

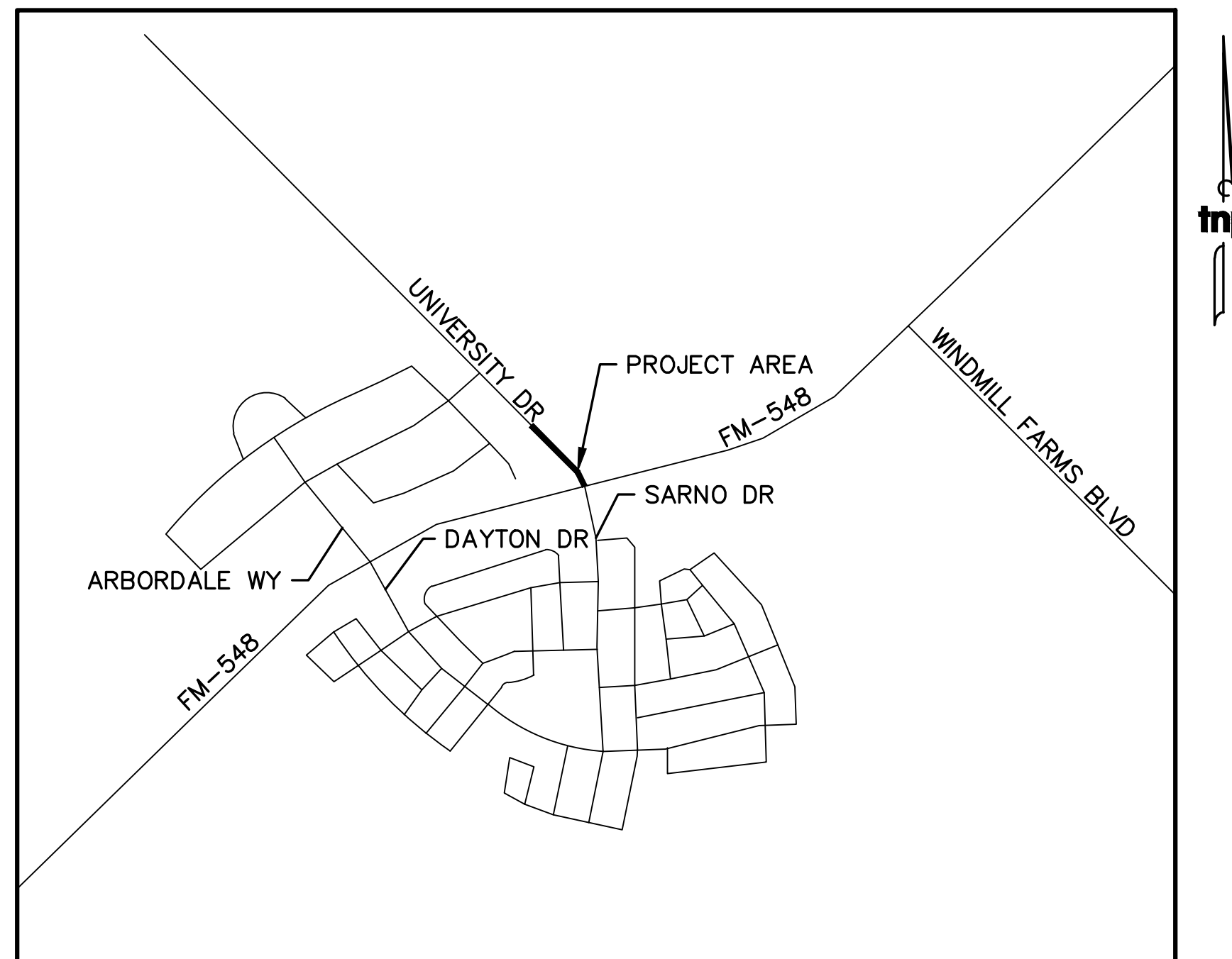
CONSTRUCTION PLANS FOR UNIVERSITY TURN LANE PAVING IMPROVEMENTS KAUFMAN COUNTY, TEXAS NOVEMBER 2023

CIVIL ENGINEER

TNP, INC.
CONTACT: TAYLOR SUTTON, PE
825 WATTERS CREEK BLVD., SUITE M300
ALLEN, TX 75013
PH: 214.988.9965
EMAIL: TSUTTON@TNPINC.COM

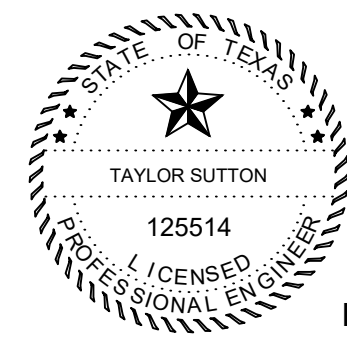
SURVEYOR

TNP, INC.
CONTACT: BRIAN "JAY" MADDOX II, RPLS
825 WATTERS CREEK BLVD., SUITE M300
ALLEN, TX 75013
PH: 214.988.9971
EMAIL: JMADDOX@TNPINC.COM



LOCATION MAP
NOT TO SCALE

Sheet List Table	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	DEMOLITION PLAN
4	PAVING AND GRADING
5	DRAINAGE AREA MAP
6	CULVERT & STRIPING PLAN
7	TXDOT DETAILS

