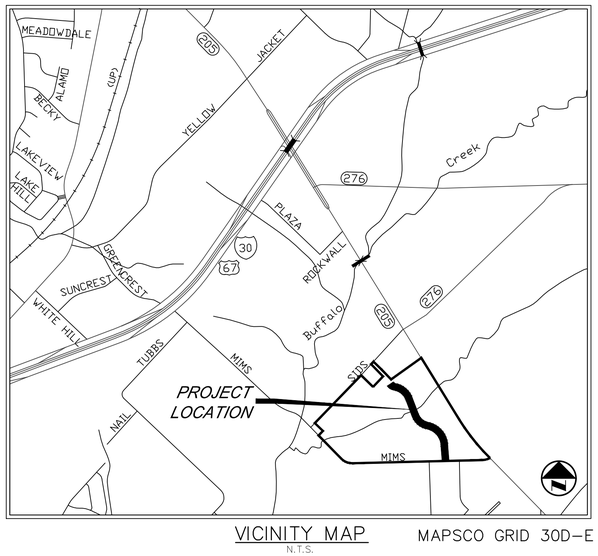
RAYBURN ELECTRIC COOPERATIVE
CAMPUS EXPANSION PHASE 2

LOT 1, BLOCK A
REC CAMPUS ADDITION
950 SIDS ROAD
ROCKWALL, TEXAS 75032

INDEX OF SHEETS



VICINITY MAP
N.T.S.

MAPSCO GRID 30D–E

LANDSCAPE PLANS (PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC.)

INDEX OF SHEETS

THE FOLLOWING TXDOT STANDARD DETAIL SHEETS HAVE BEEN REVIEWED FOR THEIR APPLICABILITY AND ARE HEREBY AUTHORIZED BY THE ENGINEER FOR USE ON THIS PROJECT:

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK TCP (2–1) – 18
TRAFFIC CONTROL PLAN ONE–LANE TWO–WAY TRAFFIC CONTROL TCP (2–2) – 18
PRECAST SAFETY END TREATMENT TYPE II ~ CROSS DRAINAGE PSET–SC
CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS CH–FW–0

PREPARED BY:

r.delta ENGINEERS
618 MAIN STREET GARLAND, TX. 75040
PH. 972 494 5031 FAX 972 487 2270
www.rdelta.com TBPE REG. F-001515

NOVEMBER 2025

GENERAL NOTES

ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN NORTH TEXAS AND CITY OF ROCKWALL STANDARDS, LATEST EDITION, BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, P.O. BOX COG, ARLINGTON, TEXAS 76005--5888 (817) 461–3300, A COPY OF THIS BOOK MAY BE OBTAINED FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AT THE ADDRESS OR PHONE NUMBER LISTED ABOVE.

1. The existing public water, sanitary sewer, and storm sewer utility lines and appurtenances shown on these plans have been taken from record drawings and utility locator maps. The Engineer makes no guarantee that the underground utility lines and structures shown comprise all the underground utility lines and appurtenances in the area, either in service or abandoned. The Engineer furthermore does not warrant the accuracy of the information shown on the record drawings and the utility maps.

2. The contractor shall be responsible for determining the depth and location of existing underground utilities prior to trenching or excavation and is required to take any precautionary measures to protect all lines shown and / or any other underground utilities not of record shown on the plans. Contractor is responsible for contacting all the franchise utility companies, county utility departments and TEXAS 811 for locates prior to construction.

3. The contractor shall maintain daily contact with each agency's inspector during construction of improvements. No public sanitary sewer, water or storm sewer pipe shall be covered without approval of the city. No subgrade material or rock paving shall be applied without approval of the inspector. The inspector may at any time cause any construction, installation, maintenance of improvements to cease when, in his/her judgment the Standard Construction Details have been violated and may require reconstruction or other works as may be necessary to correct the violation.

4. The owner is responsible for obtaining all applicable city, county, state, and federal permits.

5. Erosion control and storm water management measures must be in place and comply with applicable county, state and federal regulations. Erosion and sedimentation control measures and practices shall be maintained at all times during construction, additional measures and practices shall be installed if deemed necessary by the inspector.

6. The contractor shall make every effort not to impede traffic on existing streets, alleys or fire lanes open to the public. The contractor is responsible for furnishing and installing all temporary and permanent traffic control devices in accordance with the minimum requirements of the latest revision to the Texas Manual on Uniform Traffic Control Handbook.

7. All excavations within the right of way shall be filled and compacted as required by the permitting agency and in no case shall exceed twenty–four (24) hours after completion of work and no excavation shall remain open for longer than 96 hours.

RECORD DRAWING

NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION. TO THE BEST OF OUR KNOWLEDGE R-DELTA ENGINEERS, INC. STATES THAT THIS PLAN IS AS-BUILT.

11/06/2025
FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC RayburnElectric COOPERATIVE

RESPONSIBLE FOR ALL CIVIL SHEETS EXCEPT PLAT, C9.1–P2, & C9.2–P2.

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RESPONSIBLE FOR SHEETS C9.1–P2 & C9.2–P2.

STATE OF TEXAS
DAVID B PORTER
69825
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAVID B PORTER, P.E. 69825 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REVISION

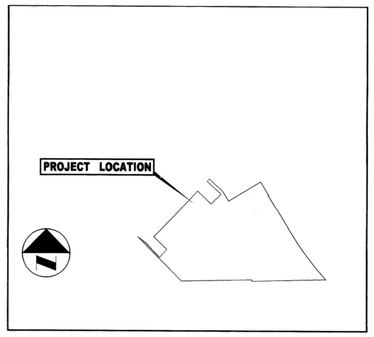
NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
COVER SHEET

CASE# E2023-042

SHEET NO.
C1-P2

20250000007337 PLAT Total Pgs: 5



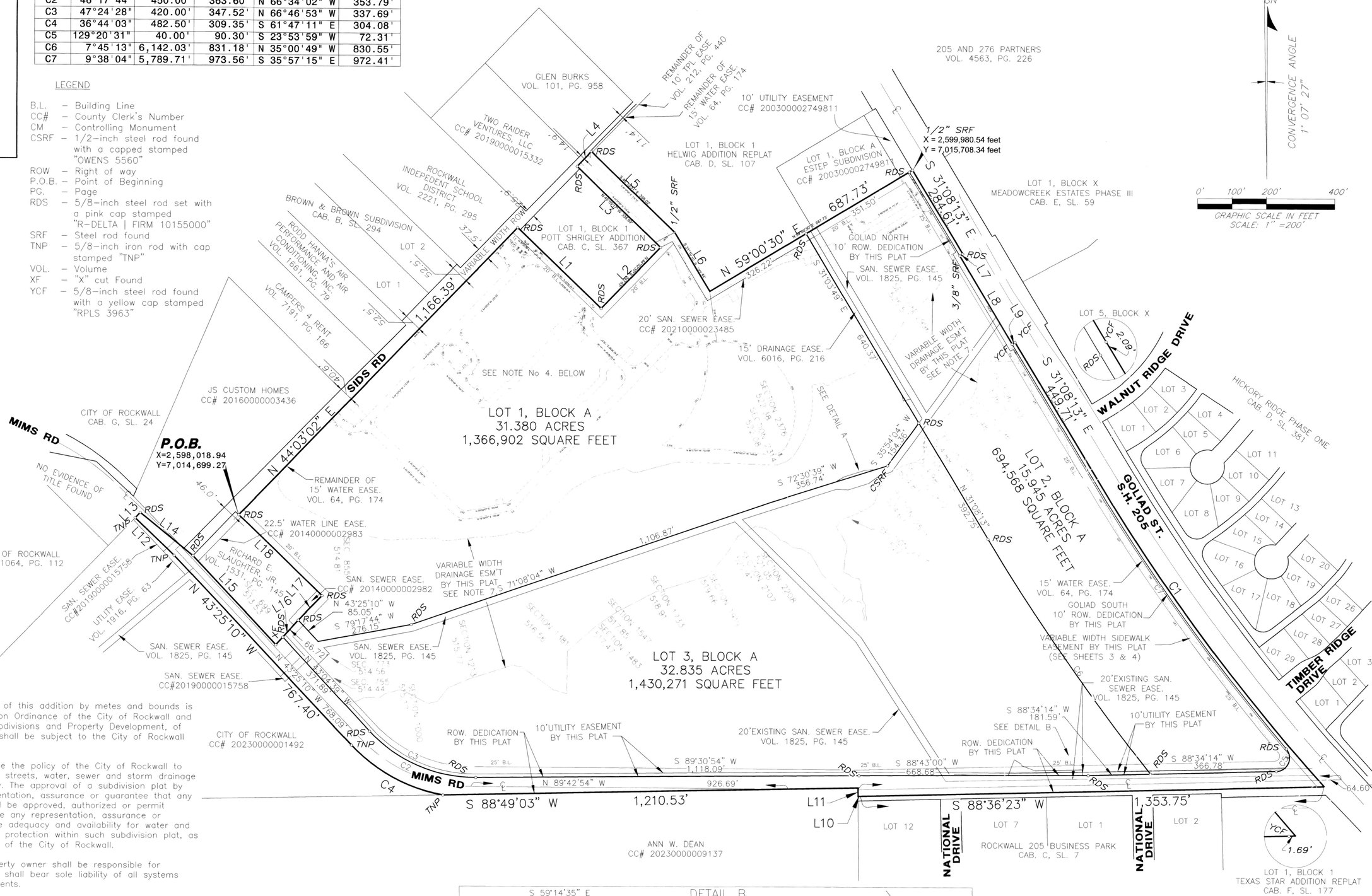
VICINITY MAP
NOT TO SCALE

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	11°11'01"	5,779.71'	1,128.15'	S 36°43'43" E	1,126.36'
C2	46°17'44"	450.00'	363.60'	N 66°34'02" W	353.79'
C3	47°24'28"	420.00'	347.52'	N 66°46'53" W	337.69'
C4	36°44'03"	482.50'	309.35'	S 61°47'11" E	304.08'
C5	129°20'31"	40.00'	90.30'	S 23°53'59" W	72.31'
C6	7°45'13"	6,142.03'	831.18'	N 35°00'49" W	830.55'
C7	9°38'04"	5,789.71'	973.56'	S 35°57'15" E	972.41'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S 46°15'45" E	338.73'
L2	N 44°02'35" E	247.63'
L3	N 46°09'17" W	338.69'
L4	N 44°03'02" E	59.41'
L5	S 46°15'31" E	338.02'
L6	S 31°10'16" E	199.44'
L7	S 58°51'47" W	10.00'
L8	S 31°08'13" E	297.94'
L9	N 58°32'10" E	10.00'
L10	S 89°33'39" W	6.66'
L11	N 00°38'52" W	24.56'
L12	N 46°36'51" W	144.18'
L13	N 44°06'51" E	21.42'
L14	S 50°58'40" E	197.86'
L15	S 43°15'37" E	353.17'
L16	N 42°24'17" E	96.84'
L17	N 44°27'12" E	99.73'
L18	N 46°14'22" W	338.24'

LEGEND

- B.L. – Building Line
- CC# – County Clerk's Number
- CM – Controlling Monument
- CSRF – 1/2-inch steel rod found with a capped stamped "OWENS 5560"
- ROW – Right of way
- P.O.B. – Point of Beginning
- PG. – Page
- RDS – 5/8-inch steel rod set with a pink cap stamped "R-DELTA | FIRM 10155000"
- SRF – Steel rod found
- TNP – 5/8-inch iron rod with cap stamped "TNP"
- VOL. – Volume
- XF – "X" cut Found
- YCF – 5/8-inch steel rod found with a yellow cap stamped "RPLS 3963"



NOTE:
WATER AND SANITARY SEWER SERVCE PROVIDER FOR THIS SITE IS THE CITY OF ROCKWALL, TEXAS.

NOTES

1. Subdivider's Statement. Selling a portion of this addition by metes and bounds is unlawful and a violation of the Subdivision Ordinance of the City of Rockwall and Chapter 212, Municipal Regulation of Subdivisions and Property Development, of the Texas Local Government Code, and shall be subject to the City of Rockwall withholding utilities and building permits.
2. Public Improvement Statement. It shall be the policy of the City of Rockwall to withhold issuing building permits until all streets, water, sewer and storm drainage systems have been accepted by the City. The approval of a subdivision plat by the City does not constitute and representation, assurance or guarantee that any building within such subdivision plat shall be approved, authorized or permit issued, nor shall such approval constitute any representation, assurance or guarantee by the City of Rockwall of the adequacy and availability for water and sanitary sewer for personal use and fire protection within such subdivision plat, as required under the Subdivision Ordinance of the City of Rockwall.
3. Drainage and Detention Easements. Property owner shall be responsible for maintaining, repairing, and replacing and shall bear sole liability of all systems within the drainage and detention easements.
4. Fire Lanes. All Fire Lanes will be constructed, maintained, repaired and replaced by the property owner. Fire Lanes shall be constructed in accordance with the approved Civil Engineering Plans for both on-site and off-site Fire Lane Improvements.
5. *The Bearings and Coordinates reported hereon are based on the Texas Coordinate System of 1983, North Central Zone (Zone 4202) as tied to City of Rockwall published control station COR-11.*

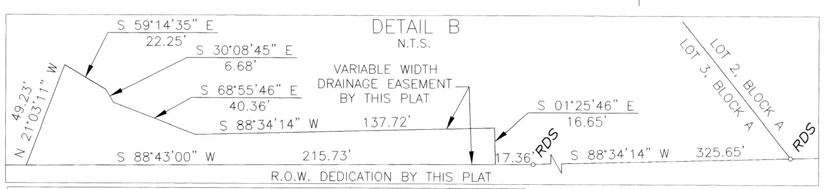
   All reported distances are surface distances. To obtain distances on the projection grid multiply the reported distances by the average combined factor of 0.999853886 as published by TxDOT for Rockwall County, Texas.

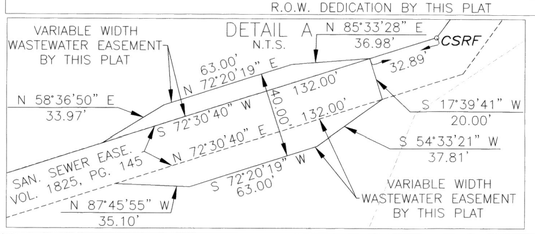
   The convergence or mapping angle at the P.O.B. is 1°07'07"
6. *See Sheets 2-5 for additional proposed Easement details by this plat.*
7. A variable width drainage easement being ten feet outside of gradient lines defined by elevations two-feet above the fully developed 100-year flood plain water surface elevation. An approximation of this ambulatory line is graphically depicted here as a guide to the location of the actual boundary of the rights associated with this easement.

AREA SUMMARY REPORT:

LOT 1	1,366,902 SQ FT	31.380 ACRES
LOT 2	694,568 SQ FT	15.945 ACRES
LOT 3	1,430,271 SQ FT	32.835 ACRES
LOTS	3,491,741 SQ FT	80.160 ACRES
GOLIAD NORTH	2,846 SQ FT	0.065 ACRES
GOLIAD SOUTH	16,708 SQ FT	0.384 ACRES
MIMS	182,402 SQ FT	4.187 ACRES
DED:	201,956 SQ FT	4.636 ACRES
PARTS:	3,693,697 SQ FT	84.796 ACRES
BOUNDARY:	3,693,697 SQ FT	84.796 ACRES

Water and sanitary sewer provided by the City of Rockwall, Texas.





SURVEYOR:
r.delta ENGINEERS
618 Main Street
Garland, TX 75040
Ph. (972) 494-5031
Fax (972) 487-2270
www.rdelta.com
TBPE No. F-1515
TBPLS No. 10155000

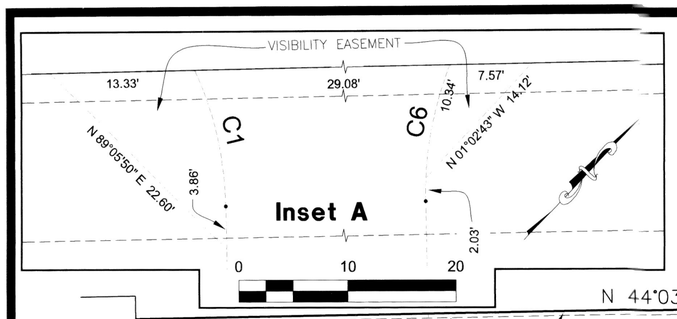
FINAL PLAT
LOTS 1-3, BLOCK A
REC CAMPUS ADDITION

BEING 3 LOTS
84.796 ACRES OR 3,693,697 SF
SITUATED IN THE
WILLIAM H. BARNES SURVEY, ABSTRACT NO. 26,
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

OWNER: Rayburn Country Electric Cooperative, Inc.
950 Sids Road
Rockwall, Texas 75032
TEL (469) 402-2100

CASE NO. P2023-018
RDE Proj. No. 3036-22

EASEMENT DEDICATIONS BY THIS PLAT



SIDS RD

N 44°03'02" E 387.98'

See Inset A

See Inset B

See Inset C

15' DRAINAGE & UTILITY EASEMENT CAB. I, SL. 69

1,166.39'

644.76'

REMAINDER OF 15' WATER EASE. VOL. 64, PG. 174

DRAINAGE AND DETENTION EASEMENT CC# 20190000004594

100-YR WATER SURFACE ELEVATION 518.90

VARIABLE WIDTH DRAINAGE ESM'T SEE NOTE 7 ON SHEET 1

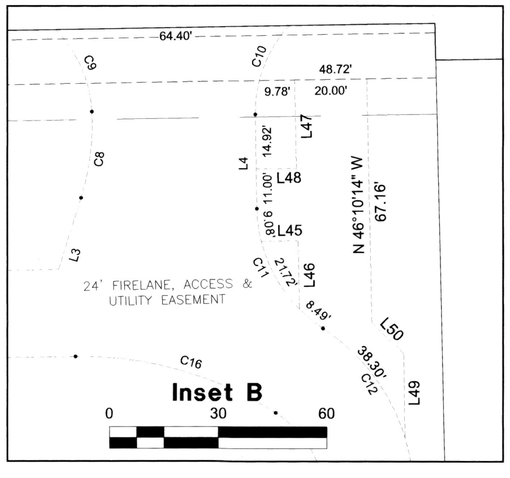
20' WATER EASEMENT

24' FIRELANE, ACCESS & UTILITY EASEMENT

LOT 1, BLOCK A
31.380 ACRES
1,366,902 SQUARE FEET

LOT 1, BLOCK 1
POTT SHRIGLEY ADDITION
CAB. C, SL. 367

MATCH LINE SHEET 3



EASEMENT LINE TABLE

LINE	BEARING	DISTANCE
L1	S 46°11'30" E	24.15'
L2	S 46°11'30" E	24.15'
L3	N 27°38'40" W	20.69'
L4	S 45°56'58" E	25.93'
L5	S 11°33'42" W	15.00'
L6	S 45°56'58" E	43.53'
L7	S 44°03'02" W	13.59'
L8	S 45°56'58" E	56.53'
L9	S 44°03'02" W	24.00'
L10	N 11°33'42" E	15.00'
L11	S 44°03'02" W	13.59'
L12	S 45°56'58" E	43.53'
L13	N 44°03'02" E	13.59'
L14	N 45°56'58" W	43.53'
L15	N 45°56'58" W	20.00'
L16	N 44°03'02" E	27.34'
L17	N 00°56'58" W	5.19'
L18	S 44°03'02" W	24.89'
L19	N 89°03'02" E	7.85'
L20	N 00°56'58" W	22.16'
L21	N 44°03'02" E	44.84'
L22	S 45°56'45" E	20.00'
L23	S 44°03'02" W	36.55'
L24	S 00°56'58" E	22.16'
L25	S 89°03'02" W	7.85'
L26	S 44°02'57" W	28.28'
L27	N 44°03'02" E	38.71'
L28	N 45°56'58" W	36.72'
L29	N 44°03'02" E	20.00'
L30	S 45°56'58" E	36.72'
L31	N 00°56'58" W	12.09'
L32	S 11°33'42" W	13.31'
L33	S 89°03'02" W	8.24'
L34	S 89°03'02" W	10.47'
L35	S 89°03'02" W	27.24'
L36	N 45°56'58" W	13.01'
L37	N 44°03'02" E	20.00'
L38	S 45°56'58" E	4.72'
L39	N 89°03'02" E	10.67'
L40	N 89°03'02" E	10.47'
L41	N 45°56'58" W	14.60'
L42	N 44°03'02" E	30.00'
L43	S 45°56'58" E	14.60'
L44	N 89°03'02" E	17.34'
L45	N 44°03'02" E	10.19'
L46	S 46°10'14" E	18.85'
L47	S 46°10'14" E	24.23'
L48	S 44°03'02" W	11.13'
L49	N 45°56'58" W	23.19'
L50	S 89°03'02" W	12.04'
L51	N 45°56'58" W	51.06'
L52	N 45°56'58" W	51.06'
L53	S 45°56'58" E	51.06'
L54	S 45°56'58" E	51.06'
L55	S 45°56'58" E	14.63'
L56	S 44°03'02" W	30.00'
L57	S 45°56'58" E	18.38'
L58	S 44°03'02" W	20.00'
L59	N 45°56'58" W	33.01'
L60	N 44°02'57" E	50.01'
L61	N 44°03'02" E	13.85'
L62	S 45°56'58" E	20.00'
L63	S 44°03'02" W	13.85'
L64	N 10°57'53" W	14.98'
L65	S 79°02'07" W	20.00'
L66	S 10°57'53" E	14.98'
L67	N 44°03'02" E	37.03'
L68	S 45°56'58" E	20.00'
L69	S 44°03'02" W	37.03'
L70	N 44°03'02" E	12.25'
L71	N 45°56'58" W	20.00'
L72	S 44°03'02" E	12.25'
L73	N 79°02'07" E	20.00'
L74	N 45°57'39" W	20.00'
L75	N 44°03'02" E	3.13'
L76	N 44°03'02" E	7.13'
L77	N 45°56'58" W	20.00'
L78	N 44°02'57" E	28.97'

EASEMENT CURVE TABLE

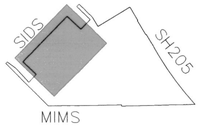
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD	LINE
C1	23°53'10"	30.00'	12.51'	S 58°08'05" E		12.42'
C2	65°00'43"	54.00'	61.27'	S 78°41'51" E		58.04'
C3	65°14'33"	30.00'	34.16'	S 78°34'56" E		32.34'
C4	55°00'14"	54.00'	51.84'	S 73°27'46" E		49.87'
C5	34°59'10"	54.00'	32.97'	N 61°32'32" E		32.46'
C6	23°37'46"	30.00'	12.37'	S 34°22'37" E		12.28'
C7	89°45'28"	30.00'	47.00'	N 88°55'46" E		42.34'
C8	20°20'16"	67.50'	23.96'	N 37°48'59" W		23.83'
C9	41°23'58"	35.00'	25.29'	N 68°41'06" W		24.74'
C10	43°59'56"	35.00'	26.88'	S 23°57'00" E		26.22'
C11	56°16'39"	40.00'	39.29'	S 74°05'17" E		37.73'
C12	56°16'39"	54.00'	53.04'	S 74°05'17" E		50.94'
C13	57°30'40"	54.00'	54.20'	S 17°11'38" E		51.96'
C14	57°30'40"	30.00'	30.11'	S 17°11'38" E		28.86'
C15	90°00'05"	30.00'	47.12'	N 89°03'00" E		42.43'
C16	33°19'57"	100.00'	58.18'	S 60°43'01" W		57.36'
C17	90°00'00"	20.00'	31.42'	S 00°56'58" E		28.28'
C18	90°00'00"	44.00'	69.12'	S 00°56'58" E		62.23'
C19	90°00'00"	20.00'	31.42'	S 00°56'58" E		28.28'
C20	90°00'00"	20.00'	31.42'	S 89°03'02" W		28.28'
C21	90°00'42"	20.00'	31.42'	S 00°57'19" E		28.29'
C22	55°00'14"	30.00'	28.80'	S 73°27'46" E		27.71'
C23	34°59'10"	30.00'	18.32'	N 61°32'32" E		18.04'
C24	89°59'55"	30.00'	47.12'	N 00°57'00" W		42.43'
C25	57°30'40"	54.00'	54.20'	N 17°11'38" W		51.96'
C26	57°30'40"	30.00'	30.11'	N 17°11'38" W		28.86'
C27	56°40'03"	30.00'	29.68'	N 74°16'59" W		28.48'
C28	90°00'00"	20.00'	31.42'	S 00°56'58" E		28.28'
C29	90°00'00"	20.00'	31.42'	N 89°03'02" E		28.28'
C30	90°00'00"	20.00'	31.42'	N 00°56'58" W		28.28'
C31	90°00'00"	20.00'	31.42'	S 89°03'02" W		28.28'
C32	26°10'28"	54.00'	24.67'	S 31°26'26" E		24.45'
C33	37°19'58"	30.00'	19.55'	S 07°06'17" E		19.20'

LEGEND

CAB. – Cabinet
EASE. – Easement
PG. – Page
SL. – Slide
VOL. – Volume

CONVERGENCE ANGLE 1° 07' 27"

0' 30' 60' 120'
GRAPHIC SCALE IN FEET
SCALE: 1" =60'



FINAL PLAT
LOTS 1–3, BLOCK A
REC CAMPUS ADDITION
BEING 3 LOTS
84.796 ACRES OR 3,693,697 SF
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TEL (469) 402-2100

CASE NO. P2023-018
RDE Proj. No. 3036-22

EASEMENT DEDICATIONS BY THIS PLAT

GOLIAD ST. S.H. 205

10' ROW. DEDICATION BY THIS PLAT

10' UTILITY EASEMENT
CC# 200300002749811

VARIABLE WIDTH SIDEWALK EASEMENT BY THIS PLAT

MATCH LINE SHEET 4

CONVERGENCE ANGLE
1° 07' 27"

0' 30' 60' 120'
GRAPHIC SCALE IN FEET
SCALE: 1" =60'

LEGEND

CC# – County Clerk's Number
CM – Controlling Monument
ROW – Right of way
POB – Point of Beginning
PG. – Page
SRF – Steel rod found
VOL. – Volume
XF – "X" cut Found

LOT 1, BLOCK A
ESTEP SUBDIVISION
CC# 200300002749811

24' ACCESS & FIRELANE EASEMENT

50' ACCESS & FIRELANE EASEMENT

20' WATER EASEMENT

LOT 2, BLOCK A
15.945 ACRES
694,568 SQUARE FEET

VARIABLE WIDTH DRAINAGE ESM'T
SEE NOTE 7 ON SHEET 1

N 59°00'30" E 687.73'

20' SAN. SEWER EASE.
CC# 202100000023485

SAN. SEWER EASE.
(VOL. 1825, PG. 145)

S 31°03'49" E 640.37'

15' DRAINAGE EASE.
(VOL. 6016, PG. 216)

15' DRAINAGE EASE.
(VOL. 6016, PG. 216)

S 35°54'04" W 154.36'

LOT 3, BLOCK A
32.835 ACRES
1,430,271 SQUARE FEET

LOT 1, BLOCK 1
HELWIG ADDITION REPLAT
CAB. D, SL. 107

20' WATER EASEMENT

LOT 1, BLOCK A
31.380 ACRES
1,366,902 SQUARE FEET

VARIABLE WIDTH DRAINAGE ESM'T
SEE NOTE 7 ON SHEET 1

N 59°30'00" E 209.50'

S 59°30'00" W 123.22'

S 31°10'16" E 199.44'

S 08°15'42" E 149.08'

79.40'

DRAINAGE & DETENTION EASEMENT
(AMENITY & DETENTION POND)
100-YEAR WSEL 527.57

X=2,599,565.70
Y=7,014,880.41

X=2,599,363.44
Y=7,015,038.73

N 83°52'57" W 144.58'

N 88°57'01" W 133.09'

See Inset D
VISIBILITY EASEMENT

S 46°15'31" E 338.02'

S 45°57'00" E 316.70'

30' FIRELANE, ACCESS & UTILITY EASEMENT

N 45°57'00" W 315.05'

N 46°09'17" W 338.69'

VISIBILITY EASEMENT
See Inset D

SIDS RD

WATER EASEMENT

LOT 1, BLOCK 1
POTT SHRIGLEY ADDITION
CAB. C, SL. 367

N 44°02'35" E 247.63'

N 44°02'57" E 214.06'

24' FIRELANE, ACCESS & UTILITY EASEMENT

MATCH LINE SHEET 2

SIDS RD

VISIBILITY EASEMENT

S 00°56'58" E 14.14'

S 89°03'02" W 14.07'

Inset D
0 10 20

SIDS SH205 MIMS

EASEMENT CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD LEN.
C34	87°04'53"	30.00'	45.60'	N 00°30'30" E	41.33'
C35	26°05'17"	215.00'	97.89'	N 29°59'18" W	97.05'
C36	29°00'21"	175.00'	88.59'	N 31°26'50" W	87.65'
C37	23°26'52"	25.00'	10.23'	N 57°40'26" W	10.16'
C38	19°23'44"	25.00'	8.46'	S 36°15'08" E	8.42'
C39	29°00'21"	205.00'	103.78'	S 31°26'50" E	102.68'
C40	26°05'17"	185.00'	84.23'	S 29°59'18" E	83.51'
C41	87°04'56"	60.00'	91.19'	S 00°30'32" W	82.66'
C42	118°48'03"	30.00'	62.20'	S 15°21'04" E	51.64'
C43	61°11'57"	30.00'	32.04'	S 74°38'56" W	30.54'
C44	26°36'38"	30.00'	13.93'	S 30°44'38" W	13.81'
C45	60°28'15"	30.00'	31.66'	S 12°47'49" E	30.21'
C46	2°53'47"	215.00'	10.87'	S 41°35'03" E	10.87'
C47	23°11'30"	215.00'	87.03'	S 28°32'24" E	86.43'
C48	34°17'52"	60.00'	35.92'	S 25°53'00" E	35.38'
C49	22°59'55"	60.00'	24.08'	S 02°45'53" W	23.92'
C50	29°47'08"	60.00'	31.19'	S 29°09'25" W	30.84'
C51	3°24'34"	30.00'	1.79'	N 42°20'40" E	1.78'
C52	16°37'35"	210.00'	60.94'	N 67°48'48" E	60.73'
C53	17°07'05"	160.00'	47.80'	N 67°34'03" E	47.62'
C54	17°07'05"	180.00'	53.78'	S 67°34'03" W	53.58'
C55	16°37'35"	190.00'	55.14'	S 67°48'48" W	54.94'
C56	14°45'48"	160.00'	41.23'	N 68°44'41" E	41.11'
C57	2°21'17"	160.00'	6.58'	N 60°11'09" E	6.58'
C58	15°01'30"	180.00'	47.20'	S 68°36'50" W	47.07'
C59	2°05'35"	180.00'	6.58'	S 60°03'17" W	6.57'
C60	41°04'11"	65.00'	46.59'	S 38°28'24" W	45.60'
C61	90°00'00"	30.00'	47.12'	N 75°59'30" W	42.43'
C62	15°47'59"	146.72'	40.46'	S 87°48'03" E	40.33'
C63	13°20'54"	96.96'	22.59'	S 81°28'57" E	22.54'
C64	12°44'11"	157.51'	35.01'	S 78°59'30" E	34.94'
C65	96°20'44"	206.08'	346.53'	S 20°21'57" E	307.12'
C66	68°18'38"	51.01'	60.81'	S 61°57'44" W	57.27'
C67	30°01'19"	301.46'	157.96'	N 39°27'49" E	156.16'
C68	30°45'17"	295.26'	158.49'	N 07°01'23" E	156.59'
C69	13°41'04"	49.26'	11.77'	N 63°46'19" E	11.74'
C70	23°24'47"	51.19'	20.92'	N 68°58'09" E	20.77'
C71	14°33'45"	108.50'	27.58'	S 23°51'20" E	27.50'
C72	20°21'45"	138.50'	49.22'	S 41°19'05" E	48.96'
C73	33°13'59"	131.50'	76.27'	S 34°52'59" E	75.21'
C74	56°03'57"	78.50'	76.82'	S 45°46'33" E	73.79'
C75	61°11'31"	61.00'	65.15'	S 18°03'51" E	62.10'
C76	37°50'02"	109.00'	71.98'	S 29°44'36" E	70.68'
C77	39°41'58"	151.00'	104.63'	S 30°40'34" E	102.55'

EASEMENT LINE TABLE

LINE	BEARING	DISTANCE
L80	N 44°03'02" E	33.48'
L81	S 44°02'57" W	20.49'
L82	S 74°45'06" E	3.51'
L83	S 15°14'54" W	24.00'
L84	N 74°45'06" W	49.69'
L85	S 44°03'02" W	20.00'
L86	N 45°56'58" W	16.58'
L87	N 44°02'57" E	18.22'
L88	S 45°56'58" E	16.64'
L89	S 44°02'57" W	2.27'
L90	N 30°59'30" W	37.05'
L91	S 13°52'25" E	21.50'
L92	S 76°07'35" W	20.00'
L93	N 13°52'25" W	21.50'
L94	S 76°07'35" W	46.43'
L95	S 30°30'00" E	27.13'
L96	S 59°30'00" W	20.00'
L97	N 30°30'00" W	27.13'
L98	S 30°59'30" E	20.02'
L99	S 30°59'30" E	15.12'
L100	N 76°51'16" W	37.28'
L101	N 45°19'36" E	16.30'
L102	S 18°16'29" E	23.16'
L103	S 31°08'13" E	6.28'

FINAL PLAT
LOTS 1–3, BLOCK A
REC CAMPUS ADDITION

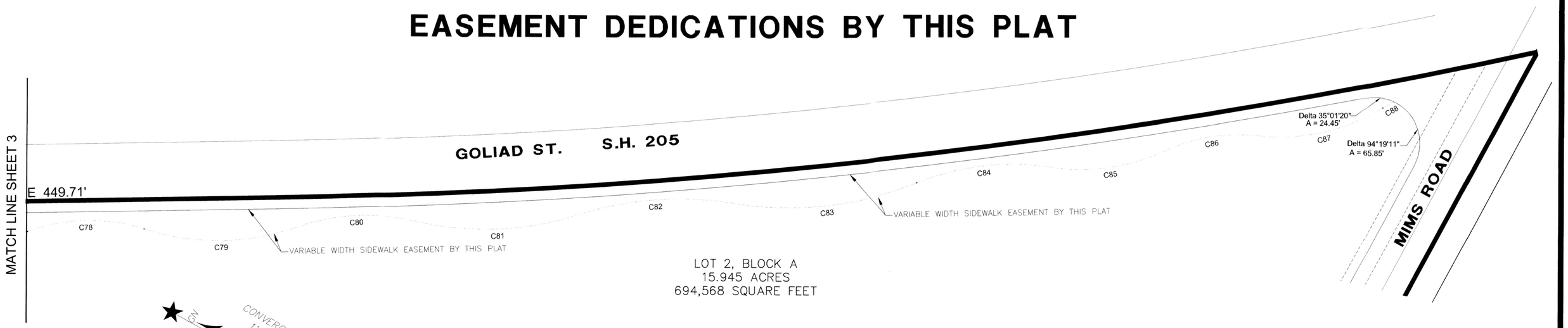
BEING 3 LOTS
84.796 ACRES OR 3,693,697 SF
SITUATED IN THE
WILLIAM H. BARNES SURVEY, ABSTRACT NO. 26,
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

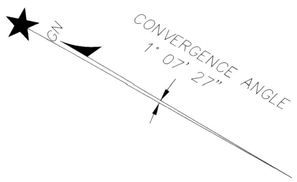
SURVEYOR:
r.delta ENGINEERS
618 Main Street
Garland, TX 75040
Ph. (972) 494-5031
Fax (972) 487-2270
www.rdelta.com
TBPE No. F-1515
TBPLS No. 10155000

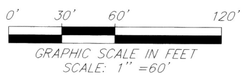
OWNER: Rayburn Country Electric Cooperative, Inc.
950 Sids Road
Rockwall, Texas 75032
TEL (469) 402-2100

CASE NO. P2023-018
RDE Proj. No. 3036-22

EASEMENT DEDICATIONS BY THIS PLAT

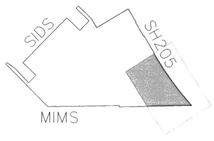






EASEMENT CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD LEN
C78	37°57'34"	159.00'	105.34'	S 31°32'46" E	103.42'
C79	36°41'12"	216.00'	138.31'	S 31°00'34" E	135.96'
C80	32°08'10"	189.00'	106.01'	S 33°13'46" E	104.62'
C81	30°48'48"	271.00'	145.74'	S 32°34'04" E	143.99'
C82	27°07'51"	294.00'	139.22'	S 34°24'33" E	137.92'
C83	31°00'52"	306.00'	165.64'	S 36°21'04" E	163.62'
C84	30°22'07"	229.00'	121.38'	S 36°40'26" E	119.96'
C85	33°32'48"	176.00'	103.05'	S 38°15'47" E	101.58'
C86	31°29'01"	154.00'	84.62'	S 39°17'40" E	83.56'
C87	38°36'18"	171.00'	115.22'	S 42°51'19" E	113.05'
C88	4°07'13"	154.00'	11.07'	S 60°05'51" E	11.07'



FINAL PLAT
LOTS 1–3, BLOCK A
REC CAMPUS ADDITION
BEING 3 LOTS
84.796 ACRES OR 3,693,697 SF
SITUATED IN THE
WILLIAM H. BARNES SURVEY, ABSTRACT NO. 26,
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

SURVEYOR:
r.delta ENGINEERS
618 Main Street
Garland, TX 75040
Ph. (972) 494-5031
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TBPE No. F-1515
TBPLS No. 10155000

OWNER: Rayburn Country Electric Cooperative, Inc.
950 Sids Road
Rockwall, Texas 75032
TEL (469) 402–2100

CASE NO. P2023–018
RDE Proj. No. 3036–22

OWNER'S CERTIFICATE

STATE OF TEXAS §
§
COUNTY OF ROCKWALL §

WHEREAS RAYBURN COUNTRY ELECTRIC COOPERATIVE, INC., being the owner of a tract of land in the County of Rockwall, State of Texas, said tract being a 84.796–acre tract of land situated within the City of Rockwall in the William N. Barnes Survey, Abstract No. 26 comprised of:

- Lot 6 and Lot 7, Block A, of the Replat of Rayburn Country Addition, Lots 4–7, Block A, according to the plat thereof recorded in Cabinet J, on Slide 342 of the Plat Records of Rockwall County, Texas (PRRCT) and also filed as Document Number 20180000008589 of the Official Public Records of Rockwall County, Texas (OPRRCT)
- Lot 8 and Lot 9, Block A, of the Replat of Rayburn Country Addition, Lot 8 and 9, Block A, according to the plat thereof recorded as Document Number 20190000004594 OPRRCT
- The remainder of a called 63.708–acre tract of land described in the deed dated the 13th day of September, 2021, from Peggy's Folly, LP to Rayburn Country Electric Cooperative, Inc. (RCEC) and recorded as Document Number 20210000024965 OPRRCT

And being more particularly described as follows:

BEGINNING at a 5/8–inch steel rod set with a pink plastic cap stamped "R–DELTA | FIRM 10155000" (hereafter RDS) to replace a called 5/8–inch iron rod with a yellow cap stamped "RPLS 3963" which has been destroyed, marking the west corner of Lot 9, Block A of the above referenced Rayburn Country Addition, said RDS being in the northeast boundary line of a 1.50–acre tract of land described in the deed to Richard E. Slaughter, Jr. as recorded in Volume 1531, at Page 145 of the DRRCT and being on the southeasterly right–of–way line of Sids Road as dedicated to the City of Rockwall on the Final Plat of Rayburn Country Addition, Lots 1–3, Block A, according to the plat thereof recorded in Cabinet I, on Slide 169 PRRCT and also filed as Document Number 20140000011313 OPRRCT, and having coordinates of:
X = 2,598,018.94 feet,
Y = 7,014,699.27 feet;

THENCE N 44°03'02" E with the southeast right–of–way line of Sids Road (a variable width right–of–way) for a distance of 1,166.39 feet to a RDS in the southwest line of Lot 1, Block 1 of Pott Shrigley Addition, an addition to the City Rockwall according to the plat thereof for the north corner of Lot 4, Block A of the above referenced Rayburn Country Addition, Lots 4–7, Block A;

THENCE with the perimeter of the last mentioned Lot 1, Block 1 of Pott Shrigley Addition, the following three (3) courses and distances:
S 46°15'45" E for a distance of 338.73 feet to a RDS;
N 44°02'35" E for a distance of 247.63 feet to a RDS;
N 46°09'17" W for a distance of 338.69 feet to a RDS for a west corner of Lot 6, Block A and being on the southeast right–of–way line of Sids Road as dedicated on the aforementioned Replat of Rayburn Country Addition, Lots 4–7, Block A;

THENCE N 44°03'02" E with the southeast right–of–way line of Sids Road for a distance of 59.41 feet to a RDS in the southwest line of Lot 1, Block 1, of Helwig Addition Replat, according to the plat thereof recorded in Cabinet D, on Slide 107 of the PRRCT;

THENCE with the perimeter of said Lot 1, Block 1, of Helwig Addition, the following three courses and distances:
1. S 46°15'31" E for a distance of 338.02 feet to a 1/2–inch steel rod found;
2. S 31°10'16" E for a distance of 199.44 feet to a RDS;
3. N 59°00'30" E at a distance of 350.31 feet pass the east corner of said Lot 1, Block 1, of Helwig Addition, to a point in a rock fence pillar for the south corner of Lot 1, Block "A", Estep Subdivision, an addition to the city of Rockwall, Texas, according to the plat thereof recorded in Cabinet E, on Slide 273 of the PRRCT, and continue on the same course with the southeast line of said Lot 1, Block "A", Estep Subdivision an additional distance of 337.42 feet for a total distance of 687.73 feet to a 1/2–inch steel rod found at the east corner of said Lot 1, Block "A", Estep Subdivision in the southwesterly right–of–way line of State Highway (SH) No. 205 (a/k/a Goliad Street) as described in the RIGHT OF WAY DEED dated the 3rd day of October, 1935, from A. L. Moody, the State of Texas filed in Volume 517, at Page 205 of the Deed Records of Rockwall County, Texas (DRRCT);

THENCE S 31°08'13" E 284.61 feet to a RDS;

THENCE S 58°51'47" W continuing with the southwesterly right–of–way line of SH No. 205 for a distance of 10.00 feet to a 3/8–inch steel rod found;

THENCE S 31°08'13" E continuing with the southwesterly right–of–way line of SH No. 205 at a distance of 205.57 feet pass a 5/8–inch steel rod with a yellow plastic cap found marked "RPLS 3963" marking the east corner of Lot 7, Block A of the aforementioned Replat of Rayburn Country Addition, Lots 4–7, Block A, and continuing on the same course and with the southwesterly right–of–way line of SH No. 205 for an additional distance of 92.37 feet to for a total distance of 297.94 feet to a 5/8–inch steel rod with a yellow plastic cap marked "RPLS 3963";

THENCE N 58°32'10" E continuing with the southwesterly right–of–way line of SH No. 205 for a distance of 10.00 to a 5/8–inch steel rod with a yellow plastic cap marked "RPLS 3963";

THENCE S 31°08'13" E continuing with the southwesterly right–of–way line of SH No. 205 at a distance of 447.62 feet pass a 5/8–inch steel rod with a yellow plastic cap marked "RPLS 3963", and continue on the same course an additional distance of 2.09 feet for a total distance of 449.71 feet to the point of curvature (hereafter P.C.) of a curve to the left having a radius of 5,779.71 feet, a central angle of 11°11'01" and a chord that bears S 36°43'43" E for a distance of 1,126.36 feet;

THENCE in a southeasterly direction with the arc of said curve for a distance of 1,128.15 feet to a point on the south margin of Sids Road (a variable width right–of–way) marking the east corner of the aforementioned 63.708–acre tract of land to RCEC;

THENCE S 88°36'23" W along and within Mims Road and with the south line of the said 63.708–acre tract of land to RCEC at a distance of 1.69 feet pass a 5/8–inch steel rod with a yellow plastic cap marked "RPLS 3963" found and continue on the same course an additional distance of 1,352.06 feet for a total distance of 1,353.75 feet;

THENCE S 89°33'39" W continuing in the southerly margin of Mims Road and with the south line of the said 63.708–acre tract of land to RCEC for a distance of 6.66 feet to the point where said line intersects the east line a 141.3576–acre tract of land designated as Tract 3 in the deed dated November 21, 2000, from Victor Manson Wallace to VICMAR I, LTD. recorded in Volume 2016, at Page 200 of the DRRCT;

THENCE N 00°38'52" W with the east line of said VICMAR I, LTD. tract for a distance of 24.56 feet to the northeast corner thereof;

THENCE S 88°49'03" W along a line in the southerly margin of Mims Road for a distance of 1,210.53 feet to a 5/8–inch steel rod found with a cap stamped "TNP" (hereafter TNP) for the most easterly corner of a 15.053–acre tract of land described in the deed dated the 2nd day of February, 2003, from Rayburn Country Electric Cooperative, Inc. to The City of Rockwall as recorded in Instrument No. 20230000001492 in the OPRRCT, said TNP marking the beginning of a curve concave to the northeast, having a radius of 482.50 feet, a central angle of 36°44'03" and a chord that bears N 61°47'11"W for a distance of 304.08 feet;

THENCE in a northwesterly direction with said 15.053–acre tract and the arc of said curve 309.35 feet to a TNP set for the point of tangency of said curve;

THENCE N 43°25'10" W with said 15.053–acre tract for a distance of 767.40 feet to a TNP set;

THENCE N 46°36'51" W with said 15.053–acre tract for a distance of 144.18 feet to a TNP set on the accepted southeasterly line of a tract of land described in the deed dated June 28, 1995, from Raymond B. Cameron and wife, Elizabeth R. Cameron to the City of Rockwall recorded in Volume 1064, at Page 112 of the DRRCT;

THENCE N 44°06'51" E for a distance of 21.42 feet;

THENCE S 50°58'40" E for a distance of 197.86 feet to a point on the southwesterly line of a 1.50–acre tract of land described in the deed dated the 22nd day of December, 1998, from Edrich Development to Richard E. Slaughter, Jr. recorded in Volume 1531, at Page 145 of the DRRCT;

THENCE with the perimeter of the 1.5–acre tract to Richard E. Slaughter the following three (3) courses and distances:
1. S 43°15'37" E for a distance of 353.17 feet to an "X" found for its south corner;
2. N 42°24'17" E for a distance of 96.84 feet to a RDS for the west corner of the aforementioned Lot 9, Block A of the Replat of Rayburn Country Addition, Lot 8 and 9;
3. N 44°27'12" E for a distance of 99.73 feet to a RDS for the east corner of said Slaughter tract;

THENCE N 46°14'22" W continuing with the northeasterly line of the 1.5–acre tract to Richard E. Slaughter for a distance of 338.24 feet to the POINT OF BEGINNING and containing 3,693,697 square feet or 84.796 acres of land.

