CONSTRUCTION PLANS

TWELVE OAKS

AN ADDITION TO THE CITY OF CELINA

COLLIN COUNTY, TEXAS

164.50 AC.

OWNER/DEVELOPER

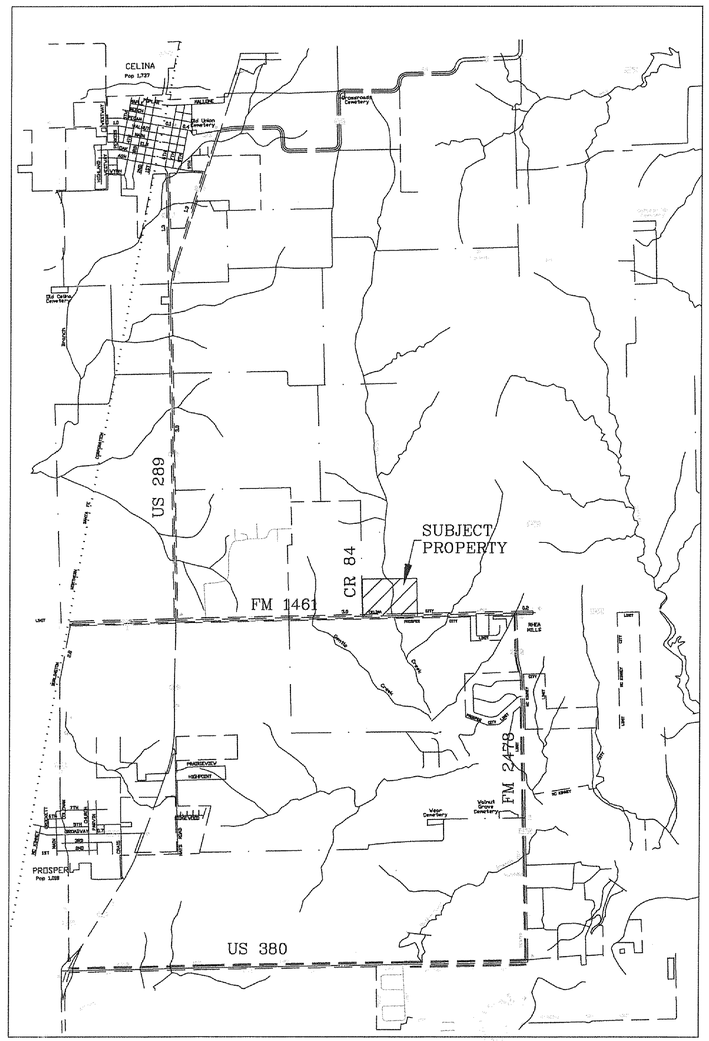
HAGGARD PROPERTIES
520 CENTRAL PARKWAY # 301
PLANO, TEXAS 75074
(972) 422-4515

PHASE ONE - 19 LOTS
PHASE TWO - 48 LOTS
67 TOTAL SINGLE FAMILY LOTS

CAUTION!!!!!

EXISTING UTILITIES

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION AND TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.



VICINITY MAP
N.T.S.

SHEET INDEX

1. COVER SHEET
2. FILE PLAT- PHASE ONE
3. FILE PLAT - PHASE TWO (Not Included)
4. DEDICATION STATEMENT - PHASE ONE
5. GENERAL NOTES
6. DRAINAGE AREA MAP
7. PAVING PLAN & PROFILE - TWLEVE OAKS LN.
8. PAVING PLAN & PROFILE - TWELVE OAKS LN.
9. PAVING PLAN & PROFILE - TWELVE OAKS LN.
10. PAVING PLAN & PROFILE - PEBBLE CREEK DR.
11. PAVING PLAN & PROFILE - PEBBLE CREEK DR.
12. PAVING PLAN & PROFILE - OAK BEND TRAIL
13. PAVING PLAN & PROFILE - OAK BEND TRAIL
14. PAVING PLAN & PROFILE - PECAN GROVE LN.
15. PAVING PLAN & PROFILE - CEDAR TRAIL LN.
16. LOT GRADING PLAN
17. CULVERT DETAIL SHEET
18. CULVERT DETAIL SHEET
19. CULVERT DETAIL SHEET
20. CULVERT DETAIL SHEET
21. WATER PLAN
22. EROSION CONTROL PLAN

STANDARDS

S.E.T. STANDARD (SETP-PD)
PAVING, WATER, & STORM SEWER DETAILS
EROSION CONTROLS DETAILS
ENTRANCE DETAIL (TYP)

"APPROVED FOR CONSTRUCTION"

CITY ENGINEER
CITY OF CELINA

DATE

APPROVED:

CITY MANAGER
CITY OF CELINA

DATE

ENGINEERING CONCEPTS & DESIGN L.P.
LAND DEVELOPMENT SERVICES
ENGINEERING / SURVEYING / PROJECT MANAGEMENT
7557 RAMBLER RD. STE. #469 DALLAS, TX 75231
(214) 363-0856 (972) 726-6363 FAX

"FOR REVIEW PURPOSES ONLY"

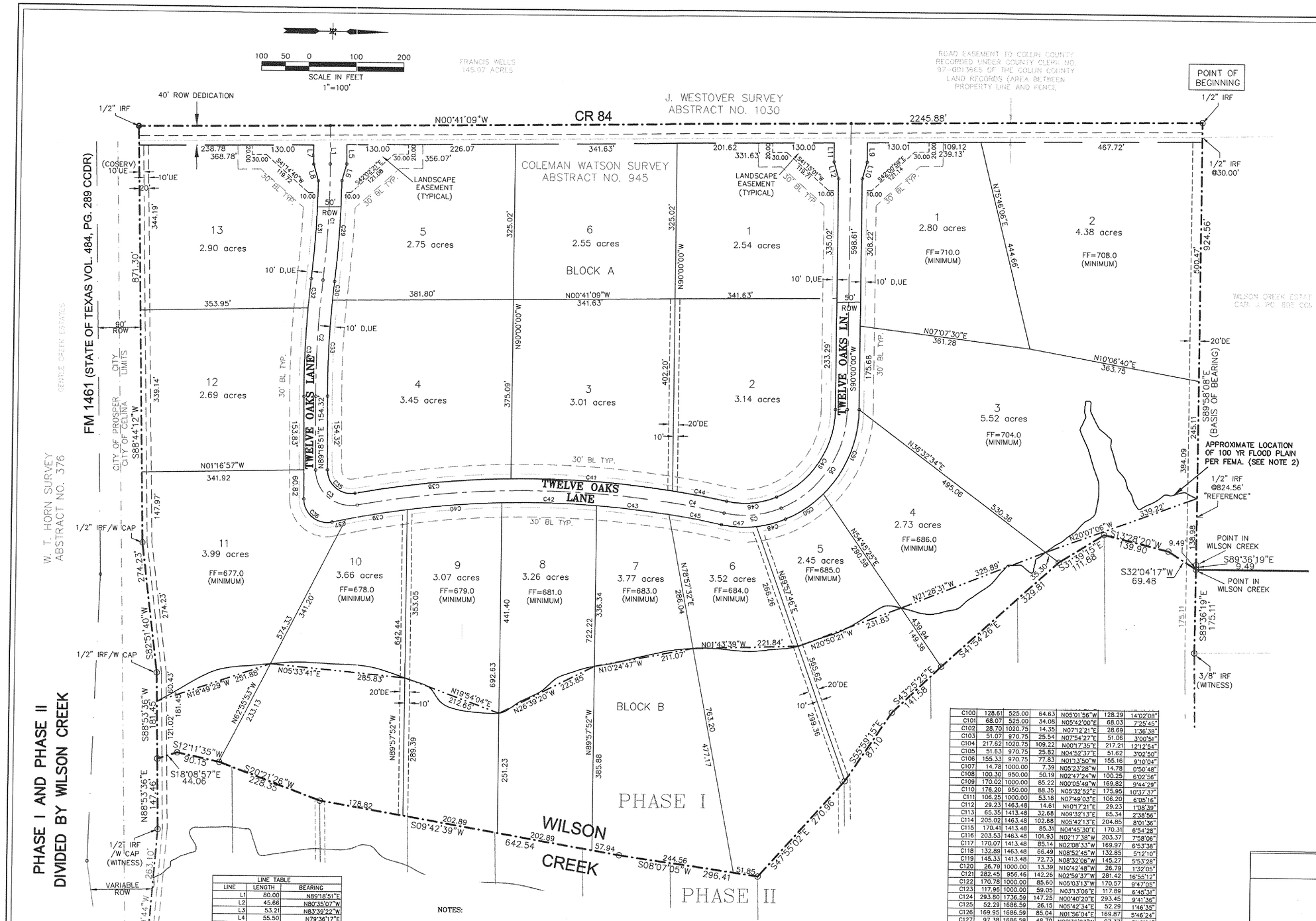
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TODD D. WINTTERS, TEXAS PE NO. 87085 ON:
5-29-01

STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED
PROFESSIONAL ENGINEER

DATE: MAY 23, 2001

TWELVE OAKS - CITY OF CELINA, TX

P-200105-01



CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CH. BRG.	CHORD	DELTA
C1	243.57	1975.00	121.94	N87°09'10"W	243.41	7°03'58"
C2	243.57	1975.00	121.94	N87°09'10"W	243.41	7°03'58"
C3	130.70	75.00	89.14	N39°23'27"E	114.78	99°50'48"
C4	780.37	1975.00	395.34	N00°47'13"E	775.30	22°38'20"
C5	122.49	200.00	63.23	N05°26'19"W	120.58	35°05'25"
C6	263.17	225.00	148.97	N56°29'31"W	248.42	67°00'58"
C7	415.59	1711.59	208.82	N03°28'22"W	414.57	13°54'43"
C8	18.44	1711.59	9.22	N10°42'14"W	18.44	0°37'02"
C9	307.64	975.00	155.11	N01°58'24"W	306.36	18°04'42"
C10	580.92	1438.48	284.07	N04°06'19"W	557.37	22°20'31"
C11	283.77	975.00	142.90	N06°56'18"W	282.77	16°40'33"
C12	205.79	995.75	103.26	N04°31'15"W	205.42	11°50'28"
C13	63.65	525.00	31.86	N13°54'52"W	63.61	6°56'46"
C14	213.09	525.00	108.03	N29°00'56"W	211.63	23°15'21"
C15	149.12	300.00	76.13	N86°51'07"E	147.59	28°28'45"
C16	599.01	1461.31	303.77	N89°20'54"E	594.82	23°29'11"
C17	114.19	300.00	57.80	N88°30'36"E	113.51	21°48'34"
C18	229.59	500.00	116.85	N03°44'23"W	227.57	26°18'31"
C19	52.38	995.75	26.20	N07°54'27"E	52.38	3°00'51"
C20	212.29	995.75	106.55	N00°17'35"E	211.89	12°12'54"
C21	283.77	975.00	142.90	N02°31'24"E	282.77	16°40'33"
C22	560.92	1438.48	284.07	N00°18'35"W	557.37	22°20'31"
C23	307.84	975.00	155.11	N02°26'30"W	306.36	18°04'42"
C24	7.58	1711.59	3.79	N06°28'14"E	7.58	0°15'14"
C25	424.52	1711.59	213.35	N00°45'42"W	423.43	14°12'39"
C26	44.98	200.00	22.59	N77°12'47"W	44.89	12°53'12"
C27	620.11	837.31	325.05	N88°00'50"E	606.03	42°25'58"
C28	44.71	200.00	22.45	N73°12'04"E	44.61	12°48'25"
C29	211.65	2000.00	105.92	N86°39'05"W	211.55	6°03'48"
C30	39.23	1950.00	19.61	N84°11'46"W	39.23	1°09'09"
C31	205.48	1950.00	102.84	N86°38'19"W	205.39	6°02'15"
C32	60.97	2000.00	30.49	N84°29'35"W	60.96	1°44'48"
C33	201.26	1950.00	100.72	N87°43'45"W	201.17	5°54'48"
C34	185.68	2000.00	92.91	N88°01'34"W	185.62	5°19'10"
C35	87.13	50.00	59.43	N39°23'27"E	76.52	99°50'48"
C36	88.62	50.00	61.26	N38°32'14"E	77.47	101°33'13"
C37	29.65	1950.00	14.83	N11°48'14"W	29.65	0°52'16"
C38	330.83	2000.00	165.79	N05°47'37"W	330.45	9°28'39"
C39	131.24	1950.00	65.64	N09°26'25"W	131.22	3°51'22"
C40	200.73	1950.00	100.46	N04°33'47"W	200.65	5°53'53"
C41	342.80	2000.00	171.82	N03°25'19"E	342.38	9°49'14"
C42	200.14	1950.00	100.16	N01°19'34"E	200.05	5°52'50"
C43	153.64	1950.00	76.86	N06°31'25"E	153.60	4°30'52"
C44	116.61	2000.00	58.32	N10°26'10"E	116.60	3°20'27"
C45	113.18	1950.00	56.61	N10°26'37"E	113.17	3°19'32"
C46	107.18	175.00	55.33	N05°26'19"W	105.53	35°05'25"
C47	74.42	225.00	37.55	N02°37'53"E	74.08	18°57'00"
C48	63.38	225.00	31.90	N14°54'49"W	63.17	16°08'25"
C49	233.93	200.00	132.42	N56°29'31"W	220.82	67°00'58"
C50	96.09	250.00	48.64	N33°59'40"W	95.50	22°01'16"
C51	196.33	250.00	103.54	N67°30'09"W	191.32	44°59'42"
C52	39.93	1676.59	19.97	N01°44'28"E	39.93	1°21'52"
C53	39.93	1746.59	19.97	N01°37'12"E	39.93	1°18'36"
C54	109.66	1686.59	54.85	N02°00'26"W	109.64	3°43'31"
C55	284.70	1736.59	142.67	N04°52'26"W	284.38	9°23'35"
C56	185.66	1686.59	92.92	N07°01'25"W	185.56	6°18'25"
C57	24.59	1686.59	12.30	N10°35'41"W	24.59	0°50'08"
C58	161.18	1000.00	80.76	N06°23'42"W	161.00	9°14'05"
C59	293.46	956.46	147.89	N01°45'04"W	292.31	17°34'47"
C60	154.35	1000.00	77.33	N02°38'38"E	154.19	8°50'36"
C61	31.08	1413.48	15.54	N06°26'08"E	31.08	1°15'36"
C62	131.07	1463.58	65.58	N04°29'59"E	131.02	5°07'52"
C63	185.08	1413.48	92.67	N02°03'18"E	184.95	7°30'08"
C64	203.52	1463.58	101.92	N02°02'58"W	203.35	7°58'02"
C65	185.26	1413.48	92.76	N05°27'05"W	185.12	7°30'34"
C66	205.91	1463.58	103.13	N10°03'48"W	205.74	8°03'40"
C67	149.75	1413.48	74.95	N12°14'28"W	149.68	8°04'13"
C68	32.34	1463.58	16.17	N14°43'37"W	32.33	1°15'57"
C69	38.65	1000.00	19.33	N14°10'08"W	38.65	2°12'53"
C70	174.09	950.00	87.29	N09°53'46"W	173.85	10°29'58"
C71	186.08	1000.00	93.31	N07°43'51"W	185.81	10°39'41"
C72	100.24	950.00	33.17	N00°30'01"W	66.30	3°47'59"
C73	66.32	1000.00	59.28	N02°05'42"W	118.35	6°59'22"
C74	118.42	970.75	105.85	N04°31'15"W	210.58	11°50'28"
C75	210.95	1020.75	41.12	N08°00'56"W	82.18	4°51'06"
C76	82.20	970.75	53.71	N16°34'21"W	106.80	12°15'44"
C77	107.01	500.00	57.39	N29°15'06"W	114.03	13°05'45"
C78	114.28	500.00	77.46	N28°00'32"W	153.40	16°01'57"
C79	153.90	550.00	96.85	N35°33'23"W	88.86	125°23'22"
C80	109.42	50.00	31.54	N59°23'03"E	53.36	64°29'29"
C81	56.28	50.00	71.49	N33°20'20"W	81.95	110°03'46"
C82	96.05	50.00	81.28	N86°31'27"E	157.70	28°04'58"
C83	159.29	325.00	70.18	N86°46'32"E	136.00	28°37'56"
C84	137.42	275.00	1.49	N79°10'17"W	2.98	0°31'33"
C85	2.98	325.00	88.45	N82°25'57"W	176.57	7°02'53"
C86	176.68	1436.31	47.51	N80°44'22"W	94.97	3°39'42"
C87	94.99	1486.31	104.52	N86°35'34"W	208.52	8°02'42"
C88	208.69	1486.31	88.97	N89°30'04"W	177.60	7°05'22"
C89	177.72	1436.31	104.44	N85°21'56"E	208.36	8°02'19"
C90	208.53	1486.31	89.38	N83°23'36"E	178.42	7°07'19"
C91	178.54	1436.31	48.54	N79°28'32"E	97.02	3°44'27"
C92	97.04	1486.31	27.92	N78°43'07"E	55.82	2°13'37"
C93	55.82	1436.31	62.61	N88°30'36"E	122.96	21°48'34"
C94	123.71	325.00	52.96	N88°30'36"E	104.05	21°48'34"
C95	104.68	275.00	76.08	N02°42'07"W	150.24	18°11'56"
C96	150.88	475.00	171.47	N00°38'14"W	96.00	147°29'11"
C97	128.71	50.00	59.22	N57°04'05"W	76.41	99°39'06"
C98	86.96	50.00	24.82	N19°09'27"E	44.46	52°48'00"
C99	46.08	50.00	64.63	N05°01'56"W	128.29	14°02'08"
C100	128.61	525.00	64.63	N05°01'56"W	128.29	14°02'08"
C101	68.07	525.00	34.08	N05°42'00"E	68.03	7°25'45"
C102	28.70	1020.75	14.35	N07°12'21"E	28.69	1°36'38"
C103	51.07	970.75	25.54	N07°54'27"E	51.06	3°00'51"
C104	217.62	1020.75	109.22	N00°17'35"E	217.21	12°12'54"
C105	51.63	970.75	25.82	N04°52'37"E	51.62	3°02'50"
C106	155.33	970.75	77.83	N01°13'50"W	155.16	9°10'04"
C107	14.78	1000.00	7.39	N05°23'28"W	14.78	0°50'48"
C108	100.30	950.00	50.19	N02°47'24"W	100.25	6°02'56"
C109	170.02	1000.00	85.22	N00°05'49"W	169.82	9°44'29"
C110	176.20	950.00	88.35	N05°32'52"E	175.95	10°37'37"
C111	106.25	1000.00	53.18	N07°49'03"E	106.20	6°05'16"
C112	29.23	1463.48	14.61	N10°17'21"E	29.23	1°08'39"
C113	65.35	1413.48	32.68	N09°32'13"E	65.34	2°38'56"
C114	205.02	1463.48	102.68	N05°42'13"E	204.85	8°01'36"
C115	170.41	1413.48	85.31	N04°45'30"E	170.31	6°54'28"
C116	203.53	1463.48	101.93	N02°17'38"W	203.37	7°58'06"
C117	170.07	1413.48	85.14	N02°08'33"W	169.97	6°53'38"
C118	132.89	1463.48	66.49	N08°52'45"W	132.85	5°12'10"
C119	145.33	1413.48	72.73	N08°32'06"W	145.27	5°53'28"
C120	26.79	1000.00	13.39	N10°42'48"W	26.79	1°32'05"
C121	282.45	956.46	142.26	N02°59'37"W	281.42	16°55'12"
C122	170.78	1000.00	85.60	N05°03'13"W	170.57	9°47'05"
C123	117.96	1000.00	59.05	N03°13'06"E	117.89	6°45'31"
C124	293.80	1736.59	147.25	N00°40'20"E	293.45	9°41'36"
C125	52.29	1686.59	26.15	N05°42'34"E	52.29	1°46'35"
C126	169.95	1686.59	85.04	N01°56'04"E	168.87	5°46'24"
C127	97.38	1686.59	48.70	N02°36'23"W	97.37	3°18'29"
C128	40.09	1746.59	20.04	N05°57'57"W	40.09	1°18'54"
C129	40.11	1676.59	20.05	N06°09'43"W	40.11	1°22'14"
C130	39.12	175.00	19.64	N73°12'04"E	39.04	12°48'25"
C131	50.29	225.00	25.25	N73°12'04"E	50.19	12°48'25"
C132	118.92	862.31	59.55	N70°44'54"E	118.83	7°54'06"
C133	121.92	812.31	61.08	N71°05'51"E	121.81	8°35'59"
C134	195.48	862.31	98.16	N81°11'36"E	195.06	12°59'19"
C135	183.70	812.31	92.24	N81°52'33"E	183.31	12°57'25"
C136	194.40	862.31	97.61	N85°51'15"W	193.98	12°55'00"
C137	183.77	812.31	92.28	N85°29'53"W	183.38	12°57'43"
C138	129.82	862.31	65.04	N75°04'58"W	129.70	8°37'34"
C139	112.20	812.31	56.19	N74°43'36"W	112.12	7°54'51"
C140	39.36	175.00	19.76	N77°12'47"W	39.28	12°53'12"
C141	50.61	225.00	25.41	N77°12'47"W	50.50	12°53'12"

LINE TABLE		
LINE	LENGTH	BEARING
L1	80.00	N89°18'51"E
L2	45.66	N80°35'07"W
L3	53.21	N83°39'22"W
L4	55.50	N79°36'17"E
L5	40.00	N89°18'51"E
L6	36.49	N74°16'41"W
L7	40.00	N89°18'51"E
L8	36.32	N73°50'43"E
L9	40.42	N90°00'00"W
L10	36.12	N73°55'35"W
L11	39.58	N90°00'00"W
L12	36.69	N74°11'07"E
L13	36.71	N16°15'52"E
L14	36.13	N15°40'19"W
L15	30.81	N79°36'17"E
L16	30.68	N79°36'17"E
L17	20.00	N80°35'07"W
L18	20.97	N80°35'07"W
L19	28.30	N83°39'22"W
L20	28.39	N83°39'22"W
L21	35.88	N11°26'25"E
L22	37.07	N20°31'04"W

BM.#1 RR SPIKE IN POWER POLE
NORTH ROW FM 1461
SOUTH EAST LINE OF LOT
30, BLOCK C
ELEVATION 703.07
BM.#2 RR SPIKE IN POWER POLE
NORTH ROW FM 1461
SOUTH WEST CORNER OF
LOT 13, BLOCK B
ELEVATION 729.23
BM.#3 RR SPIKE IN POWER POLE
EAST ROW COUNTY RD 84
CENTER OF LOT2, BLOCK B
ELEVATION 714.02
BM.#4 1/2" IR WITH CAP STAMPED
"ROOME" NEC OF LOT 18
BLOCK C
ELEVATION 726.05

NOTES:

1. SOURCE BEARING FROM SURVEY BY ROOME SURVEYING, INC. DATED OCTOBER 26, 2000 USING WILSON CREEK ESTATES RECORDED IN CABINET J. PAGE 605 OF THE COLLIN COUNTY MAP RECORDS.