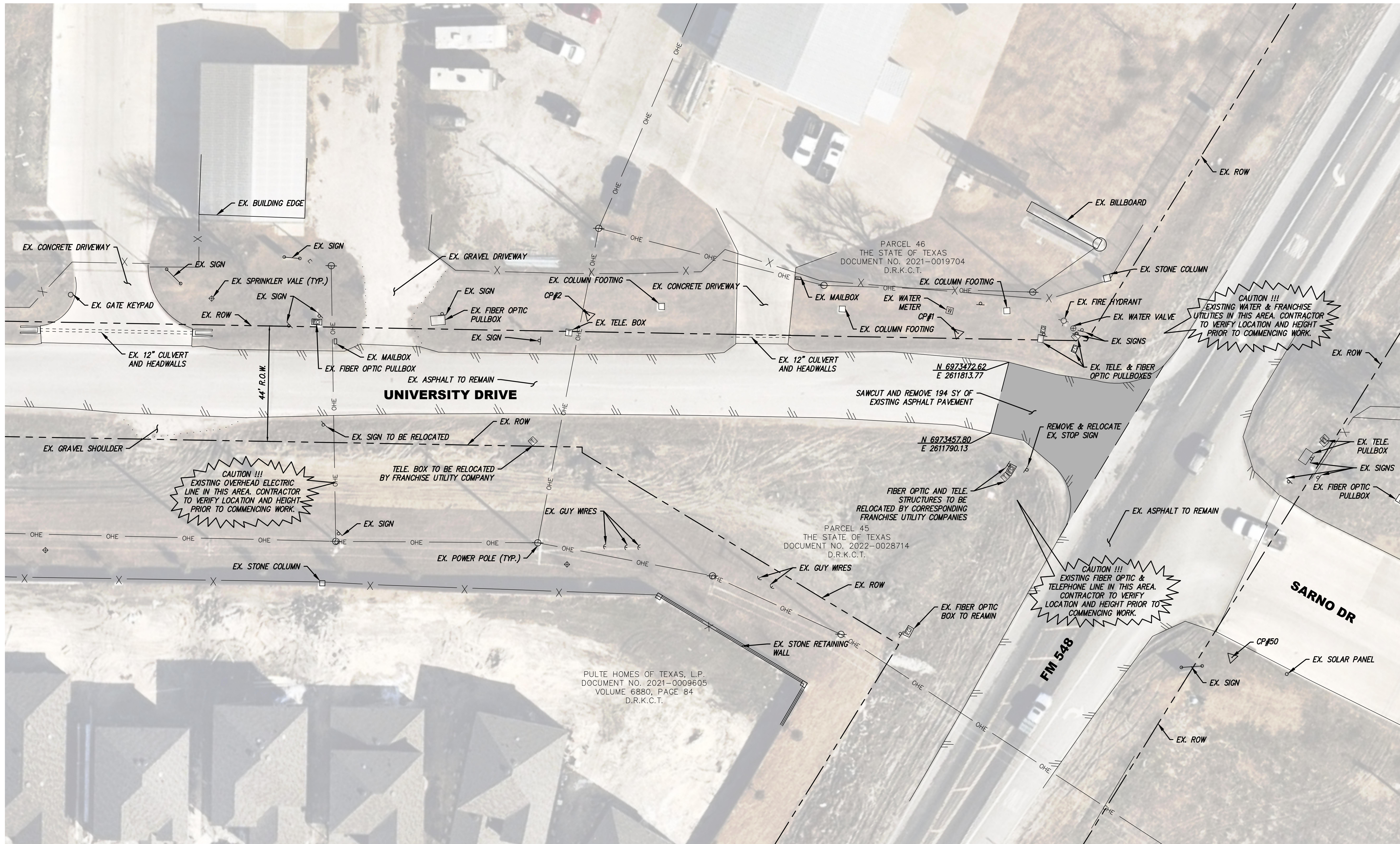


Taylor Sutton

DATE: NOV 09, 2023



825 Watters Creek Boulevard, Suite M300
Allen, Texas 75013
ph 214.461.9867
www.tnpinc.com
TBPELS: ENGR F-230
TBPELS: SURV 10011600, 10011601, 10194381
GBPE: PEF007431, TBAE: BR 2673

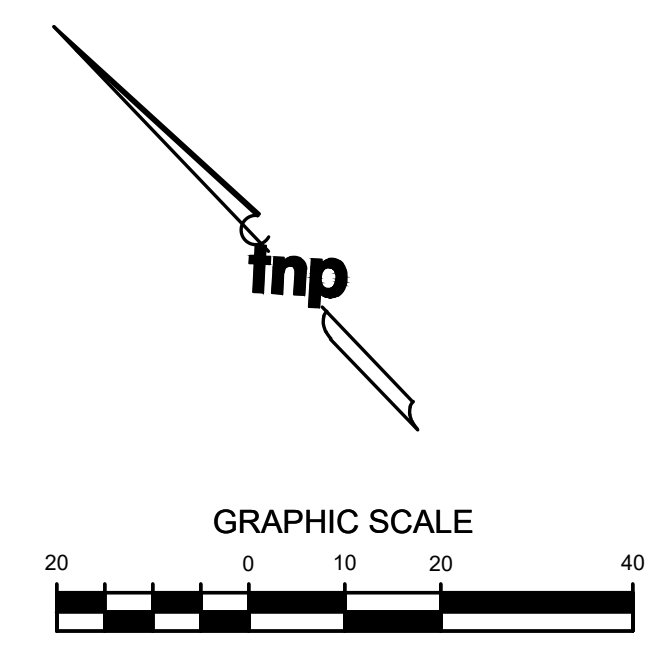


LEGEND	
	ASPHALT LINE
	CONTROL POINT
	FIRE HYDRANT
	FENCE LINE
	GUY WIRES
	OVERHEAD ELECTRIC
	POWER POLE
	R.O.W. LINE
	SIGN
	SPRINKLER VALVE
	EX. STORM DRAIN
	WATER METER
	WATER VALVE

NOTES:

1. CONTRACTOR SHALL PREPARE TEMPORARY TRAFFIC CONTROL PLAN AND COORDINATE WITH COUNTY FOR APPROVAL. PREPARATION OF PLAN, MATERIALS REQUIRED, AND ALL ASSOCIATED LABOR SHALL BE INCLUDED IN TRAFFIC CONTROL BID ITEM.
2. COUNTY MUST BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO ANY LANE CLOSURES.
3. CONTRACTOR SHALL COORDINATE WITH ALL FRANCHISE UTILITY COMPANIES REGARDING NECESSARY RELOCATIONS. COORDINATION WILL BE SUBSIDIARY TO OTHER BID ITEMS.
4. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATIONS OF EXISTING UNDERGROUND UTILITIES TO IDENTIFY CONFLICTS WITH PROPOSED IMPROVEMENTS. ANY DAMAGE TO EXISTING UTILITIES DUE TO CONSTRUCTION SHALL BE THE RESPONSIBILITY AND LIABILITY OF THE CONTRACTOR.
5. ALL EXISTING ITEMS AND STRUCTURES SHALL REMAIN IN PLACE UNLESS SPECIFICALLY SHOWN FOR REMOVAL IN PLANS. ANY EXISTING ITEMS DAMAGED DUE TO CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENTS SHALL BE OF EQUAL OR BETTER QUALITY AS EXISTING ITEMS PRIOR TO START OF CONSTRUCTION.
6. IT IS POSSIBLE THAT THERE IS AN EXISTING CULVERT BURIED UNDERNEATH THE PAVEMENT REMOVAL LIMITS WHICH IS NOT CURRENTLY VISIBLE. IF THE CONTRACTOR SHOULD FIND BURIED CULVERT, REMOVAL AND DISPOSAL OF EXISTING CULVERT SHALL BE SUBSIDIARY TO PAVEMENT REMOVAL BID ITEM WITH NO SEPARATE PAY.

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	DESCRIPTION	ELEVATION
1	6973493.98	2611807.24	5/8" CAPPED IRON ROD SET "TNP CONTROL"	521.36
2	6973595.71	2611709.89	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.53
50	6973332.41	2611798.01	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.98

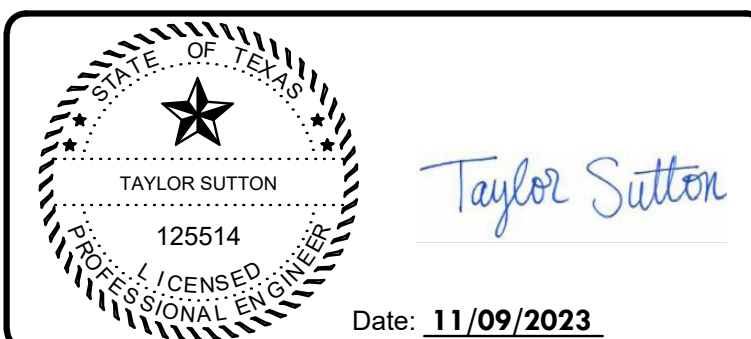


Drawing: T:\Projects\KFM23019\Eng\CAD\Sheet\Sheet\Demo.dwg at Nov 08, 2023 4:40pm by ptmssend

no.	revision	by	date



teague nall and perkins, inc
 825 Watters Creek Blvd., Suite M300
 Allen, Texas 75013
 214.461.9867 ph 214.461.9864 fx
 www.tnpsc.com
 TBPES: ENGR F-230; SURV 10011600, 10011601, 1019438
 GBPE: PEF007431; TBAE: BR 2673