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

STATE OF TEXAS §
§
COUNTY OF ROCKWALL §

I the undersigned owner of the land shown on this plat, and designated herein as the REC CAMPUS ADDITION, an addition to the City of Rockwall, Texas, and whose name is subscribed hereto, hereby dedicate to the use of the public forever all streets, alleys, parks, water courses, drains, easements and public places thereon shown on the purpose and consideration therein expressed. I further certify that all other parties who have a mortgage or lien interest in the REC CAMPUS ADDITION, an addition to the City of Rockwall, Texas, have been notified and signed this plat. I understand and do hereby reserve the easement strips shown on this plat for the purposes stated and for the mutual use and accommodation of all utilities desiring to use or using same. I also understand the following;

1. No buildings shall be constructed or placed upon, over, or across the off–site and on–site utility easements as described herein.

2. Any public utility shall have the right to removed and keep removed all or part of any buildings, fences, trees, shrubs, or other growths or improvements which in any way endanger or interfere with construction, maintenance or efficiency to their respective system on any of these easement strips; any and all public utility shall at all times have the right of ingress or egress to, from and upon the said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and adding to or removing all or part of their respective system without the necessity of, at any time, procuring the permission of anyone.

3. The City of Rockwall will not be responsible for any claims of any nature resulting from or occasioned by the establishment of grade of streets in the subdivision.

4. The developer/property owner and subdivision engineer shall bear total responsibility for storm drain improvements.

5. The developer/property owner shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area are not adversely affected by storm drainage from the development. The property owner shall be responsible for maintenance of detention ponds and easements.

6. No house dwelling unit, or other structure shall be constructed on any lot in this addition by the owner or any other person until the developer and/or owner has complied with all requirements of the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which property abuts, including the actual installation of streets with the required base and paving, curb and gutter, water and sewer, drainage structures, storm structures, storm sewers, and alleys, all according to the specifications of the City of Rockwall; or

Until an escrow deposit, sufficient to pay for the cost of such improvements, as determined by the city's engineer and/or city administrator, computed on a private commercial rate basis, has been made with the city secretary, accompanied by an agreement signed by the developer and/or owner, authorizing the city to make such improvements at prevailing private commercial rates, or have the same made by a contractor and pay for the same out of the escrow deposit, should the developer and/or owner fail or refuse to install the required improvements within the time stated in such written agreement, but in no case shall the City be obligated to make such improvements itself. Such deposit may be used by the owner and/or developer as progress payments as the work progresses in making such improvements by making certified requisitions to the city secretary, supported by evidence of work done; or

Until the developer and/or owner files a corporate surety bond with the city secretary in a sum equal to the cost of such improvements for the designated area, guaranteeing the installation thereof within the time stated in the bond, which time shall be fixed by the city council of the City of Rockwall.

I further acknowledge that the dedications and/or exaction's made herein are proportional to the impact of the Subdivision upon the public services required in order that the development will comport with the present and future growth needs of the City; I, my successors and assigns hereby waive any claim, damage, or cause of action that I may have as a result of the dedication of exactions made herein.

Rayburn Country Electric Cooperative, Inc.
Stephen Geiger,

STATE OF TEXAS §
§
COUNTY OF ROCKWALL §

Before me, the undersigned authority, on this day personally appeared Stephen Geiger, 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 consideration therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 25 day of March, 2025.

Notary Public for and in the State of Texas

My commission expires: 9.1.26

PAMELA BUIE
Notary Public, State of Texas
Comm. Expires 09-01-2026
Notary ID 133943018

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §
§
COUNTY OF DALLAS §

THAT I, Wayne C. Terry, do hereby certify that I prepared this plat from an actual and accurate survey of the land, and that the corner monuments shown thereon were properly placed under my personal supervision.

Wayne C. Terry
Registered Professional Land Surveyor
Registration No. 4184

STATE OF TEXAS §
REGISTERED
WAYNE C. TERRY
4184
PROFESSIONAL
LAND SURVEYOR

STATE OF TEXAS §
§
COUNTY OF DALLAS §

Before me, the undersigned authority, on this day personally appeared Wayne C. Terry, 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 consideration therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 25 day of March, 2025.

Blaine Cantrell

Notary Public for and in the State of Texas

My commission expires: 8/12/2028

STATE OF TEXAS §
§
COUNTY OF ROCKWALL §

BLAINE CANTRELL
Notary Public, State of Texas
Comm. Expires 08-12-2028
Notary ID 135036841

APPROVED:
I hereby certify that the above and foregoing subdivision plat being an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall, Texas on the 17 day of March, 2025.

Mayor of the City of Rockwall

CITY OF ROCKWALL TEXAS

Planning and Zoning Commission Chairman

City Secretary

City Engineer

THE STATE OF TEXAS
COUNTY OF ROCKWALL
I hereby certify that this instrument was FILED on the date and the time stamped hereon by me and was duly RECORDED in the Records of Rockwall County, Texas.
20250000007337 PLAT
04/29/2025 11:08:34 AM Total Fees: $245.00
COPY
Jennifer Fogg, County Clerk
Rockwall County, TX

FINAL PLAT
LOTS 1–3, BLOCK A
REC CAMPUS ADDITION
BEING 3 LOTS
84.796 ACRES OR 3,693,697 SF
SITUATED IN THE
WILLIAM H. BARNES SURVEY, ABSTRACT NO. 26,
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

SURVEYOR:
r.delta ENGINEERS
618 Main Street
Garland, TX 75040
Ph. (972) 494-5031
Fax (972) 487-2270
www.rdelta.com
TBPE No. F-1515
TBPLS No. 10155000

OWNER: Rayburn Country Electric Cooperative, Inc.
950 Sids Road
Rockwall, Texas 75032
TEL (469) 402–2100

CASE NO. P2023–018
RDE Proj. No. 3036–22

R0145

PROJECT CONTROL

RC104
MAG NAIL IN THE ASPHALT PAVEMENT OF SIDS ROAD APPROXIMATELY FOUR FEET NORTHWEST OF THE NORTH CORNER OF THE NORTHERLY DRIVE APPROACH TO THE RAYBURN HEADQUARTERS FACILITY
X = 2,598,820.82 FEET
Y = 7,015,546.06 FEET
ELEV. = 539.83 FEET

RC213
X SET ON THE EAST CORNER OF A CURB INLET ON THE SOUTHEASTERLY SECTION OF THE LOOP ROAD AROUND THE RAYBURN HEADQUARTERS FACILITY AND NORTH OF THE DUMPSTER ENCLOSURE AND BEING S. 71-1/4° W. APPROXIMATELY 96 FEET FROM THE EAST CORNER OF EXISTING BUILDING C
X = 2,598,878.97 FEET
Y = 7,014,980.81 FEET
ELEV. = 531.48 FEET

RC216
60D NAIL ON THE WESTERLY EDGE OF A DRIVEWAY CURVE APPROXIMATELY 43 FEET SOUTHWEST OF THE NORTHEASTERLY PERIMETER FENCE AND APPROXIMATELY SOUTH 80-1/2° EAST OF THE EAST CORNER OF AN ENCLOSURE FENCE ON THE EAST SIDE OF THE NORTHERLY BUILDING COMPLEX AND FROM WHICH THE SOUTH STEEL FENCE CORNER OF THE ENCLOSURE FENCE IS S. 76-1/4° E. APPROXIMATELY 88 FEET
X = 2,598,988.99 FEET
Y = 7,015,324.45 FEET
ELEV. = 542.36 FEET

RC320
X SET ON A CONCRETE HEADWALL ON THE SOUTHWESTERLY SIDE OF S. GOLIAD STREET (STATE HIGHWAY NO. 205) APPROXIMATELY 700 FEET SOUTHEAST OF ITS INTERSECTION WITH SIDS ROAD AND A STONE FENCE CORNER POST FOR A WROUGHT IRON FENCE BEARS S. 13° E. APPROXIMATELY 55 FEET
X = 2,599,965.94 FEET
Y = 7,015,763.88 FEET
ELEV. = 542.36 FEET

RC403
X SET ON THE WEST CORNER OF THE TOP OF THE FIRST Y-INLET NORTHEAST OF THE MAIN ENTRANCE TO THE RAYBURN CAMPUS ON THE SOUTHEASTERLY SIDE OF SIDS ROAD APPROXIMATELY TWENTY-FIVE FEET NORTHWEST OF THE RAYBURN WROUGHT IRON PERIMETER FENCE AT A POINT THAT IS APPROXIMATELY 1,490 FEET SOUTHWEST OF THE INTERSECTION OF SIDS ROAD WITH S. GOLIAD STREET (STATE HIGHWAY NO. 205) AND MEASURING S. 77° W. APPROXIMATELY 49 FROM THE NORTH CORNER OF RAYBURN WROUGHT IRON PERIMETER FENCE
X = 2,598,555.01 FEET
Y = 7,015,261.82 FEET
ELEV. = 533.15 FEET

RC405
X SET ON THE WEST CORNER OF A HEADWALL FOR A CULVERT SITUATED APPROXIMATELY 35 FEET SOUTHWEST OF THE SOUTHWEST ENTRANCE TO THE RAYBURN HEADQUARTERS CAMPUS AND IN THE OPEN DITCH ON THE SOUTHEASTERLY SIDE OF SIDS ROAD APPROXIMATELY 1,920 FEET SOUTHWEST OF THE INTERSECTION OF SIDS ROAD WITH S. GOLIAD STREET (STATE HIGHWAY NO. 205) AND N. 44-1/4° E. AT APPROXIMATELY 347 FEET FROM THE WEST CORNER OF THE RAYBURN WROUGHT IRON PERIMETER FENCE AND APPROXIMATELY 23 FEET NORTHWEST OF THAT FENCE

X = 2,598,258.66 FEET
Y = 7,014,949.91 FEET
ELEV. = 523.66 FEET

RC406
X SET ON THE WEST CORNER OF THE TOP OF A Y-INLET AT THE WESTERLY OR SOUTHWESTERLY END OF THE CONCRETE FLUME SYSTEM AT ITS DISCHARGE POINT WEST OF THE MAIN RAYBURN HEADQUARTERS CAMPUS
X = 2,598,383.81 FEET
Y = 7,014,687.00 FEET
ELEV. = 520.13 FEET

RC409
X SET ON THE TOP OF A CONCRETE CURB ON THE SOUTH SIDE OF THE SOUTHERLY PERIMETER ROAD FROM WHICH THE SOUTH STEEL FENCE CORNER POST OF A CHAIN LINK FENCE ON THE SOUTH LAWN OF EXISTING BUILDING B BEARS N. 78-1/2° W. APPROXIMATELY 103 FEET AND THE SOUTH CORNER OF EXISTING BUILDING C BEARS N. 07-1/4° E. APPROXIMATELY 50 FEET
X = 2,598,815.58 FEET
Y = 7,014,716.20 FEET
ELEV. = 528.21 FEET

LEGEND

EXISTING LIMIT OF TREE LINE/DENSE VEGETATION

XX" RCP — EXISTING CONCRETE PIPE & SIZE

530 — EXISTING CONTOUR SURFACE ELEVATION MAJOR

531 — EXISTING CONTOUR SURFACE ELEVATION MINOR

EXISTING CHAIN LINK FENCE

EXISTING WROUGHT IRON FENCE

PP — EXISTING POWER POLE

OHE — EXISTING OVERHEAD ELECTRIC

EXISTING GUY WIRE

EXISTING SIGN

PROPOSED WROUGHT IRON FENCE/GATE

530 — PROPOSED CONTOUR SURFACE ELEVATION MAJOR

531 — PROPOSED CONTOUR SURFACE ELEVATION MINOR

PROJECT NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRENCH AND EXCAVATION SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY AND COUNTY STANDARDS, TEXAS LAW, AND O.S.H.A. STANDARDS FOR ALL EXCAVATION IN EXCESS OF FIVE FEET IN DEPTH.

2. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT. ALL MANHOLES, CLEAN-OUTS, VALVE BOXES, FIRE HYDRANTS, ETC. MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE CONTRACTOR AS NECESSARY PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING CONSTRUCTION OF THE PAVING FOR THIS PROJECT.

4. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HRS. PRIOR TO ANY EXCAVATION TO FACILITATE UNDERGROUND DAMAGE PREVENTION: TEXAS 811 (OR 800-344-8377).

5. ALL RADII ARE TO EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

6. SITE AND ACCESS DRIVE PREPARATION SHALL INCLUDE THE REMOVAL OF ALL EXISTING VEGETATION, TOPSOIL, AND OTHER EXISTING ELEMENTS AS REQUIRED. AREAS TO RECEIVE FILL OR PAVING SHALL BE STRIPPED TO A MINIMUM DEPTH OF THREE (3) INCHES AND GRUBBED TO REMOVE VEGETATION AND ORGANIC MATTER. STRIPPING, GRUBBING, AND SUBGRADE PREPARATION FOR PAVING AREAS SHALL EXTEND TO 5 FEET BEYOND THE PAVING LIMITS. STRIPPED VEGETATION AND ORGANIC MATTER MAY BE REUSED IN AREAS OUTSIDE OF PAVING AREAS THAT REQUIRE THE ADDITION OF TOPSOIL IF THESE MATERIALS MEET THE TOPSOIL SPECIFICATION.

   THE CONTRACTOR SHALL THEN EXCAVATE TO THE PROPOSED GRADE/SUBGRADE AS NECESSARY. PRIOR TO THE PLACEMENT OF ANY STRUCTURAL FILL, THE EXPOSED SUBGRADE SHOULD BE EXAMINED BY BY THE GEOTECHNICAL ENGINEER OR AUTHORIZED REPRESENTATIVE. THE EXPOSED SUBGRADE SHOULD BE THOROUGHLY PROOFROLLED WITH PREVIOUSLY APPROVED CONSTRUCTION EQUIPMENT HAVING A MINIMUM AXLE LOAD OF 20 TONS (E.G. FULLY LOADED TANDEM-AXLE DUMP TRUCK) TO IDENTIFY ANY SOFT, UNSUITABLE, OR OTHER LOCALIZED YIELDING MATERIALS. THE AREAS SUBJECT TO PROOFROLLING SHOULD BE TRAVERSED BY THE EQUIPMENT IN TWO PERPENDICULAR (ORTHOGONAL) WITH OVERLAPPING PASSES OF THE OF THE VEHICLE UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER OR AUTHORIZED REPRESENTATIVE. ANY UNSTABLE OR "PUMPING" SUBGRADE AREAS IDENTIFIED BY THE PROOFROLLING SHOULD BE MARKED FOR REPAIR PRIOR TO PLACEMENT OF ANY SUBSEQUENT FILL OR OTHER CONSTRUCTION MATERIALS. METHODS OF STABILIZING "PUMPING" AREAS MAY INCLUDE UNDERCUTTING, MOISTURE CONDITIONING, OR CHEMICAL STABILIZATION AND SHOULD BE DISCUSSED WITH THE GEOTECHNICAL ENGINEER TO DETERMINE THE APPROPRIATE PROCEDURE. EXCAVATED AREAS SHOULD BE BACKFILLED WITH SUITABLE, PROPERLY PLACED AND COMPACTED FILL IN ACCORDANCE WITH THE FILL SPECIFICATIONS HEREIN.

   SUITABLE AREAS TO RECEIVE FILL OR FLEXIBLE BASE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF SIX (6) INCHES AND UNIFORMLY COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D 698) WITH A MINIMUM MOISTURE CONTENT AT OR ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THAT TEST. ALL FILLS SHOULD BE BENCHED INTO THE EXISTING SOILS.

   ON-SITE SOILS FREE OF VEGETATION, DEBRIS, AND ROCKS NO GREATER THAN TWO (2) INCHES IN MAXIMUM DIMENSION ARE GENERALLY SUITABLE FOR SITE GRADING OPERATIONS. IMPORTED FILL MATERIALS, IF USED, SHALL BE CLEAN, SOIL BORROW FOR BACKFILLING AND SITE GRADING AND SHALL BE EARTHEN COHESIVE SOIL MATERIALS CONFORMING TO THE PROJECT SPECIFICATIONS WITH A PLASTICITY INDEX (PI) NO GREATER THAN 40 WITH NO ROCK GREATER THAN FOUR (4) INCHES IN MAXIMUM DIMENSION.

   THE SOILS SHALL BE SPREAD ON PREVIOUSLY SCARIFIED AND COMPACTED GROUND IN LOOSE LIFTS LESS THAN EIGHT (8) INCHES THICK FOR MASS GRADING OPERATIONS AND LESS THAN FOUR (4) INCHES THICK FOR TRENCH TYPE EXCAVATIONS WHERE WALK BEHIND OR "JUMPING JACK" COMPACTION EQUIPMENT IS USED AND UNIFORMLY COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D698) WITH A MOISTURE CONTENT AT OR ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THAT TEST. UPON COMPLETION OF FILLING OPERATIONS, CARE SHOULD BE TAKEN TO MAINTAIN THE SOIL MOISTURE CONTENT AS NECESSARY PRIOR TO CONSTRUCTION OF SWITCHYARD AND SUBSTATION FOUNDATIONS. IF FILL OPERATIONS ARE SUSPENDED AND THE SURFACE OF THE PREVIOUSLY PLACED MATERIAL BECOMES DESICCATED OR RUTTED, THE SURFACE SHALL BE REWORKED AND RETESTED AS REQUIRED PRIOR TO PLACEMENT OF A SUBSEQUENT LIFT. FIELD DENSITY AND MOISTURE TESTS SHOULD BE PERFORMED ON EACH LIFT AS NECESSARY TO VERIFY THAT ADEQUATE COMPACTION IS ACHIEVED. A MINIMUM OF ONE TEST PER 2,500 SQUARE FEET PER LIFT IS REQUIRED. UTILITY TRENCH BACKFILL SHOULD BE TESTED AT A RATE OF ONE TEST PER LIFT PER EACH 150 LINEAR FEET OF TRENCH (TWO TESTS MINIMUM PER LIFT).

   ACCESS DRIVE SUBGRADE AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF SIX (6) INCHES AND UNIFORMLY COMPACTED TO A MINIMUM DEPTH OF 6 INCHES TO A MINIMUM OF NINETY-FIVE PERCENT (95%) MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D698) WITH A MOISTURE CONTENT AT OR ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THAT TEST. AS SPECIFIED IN THE BELOW REFERENCED GEOTECHNICAL REPORT, 6 INCHES COMPACTED DEPTH OF LIME STABILIZED SOIL (8% HYDRATED LIME AT 36 LBS/SY) IS RECOMMENDED FOR STANDARD DUTY PAVEMENT AREAS. THERE IS AN OPTION TO REPLACE THE LIME STABILIZED SUBGRADE WITH 6 INCHES OF COMPACTED SOIL SUBGRADE AND TO INCREASE THE CONCRETE PAVEMENT THICKNESS BY ONE HALF INCH TO EACH OF THE PAVEMENT THICKNESSES IN THE PLANS. IF LIME STABILIZATION IS CONSIDERED, THE SUBGRADE SOILS SHOULD BE EVALUATED FOR SOLUBLE SULFATE CONCENTRATIONS TO EVALUATE THE SUITABILITY OF SOILS FOR LIME STABILIZATION.

   FLEXIBLE BASE SURFACING MEETING THE REQUIREMENTS OF TxDOT ITEM 247 TYPE A GRADE 1-2 (WET BALL MILL MAX. = 25%) SHALL BE UNIFORMLY COMPACTED TO A MINIMUM DEPTH OF SIX (6) INCHES TO A MINIMUM OF NINETY-FIVE (95) PERCENT MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D698) WITH A MOISTURE CONTENT AT OR ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THAT TEST.

   ALL DRAINAGE AND UTILITY TRENCH EXCAVATION BACKFILL ABOVE PIPE EMBEDMENT MATERIAL SHALL MEET THE ABOVE COMPACTION SPECIFICATIONS FOR FILL MATERIALS. THE UPPER LAYER OF ALL TRENCHES IN THE BUILDING F YARD AND REPAIRS TO ACCESS DRIVES, IF NECESSARY, SHALL BE BACKFILLED WITH FLEXIBLE BASE SURFACING MEETING THE REQUIREMENTS OF TXDOT ITEM 247 TYPE A GRADE 1-2 (WET BALL MILL MAX. = 25%). COMPACTION SPECIFICATIONS SHALL BE AS NOTED ABOVE FOR FLEXIBLE BASE SURFACING.

7. EXISTING VEGETATION SHALL BE UNDISTURBED, WHENEVER POSSIBLE, THROUGHOUT THE REMAINDER OF THE SITE NOT AFFECTED BY THE INSTALLATION OF THE APPROVED FACILITIES. ALL AREAS DISTURBED OUTSIDE OF THE YARD SURFACING AND DRIVEWAY PAVING AREAS BY CONTRACTOR'S OPERATIONS SHALL BE STABILIZED BY BROADCAST SEEDING AND FERTILIZER OVER 4" OF TOP SOIL UPON COMPLETION OF GRADING OPERATIONS. CONTRACTOR SHALL PROVIDE WATER AS NECESSARY TO ESTABLISH PERMANENT VEGETATION IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

8. CONCRETE PAVING SHALL HAVE A CONSTRUCTION JOINT OR SAWED CONTROL JOINT EVERY FIFTEEN (15) FEET TRANSVERSELY AND LONGITUDINALLY WITH EXPANSION JOINTS AT INTERSECTIONS, BEGINNING AND ENDING OF HORIZONTAL CURVES, AND AT MAXIMUM TWO HUNDRED (200) FEET SPACING. JOINTS SHALL INTERSECT ALL PAVEMENT EDGES AT NINETY (90) DEGREES INCLUDING RADIUS RETURNS. WHEN INTERSECTING RADIUS RETURNS, THE MINIMUM PERPENDICULAR DISTANCE INTO THE RETURN SHALL BE ONE AND A HALF (1.5) FEET.

9. THE PAVING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO INSURE ALL UNDERGROUND CONSTRUCTION IS COMPLETE PRIOR TO SUBGRADE PREPARATION.

10. REFER TO PROJECT GEOTECHNICAL SPECIFICATIONS IN ECS SOUTHWEST, LLP GEOTECHNICAL ENGINEERING REPORT FOR PROJECT NO. 19: 8878 TITLED "REC CAMPUS EXPANSION, 950 SIDS ROAD, ROCKWALL, TEXAS" DATED OCTOBER 4, 2022 FOR SITE PREPARATION, EXCAVATION, FILL COMPACTION, TESTING REQUIREMENTS, ETC. REFER TO "ADDENDUM 1" TO THIS GEOTECHNICAL ENGINEERING REPORT DATED OCTOBER 5, 2022 FOR SITE RETAINING WALL DESIGN PARAMETERS AND "ADDENDUM 2" TO THIS GEOTECHNICAL ENGINEERING REPORT DATED JANUARY 24, 2023 FOR DESIGN AND CONSTRUCTION RECOMMENDATIONS FOR THE RETENTION POND. THESE DOCUMENTS SHALL BECOME A PART OF THESE PLANS AND SPECIFICATIONS. REFER TO SHEET C13.1-P2 TYPICAL PAVING SECTIONS FOR SPECIFIC PAVING AND SUBGRADE MATERIALS AND THICKNESSES FOR THIS PROJECT.

11. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RECORD DRAWING

NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION. TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
LEGEND, PROJECT CONTROL & NOTES

CASE# E2023-042

SHEET NO.
C1.1-P2

GENERAL ITEMS

1. All construction shall conform to the requirements set forth in the City of Rockwall's Engineering Department's "Standards of Design and Construction" and the "Standard Specifications for Public Works Construction" by the North Texas Central Council of Governments, 5th edition amended by the City of Rockwall. The CONTRACTOR shall reference the latest City of Rockwall standard details provided in the Rockwall Engineering Departments "Standards of Design and Construction" manual for details not provided in these plans. The CONTRACTOR shall possess one set of the NCTCOG Standard Specifications and Details and the City of Rockwall's "Standards of Design and Construction" manual on the project site at all times
2. Where any conflicting notes, details or specifications occur in the plans the City of Rockwall General Construction Notes, Standards, Details and Specifications shall govern unless detail or specification is more strict.
3. The City of Rockwall Engineering Departments "Standards of Design and Construction" can be found online at: http://www.rockwall.com/engr.asp
4. All communication between the City and the CONTRACTOR shall be through the Engineering Construction Inspector and City Engineer or designated representative only. It is the responsibility of the CONTRACTOR to contact the appropriate department for inspections that do not fall under this approved engineering plan set.
5. Prior to construction, CONTRACTOR shall have in their possession all necessary permits, plans, licenses, etc.
6. The CONTRACTOR shall have at least one original stamped and signed set of approved engineering plans and specifications on-site and in their possession at all times. A stop work order will be issued if items are not on-site. Copies of the approved plans will not be substituted for the required original "approved plans to be on-site".
7. All material submittals, concrete batch designs and shop drawings required for City review and approval shall be submitted by the CONTRACTOR to the City sufficiently in advance of scheduled construction to allow no less than 10 business days for review and response by the City.
8. All site dimensions are referenced to the face of curb or edge of pavement unless otherwise noted.
9. The City requires ten (10%) percent-two (2) year maintenance bond for paving, paving improvements, water systems, wastewater systems, storm sewer systems including detention systems, and associated fixtures and structures which are located within the right-of-ways or defined easements. The two (2) year maintenance bond is to state "from date of City acceptance" as the starting time.
10. A review of the site shall be conducted at twenty (20) months into the two (2) year maintenance period. The design engineer or their designated representative and the CONTRACTOR shall be present to walk the site with the City of Rockwall Engineering Inspection personnel.

EROSION CONTROL & VEGETATION

1. The CONTRACTOR or developer shall be responsible, as the entity exercising operational control, for all permitting as required by the Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ). This includes, but is not limited to, preparation of the Storm Water Pollution Prevention Plan (SWPPP), the Construction Site Notice (CSN), the Notice of Intent (NOI), the Notice of Termination (NOT) and any Notice of Change (NOC) and is required to pay all associated fees
2. Erosion control devices as shown on the erosion control plan for the project shall be installed prior to the start of land disturbing activities.
3. All erosion control devices are to be installed in accordance with the approved plans, specifications and Storm Water Pollution Prevention Plan (SWPPP) for the project. Erosion control devices shall be placed and in working order prior to start of construction. Changes are to be reviewed and approved by the design engineer and the City of Rockwall prior to implementation.
4. If the Erosion Control Plans and Storm Water Pollution Prevention Plan (SWPPP) as approved cannot appropriately control erosion and off-site sedimentation from the project, the erosion control plan and/or the SWPPP is required to be revised and any changes reported to the Texas Commission on Environmental Quality (TCEQ), when applicable.
5. All erosion control devices shall be inspected weekly by the CONTRACTOR and after all major rain events, or more frequently as dictated in the project Storm Water Pollution Prevention Plan (SWPPP). CONTRACTOR shall provide copies of inspection's reports to the engineering inspection after each inspection.
6. The CONTRACTOR shall not dispose of waste and any materials into streams, waterways or floodplains. The CONTRACTOR shall secure all excavation at the end of each day and dispose of all excess materials.
7. CONTRACTOR shall take all available precautions to control dust. CONTRACTOR shall control dust by sprinkling water or other means as approved by the City Engineer.
8. CONTRACTOR shall establish grass and maintain the seeded area, including watering, until a "Permanent Stand of Grass" is obtained at which time the project will be accepted by the City. A "Stand of Grass" (not winter rye or weeds) shall consist of 75% to 80% coverage of all disturbed areas and a minimum of one-inch (1") in height as determined by the City. No bare spots will be allowed. Re-seeding will be required in all washed areas and areas that don't grow.
9. All City right-of-ways shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.
10. All adjacent streets/alleys shall be kept clean at all times
11. CONTRACTOR shall keep construction site clean at all times, immediately contain all debris and trash, all debris and trash shall be removed at the end of each work day, and all vegetation on the construction site 10-inches or taller in height must be cut immediately.
12. Suspension of all construction activities for the project will be enforced by the City if any erosion control requirements are not meet. Work may commence after deficiency has been rectified.
13. During construction of the project, all soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The CONTRACTOR is responsible for the temporary protection and permanent stabilization of all soil stockpiles on-site as well as borrow areas and soil intentionally transported from the project site.
14. Where construction vehicles access routes intersect paved or public roads/alleys, construction entrances shall be installed to minimize the transport of sediment by vehicular tracking onto paved surfaces. Where sediment is transferred onto paved or public surfaces, the surface shall be immediately cleaned. Sediment shall be removed from the surface by shoveling or sweeping and transported to a sediment disposal area. Pavement washing shall be allowed only after sediment is removed in this manner.
15. All drainage inlets shall be protected from siltation, ineffective or unmaintained protection devices shall be immediately replaced and the inlet and storm system cleaned. Flushing is not an acceptable method of cleaning.
16. During all dewatering operations, water shall be pumped into an approved filtering device prior to discharge into a receiving outlet.

TRAFFIC CONTROL

1. All new Detouring or Traffic Control Plans are required to be submitted to the City for review and approval a minimum of 21 calendar days prior to planned day of implementation.
2. When the normal function of the roadway is suspended through closure of any portion of the right-of-way, temporary construction work zone traffic control devices shall be installed to effectively guide the motoring public through the area. Consideration for road user safety, worker safety, and the efficiency of road user flow is an integral element of every traffic control zone.
3. All traffic control plans shall be prepared and submitted to the Engineering Department in accordance with the standards identified in Part VI of the most recent edition of the TMUTCD. Lane closures will not occur on roadways without an approval from the Rockwall Engineering Department and an approved traffic control plan. Traffic control plans shall be required on all roadways as determined by the City Engineer or the designated representative.
4. All traffic control plans must be prepared, signed, and sealed by an individual that is licensed as a professional engineer in the State of Texas. All traffic control plans and copies of work zone certification must be submitted for review and approval a minimum of three (3) weeks prior to the anticipated temporary traffic control.
5. The CONTRACTOR executing the traffic control plan shall notify all affected property owners two (2) weeks prior to any the closures in writing and verbally.
6. Any deviation from an approved traffic control plan must be reviewed by the City Engineer or the designated representative. If an approved traffic control plan is not adhered to, the CONTRACTOR will first receive a verbal warning and be required to correct the problem immediately. If the deviation is not corrected, all construction work will be suspended, the lane closure will be removed, and the roadway opened to traffic.
7. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time at the end of the workday, all temporary traffic control devices that are no longer appropriate shall be removed or covered. The first violation of this provision will result in a verbal warning to the construction foreman. Subsequent violations will result in suspension of all work at the job site for a minimum of 48 hours. All contractors working on City funded projects will be charged one working day for each 24 hour closure.
8. Lane closures on any major or minor arterial will not be permitted between the hours of 6:00 am to 9:00 am and 3:30 pm to 7:00 pm. Where lane closures are needed in a school area, they will not be permitted during peak hours of 7:00 am – 9:00 am and 3:00 pm to 5:00 pm. Closures may be adjusted according to the actual start-finish times of the actual school with approval by the City Engineer. The first violation of this provision will result in a verbal warning to the construction foreman. Subsequent violations will result in suspension of all work at the job site for a minimum of 48 hours. All contractors working on City funded projects will be charged one working day for each 24 hour closure of a roadway whether they are working or not.
9. No traffic signs shall be taken down without permission from the City.
10. No street/roadway will be allowed to be fully closed.

UTILITY LINE LOCATES

1. It is the CONTRACTOR's responsibility to notify utility companies to arrange for utility locates at least 48 hours prior to beginning construction. The completeness and accuracy of the utility data shown on the plans is not guaranteed by the design engineer or the City. The CONTRACTOR is responsible for verifying the depth and location of existing underground utilities proper to excavating, trenching, or drilling and shall be required to take any precautionary measures to protect all lines shown and .or any other underground utilities not on record or not shown on the plans.
2. The CONTRACTOR shall be responsible for damages to utilities
3. CONTRACTOR shall adjust all City of Rockwall utilities to the final grades.
4. All utilities shall be placed underground.
5. CONTRACTOR shall be responsible for the protection of all existing main lines and service lines crossed or exposed by construction operations. Where existing mains or service lines are cut, broken or damaged, the CONTRACTOR shall immediately make repairs to or replace the entire service line with same type of original construction or better. The City of Rockwall can and will intervene to restore service if deemed necessary and charge the CONTRACTOR for labor, equipment, material and loss of water if repairs aren't made in a timely manner by the CONTRACTOR.
6. The City of Rockwall (City utilities) is not part of the Dig Tess or Texas one Call – 811 – line locate system. All City of Rockwall utility line locates are to be scheduled with the City of Rockwall Service Center. 972-771-7730. A 48-hour advance notice is required for all non-emergency line locates.
7. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
   a. No more than 500 linear feet of trench may be opened at one time.
   b. Material used for backfilling trenches shall be properly compacted to 95% standard density in order to minimize erosion, settlement, and promote stabilization that the geotechnical engineer recommends.
   c. Applicable safety regulations shall be complied with.
11. This plan details pipes up to 5 feet from the building. Refer to the building plans for building connections. CONTRACTOR shall supply and install pipe adapters as necessary.
12. All underground lines shall be installed, inspected, and approved prior to backfilling.
13. All concrete encasement shall have a minimum of 28 days compressive strength at 3,000 psi (min. 5.5 sack mix).

WATER LINE NOTES

1. The CONTRACTOR shall maintain existing water service at all times during construction.
2. Proposed water lines shall be AWWA C900-16 PVC Pipe (blue in color) for all sizes, DR 14 (PC 305) for pipeline sizes 12-inch and smaller, and DR 18 (PC 235) for 14-inch and larger water pipelines unless otherwise shown on water plan and profiles sheets. Proposed water lines shall be constructed with minimum cover of 4 feet for 6-inch through 8-inch, 5 feet for 12-inch through 18-inch and 6 feet for 20-inch and larger.
3. Proposed water line embedment shall be NCTCOG Class 'B-3' as amended by the City of Rockwall's engineering standards of design and construction manual.
4. CONTRACTOR shall coordinate the shutting down of all water lines with the City of Rockwall Engineering Inspector and Water Department. The City shall operate all water valves. Allow 5 business days from the date of notice to allow City personnel time to schedule a shut down. Two additional days are required for the CONTRACTOR to notify residents in writing of the shut down after the impacted area has been identified. Water shut downs impacting businesses during their normal operation hours is not allowed. CONTRACTOR is required to coordinate with the Rockwall Fire Department regarding any fire watch requirements as well as any costs incurred when the loss of fire protection to a structure occurs.
5. CONTRACTOR shall furnish and install gaskets on water lines between all dissimilar metals and at valves (both existing and proposed).
6. All fire hydrants and valves removed and salvaged shall be returned to the City of Rockwall Municipal Service Center.
7. Blue EMS pads shall be installed at every change in direction, valve, curb stop and service tap on the proposed water line and every 250'.
8. All water valve hardware and valve extensions, bolts, nuts and washers shall be 316 stainless steel.
9. All fire hydrants bolts, nuts and washers that are buried shall be 316 stainless steel.
10. Abandoned water lines to remain in place shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product. Valves to be abandoned in place shall have any extensions and the valve box removed and shall be capped in concrete.
11. All fire hydrants will have a minimum of 5 feet of clearance around the appurtenance including but not limited to parking spaces and landscaping.
12. All joints are to be megalug joints with thrust blocking.
13. Water and sewer mains shall be kept 10 feet apart (parallel) or when crossing 2 feet vertical clearance.
14. CONTRACTOR shall maintain a minimum of 4 feet of cover on all water lines.
15. All domestic and irrigation services are required to have a testable backflow device with a double check valve installed per the City of Rockwall regulations at the property line and shown on plans.

WASTEWATER LINE NOTES

1. The CONTRACTOR shall maintain existing wastewater service at all times during construction.
2. Wastewater line for 4-inch through 15-inch shall be Green PVC – SDR 35 (ASTM D3034) [less 10 ft cover] and SDR 26 (ASTM D3034) [10 ft or more cover]. For 18-inch and lager wastewater line shall be Green PVC – PS 46 (ASTM F679) [less 10 ft cover] and PS 115 (ASTM F679) [10 ft or more cover]. No services will be allowed on a sanitary sewer line deeper than 10 feet.
3. Proposed wastewater line embedment shall be NCTCOG Class 'H' as amended by the City of Rockwall's public works standard design and construction manual.
4. Green EMS pads shall be installed at every 250', manhole, clean out and service lateral on proposed wastewater lines.
5. CONTRACTOR shall CCTV all existing wastewater lines that are to be abandoned to ensure that all laterals are accounted for and transferred to proposed wastewater lines prior to abandonment.
6. All abandoned wastewater and force main lines shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product.
7. Existing manholes and cleanouts not specifically called to be relocated shall be adjusted to match final grades.
8. All wastewater pipes and public services shall be inspected by photographic means (television and DVD) prior to final acceptance and after franchise utilities are installed. The CONTRACTOR shall furnish a DVD to the Engineering Construction Inspector for review. Pipes shall be cleaned prior to TV inspection of the pipes. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the CONTRACTOR at the CONTRACTOR's expense. A television survey will be performed as part of the final testing in the twentieth (20^{th}) month of the maintenance period.
9. All manholes (public or private) shall be fitted with inflow prevention. The inflow prevention shall conform to the measures called out in standard detail R-5031.
10. All new or existing manholes being modified shall have corrosion protection being Raven Liner 405 epoxy coating, ConShield, or approved equal.. Consheild must have terracotta color dye mixed in the precast and cast-in-place concrete. Where connections to existing manholes are made the CONTRACTOR shall rehab manhole as necessary and install a 125 mil thick coating of Raven Liner 405 or approved equal.
11. All new or existing manholes that are to be placed in pavement shall be fitted with a sealed (gasketed) rim and cover to prevent inflow.
12. If an existing wastewater main or trunk line is called out to be replaced in place a wastewater bypassing pump plan shall be required and submitted to the Engineering Construction Inspector and City Engineer for approval prior to implementation. Bypass pump shall be fitted with an auto dialer and conform to the City's Noise Ordinance. Plan shall be to the City sufficiently in advance of scheduled construction to allow no less than 10 business days for review and response by the City.
13. CONTRACTOR shall maintain a minimum of 4 feet of cover on all wastewater lines.