2. A PORTION OF THE SUBJECT PROPERTY ALONG WILSON CREEK IS SHOWN TO LIE WITHIN A SPECIAL FLOOD HAZARD AREA INUNDATED BY 100 YR FLOOD PER MAP NUMBER 48085C0125 G & 480850150 G OF THE FEMA FLOOD INSURANCE RATE MAPS FOR COLLIN COUNTY, TEXAS AND INCORPORATED AREAS DATED JANUARY 19, 1996 (ZONE X).

3. FRONT AND SIDE YARD SETBACKS ARE 30' MIN.

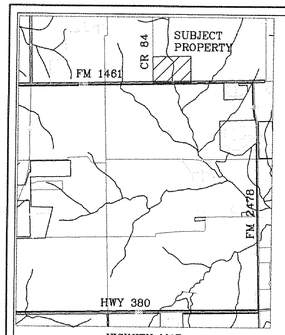
67.236 ACRES
19 TOTAL LOTS
AVERAGE LOT SIZE- 3.30 AC.
ZONED R-1L
PROSPER ISD

OWNER/DEVELOPER:

HAGGARD PROPERTIES
520 CENTRAL PARKWAY, SUITE 301
PLANO, TEXAS 75074

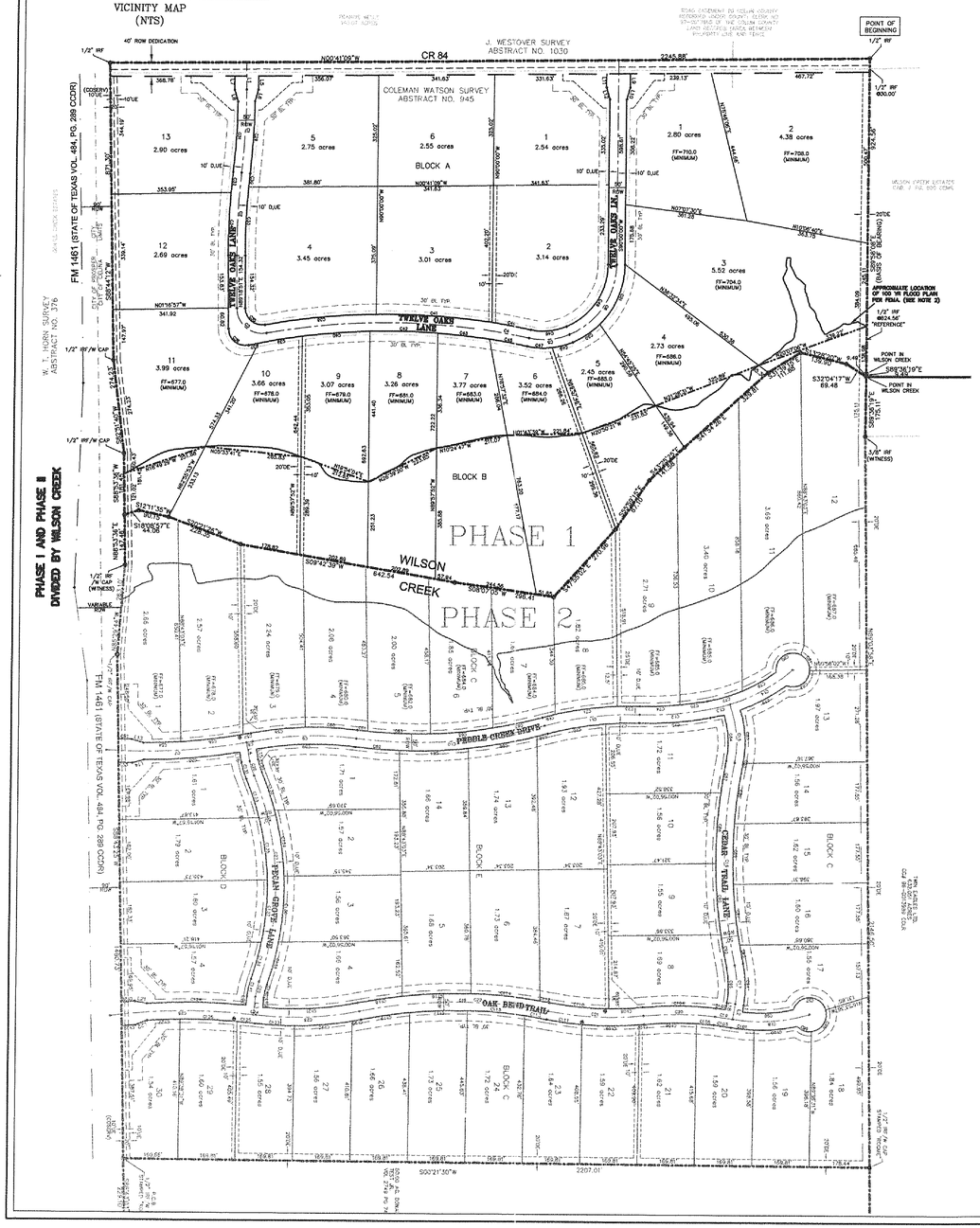
MAY

P-200105-01



VICINITY MAP
(NTS)

200 100 0 200 400
SCALE IN FEET
1"=200'



OWNER'S CERTIFICATE

All that certain tract or parcel of land situated in the State of Texas, County of Collin, being part of the Coleman Watson Survey, Abstract No.945, and being the westerly portion a 164.823 acre tract of land described in Deed from Harold R. Clark to Wheatland Farms LTD., as recorded in Volume 4826, Page 2211 of the Deed Records of Collin County, Texas being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2-inch iron rod found at the northwest corner of said 164.823 acre tract and the southwest corner of Wilson Creek Estates, an addition to Collin County recorded in Cabinet J, Page 605 of the Collin County Map Records;

THENCE with the North line of said 164.823 acre tract, and the south line of Wilson Creek Estates (basis of bearing), South 89deg.58'08" East, passing at 30.00 feet a 1/2-inch iron rod found for reference, passing at 824.56 feet a 1/2-inch iron rod found for reference, and continuing for a total distance of 924.56 feet to a point in Wilson Creek marking the southeast corner of said Addition and the southwest Corner of a 632.051 acre tract recorded under County Clerk No.96-0013989 of the Collin County Land Records;

THENCE South 89deg.36'19" East, 9.49' to a point in the center of Wilson Creek; Said point being witnessed by a 3/8" iron rod found, located South 89deg.36'19" East, 175.11 feet;

THENCE with the center of Wilson Creek as follows:
South 32deg.04'17" West, 69.48 feet;
South 13deg.28'20" West, 139.90 feet;
South 31deg.39'15" East, 111.68 feet;
South 41deg.54'26" East, 329.81 feet;
South 43deg.25'25" East, 141.58 feet;
South 55deg.59'15" East, 87.10 feet;
South 47deg.55'02" East, 270.96 feet;
South 08deg.07'05" West, 296.41 feet;
South 09deg.42'39" West, 642.54 feet;
South 20deg.21'26" West, 228.35 feet;
South 12deg.11'35" West, 90.15 feet and;
South 18deg.08'57" East, 44.06 feet to a point on the South boundary line of said 164.823 acre tract and being on the North Right of Way of FM Highway No. 1461, (a variable width Right of way). Said point being witnessed by a 1/2-inch iron rod with cap found, located North 88deg.53'36" East, 147.46 feet;

THENCE with said north right-of-way line of F.M. Road 1461 and the south line of said 164.823 acre tract as follows:

South 88deg. 53'36" West, 181.45 feet to a 1/2-inch iron rod with cap found;
South 82deg. 51'40" West, 274.23 feet to a 1/2-inch iron rod with cap found, and;
South 88deg. 44'12" West, 871.30 to a 1/2-inch iron rod found for the southwest corner of said 164.823 acre tract and the southeast corner of the Frances Wells 145.07 acre tract;

THENCE with the west line of said 164.823 acre tract, and along County Road 84, North 00deg.41'09" West, 2245.88 feet to the POINT OF BEGINNING and containing 67.236 acres of land.

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That Haggard Properties, Owner, does hereby adopt this plat designating the hereinabove described property as Twelve Oaks, an addition to the City of Celina and do hereby dedicate to the public use forever the streets and alleys shown thereon and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of 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 which 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. This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Celina, Texas.

Witness my hand at Dallas, Texas, this_____day of _____, 2001.

_____
Toby Haggard,
Haggard Properties

STATE OF TEXAS §
COUNTY OF COLLIN §

Before me, the undersigned authority, a Notary Public in and for the State, on this day personally appeared Toby Haggard, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed and under oath stated that the statements in the foregoing certificate are true.
Given under my hand and seal of office, this ____day of _____, 2001.

_____ _____
Notary Public in and for the State of Texas. Date
My commission expires

STATE OF TEXAS §
COUNTY OF DALLAS §

SURVEYOR'S CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

That I, William Ken Nations do hereby certify, that I prepared this plat from an actual and accurate 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 Planning and Zoning Commission of the City of Celina, Texas.

_____
William Ken Nations
Registered Professional Land Surveyor No. 4084

STATE OF TEXAS §
COUNTY OF DALLAS §

Before me, the undersigned authority, a Notary Public in and for the State, on this day personally appeared William Ken Nations, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed and under oath stated that the statements in the foregoing certificate are true.
Given under my hand and seal of office, this ___ day of _____, 2001.

_____ _____
Notary Public in and for the State of Texas. Date
My commission expires

Accepted this_____ day of _____, _____, by the City Planning and Zoning Commission of the City of Celina, Texas.

_____ _____
Chairman Secretary

Accepted by the City Council of the City of Celina:

_____ _____
Mayor, City of Celina, Texas Date

The undersigned, the City Secretary of the City of Celina, hereby certifies that the foregoing final plat of_____subdivision or addition to the City of Celina was submitted to the City Council on the _____day of 20____, and the City Council by formal action then and there accepted the dedication of streets, alleys, easements public places as shown and set forth in and upon said map or plat and said City Council further authorized the Mayor to note the acceptance thereof by signing his name as hereinabove subscribed.

Witness my hand this_____day of _____, A.D. 20_____

_____
City Secretary, City of Celina, Texas.

MAY 29, 2001

FINAL PLAT (PHASE I)

TWELVE OAKS

COLEMAN WATSON SURVEY
ABSTRACT NO. 945
CITY OF CELINA
COLLIN COUNTY, TEXAS

ENGINEERING CONCEPTS & DESIGN L.P.
ENGINEERING / SURVEYING / PROJECT MANAGEMENT
7557 RAMBLER RD. #469 DALLAS TX 75231
PHONE: (214) 363-0856 (972) 726-6363 FAX

P-200105-01

GENERAL NOTES:

1. All work and materials shall conform to the City of Celina Construction Standards, Specifications and Details. In the event of conflict, duplication, or variance, the City Engineer shall have the final decision on all construction materials, methods, and procedures.

2. Prior to construction, the contractor shall familiarize himself with the contract documents and specifications, the plans including all notes and any other applicable standards or specifications relevant to the proper completion of the work specified. Failure on the part of the contractor to familiarize himself with all standards or specifications pertaining to this work shall in no way relieve the contractor of responsibility for performing the work in accordance with all such applicable standards and specifications.

3. Contractor shall have in his possession, prior to construction, all-necessary permits, licenses, etc. Contractor shall have at least one set of approved engineering plans and specifications on site at all time.

4. Any item of work called for by the plans and/or specification and not included, as a bid item shall be subsidiary to the construction of the various bid items.

5. Construction inspection will be performed by representatives of the owner, engineer, city, geotechnical engineer, and reviewing authorities and agencies. Unrestricted access shall be provided to them at all times. Contractor is responsible for scheduling required inspections as required by contract documents.

6. The contractor and all subcontractors must confine their activities to the work area. Any damage resulting from work outside the work area, shall be the contractor's responsibility.

7. It will be the responsibility of each contractor to protect all existing public and private utilities throughout the construction of this project. Contractor shall contact the appropriate utility companies for line locations prior to commencement of construction and shall assume full liability to those companies for any damages caused to their facilities. Location of utilities are taken from the City and Utility Company records. Contractor shall field verify to determine exact location of utilities.

TXU Gas, GTE, TXU Electric & AT&T Cable 1-800-DIG-TESS
City of Celina - Public Works Department 972-382-2682

8. Trench safety design will be the responsibility of the contractor. The contractor shall abide by all applicable federal, state, and local laws governing excavation. Trench side slopes shall meet OSHA standards. Shutting, shoring, and bracing shall be required when side slope standards are not meet. A pull box, meeting OSHA standards will be acceptable. The contractor shall submit detailed plans to the City Engineer for review showing how OSHA Standards for excavation shall be met prior to the start of any utility construction. The plans shall be sealed by an Engineer registered by the State of Texas.

9. Contractor shall stockpile salvage materials for inspection. All items not salvaged by the owner shall be removed from the site at the contractor's expense. The owner will transport salvaged materials away from the site at the owner's expense. Salvage, stockpile, and removal of materials shall be considered subsidiary to the various bid items and shall not be paid for directly unless such items are specifically included in the bid items.

10. The contractor shall be responsible for providing and maintaining all necessary warning and safety work, material, and operations needed to provide for the health and safety of the public until all work has been completed, including maintenance bond periods, and to be accepted by the City in writing.

11. All construction and materials testing unless otherwise indicated, shall be performed by an Engineering Testing Laboratory employed by the Contractor. The testing laboratory shall be approved by the City. The testing laboratory shall make tests necessary to insure that construction is in accordance with the approved plans and specifications. Re-testing required due to construction not being performed in accordance with the plans and specifications shall be at the expense of the contractor. The testing laboratory shall submit testing reports to the City Engineer and Design Engineer.

13. The Contractor shall be responsible for protecting all trees outside street right-of-way, easements, and/or areas of construction agreement; or those trees within the before mentioned construction areas that have been designated by the City Engineer to be protected, and those trees designated to be saved on the tree preservation plan.

CLEARING AND GRADING NOTES:

1. All grading shall conform to the City of Celina Standard Specifications.

2. Site Preparation: All surface vegitation and the foreign materials such as timber, logs, trees, roots, grass, etc., shall be stripped to a minimum depth of 4 inches and removed. All cleared and grubbed materials shall be burned or removed off-site in accordance with local, state, and federal regulations. NOTE: Some trees within street right-of-way may be tagged by the Engineer to remain. Prior to beginning clearing, the contractor shall be responsible for verifying with the Engineer that selected trees have been tagged.

3. Scarifying Area to be Filled: In areas where fills are desired, the stripped surface shall be scarified to a depth of at least 6 inches for uniform compaction. The scarified surface shall be such that it is free from lumps and uneven surfaces.

4. Compacting Area to be Filled: After clearing and scarifying the area to be filled, the soils shall be brought to a moisture content of -2% to +4% wet of the optimum moisture value and compacted, in 6 inch maximum lifts, mechanically to at least 95% of Standard Proctor maximum dry density (ASTM D 698).

5. Fill Material: On-site soil and/or rock could be used as random fill provided such material is free from vegitation and other deleterious substances. No fill material shall contain rocks or lumps having a diameter of 6 inches.

6. Depth and Mixing of Fill Layers: The fill materials shall be placed in level, uniform layers. Each layer shall be thoroughly bladed and mixed during spreading to insure uniform compaction. These materials shall be placed in loose lifts with density and moisture content shall conform to that specified herein.

7. Compaction of Fill Layer: Compaction equipment shall be capable of compacting all fill soils to the specified density. Compaction of all fill shall be accomplished with the material at the specified moisture content. Each fill layer shall be compacted uniformly with sufficient effort to achieve the specified degree of compaction.

8. Amount of Compaction: After each fill layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted to a minimum 95% of the Standard Proctor density (ASTM D 698).

9. Moisture Content: All fill material shall be compacted at the appropriate moisture content as defined for the particular soil type. Each layer shall be brought to a moisture content of -2% to +4% wet of the optimum moisture value as determined by ASTM D 698. The compaction moisture content of limestone or other rock-like materials is not considered crucial, provided the proper degree of compaction is attained.

10. Slope Control: In areas where cut or fill slopes exceed 3 feet in depth/height, a slope ratio of one (vertical) to 4 (horizontal) shall not be exceeded. Compaction operations of fill slopes shall be continued until the slopes are stable.

11. Field Density: Field density tests of fill and/or backfill shall be controlled by an Engineering Testing Laboratory. Density tests shall be taken in the compacted material below the disturbed surface. When these tests indicate that the density or any layer of fill is below the required density, the particular soil or rock layer shall be reworked until the proper density and/or moisture content is achieved.

12. Tolerance for Rough Grading: Streets shall be rough graded within 0.2' of plan grades prior to utility construction. Utility contractor shall return street to within 0.2' of excavation contractor's rough grade prior to street paving.

13. Supervision: Supervision by the Soils Engineer shall be of such continuity during the grading operations that he can adequately describe the work done and evaluate that work in comparison with the specifications. Actual supervision shall be the Contractor's Supervisor.

14. Reports: The Testing Laboratory shall send 1 copy of each test, inspection, or evaluation report to the City Manager, City Engineer, Owner, and Design Engineer.

15. All excess earth shall be used on-site or taken to an area designated by the Engineer at the Contractor's expense.

PAVING NOTES:

1. Construction of streets shall be in conformance with the standard construction specification of the City of Celina as promulgated by the City Engineer.

2. Concrete street pavement shall be 3,000 PSI compressive strength with No. 3 bars, 24" on center both ways constructed in conformance with City Standard Specifications. Pavement thickness shall be 6" minimum as indicated on the approved construction plans.

3. The subgrade shall be treated 6 inches deep, minimum, with lime slurry. Lime slurry shall be Type B Grade 1 and applied in accordance with the City Standard Specifications. Lime shall be applied at a rate of 6.0% of the dry weight soil or a less amount if P.I. is at or below 15. Compaction of the lime stabilized subgrade shall be to 95% Standard Proctor density.

4. All dimensions are to edge of pavement unless otherwise noted. Elevations are centerline of paving unless otherwise noted.

5. Power and telephone poles shown to be in conflict with proposed sidewalk paving to be relocated by appropriate utility prior to paving.

6. It will be the responsibility of the paving contractor to protect all public utilities of this project. All valve boxes, fire hydrants, etc., must be adjusted to proper line and grade by the paving contractor prior to and after the placing of permanent paving.

7. Expansion joints should be placed at 600 feet maximum spacing. Transverse or contraction joints shall be placed on 30 feet maximum spacing. See standard details for locations of additional joints.

8. Contraction joints shall be formed by sawing. Joint depth shall be equal to one-fourth (1/4) of slab thickness. Sawing of joints shall begin as soon as the concrete has hardened sufficientiy to permit sawing without excessive raveling. All joints should be completed before uncontrolled shrinkage cracking occurs. Joints should be continuous across the slab and extend completely through the curb. All joint openings to be cleaned and sealed before opening pavement to traffic.

9. Back fill shall be placed along edge of pavement. Back fill material shall be free of earthwork debris such as muck, rock, refuse, stumps, concrete, asphalt, or other unsuitable materials and shall consist of soil suitable for sodding.

STORM WATER DISCHARGE AUTHORIZTION:

1. Contractor shall submit a Notice of Intent (NOI) to EPA no less than 2 days prior to commencement of construction activities. All grading activities shall conform to the Erosion Control Plan included in the approved construction plans.

2. All contractors and subcontractors providing services related to the SWPPP shall sign a Contractor Certification statement acknowledging their responsibilities as specified SWPPP.

3. A copy of the SWPPP, including Contractor Certifications and any Revisions, shall be submitted to the City Engineer and Design Engineer and filed with the construction plans, and shall be retained on-site during construction.

4. A Notice of Termination (NOT) shall be submitted to EPA when the site has 100% of the disturbed areas stabilized and the site no longer has storm water discharges associated with industrial activities (construction), or the NOI permittee or co-permittee no longer holds operational control of the construction.

STORM WATER POLLUTION PROTECTION PLAN:

1. This site shall be reviewed by owner or his representative weekly and after any major storm. Adjustments/repairs to the erosion control will then be made as needed.

2. During May through September the following procedure may be followed as an acceptable erosion control method:

Rye Grass - 90% coverage

A. 9-15' buffer strip along newly constructed streets and parkways.
B. September 15 - December 1
(with allowance for a germination period of 14 to 21 days)
C. February 1 - May 15
(with allowance for a germination period of 14 to 21 days)

Hay bales/silt fence

A. Hay bales in swales between each lot in subdivision during months of May - September.
B. Hay bales around street radii and other noted trouble spots with erosion problems.
C. Erosion control for drop inlets in street having room for water to flow into inlet.