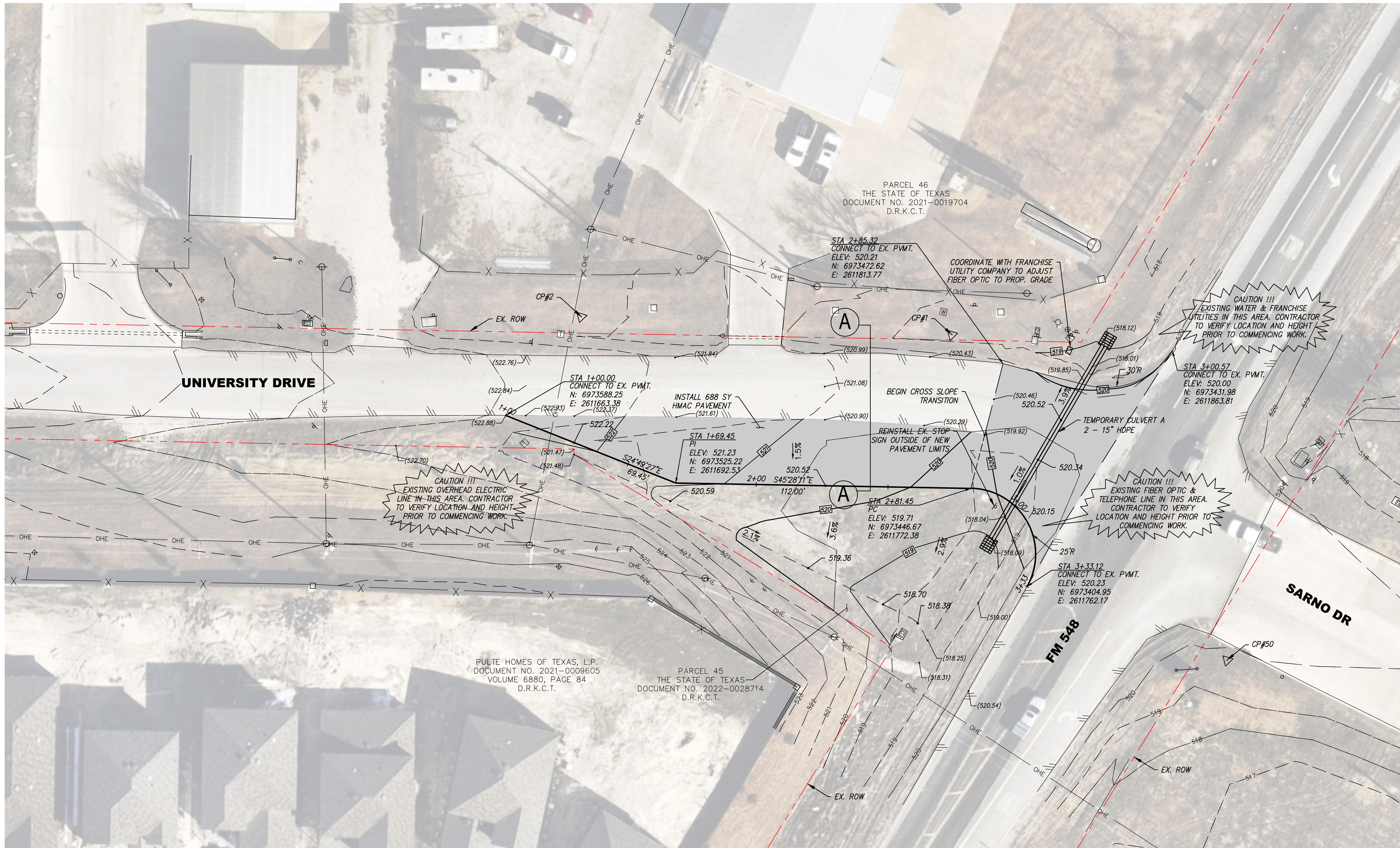


scale
 when bar is
 1 inch long
 horiz
 1"=20'
 vert
 N/A
 NOV 2023

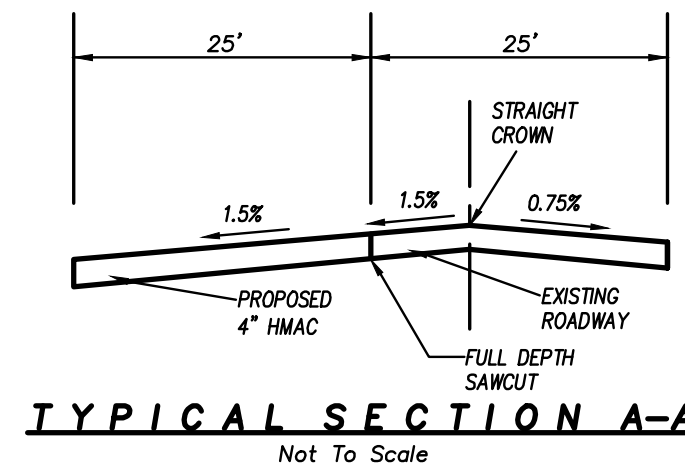
KAUFMAN COUNTY
 100 W. MULBERRY ST
 KAUFMAN TX, 75142
 PH: 469-376-4100

KAUFMAN, TEXAS
 Improvements for
UNIVERSITY DRIVE TURN LANE
DEMOLITION PLAN

tnp project
KFM 23019
 sheet
3
 of
7



LEGEND	
	PROP. 4" HMAc PAVEMENT
	ASPHALT LINE
	CONTROL POINT
	FIRE HYDRANT
	FENCE LINE
	GUY WIRES
	OVERHEAD ELECTRIC
	POWER POLE
	R.O.W LINE
	SIGN
	SPRINKLER VALVE
	EX. STORM DRAIN
	PROP. STORM DRAIN
	WATER METER
	WATER VALVE
	SAWCUT
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROP. MAJOR CONTOUR
	PROP. MINOR CONTOUR

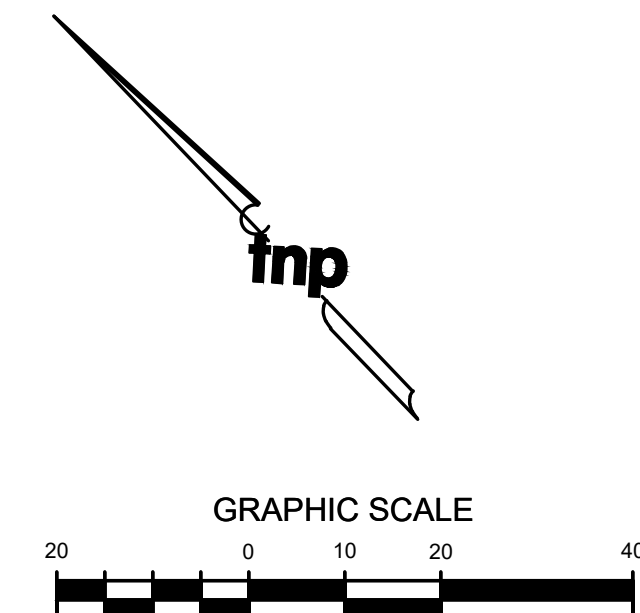


NOTES:

1. PROPOSED PAVEMENT SHALL BE 4" OF HMAc OVER 6" OF LIME TREATED SUBGRADE. PAVEMENT MATERIAL SHALL COMPLY WITH CURRENT STANDARDS IN KAUFMAN COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
2. ALL GRADING OF UNPAVED AREAS SHOWN ON THE PLANS SHALL BE INCLUDED IN THE BID ITEM FOR ROADWAY DITCH GRADING.
3. ANY FILL MATERIAL REQUIRED UNDERNEATH PAVED AREAS TO ACHIEVE THE PROPOSED GRADES SHOWN SHALL BE SUBSIDIARY TO THE BID ITEM FOR THE PROPOSED PAVEMENT.
4. SEEDING OF ALL DISTURBED AREAS SHALL BE INCLUDED IN BID ITEM FOR RESTORATION OF RIGHT OF WAY AND SHALL COMPLY WITH NCTCOG STANDARDS AND SPECIFICATIONS.

CONTROL POINT TABLE

POINT #	NORTHING	EASTING	DESCRIPTION	ELEVATION
1	6973493.98	2611807.24	5/8" CAPPED IRON ROD SET "TNP CONTROL"	521.36
2	6973595.71	2611709.89	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.53
50	6973332.41	2611798.01	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.98



Drawing: T:\Projects\KFM23019\Eng\CADD\Sheet\PAving.dwg at Nov 08, 2023 - 4:15 pm by plowmnsd

no.	revision	by	date



teague nall and perkins, inc
 825 Watters Creek Blvd., Suite M300
 Allen, Texas 75013
 214.461.9867 ph 214.461.9864 fx
 www.tnpsc.com
 TPPEL: ENGR F-230; SURV 10011600, 10011601, 1019438
 GBPE: PEF007431; TBAE: BR 2673