GENERAL CONSTRUCTION NOTES
Sheet 1 of 2
October 2020

CITY OF ROCKWALL
ENGINEERING DEPARTMENT

385 S. Goliad
Rockwall, Texas 75087

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OWNER/ APPLICANT
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950 SIDS ROAD
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469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
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GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
COR GENERAL CONSTRUCTION NOTES

CASE# E2023-042

SHEET NO.
C1.2-P2

DEMOLITION, REMOVAL, DISPOSAL AND EXCAVATION NOTES

1. All pavements to be removed and replaced shall be saw cut to full depth along neat squared lines shown in the plans.
2. Proposed concrete pavement shall be constructed with longitudinal butt construction joints at all connections to existing concrete pavement.
3. All public concrete pavement to be removed and replaced shall be full panel replacement, 1-inch thicker and on top of 6-inch thick compacted flexbase.
4. No excess excavated material shall be deposited in low areas or along natural drainage ways without written permission from the affected property owner and the City of Rockwall. No excess excavation shall be deposited in the City Limits without a permit from the City of Rockwall. If the CONTRACTOR places excess materials in these areas without written permission, the CONTRACTOR will be responsible for all damages resulting from such fill and shall remove the material at their own cost.

PAVING AND GRADING

1. All detention systems are to be installed and verified for design compliance along with the associated storm sewer and outflow structures, prior to the start of any paving operations (including building foundations). Erosion protection shall be placed at the pond outflow structures, silt fence along the perimeter of the pond along with any of the associated erosion BMPs noted on the erosion control plan, and the sides and bottom of the detention system shall have either sod or anchored seeded curlex installed prior to any concrete placement.
2. All paving roadway, driveways, fire lanes, drive-isles, parking, dumpster pads, etc. sections shall have a minimum thickness, strength, reinforcement, joint type, joint spacing and subgrade treatment shall at a minimum conform to the City standards of Design and Construction and table below.

Street/Pavement Type	Minimum Thickness (inches)	Streng th 28-Day (psi)	Minimum Cement (sacks / CY)		Steel Reinforcement	
			Machine placed	Hand Placed	Bar #	Spacing (O.C.E.W.)
Arterial	10”	3,600	6.0	6.5	#4 bars	18”
Collector	8”	3,600	6.0	6.5	#4 bars	18”
Residential	6”	3,600	6.0	6.5	#3 bars	24”
Alley	7”-5”-7”	3,600	6.0	6.5	#3 bars	24”
Fire Lane	6”	3,600	6.0	6.5	#3 bars	24”
Driveways	6”	3,600	6.0	6.5	#3 bars	24”
Barrier Free Ramps	6”	3,600	N/A	6.5	#3 bars	24”
Sidewalks	4”	3,000	N/A	5.5	#3 bars	24”
Parking Lot/Drive Aisles	5”	3,000	5.0	5.5	#3 bars	24”
Dumpster Pads	7”	3,600	6.0	6.5	#3 bars	24”

3. Reinforcing steel shall be tied (100%). Reinforcing steel shall be set on plastic chairs. Bar laps shall be minimum 30 diameters. Sawed transverse dummy joints shall be spaced every 15 feet or 1.25 time longitudinal butt joint spacing whichever is less. Sawing shall occur within 5 to 12 hours after the pour, including sealing. Otherwise, the section shall be removed and longitudinal butt joint constructed.
4. No sand shall be allowed under any paving.
5. All concrete mix design shall be submitted to the City for review and approval prior to placement.
6. Fly ash may be used in concrete pavement locations provided that the maximum cement reduction does not exceed 20% by weight per C.Y. of concrete. The fly ash replacement shall be 1.25 lbs. per 1.0 lb. cement reduction.
7. All curb and gutter shall be integral (monolithic) with the pavement.
8. All fill shall be compacted by sheep's foot roller to a minimum 95% standard proctor. Maximum loose lift for compaction shall be 8 inches. All lifts shall be tested for density by an independent laboratory. All laboratory compaction reports shall be submitted to the City Engineering Construction Inspector once results are received. All reports will be required prior to final acceptance.
9. All concrete compression tests and soil compaction/density tests are required to be submitted to the City’s Engineering Inspector immediately upon results.
10. All proposed sidewalks shall include barrier free ramps at intersecting streets, alleys, etc. Barrier free ramps (truncated dome plate in Colonial or brick red color) shall meet current City and ADA requirements and be approved by the Texas Department of Licensing and Regulation (TDLR).
11. All public sidewalks shall be doweled into pavement where it abuts curbs and driveways. Expansion joint material shall be used at these locations.
12. All connection of proposed concrete pavement to existing concrete pavement shall include a longitudinal butt joint as the load transfer device. All longitudinal butt joints shall be clean, straight and smooth (not jagged in appearance)
13. Cracks formed in concrete pavement shall be repaired or removed by the CONTRACTOR at the City's discretion. CONTRACTOR shall replace existing concrete curbs, sidewalk, paving, a gutters as indicated on the plans and as necessary to connect to the existing infrastructure, including any damage caused by the CONTRACTOR.
14. All residential lots will require individual grading plans submitted during the building permit process that correspond with the engineered grading and drainage area plans.
15. Approval of this plan is not an authorization to grade adjacent properties when the plans or field conditions warrant off-site grading. Written permission must be obtained and signed from the affected property owner(s) and temporary construction easements may be required. The written permission shall be provided to the City as verification of approval by the adjacent property owner(s). Violation of this requirement will result in suspension of all work at the job site until issue has been rectified.
16. All cut or fill slopes of non-paved areas shall be a maximum of 4:1 and minimum of 1%.
17. CONTRACTOR agrees to repair any damage to property and the public right-of-way in accordance with the City Standards of Design and Construction.
18. CONTRACTOR shall protect all monuments, iron pins/rods, and property corners during construction.
19. CONTRACTOR shall ensure positive drainage so that runoff will drain by gravity flow to new or existing drainage inlets or sheet flow per these approved plans.

DRAINAGE / STORM SEWER NOTES

1. The CONTRACTOR shall maintain drainage at all times during construction. Ponding of water in streets, drives, trenches, etc. will not be allowed. Existing drainage ways shall not be blocked or removed unless explicitly stated in the plans or written approval is given by the City.
2. All structural concrete shall be 4200 psi compressive strength at 28 days minimum 7.0 sack mix, air entrained, unless noted otherwise. Fly ash shall not be allowed in any structural concrete.
3. Proposed storm sewer embedment shall be NCTCOG Class 'B' as amended by the City of Rockwall's Engineering Department Standards of Design and Construction Manual.
4. All public storm pipe shall be a minimum of 18-inch reinforced concrete pipe (RCP), Class III, unless otherwise noted.
5. All storm pipe entering structures shall be grouted to assure connection at the structure is watertight.
6. All storm structures shall have a smooth uniform poured mortar invert from invert in to invert out.
7. All storm sewer manholes in paved areas shall be flush with the paving grade, and shall have traffic bearing ring and covers.
8. All storm sewer pipes and laterals shall be inspected by photographic means (television and DVD) prior to final acceptance and after franchise utilities are installed. The CONTRACTOR shall furnish a DVD to the Engineering Construction Inspector for review. Pipes shall be cleaned prior to TV inspection of the pipes. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the CONTRACTOR at the CONTRACTOR’s expense. A television survey will be performed as part of the final testing in the twentieth (20^{th}) month of the maintenance period.

RETAINING WALLS

1. All retaining walls, regardless of height, will be reviewed and approved by the City Engineering Department
2. All retaining walls (including foundation stem walls), regardless of height, will be constructed of rock/stone/brick or rock/stone/brick faced. No smooth concrete walls are allowed. Wall materials shall be the same for all walls on the project.
3. All portions, including footings, tie-backs, and drainage backfill, of the wall shall be on-site and not encroach into any public easements or right-of-way. The entire wall shall be in one lot and shall not be installed along a lot line.
4. All walls 3 feet and taller will be designed and signed/sealed by a registered professional engineer in the State of Texas. The wall design engineer is required to inspect the wall construction and supply a signed/sealed letter of wall construction compliance to the City of Rockwall along with wall as-builts prior to City Engineering acceptance.
5. No walls are allowed in detention easements. A variance to allow retaining walls in a detention easement will require approval by the Planning and Zoning Commission with appeals being heard by the City Council.

FINAL ACCEPTANCE AND RECORD DRWINGS/AS-BUILTS

1. Final Acceptance shall occur when all the items on the Checklist for Final Acceptance have been completed and signed-off by the City. An example of the checklist for final acceptance has been included in the Appendix of the Standards of Design and Construction. Items on the checklist for final acceptance will vary per project and additional items not shown on the check list may be required.
2. After improvements have been constructed, the developer shall be responsible for providing to the City “As Built” or “Record Drawings”. The Design Engineer shall furnish all digital files of the project formatted in Auto Cad 14, or 2000 format or newer and Adobe Acrobat (.pdf) format with a CD-ROM disk or flash drive. The disk or drive shall include a full set of plans along with any landscaping, wall plans, and details sheets.
3. Submit 1-set of printed drawings of the “Record Drawings” containing copies of all sheets to the Engineering Construction Inspector for the project. The printed sheets will be reviewed by the inspector PRIOR to producing the “Record Drawing” digital files on disk or flash drive. This will allow any revisions to be addressed prior to producing the digital files.
4. Record Drawing Disk drawings shall have the Design Engineers seal, signature and must be stamped and dated as “Record Drawings” or “As Built Drawings” on all sheets.
5. The City of Rockwall will not accept any Record Drawing disk drawings which include a disclaimer. A disclaimer shall not directly or indirectly state or indicate that the design engineer or the design engineer’s surveyor/surveyors did not verify grades after construction, or that the Record Drawings were based solely on information provided by the construction contractor/contractors. Any Record Drawings which include like or similar disclaimer verbiage will not be accepted by the City of Rockwall.
6. Example of Acceptable Disclaimer: “To the best of our knowledge ABC Engineering, Inc., hereby states that this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.”

GENERAL CONSTRUCTION NOTES
Sheet 2 of 2
October 2020

CITY OF ROCKWALL
ENGINEERING DEPARTMENT

385 S. Goliad
Rockwall, Texas 75087

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LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
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CIVIL ENGINEER
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TBPE No. F-1515

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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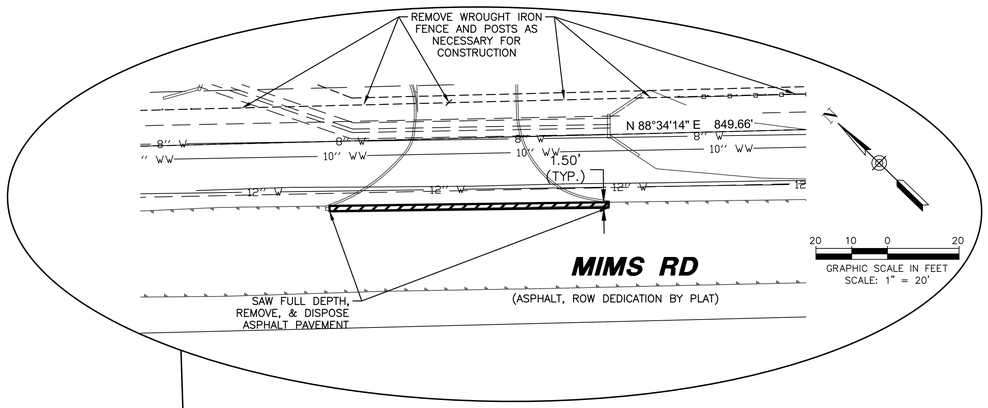
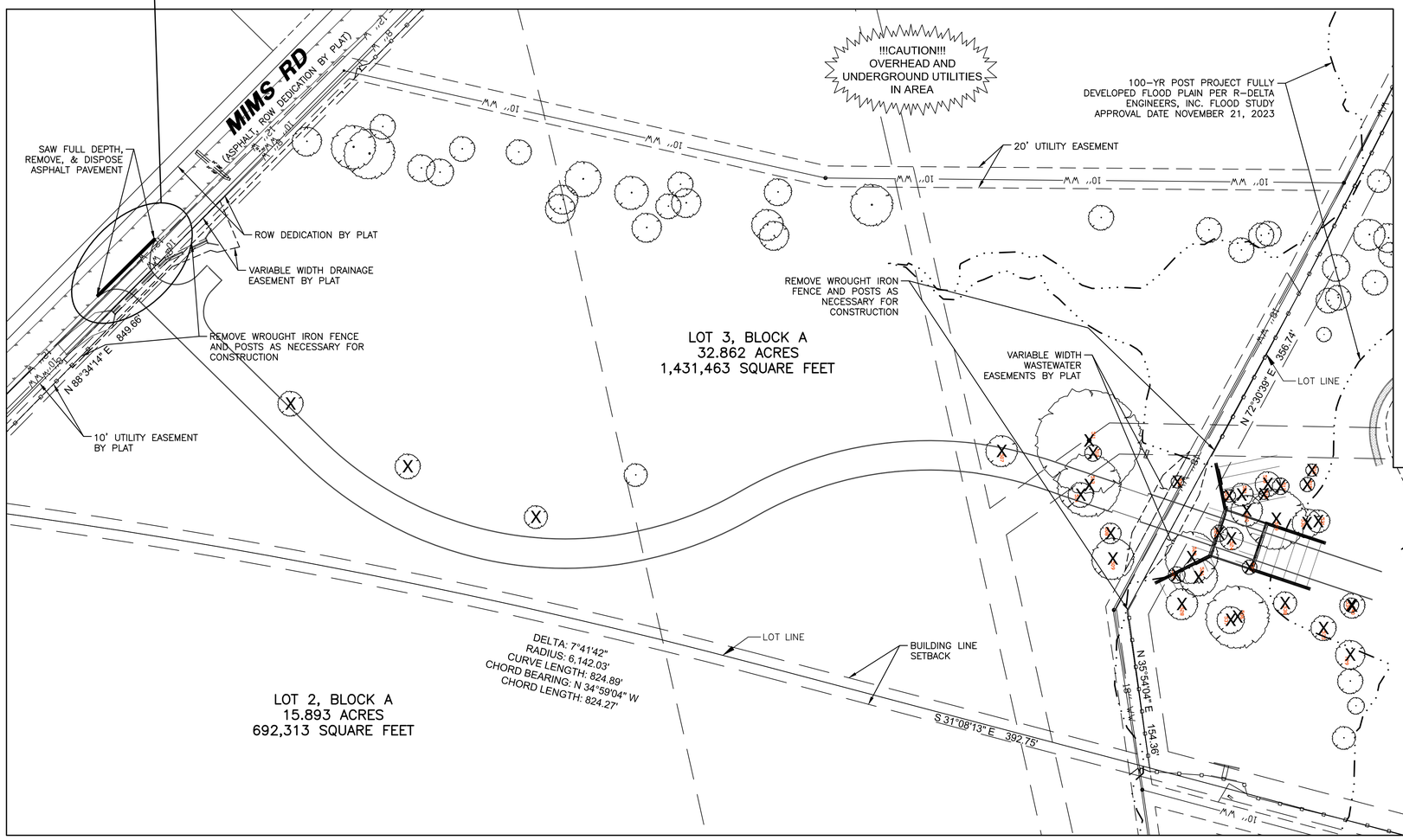
11/06/2025
FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
COR GENERAL CONSTRUCTION NOTES
CASE# E2023-042
SHEET NO.
C1.3-P2





LEGEND

- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- XXXXX EXISTING ITEM REMOVAL
- ASPHALT REMOVAL
- (X) TREE REMOVAL
- 100-YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R-DELTA ENGINEERS, INC. FLOOD STUDY

NOTES:

1. REFER TO SHEET C1.1-P2 FOR LEGEND, PROJECT CONTROL AND PROJECT NOTES.
2. CONTRACTOR SHALL CONTACT TEXAS 811 TO LOCATE ALL UTILITIES PRIOR TO BEGINNING ALL WORK.
3. CONTRACTOR SHALL PROTECT EXISTING BUILDINGS, FOUNDATIONS, AND STRUCTURES THROUGHOUT CONSTRUCTION.
4. THE EXISTING SITE SHALL BE CLEARED, GRUBBED, AND 3" OF TOP SOIL STRIPPED, WHERE NEEDED, WITHIN THE ACCESS DRIVE A CONSTRUCTION LIMITS.
5. LIMITS OF TREE REMOVAL SHALL INCLUDE THOSE TREES WHOSE TRUNK IS ENTIRELY ON REC'S PROPERTY. CONTRACTOR SHALL PROTECT ALL TREES NOT IDENTIFIED FOR REMOVAL – NO EXTRA PAY ITEM.
6. ALL PAVING TO BE REMOVED SHALL BE SAWED FULL DEPTH.
7. CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND REPLACING ALL IRRIGATION PIPES, HEADS, METERS, VALVES, AND ALL APPURTENANCES DAMAGED DURING CONSTRUCTION.
8. EXISTING AND ADJACENT IMPROVEMENTS SHOWN FROM FIELD SURVEY BY R-DELTA ENGINEERS, INC. AND SUPPLEMENTED WITH LIDAR DATA.
9. CONTACT CITY OF ROCKWALL SERVICE CENTER (972-771-7730) FOR 12" WATER LINE LOCATES 2 BUSINESS DAYS PRIOR TO EXCAVATION.
10. PER CONVERSATION WITH DWIGHT OF RCH WATER SUPPLY CORPORATION, THE 8" WATER MAIN IN MIMS RD IS NOT SERVICING ANYTHING. CONTACT RCH WSC TO CONFIRM THE 8" WATER IS NOT IN SERVICE.

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (SHOWN ON PLANS OR NOT) PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. R-DELTA ENGINEERS, INC. WILL NOT BE RESPONSIBLE FOR ANY WORK BY THE CONTRACTOR NEGLECTING TO LOCATE THESE UTILITIES.

NOTE:
EROSION & SEDIMENT CONTROL BMPS SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBING ACTIVITIES.

HKS

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SUITE 100
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11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
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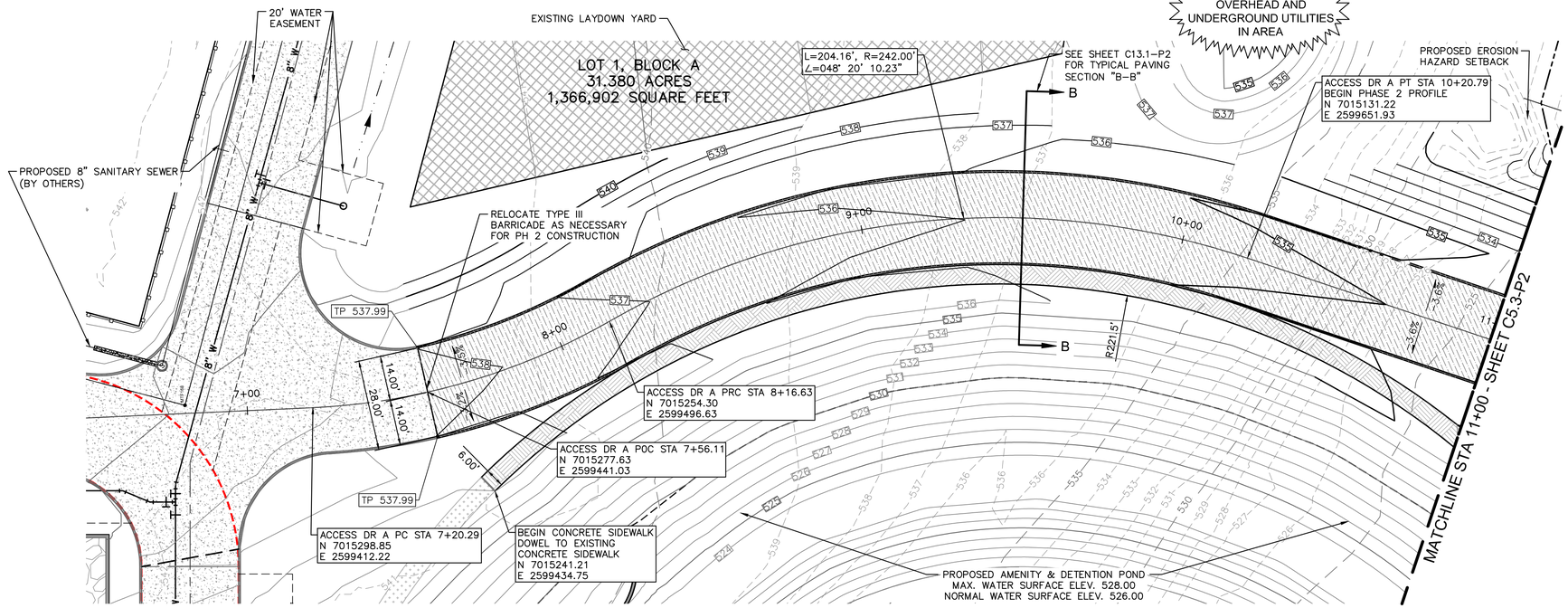
SHEET TITLE
DEMOLITION PLAN

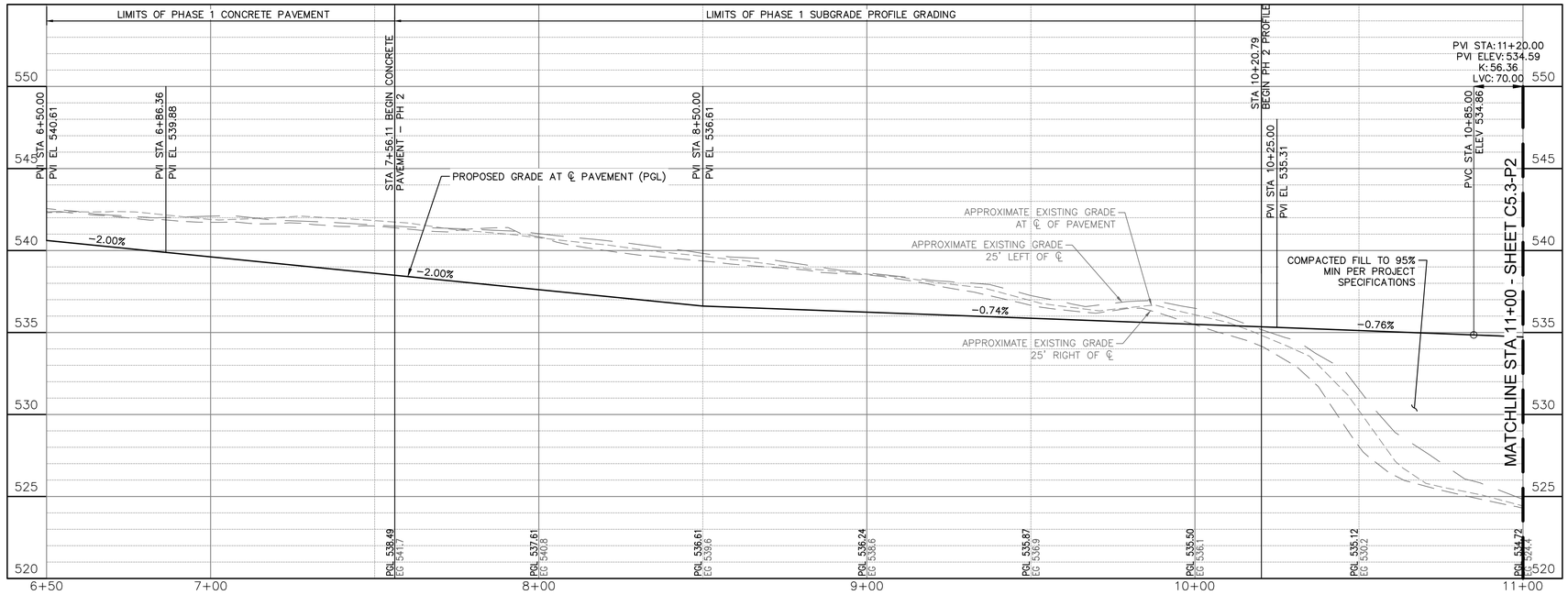
CASE# E2023-042

SHEET NO.
C2.1-P2



PLAN ACCESS DRIVE A

SCALE: 1"=20'



PROFILE ACCESS DRIVE A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

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20 10 0 20
GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

LEGEND

- EXISTING SIDEWALK – 4" CONC. PVMT.
- EXISTING PAVEMENT – 6" CONC. PVMT.
- PROPOSED 4" CONC. PVMT. 3,000 PSI (5.5 SACK MIX) NO. 3 BARS @ 24" C-C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- PROPOSED 6" CONC. PVMT. 3,600 PSI (6.5 SACK MIX) NO. 3 BARS @ 18" C-C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- 535 EXISTING SURFACE CONTOUR MAJOR
- 536 EXISTING SURFACE CONTOUR MINOR
- 535 PROPOSED PH1 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH1 SURFACE CONTOUR MINOR
- 535 PROPOSED PH2 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH2 SURFACE CONTOUR MINOR
- 3.6% PROPOSED PAVEMENT CROSS SLOPE
- 100-YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R-DELTA ENGINEERS, INC. FLOOD STUDY
- PROPOSED EROSION HAZARD SETBACK
- 514.76 / 855 CROSS-SECTION LOCATION- R-DELTA ENGINEERS, INC FLOOD STUDY

POINT ABBREVIATIONS:

FG	FINISHED GRADE
MEG	MATCH EXISTING GRADE
TP	TOP OF CONCRETE PAVING
TC	TOP OF CURB
GB	GRADE BREAK

NOTES:

1. ALL SIDEWALKS ARE 6' WIDE UNLESS NOTED OTHERWISE.
2. SEE SHEET C1.1-P2 FOR LEGEND, PROJECT CONTROL AND NOTES.
3. SEE SHEET C13.1-P2 FOR PAVING SECTIONS & DETAILS.

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RECORD DRAWING

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

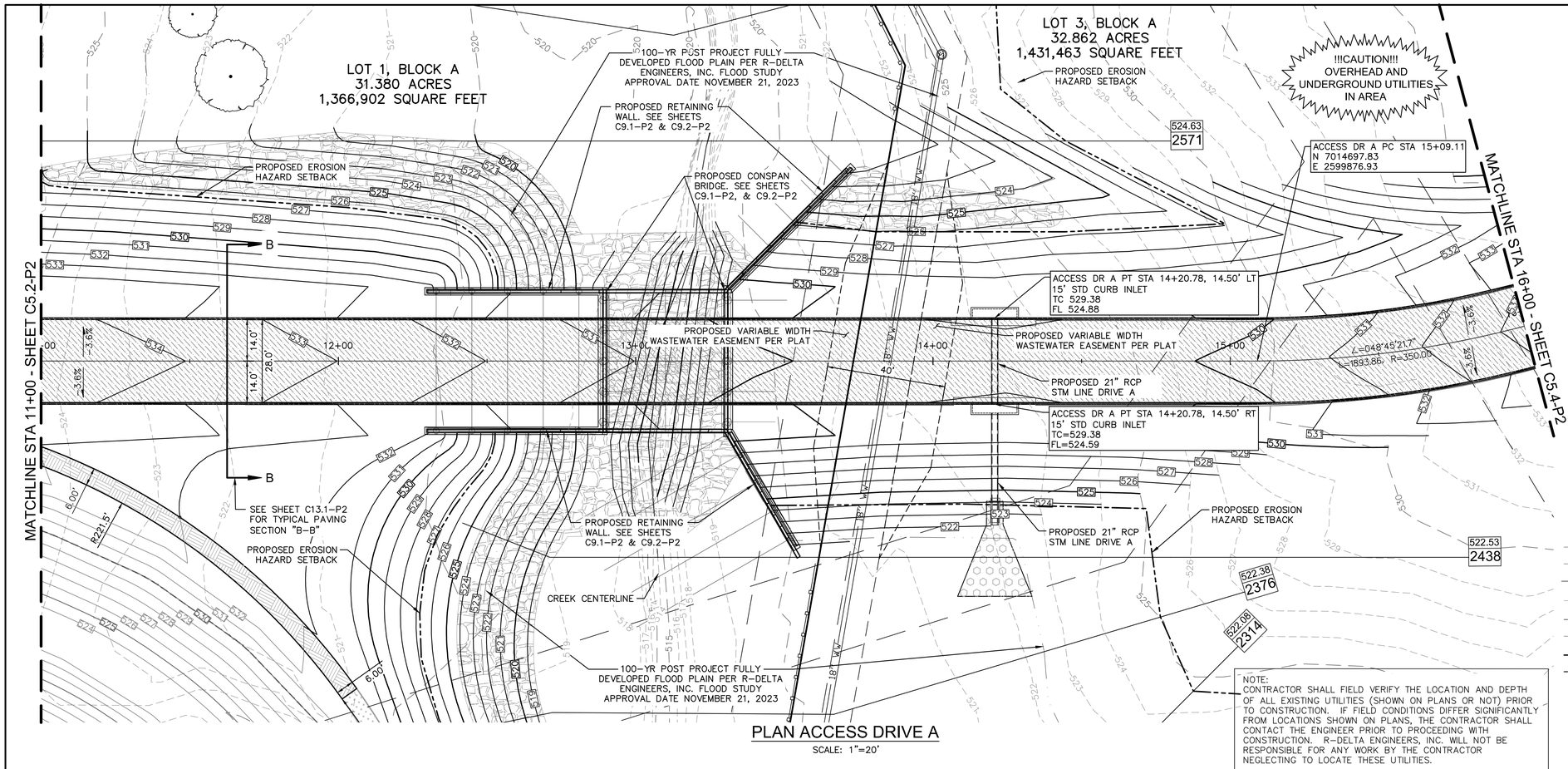
DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
ACCESS DR A PAVING PLAN & PROFILE

CASE# E2023-042

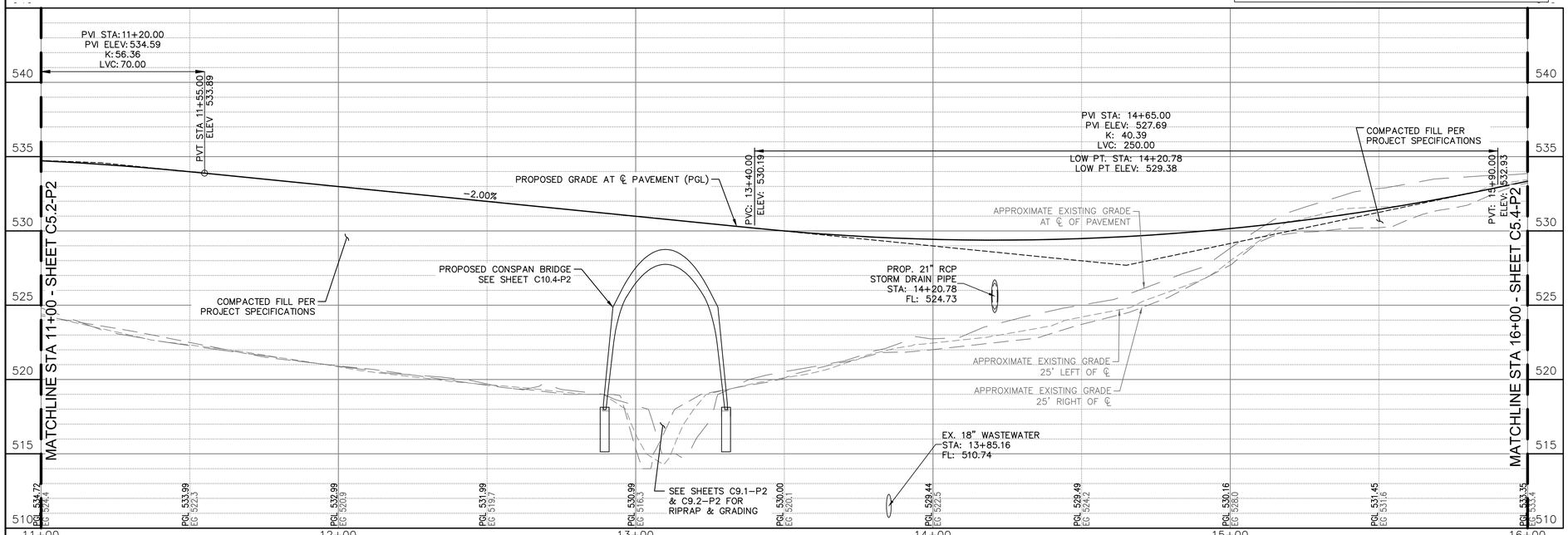
SHEET NO.
C5.2-P2



PLAN ACCESS DRIVE A

SCALE: 1"=20'

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (SHOWN ON PLANS OR NOT) PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. R-DELTA ENGINEERS, INC. WILL NOT BE RESPONSIBLE FOR ANY WORK BY THE CONTRACTOR NEGLECTING TO LOCATE THESE UTILITIES.



PROFILE ACCESS DRIVE A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

LEGEND

- EXISTING SIDEWALK – 4" CONC. PVMT.
- EXISTING PAVEMENT – 6" CONC. PVMT.
- PROPOSED 4" CONC. PVMT. 3,000 PSI (5.5 SACK MIX) NO. 3 BARS @ 24" C-C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- PROPOSED 6" CONC. PVMT. 3,600 PSI (6.5 SACK MIX) NO. 3 BARS @ 18" C-C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- PROPOSED GROUTED ROCK RIPRAP
- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- 535 EXISTING SURFACE CONTOUR MAJOR
- 536 EXISTING SURFACE CONTOUR MINOR
- 535 PROPOSED PH1 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH1 SURFACE CONTOUR MINOR
- 535 PROPOSED PH2 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH2 SURFACE CONTOUR MINOR
- 3.6% PROPOSED PAVEMENT CROSS SLOPE
- 100-YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R-DELTA ENGINEERS, INC. FLOOD STUDY
- PROPOSED EROSION HAZARD SETBACK
- 514.81 / 855 CROSS-SECTION LOCATION- R-DELTA ENGINEERS, INC FLOOD STUDY

POINT ABBREVIATIONS:

FG	FINISHED GRADE
MEG	MATCH EXISTING GRADE
TP	TOP OF CONCRETE PAVING
TC	TOP OF CURB
GB	GRADE BREAK

NOTES:

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20 10 0 20
GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
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OWNER/ APPLICANT
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950 SIDS ROAD
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469-402-2100

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618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

RayburnElectric COOPERATIVE

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
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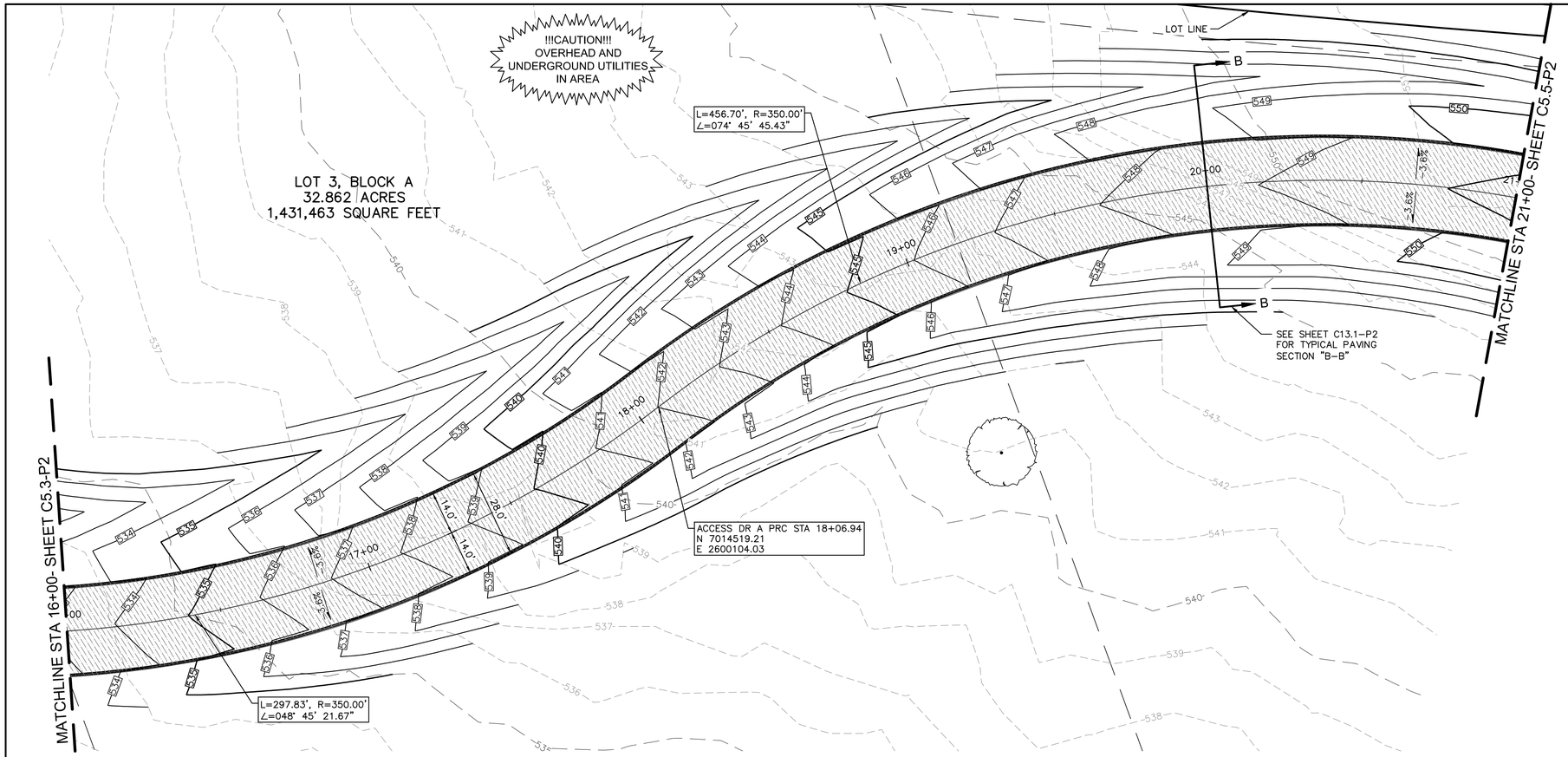
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
ACCESS DR A PAVING PLAN & PROFILE

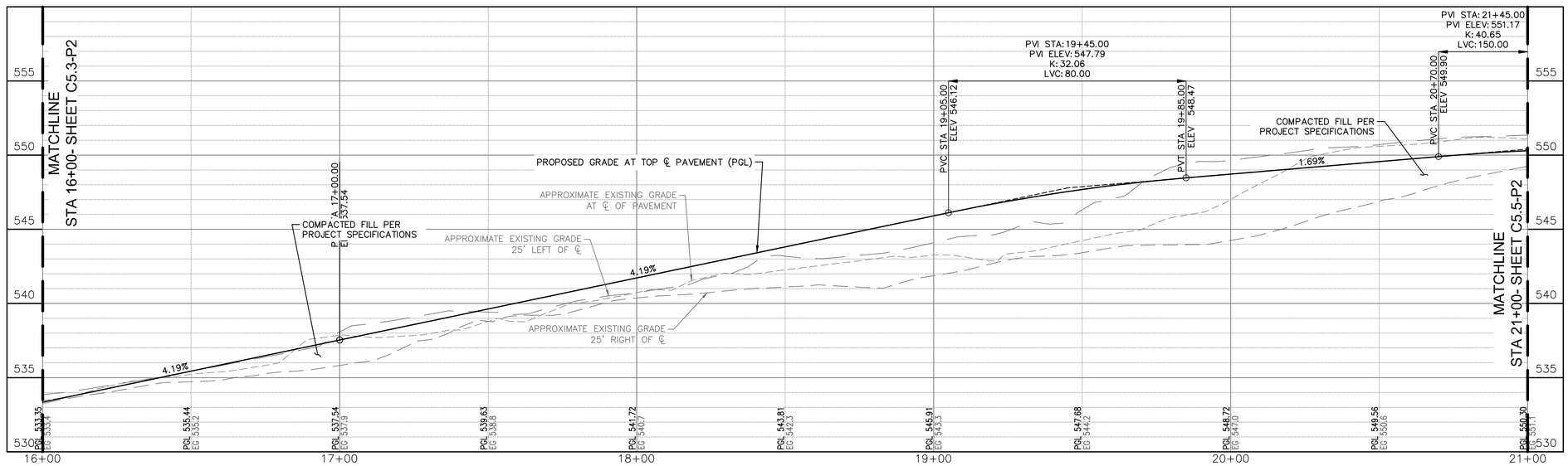
CASE# E2023-042

SHEET NO.
C5.3-P2



PLAN ACCESS DRIVE A

SCALE: 1"=20'



PROFILE ACCESS DRIVE A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

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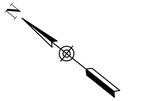

LEGEND

- PROPOSED 6" CONC. PVMT. 3,600 PSI (6.5 SACK MIX) NO. 3 BARS @ 18" C-C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- 540 EXISTING SURFACE CONTOUR MAJOR
- 541 EXISTING SURFACE CONTOUR MINOR
- 540 PROPOSED SURFACE CONTOUR MAJOR
- 541 PROPOSED SURFACE CONTOUR MINOR
- 3.6% PROPOSED PAVEMENT CROSS SLOPE
- 100-YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R-DELTA ENGINEERS, INC. FLOOD STUDY
- PROPOSED EROSION HAZARD SETBACK
- 514.81 / 855 CROSS-SECTION LOCATION- R-DELTA ENGINEERS, INC FLOOD STUDY

POINT ABBREVIATIONS:

FG	FINISHED GRADE
MEG	MATCH EXISTING GRADE
TP	TOP OF CONCRETE PAVING
TC	TOP OF CURB
GB	GRADE BREAK

NOTES:

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HKS

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SUITE 100
DALLAS, TX 75201

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260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