Maintenance

A. Mowing schedule
April - September: two times per month
October -March: one time per month
B. Continuous monitoring to replace damaged silt fence, hay bales, and street inlet protection.

EROSION CONTROL SPECIFICATIONS:

1. The Grading Contractor shall provide and maintain all erosion control devices in the areas indicated on the Erosion Control Plan and any other areas as directed by the Engineer.

2. The Utility Contractor shall provide and maintain all erosion control device around all openings into the storm sewer system to protect completion and as directed by the Engineer.

3. The paving Contractor shall provide and maintain all erosion control devices as indicated on the Erosion Control Plan and as directed by the Engineer.

4. Upon completion of fine grading, all street parkways shall be seeded, fertilized, and maintained by the Paving Contractor in accordance with the city specifications.

5. The Electrical Utility, Natural Gas, Telephone, and Cable TV Contractor shall re-establish any previously established erosion control measure or device that is disturbed by their construction, including vegetative cover.

6. 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 into 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.

7. Temporary seeding or other methods 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 21 days of the last disturbance.

8. Seeding for permanent vegetative cover shall be initiated upon completion of fine grading by Paving and Grading Contractor, see Final Stabilization.

9. Erosion control devices may be added or reduced in the field as directed by the Engineer.

10. INSPECTION - The Contractor shall conduct inspections of all erosion controls provided in the SWPP at a minimum of once every 7 calendar days and within 24 hours of the end of a rain 0.5 inches or greater. When field inspection reveals an inadequacy in erosion control measures, the SWPP shall be revised and erosion control measures shall be upgraded within 7 days.

11. MAINTENANCE - Erosion controls shall be repaired or replaced as inspection deems necessary or as directed by the Engineer. Accumulated silt at any erosion control device shall e removed when it reaches a depth of 6", and shall be distributed on site in a manner not contributing to additional siltation.

12. The Contractor is responsible for re-establishing any erosion control device which he disturbs. Each Contractor shall notify the Engineer of any deficiencies in the established erosion control measures which may lead to unauthorized discharge of storm water pollution, sedimentation, or other surface or ground water pollutants, and excessive dust or other airborne pollutants. Unauthorized pollutants include, but are not limited to, excess concrete dumping or concrete residue, paints and other overspray, solvents, greases, fuel and lube oil, pesticides, and solid waste materials.

13. FINAL STABLIZATION - Upon completion of all soil disturbing construction, all areas not paved or covered by permanent structures or equivalent permanent stabilization measures shall be stabilized with a uniform perennial vegetative cover. For termination of industrial status of the construction site, the vegetative cover must meet a minimum density of 70% as determined by the Engineer. All temporary erosion control measures must be removed.

STORM SEWER NOTES:

1. Storm sewer pipe shall conform to ASTM C76, Class III reinforced concrete pipe, unless noted on approved plans.

2. All concrete shall have a minimum compressive strength of 3600 psi at 28 days unless otherwise on the approved plans.

3. All reinforcing steel for concrete shall be ASTM Grade 60'

4. Embedment for drainage pipe shall be incidental to pipe installation and will not be a separate pay item.

5. Any underground springs encountered that affect streets, sidewalks or alleys must be french drained into storm sewer system or an approved alternative.

STREET LIGHTING AND SIGNS

Street lights shall be installed at all street intersections within the subdivision.

1. Street lighting shall conform to the latest edition of the Illuminating Engineering Society Handbook, with lighting levels recommended for very light traffic.

2. Street lights shall be as manufactured by Kim Standards or approved equal.

3. Street signs shall be installed and paid for by the subdivider at all intersections within or abutting the subdivision. Such signs shall be of a type approved by the City and shall be installed in accordance with the standards of the City.

SANITARY SEWER SYSTEM

Sanitary Sewer to be provided by individual aerobic systems installed by a register sanitarian.

WATER SYSTEM

All work and materials shall be in accordance with City standard specifications.

1. Fire Hydrants to be Mueller-three-way standard tread with valve in lead.

2. Valves to be Mueller - 150 test.

3. Water services for each lot shall be a minimum of 3/4" type K copper. Each service shall be provided with one in-line nylon ball cutoff valve contained inside the meter box. The meter shall have 5/8" diameter yoke. Service to each lot shall have a maximum cover of 18 inches. Services shall be 1" type K copper for houses with more than two baths.

4. Contractor shall tie a 1" piece of blue plastic flagging to the water service meter setter and shall leave a minimum of 36" of flagging exposed after backfill.

5. Contractor shall furnish a maintenance bond to City of Celina to run for two years from the date of acceptance.

6. The Contractor shall install fire hydrants at the locations shown. A.M.J. and flanged or rotating gland ring on the tee with a flanged end M.J. gate valves is required so that the gate valve is attached to the main.

7. All bolts and nuts used with mechanical joint fittings shall be "Cor-Ten" steel.

8. Valve boxes shall be furnished and set on each gate valve. After the final clean-up and alignment has been completed, the Contractor (utility) shall pour a concrete block 6" x 18" x 18" around all valves box tops so the finished grade is level with the finished parkway.

9. Internal water mains shall be 8 inch C-900 PVC. DR-14 Class 200 psi for 8" PVC and DR-18 Class 200 psi for 10" and 12" lines.

10. Reflective fire hydrant spotters shall be installed in all streets at a point adjacent to the fire hydrants.

11. When PVC pipe is used, twelve (12) gauge strand wire or tracer tape, blue in color, shall be installed in the backfill material twenty-four (24) inches above the top of the pipe in accordance with the manufacturer's recommendations.

12. Water lines shall be installed with a minimum cover over the top of the pipe of forty-two (42) inches.

13. Water lines shall be disinfected in accordance with AWWA Standards.

14. PVC pipe shall have six (6) inch sand bedding, six (6) inches of sand on each side of the twelve (12) inches of sand over top of pipe.

		PROJECT INFO.	
		REVISIONS:	
		DRAWN:	PROJECT #: 2301
		CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.
ENGINEERING / SURVEYING / PROJECT MANAGEMENT
7557 RAMBLER RD. STE. #469 DALLAS, TX 75231
(214) 363-0856 (972) 726-6363 FAX

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY TODD D. WINTTERS, TEXAS PE NO. 87085 ON:

STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01

NOTE: SEE STORM LAYOUT FOR STORM CROSSING INFORMATION

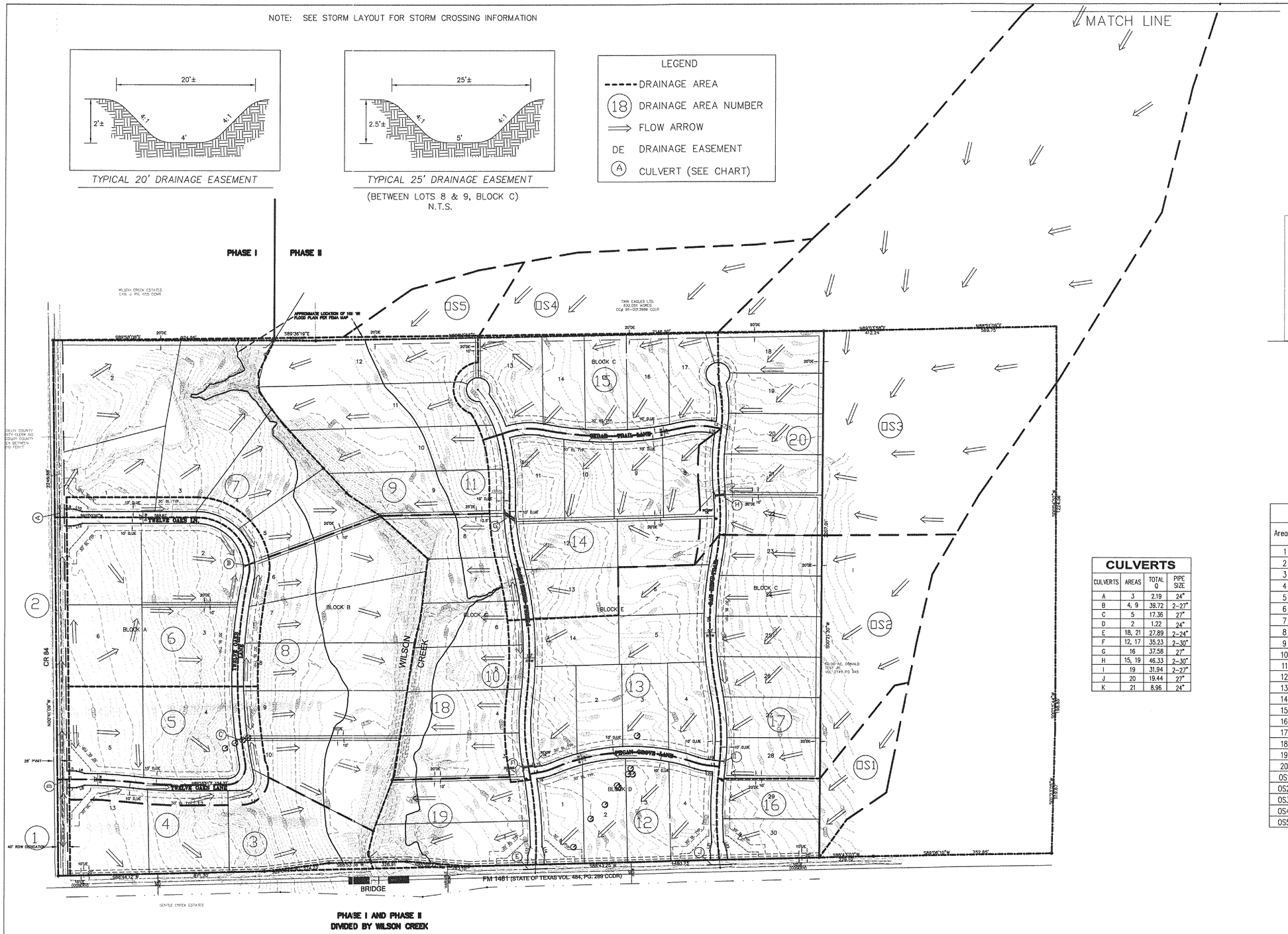
TYPICAL 20' DRAINAGE EASEMENT

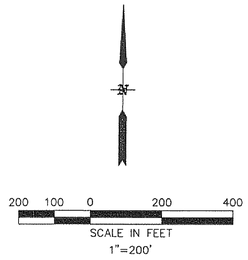
TYPICAL 25' DRAINAGE EASEMENT

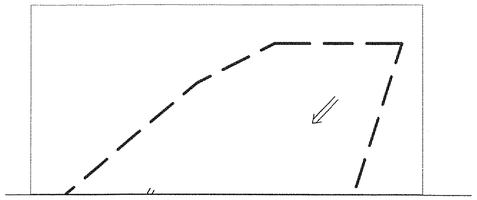
(BETWEEN LOTS 8 & 9, BLOCK C)
N.T.S.

LEGEND

- DRAINAGE AREA
- (18) DRAINAGE AREA NUMBER
- FLOW ARROW
- DE DRAINAGE EASEMENT
- (A) CULVERT (SEE CHART)







CULVERTS

CULVERTS	AREAS	TOTAL Q	PIPE SIZE
A	3	2.19	24"
B	4, 9	39.72	2-27"
C	5	17.36	27"
D	2	1.22	24"
E	18, 21	27.89	2-24"
F	12, 17	35.23	2-30"
G	16	37.58	27"
H	15, 19	46.33	2-30"
I	19	31.94	2-27"
J	20	19.44	27"
K	21	8.96	24"

DRAINAGE CALCULATIONS

Area #	Area (acres)	C	tc (min)	I(25) (in/hr)	Q(25) (cfs)	I(100) (in/hr)	Q(100) (cfs)	Culverts
1	0.23	0.40	15	6.32	0.58	7.65	0.70	
2	1.26	0.40	15	6.32	3.19	7.65	3.86	
3	8.52	0.40	15	6.32	21.54	7.65	26.07	
4	2.43	0.40	15	6.32	6.14	7.65	7.44	
5	6.77	0.40	15	6.32	17.12	7.65	20.72	
6	11.87	0.40	15	6.32	30.01	7.65	36.32	
7	17.44	0.40	15	6.32	44.09	7.65	53.37	
8	16.00	0.40	15	6.32	40.45	7.65	48.96	
9	12.94	0.40	15	6.32	32.71	7.65	39.60	
10	1.32	0.40	15	6.32	3.37	7.65	4.04	
11	1.52	0.40	15	6.32	3.84	7.65	4.65	
12	7.66	0.40	15	6.32	19.36	7.65	23.44	
13	12.93	0.40	15	6.32	32.69	7.65	39.57	
14	13.23	0.40	15	6.32	33.45	7.65	40.48	
15	10.03	0.40	15	6.32	25.36	7.65	30.69	
16	3.32	0.40	15	6.32	8.39	7.65	10.16	
17	10.44	0.40	15	6.32	26.39	7.65	31.95	
18	10.07	0.40	15	6.32	25.46	7.65	30.81	
19	5.53	0.40	15	6.32	13.98	7.65	16.92	
20	8.56	0.40	15	6.32	21.64	7.65	26.19	
OS1	2.67	0.30	30	4.64	3.72	5.69	4.56	
OS2	7.80	0.30	30	4.64	10.86	5.69	13.31	
OS3	59.70	0.30	80	2.75	49.25	3.5	62.69	
OS4	8.73	0.30	20	5.62	14.72	6.83	17.89	
OS5	2.79	0.30	20	5.62	4.70	6.83	5.72	

PROJECT INFO.	
REVISIONS:	
SCALE: 1"=200'	
DRAWN:	PROJECT #: 2301
CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

7557 RAMBLER RD. STE. #469 DALLAS, TX 75231

(214) 363-0856 (972) 726-6363 FAX

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STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED PROFESSIONAL ENGINEER

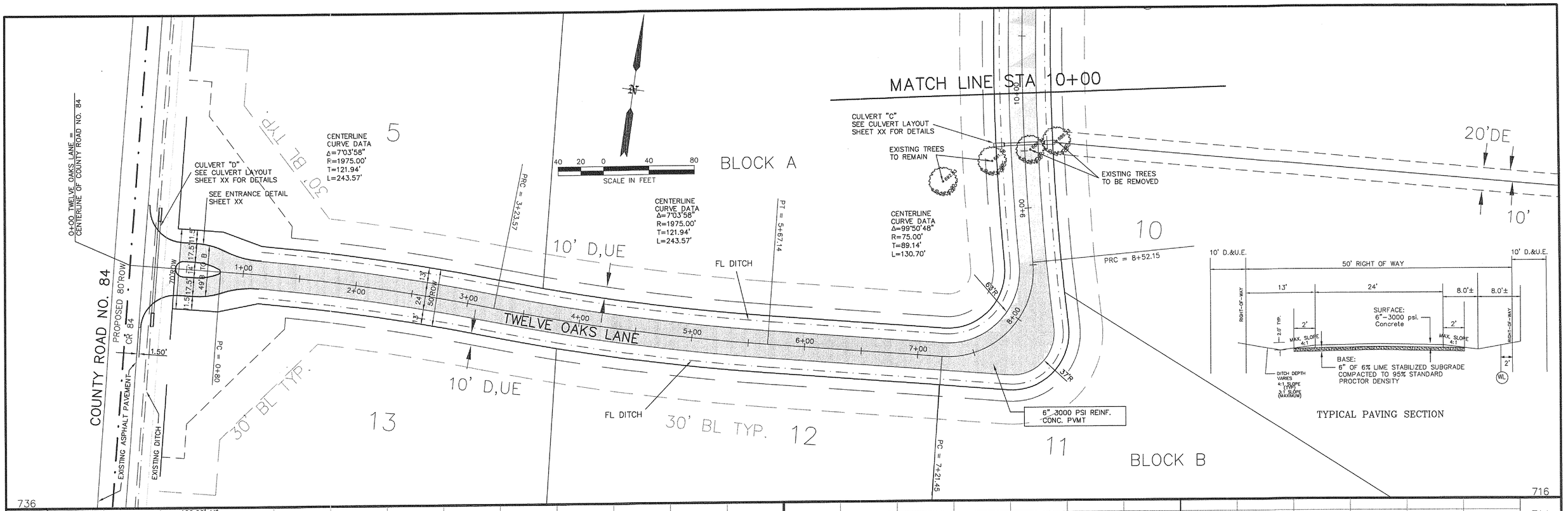
DRAINAGE AREA MAP

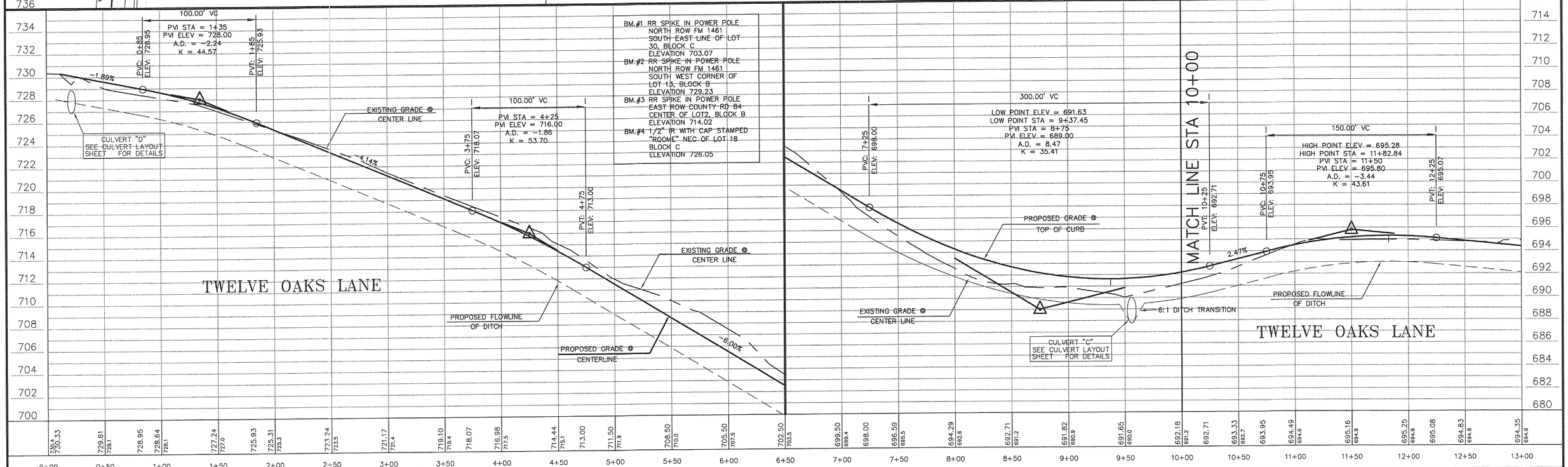
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 6 OF 22

P-200105-01





PROJECT INFO.	
REVISIONS:	
SCALE: 1"=40'H 1"=4'V	
DRAWN:	PROJECT #:
CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

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STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED PROFESSIONAL ENGINEER

PAVING PLAN AND PROFILE

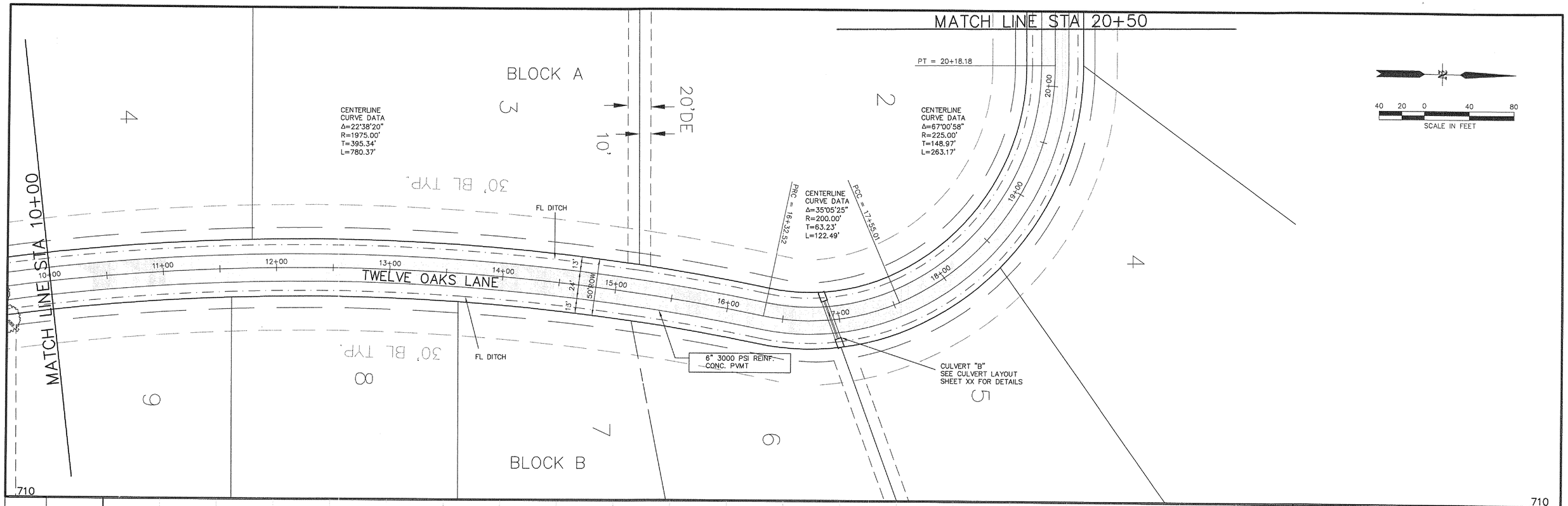
TWELVE OAKS LANE

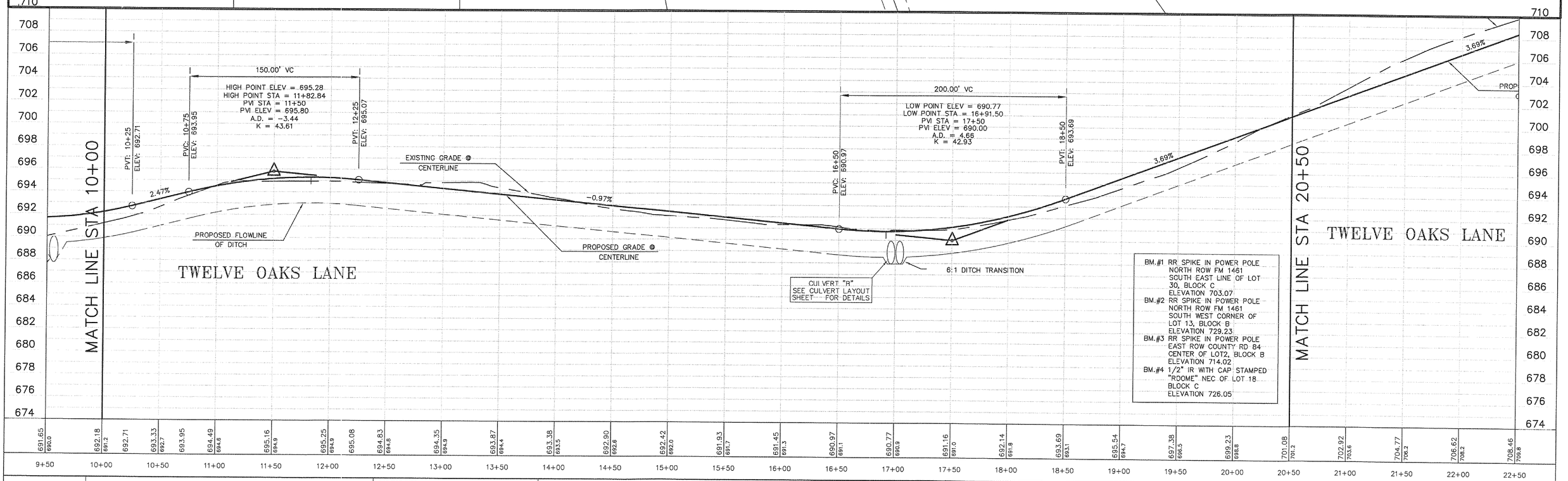
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 7 OF 22

P-200105-01





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DRAWN:	PROJECT #:		
CHECKED:	DATE:		

ENGINEERING CONCEPTS & DESIGN L.P.