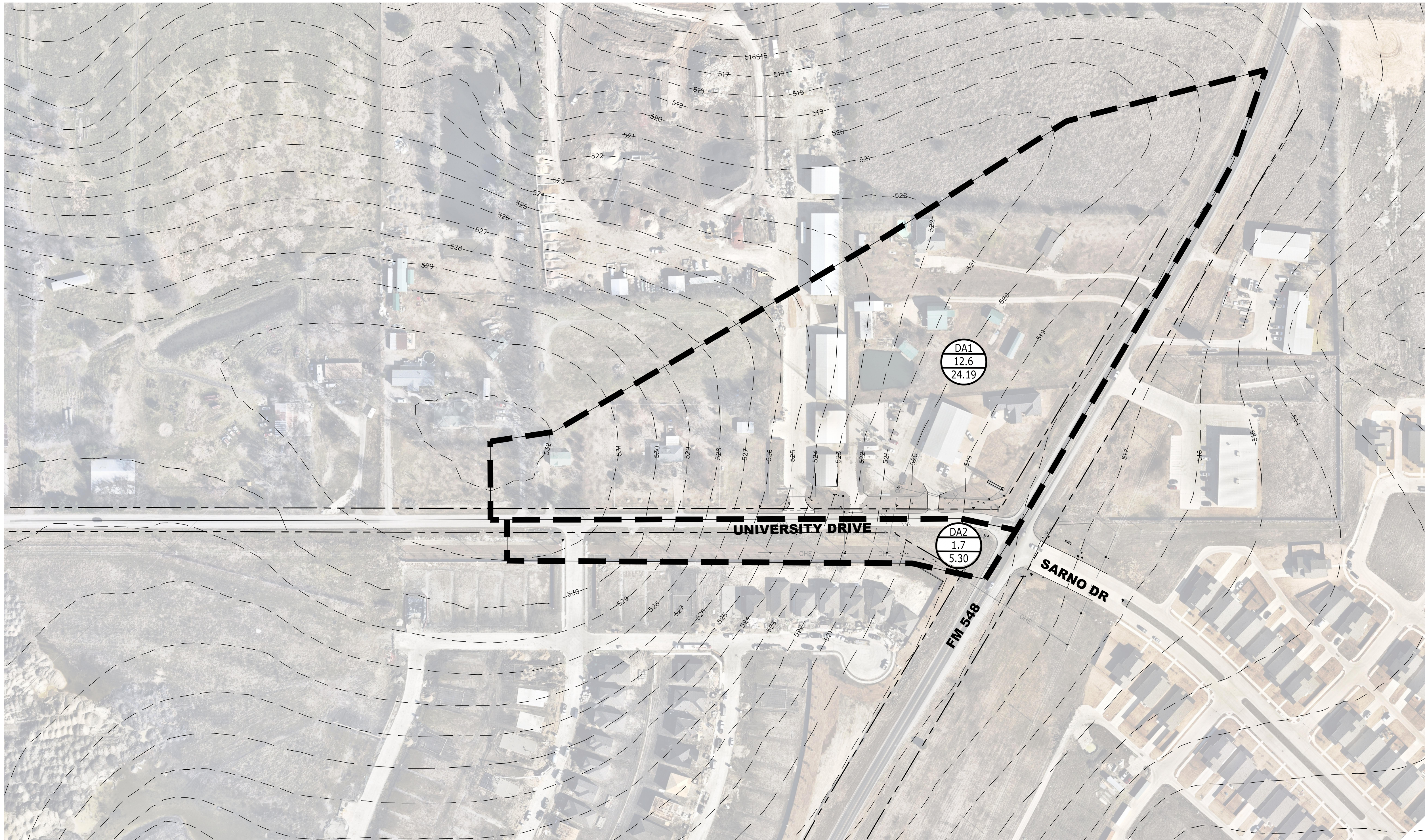
Taylor Sutton
 Date: 11/09/2023

scale
 when bar is 1 inch long
 horiz 1"=20'
 vert N/A
 NOV 2023

KAUFMAN COUNTY
 100 W. MULBERRY ST
 KAUFMAN TX, 75142
 PH: 469-376-4100

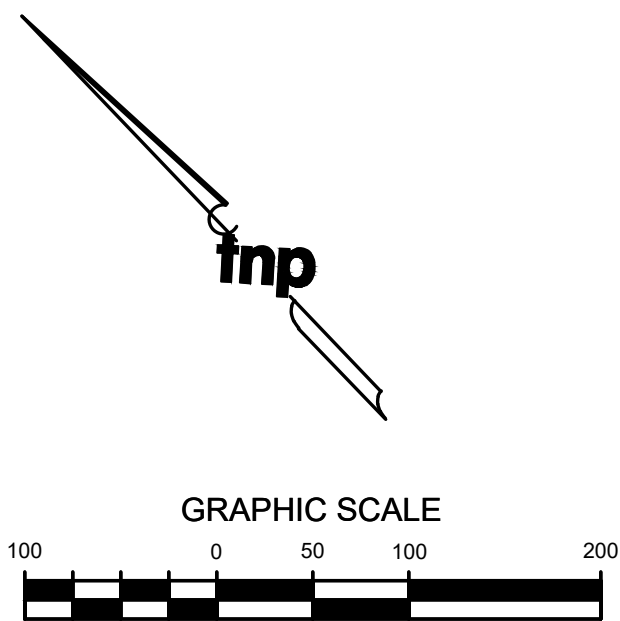
KAUFMAN, TEXAS
 Improvements for
UNIVERSITY DRIVE TURN LANE
PAVING AND GRADING

tnp project
KFM 23019
 sheet
4
 of
7



LEGEND		
	1	DRAINAGE AREA
	1.05	AREA
	5.39	5-YR RUNOFF, CFS
		EX. CONTOURS
		DRAINAGE DIVIDE

Drainage ID	Area (AC)	TC (min)	C	5 Year	
				I (in/hr)	Q (cfs)
DA1	12.6	10	0.4	4.80	24.19
DA2	1.7	10	0.65	4.80	5.30



Drawing: T:\Projects\KFM23019\Eng\CADD\Sheet\Culvert\Profiles.dwg at Nov 08, 2023 4:41pm by plowmssand

no.	revision	by	date



teague nall and perkins, inc
 825 Watters Creek Blvd., Suite M300
 Allen, Texas 75013
 214.461.9867 ph 214.461.9864 fx
 www.tnpsc.com
 TBPELS: ENGR F-230; SURV 10011600, 10011601, 1019438
 GBPE: PEF007431; TBAE: BR 2673