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HKS, INC.
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DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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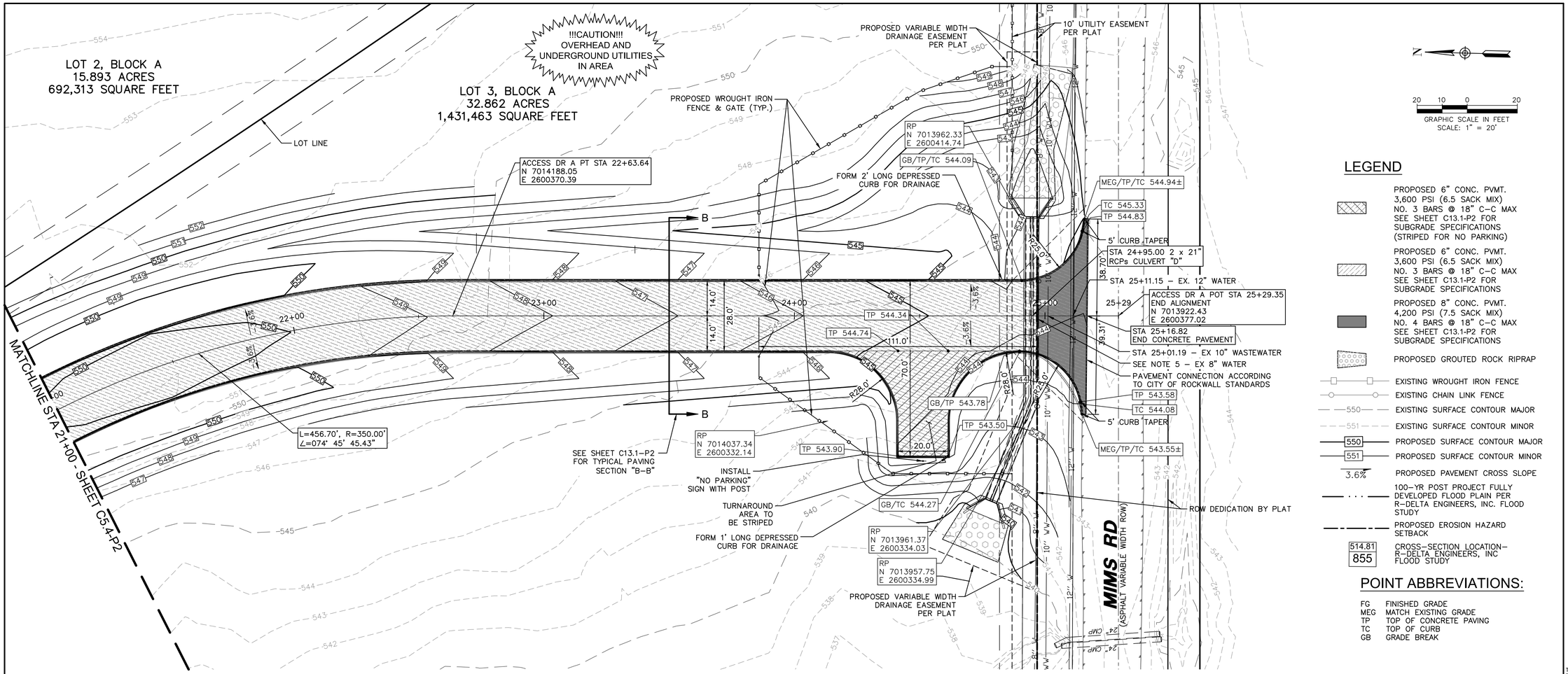
11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

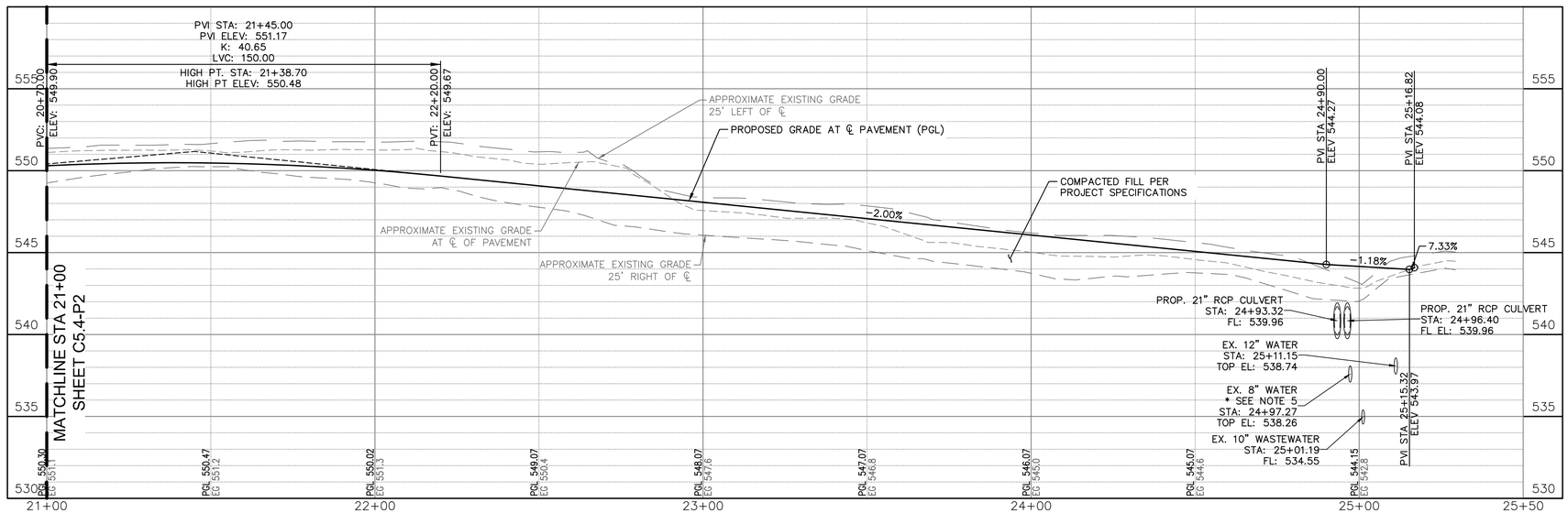
NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
ACCESS DR A PAVING PLAN & PROFILE
CASE# E2023-042
SHEET NO.
C5.4-P2



PLAN ACCESS DRIVE A

SCALE: 1"=20'



PROFILE ACCESS DRIVE A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

LEGEND

- PROPOSED 6" CONC. PVMT. 3,600 PSI (6.5 SACK MIX) NO. 3 BARS @ 18" C–C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS (STRIPED FOR NO PARKING)
- PROPOSED 6" CONC. PVMT. 3,600 PSI (6.5 SACK MIX) NO. 3 BARS @ 18" C–C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- PROPOSED 8" CONC. PVMT. 4,200 PSI (7.5 SACK MIX) NO. 4 BARS @ 18" C–C MAX SEE SHEET C13.1-P2 FOR SUBGRADE SPECIFICATIONS
- PROPOSED GROUTED ROCK RIPRAP
- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- 550 — EXISTING SURFACE CONTOUR MAJOR
- 551 — EXISTING SURFACE CONTOUR MINOR
- 550 — PROPOSED SURFACE CONTOUR MAJOR
- 551 — PROPOSED SURFACE CONTOUR MINOR
- 3.6% — PROPOSED PAVEMENT CROSS SLOPE
- 100–YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R–DELTA ENGINEERS, INC. FLOOD STUDY
- PROPOSED EROSION HAZARD SETBACK
- 514.81 / 855 — CROSS–SECTION LOCATION– R–DELTA ENGINEERS, INC FLOOD STUDY

POINT ABBREVIATIONS:

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NOTES:

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3. SEE SHEET C13.1–P2 FOR PAVING SECTIONS & DETAILS.
4. CONTACT CITY OF ROCKWALL SERVICE CENTER (972–771–7730) FOR 12" WATER LINE LOCATES 2 BUSINESS DAYS PRIOR TO EXCAVATION.
5. PER CONVERSATION WITH DWIGHT OF RCH WATER SUPPLY CORPORATION, THE 8" WATER MAIN IN MIMS RD IS NOT SERVICING ANYTHING. CONTACT RCH WSC TO CONFIRM THE 8" WATER IS NOT IN SERVICE.

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

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350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

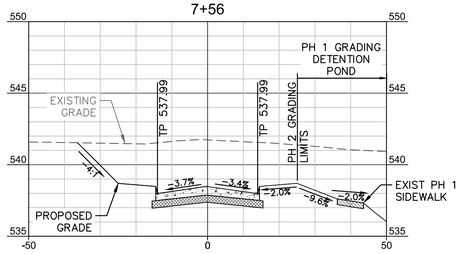
REVISION

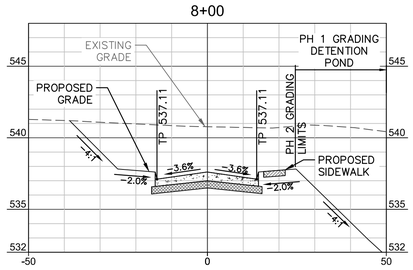
NO.	DESCRIPTION	DATE

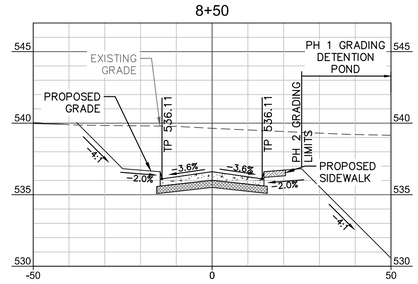
PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
ACCESS DR A PAVING PLAN & PROFILE

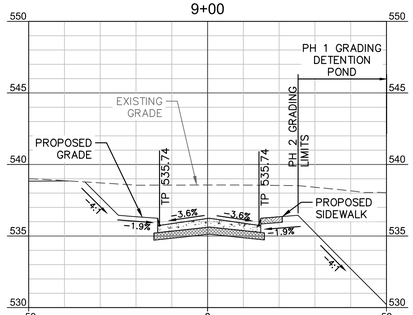
CASE# E2023-042

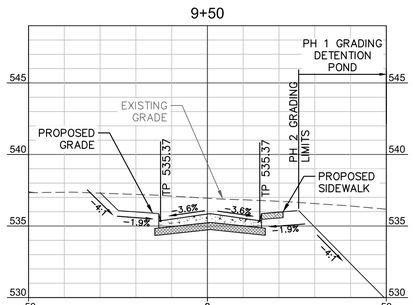
SHEET NO.
C5.5-P2

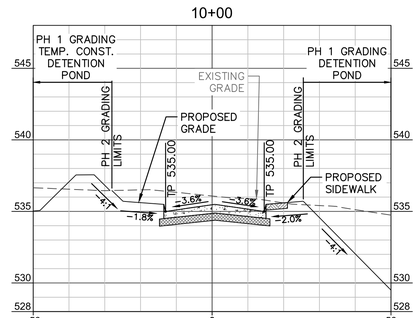


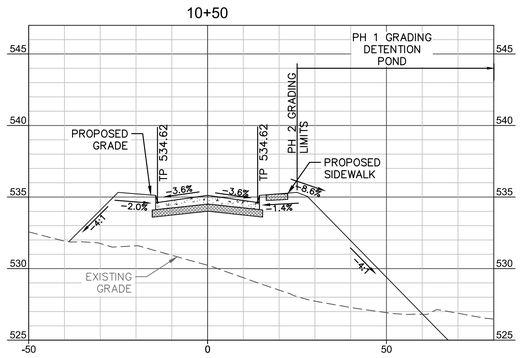


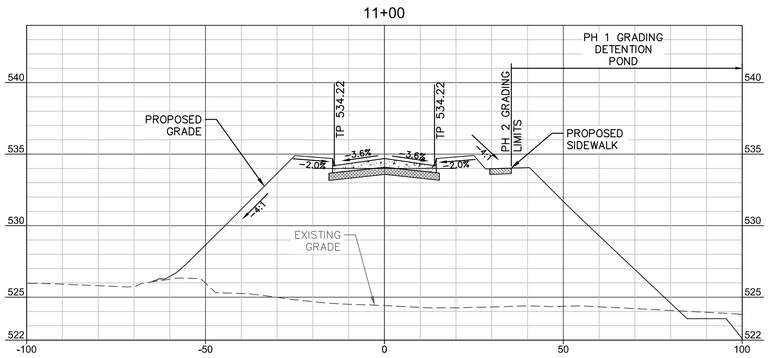


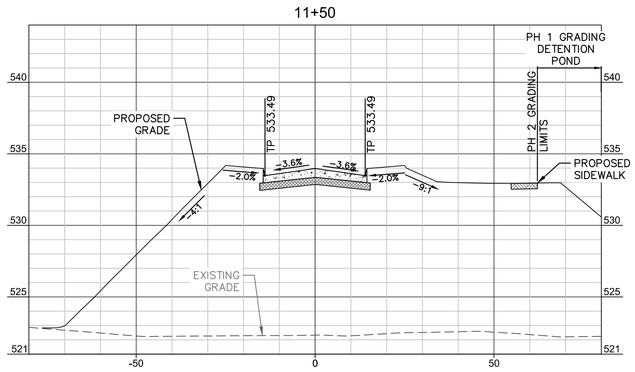












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ACCESS DRIVE A - PH 2
CROSS SECTIONS

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

LEGEND

- PROPOSED 4 IN CONC SIDEWALK
- PROPOSED 6 IN CONC PAVEMENT
- PROPOSED 6 IN LIME STABILIZED SUBGRADE

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

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FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

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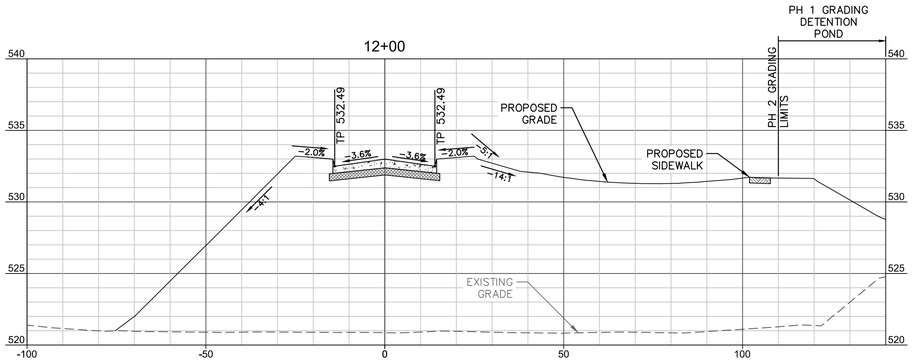
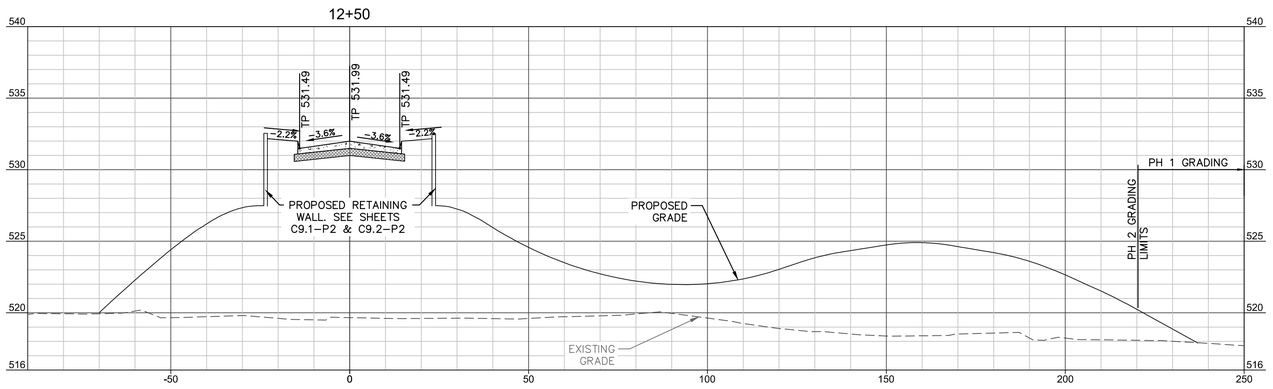
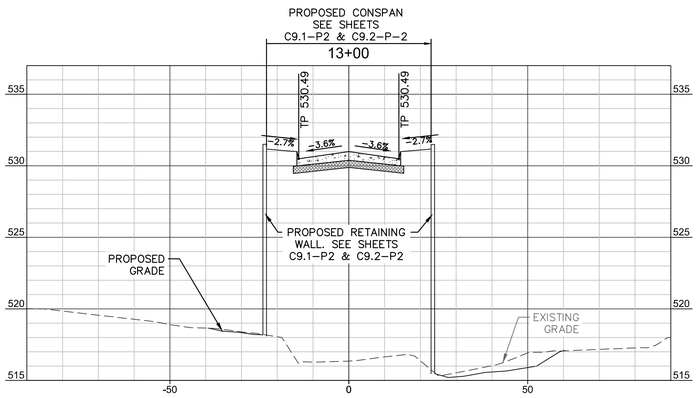
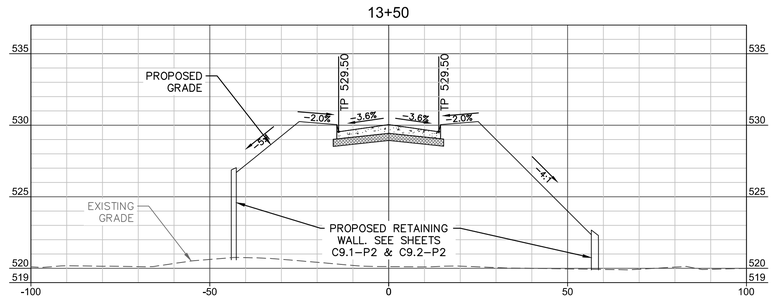
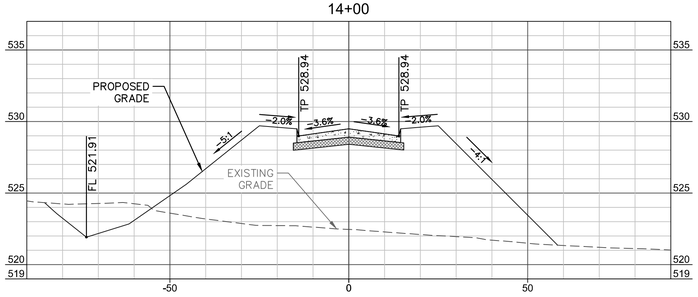
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
ACCESS DR A CROSS SECTIONS
CASE# E2023-042
SHEET NO.
C5.6-P2

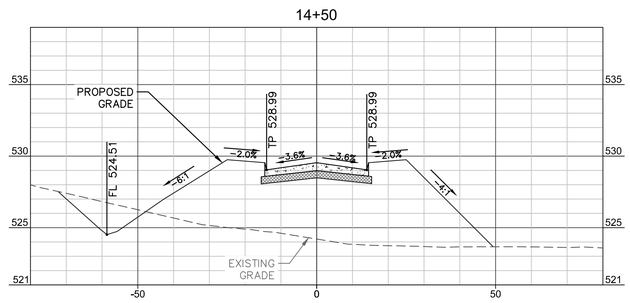












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ACCESS DRIVE A - PH 2
CROSS SECTIONS

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

LEGEND

- PROPOSED 4 IN CONC SIDEWALK
- PROPOSED 6 IN CONC PAVEMENT
- PROPOSED 6 IN LIME STABILIZED SUBGRADE

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
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DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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11/06/2025
FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

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PROJECT NUMBER
3036.21
DATE
01/18/2024
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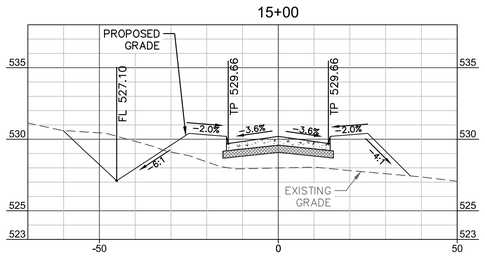
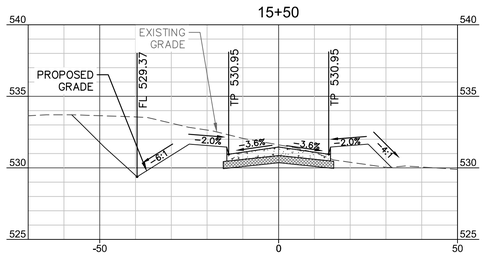
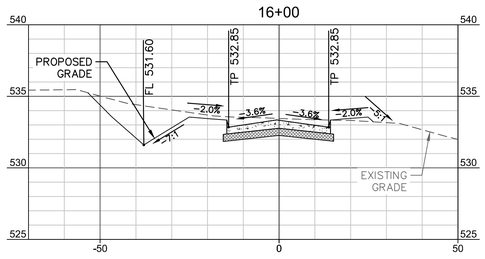
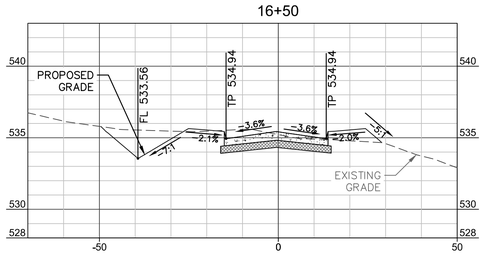
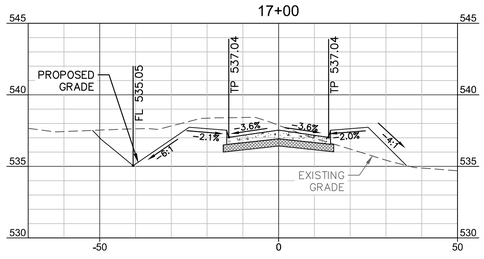
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
ACCESS DR A CROSS SECTIONS
CASE# E2023-042
SHEET NO.
C5.7-P2

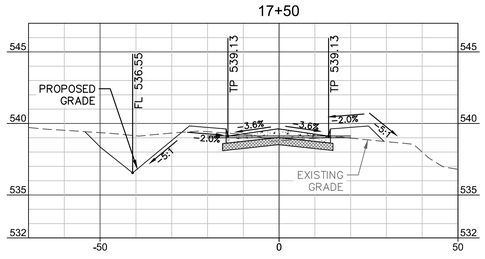


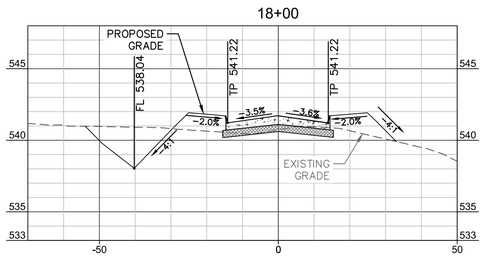


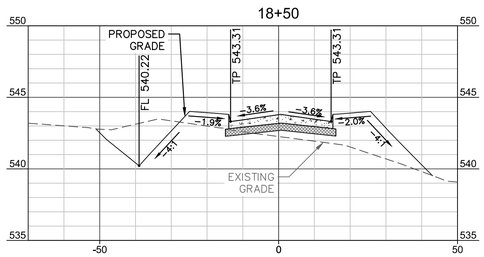


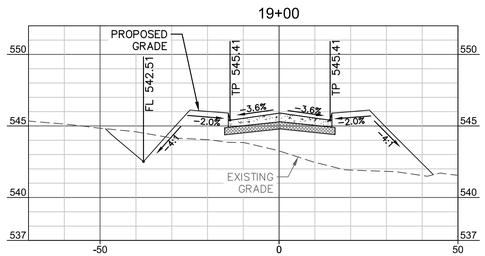












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LEGEND

PROPOSED 6 IN CONC PAVEMENT

PROPOSED 6 IN LIME STABILIZED SUBGRADE

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TBPE No. F-1515

RayburnElectric COOPERATIVE

STATE OF TEXAS
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80844
REGISTERED
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FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

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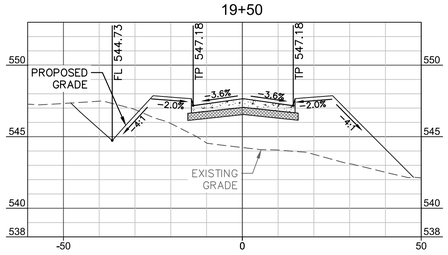
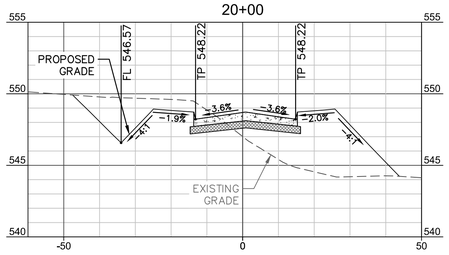
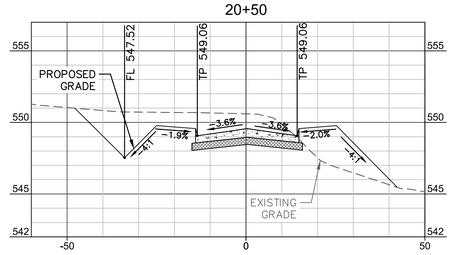
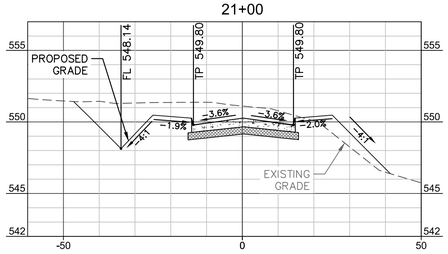
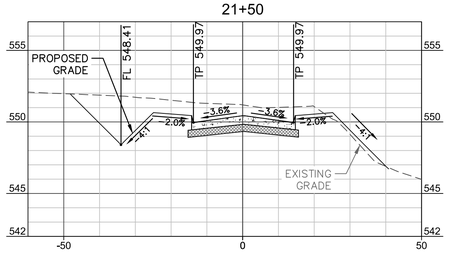
C5.8-P2

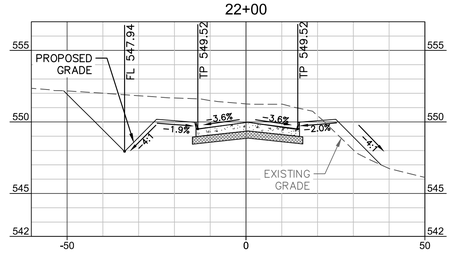


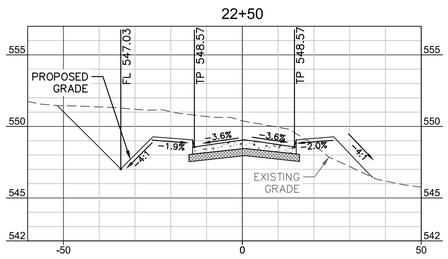


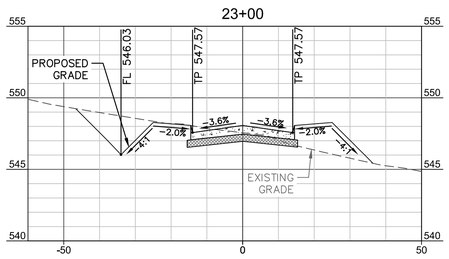


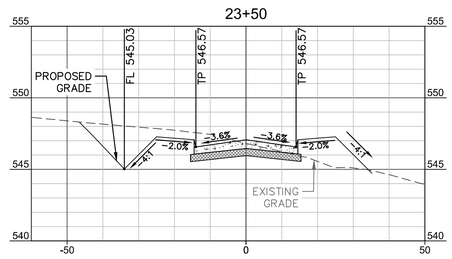












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LEGEND

PROPOSED 6 IN CONC PAVEMENT

PROPOSED 6 IN LIME STABILIZED SUBGRADE

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SUITE 100
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OWNER/ APPLICANT
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950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
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618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
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11/06/2025
FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

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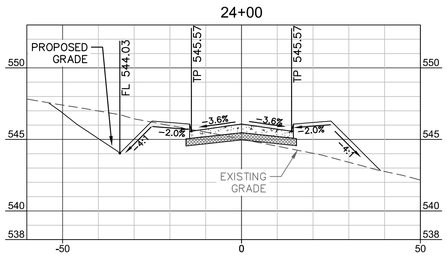
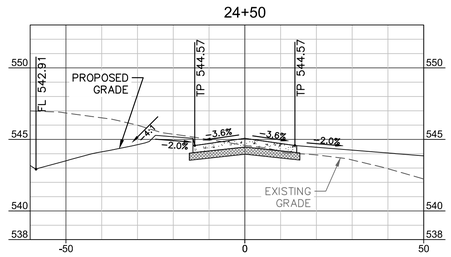
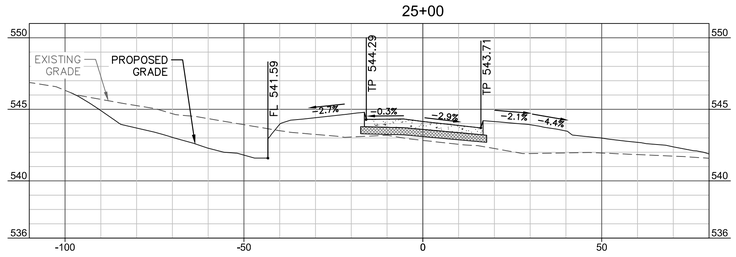
SHEET TITLE
ACCESS DR A CROSS SECTIONS
CASE# E2023-042
SHEET NO.
C5.9-P2







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ACCESS DR A CROSS SECTIONS

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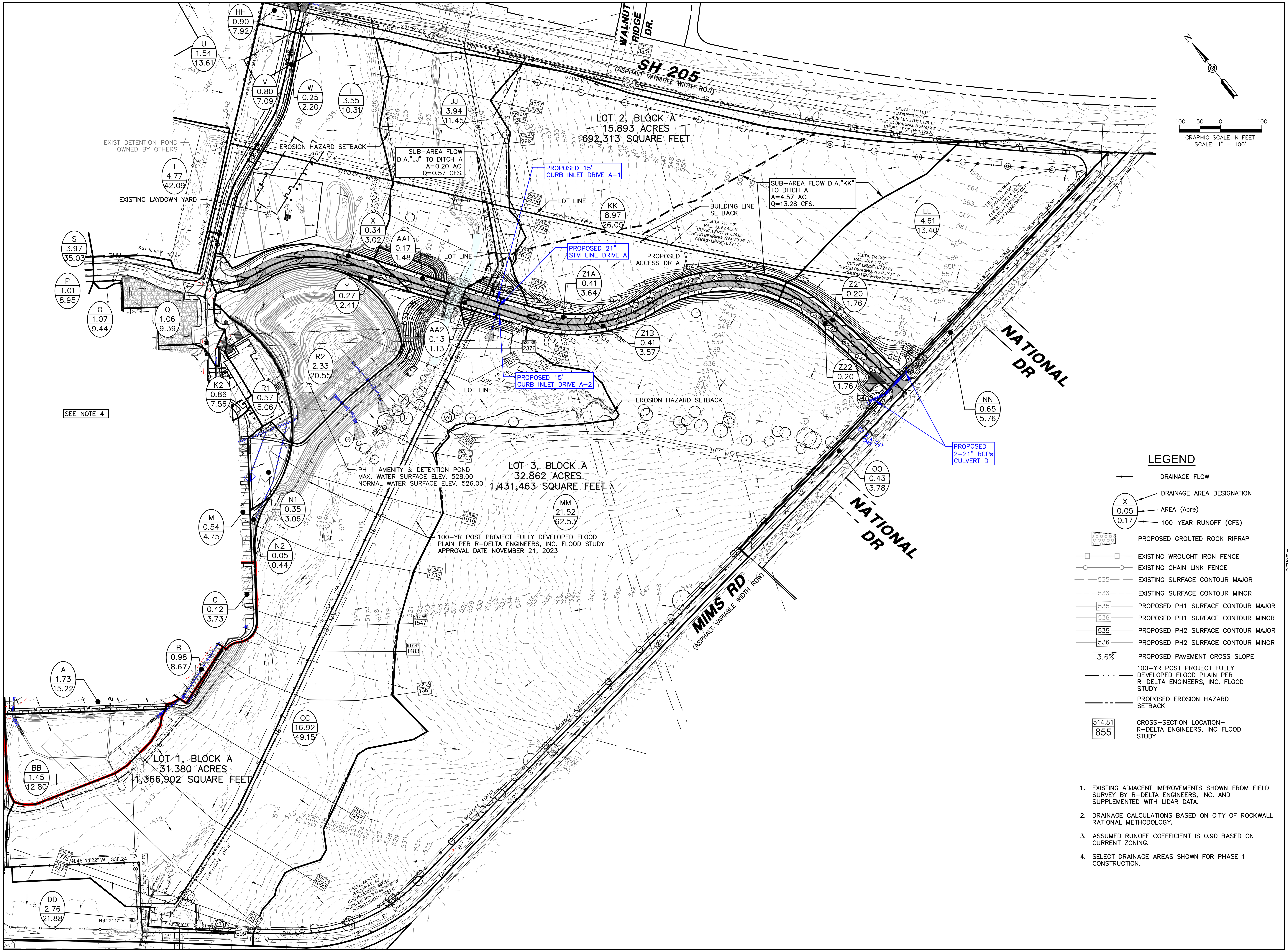
C5.10-P2



LEGEND

- DRAINAGE FLOW
- DRAINAGE AREA DESIGNATION (X)
- AREA (Acre) (0.05)
- 100-YEAR RUNOFF (CFS) (0.17)
- PROPOSED GROUTED ROCK RIPRAP
- EXISTING WROUGHT IRON FENCE
- EXISTING CHAIN LINK FENCE
- 535 EXISTING SURFACE CONTOUR MAJOR
- 536 EXISTING SURFACE CONTOUR MINOR
- 535 PROPOSED PH1 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH1 SURFACE CONTOUR MINOR
- 535 PROPOSED PH2 SURFACE CONTOUR MAJOR
- 536 PROPOSED PH2 SURFACE CONTOUR MINOR
- 3.6% PROPOSED PAVEMENT CROSS SLOPE
- 100-YR POST PROJECT FULLY DEVELOPED FLOOD PLAIN PER R-DELTA ENGINEERS, INC. FLOOD STUDY
- PROPOSED EROSION HAZARD SETBACK
- 514.81 / 855 CROSS-SECTION LOCATION- R-DELTA ENGINEERS, INC FLOOD STUDY

1. EXISTING ADJACENT IMPROVEMENTS SHOWN FROM FIELD SURVEY BY R-DELTA ENGINEERS, INC. AND SUPPLEMENTED WITH LIDAR DATA.
2. DRAINAGE CALCULATIONS BASED ON CITY OF ROCKWALL RATIONAL METHODOLOGY.
3. ASSUMED RUNOFF COEFFICIENT IS 0.90 BASED ON CURRENT ZONING.
4. SELECT DRAINAGE AREAS SHOWN FOR PHASE 1 CONSTRUCTION.

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SHEET TITLE
POST PROJECT DRAINAGE AREA MAP

CASE# E2023-042

SHEET NO.
C8.1-P2

POST-DEVELOPMENT HYDRAULIC CALCULATIONS

HYDROLOGIC CALCULATIONS - POST PROJECT CONDITIONS

DRAINAGE AREA ID	AREA (ACRES) "A"	TIME (MIN.)	RUN-OFF COEF. "C"	100-YR INTENSITY (IPH) "I"	Q100=CIA(CFS)	COMMENT	
A	1.73	10	0.90	9.80	15.22	FLOW TO ON-SITE EXIST DETENTION POND	TO EXIST DETENTION POND
B	0.98	10	0.90	9.80	8.67	FLOW TO PROP 20' CURB INLET	TO EXIST DETENTION POND
C	0.42	10	0.90	9.80	3.73	FLOW TO PROP 5' CURB INLET	TO EXIST DETENTION POND
D	1.37	10	0.90	9.80	12.05	FLOW TO EXIST CURB INLET	TO EXIST DETENTION POND
E	0.97	10	0.90	9.80	8.56	FLOW TO EXIST CURB INLET	TO EXIST DETENTION POND
F1	0.71	10	0.90	9.80	6.26	FLOW TO PROP 3'x3' DROP INLET	TO EXIST DETENTION POND
F2	0.06	10	0.90	9.80	0.57	FLOW TO PROP SLOTTED DRAIN	TO EXIST DETENTION POND
G	0.43	10	0.90	9.80	3.75	FLOW TO PROP SLOTTED DRAIN	TO EXIST DETENTION POND
H	0.57	10	0.90	9.80	4.99	FLOW TO PROP 20' CURB INLET	TO PH1 DETENTION POND
I	0.79	10	0.90	9.80	6.95	FLOW TO PROP INLETS AMPHITHEATER	TO PH1 DETENTION POND
J1	0.32	10	0.90	9.80	2.81	FLOW TO PROP AREA DRAIN	TO PH1 DETENTION POND
J2	0.35	10	0.90	9.80	3.07	FLOW TO PROP AREA DRAIN	TO PH1 DETENTION POND
K1	1.06	10	0.90	9.80	9.35	FLOW TO PROP 10' CURB INLET	TO PH1 DETENTION POND
K2	0.86	10	0.90	9.80	7.56	FLOW TO PROP 10' CURB INLET	TO PH1 DETENTION POND
K3	0.08	10	0.90	9.80	0.72	FLOW TO PROP 15' CURB INLET	TO PH1 DETENTION POND
L	0.11	10	0.90	9.80	0.99	FLOW TO PROP 5' CURB INLET	TO PH1 DETENTION POND
M	0.54	10	0.90	9.80	4.75	FLOW TO PROP 10' CURB INLET	TO PH1 DETENTION POND
N1	0.35	10	0.90	9.80	3.06	FLOW TO PROP AREA DRAINS	TO PH1 DETENTION POND
N2	0.05	10	0.90	9.80	0.44	FLOW TO PROP AREA DRAINS	TO PH1 DETENTION POND
O	1.10	10	0.90	9.80	9.66	FLOW TO PROP 4'x4' DROP INLET	TO PH1 DETENTION POND
P	1.01	10	0.90	9.80	8.95	FLOW TO PROP STREET CULVERT	SIDS BYPASS
Q	1.06	10	0.90	9.80	9.39	FLOW TO PROP 20' CURB INLET (PROP IN PH1, DA DECREASED IN PH2)	TO PH1 DETENTION POND
R1	0.57	10	0.90	9.80	5.06	FLOW TO PROP AREA DRAINS	TO PH1 DETENTION POND
R2	2.33	10	0.90	9.80	20.55	PROP RETENTION POND	TO PROPOSED DETENTION POND
S	3.97	10	0.90	9.80	35.03	FLOW TO PROP STREET CULVERT	SIDS BYPASS
T	4.77	10	0.90	9.80	42.09	FLOW TO EXIST OFFSITE DETENTION POND OWNED BY OTHERS	BYPASS TO FLOODPLAIN
U	1.54	10	0.90	9.80	13.61	FLOW TO PROP 20' CURB INLET	BYPASS TO FLOODPLAIN
V	0.80	10	0.90	9.80	7.09	FLOW SOUTH TO FLOODPLAIN	BYPASS TO FLOODPLAIN
W	0.25	10	0.90	9.80	2.20	FLOW SOUTH TO FLOODPLAIN	BYPASS TO FLOODPLAIN
X	0.34	10	0.90	9.80	3.02	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
Y	0.27	10	0.90	9.80	2.41	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
Z1A	0.41	10	0.90	9.80	3.64	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
Z1B	0.41	10	0.90	9.80	3.57	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
Z2A	0.20	10	0.90	9.80	1.76	FLOW TO BOX CULVERT ON "MIMS ROAD"	BYPASS TO FLOODPLAIN
Z2B	0.20	10	0.90	9.80	1.76	FLOW SOUTH TO EXIST FLOODWAY	BYPASS TO FLOODPLAIN
AA1	0.17	10	0.90	9.80	1.48	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
AA2	0.13	10	0.90	9.80	1.13	FLOW TO 15 FT CURB INLET ON ACCESS DR A	BYPASS TO FLOODPLAIN
BB	1.45	10	0.90	9.80	12.80	EXIST ONSITE DETENTION POND	TO EXIST DETENTION POND
CC	16.92	20	0.35	8.30	49.15	FLOOD PLAIN - FLOW EAST TO BOX CULVERT ON "MIMS RD"	BYPASS TO FLOODPLAIN
DD	2.76	10	0.90	9.80	21.88	FLOW TO BOX CULVERT IN "MIMS RD"	SIDS BYPASS
EE	0.28	10	0.90	9.80	2.46	FLOW TO PROP STREET CULVERT IN SIDS RD	SIDS BYPASS
FF	0.77	10	0.90	9.80	6.80	FLOW TO PROP STREET CULVERT IN SIDS RD	SIDS BYPASS
GG	0.44	10	0.90	9.80	3.86	FLOW NORTH TO EXIST STREET CULVERT IN SH 205	SH 205
HH	0.90	10	0.90	9.80	7.92	FLOW SOUTH TO PROP STREET CULVERT IN SH 205	SH 205
II	3.55	20	0.35	8.30	10.31	FLOW SOUTH TO EXIST FLOODWAY	BYPASS TO FLOODPLAIN
JJ	3.94	20	0.35	8.30	11.45	FLOOD PLAIN - FLOW EAST TO FUTURE CREEK CROSSING STRUCTURE	BYPASS TO FLOODPLAIN
KK	8.97	20	0.35	8.30	26.05	FLOW NORTH VIA DITCH A TO EXIST FLOODWAY	BYPASS TO FLOODPLAIN
LL	4.61	20	0.35	8.30	13.40	FLOW NORTHWEST TO DITCH A AND TO BOX CULVERT ON "MIMS RD"	BYPASS TO FLOODPLAIN
MM	21.52	20	0.35	8.30	62.52	FLOW NORTH TO EXIST FLOODWAY	BYPASS TO FLOODPLAIN
NN	0.65	10	0.90	9.80	5.76	FLOW TO BOX CULVERT IN "MIMS RD"	BYPASS TO FLOODPLAIN
OO	0.43	10	0.90	9.80	3.78	FLOW NORTHEAST TO EXIST FLOODWAY	BYPASS TO FLOODPLAIN
TOTALS	98.47	-	-	-	514.00		

PHASE 2 CALCULATIONS

* SHADED AREAS REFLECT NO CHANGE TO DRAINAGE NUMBERS AND CALCULATIONS FOR PHASE 2

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RECORD DRAWING

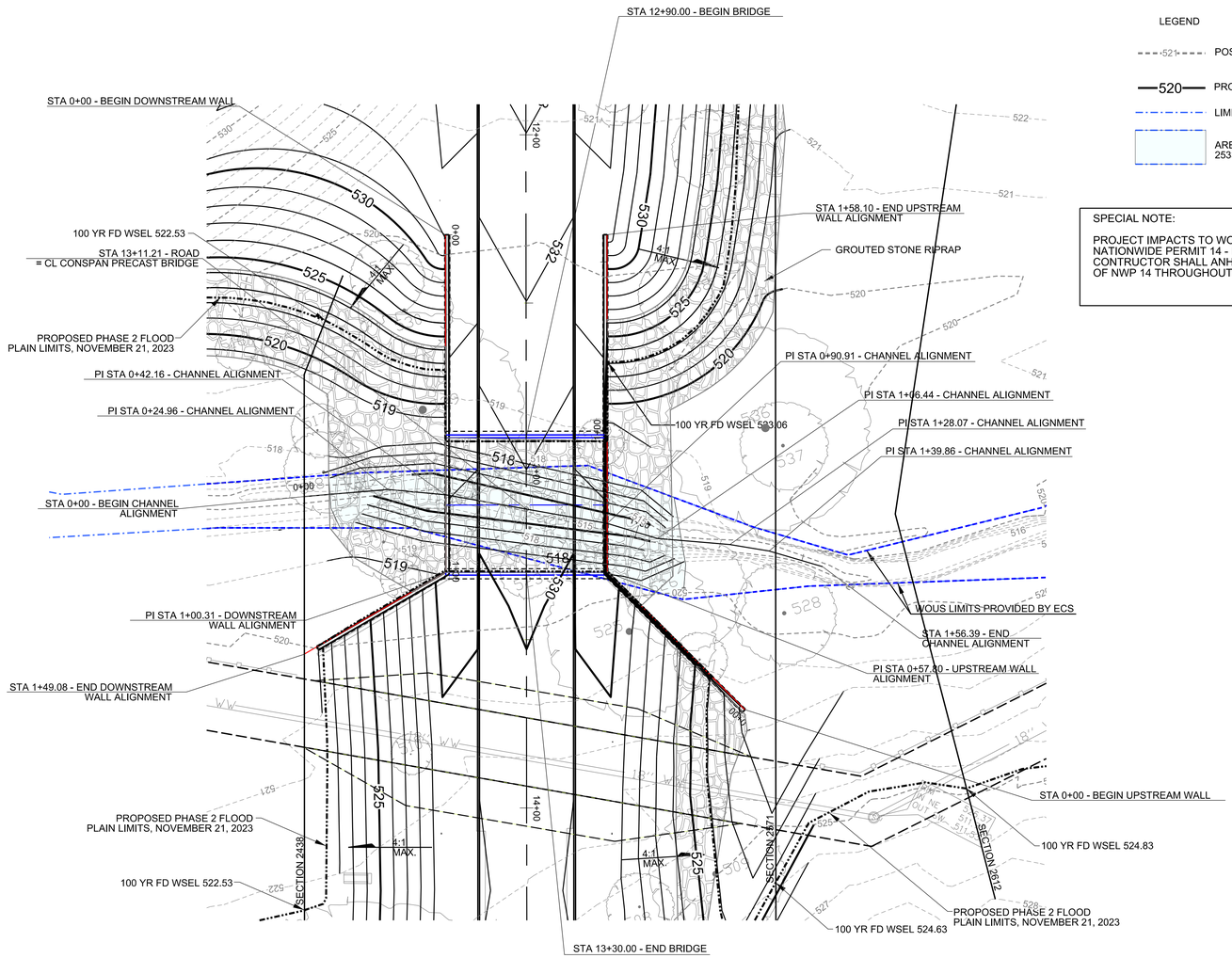
NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION. TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025
FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
POST PROJECT DRAINAGE AREA HYD CALCS
SHEET NO.
C8.2-P2



LEGEND

- POST PHASE 1 EXISTING CONTOUR
- PROPOSED PHASE 2 CONTOUR
- LIMITS OF WOUS PER ECS REPORT
- AREA OF POTENTIAL WOUS IMPACT 2533 SQ. FT. (0.06 ACRES)

ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

SPECIAL NOTE:

PROJECT IMPACTS TO WOUS ARE PERMITTED UNDER USACE NATIONWIDE PERMIT 14 - LINEAR TRANSPORTATION PROJECTS. CONTRUCTOR SHALL ANHERE TO THE TERMS AND CONDITONS OF NWP 14 THROUGHOUT CONSTRUCTION.