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PAVING PLAN AND PROFILE

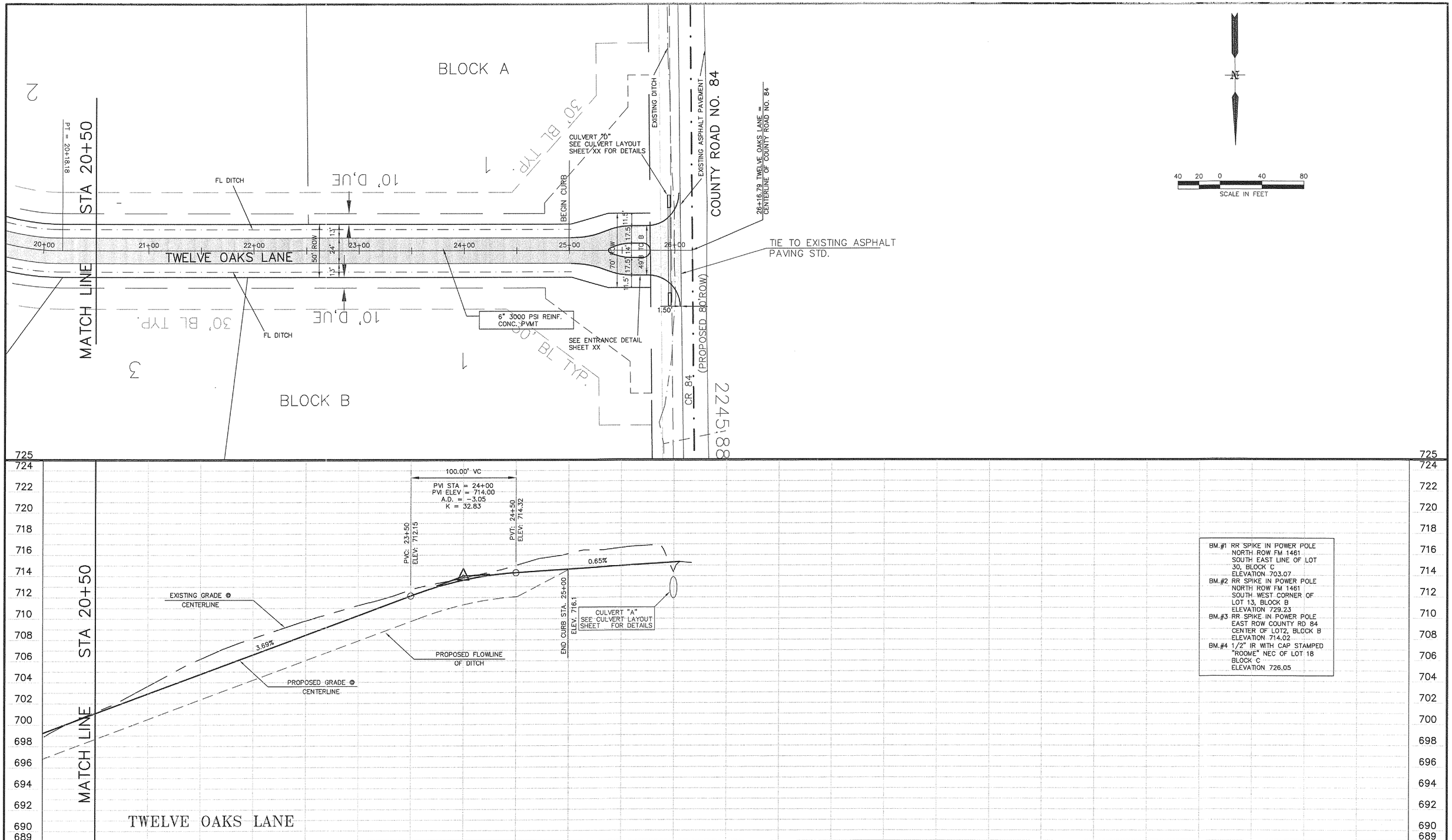
TWELVE OAKS LN.

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 8 OF 22

P-200105-01



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TODD D. WINTTERS
87085
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PAVING PLAN AND PROFILE

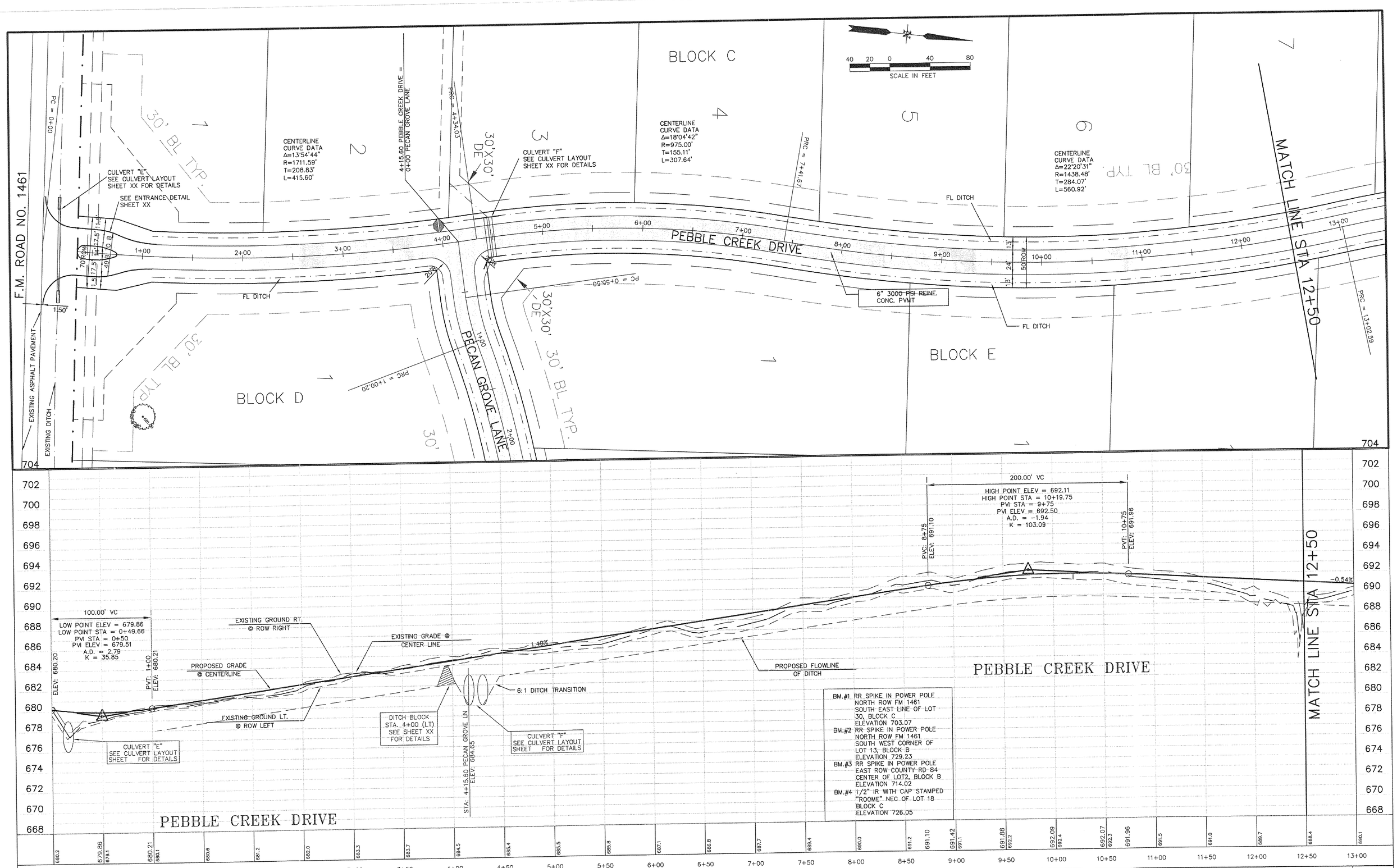
TWELVE OAKS LN.

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 9 OF 22

P-200105-01



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PAVING PLAN AND PROFILE

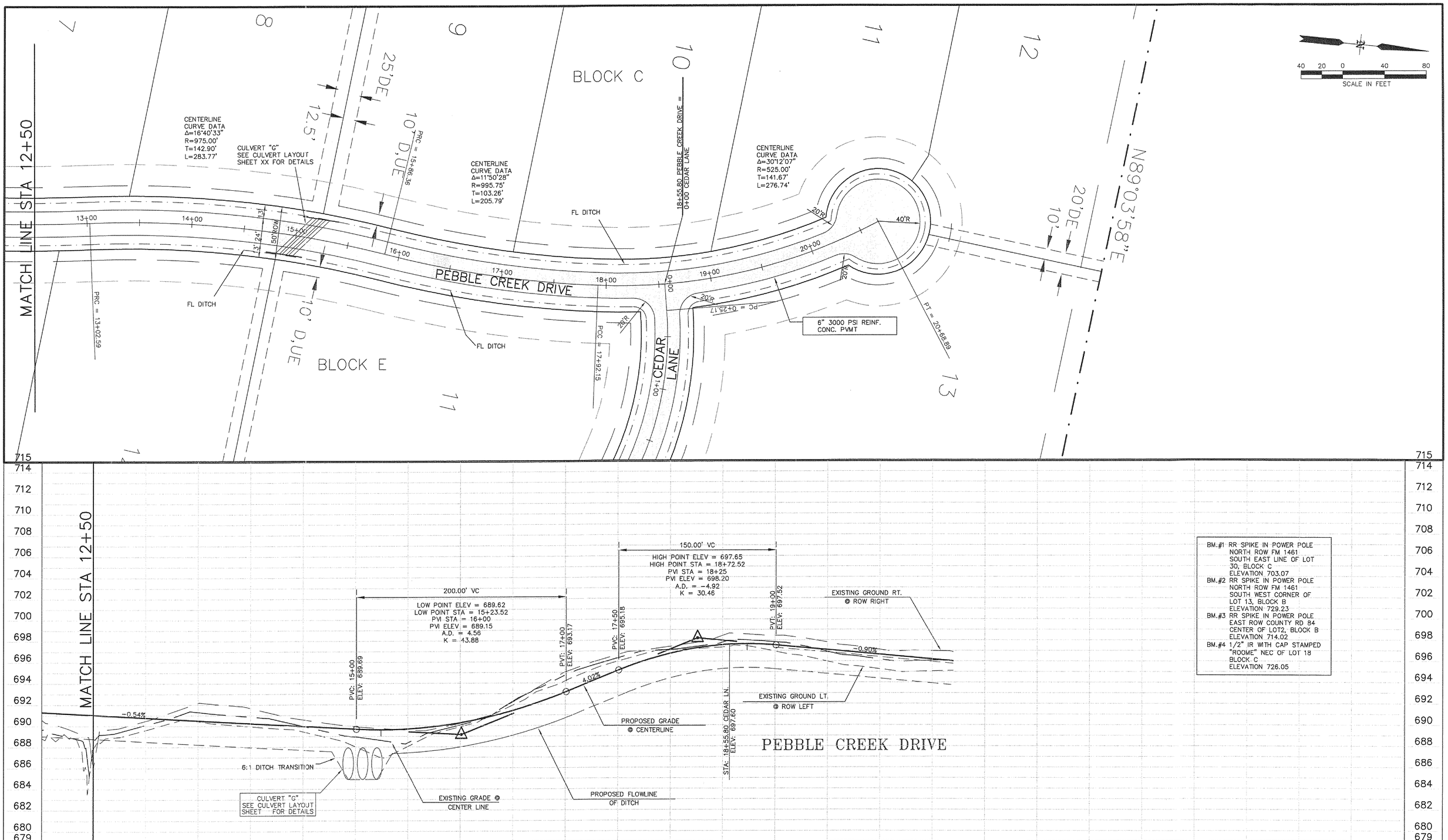
PEBBLE CREEK DR.

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 10 OF 22

P-200105-01



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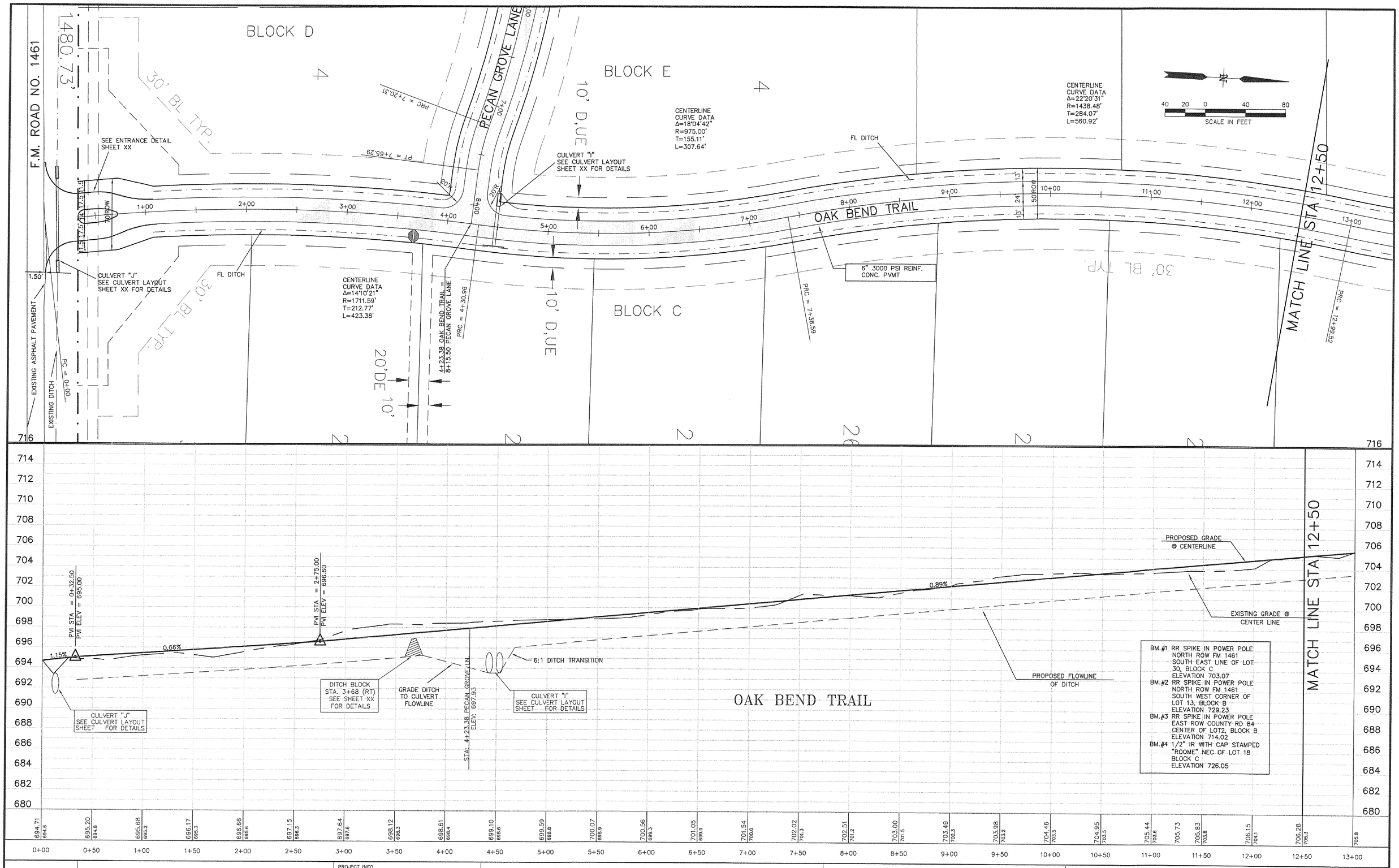
PAVING PLAN AND PROFILE
PEBBLE CREEK DRIVE
TWELVE OAKS
CITY OF CELINA, COLLIN COUNTY, TX