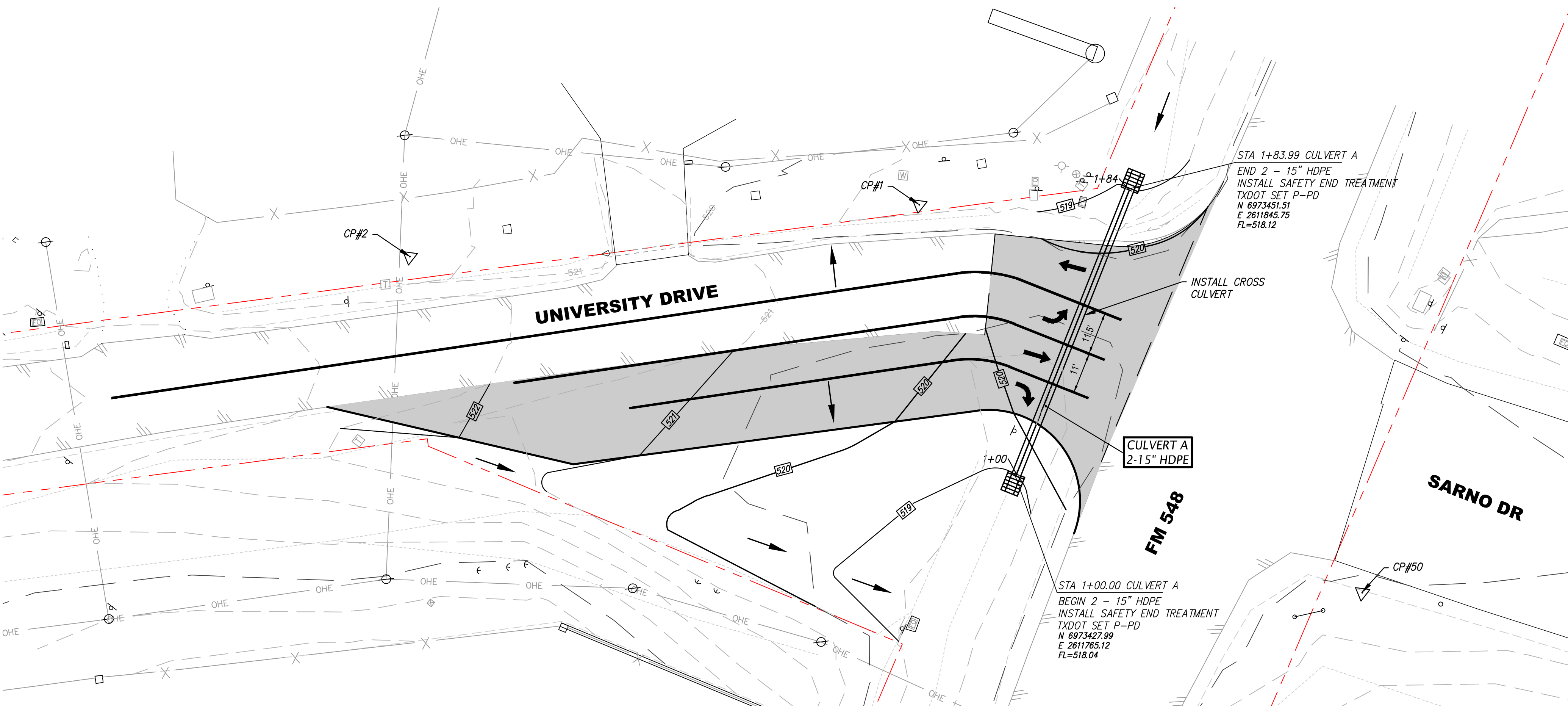


scale
 when bar is
 1 inch long
 horiz
 1"=100'
 vert
 N/A
 NOV 2023

KAUFMAN COUNTY
 100 W. MULBERRY ST
 KAUFMAN TX, 75142
 PH: 469-376-4100

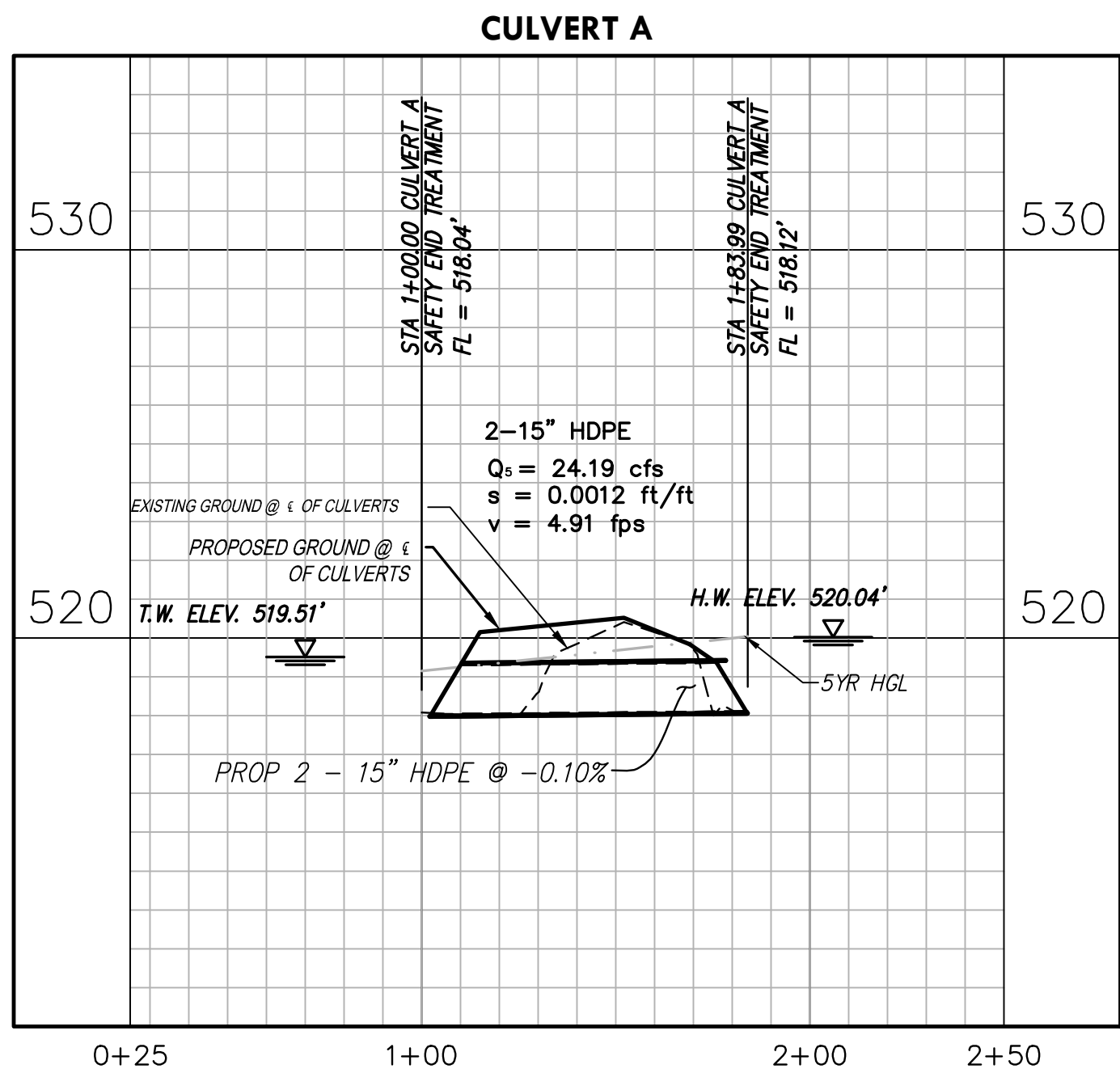
KAUFMAN, TEXAS
 Improvements for
UNIVERSITY DRIVE TURN LANE
DRAINAGE AREA MAP

tnp project
KFM 23019
 sheet
5
 of
7



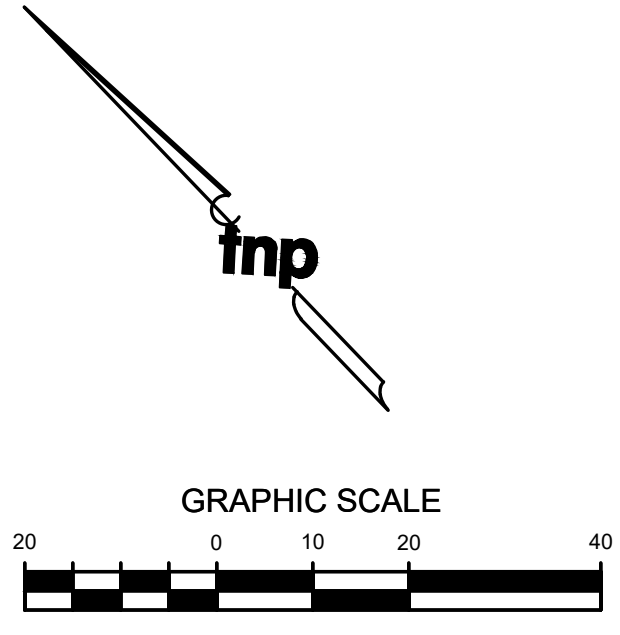
LEGEND	
	PROP. HMAC PAVEMENT
	ASPHALT LINE
	CONTROL POINT
	FIRE HYDRANT
	FENCE LINE
	GUY WIRES
	OVERHEAD ELECTRIC
	POWER POLE
	R.O.W LINE
	SIGN
	SPRINKLER VALVE
	EX. STORM DRAIN
	PROP. STORM DRAIN
	WATER METER
	WATER VALVE
	SAWCUT
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROP. MAJOR CONTOUR
	PROP. MINOR CONTOUR

NOTES:
 1. CULVERT A IS DESIGNED AS A TEMPORARY CULVERT UNTIL WIDENING OF FM 548 IS COMPLETED AND PERMANENT CULVERT IS DESIGNED AND CONSTRUCTED.