N

20 10 0 20

HORIZONTAL ALIGNMENT DATA - CHANNEL

STA	NORTHING	EASTING	DESCRIPTION
0+00	7014846.39	2599725.44	POB
0+24.96	7014859.69	2599746.55	PI - RT
0+42.16	7014866.18	2599762.49	PI - RT
0+90.91	7014880.73	2599809.02	PI - RT
1+06.44	7014883.60	2599824.28	PI - LT
1+28.07	7014891.92	2599844.24	PI - RT
1+39.86	7014895.56	2599855.47	PI - RT
1+56.39	7014898.75	2599871.68	POE

HORIZONTAL ALIGNMENT DATA - UPSTREAM WALL

STA	NORTHING	EASTING	DESCRIPTION
0+00	7014850.41	2599870.81	BEGIN WALL
0+57.80	7014867.85	2599815.71	PI WALL
1+58.10	7014956.87	2599769.49	END WALL

HORIZONTAL ALIGNMENT DATA - DOWNSTREAM WALL

STA	NORTHING	EASTING	DESCRIPTION
0+00	7014934.76	2599726.89	BEGIN WALL
1+00.31	7014845.73	2599773.11	PI WALL
1+49.08	7014804.63	2599746.86	END WALL

NOTES:

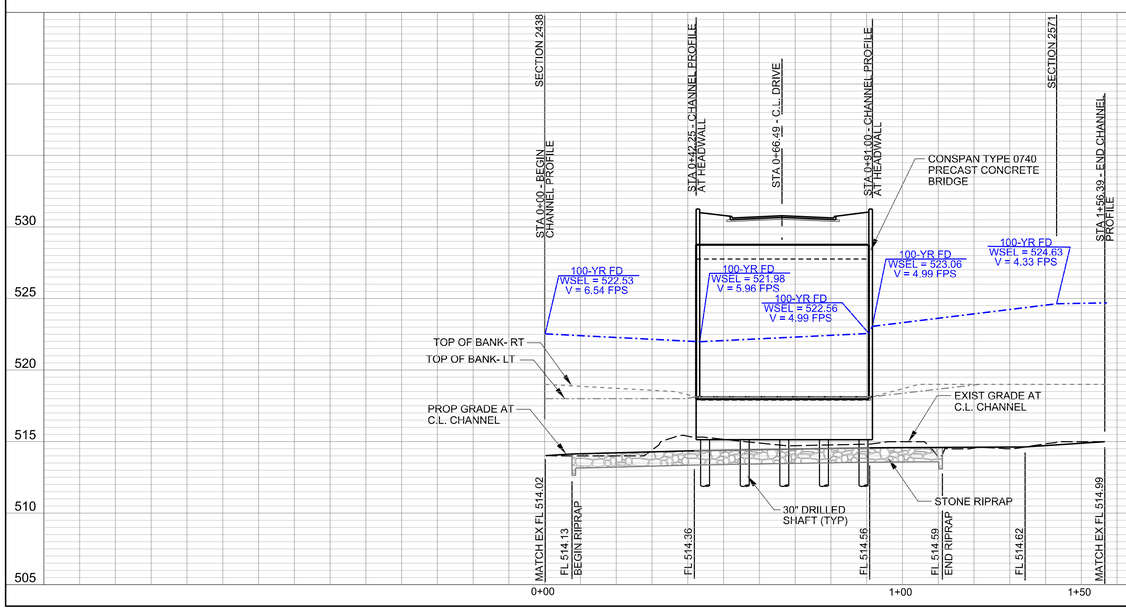
1. SEE PHASE 2 CIVIL PLANS FOR DRIVE ALIGNMENT AND PROFILE
2. CONSPAN TYPE O740 PRECAST BRIDGE. HEADWALLS, WINGWALLS AND DETAILED DESIGN TO BE PROVIDED BY CONTECH ENGINEERED SOLUTIONS, INC. FINAL FOUNDATION DESIGN TO BE PROVIDED BY R-DELTA ENGINEERS, INC.
3. HEADWALLS AND WINGWALLS SHALL HAVE ASHLAR STONE VENEER FINISH.
4. SEE C9-2- P2 FOR BRIDGE PLAN AND ELEVATIONS & RIPRAP LIMITS

RECORD DRAWING

NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR AND FIELD SURVEY VERIFICATION. TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025

FRANK A. ROLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515



HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS · DAVID B. PORTER · 69825 · REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAVID B. PORTER, P.E. 69825 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

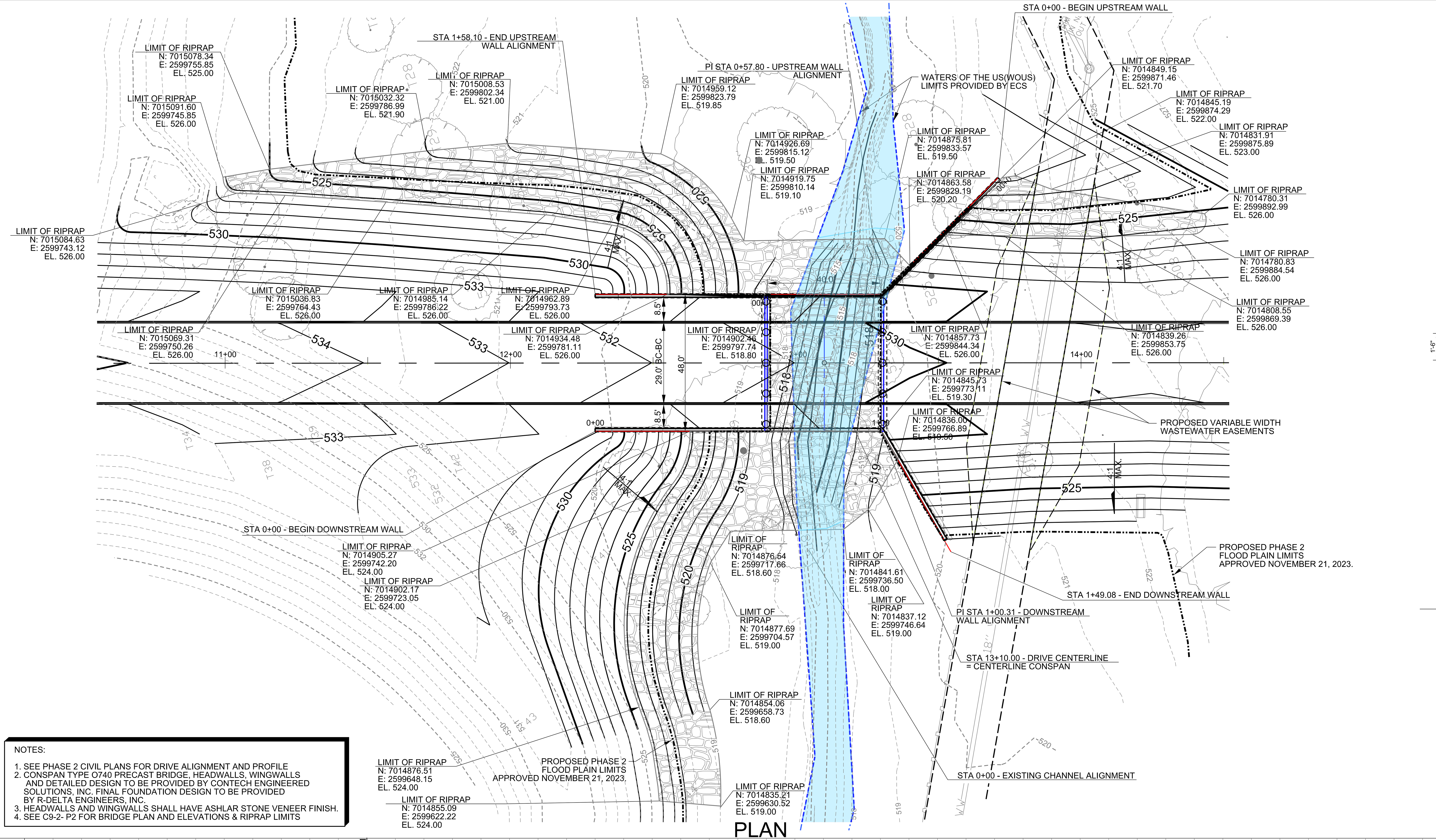
ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
CREEK CROSSING PLAN & PROFILE

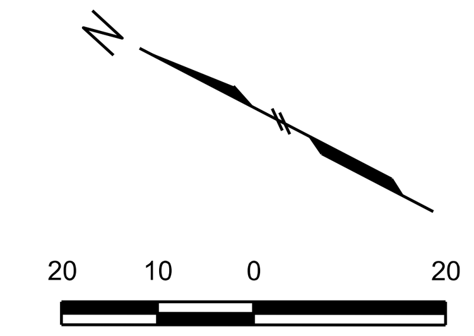
CASE# E2023-042

SHEET NO.
C9.1-P2

ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

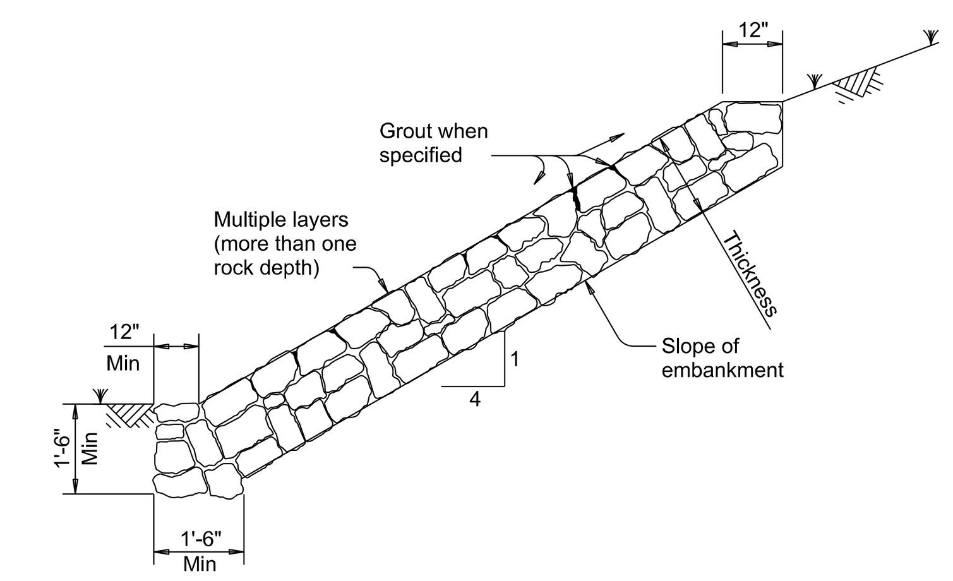


PLAN



NOTES:

1. SEE PHASE 2 CIVIL PLANS FOR DRIVE ALIGNMENT AND PROFILE
2. CONSPAN TYPE O740 PRECAST BRIDGE, HEADWALLS, WINGWALLS AND DETAILED DESIGN TO BE PROVIDED BY CONTECH ENGINEERED SOLUTIONS, INC. FINAL FOUNDATION DESIGN TO BE PROVIDED BY R-DELTA ENGINEERS, INC.
3. HEADWALLS AND WINGWALLS SHALL HAVE ASHLAR STONE VENEER FINISH.
4. SEE C9.2- P2 FOR BRIDGE PLAN AND ELEVATIONS & RIPRAP LIMITS



GROUTED STONE RIPRAP

N.T.S.

RIPRAP GRADATION
SIZE: 12"
MAXIMUM SIZE: 200 LB
90% SIZE: 80–180 LB
50% SIZE: 30–75 LB
8% SIZE: 3 LB MINIMUM

RIPRAP SIZE
SIZE: 12 IN
Dmax: 13.76 IN
D90: 10.14–13.29 IN
D50: 7.31–9.92 IN
D8: 3.39 IN

TYPICAL GROUTED RIPRAP GRADATION & SIZE

SCALE: N.T.S.

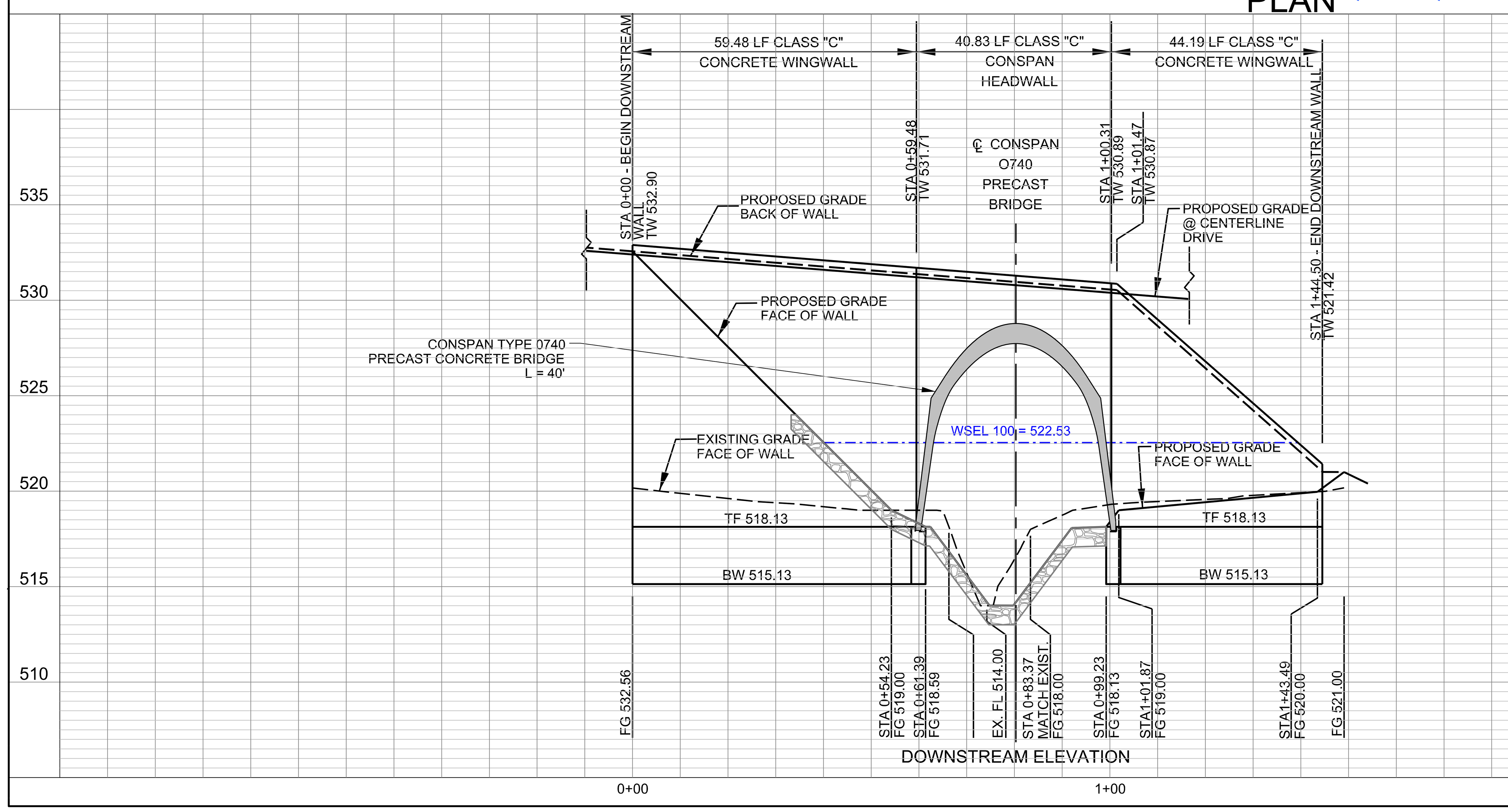
NOTE:
STONE RIPRAP SHALL BE DURABLE NATURAL STONE WITH A MINIMUM BULK SPECIFIC GRAVITY OF 2.50 AS DETERMINED BY TxDOT TEST PROCEDURE TEX–403–A. CONSTRUCT RIPRAP AND BEDDING IN ACCORDANCE WITH TxDOT ITEM 432.3.2.3. DRY COMMON GROUTING. PROVIDE GROUT IN ACORDANCE WITH TxDOT ITEM 421. HYDRAULIC CEMENT CONCRETE.

RECORD DRAWING

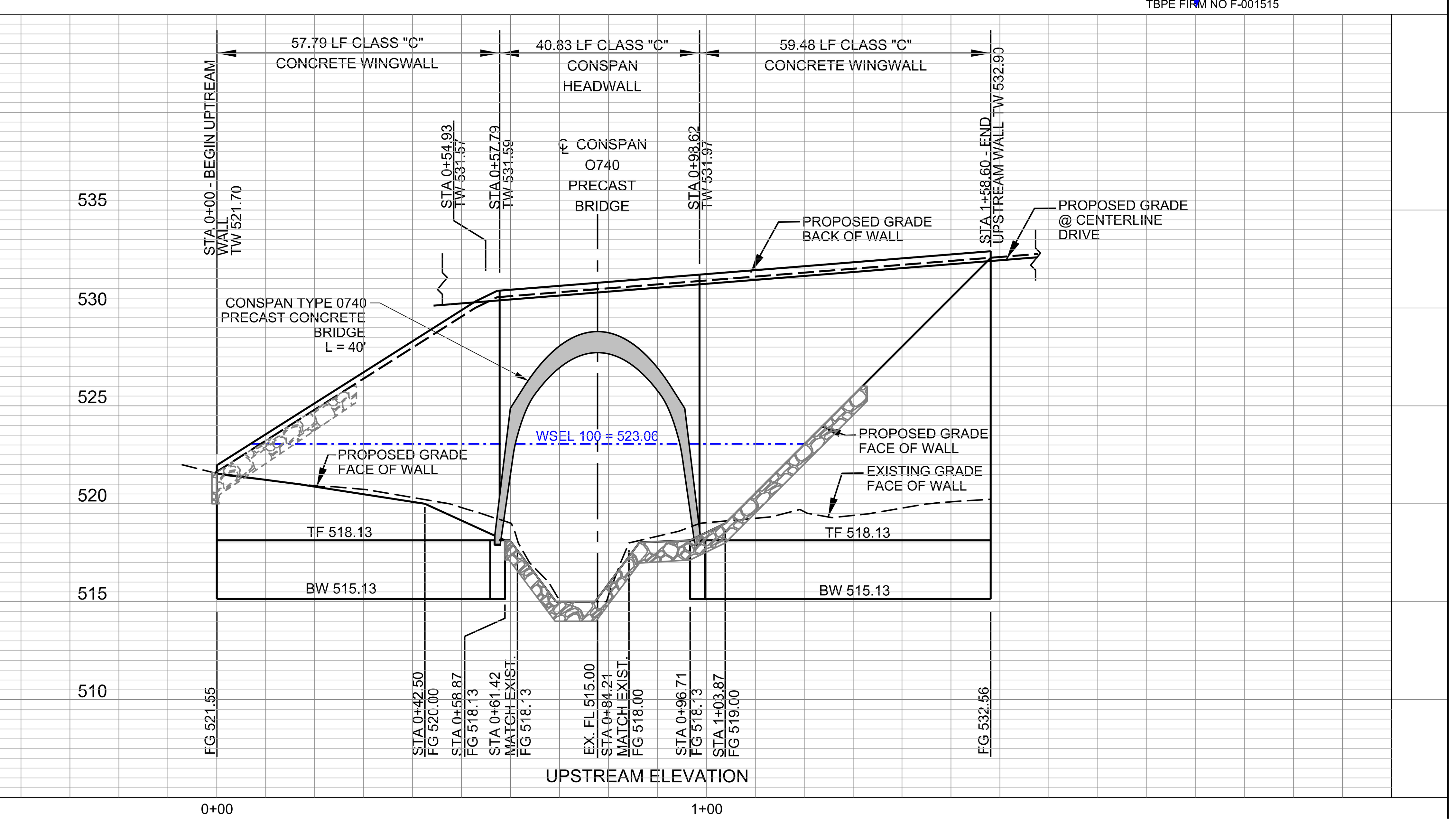
NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT. INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION, TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515



DOWNSTREAM ELEVATION



UPSTREAM ELEVATION

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
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DALLAS, TX 75201- 4240

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SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

RayburnElectric COOPERATIVE

STATE OF TEXAS
DAVID B. PORTER
69825
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAVID B. PORTER, P.E. 69825 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
CONSPAN PLAN & ELEVATIONS

CASE# E2023-042

SHEET NO.
C9.2-P2

INLET DESIGN CALCULATIONS TABLE

Inlet ID	Location			Area Runoff									Gutter Flow													
	Alignment[1]	Station	Offset	Design Freq	C	Area ID	Time of Concentration, Tc (min)	Intensity I (in/hr)	Area A (acres)	Runoff Q cfs	Upstream Bypass , C*A (acres)	Total Gutter Flow Qa (cfs)	Thoroughfare Type	On Grade/Sag	Manning's n	Long Slope S (%)	Crown Type	Cross Slope Sx (%)	Depth a (ft)	Width w (ft)	Ponding Width/Spread		Depth of Gutter Flow		Maximum Allowable Flow Based on Max. Allowable Ponding Width Qallowgutter (cfs)
																						(allow) Tallow (ft)	(actual) Tactual (ft)[2]	(allow) Yallow (ft)	(actual) Yactual (ft)[3]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	
DRIVE A-1	DRIVE A	2+39.61	No offset	100	0.9	X, AA1, Z1A	10	9.8	0.92	8.13	0.000	8.09	Local	Sag	0.0175	NA	NA	3.57%	NA	2	14.00	9.23	0.50	0.33	15.12	
DRIVE A-2	DRIVE A	2+07.61	No offset	100	0.9	Y,AA2, Z1B	10	9.8	0.81	7.11	0.000	7.12	Local	Sag	0.0175	NA	NA	3.57%	NA	2	14.00	8.47	0.50	0.30	15.12	

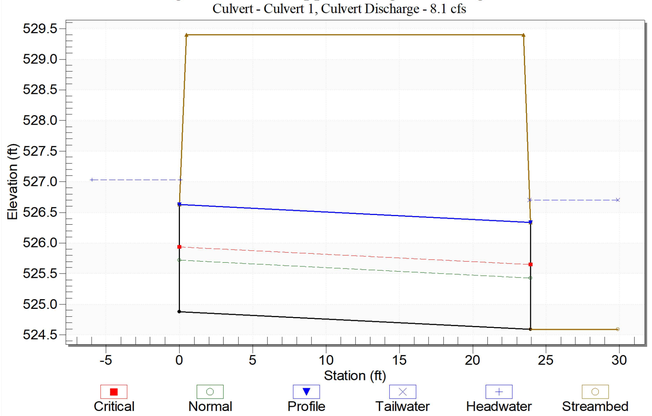
NOTES:
1) Refer to Storm Drain Alignment on Sheet C10.2-P2 for reference.

INLET DESIGN CALCULATIONS TABLE

Inlet ID	Location			Inlets Capacity										Inlet Bypass			Remarks
	Alignment[1]	Station	Offset	Depressed Gutter Section		Section Beyond Depression		Conveyance				Inlet Length		Inlet Capacity Qc (cfs)	Flow Qbypass (cfs)	C*A	To Inlet ID	
				Area Aw (ft^2)	Wetted Perimeter Pw (ft)	Area Ao (ft^2)	Wetted Perimeter Po (ft)	Depression Section Kw (cfs)	Section Beyond Depression Ko (cfs)	Ratio of Depression Flow to Total Flow Eo	Equivalent Cross-Slope, Se	Required Lreqd (ft)	Actual Lactual (ft)					
(1)	(2)	(3)	(4)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
DRIVE A-1	DRIVE A	2+39.61	No offset	NA	NA	NA	NA	NA	NA	NA	NA	6.40	15	15.12	0.00	0.00	NA	
DRIVE A-2	DRIVE A	2+07.61	No offset	NA	NA	NA	NA	NA	NA	NA	NA	5.15	15	15.12	0.00	0.00	NA	

NOTES:
1) Refer to Storm Drain Alignment on Sheet C10.2-P2 for reference.

STM LINE DRIVE A, TOP LEG
FROM INLET DRIVE A–1 TO INLET DRIVE A–2



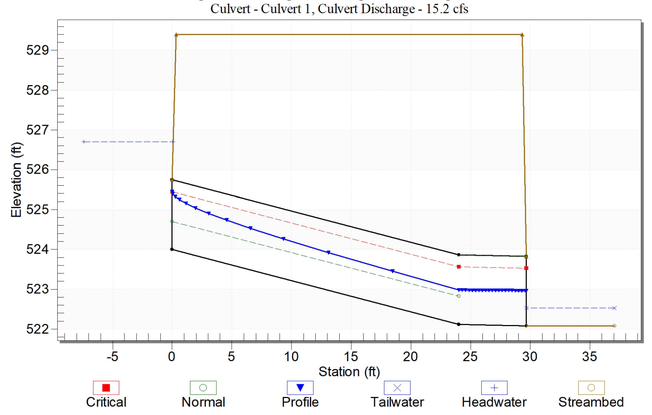
Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
527.03	8.13	8.13	0.00	1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)
8.13	8.13	527.03	1.61	2.15	4-Fff	0.84	1.06	1.75	2.11	3.38

TAILWATER ELEVATION = 526.70 FT [BASED ON HEADWATER ELEV OF BOTOM LEG]

HY–8 USED FOR CULVERT ANALYSIS

STM LINE DRIVE A, BOTTOM LEG
FROM INLET DRIVE A–2 TO HEADWALL



Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
526.70	15.25	15.25	0.00	1

UPPER SECTION

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)
15.25	15.25	526.70	2.70	0.0*	5-S2n	0.71	1.45	1.45	0.86	7.18	12.96

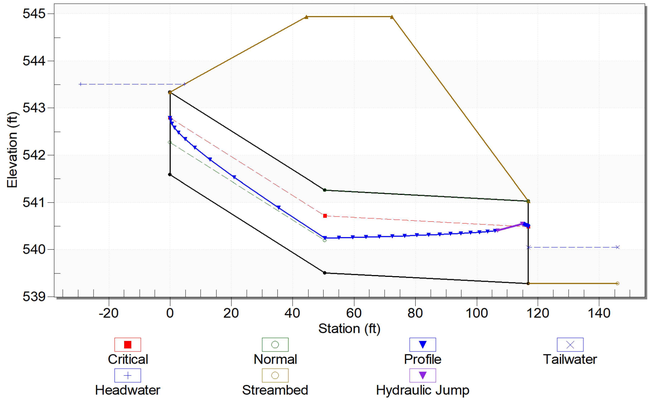
LOWER SECTION

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Tailwater Depth (ft)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)
15.25	15.25	526.70	2.70	0.0*	7-M3t	1.75	1.45	0.45	0.86	0.89	12.96	12.46

TAILWATER ELEVATION = 522.53 FT (BASED ON 100 YR FLOOD PLAIN ELEVATION – CROSS–SECTION 2438)

HY–8 USED FOR CULVERT ANALYSIS

MIMS ROAD CULVERT



Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
543.51	20.92	20.92	0.00	1

UPPER SECTION

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)
20.92	20.92	543.51	1.92	0.0*	5-S2n	0.69	1.21	1.21	0.74	5.93	10.93

LOWER SECTION

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Tailwater Depth (ft)	Upstream Depth (ft)	Downstream Depth (ft)	Upstream Velocity (ft/s)	Downstream Velocity (ft/s)
20.92	20.92	543.51	1.92	0.0*	7-JM2c	1.75	1.21	0.77	0.74	1.21	10.93	5.93

TAILWATER ELEVATION = 540.05 FT WHICH IS BASED ON THE FOLLOWING:
CHANNEL INVERT ELEVATION = 539.28 FT
SIDE SLOPE = 25H: 1V
CHANNEL SLOPE = 1.0%
MANNING'S COEFFICIENT = 0.05

HY–8 USED FOR CULVERT ANALYSIS

HKS

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HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

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DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

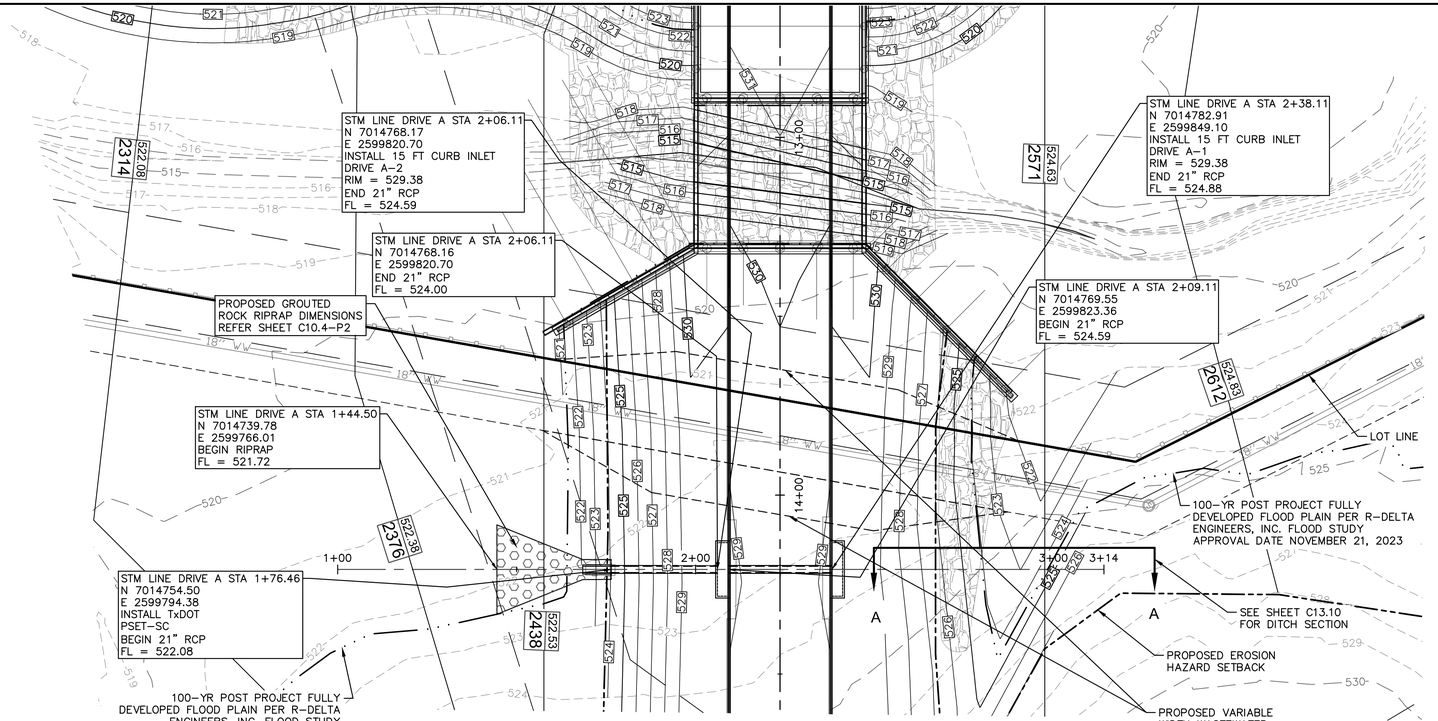
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
INLET AND CULVERT CALCULATIONS

CASE# E2023-042

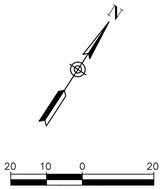
SHEET NO.
C10.1-P2

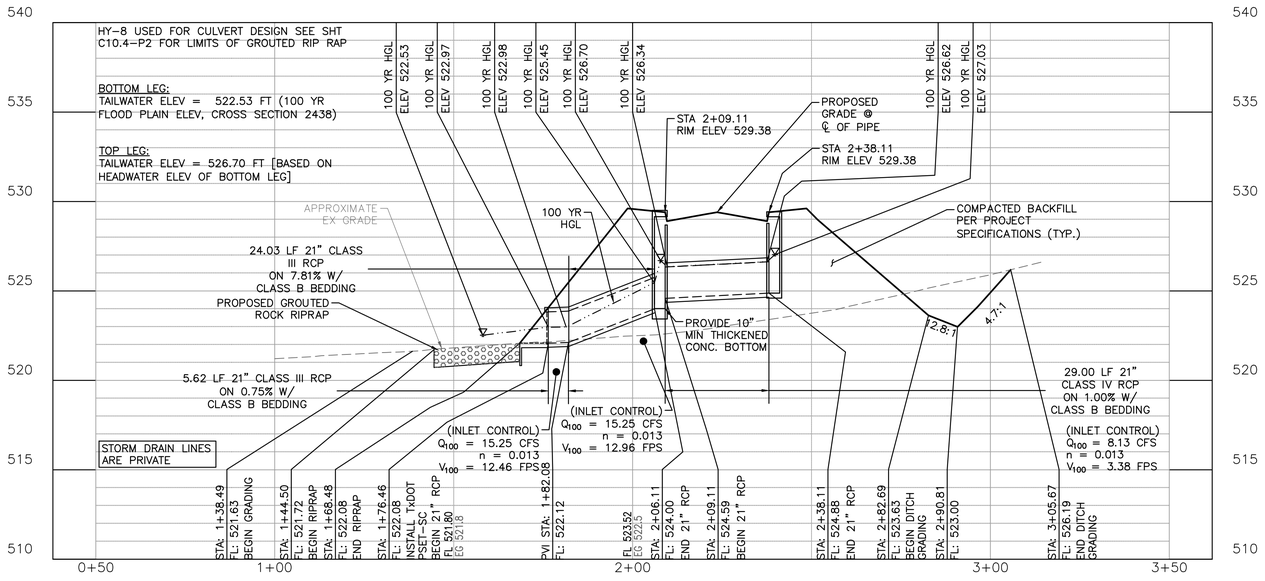
!!!CAUTION!!!
OVERHEAD AND
UNDERGROUND UTILITIES
IN AREA



PLAN STM LINE DRIVE A

SCALE: 1"=20'





PROFILE STM LINE DRIVE A

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

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LEGEND

- EXISTING WROUGHT IRON FENCE
- 550 EXISTING SURFACE CONTOUR MAJOR
- 551 EXISTING SURFACE CONTOUR MINOR
- 550 PROPOSED SURFACE CONTOUR MAJOR
- 551 PROPOSED SURFACE CONTOUR MINOR
- DRAINAGE FLOW
- PROPOSED GROUTED ROCK RIPRAP

NOTES:

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3. SEE SHEET C13.2–P2 AND C13.3–P2 FOR GENERAL STORM SEWER DETAILS.
4. SEE SHEET C10.1–P2 FOR HYDRAULIC CALCULATIONS.
5. SEE SHEET C13.10–P2 FOR GROUTED RIPRAP DETAILS.

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OWNER/ APPLICANT
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Rayburn Electric COOPERATIVE

STATE OF TEXAS
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11/06/2025
FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

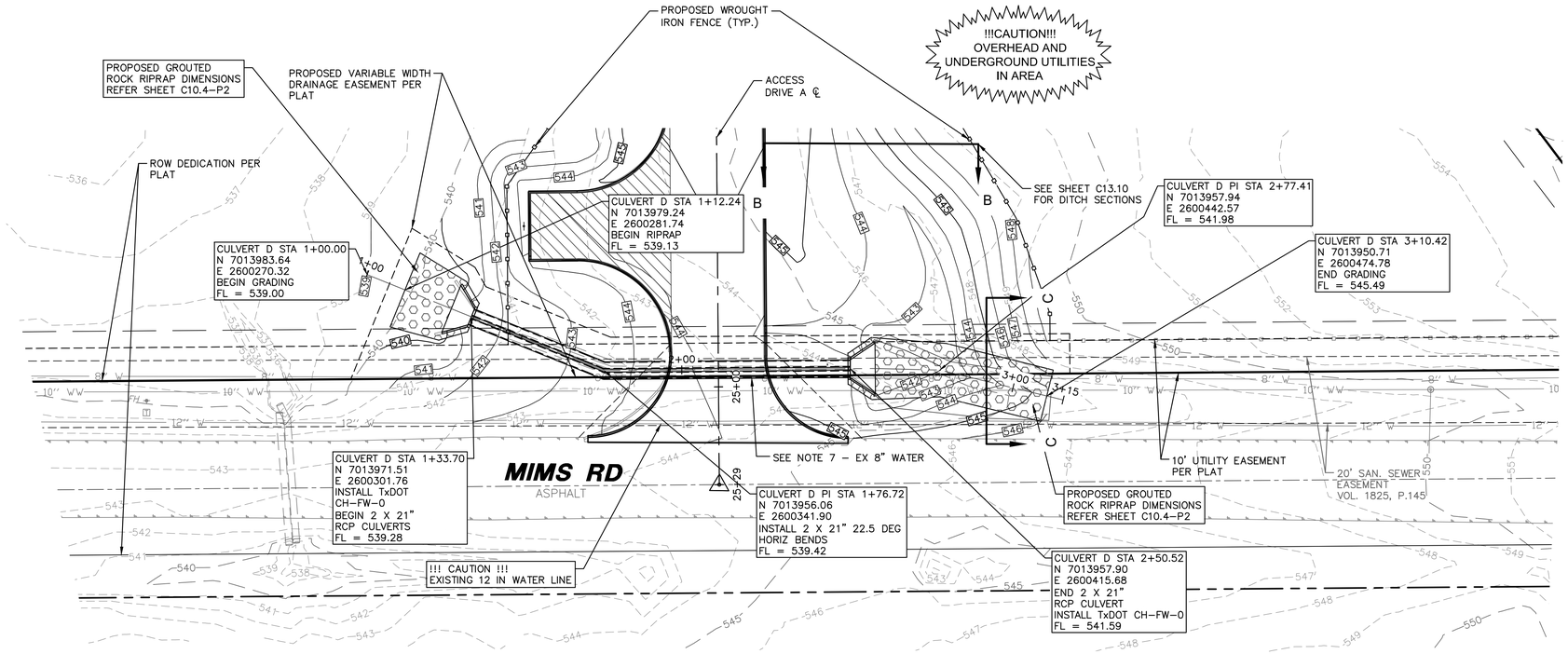
DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
STM LINE DRIVE A PLAN & PROFILE

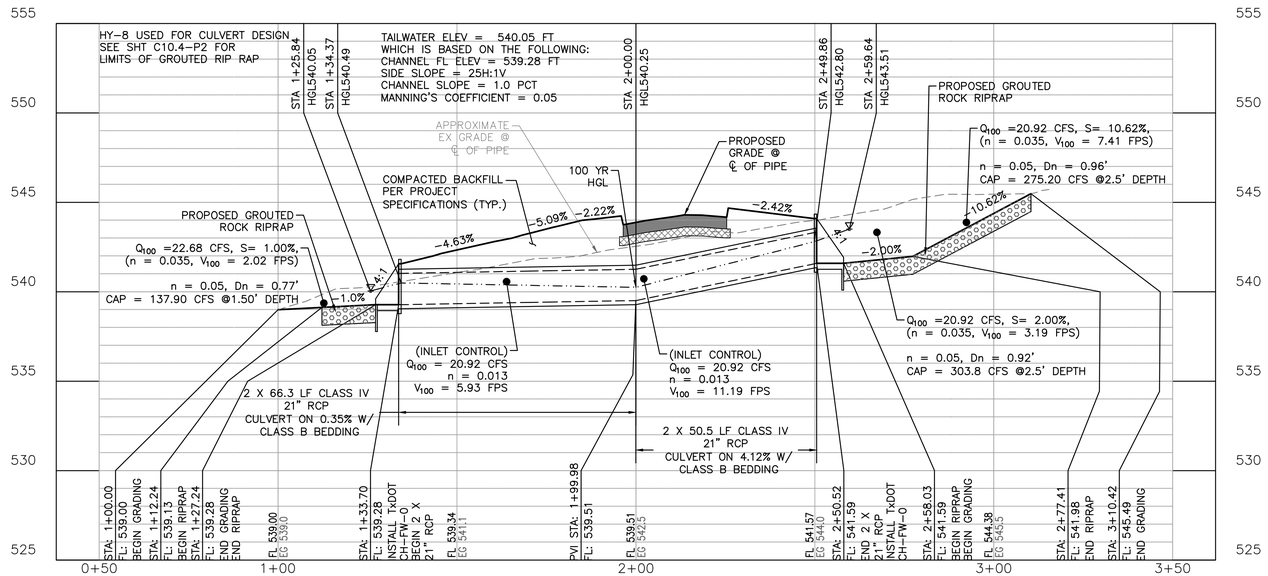
CASE# E2023-042

SHEET NO.
C10.2-P2



PLAN CULVERT D

SCALE: 1"=20'



PROFILE CULVERT D

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE 1"=5'

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N

20 10 0 20

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

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6. CONTACT CITY OF ROCKWALL SERVICE CENTER (972–771–7730) FOR 12" WATER LINE LOCATES 2 BUSINESS DAYS PRIOR TO EXCAVATION.
7. PER CONVERSATION WITH DWIGHT OF RCH WATER SUPPLY CORPORATION, THE 8" WATER MAIN IN MIMS RD IS NOT SERVICING ANYTHING. CONTACT RCH WSC TO CONFIRM THE 8" WATER IS NOT IN SERVICE.