SHEET 11 OF 22

P-200105-01



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PAVING PLAN AND PROFILE

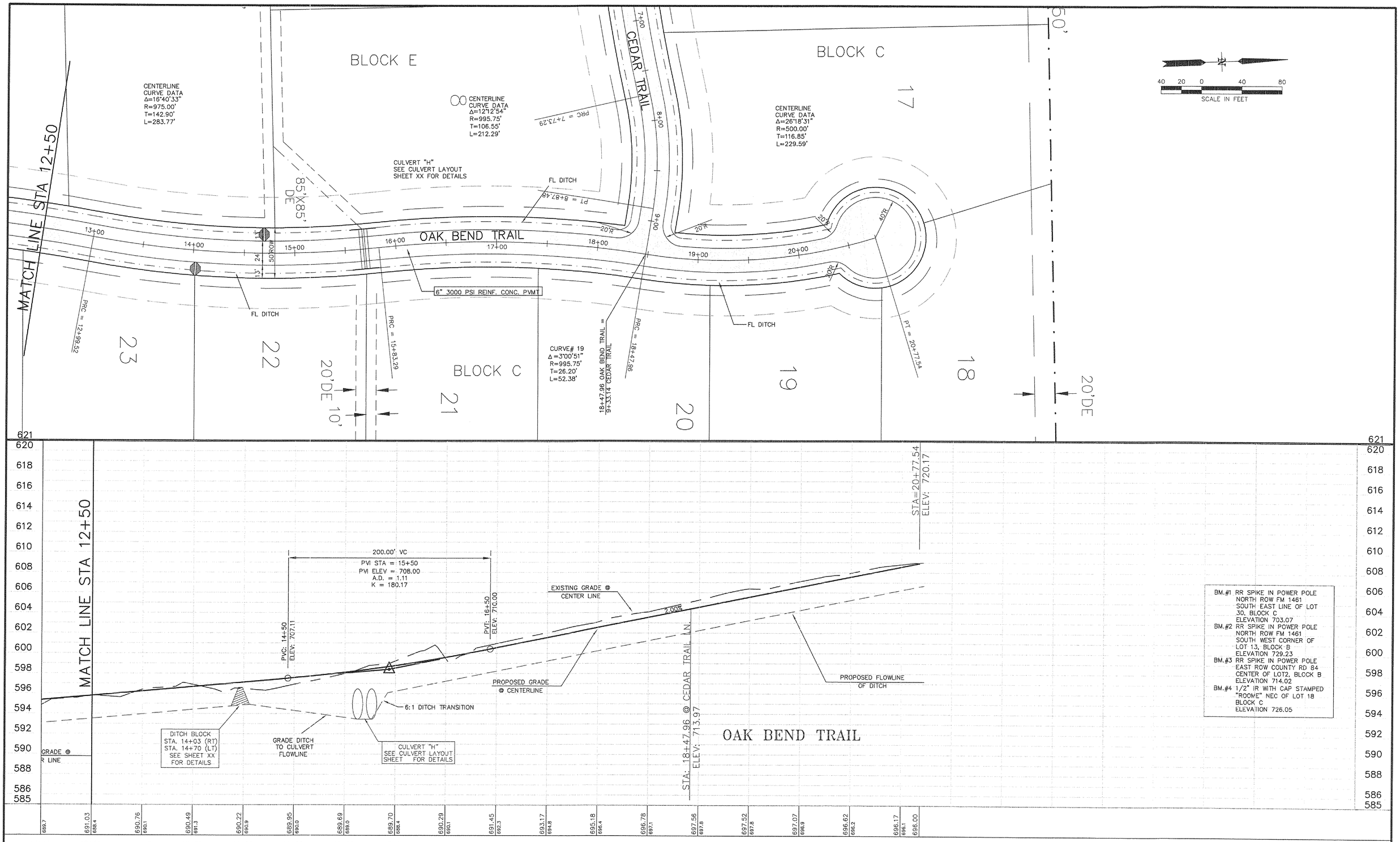
OAK BEND TRAIL

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 12 OF 22

P-200105-01



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PAVING PLAN AND PROFILE

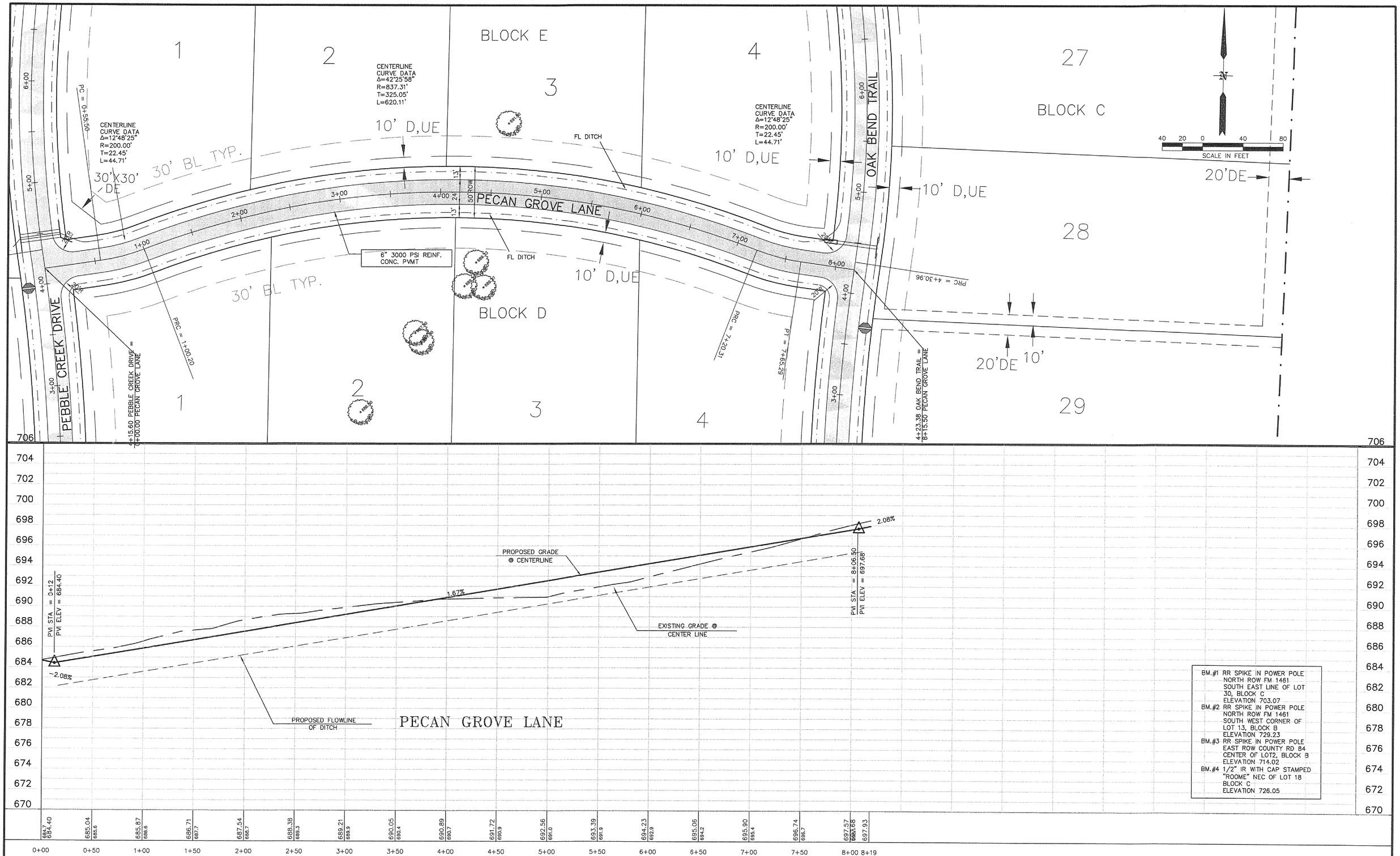
OAK BEND TRAIL CONT.

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 13 OF 22

P-200105-01



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PAVING PLAN AND PROFILE

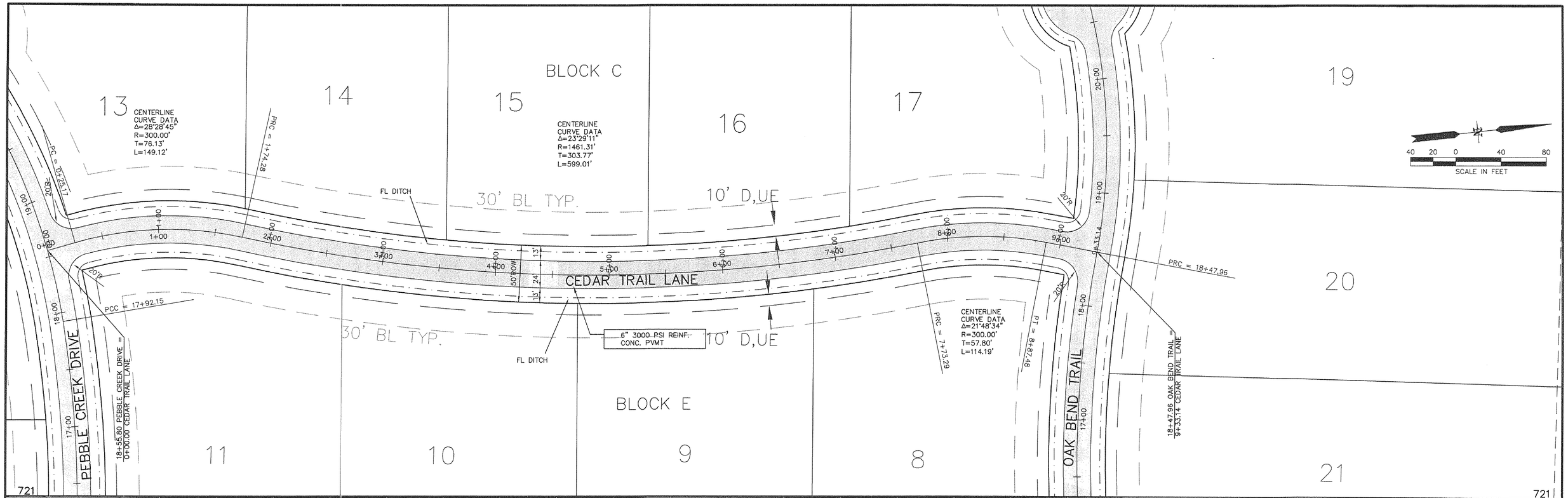
PECAN GROVE LN

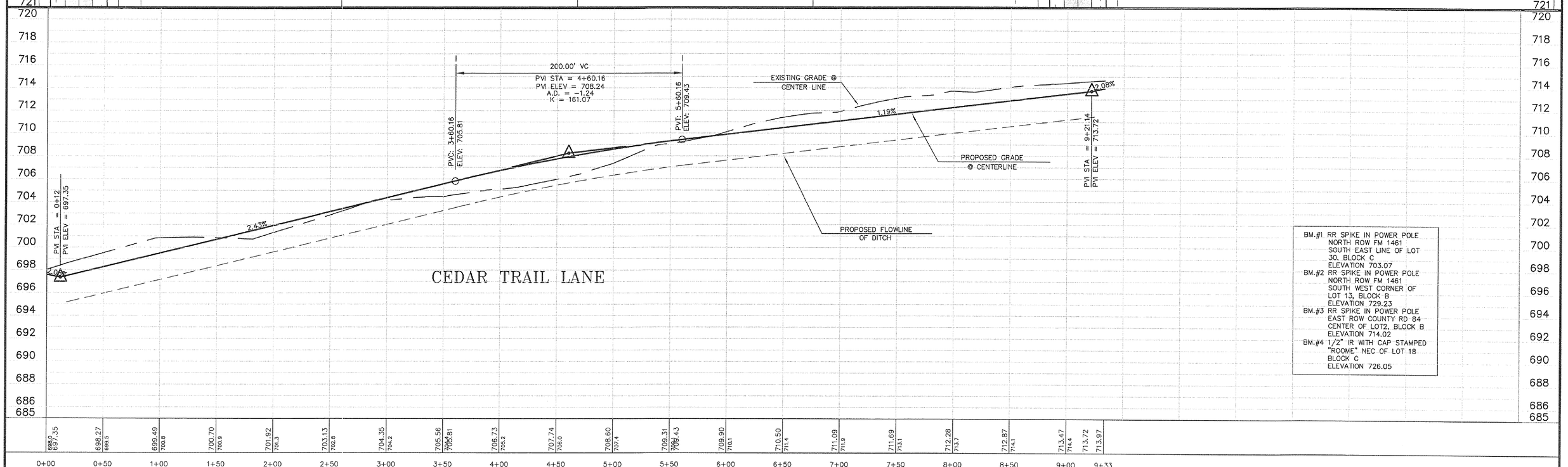
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 14 OF 22

P-200105-01





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PAVING PLAN AND PROFILE

CEDAR TRAIL LN.

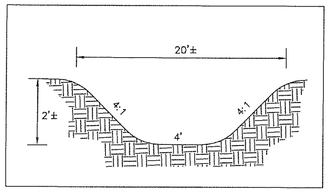
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

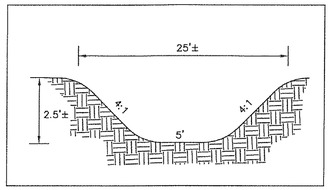
SHEET 15 OF 22

P-200105-01

NOTE: SEE STORM LAYOUT FOR STORM CROSSING INFORMATION



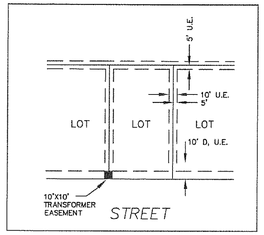
TYPICAL 20' DRAINAGE EASEMENT

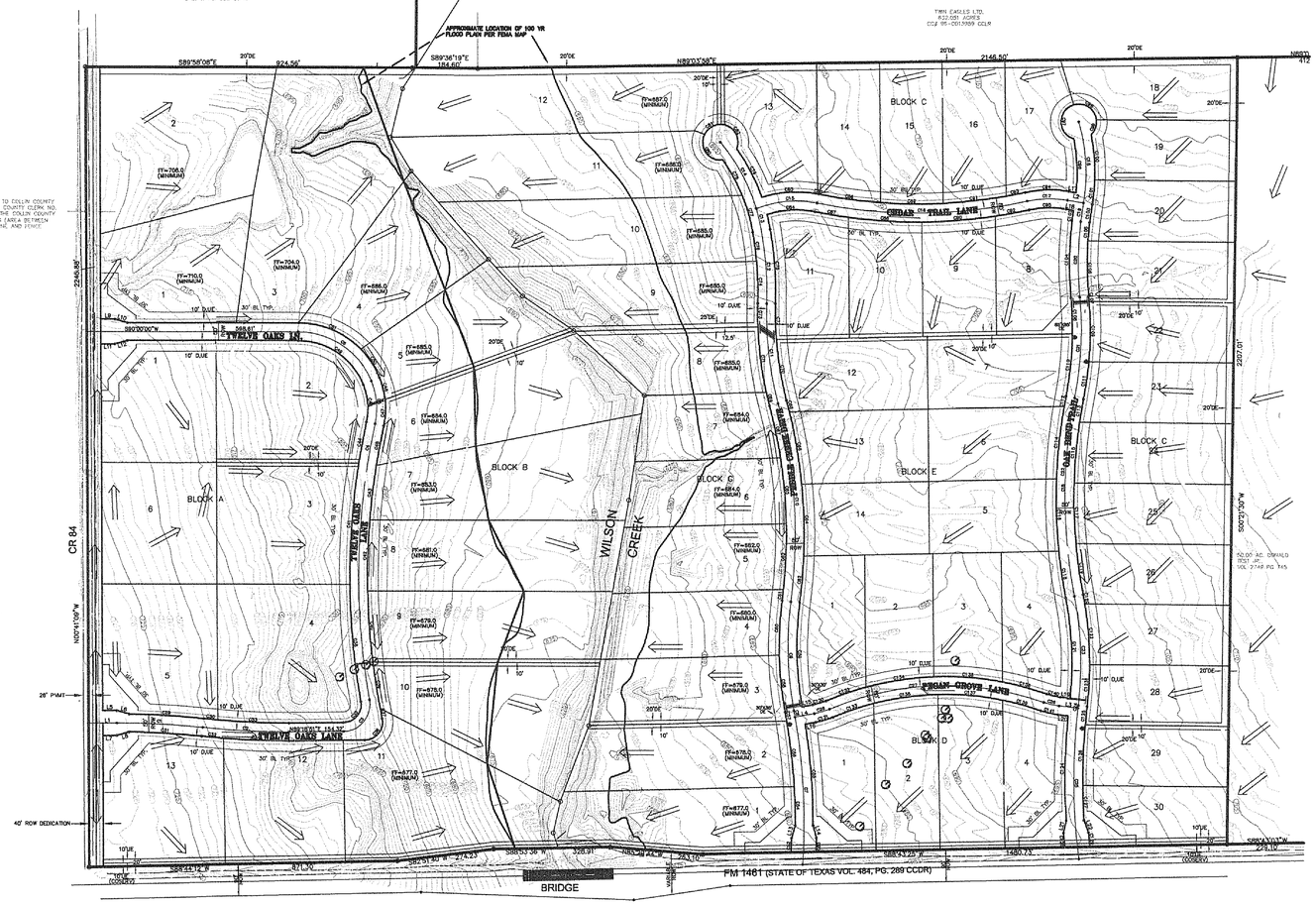


TYPICAL 25' DRAINAGE EASEMENT

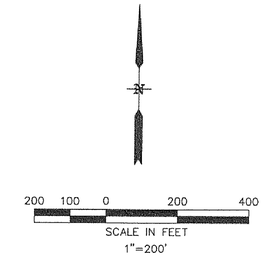
(BETWEEN LOTS 8 & 9, BLOCK C)
N.T.S.

TYPICAL LOT LAYOUT





PHASE I AND PHASE II
DIVIDED BY WILSON CREEK



LEGEND

⟹	DIRECTION OF SURFACE FLOW
FF=	FINISH FLOOR ELEVATION
—456—	EXISTING CONTOURS

NOTES:
1. SEE CLEARING AND GRADING NOTES PAGE 5 OF 22.
2. ALL EXCESS MATERIAL TO BE PLACED ON LOTS AS DIRECTED BY OWNER.
3. PAD SIZE, LOCATION AND ELEVATION TO BE DETERMINED BY OWNER AND BUILDER IN COORDINATION WITH ENGINEER.
4. ALL PADS SHALL HAVE A MINIMUM 6" PROTECTIVE SWALE TO ALLOW FOR POSITIVE DRAINAGE WITH NATURAL FLOW.

BM.#1 RR SPIKE IN POWER POLE
NORTH ROW FM 1461
SOUTH EAST LINE OF LOT 30, BLOCK C
ELEVATION 703.07

BM.#2 RR SPIKE IN POWER POLE
NORTH ROW FM 1461
SOUTH WEST CORNER OF LOT 13, BLOCK B
ELEVATION 729.23

BM.#3 RR SPIKE IN POWER POLE
EAST ROW COUNTY RD 84
CENTER OF LOT2, BLOCK B
ELEVATION 714.02

BM.#4 1/2" IR WITH CAP STAMPED "ROOME" NEC OF LOT 18
BLOCK C
ELEVATION 726.05

PROJECT INFO.			
REVISIONS:			
SCALE: 1"=200'			
DRAWN:	PROJECT #:		
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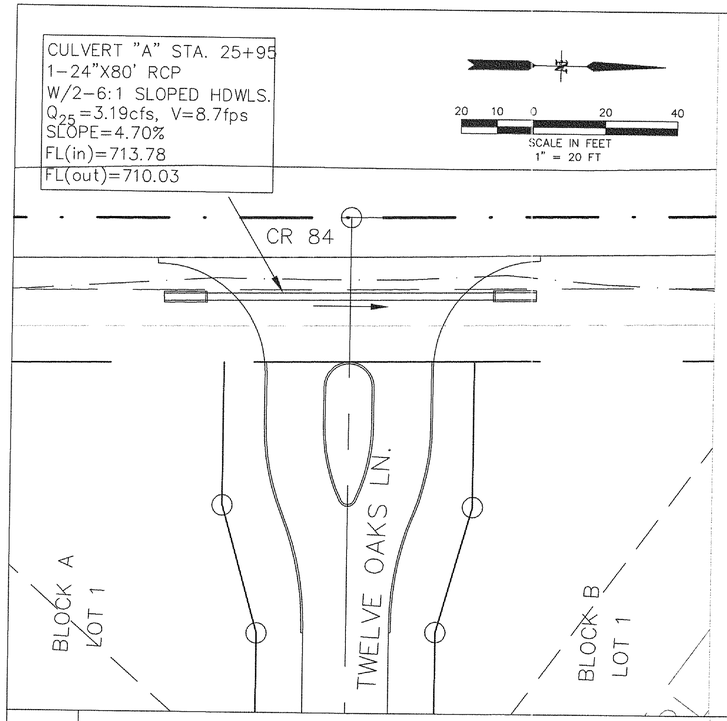
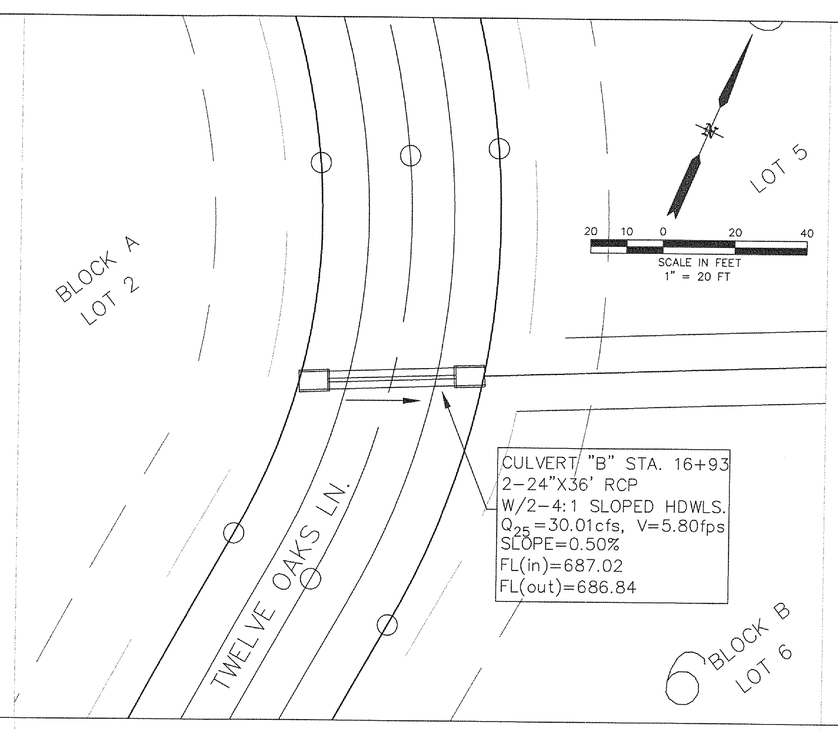
LOT GRADING PLAN
TWELVE OAKS