* DRAINAGE CALCULATIONS SHOWN ARE FOR 5 YEAR EVENT. OVER TOPPING OF 0.19'

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	DESCRIPTION	ELEVATION
1	6973493.98	2611807.24	5/8" CAPPED IRON ROD SET "TNP CONTROL"	521.36
2	6973595.71	2611709.89	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.53
50	6973332.41	2611798.01	5/8" CAPPED IRON ROD SET "TNP CONTROL"	519.98

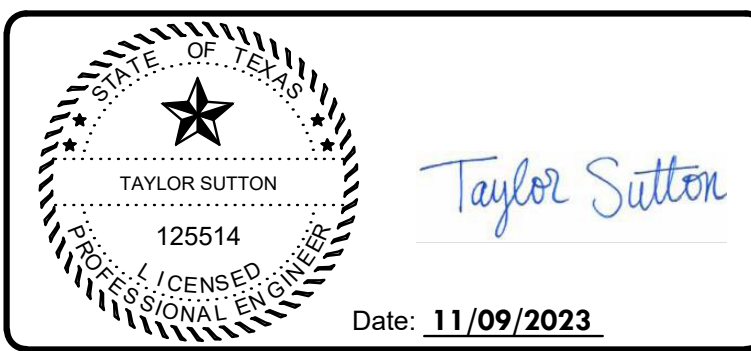


Drawing: T:\Projects\KFM23019\Eng\CADD\Drawings\Area Map.dwg at Nov 06, 2023 4:45pm by pbtowmsend

no.	revision	by	date



teague nall and perkins, inc
 825 Watters Creek Blvd., Suite M300
 Allen, Texas 75013
 214.461.9867 ph 214.461.9864 fx
 www.tnpsc.com
 TBPES: ENGR F-230; SURV 10011600, 10011601, 1019438
 GBPE: PEF007431; TBAE: BR 2673



scale
 when bar is
 1 inch long
 horiz
 1"=20'
 vert
 1"=4'
 NOV 2023

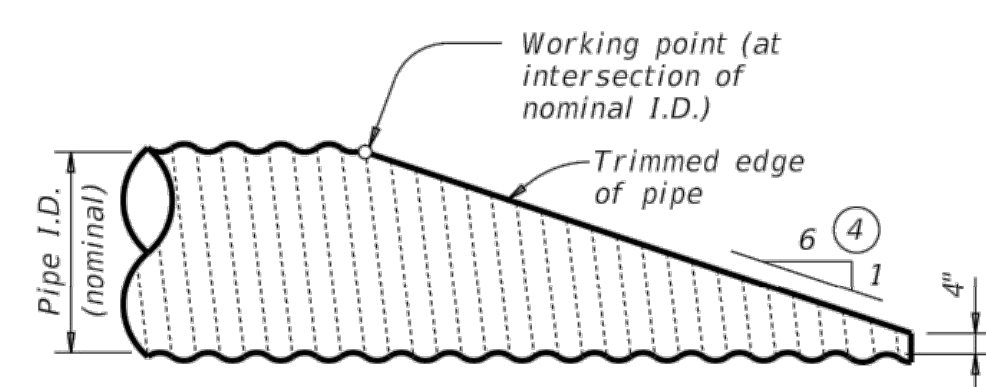
KAUFMAN COUNTY
 100 W. MULBERRY ST
 KAUFMAN TX, 75142
 PH: 469-376-4100

KAUFMAN, TEXAS
 Improvements for
UNIVERSITY DRIVE TURN LANE
CULVERT & STRIPING PLAN

tnp project
KFM 23019
 sheet
6
 of
7

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

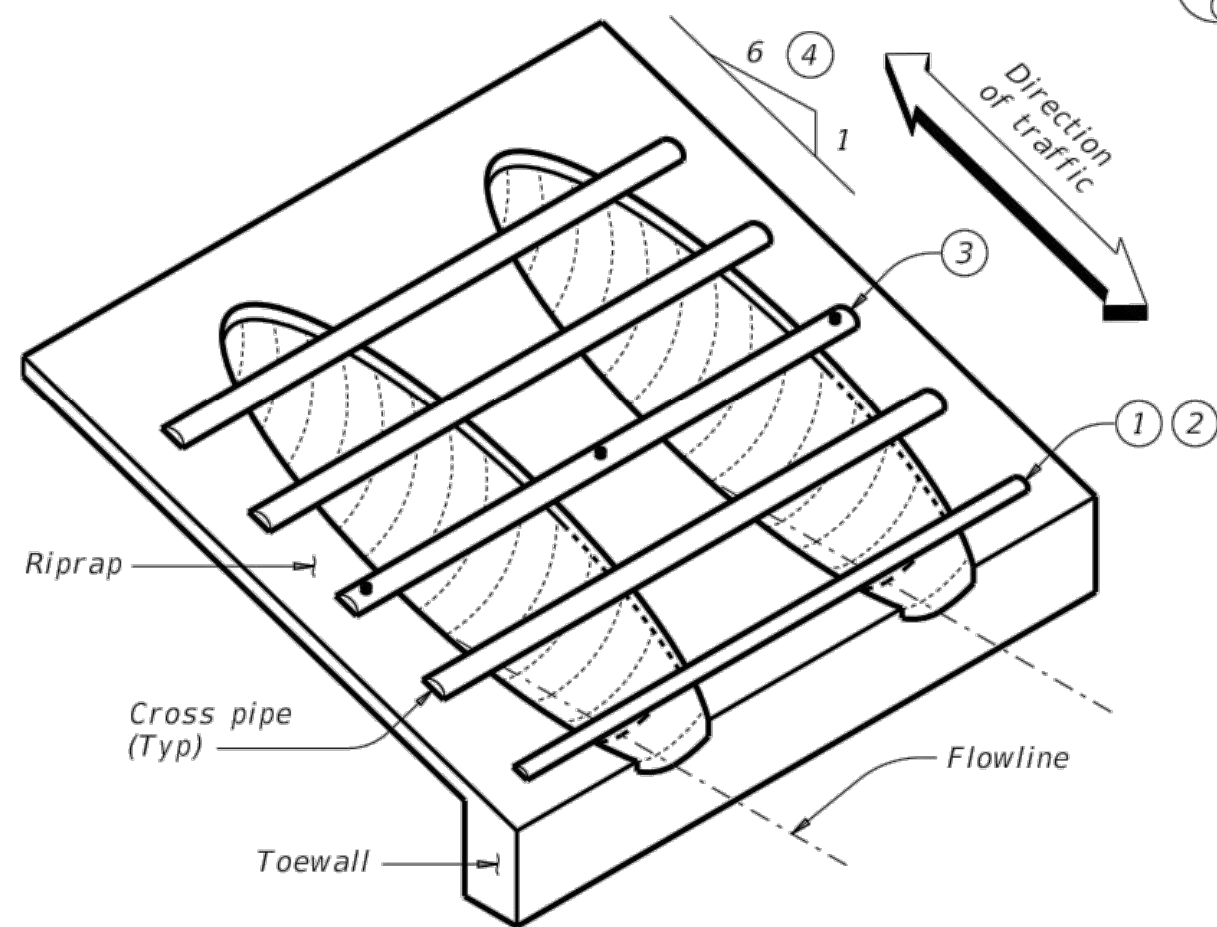
DATE: FILE:



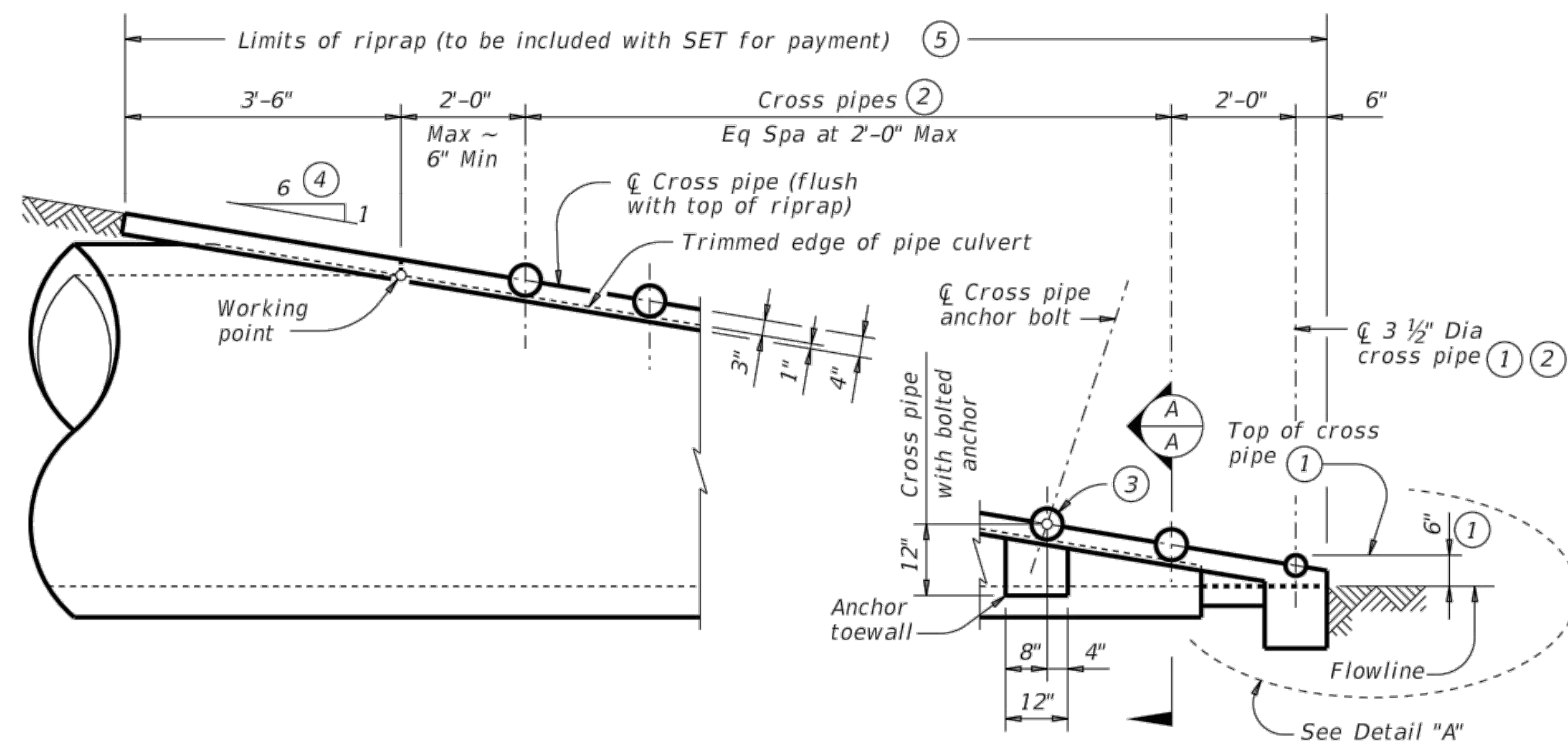
NOTE: All cross pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details at reinforced concrete pipe (RCP) culvert are similar.)

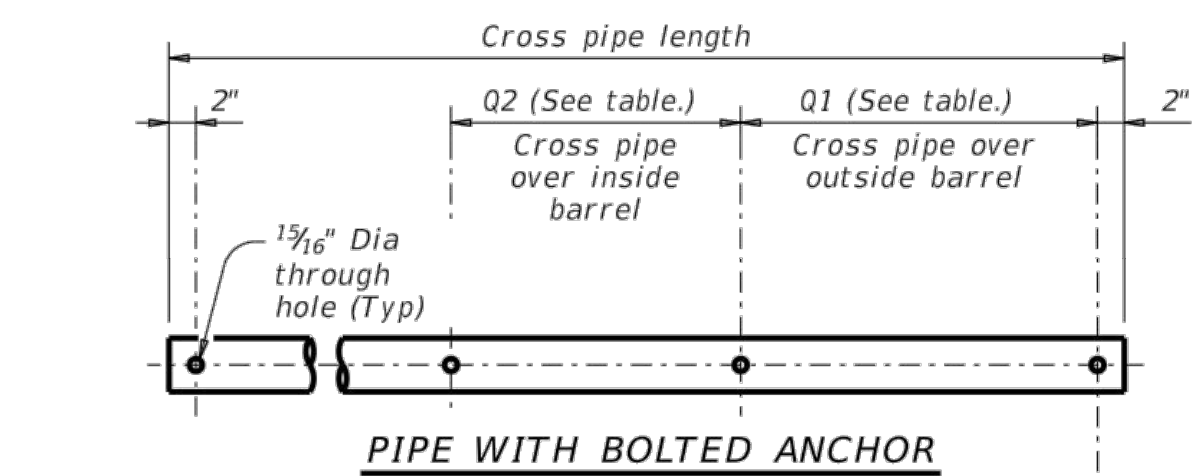


ISOMETRIC VIEW OF TYPICAL INSTALLATION

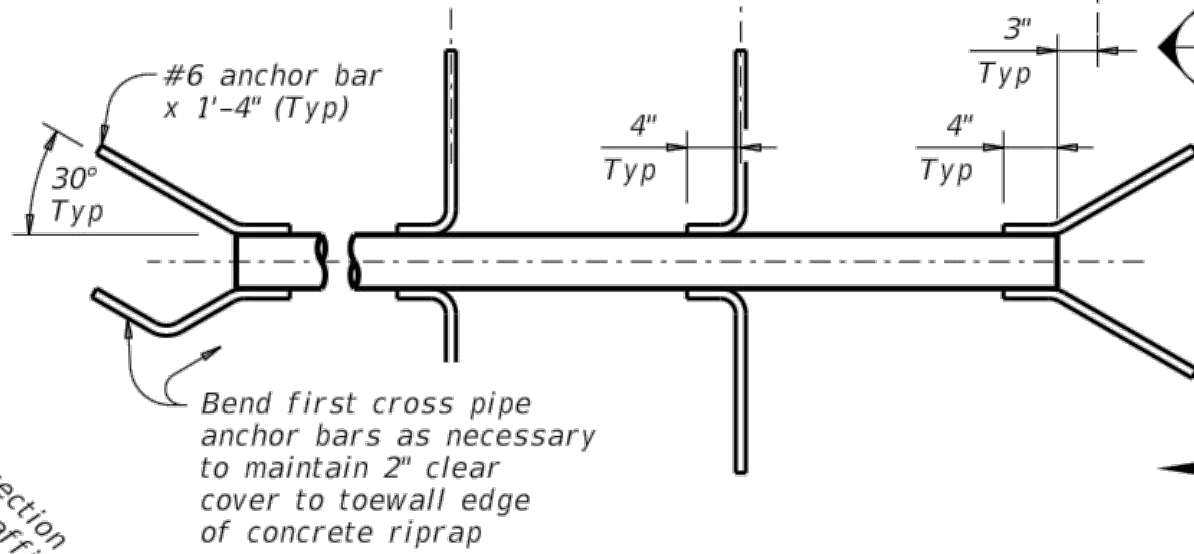


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

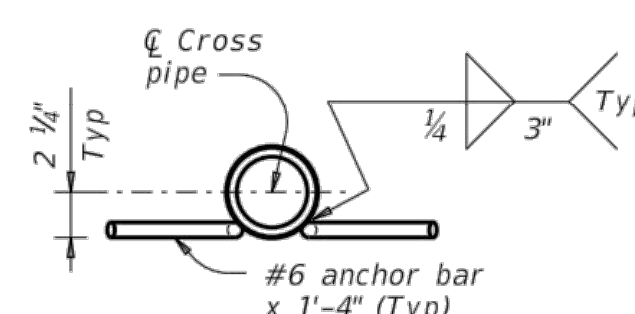
(Showing reinforced concrete pipe (RCP) culvert. Details at corrugated metal pipe (CMP) culvert are similar.)