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TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

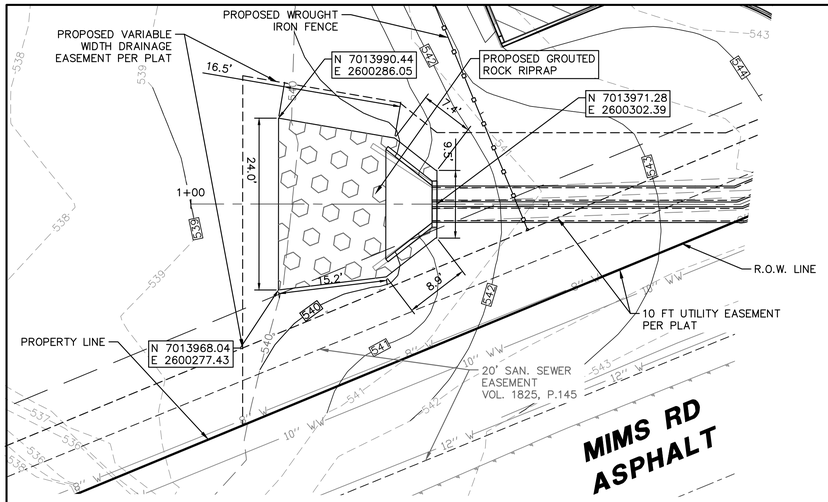
DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
CULVERT D PLAN & PROFILE

CASE# E2023-042

SHEET NO.
C10.3-P2



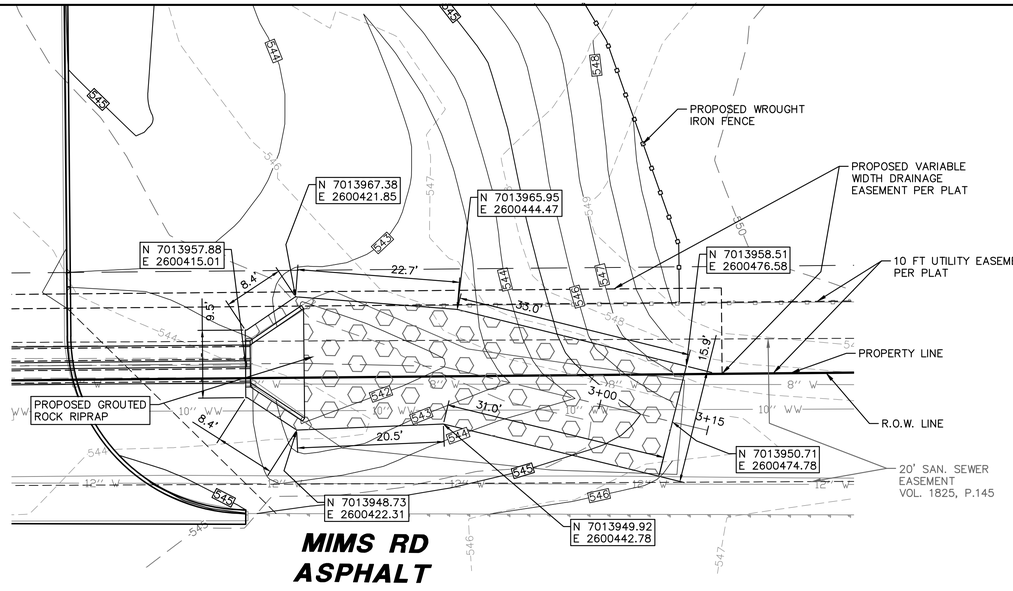
RIPRAP DIMENSIONS - CULVERT D DOWNSTREAM END HEADWALL

SCALE: 1 INCH = 10 FT

10 5 0 10

GRAPHIC SCALE IN FEET
SCALE: 1" = 10'

!!!CAUTION!!!
OVERHEAD AND UNDERGROUND UTILITIES IN AREA



RIPRAP DIMENSIONS - CULVERT D UPSTREAM END HEADWALL

SCALE: 1 INCH = 10 FT

10 5 0 10

GRAPHIC SCALE IN FEET
SCALE: 1" = 10'

RIPRAP DIMENSIONS - STM LINE DRIVE A (DOWNSTREAM END) HEADWALL

SCALE: 1 INCH = 10 FT

10 5 0 10

GRAPHIC SCALE IN FEET
SCALE: 1" = 10'

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CHECK FOR RIPRAP SIZE DOWNSTREAM OF CULVERT D

Per Section 4.4.2, iSWM^{TM}Technical Manual, Hydraulics, Chapter 4

For pipes flowing partially full.

Tailwater = 540.05 ft; Depth is 0.77 feet; Depth of flow, d = 1.21 feet, V = 5.93 fps (from HY-8)

Because Tailwater depth < 0.5 x dia of pipe (0.875 ft); Use Fig 4.2

For dia of pipe = 21" and V = 5.93 fps, D_{50} = 0.4 feet (From Lower Portion of Figure), USE 8"

From the Upper curve of the figure, Required Length of Riprap = La = 12 feet; Provided is 15 feet

Width of Rirap at Downstream End = D_0 + La = 2 x 1.75' (2 x 21" RCP) + 1.33' (separation between pipes) + 12 feet = 16.83 feet. Provided Width is 24 feet

CHECK FOR RIPRAP SIZE UPSTREAM OF CULVERT D

Per Eqn 3.22, iSWM^{TM}Technical Manual, Hydraulics, Chapter 3

$$D_{50} = \sqrt{\frac{V}{1.8\sqrt{2g\left((\gamma_S-\gamma_W)/\gamma_W\right)}}}$$

$$D_{50} = \sqrt{\frac{7.41}{1.8\sqrt{2\ x32.2\left(\frac{2.50\ x62.4-62.4}{62.4}\right)}}}$$

=0.65 ft

USE 8"

CHECK FOR RIPRAP SIZE DOWNSTREAM OF STM LINE DRIVE A

Per Section 4.4.2, iSWM^{TM}Technical Manual, Hydraulics, Chapter 4

For pipes flowing partially full.

Tailwater = 522.53 ft; Depth is 0.45 feet; Depth of flow, d = 0.89 feet, V = 12.46 fps (from HY-8)

Because Tailwater depth < 0.5 x dia of pipe (0.875 ft); Use Fig 4.2

For dia of pipe = 21" and V = 12.46 fps, D_{50} = 0.65 feet (From Lower Portion of Figure), USE 8"

From the Upper curve of the figure, Required Length of Rirrap = La = 16 feet; Provided is 24 feet

Width of Rirap at Downstream End = D_0 + La = 1.75 feet + 16 feet = 17.75 feet. Provided Width is 25 feet

LEGEND

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- 550 EXISTING SURFACE CONTOUR MAJOR
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11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
RIPRAP LAYOUT & DIMENSIONS

CASE# E2023-042

SHEET NO.
C10.4-P2

SITE DESCRIPTION

PROJECT LOCATION:

RAYBURN ELECTRIC COOPERATIVE CAMPUS
950 SIDS ROAD
ROCKWALL TEXAS 75032

IS THIS A SHARED SWPPP ? ____YES __X__ NO

IF YES, AREAS OF RESPONSIBILITY OF EACH OPERATOR SHALL BE INDICATED IN SWPPP.

OPERATORS NAME & ADDRESS:

RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL TEXAS 75032

CONTRACTOR NAME & ADDRESS:

PULLIAM CONSTRUCTION
303 S. JACKSON ST., SUITE 100
WYLIE, TEXAS 75098

PROJECT DESCRIPTION: CONSTRUCTION OF CIVIL SITE IMPROVEMENTS INCLUDING GRADING, DRAINAGE, FENCING AND PAVING

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES:

1. *INSTALL EROSION CONTROL DEVICES.*
2. *REMOVE AND DISPOSE OF EXISTING IMPROVEMENTS PER DEMOLITION PLAN.*
3. *STRIP SITE OF VEGETATION/ORGANICS.*
4. *INSTALL DRAINAGE AND UTILITIES, PLACE AND COMPACT FILL, CONSTRUCT, FENCING, SUBGRADE AND CONSTRUCT PAVING AND SIDEWALKS.*
5. *ESTABLISH PERMANENT VEGETATION IN UNPAVED DISTURBED AREAS*
6. *REMOVE EROSION CONTROL DEVICES.*

DESCRIPTION OF POTENTIAL POLLUTANTS:

POTENTIAL POLLUTANTS MAY INCLUDE: STOCKPILED SOILS, CHEMICALS, FERTILIZERS, CONCRETE AND ASPHALT WASTE FLUIDS, OILS, GREASE FROM TRUCKS AND EQUIPMENT, CONSTRUCTION DEBRIS (INCLUDING GARBAGE), SEDIMENT FROM STORM WATER RUNOFF, AND SLURRY FROM CONCRETE SAW CUTTING.

PRE-DEVELOPMENT RUNOFF COEFFICIENT: 0.35

FINAL RUNOFF COEFFICIENT AFTER CONSTRUCTION: 0.90

TOTAL PROJECT AREA: 5.68 ACRES

TOTAL AREA TO BE DISTURBED, INCLUDING OFF-SITE MATERIAL STORAGE AREAS, OVERBURDEN AND STOCKPILES OF DIRT, AND BORROW AREAS THAT ARE AUTHORIZED UNDER THE PERMITTEE'S NOI: 4.12 ACRES

DESCRIPTION OF EXISTING SOIL:

HOUSTON BLACK CLAY, 1 to 3% SLOPES	*(32%)*
FERRIS-HEIDEN COMPLEX, 2 to 5% SLOPES	*(15%)*
FERRIS CLAY, 5 to 12% SLOPES, ERODED	*(50%)*
HEIDEN CLAY, 3 to 5% SLOPES	*(3%)*
	(100%)

DESCRIPTION OF STABILIZATION OF EXISTING DRAINAGE WAYS:

CONCRETE PAVING, ROCK RIPRAP AND RE-ESTABLISHING VEGETATION

DESCRIPTION OF LOCATIONS WHERE STORMWATER DISCHARGES FROM PROJECT DRAIN DIRECTLY TO SURFACE WATER BODIES (WATERS OF THE U.S. OR SURFACE WATERS IN THE STATE), OR INTO MS4:

*STORMWATER DISCHARGES OVERLAND AND IN STORM SYSTEMS TO BUFFALO CREEK TRIBUTARY *3, THEN INTO BUFFALO CREEK, THEN FINALLY INTO LAKE RAY HUBBARD*

NAME OF RECEIVING WATERS: *LAKE RAY HUBBARD WATERSHED*

ESTIMATED PROJECT START DATE: *FEBRUARY 1, 2024*

ESTIMATED PROJECT END DATE: *MAY 31, 2024*

GENERAL PERMIT AUTHORIZATION *: *TXR150000*

DATE NOTICE OF INTENT SENT TO TCEQ :

EROSION AND SEDIMENT CONTROLS

STABILIZATION PRACTICES

TEMPORARY:

- X ESTABLISHED VEGETATION (SEED OR SOD @ 70% DENSITY)
- N/A MULCHING
- N/A TACKIFIER
- N/A EROSION CONTROL BLANKETS

PERMANENT:

- X ESTABLISHED PERENNIAL VEGETATION (SEED OR SOD @ 70% DENSITY)
- N/A ESTABLISHED VEGETATION OTHER THAN SEED OR SOD (LANDSCAPING)
- X PAVING
- X RIPRAP, GABIONS OR GEOTEXTILES

DISTURBED AREAS INCLUDING HOUSE LOTS OR PROPOSED HOUSE LOTS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME WITHIN 21 DAYS.

BEST MANAGEMENT (EROSION & SEDIMENT CONTROL) PRACTICES:

INDICATE SELECTION WITH AN "X", IF NOT APPLICABLE, INDICATE N/A.
ALL BMPs SELECTED SHALL BE INDICATED ON THE EROSION CONTROL PLAN.

X	SILT FENCE	**(BMP ID S-1)**
N/A	ORGANIC FILTER BERM	**(BMP ID S-2)**
X	TRIANGULAR SEDIMENT FILTER DIKE	**(BMP ID S-3)**
X	INLET PROTECTION	(BMP ID S-4)
N/A	STONE OUTLET SEDIMENT TRAP	(BMP ID S-5)
N/A	SEDIMENT BASIN*	(BMP ID S-6)
X	CHECK DAM	(BMP ID S-7)
N/A	TEMPORARY SEDIMENT TANK	(BMP ID S-8)
X	STABILIZED CONSTRUCTION ENTRANCE	(BMP ID S-9)
X	WHEEL WASH	(BMP ID S-10)
N/A	INTERCEPTOR SWALE	(BMP ID E-1)
N/A	DIVERSION DIKE	(BMP ID E-2)
N/A	PIPE SLOPE DRAIN	(BMP ID E-3)
X	ESTABLISHED VEGETATION (SEED OR SOD @ 70% DENSITY)**	(BMP ID E-4)
N/A	MULCHING	(BMP ID E-5)
N/A	EROSION CONTROL BLANKETS	(BMP ID E-6)
N/A	CHANNEL PROTECTION	(BMP ID E-7)
X	DUST CONTROL	(BMP ID E-8)
N/A	TREE PRESERVATION	(APPROVED BY PLANNING DEPT)

*1) SEDIMENT BASIN(S) CALCULATIONS SHALL BE INCLUDED IN SWPPP
2) REQUIRED FOR 10 ACRES OR LARGER IF FEASIBLE, WRITTEN EXPLANATION REQUIRED IF DECLARED NOT FEASIBLE
** INCLUDING PRESERVATION OF EXISTING VEGETATION

POST DEVELOPMENT STORMWATER MANAGEMENT FEATURES

- X ESTABLISHED PERENNIAL VEGETATION (SEED OR SOD @ 70% DENSITY)
- N/A ESTABLISHED VEGETATION OTHER THAN SEED OR SOD (LANDSCAPING)
- X CURB & GUTTER
- X STORM SEWER
- X STORM SEWER INLETS
- X CULVERTS
- N/A GABIONS
- X VELOCITY DISSIPATION DEVICES
- N/A DETENTION, RETENTION, OR AMENITY POND:

IF A DETENTION OR RETENTION FACILITY OR AMENITY POND WILL BE PART OF A DEVELOPMENT, THE DEVELOPER SHALL CONSTRUCT THE FACILITY DURING THE INITIAL PHASES OF DEVELOPMENT, AND SHALL ENSURE THAT THE FACILITY IS FULLY FUNCTIONAL AS DESIGNED INCLUDING THE ESTABLISHMENT OF A STABILIZED COVER, WHICH SHALL BE MAINTAINED THROUGHOUT THE REMAINING PHASES OF CONSTRUCTION.

THE FOLLOWING INDICATED HOUSEKEEPING PRACTICES SHALL BE FOLLOWED

X	DEBRIS AND TRASH MANAGEMENT	(BMP ID M-1)
X	CHEMICAL MANAGEMENT	(BMP ID M-2)
X	CONCRETE WASTE MANAGEMENT	(BMP ID M-3)
X	CONCRETE SAW CUTTING WASTE MANAGEMENT	(BMP ID M-4)
N/A	SANDBLASTING WASTE MANAGEMENT	(BMP ID M-5)
X	LIME STABILIZATION WASTE MANAGEMENT	(BMP ID M-6)
X	SANITARY FACILITIES *	(BMP ID M-7)

* INDICATE PROPOSED LOCATION(S) OF SANITARY FACILITIES ON EROSION CONTROL PLAN.

(ALL SELECTED BMPs FROM MOST CURRENT NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS BEST MANAGMENT PRACTICES FOR CONSTRUCTION ACTIVITIES MANUAL SHALL BE ATTACHED TO THIS SWPPP. THE MANUAL IS FREE FOR DOWNLOAD IN PDF FORMAT AT:
http://www.dfwstormwater.com/construction/

ARE SURFACE WATERS (INCLUDING WETLANDS) EITHER AT, ADJACENT, OR IN CLOSE PROXIMITY TO THE SITE IDENTIFIED? __X__YES _____ NO

IF YES, INDICATE LOCATION ON EROSION CONTROL PLAN

WILL THIS PROJECT HAVE A BATCH PLANT? __YES __X__NO

IF YES, INDICATE PROPOSED LOCATION OF BATCH PLANT ON EROSION CONTROL PLAN

NOTE: TCEQ REQUIRES STORMWATER RUNOFF SAMPLE ANALYSIS FOR BATCH PLANT OPERATIONS

WILL THIS PROJECT HAVE OFF-SITE CONSTRUCTION SUPPORT ACTIVITIES THAT ARE AUTHORIZED UNDER THE PERMITTEE'S NOI, INCLUDING MATERIAL, WASTE, BORROW, FILL, OR EQUIPMENT STORAGE AREAS? _____ YES __X__ NO

IF YES, INDICATE LOCATION ON EROSION CONTROL PLAN

WILL STORMWATER DISCHARGES FROM THIS PROJECT EFFECT PROPERTY LISTED OR ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES. _____YES __X__ NO

RECORD DRAWING

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
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LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
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OWNER/ APPLICANT
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469-402-2100

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618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
SWPPP NARRATIVE 1

CASE# E2023-042

SHEET NO.
C12.1-P2

SEQUENCE AND TIMING OF INDICATED EROSION CONTROL PRACTICES AND/OR FEATURES

(INCLUDE TREATMENT OF STOCKPILED DIRT FOR FUTURE USE)

(1) INSTALL PERIMETER CONTROLS	DAYS	0 - 5
(2) INSTALL STABILIZED CONSTRUCTION ENTRANCES	DAYS	0 - 5
(3) INSTALL STAKED PORTABLE TOILET	DAYS	0 - 5
(4) INSTALL INTERIOR CONTROLS	DAYS	5 - 15
(5) STRIP SITE OF VEGETATION/ORGANICS, STOCKPILE TOPSOIL: (STOCKPILED SOIL SHALL BE STABILIZED WITHIN 14 DAYS, UNLESS ACTIVITIES TO REUSE IT BEGIN WITHIN 21 DAYS)	DAYS	15 - 30
(6) INSTALL AND MAINTAIN CONCRETE WASHOUT AREAS	DAYS	30 - 112
(7) FINAL STABILIZATION COMPLETION	DAYS	112 - 117
(8) REMOVE TEMPORARY BMP'S	DAYS	117 - 121

NOTE:
ALL BMP'S SHALL BE MAINTAINED AS NECESSARY DURING THE ENTIRE CONSTRUCTION PROCESS

DETAILED DESCRIPTION OF BMP MAINTENANCE PROTOCOLS

INSPECTION OF BMP'S SHALL BE PERFORMED BY THE OPERATOR DESIGNATED INSPECTOR REFERENCED IN THE STORMWATER POLLUTION PREVENTION PLAN LOCATED AT THE ON-SITE CONSTRUCTION OFFICE. INSPECTION MUST BE CONDUCTED PER THE TPDES GENERAL PERMIT NUMBER TXR150000 AS REFERENCED IN PART 3, SECTION F, NUMBER 8.

DESCRIPTION OF METHODS USED TO MODIFY STORM WATER POLLUTION CONTROLS IF EXISTING CONTROLS ARE DETERMINED INADEQUATE

THE PERMITTED MUST REVISE OR UPDATE THE STORM WATER POLLUTION PREVENTION PLAN WHENEVER:

1. THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS AND THAT HAS NOT BEEN PREVIOUSLY ADDRESSED IN THE STORM WATER POLLUTION PREVENTION PLAN; OR

2. RESULTS OF INSPECTION OR INVESTIGATIONS BY SITE INSPECTORS, OPERATORS OF MUNICIPAL SEPARATE STORM SEWER SYSTEMS RECIEVING THE DISCHARGE, AUTHORIZED TCEQ PERSONNEL, OR A FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS INDICATE THE STORM WATER POLLUTION PREVENTION PLAN IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN DISCHARGES AUTHORIZED UNDER THIS GENERAL PERMIT.

NOTE:

1.) THE NOTICE OF INTENT (NOI) AND ACKNOWLEDGEMENT CERTIFICATE FOR PRIMARY OPERATORS OF LARGE CONSTRUCTION SITES, AND THE SITE NOTICE FOR SMALL CONSTRUCTION SITES AND FOR SECONDARY OPERATORS OF LARGE CONSTRUCTION SITES SHALL BE POSTED AT THE SITE.

2.) A COPY OF THE TPDES GENERAL PERMIT TXR150000 SHALL BE ATTACHED TO THIS SWPPP.

EROSION AND SEDIMENT CONTROLS

MAINTENANCE/INSPECTION PROCEDURES

1. QUALIFIED PERSONNEL SHALL BE EMPLOYED BY THE OPERATOR TO CONDUCT REQUIRED INSPECTIONS.
2. THE OPERATOR SHALL PROVIDE AND MAINTAIN A RAIN GAUGE UTILIZING MIN. 0.1 INCH INCREMENTS AT THE PROJECT SITE.
3. CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY 7 CALENDAR DAYS. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST PRACTICABLE DATE.
4. INSPECTION SHALL BE PERFORMED BY THE OPERATOR'S REPRESENTATIVE. AN INSPECTION AND MAINTENANCE REPORT SHALL BE MADE FOR EACH INSPECTION AND KEPT AT 950 SIDS ROAD, ROCKWALL, TEXAS 75032. THE INSPECTOR SHALL USE THE OPERATOR INSPECTION FORM IN THE NCTCOG CONSTRUCTION BMP MANUAL OR OTHER FORM APPROVED BY THE OWNER.
5. THE FOLLOWING RECORDS SHALL BE MAINTAINED IN THE PROJECT INSPECTOR'S DAILY LOG:
   A. DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.
   B. DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE.
   C. DATES WHEN STABILIZATION MEASURES ARE INITIATED.
6. THE OPERATOR SHALL SIGN AND POST ON-SITE THE APPROPRIATE TCEQ SITE NOTICE.
7. THE OPERATOR SHALL SIGN AND POST ON-SITE A COPY OF THE TCEQ NOI (FOR PROJECTS THAT DISTURB 5 ACRES OR MORE).
8. THE OPERATOR SHALL PROVIDE THE OWNER WITH A COPY OF ANALYSIS OF STORM WATER RUNOFF SAMPLES REQUIRED BY TCEQ FOR BATCH PLANT OPERATIONS.

OTHER (DESCRIBE) N/A

THE FOLLOWING NON-STORM WATER DISCHARGES FROM SITES AUTHORIZED UNDER THE GENERAL PERMIT ARE ALSO ELIGIBLE FOR AUTHORIZATION UNDER THE GENERAL PERMIT:

. DISCHARGES FROM FIRE FIGHTING ACTIVITIES (FIRE FIGHTING ACTIVITIES DO NOT INCLUDE WASHING OF TRUCKS, RUN-OFF WATER FROM TRAINING ACTIVITIES, TEST WATER FROM FIRE SUPPRESSION SYSTEMS, AND SIMILAR ACTIVITIES);

. * UNCONTAMINATED FIRE HYDRANT FLUSHINGS (EXCLUDING DISCHARGES OF HYPERCHLORINATED WATER, UNLESS THE WATER IS FIRST DECHLORINATED AND DISCHARGES ARE NOT EXPECTED TO ADVERSELY AFFECT AQUATIC LIFE), WHICH INCLUDE FLUSHINGS FROM SYSTEMS THAT UTILIZE POTABLE WATER, SURFACE WATER, OR GROUNDWATER THAT DOES NOT CONTAIN ADDITIONAL POLLUTANTS (UNCONTAMINATED FIRE HYDRANT FLUSHINGS DO NOT INCLUDE SYSTEMS UTILIZING RECLAIMED WASTEWATER AS A SOURCE WATER);

. WATER FROM THE ROUTINE EXTERNAL WASHING OF VEHICLES, THE EXTERNAL PORTION OF BUILDINGS OR STRUCTURES, AND PAVEMENT, WHERE DETERGENTS AND SOAPS ARE NOT USED AND WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS SPILLED MATERIALS HAVE BEEN REMOVED; AND IF LOCAL STATE, OR FEDERAL REGULATIONS ARE APPLICABLE, THE MATERIALS ARE REMOVED ACCORDING TO THOSE REGULATIONS), AND WHERE THE PURPOSE IS TO REMOVE MUD, DIRT, OR DUST;

. UNCONTAMINATED WATER USED TO CONTROL DUST;

. * POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS (EXCLUDING DISCHARGES OF HYPERCHLORINATED WATER, UNLESS THE WATER IS FIRST DECHLORINATED AND DISCHARGES ARE NOT EXPECTED TO ADVERSELY AFFECT AQUATIC LIFE);

. UNCONTAMINATED AIR CONDITIONING CONDENSATE;

. UNCONTAMINATED GROUND WATER OR SPRING WATER, INCLUDING FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH INDUSTRIAL MATERIALS SUCH AS SOLVENTS; AND

. LAWN WATERING AND SIMILAR IRRIGATION DRAINAGE.

* HYPERCHLORINATED WATER (3.5 MG/L OR GREATER OF FREE CHLORINE) RESULTING FROM WATERLINE STERILIZATION SHALL BE DECHLORINATED AND NOT EXPECTED TO ADVERSELY AFFECT AQUATIC LIFE.

SIGNATORY REQUIREMENTS

THE OWNER HAS ADOPTED THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) CONSTRUCTION BMP MANUAL. THIS DOCUMENT WAS DEVELOPED AS AN AID FOR THOSE PREPARING STORM WATER POLLUTION PREVENTION PLANS (SW3P'S) FOR VARIOUS CONSTRUCTION ACTIVITIES. THEIR USE DOES NOT RELIEVE THE DESIGN ENGINEER OR OPERATOR(S) FROM COMPLYING WITH THE NCTCOG BMP MANUAL OR THE TEXAS POLLUTION DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION SITES.

THE SW3P SHALL BE SEALED BY A TEXAS REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED BY THE OPERATOR THAT THE INFORMATION IS TRUE AND THAT THEY ASSUME RESPONSIBILITY FOR THE PLAN. ADDITIONALLY, THEY SHALL CERTIFY THAT THE PLAN MEETS STATE AND LOCAL REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL AND STORM WATER QUALITY. IN ALL CASES, A DULY AUTHORIZED REPRESENTATIVE AS INDICATED IN THE GENERAL PERMIT MAY CERTIFY THIS PLAN.

PRIOR TO THE COMMENCEMENT OF WORK ON PROJECTS 5 ACRES OR LARGER THE OPERATOR SHALL SUBMIT NOTICES OF INTENT (NOI) TO DISCHARGE STORM WATER FROM A CONSTRUCTION SITE UNDER THE TPDES PERMIT. NO WORK WILL BE ALLOWED UNTIL COPIES OF ALL APPROPRIATE NOI'S AND CERTIFICATIONS ARE RECEIVED BY THE CITY.

EROSION CONTROL BEST MANAGEMENT PRACTICES DETAILED IN THIS PLAN REDUCE STORMWATER POLLUTION DURING CONSTRUCTION TO THE MAXIMUM EXTENT PRACTICABLE.

CONSULTING ENGINEER: _____ DATE: JANUARY 18, 2024

OWNER'S PROJECT MANAGER: _____ DATE: _____

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. I CERTIFY THAT THE STORM WATER POLLUTION PREVENTION PLAN REFLECTS THE CITY OF ROCKWALL REQUIREMENTS FOR STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL AS ESTABLISHED IN THE NCTCOG BMP MANUAL.

PRINTED NAME: _____ TITLE: _____

SIGNATURE: _____ DATE: _____
(OPERATOR)

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE THOROUGHLY REVIEWED THIS STORMWATER POLLUTION PREVENTION PLAN (SW3P) AND THAT I UNDERSTAND AND AGREE TO COMPLY WITH THE TERMS AND CONDITIONS OF THE SW3P INCLUDING BMP INSTALLATION AND MAINTENANCE. I ALSO UNDERSTAND THAT IT IS UNLAWFUL FOR ANY PERSON TO CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS.

PRINTED NAME: _____ TITLE: _____

SIGNATURE: _____ DATE: _____
CONTRACTOR

RECORD DRAWING

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11/06/2025

FRANK A. POMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

HKS

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R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21
DATE
01/18/2024
ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL
SHEET TITLE
SWPPP NARRATIVE 2

CASE# E2023-042
SHEET NO.
C12.2-P2

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (SHOWN ON PLANS OR NOT) PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS DIFFER SIGNIFICANTLY FROM LOCATIONS SHOWN ON PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. R-DELTA ENGINEERS, INC. WILL NOT BE RESPONSIBLE FOR ANY WORK BY THE CONTRACTOR NEGLECTING TO LOCATE THESE UTILITIES.

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11/06/2025

FRANK A. POMA, P.E., TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

LEGEND

- TBB — TURBIDITY BARRIER
- RCD — ROCK CHECK DAM
- TFD — TRIANGULAR FILTER DIKE
- SF — SILT FENCE
- DRAINAGE FLOW ARROW
- SC — STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED PAVING CONSTRUCTION
- S — PROPOSED SANITARY FACILITY
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- EXISTING PAVEMENT TO REMAIN
- 100 YR FLOOD PLAIN
- LIMITS OF DISTURBED AREA

EROSION AND SEDIMENTATION CONTROL NOTES

1) EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

2) EROSION CONTROL MEASURES SHALL BE INSPECTED AND REPAIRED, IF NECESSARY, AT THE EARLIEST POSSIBLE DATE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER EACH RAIN. ANY ITEM DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED.

3) SURFACE WATER RUNOFF SHALL BE KEPT FROM ENTERING INTO ANY EXCAVATED AREAS AND UTILITY TRENCHES AT ALL TIMES.

4)THE CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND WILL CLEAN ANY DEBRIS AND SEDIMENT CAUSED BY CONSTRUCTION.

5) THE CONTRACTOR SHALL PREVENT EROSION OF THE SITE AND PROTECT ALL DRAINAGE STRUCTURES BY THE USE OF SILT FENCING, OR OTHER APPROVED EROSION CONTROL PRODUCTS, AS NEEDED. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY THE CITY ENGINEER'S OFFICE DURING ON-SITE INSPECTIONS.

6) ALL POLLUTION PREVENTION CONTROL DEVICES SHALL CONFORM TO NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) MANUAL OF "STORM WATER QUALITY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES" (BMP MANUAL).

7) THE EXISTING STORM SEWER SYSTEM SHALL BE PROTECTED FROM UNFILTERED STORM WATER RUNOFF AT ALL TIMES.

8) INLET PROTECTION BARRIERS SHALL BE INSTALLED ON ALL EXISTING INLETS AS PAVING RECONSTRUCTION OCCURS IN AN AREA DRAINING TO THE INLET. THE INLET PROTECTION BARRIER SHALL REMAIN IN PLACE UNTIL ALL PAVING DRAINING TO THE INLET HAS BEEN RECONSTRUCTED.

9) THE LOCATIONS OF EROSION CONTROL DEVICES SHOWN ON THIS PLAN ARE APPROXIMATE UNFILTERED STORMWATER FROM EXITING CONSTRUCTION AREAS.

10) STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGH THE DURATION OF THE PROJECT. THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ANY OTHER POINT OF ENTRY/EXIT TO THE PROJECT AS APPROVED BY THE CITY ENGINEER'S OFFICE. ALL CONSTRUCTION VEHICLES SHALL ENTER AND LEAVE THE PROJECT AREA VIA THESE STABILIZED CONSTRUCTION ENTRANCES.

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STATE OF TEXAS — BRIAN PAUL PATRICK — 80844 — REGISTERED PROFESSIONAL ENGINEER

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REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
EROSION CONTROL PLAN

CASE# E2023-042

SHEET NO.
C12.3-P2

NOTE:
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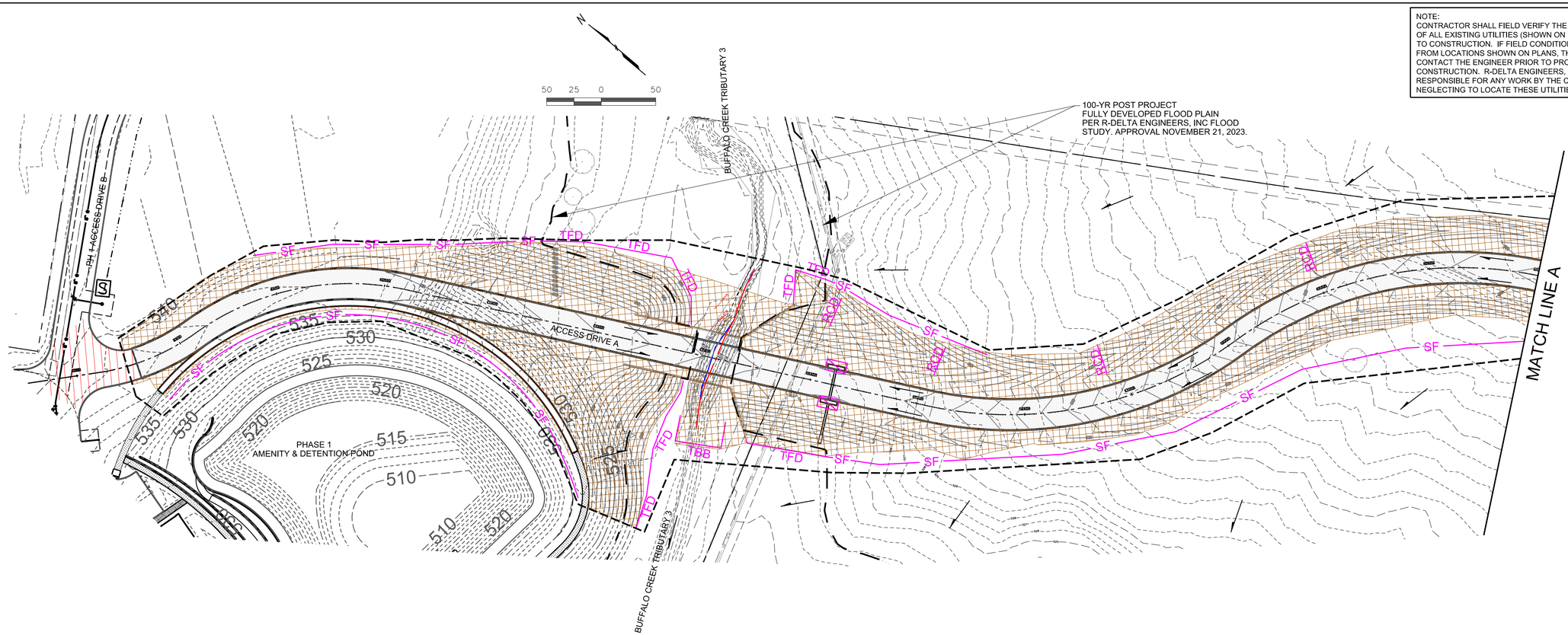

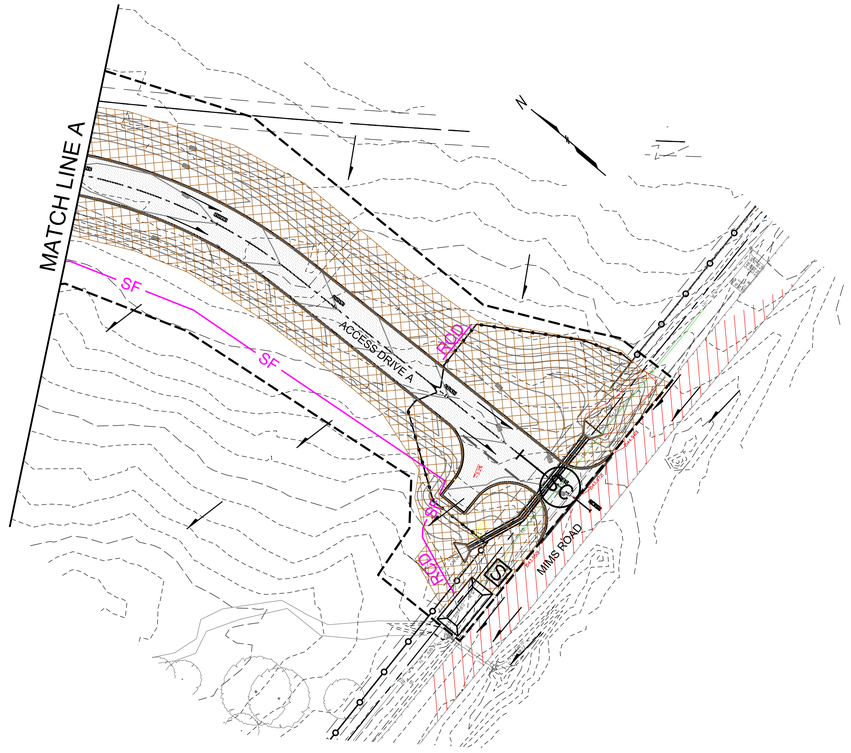

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11/06/2025

FRANK A. POLK, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

LEGEND

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- INLET PROTECTION
- EXISTING PAVEMENT TO REMAIN
- 100 YR FLOOD PLAIN
- LIMITS OF DISTURBED AREA
- RE-ESTABLISH VEGETATION SOD REQUIRED IN R.O.W.

EROSION AND SEDIMENTATION CONTROL NOTES

1) EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

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3) SURFACE WATER RUNOFF SHALL BE KEPT FROM ENTERING INTO ANY EXCAVATED AREAS AND UTILITY TRENCHES AT ALL TIMES.

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6) ALL POLLUTION PREVENTION CONTROL DEVICES SHALL CONFORM TO NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) MANUAL OF "STORM WATER QUALITY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES" (BMP MANUAL).

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9) THE LOCATIONS OF EROSION CONTROL DEVICES SHOWN ON THIS PLAN ARE APPROXIMATE UNFILTERED STORMWATER FROM EXITING CONSTRUCTION AREAS.