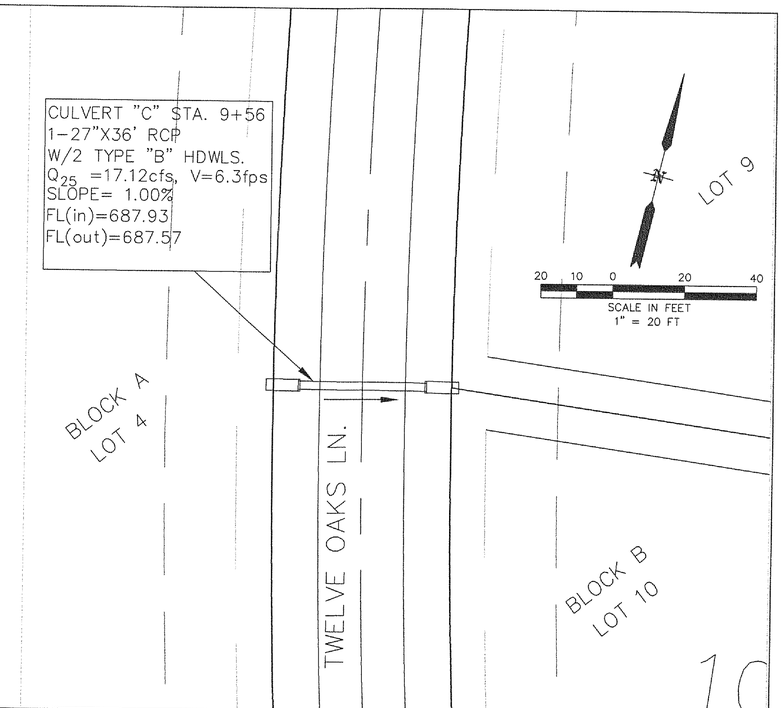
CITY OF CELINA, COLLIN COUNTY, TX

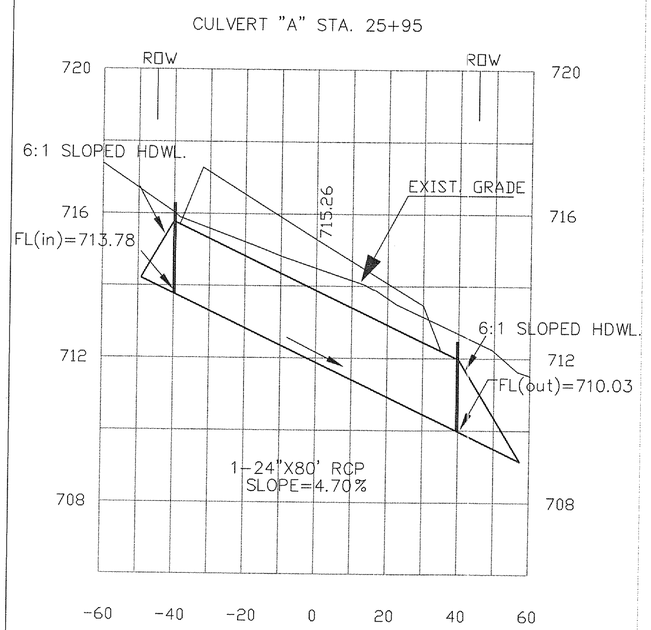
SHEET 16 OF 22

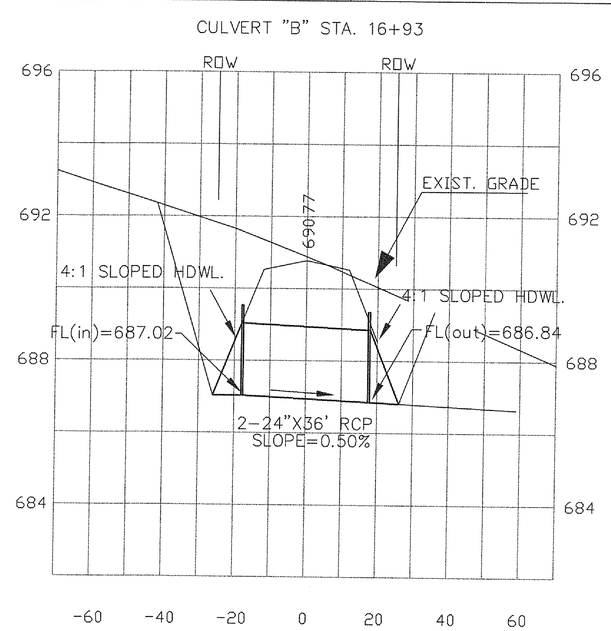
P-200105-01

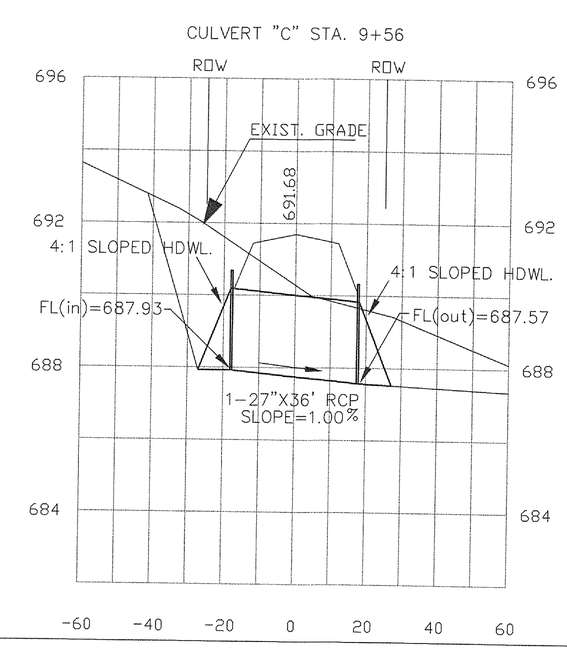












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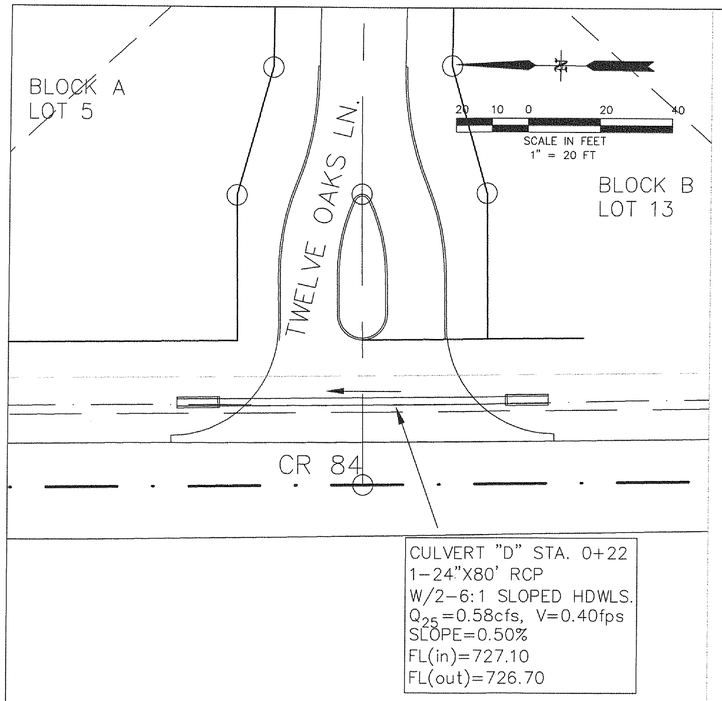
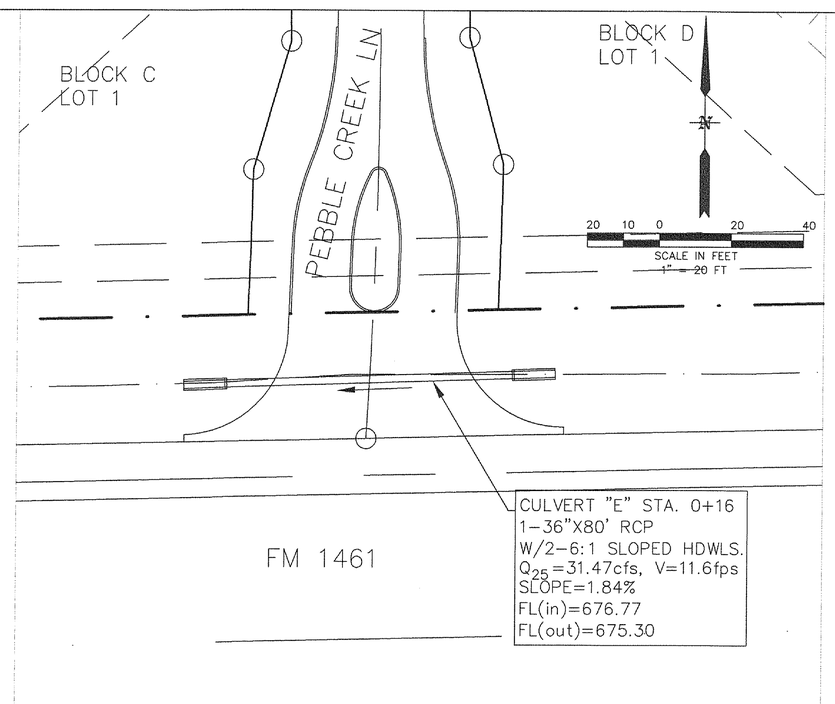
CULVERT DETAIL

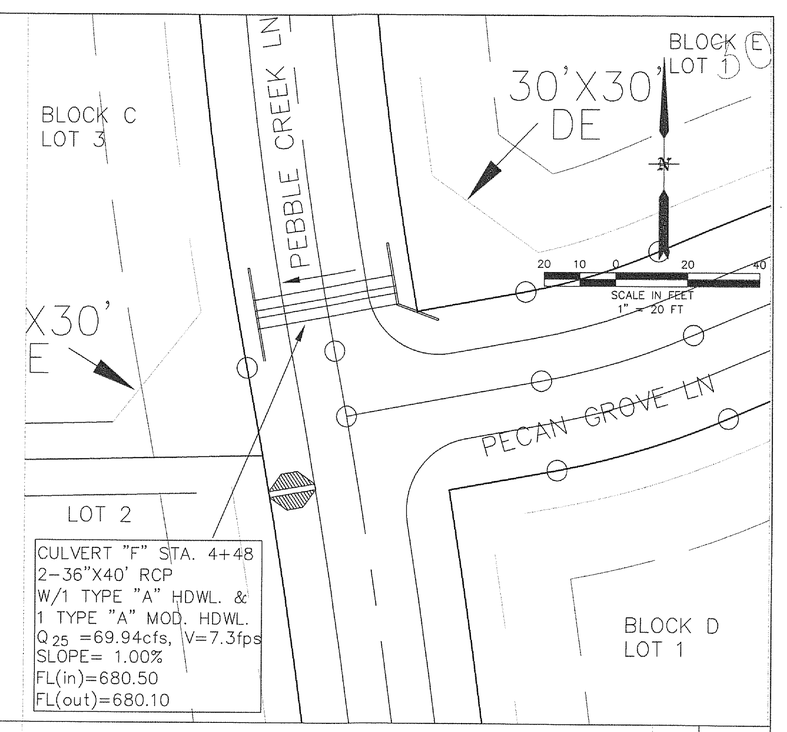
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01







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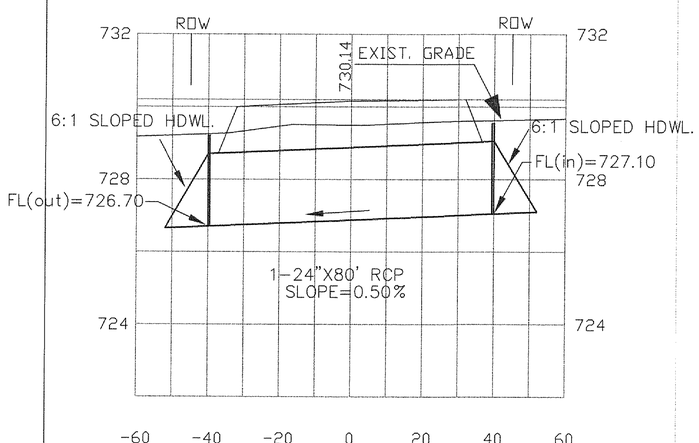

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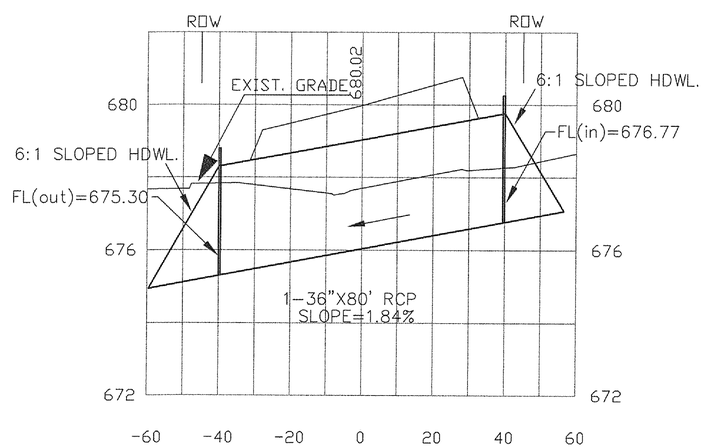

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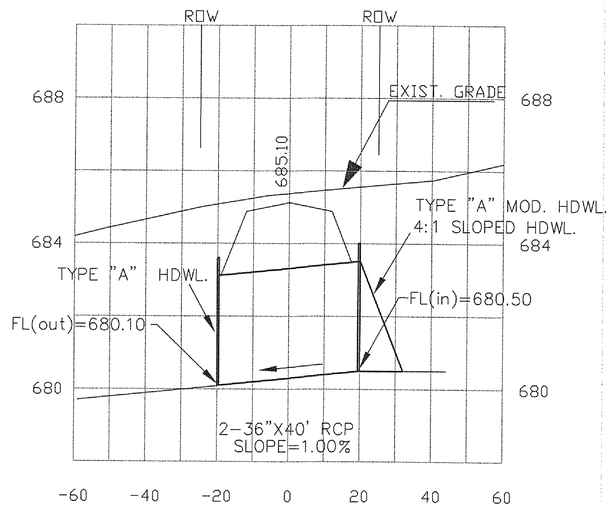

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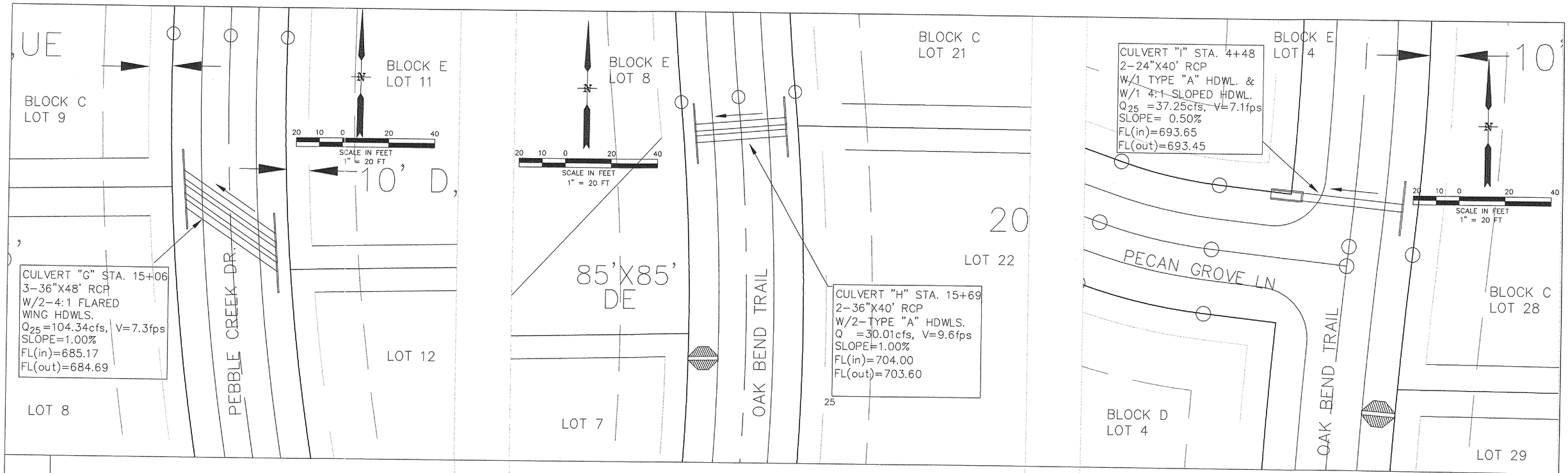
REGISTERED PROFESSIONAL ENGINEER

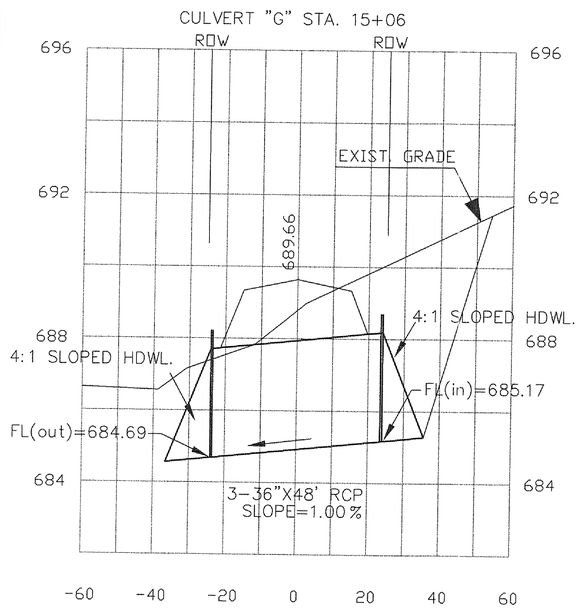
CULVERT DETAIL

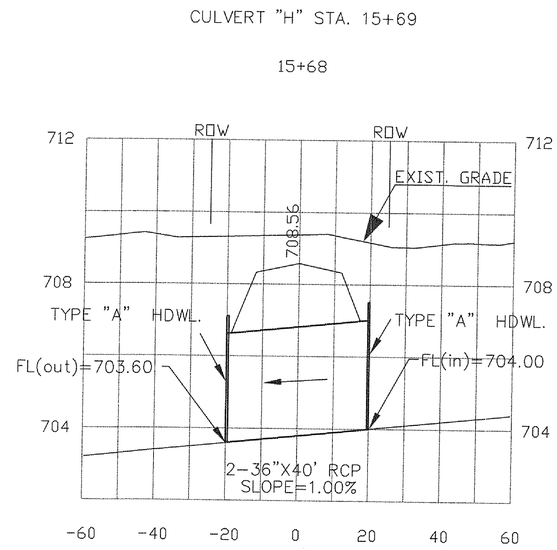
TWELVE OAKS

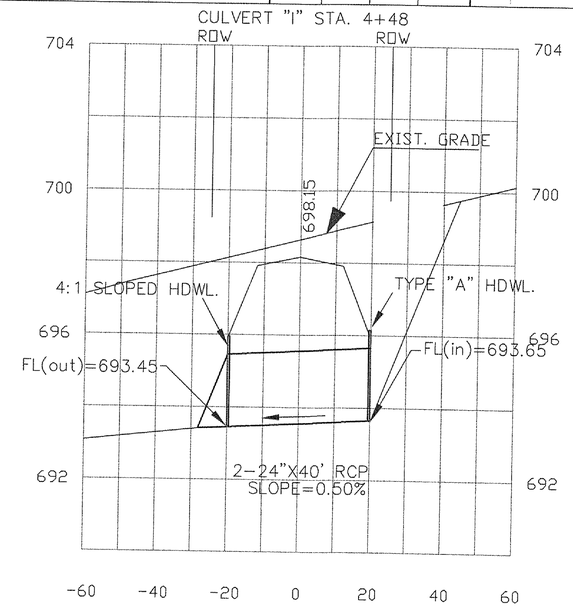
CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01









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CULVERT DETAIL

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 19 OF 22

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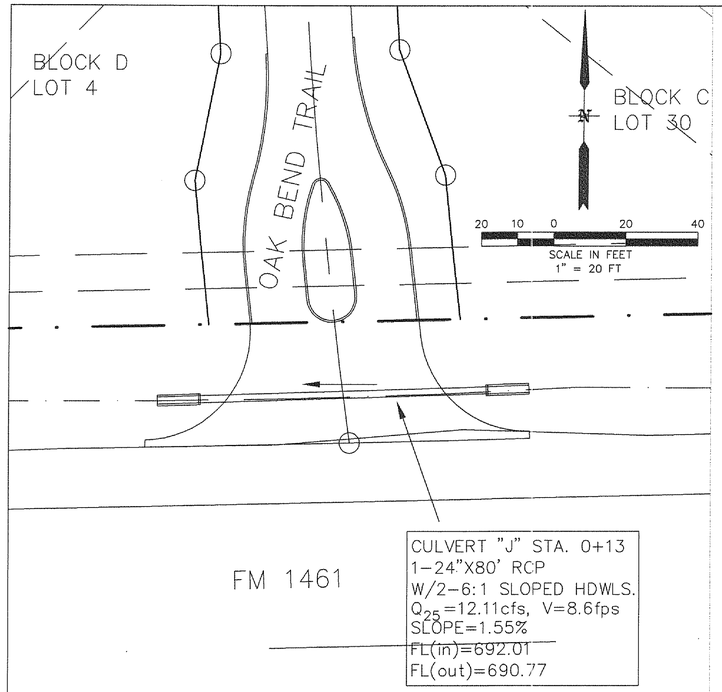

