REINFORCED SAME AS 4' SQUARE MANHOLE.

DROP INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE	
2', 4', 5' OR 6' SQUARE		DATE: NOV. '96	STANDARD DRAWING NO.: 6040

"Record Drawings"
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STATE OF TEXAS — DAVID E. MEYERS — 81512 — REGISTERED PROFESSIONAL ENGINEER

STINSON HIGHLANDS
LUCAS, TEXAS

STORM DETAILS

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

SHEET
C-65