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950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
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REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

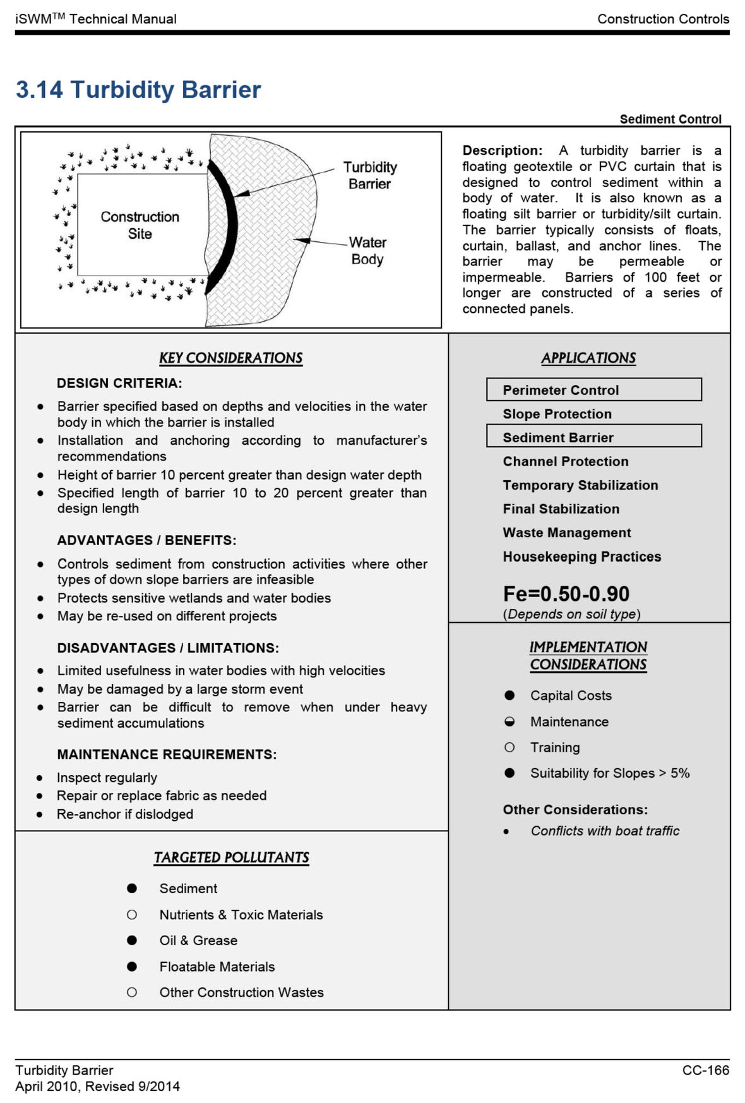
DATE
01/18/2024

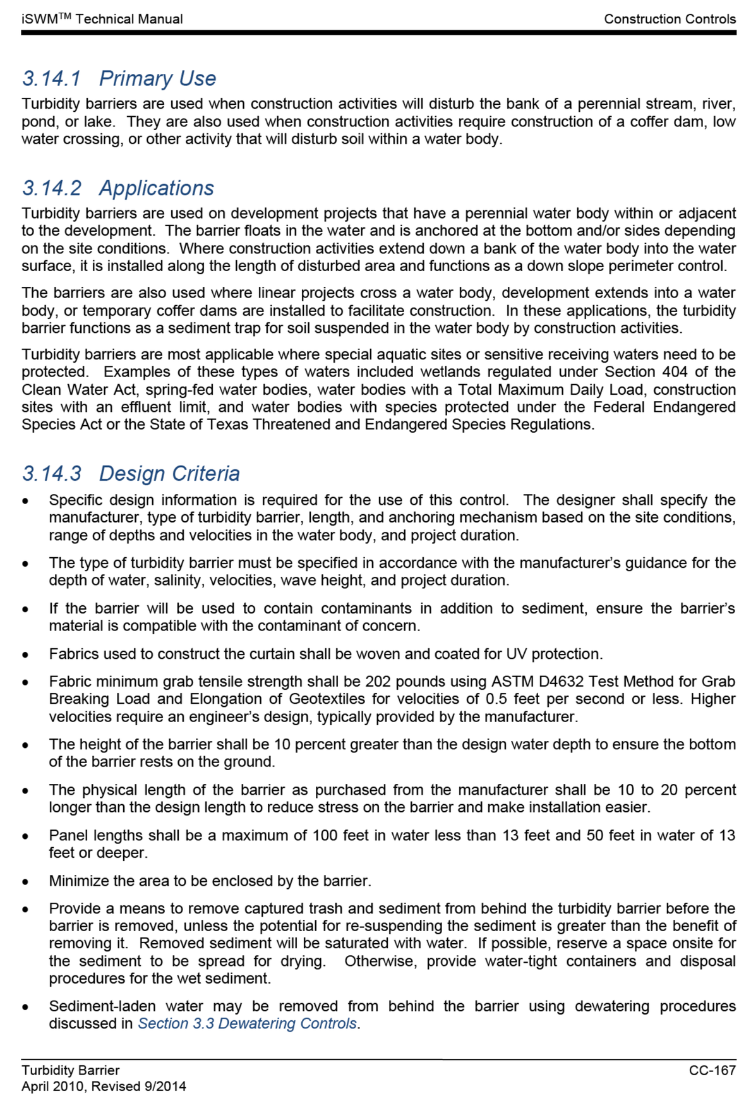
ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

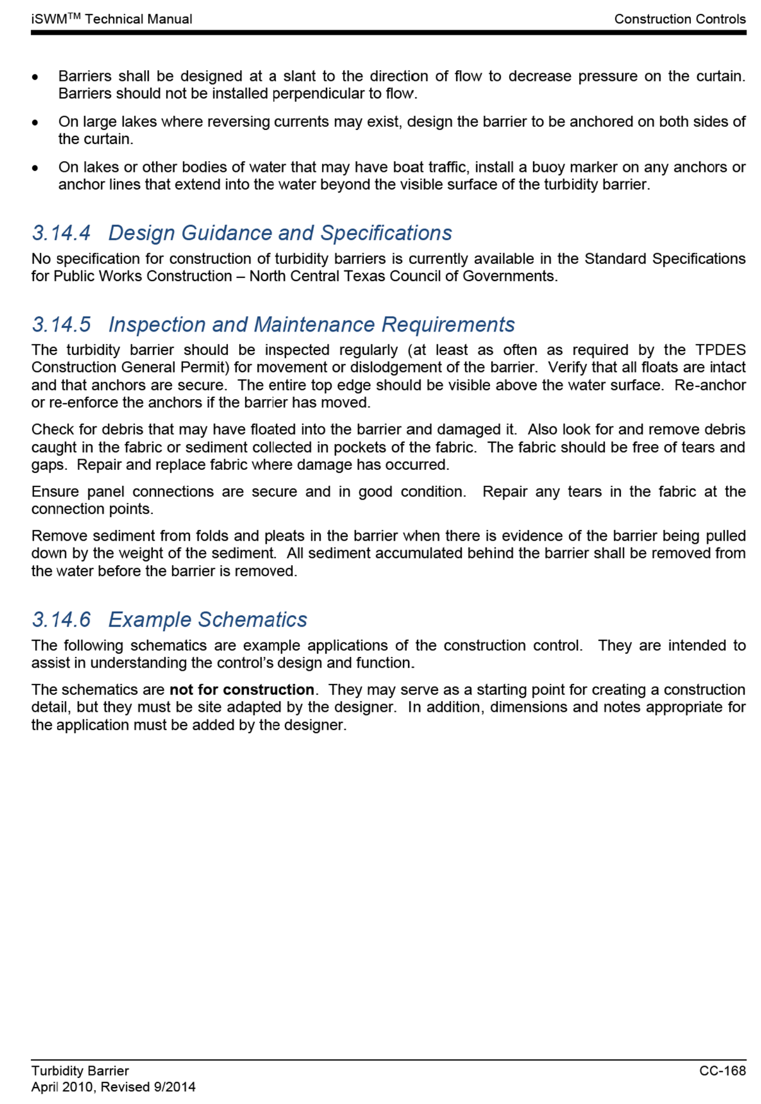
SHEET TITLE
FINAL STABILIZATION PLAN

CASE# E2023-042

SHEET NO.
C12.4-P2







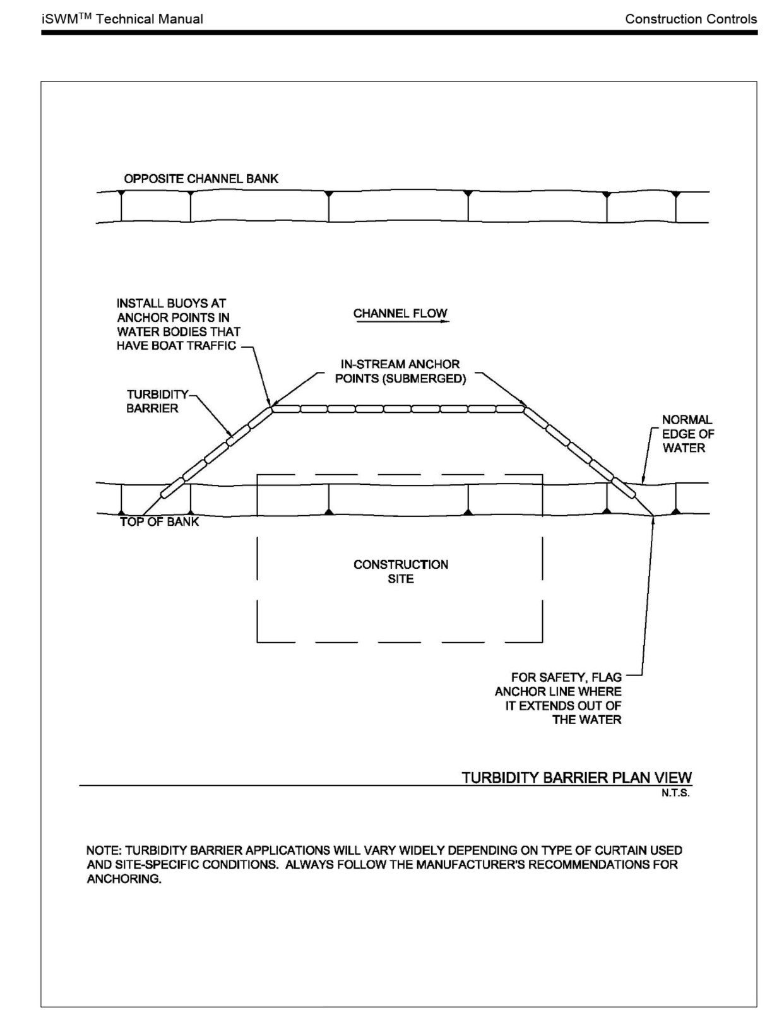


Figure 3.34 Example Application of Turbidity Barrier

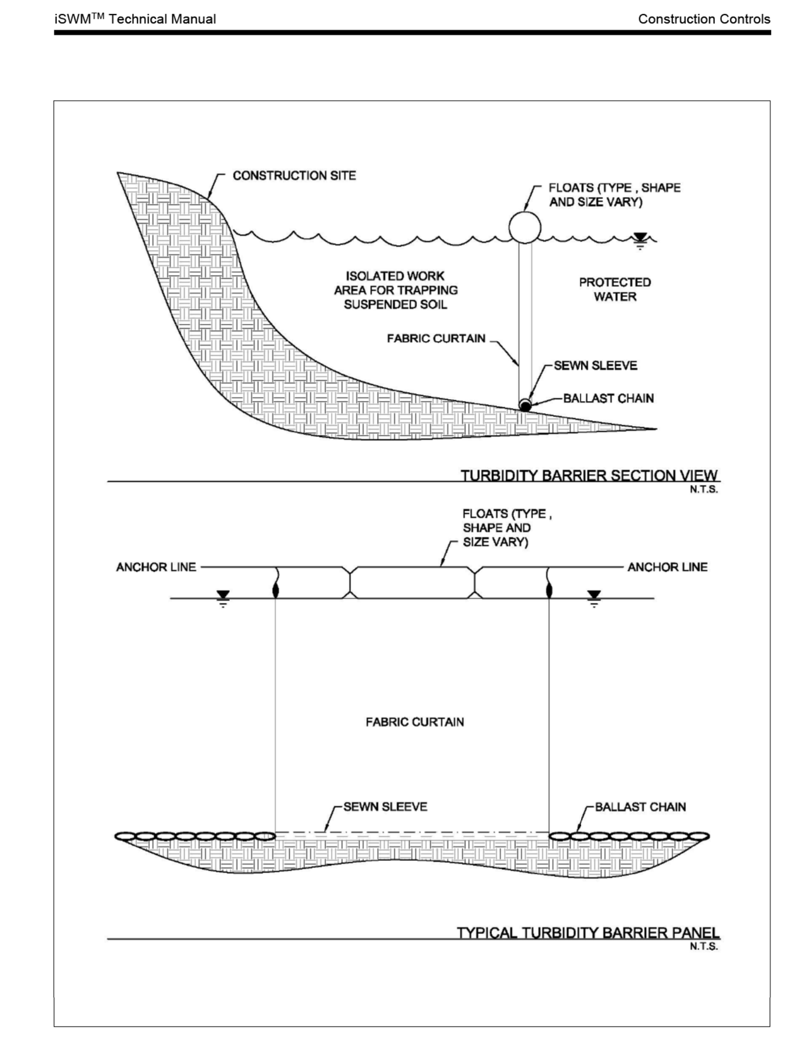
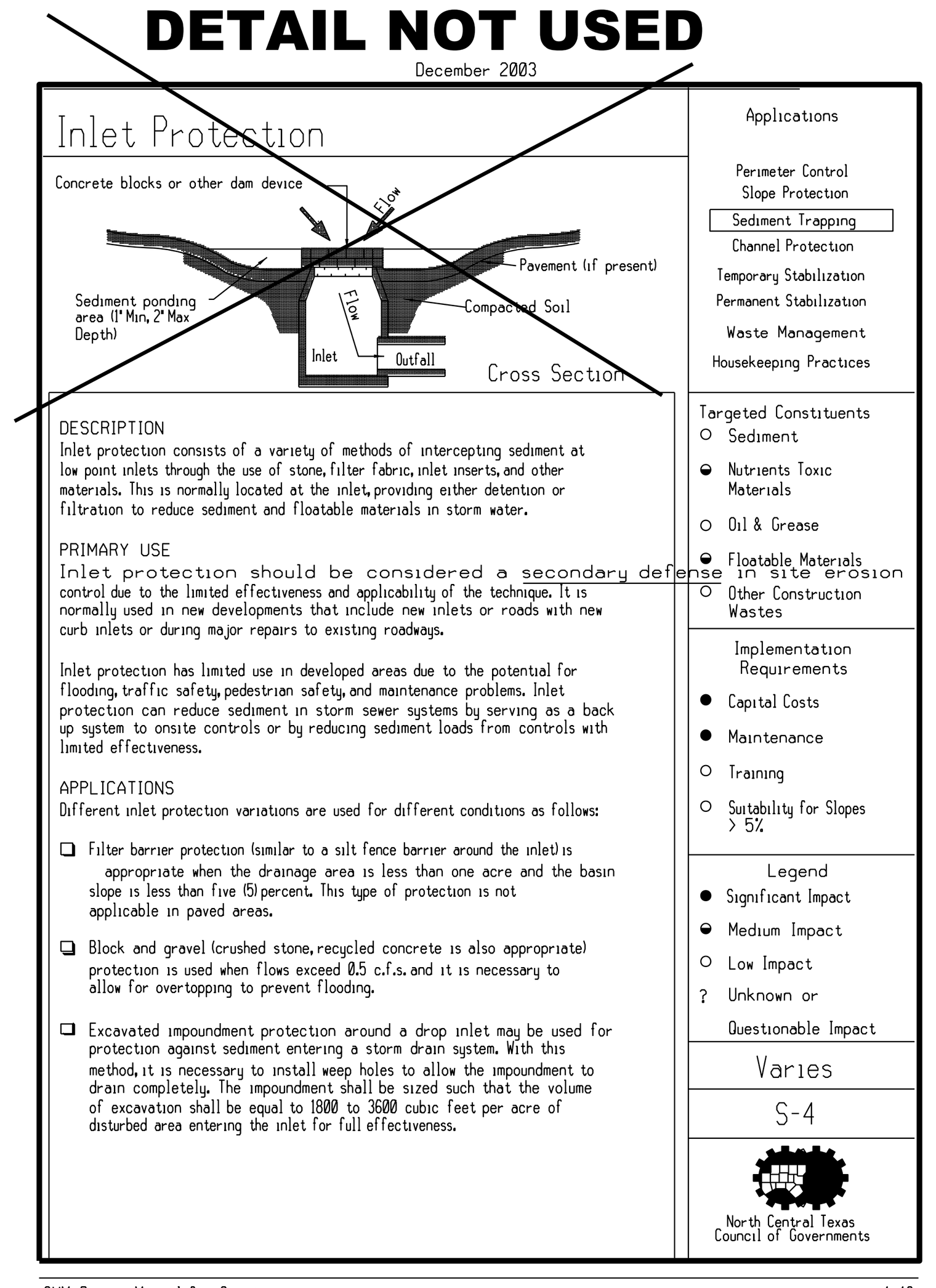
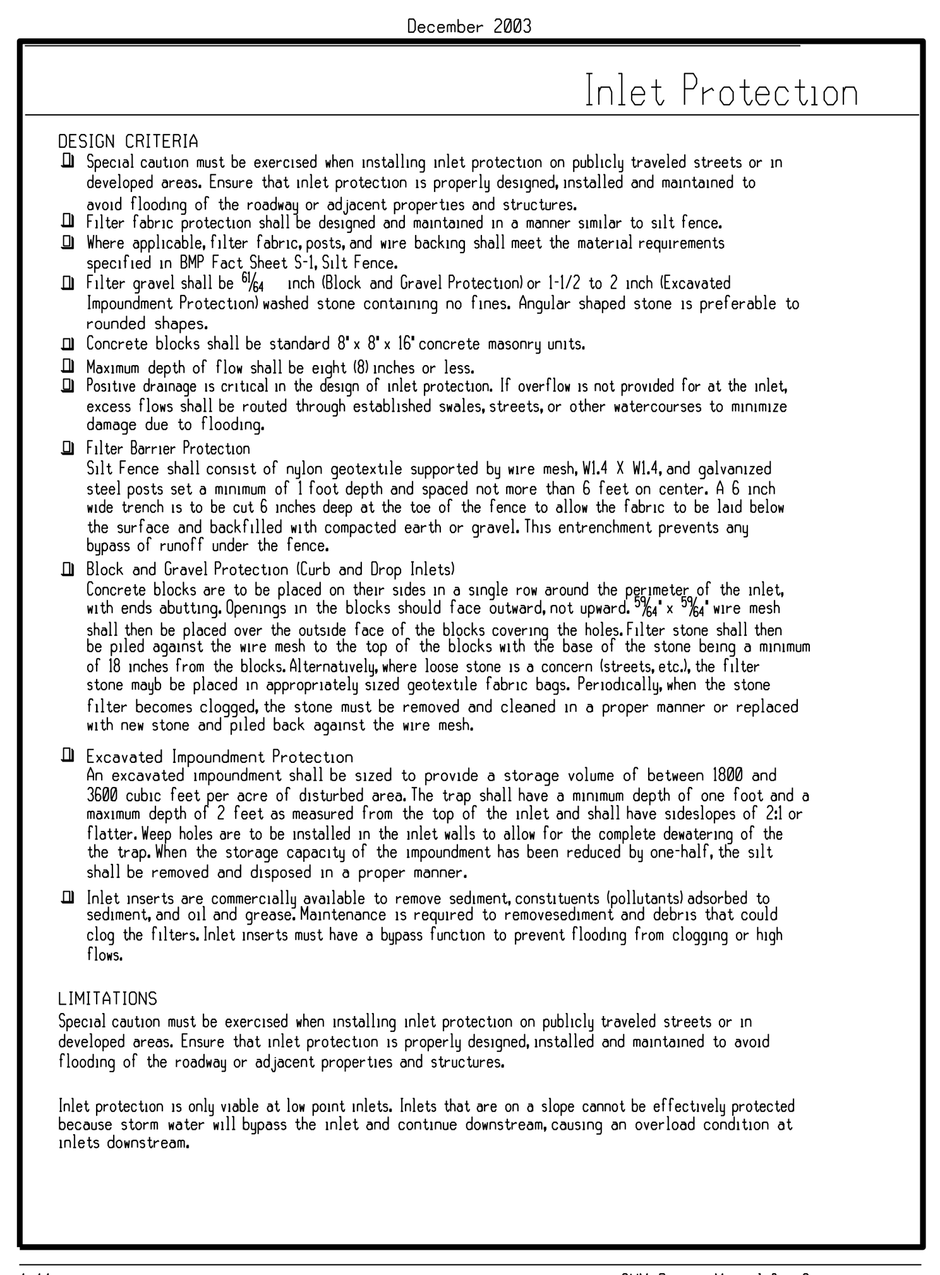
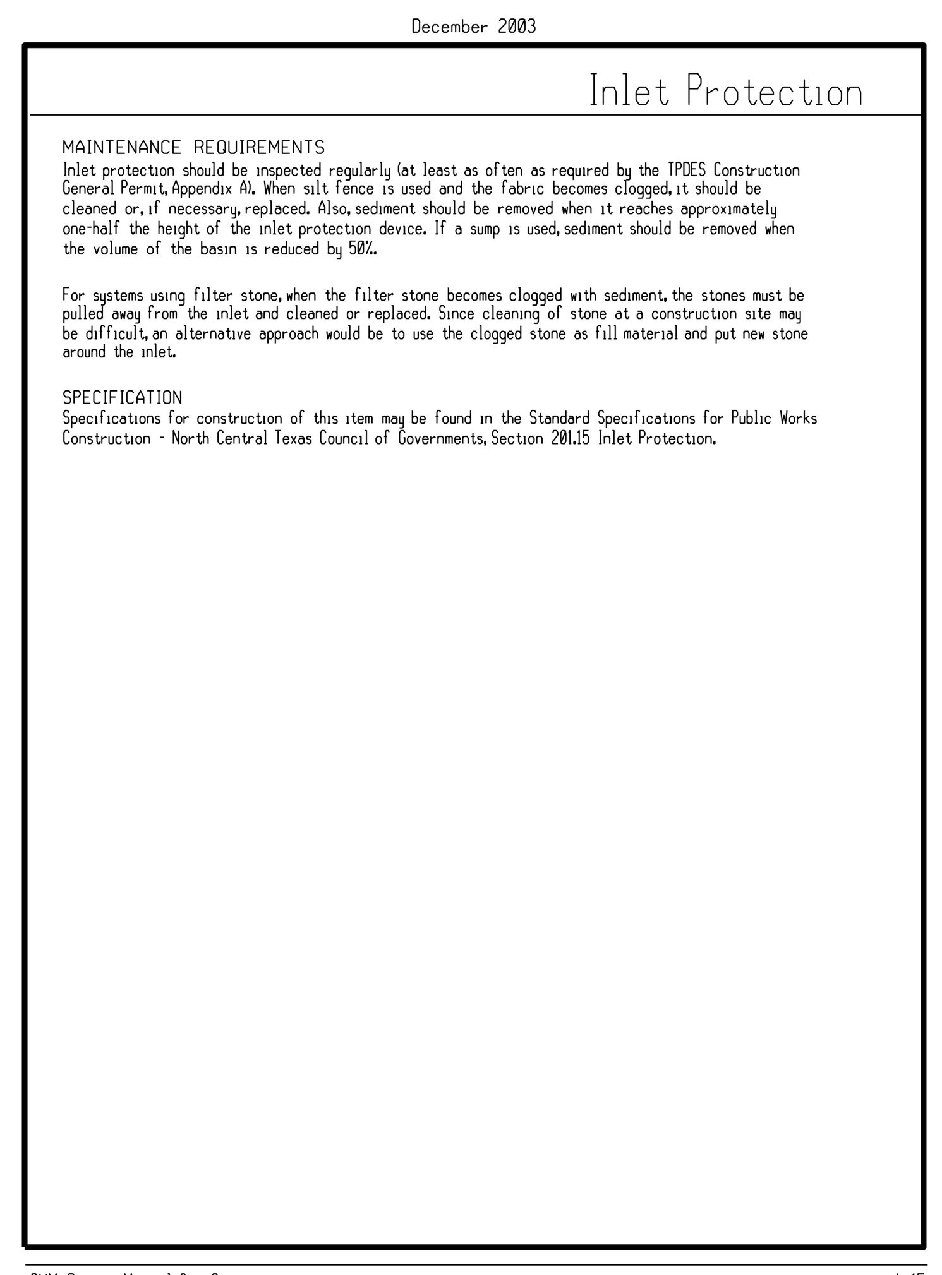


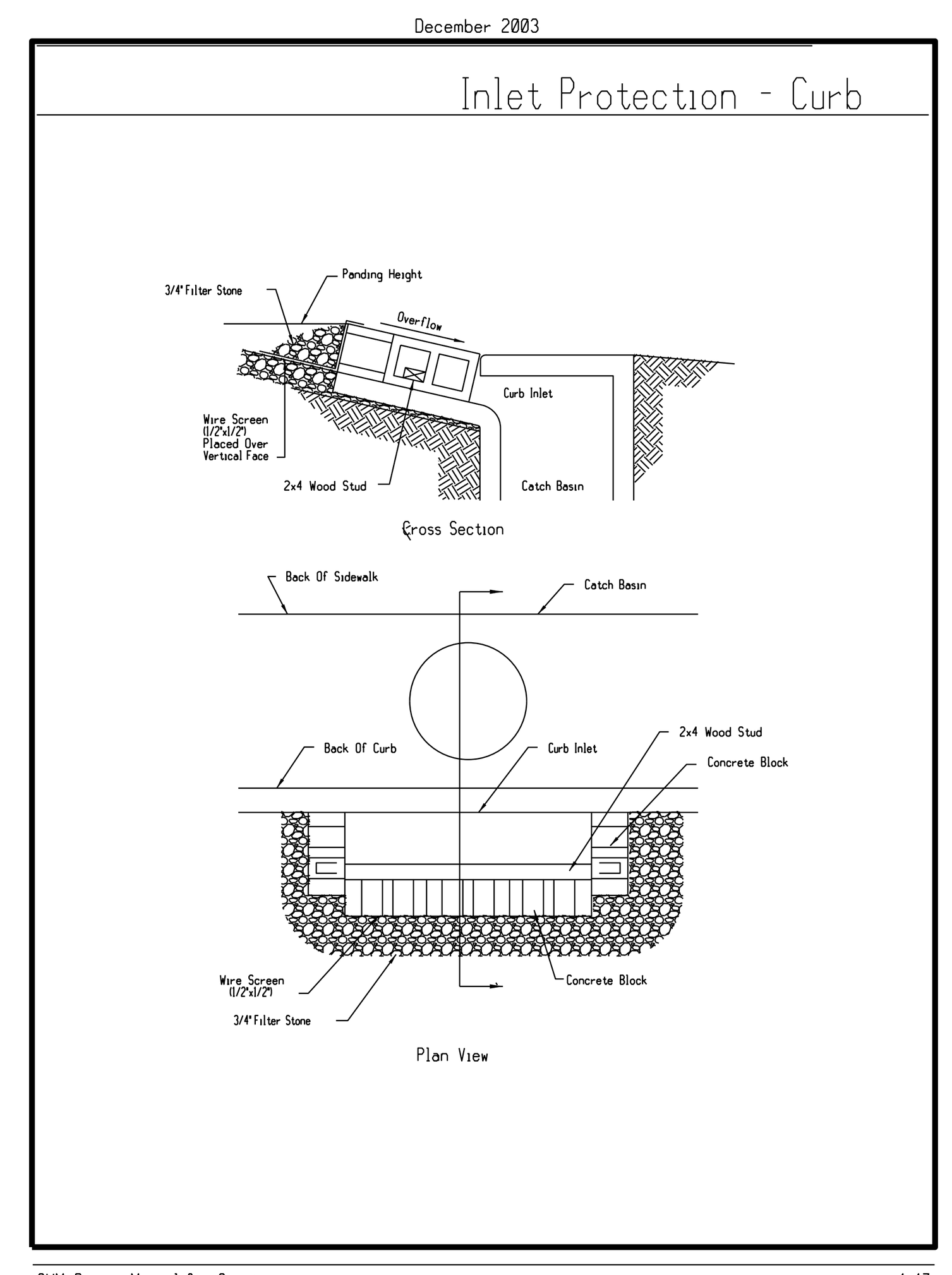
Figure 3.35 Schematics of Turbidity Barrier

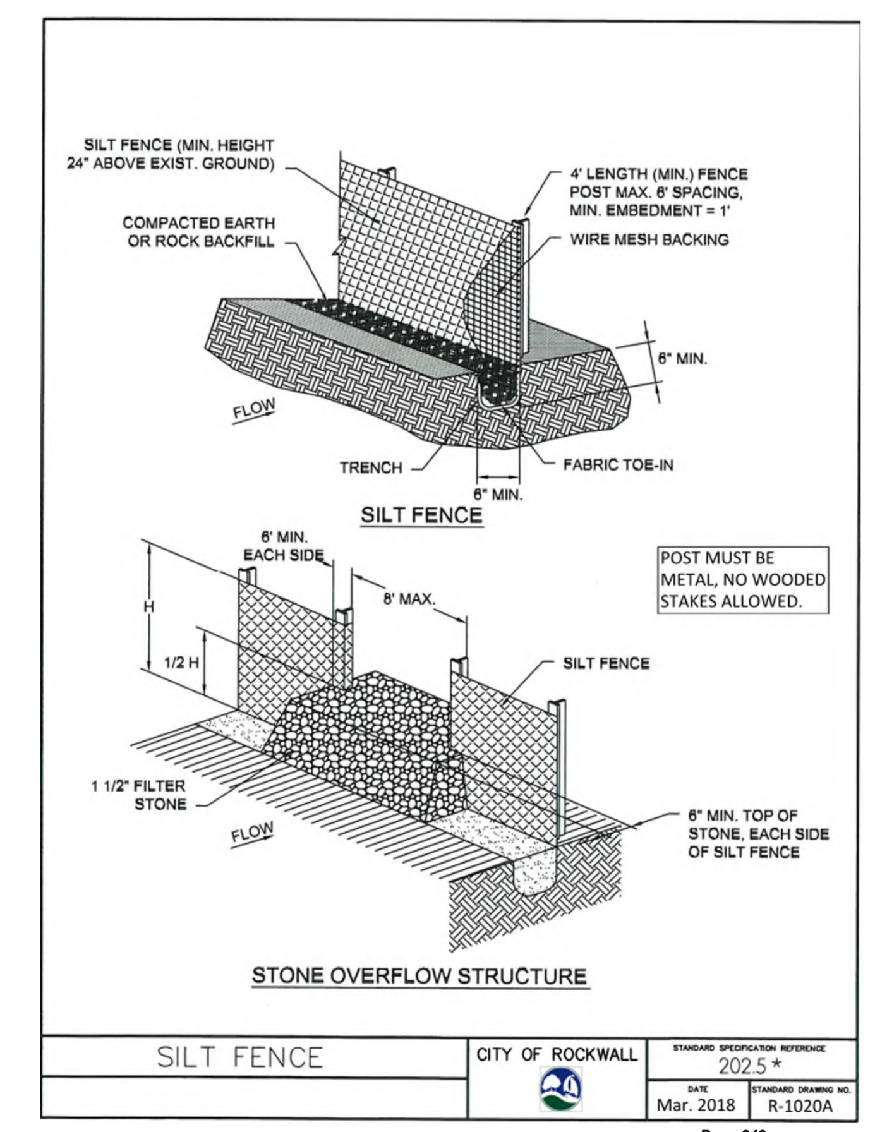
DROP INLET DETAIL NOT USED











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SILT FENCE GENERAL NOTES:

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

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

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

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

5. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.

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

8. FILTER STONE SHALL BE WRAPPED IN FILTER FABRIC AND BURIED SIX (6") INCHES MINIMUM.

SILT FENCE	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 202.5 *	
		DATE Mar. 2018	STANDARD DRAWING NO. R-1020B

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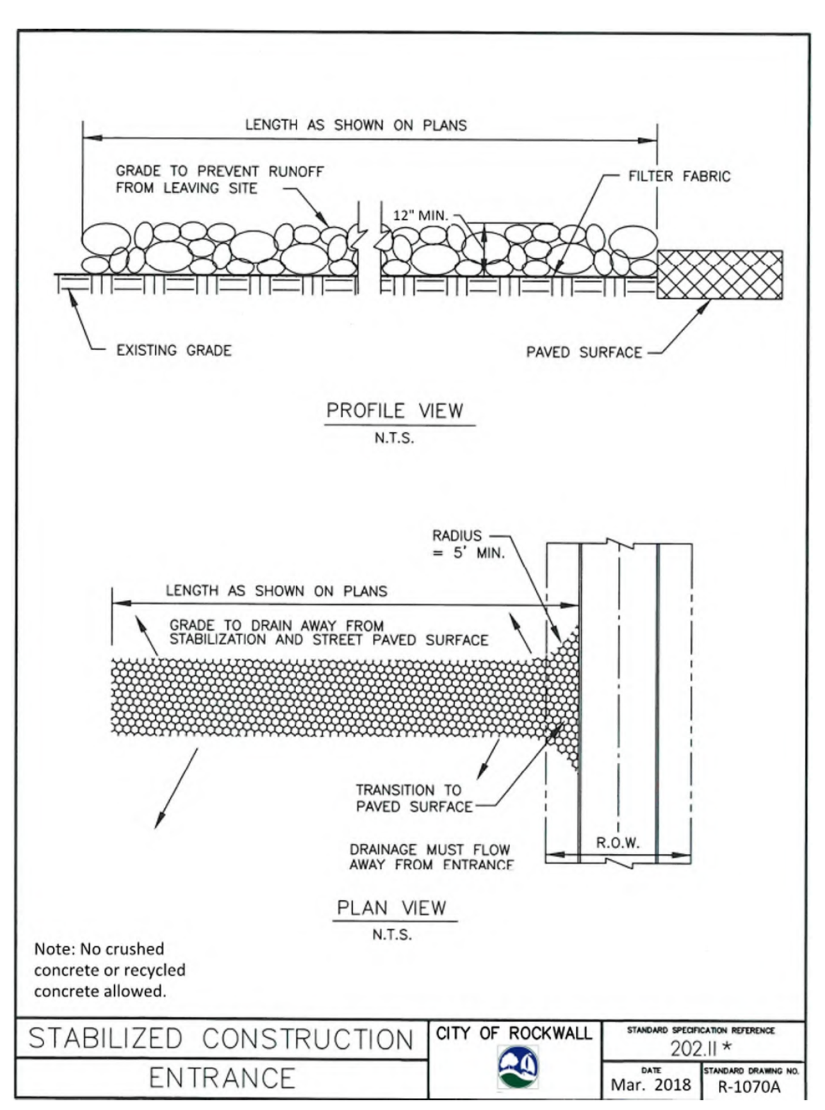

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STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. STONE SHALL BE 4 TO 6 INCH DIAMETER COARSE AGGREGATE.

2. MINIMUM LENGTH SHALL BE 50 FEET AND WIDITH SHALL BE 20 FEET.

3. THE THICKNESS SHALL NOT BE LESS THAN 12 INCHES.

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

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

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

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

8. PREVENT SHORTCUTTING OF THE FULL LENGTH OF THE CONSTRUCTION ENTRANCE BY INSTALLING BARRIERS AS NECESSARY.

9. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.

10. NO CRUSHED OR RECYCLED CONCRETE ALLOWED.

STABILIZED CONSTRUCTION	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 202.11 *	
ENTRANCE		DATE Mar. 2018	STANDARD DRAWING NO. R-1070B

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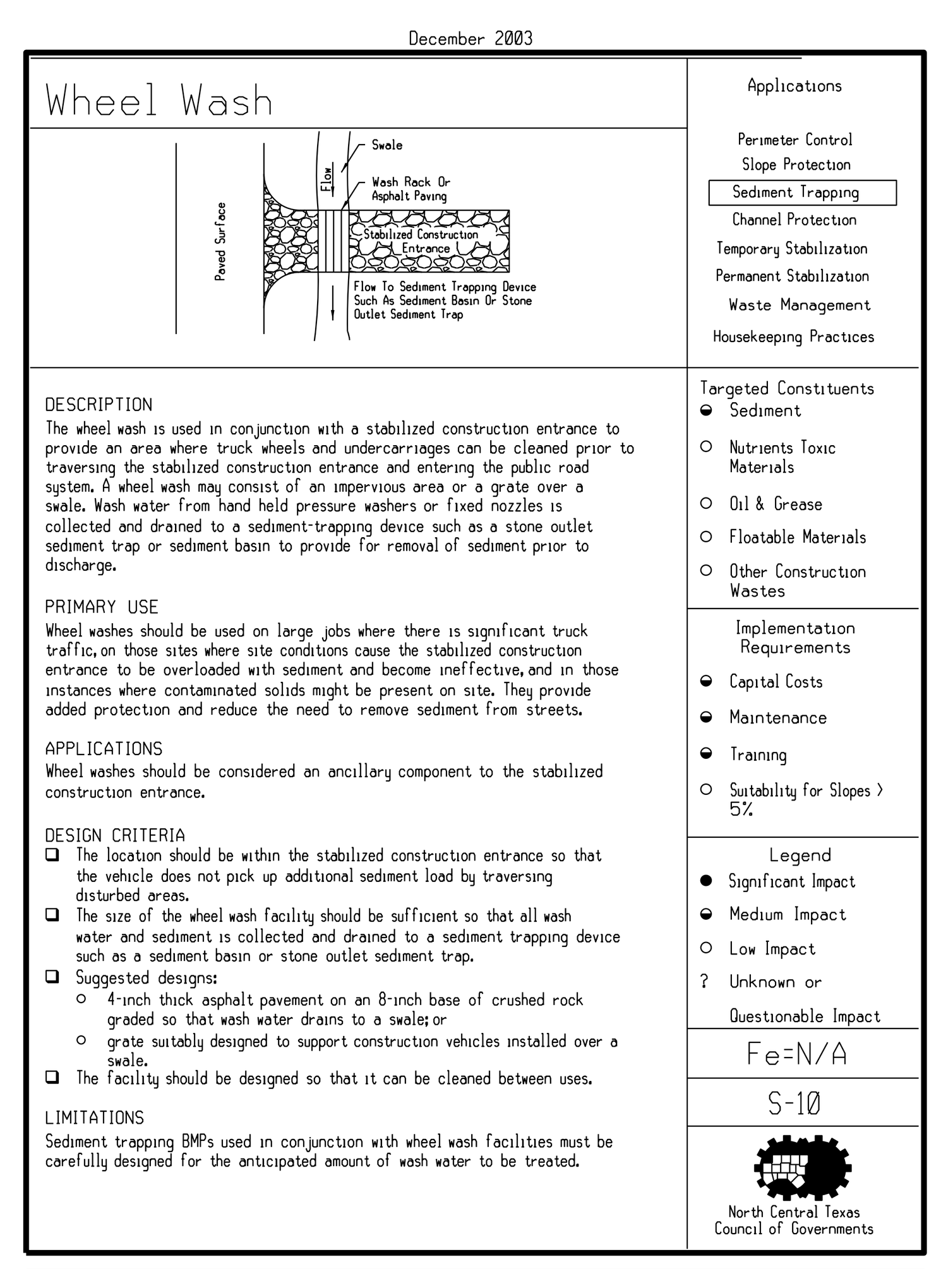

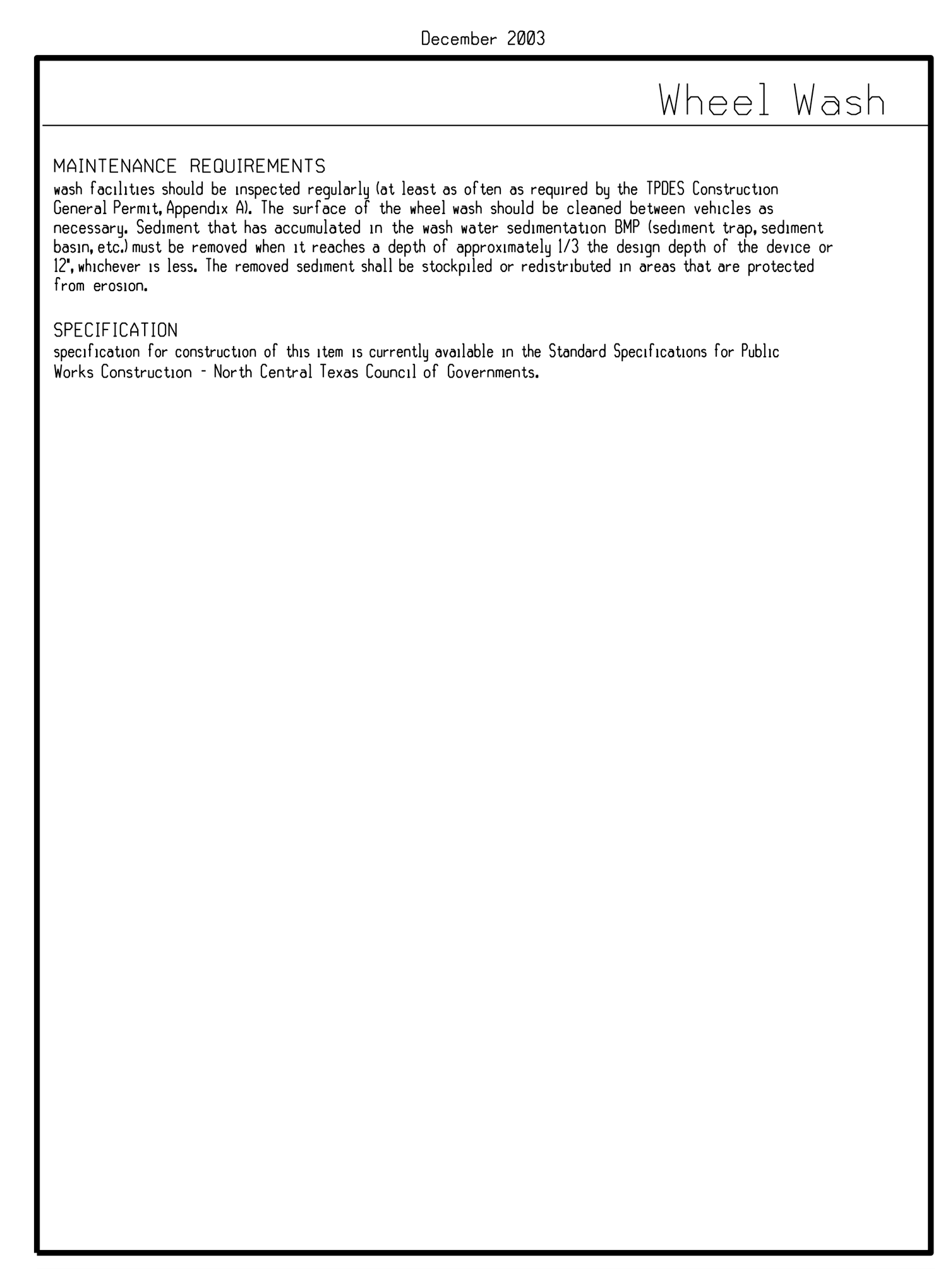

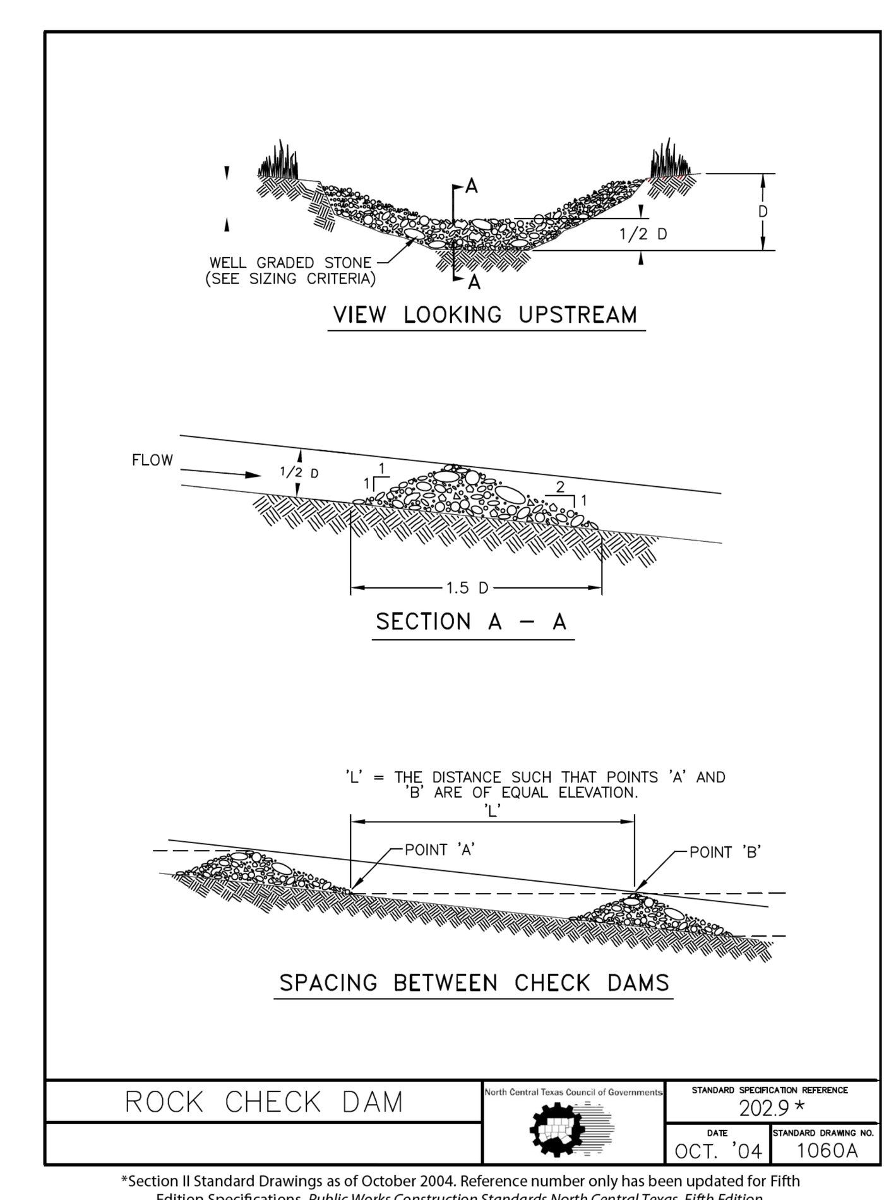

STANDARDS OF DESIGN AND CONSTRUCTION

ROCK CHECK DAM GENERAL NOTES:

1. STONE SHALL BE WELL GRADED WITH SIZE RANGE FROM 1½ TO 3½ INCHES IN DIAMETER DEPENDING ON EXPECTED FLOWS.

2. THE CHECK DAM SHALL BE INSPECTED AS SPECIFIED IN THE SWPPP AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

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

4. WHEN THE SITE HAS ACHIEVED FINAL STABILIZATION OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED, THE CHECK DAM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

5. FILTER STONE SHALL BE WRAPPED IN APPROPRIATE SIZED WIRE MESH TO CONTAIN STONE AND BURIED SIX (6") INCHES MINIMUM.

ROCK CHECK DAM	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 202.9 *	
		DATE Mar. 2018	STANDARD DRAWING NO. R-1060B

CITY OF ROCKWALL — PAGE 257

HKS

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RECORD DRAWING

NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION, TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
SWPPP - EROSION & SEDIMENT CONTROL DETAILS

CASE# E2023-042

SHEET NO.
C12.5-P2

December 2003

Debris and Trash

DESCRIPTION
Large volumes of debris and trash are often generated at construction sites including: packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. There are several techniques and procedures to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices. Recycling of construction debris also reduces the volume of material to be disposed of and associated costs.