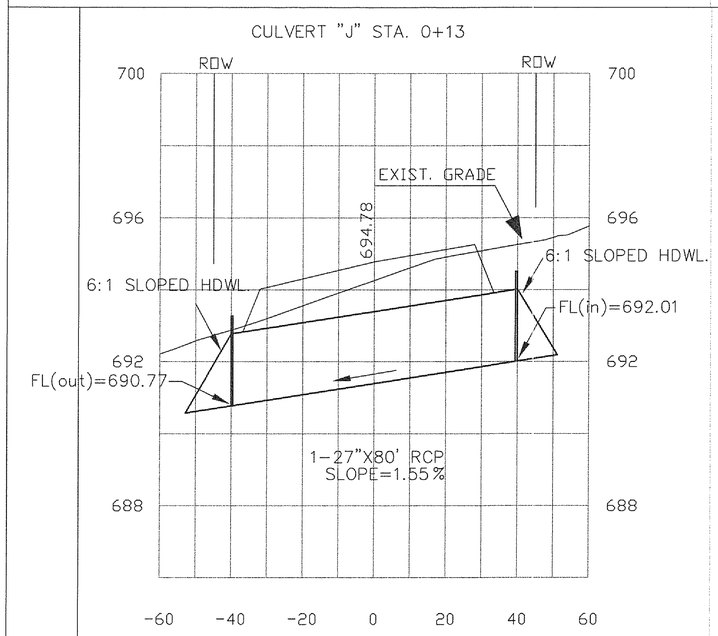

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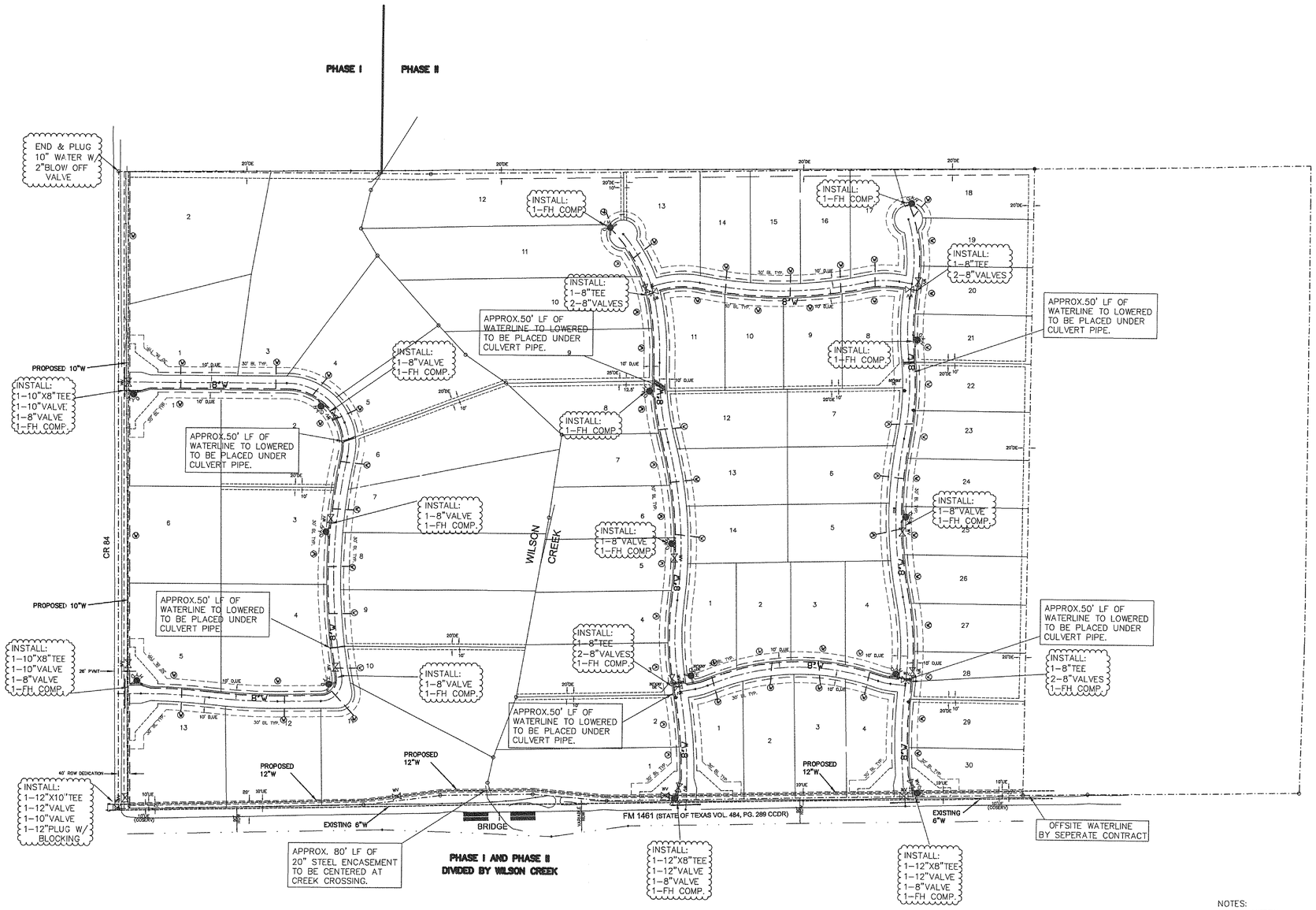
STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED PROFESSIONAL ENGINEER

CULVERT DETAIL
TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01



200 100 0 200 400

SCALE IN FEET

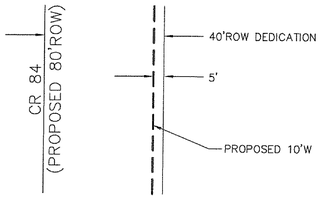
1" = 200 FT

LEGEND

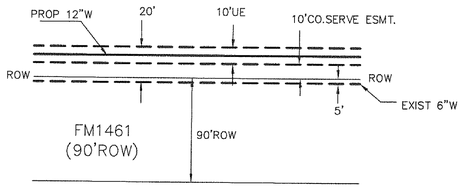
- WATER LINE
- WATER VALVE (WV)
- FIRE HYDRANT (FH) (COMPLETE W/ASSEMBLY VALVE)
- D,UE DRAINAGE & UTILITY EASEMENT
- WATER SERVICE

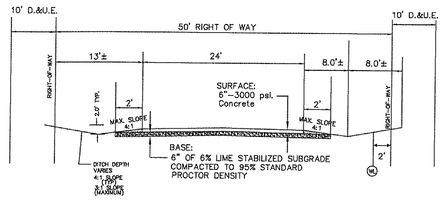
TYPICAL WATER LINE PLACEMENT

PROPOSED 10"WATER (CR 84)



PROPOSED 12"WATER (FM 1461)





TYPICAL PAVING SECTION

NOTES:

1. ALL INTERNAL WATER LINES TO BE 8"PVC
2. TYPICAL PLACEMENT OF WATER LINE TO BE 2' INSIDE R.O.W. UNLESS SHOWN OTHERWISE.
3. ALL WATERLINES TO HAVE MINIMUM 42" COVER TO TOP OF PIPE.
4. ALL FIRE HYDRANTS TO BE PAINTED BLUE WITH APPROPRIATE REFLECTIVE MARKER ON PAVEMENT.
5. SANITARY SEWER TO BE PROVIDED BY INDIVIDUAL AEROBIC SYSTEMS INSTALLED BY A REGISTERED SANITARIAN.

PROJECT INFO.	
REVISIONS:	
SCALE: 1"=200'	
DRAWN:	PROJECT #: 2301
CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

7557 RAMBLER RD. STE. #469 DALLAS, TX 75231

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STATE OF TEXAS TODD D. WINTERS 87085 REGISTERED PROFESSIONAL ENGINEER

WATER PLAN

TWELVE OAKS

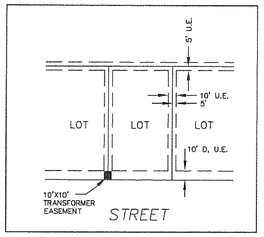
CITY OF CELINA, COLLIN COUNTY, TX

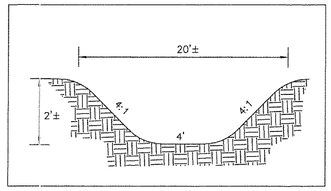
SHEET 21 OF 22

P-200105-01

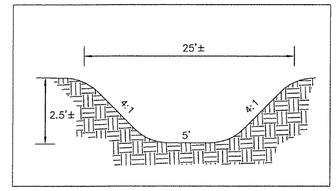
NOTE: SEE STORM LAYOUT FOR STORM CROSSING INFORMATION

TYPICAL LOT LAYOUT



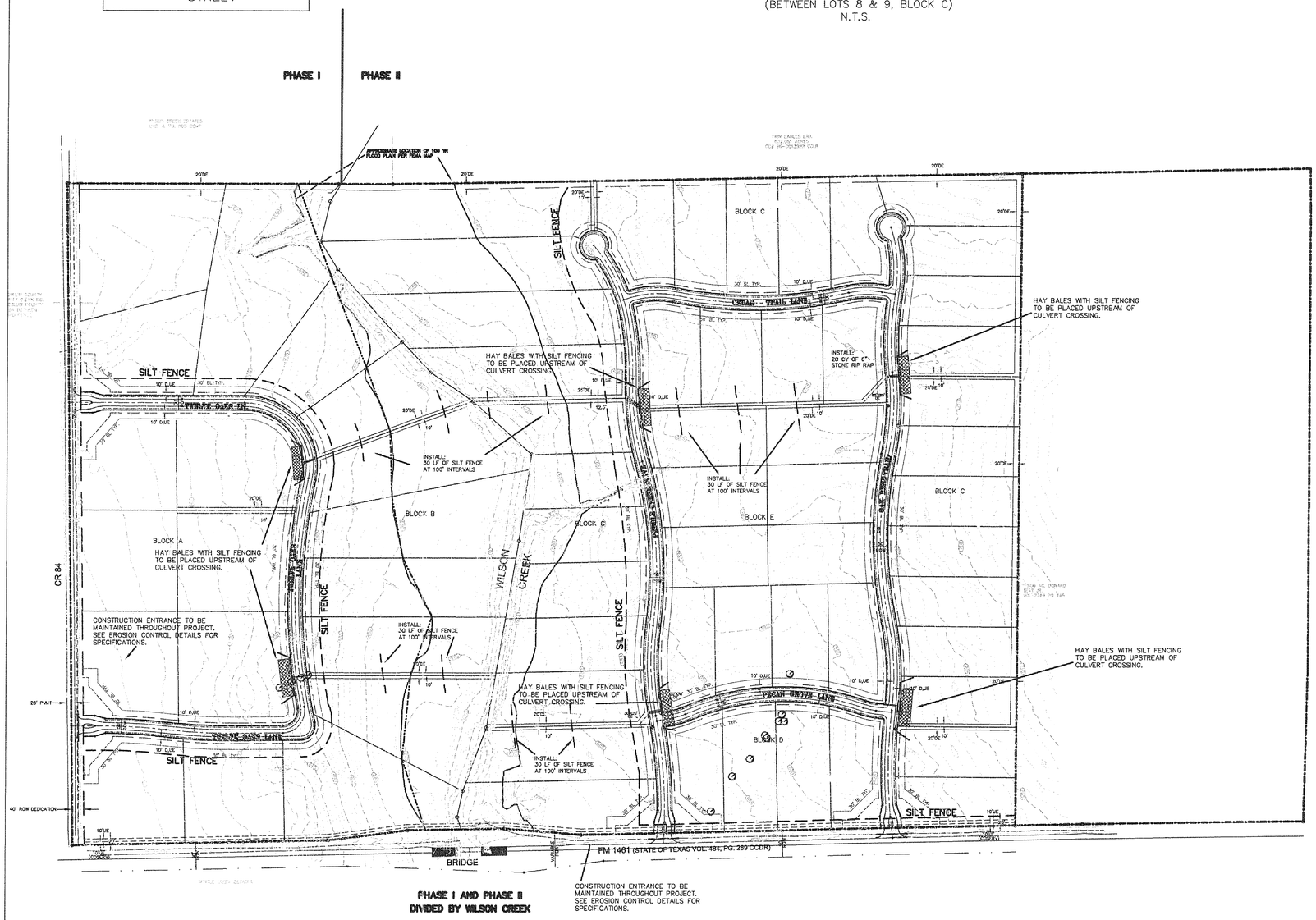


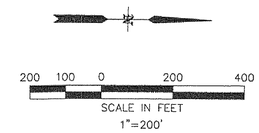
TYPICAL 20' DRAINAGE EASEMENT



TYPICAL 25' DRAINAGE EASEMENT

(BETWEEN LOTS 8 & 9, BLOCK C)
N.T.S.





LEGEND

- SILT FENCE
- STONE SILTATION STRUCTURE
- 456 EXISTING CONTOURS
- HAY BALE

EROSION CONTROL NOTES:

1. HAYBALES WITH SILT FENCING TO BE PLACED AT UPSTREAM OPENING OF ALL CULVERTS AS DIRECTED BY OWNER.
2. SILT FENCE TO BE PLACED AT APPROX. 100' INTERVALS ALONG ALL PROPOSED CHANNELS AND GRADE TO DRAINS.
3. SEE EROSION CONTROL DETAIL SHEET FOR INSTALLATION SPECIFICS OF ALL EROSION CONTROL MEASURES.
4. ALL SILT FENCE TO BE INSTALLED BEFORE BEGINNING CONSTRUCTION.

PROJECT INFO.			
REVISIONS:			
SCALE: 1"= 200'			
DRAWN:	PROJECT #: 2301		
CHECKED:	DATE:		

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

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TODD D. WINTERS
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REGISTERED PROFESSIONAL ENGINEER

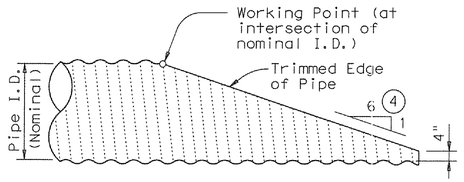
EROSION CONTROL PLAN

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

SHEET 22 OF 22

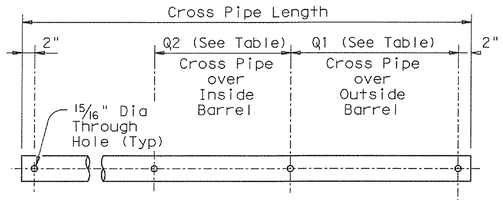
P-200105-01



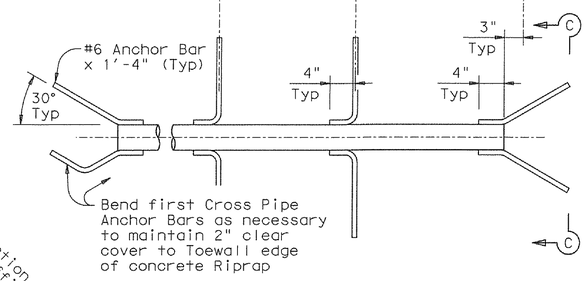
NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

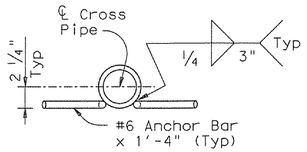
(Showing Corrugated Metal Pipe Culvert.)
(Details at Concrete Pipe Culvert are similar.)



PIPE W/ BOLTED ANCHOR

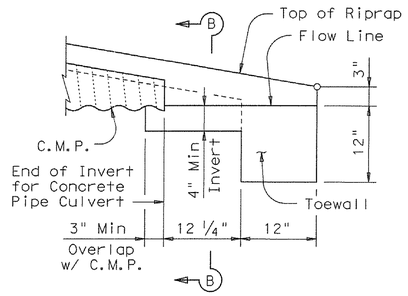


PIPE W/ ANCHOR BARS



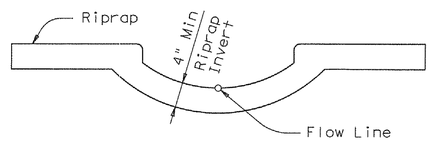
SECTION C-C

CROSS PIPE DETAILS



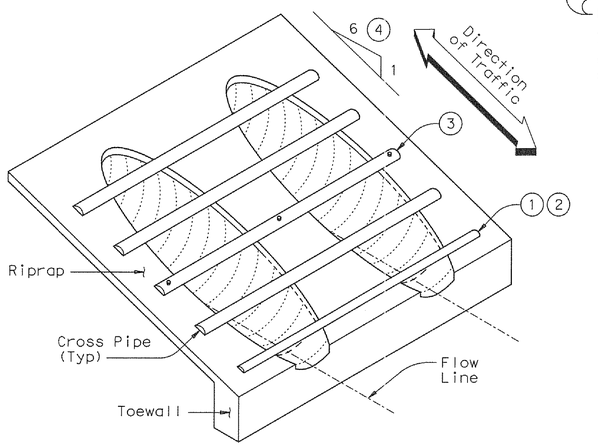
DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)

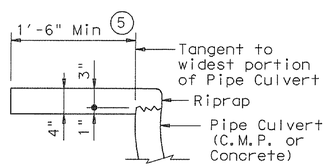


SECTION B-B

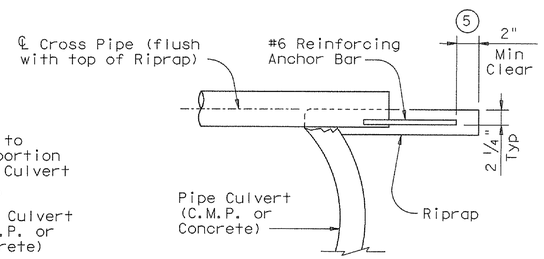
(Cross Pipes not shown for clarity.)



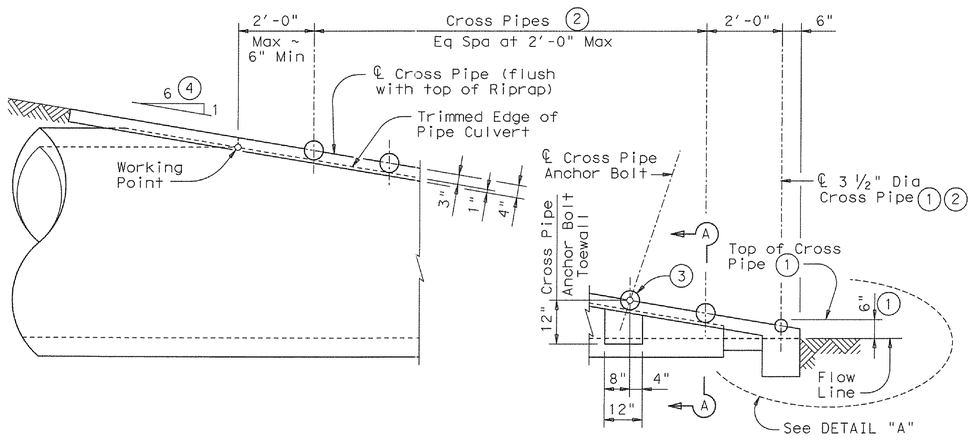
ISOMETRIC VIEW OF TYPICAL INSTALLATION



SHOWING TYPICAL PIPE CULVERT & RIPRAP

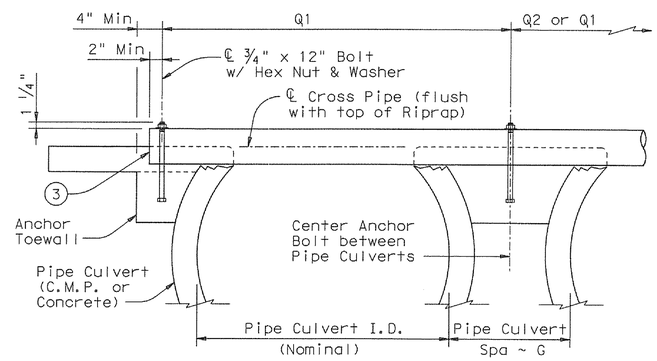


SHOWING CROSS PIPE WITH ANCHOR BAR



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert.)
(Details at Corrugated Metal Pipe Culvert are similar.)



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

(2) CROSS PIPE LENGTHS & REQUIRED PIPE SIZES

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
12"	9"	N/A	2'- 1"	1'- 9"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
15"	11"	N/A	2'- 5"	2'- 2"		
18"	1'- 2"	N/A	2'-10"	2'- 8"		
21"	1'- 4"	N/A	3'- 2"	3'- 1"		
24"	1'- 7"	N/A	3'- 6"	3'- 7"		
27"	1'- 8"	N/A	3'-10"	3'-11"	3 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)
30"	1'-10"	N/A	4'- 2"	4'- 4"	2 or more Pipe Culverts	
33"	1'-11"	4'- 2"	4'- 5"	4'- 8"	All Pipe Culverts	
36"	2'- 1"	4'- 5"	4'- 9"	5'- 1"	All Pipe Culverts	4" Std (4.500" O.D.)
42"	2'- 4"	4'-11"	5'- 5"	5'-10"		
48"	2'- 7"	5'- 5"	6'- 0"	6'- 7"	All Pipe Culverts	5" Std (5.563" O.D.)
54"	3'- 0"	5'-11"	6'- 9"	7'- 6"		
60"	3'- 3"	6'- 5"	7'- 4"	8'- 3"		
66"	3'- 3"	6'-11"	7'-10"	8'- 9"		
72"	3'- 4"	7'- 5"	8'- 5"	9'- 4"		

(1) The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.

(2) Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).

(3) The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to 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, all other Cross Pipes may also be installed using the bolted connection details.

(4) Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is required for vehicle safety.

(5) Any additional Riprap required for Cross Pipe anchorage shall be included in the Price Bid for Safety End Treatment. Such Riprap shall be concrete Riprap in accordance with Item 432, "Riprap".

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 of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments 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.

Riprap and all necessary inverts shall be considered Concrete Riprap in accordance with Item 432, "Riprap".

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

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.

COMMENTS:

LEVELS DISPLAYED

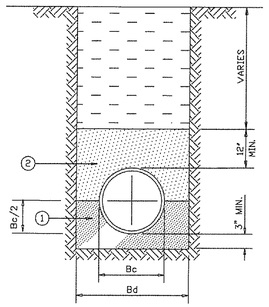
Texas Department of Transportation
Bridge Division

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

SETP-PD

FILE: setppdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
© TxDOT September 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS				
	COUNTY	CONTROL	SECT	JOB	HIGHWAY

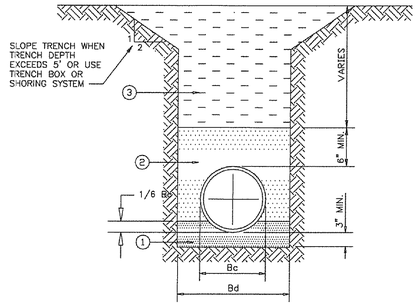
P-200105-01



① FINE GRADATION CRUSHED STONE - TOP LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.

② SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, USE GRANULAR MATERIAL (SAND) COMPACTED TO 95% STANDARD PROCTOR DENSITY.

R.C.P. EMBEDMENT

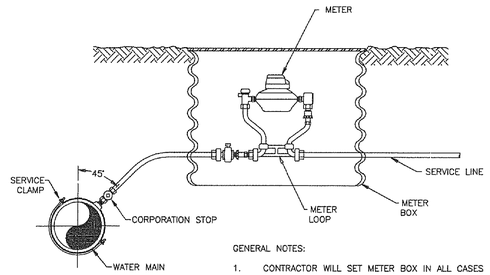


① STANDARD GRADATION CRUSHED STONE - TOP LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.