PIPE WITH BOLTED ANCHOR



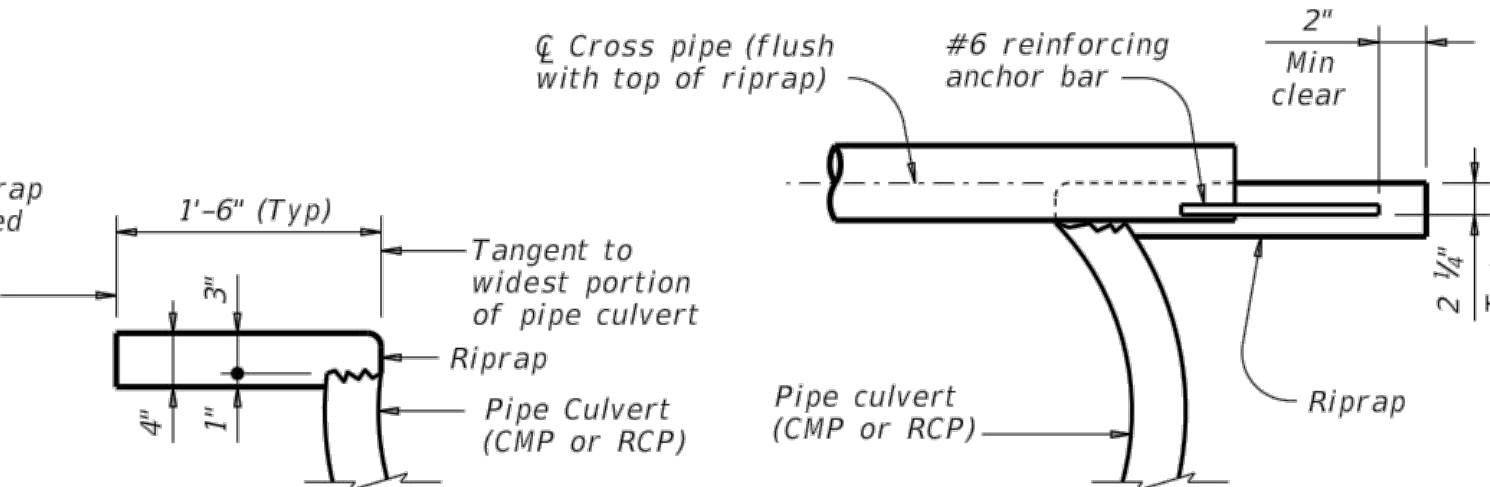
PIPE WITH ANCHOR BARS



SECTION C-C

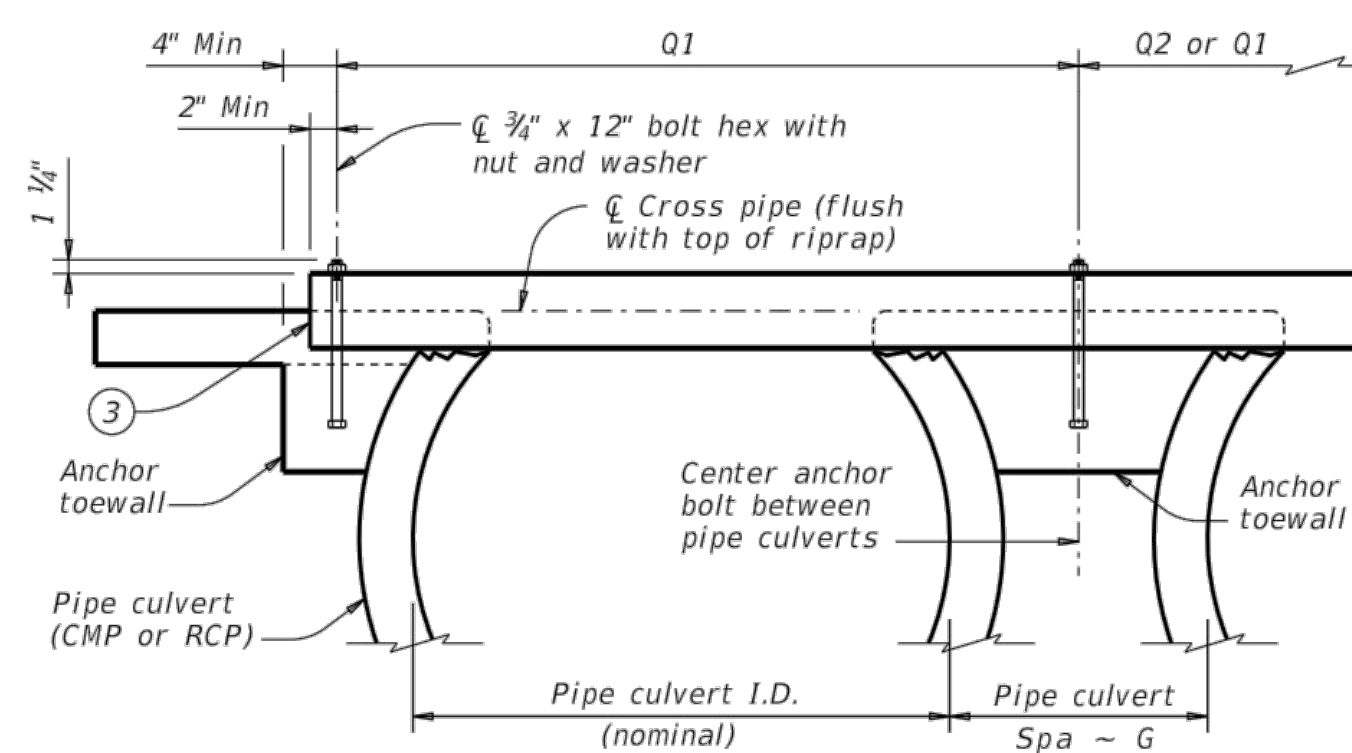
CROSS PIPE DETAILS

Limits of riprap (to be included with SET for payment) ⑤



SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, AND RIPRAP QUANTITIES

Nominal Culvert I.D.	Conc Riprap (CY) ⑥	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
12"	0.6	0' - 9"	N/A	2' - 1"	1' - 9"	3 or more pipe culverts	3" Std (3.500" O.D.)
15"	0.7	0' - 11"	N/A	2' - 5"	2' - 2"		
18"	0.8	1' - 2"	N/A	2' - 10"	2' - 8"		
21"	0.9	1' - 4"	N/A	3' - 2"	3' - 1"		
24"	0.9	1' - 7"	N/A	3' - 6"	3' - 7"	3 or more pipe culverts	3 1/2" Std (4.000" O.D.)
27"	1.0	1' - 8"	N/A	3' - 10"	3' - 11"		
30"	1.1	1' - 10"	N/A	4' - 2"	4' - 4"	2 or more pipe culverts	4" Std (4.500" O.D.)
33"	1.2	1' - 11"	4' - 2"	4' - 5"	4' - 8"	All pipe culverts	
36"	1.3	2' - 1"	4' - 5"	4' - 9"	5' - 1"	All pipe culverts	4" Std (4.500" O.D.)
42"	1.5	2' - 4"	4' - 11"	5' - 5"	5' - 10"		
48"	1.7	2' - 7"	5' - 5"	6' - 0"	6' - 7"	All pipe culverts	5" Std (5.563" O.D.)
54"	2.0	3' - 0"	5' - 11"	6' - 9"	7' - 6"		
60"	2.2	3' - 3"	6' - 5"	7' - 4"	8' - 3"		
66"	2.4	3' - 3"	6' - 11"	7' - 10"	8' - 9"		
72"	2.7	3' - 4"	7' - 5"	8' - 5"	9' - 4"		

- The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.
- Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1/2" standard pipe (4" O.D.) for the first bottom pipe.
- Install the third cross pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.
- Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.
- Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap".
- Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise. Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5LX52. Provide ASTM A307 bolts and nuts. Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981. Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes. Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap". Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Texas Department of Transportation Bridge Division Standard

SAFETY END TREATMENT FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD

FILE: setppdse-20.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT SECT	JOB	HIGHWAY	
REVISIONS				
	DIST	COUNTY		SHEET NO.

Drawing: T:\Projects\16122019\Eng\CAD\SheetDetails.dwg at Nov 08, 2023 - 4:41 pm by jlowmesand

no.	revision	by	date



teague nall and perkins, inc
 825 Watters Creek Blvd., Suite M300
 Allen, Texas 75013
 214.461.9867 ph 214.461.9864 fx
 www.tnppinc.com
 TPBES: ENGR F-230; SURV 10011600, 10011601, 1019438
 GBPE: PEF007431; TBAE: BR 2673

Taylor Sutton
 TAYLOR SUTTON
 125514
 LICENSED PROFESSIONAL ENGINEER
 Date: 11/09/2023

scale
 when bar is
 1 inch long
 horiz
 vert
 NOV 2023

KAUFMAN COUNTY
 100 W. MULBERRY ST
 KAUFMAN TX, 75142
 PH: 469-376-4100

KAUFMAN, TEXAS
 Improvements for
UNIVERSITY DRIVE TURN LANE
TXDOT DETAILS

tnp project
KFM 23019
 sheet
7
 of
7