② GRANULAR MATERIAL (SAND) COMPACTED TO 95% STANDARD PROCTOR DENSITY.

③ SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 90% STANDARD PROCTOR DENSITY. UNDER STRUCTURES, ROADWAYS AND PAVEMENT, COMPACT TO 95% STANDARD PROCTOR DENSITY.

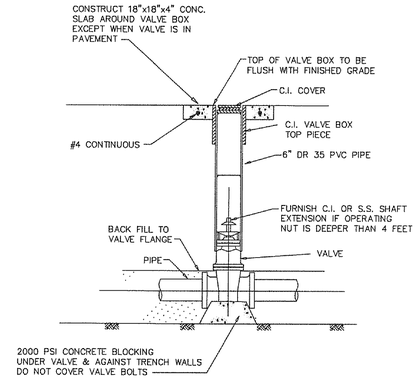
CLASS "C" EMBEDMENT



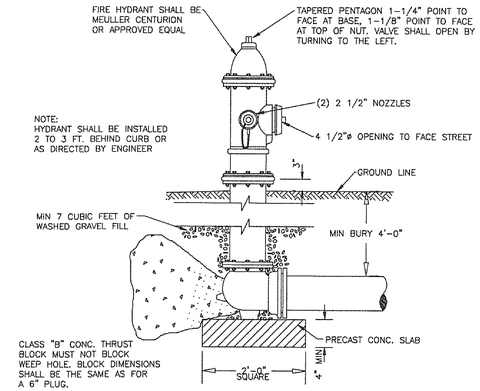
GENERAL NOTES:

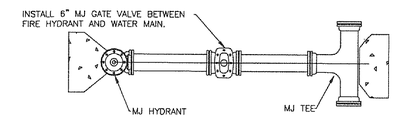
1. CONTRACTOR WILL SET METER BOX IN ALL CASES
2. METER BOX SHALL BE SET WITHIN THE RIGHT OF WAY, A UTILITY OR A DEDICATED EASEMENT
3. THE METER BOX SHALL BE LOCATED WITHIN AN AREA PROTECTED FROM VEHICULAR TRAFFIC

SERVICE CONNECTION WITH METER BOX



VALVE INSTALLATION DETAIL



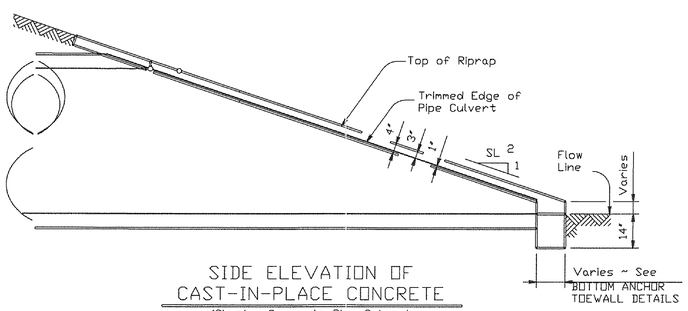


FIRE HYDRANT ASSEMBLY DETAIL

BLOCKED INSTALLATION

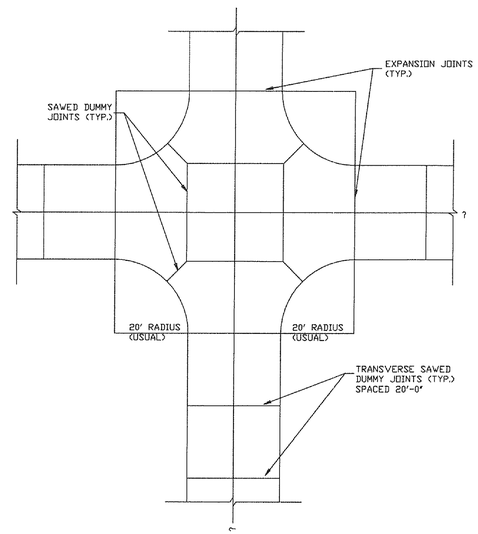
NOTE: ALL MATERIALS SHOWN ON THIS DETAIL SHALL BE INCLUDED IN THE UNIT PRICE FOR A FIRE HYDRANT ASSEMBLY. NO SEPARATE PAYMENT WILL BE MADE FOR VALVES, PIPE, FITTINGS ETC.

Recommended values of slope are 3:1, 4:1, & 6:1. Slope of 3:1 or flatter is required for vehicle safety.

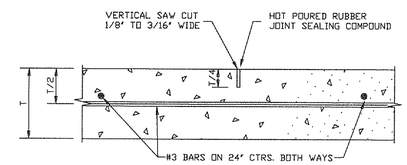


SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

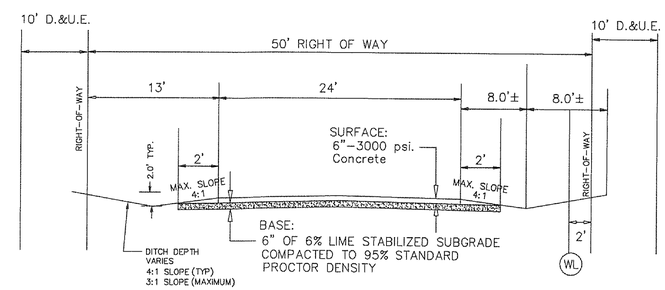
(Showing Concrete Pipe Culvert. Details of Corrugated Metal Pipe Culvert are similar.)



TYPICAL INTERSECTION JOINTING

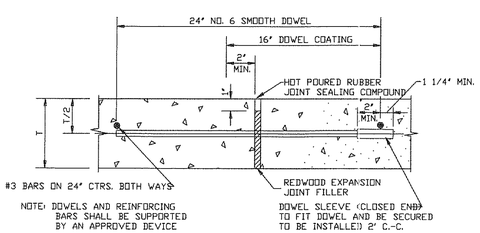


SAWED DUMMY JOINT DETAIL

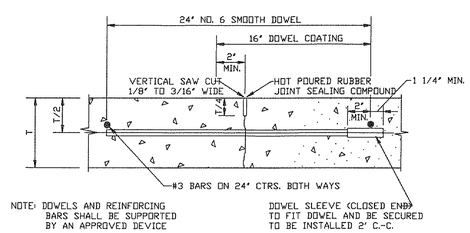


TYPICAL PAVING SECTION

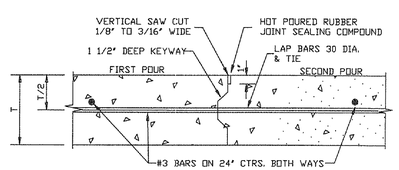
NOTE: SPACE 600' O.C., LOCATE AT INTERSECTIONS



TRANSVERSE EXPANSION JOINT DETAIL



CONTRACTION JOINT DETAIL



CONSTRUCTION JOINT DETAIL

PAVING, WATER & STORM SEWER

STANDARD DETAILS

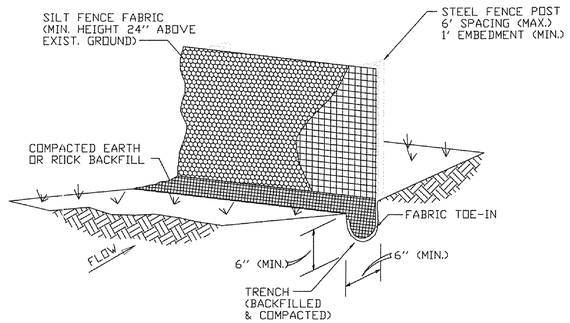
TWELVE OAKS
CITY OF CELINA
COLLIN COUNTY, TEXAS

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

7557 RAMBLER RD. #469 DALLAS TX 75231
PHONE: (214) 363-0856 (972) 726-6363 FAX

P-200105-01

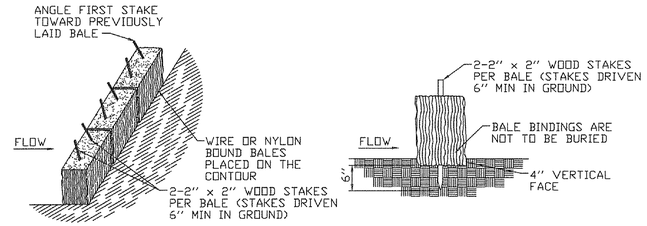


SILT FENCE SHOULD BE SECURELY FASTENED TO POSTS.

SILT FENCE

N.T.S.

NCTCOG 02270.B
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES



ANCHORING DETAIL

EMBEDDING DETAIL

NOTE: HAY BALES TO BE PLACED AROUND ALL INLETS DURING CONSTRUCTION.

TEMPORARY STRAW BALE DIKE

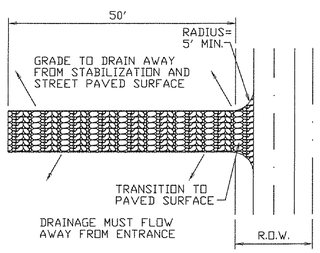
N.T.S.

NCTCOG 02270.A
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES

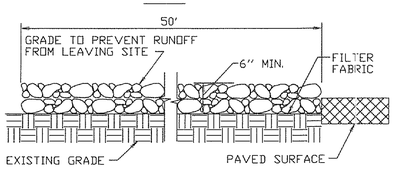
STRAW BALES SHALL BE PLACED IN A ROW WITH TIGHTLY ABUTTING ENDS. EMBED BALES IN THE SOIL A MINIMUM OF FOUR INCHES. STRAW BALES SHALL BE REPLACED IF THEY ARE DAMAGED OR HAVE DEGRADED TO A POINT OF INEFFECTIVENESS. REPLACEMENT OF STRAW BALES SHALL OCCUR NO LESS OFTEN THAN 90 DAYS, UNLESS NOTIFIED BY ENGINEER.

NOTES:

1. A STORM WATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) INCLUDING NOTICE OF INTENT (N.O.I.) WILL BE PREPARED BY THE GENERAL CONTRACTOR FOR THIS PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.P.D.E.S. GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION.
2. ALL CONTRACTORS WILL COMPLY WITH THE REQUIREMENTS AND INTENT OF THE N.P.D.E.S. GENERAL PERMIT FOR STORM WATER DISCHARGES.
3. EACH CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (N.O.I.) FOR STORM WATER DISCHARGE PERMIT COVERAGE. THIS SUBMITTAL SHALL BE COORDINATED WITH THE OWNER AND SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
4. EACH CONTRACTOR SHALL OBTAIN AND SUBMIT TO THE OWNER A POLLUTION PREVENTION CERTIFICATION FROM EACH SUBCONTRACTOR WHOSE WORK IMPACTS THE STORM WATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) PRIOR TO THE PERFORMANCE OF ANY WORK BY SAID SUBCONTRACTOR. THESE CERTIFICATIONS SHALL BECOME A PART OF THE STORM WATER POLLUTION PREVENTION PLAN.
5. CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES, AS INDICATED ON THE PLANS AND AS FIELD CONDITIONS WARRANT, PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY. REPAIRS OR MODIFICATIONS TO THE MEASURES WILL BE MADE BY THE CONTRACTOR IF THE CONTROL MEASURES PROVE INEFFECTIVE OR IF ADDITIONAL CONTROL MEASURES ARE NECESSARY.
6. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT TRACKING OF MUD AND/OR SOILS ONTO EXISTING AND/OR NEW PAVEMENT. ANY TRACKING THAT OCCURS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
7. CONTRACTOR SHALL CONSTRUCT INLET PROTECTION FOR ALL INCOMPLETE CURB INLETS AS SHOWN IN DETAIL "D" AND SHALL TAKE EVERY MEASURE TO KEEP SOILS AND SEDIMENTS FROM ENTERING THE STORM SEWER SYSTEM.
8. CONTRACTOR SHALL CONSTRUCT INLET PROTECTION FOR ALL COMPLETED CURB INLETS AS SHOWN IN DETAIL "E" AND SHALL TAKE EVERY MEASURE TO KEEP SOILS AND SEDIMENTS FROM ENTERING THE STORM SEWER SYSTEM.
9. CONTRACTOR SHALL INSTALL APPROPRIATE INLET PROTECTION AT ALL AREA DRAINS AS SHOWN IN DETAIL "F".
10. AT A MINIMUM, PERIMETER CONTROLS SUCH AS SILT FENCE OR STRAW BALES SHALL BE INSTALLED AT ALL DOWN SLOPE BOUNDARIES AND AS WARRANTED WHERE PAVEMENT REMOVAL, UTILITY CONSTRUCTION, GRADING, OR OTHER CONSTRUCTION ACTIVITIES ARE TO BE PERFORMED. THE CONTRACTOR SHALL AT ALL TIMES TAKE SUCH MEASURES AS NECESSARY TO MINIMIZE OFFSITE TRACKING OR TRANSPORT OF SEDIMENT AND DEBRIS.
11. DAMAGE TO ADJACENT PROPERTY AND/OR TO RECEIVING WATERS CAUSED BY IMPROPERLY INSTALLED OR POORLY MAINTAINED EROSION CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ANY SILTATION CAUSED BY HIS OPERATIONS AND/OR FAILURE OF THE EROSION CONTROL MEASURES.
13. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SILT AND SEDIMENT FROM EROSION CONTROL MEASURES WHEN IT REACHES A DEPTH OF SIX (6) INCHES OR IMPAIRS THE EFFECTIVENESS OF THE MEASURES.
14. THE CONTRACTORS REPRESENTATIVE WILL INSPECT THE PROJECT EVERY SEVEN DAYS, AT A MINIMUM, AND AFTER EVERY RAINFALL OF ONE-HALF INCHES OR GREATER TO DETERMINE THE INTEGRITY AND EFFECTIVENESS OF THE EROSION CONTROL MEASURES. A WRITTEN INSPECTION REPORT WILL BE FILED WITH THE POLLUTION PREVENTION PLAN. THIS INSPECTION DOES NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR INSPECTION AND MAINTENANCE OF THE EROSION CONTROL MEASURES OR HIS DUTY TO COMPLY WITH THE INTENT AND CONDITIONS OF THE N.P.D.E.S. GENERAL PERMIT.
15. ALL STOCKPILED SOILS WILL BE SURROUNDED BY A STRAW BALE DIKE, SILT FENCE, SEDIMENT CONTROL SWALE, OR EQUIVALENT MEASURE TO PROPERLY CONTROL SEDIMENT RUNOFF, AS APPROVED BY THE OWNER.
16. CONTRACTOR SHALL STABILIZE ANY AREA WHERE CONSTRUCTION ACTIVITY IS TO BE TEMPORARILY OR PERMANENTLY CEASED FOR MORE THAN 14 DAYS.



PLAN

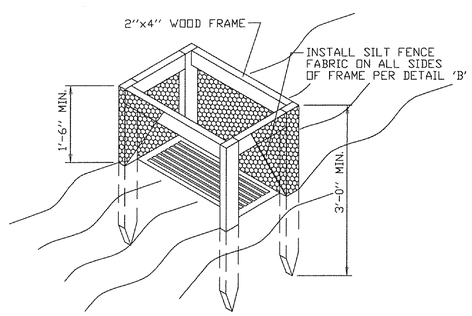


PROFILE

STABILIZED CONSTRUCTION ENTRANCE / EXIT

N.T.S.

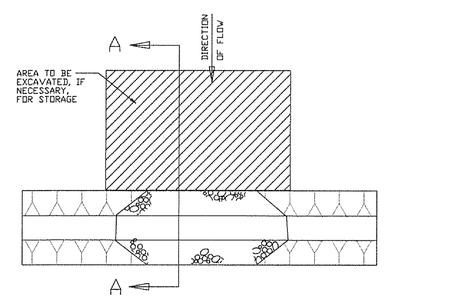
NCTCOG 02270.G
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES



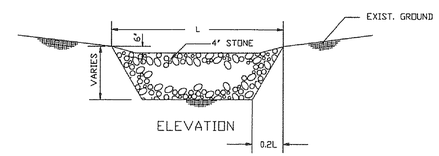
AREA DRAIN PROTECTION

N.T.S.

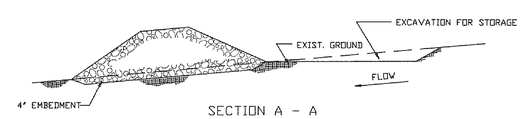
NCTCOG 02270.M
STORM WATER QUALITY
BEST MANAGEMENT PRACTICES
FOR CONSTRUCTION ACTIVITIES



PLAN VIEW



ELEVATION



SECTION A - A

STONE SILTATION STRUCTURE

N.T.S.

		PROJECT INFO.	
		REVISIONS:	
		SCALE:	
		DRAWN:	PROJECT #:
		CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.

ENGINEERING / SURVEYING / PROJECT MANAGEMENT

7557 RAMBLER RD. STE. #469 DALLAS, TX 75231

(214) 363-0856 (972) 726-6363 FAX

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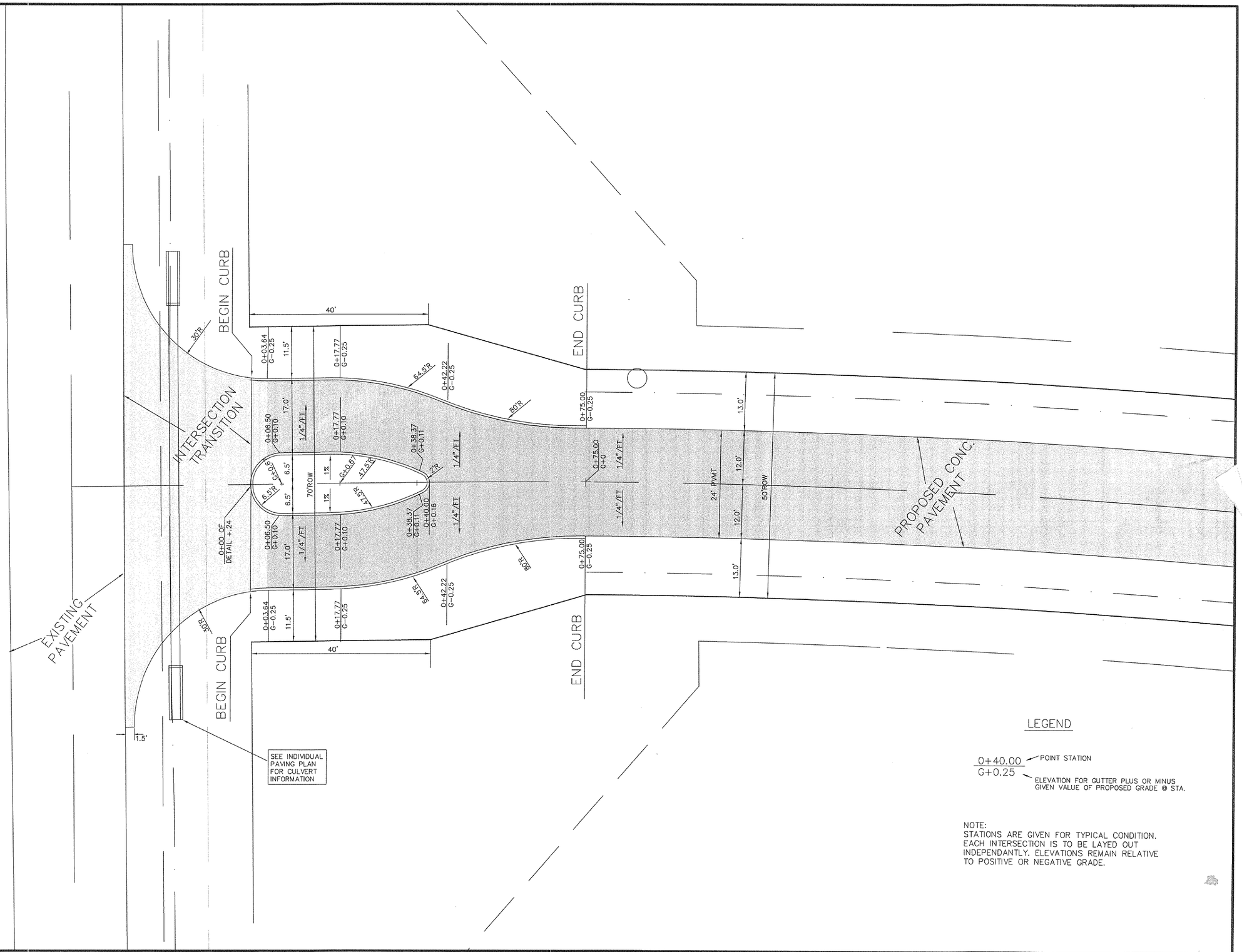
STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED
PROFESSIONAL ENGINEER

EROSION CONTROL DETAILS

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01



LEGEND

0+40.00 — POINT STATION
G+0.25 — ELEVATION FOR GUTTER PLUS OR MINUS GIVEN VALUE OF PROPOSED GRADE @ STA.

NOTE:
STATIONS ARE GIVEN FOR TYPICAL CONDITION. EACH INTERSECTION IS TO BE LAYED OUT INDEPENDANTLY. ELEVATIONS REMAIN RELATIVE TO POSITIVE OR NEGATIVE GRADE.

PROJECT INFO.	
REVISIONS:	
SCALE: 1"=10'	
DRAWN:	PROJECT #:
CHECKED:	DATE:

ENGINEERING CONCEPTS & DESIGN L.P.
ENGINEERING / SURVEYING / PROJECT MANAGEMENT
7557 RAMBLER RD. STE. #469 DALLAS, TX 75231
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STATE OF TEXAS
TODD D. WINTTERS
87085
REGISTERED PROFESSIONAL ENGINEER

ENTRANCE DETAIL (TYP.)

TWELVE OAKS

CITY OF CELINA, COLLIN COUNTY, TX

P-200105-01