PRIMARY USE
Debris and trash management should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the project.

APPLICATIONS
Solid waste management for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

- Construction (and Demolition) Debris
  - Dimensional lumber
  - Miscellaneous wood (pallets, plywood, etc)
  - Copper (pipe and electrical wiring)
  - Miscellaneous metal (studs, pipe, conduit, sheathing, nails, etc)
  - Insulation
  - Concrete, brick, and mortar
  - Shingles
  - Roofing materials
  - Gypsum board
- Trash
  - Paper and cardboard (packaging, containers, wrappers)
  - Plastic (packaging, bottles, containers)
  - Styrofoam (cups, packing, and forms)
  - Food and beverage containers
  - Food waste

Storage Procedures
- Wherever possible, minimize production of debris and trash.
- Designate a foreman or supervisor to oversee and enforce proper debris and trash procedures.
- Instruct construction workers in proper debris and trash storage and handling procedures.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Segregate recyclable construction debris from other non-recyclable materials.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
● Nutrients Toxic Materials
○ Oil & Grease
● Floatable Materials
● Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-1

North Central Texas Council of Governments

December 2003

Debris and Trash Management

- Keep debris and trash under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff and prevents light materials from blowing out.
- Store waste materials away from drainage ditches, swales and catch basins.
- Do not allow trash containers to overflow.
- Do not allow waste materials to accumulate on the ground.
- Prohibit littering by workers and visitors.
- Police site daily for litter and debris.
- Enforce solid waste handling and storage procedures.

Storage Procedures
- f feasible, recycle construction and demolition debris such as wood, metal, and concrete.
- General construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
- Use waste and recycling haulers/facilities approved by the local jurisdiction.

Education
- Educate all workers on solid waste storage and disposal procedures.
- Instruct workers in identification of solid waste and hazardous waste.
- Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- Clearly mark on all debris and trash containers which materials are acceptable.

Quality Control
- Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
- Discipline workers who repeatedly violate procedures.

Requiremebts
- Job-site waste handling and disposal education and awareness program.
- Compliance by workers.
- Sufficient and appropriate waste storage containers.
- Timely removal of stored solid waste materials.
- Training workers and monitoring compliance.

LIMITATIONS
Only addresses non-hazardous solid waste.
One part of a comprehensive construction site management program.

December 2003

Chemical Management

DESCRIPTION
Chemical management addresses the problem of storm water polluted with chemical pollutants through spills or other forms of contact. The objective of the chemical management is to minimize the potential of storm water contamination from construction chemicals through appropriate recognition, handling, storage, and disposal practices.

It is not the intent of chemical management to supersede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken. Significant spills should be reported to the National Response Center (NRC) at (800) 424-8802.

PRIMARY USE
These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites that use or generate hazardous wastes. Many chemicals such as fuel, oil, grease, fertilizer, and pesticide are present at most construction sites.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA
The chemical management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

- Targeted Chemical Materials
  - Paints
  - Solvents
  - Stains
  - Wood preservatives
  - Cutting oils
  - Greases
  - Roofing tar
  - Pesticides, herbicides, & fertilizer
  - Fuels & lube oils
  - Antifreeze

Storage Procedures
- Wherever possible, minimize use of hazardous materials.
- Minimize generation of hazardous wastes on the job-site.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- Keep chemicals in appropriate containers (closed drums or similar) and under cover.
- Store chemicals away from drainage ditches, swales and catch basins.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
● Nutrients Toxic Materials
● Oil & Grease
○ Floatable Materials
● Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-2

North Central Texas Council of Governments

December 2003

Chemical Management

Waste Handling
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conveniently located.
- Do not allow potentially hazardous waste materials to accumulate.
- Enforce hazardous waste handling and disposal procedures.
- Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Procedures
- Ensure that adequate cleanup and containment materials are available onsite.
- Regularly schedule hazardous waste removal to minimize on-site storage.
- Use only licensed hazardous waste haulers.

Education
- Instruct workers on safety procedures for construction site chemical storage.
- Instruct workers in identification of chemical pollutants.
- Ensure that workers are trained in procedures for spill prevention and response.
- Educate workers of potential dangers to humans and the environment from chemical pollutants.
- Educate all workers on chemical storage and disposal procedures.
- Have regular meetings to discuss and reinforce identification, handling, and disposal procedures (incorporate in regular safety seminars).
- Establish a continuing education program to indoctrinate new employees.

Quality Assurance
- Foreman and/or construction supervisor shall monitor on-site chemical storage and disposal procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements
- Job-site chemical and hazardous waste handling and disposal education and awareness program.
- Commitment by management to implement chemical storage and hazardous waste management practices.
- Compliance by workers.
- Sufficient and appropriate chemical and hazardous waste storage containers.
- Timely removal of stored hazardous waste materials.

Cost
- Possible modest cost impact for additional chemical storage containers.
- Small cost impact for training and monitoring.
- Potential cost impact for hazardous waste collection and disposal by licensed hauler - actual cost depends on type of material and volume.

LIMITATIONS
This practice is not intended to address site-assessments and pre-existing contamination. Major contamination, large spills and other serious hazardous waste incidents require immediate response from specialists.

Demolition activities and potential pre-existing materials, such as lead and asbestos, are not addressed by this program. Site-specific information on plans is necessary.

Contaminated soils are not addressed.

December 2003

Concrete Waste Management

DESCRIPTION
Concrete waste at construction sites comes in two forms: 1) excess fresh concrete mix including truck and equipment washing, and 2) concrete dust and concrete debris resulting from demolition. Both forms have the potential to impact water quality through storm water runoff contact with the waste.

PRIMARY USE
Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

APPLICATIONS
A number of water quality parameters can be affected by introduction of concrete - especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life.
Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolished concrete waste.

Unacceptable Waste Concrete Disposal Practices
- Dumping in vacant areas on the job-site.
- Illicit dumping off-jobsite.
- Dumping into ditches or drainage facilities.

Recommended Disposal Practices
- Avoid unacceptable disposal practices listed above.
- Develop pre-determined, safe concrete disposal areas.
- Provide a washout area with a minimum of 6 cubic feet of containment area volume for every 10 cubic yards of concrete poured.
- Never dump waste concrete illicitly or without property owner's knowledge and consent.
- Overflow of washdown water shall be discharged in an area protected by one or more sediment removal BMPs and shall be done in a manner that does not result in a violation of groundwater or surface water quality standards.

Education
- Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

Enforcement
- The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
- Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

Demolition Practices
- Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters.
- Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
● Nutrients Toxic Materials
○ Oil & Grease
● Floatable Materials
● Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-3

North Central Texas Council of Governments

December 2003

Concrete Waste Management

Requirements
- Use pre-determined disposal sites for waste concrete.
- Prohibit dumping waste concrete anywhere but pre-determined areas.
- Assign pre-determined truck and equipment washing areas.
- Educate drivers and operators on proper disposal and equipment cleaning procedures.

Costs
- Minimal cost impact for training and monitoring.
- Concrete disposal cost depends on availability and distance to suitable disposal areas
- Additional costs involved in equipment washing could be significant.

LIMITATIONS
Concrete waste management is one part of a comprehensive construction site waste management program.

December 2003

Concrete Sawcutting Waste Management

DESCRIPTION
Sawcutting of concrete pavement is a routine practice, necessary to control shrinkage cracking immediately following placement of plastic concrete. It is also used to remove curb sections and pavement sections for pavement repairs, utility trenches, and driveways. Sawcutting for joints involves sawing a narrow, shallow groove in the concrete, while sawcutting for removals is usually done full depth through the slab. Water is used to control saw blade temperature and to flush the detritus from the sawed groove. The resulting slurry of process water and fine particles and high pH must be properly managed.

A number of water quality parameters can be affected by introduction of concrete fines. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of saw fines are also generated from sawcutting operations.

DESIGN CRITERIA
Slurry Collection
- During saw cutting operations, the slurry and cuttings shall be continuously vacuumed to control the flow of water from the operations site.
- The slurry and cuttings shall not be allowed to drain to the storm drain system, swale, stream or other water body.
- The slurry and cuttings shall not be allowed to remain on the pavement to dry out.

Slurry Disposal
- Develop pre-determined, safe slurry disposal areas.
- Collected slurry and cuttings shall be discharged in an area protected by one or more sediment removal BMPs and shall be done in a manner that does not result in a violation of groundwater or surface water quality standards.
- Never dump waste illicitly or without property owner's knowledge and consent.
- Slurry may be disposed of in facilities designated for washdown of concrete trucks (see M-3, Concrete Waste Management).

MAINTENANCE
Project personnel should inspect the operations to assure that operators are diligent in controlling the water produced by the saw cutting activities.
Following operations the pavement should be inspected to ensure that waste removal has been adequately performed.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
○ Nutrients/Toxic Materials
○ Oil & Grease
○ Floatable Materials
● Other Construction Wastes

Implementation Requirements
○ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes > 5%

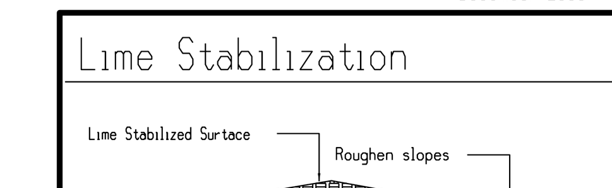
Legend
○ Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-4

North Central Texas Council of Governments

December 2003

Lime Stabilization



DESCRIPTION
Lime stabilization is used extensively in the North Central Texas region to stabilize pavement subbases for roadways, parking lots, and other paved surfaces, and as a subgrade amendment for building pad sites. Hydrated lime is applied to the soil and mixed through disking and other techniques, then allowed to cure. This practice will reduce the potential for runoff to carry lime offsite, where it may impact aquatic life by changing the pH balance of streams, ponds, and other water bodies.

PRIMARY USE
This BMP should be implemented when lime is required for soil stabilization.

APPLICATIONS
Lime stabilization can be used under a variety of conditions. The engineer should determine the applicability of lime stabilization based on site conditions such as available open space, quantity of area to be stabilized, proximity of nearby water courses and other BMPs employed at the site. The use of diversion dikes and interceptor swales (see appropriate fact sheets) to divert runoff away from areas to be stabilized can be used in conjunction with these techniques to reduce the impact of the lime.

DESIGN CRITERIA
- The contractor shall limit lime operations to that which can be thoroughly mixed and compacted by the end of each workday.
- No traffic other than water trucks and mixing equipment shall be allowed to pass over the spread lime until after completion of mixing.
- Areas adjacent and downstream of stabilized areas shall be roughened to intercept lime from runoff and reduce runoff velocity.
- Geotextile fabrics such as those used for silt fence should not be used to address lime since the grain size of lime is significantly smaller than the apparent opening size of the fabric.
- For areas for which phasing of lime operations is impractical, use of a curing seal such as Liquid Asphalt, Grade MC-250 or MC-800 applied at a rate of 0.15 gallons per sq. yd. of surface can be used to protect the base.
- Use of sediment basins with a significant (>36 hour) drawdown time is encouraged for large areas to be stabilized (see S-6, Sediment Basin).
- Provide containment around lime storage, loading, and dispensing areas.

LIMITATIONS
Lime stabilization can be part of an overall plan to reduce pollutants from an active construction site. In the case of pollution due to lime, prevention of contamination is the only effective method to address this pollutant. Proper application and mixing along with avoiding applications when there is a significant probability of rain will reduce lime

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
◒ Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
○ Capital Costs
◒ Maintenance
○ Training
○ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-6

North Central Texas Council of Governments

December 2003

Sanitary Facilities

DESCRIPTION
Facilities for collection and disposal of sanitary waste must be provided and properly managed to minimize the potential contamination of surface water with septic wastes. Location of portable facilities away from storm drain systems and surface waters or containment is necessary in case of spills.

PROCEDURES
- Sanitary facilities must be provided on the site in close proximity to areas where people are working.
- Portable toilets must be provided if no permanent facilities are available.
- Locate portable toilets a minimum of 20 feet away from storm drain inlets, conveyance channels, or surface waters
- If unable to meet 20-foot distance requirement, provide containment for portable toilets.
- Portable toilets should be regularly serviced.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
○ Sediment
● Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
● Other Construction Wastes

Implementation Requirements
○ Capital Costs
◒ Maintenance
◒ Training
○ Suitability for Slopes > 5%

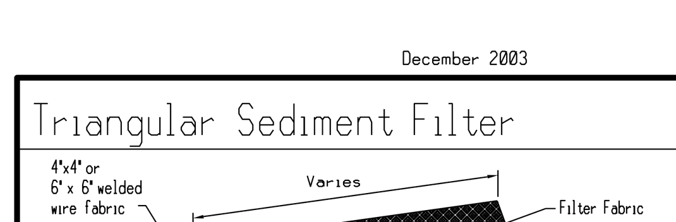
Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

M-7

North Central Texas Council of Governments

December 2003

Triangular Sediment Filter



DESCRIPTION
A Triangular Sediment Filter Dike is a self-contained silt fence consisting of filter fabric wrapped around welded wire fabric shaped into a triangular cross section. While similar in use to a silt fence, the dike is reusable, sturdier, transportable, and can be used on paved areas or in situations where it is impractical to install embedded posts for support.

PRIMARY USE
Triangular filter dikes are used in place of silt fence, treating sediment flow at the perimeter of construction areas and at the perimeter of the site. Also, the dikes can serve as stream protection devices by preventing sediment from entering the streams or as check dams in small swales.

Triangular sediment filter dikes are especially useful for construction areas surrounded by pavement, where silt fence, filter berm, or other BMP installation is impractical.

APPLICATIONS
Triangular dikes are used to provide perimeter control by detaining sediment on a disturbed site with drainage that would otherwise flow onto adjacent properties. Triangular dikes also serve as sediment trapping devices when used in areas of sheet flow across disturbed areas or are placed along stream banks to prevent sediment-laden sheet flow from entering the stream. The dikes can be subjected to more concentrated flows and a higher flow rate than silt fence.

DESIGN CRITERIA
- Dikes can be used on a variety of surfaces ranging from disturbed earth to pavement.
- Dikes are to be installed along a line of constant elevation (along a contour line).
- Maximum drainage area shall be 0.25 acre per 100 linear feet of dike.
- Maximum flow to any 20 foot section of dike shall be 1 CFS.
- Maximum distance of flow to dike shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- Maximum slope adjacent to the dike shall be 2:1.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
● Sediment
○ Nutrients Toxic Materials
○ Oil & Grease
◒ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
◒ Capital Costs
● Maintenance
○ Training
◒ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

Fe=0.75

S-3

North Central Texas Council of Governments

December 2003

Triangular Sediment Filter Dike

- If 50% or less of soil, by weight, passes the U.S. Standard sieve No. 200, select the apparent opening size (A.O.S.) to retain 85% of the soil.
- If 85% or more of soil, by weight, passes the U.S. Standard Sieve No. 200, triangular sediment dike shall not be used due to clogging.
- The filter fabric shall meet the material requirements specified in BMP Fact Sheet S-1, Silt Fence.
- The internal support for the dike structure shall be 6 gauge 6" x 6" wire mesh folded into triangular form eighteen (18) inches on each side.
- Filter material shall lap over ends six (6) inches to cover dike-to-dike junction; each junction shall be secured by shoat rings.
- Tie-in to the existing grade should be accomplished by (i) embedding the fabric six-inches below the top of ground on the upslope side, (ii) extending the fabric to form a 12-inch skirt on the upstream slope and covering it with 3 to 5 inches of crushed rock, or (iii) entrenching the base of the triangular dike four-inches below ground. For (ii) above, the skirt and the upslope portion of the triangular dike skeleton should be anchored by metal staples on two-foot centers, driven a minimum of six inches into the ground (except where crossing pavement or exposed limestone).
- Sand bags or large rock should be used as ballast inside the triangular dike section to stabilize the dike against the effects of high flows.
- Sufficient room for the operation of sediment removal equipment shall be provided between the dike and other obstructions in order to properly remove sediment.
- The ends of the dike shall be turned upgrade to prevent bypass of storm water.

LIMITATIONS
Effects of ponding caused by the dikes should be evaluated for effects on adjacent areas.
Triangular sediment filter dikes are not effective for conditions where there are substantial concentrated flows or when they are not constructed along a contour line due to the potential for flow concentration and overtopping.

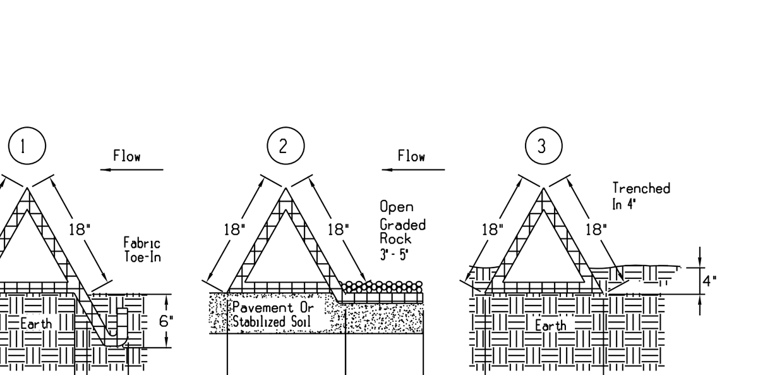
MAINTENANCE REQUIREMENTS
Triangular sediment filter dikes should be inspected regularly (at least as often as required by the TPDES Construction General Permit, Appendix A). Sediment should be removed when it reaches approximately 6 inches in depth. If the fabric becomes clogged, it should be cleaned or, if necessary, replaced. If structural deficiencies are found, the dike should be immediately repaired or replaced.

As with silt fence, integrity of the filter fabric is important to the effectiveness of the dike. Overlap between dike sections must be checked on a regular basis and repaired if deficient.

SPECIFICATIONS
Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction - North Central Texas Council of Governments, Section 201.8 Triangular Sediment Filter Dike.

December 2003

Triangular Sediment Filter Dike

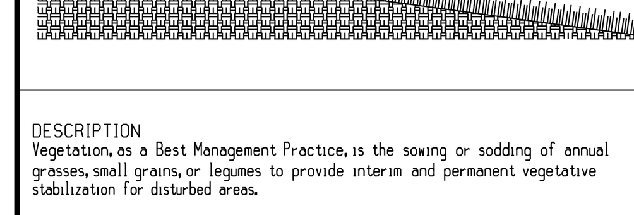


Cross Section Of Installation Options

1. Toe-in 6" Min.
2. Fabric Skirt Weighted With Rock
3. Trenched In 4"

December 2003

Vegetation



DESCRIPTION
Vegetation, as a Best Management Practice, is the sowing or sodding of annual grasses, small grains, or legumes to provide interim and permanent vegetative stabilization for disturbed areas.

PRIMARY USE
Vegetation is used as a temporary or permanent stabilization technique for areas disturbed by construction. As a temporary control, vegetation is used to stabilize stockpiles and barren areas that are inactive for long periods of time. As a permanent control, grasses and other vegetation provide good protection from erosion along with some filtering for overland runoff. Subjected to acceptable runoff velocities, vegetation can provide a positive method of permanent storm water management as well as a visual amenity to the site.

Other BMPs may be required to assist during the establishment of vegetation. These other techniques include erosion control matting, swales, and dikes to direct flow around newly seeded areas and proper grading to limit runoff velocities during construction.

APPLICATIONS
Vegetation effectively reduces erosion in swales, stockpiles, berms, mild to medium slopes, and along roadways. Vegetative strips can provide some protection when used as a perimeter control for utility and site development construction.

In many cases, the initial cost of temporary seeding may be high compared to tarps or covers for stockpiles or other barren areas subject to erosion. This initial cost should be weighed with the amount of time the area is to remain inactive, since maintenance cost for vegetated areas is much less than most structural controls.

DESIGN CRITERIA
Surface Preparation
- Interim or final grading must be completed prior to seeding or sodding.
- Install all necessary erosion structures such as dikes, swales, diversions, etc. prior to seeding or sodding.
- When establishing vegetation from seed, groove or furrow slopes steeper than 3:1 on the contour line before seeding.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

Targeted Constituents
● Sediment
◒ Nutrients Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
◒ Capital Costs
◒ Maintenance
○ Training
● Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

Fe=0.90

E-4

North Central Texas Council of Governments

December 2003

Vegetation

- Provide 4-6 inches of topsoil over rock, gravel or otherwise unsuitable soils. Poor quality topsoil should be amended with compost before applying seed or sod. Amendment should be three parts of topsoil to one part compost by volume thoroughly blended.
- Seed bed should be well pulverized, loose and uniform.

Plant Selection, Fertilization and seeding
- Use only high quality, USDA certified seed.
- Use an appropriate species or species mixture adapted to local climate, soil conditions and season as shown below, or consult with the local office of the Natural Resource Conservation Service (NRCS) or Engineering Extension service as necessary for selection of proper species and application technique in this area.
- Seeding rate should be in accordance with the table below or as recommended by the NRCS or Engineering Extension service.
- Fertilizer shall be applied according to the manufacturer's recommendation with proper spreader equipment. Typical application rate for 10-10-10 grade fertilizer is 10 lbs. per 1,000 ft^2.
- If hydro-seeding is used, do not mix seed and fertilizer more than 30 minutes before application.
- Evenly apply seed using cyclone seeder, seed drill, cultipacker, terraseeding, or hydroseeder.
- Provide adequate water to aid in establishment of vegetation.
- Use appropriate mulching techniques where necessary, especially during cold periods of the year.

Sodding
- Sod shall be St. Augustine grass, common bermudagrass, buffalograss, an approved hybrid of common Bermudagrass or an approved zoysiagrass.
- The sod should be mowed prior to sod cutting so that the height of the grass shall not exceed 2-inches and should not be harvested or planted when its moisture condition is so excessively wet or dry that its survival shall be affected.
- Sod shall be planted within 3-days after it is excavated.
- In areas subject to direct sunlight, pre-moisten prepared sod bed by watering immediately prior to placing sod.
- Sodded areas shall be thoroughly watered immediately after they are planted.

ADDITIONAL GUIDANCE
- Establishing a good vegetative cover is dependent of the season of the year. Projects that commence in the fall of the year may not be candidates for vegetation used as a BMP.
- Where vegetation is used in swales and channels it may be necessary to use sod, rather than seeding, to establish an erosion resistant surface to accommodate rainfall runoff flows.
- Where vegetation is used for perimeter control, the use of sod is necessary for a fifteen-foot width.
- Mulch should be used to enhance vegetative growth, in that mulch protects seeds from heat, prevents soil moisture loss, and provides erosion protection until the vegetation is established.
- Fertilizers have both beneficial and adverse effects. Fertilizers provide nutrients to the vegetation, but also fertilizers are a source of nutrients to streams and lakes. In this latter regard they are a pollutant. The use of native vegetation rather than exotics reduces the need of fertilizer. Organic fertilizers are generally preferred over chemical fertilizers from the standpoint of environmental conditions.
- Steep slopes represent a problem for establishing vegetation. Bonded Fiber Matrix or Mechanically Bonded Fiber Matrix products applied with a tackifier are useful for establishing vegetation on slopes.

TEMPORARY VEGETATION
The table on the following page lists recommended plant species for the North Central Texas region depending on the season for planting.

December 2003

Vegetation

RECOMMENDED GRASS MIXTURE FOR TEMPORARY EROSION CONTROL:

SEASON	COMMON NAME	RATE (LBS/ACRE)
Aug 15 - Nov 30	Tall Fescue Western Wheat Grass Wheat (Red, Winter)	4.0 5.0 30.0
May 1 - Aug 31	Foxtail Millet	30.0
Feb 15 - May 31 Sep 1 - Dec 31	Annual Rye	20.0

PERMANENT VEGETATION
Grass seed for permanent vegetation can be sown at the same time as seeding for temporary (annual) vegetation. Drought tolerant native vegetation is recommended rather than exotics as a long-term water conservation measure. Native grasses can be planted as seed or placed as sod. Buffaloe 609, for example, is a hybrid grass that is placed as sod. Fertilizers are not normally used to establish native grasses, but mulching is effective in retaining soil moisture for the native plants.

RECOMMENDED NATIVE GRASSES FOR PERMANENT EROSION CONTROL

GRASS		RATE
Buffaloe Grass	Full Turf Application	3-4 lbs/1000 sqft
Blue Grama	Full Turf Application	2 lbs/1000 sqft
Side Oats Grama	Applied with other native seed	5/64 lb/1000 sqft

LIMITATIONS
Vegetation is not appropriate for areas subjected to heavy pedestrian or vehicular traffic. As a temporary technique, vegetation may be costly when compared to other techniques. Vegetation may require a period of days to weeks before becoming established. Lack of water and lack of or improper use of soil amendments (compost, fertilizer, etc.) will usually result in poor turf establishment. Alternate erosion control (e.g. mulching, sodding vegetative strips, etc) should be used until vegetation can be established.

Vegetation is not appropriate for rock, gravel or coarse-grained soils unless 4 to 6 inches of topsoil is applied.

MAINTENANCE REQUIREMENTS
Protect newly seeded areas from excessive runoff and traffic until vegetation is established. A watering and fertilizing schedule will be required as part of the SWPPP to assist in the establishment of the vegetation. Vegetation should be inspected regularly (at least as often as required by the TPDES Construction General Permit, Appendix A) to ensure that the plant material is established properly and remains healthy. Bare spots shall be reseeded and/or protected from erosion by mulch or other BMP. Accumulated sediment deposited by runoff should be removed to prevent smothering of the vegetation. In addition, determine the source of excess sediment and implement appropriate BMPs to control the erosion.

DUST CONTROL

DESCRIPTION
Dust control includes those measures necessary to prevent wind transport of dust from disturbed soil surfaces onto roadways, drainage ways, and surface waters.

PRIMARY USE
Dust control is applied in areas (including roadways) subject to surface and air movement to dust where on-site and off-site impacts to roadways, drainage ways, or surface waters are likely.

DESIGN CRITERIA
- Vegetate or mulch areas that will not receive vehicle traffic. In areas where planting, mulching, or paving is impractical, apply gravel or landscaping rock.
- Limit dust generation by clearing only those areas where immediate activity will take place, leaving the remaining area(s) in the original condition, if stable. Maintain the original cover as long as practicable.
- Construct natural or artificial windbreaks or windscreens. These may be designed as enclosures for small dust sources.
- Sprinkle the site with water until dampened sufficiently to prevent dust and repeat as needed. Do not apply water in quantities to cause runoff.
- Irrigation water can be used for dust control. Irrigation systems should be installed as a first step on sites where dust control is a concern.

SPECIFICATIONS
No specification for construction of this item is currently available in the Standard Specifications for Public Works Construction - North Central Texas Council of Governments.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices

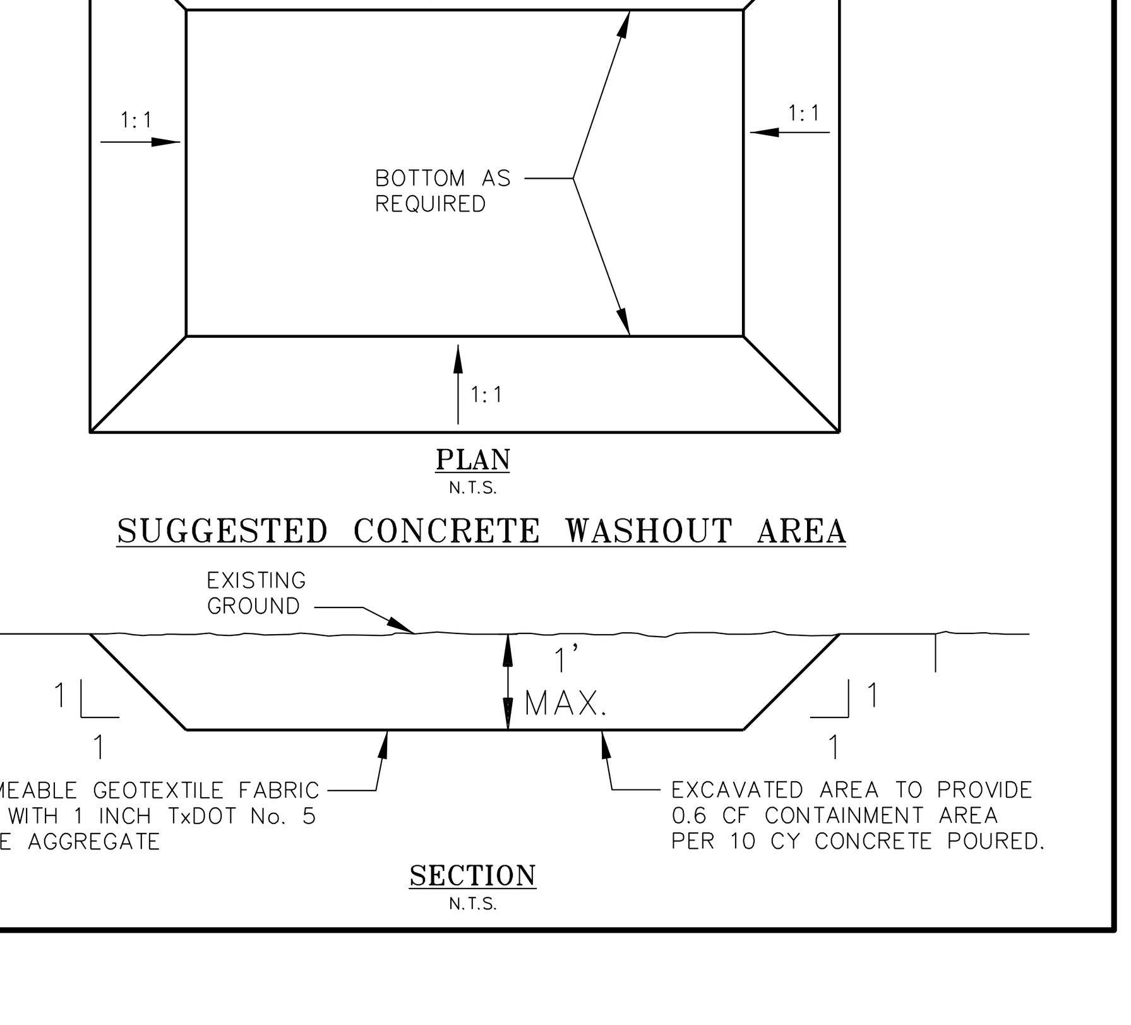
Targeted Constituents
● Sediment
○ Nutrients/Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes

Implementation Requirements
○ Capital Costs
○ Maintenance
● Training
○ Suitability for Slopes > 5%

Legend
● Significant Impact
◒ Medium Impact
○ Low Impact
? Unknown or Questionable Impact

E-8

North Central Texas Council of Governments



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OWNER/ APPLICANT
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TBPE No. F-1515

Rayburn Electric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED PROFESSIONAL ENGINEER

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

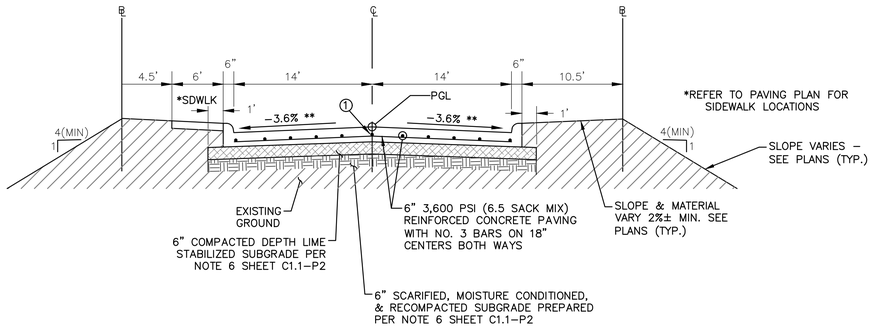
DATE
01/18/2024

ISSUE
ISSUED FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
SWPPP - HOUSEKEEPING DETAILS

CASE# E2023-042

SHEET NO.
C12.6-P2

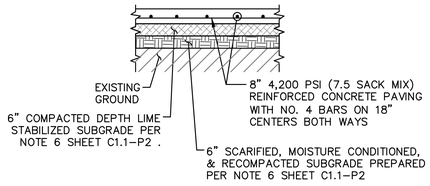


① INDICATES SAWED & SEALED LONGITUDINAL CONTRACTION OR CONSTRUCTION JOINT

** 6" ROOFTOP CROWN (TYP)

SECTION B-B - ACCESS DRIVE "A" PAVING

NO SCALE



TYPICAL 8" PAVING SECTION

SCALE: N.T.S.

NOTES:

1. SEE SHEET C1.1–P2 FOR LEGEND, PROJECT CONTROL, AND PROJECT NOTES.
2. PROVIDE SAWED & SEALED TRANSVERSE CONTRACTION JOINTS EVERY 15' APART. DEPTH OF JOINTS TO BE 1.5" FOR 6" THICK CONCRETE PAVING.

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11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

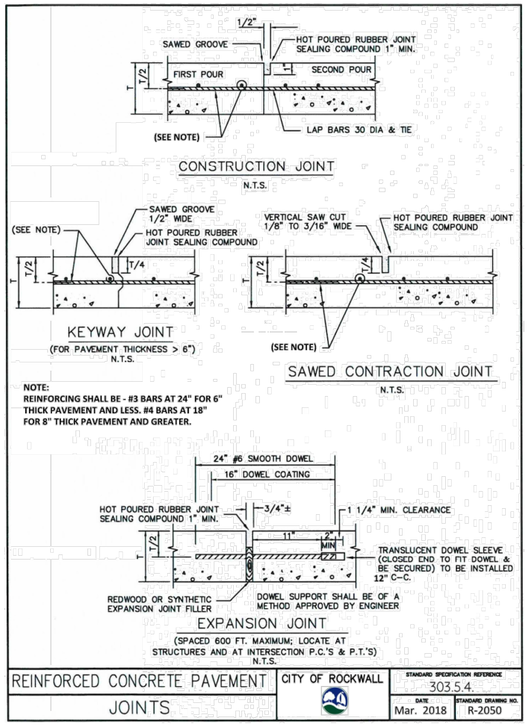
DATE
01/18/2024

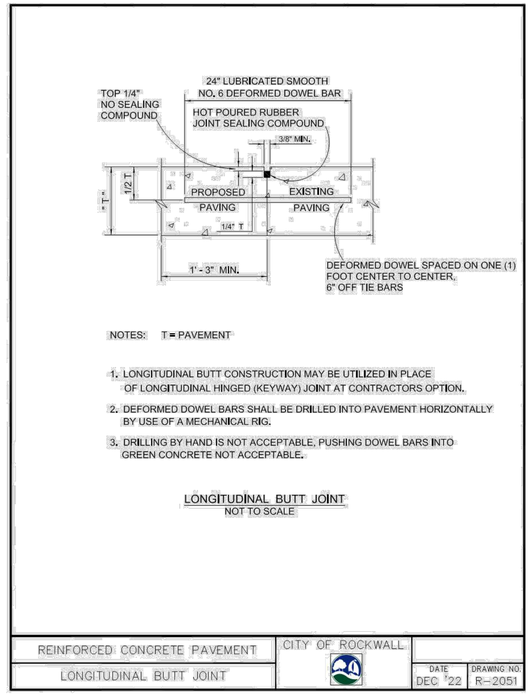
ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

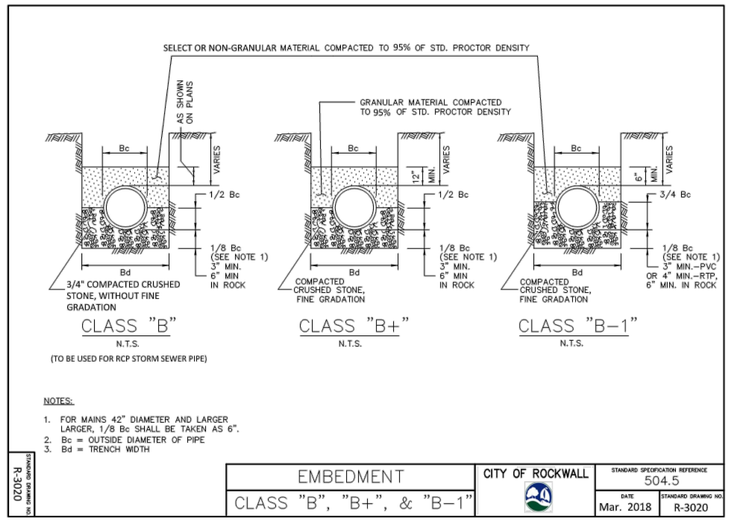
SHEET TITLE
TYPICAL PAVING SECTIONS

CASE# E2023-042

SHEET NO.
C13.1-P2







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REC RayburnElectric COOPERATIVE

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11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
CITY STANDARD DETAILS

CASE# E2023-042

SHEET NO.
C13.2-P2

BILL OF REINFORCING STEEL

DEPTH "D"	ALL WIDTHS AND LENGTHS	OPENING LENGTH "L" = 5ft Widths "W" 3ft	4ft	5ft	OPENING LENGTH "L" = 10ft Widths "W" 3ft	4ft	5ft	OPENING LENGTH "L" = 15 ft Widths "W" 3ft	4ft	5ft	OPENING LENGTH "L" = 20 ft Widths "W" 3ft	4ft	5ft
	BARS C	BARS D	BARS E	BARS J	BARS F	BARS G	BARS A	BARS B	BARS G	BARS A	BARS B	BARS G	BARS A	BARS B	BARS G	BARS M	BARS N	BARS F	BARS G	BARS A	BARS B	BARS G	BARS M	BARS N
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	44	"	"
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"

ALL CONCRETE STRUCTURES SHALL BE CLASS F (4200psi, MIN. 7.0 SACK CEMENT). NO FLY ASH IS ALLOWED IN CONCRETE STRUCTURES.

NOTE:
FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO. R-6020D

CURB INLET
BILL OF REINFORCING STEEL

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE Mar. 2018
STANDARD DRAWING NO. R-6020D

SUMMARY OF QUANTITIES FOR CURB INLETS

DEPTH "D"	5'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	10'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	15'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	20'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.69	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.22	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

NOTE:
FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

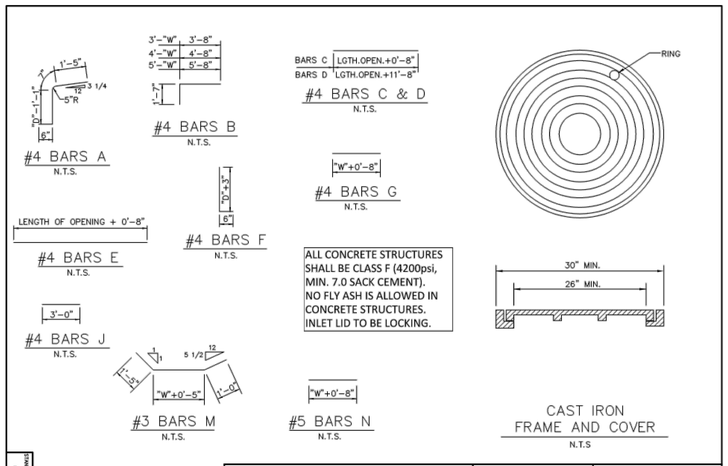
ALL CONCRETE STRUCTURES SHALL BE CLASS F (4200psi, MIN. 7.0 SACK CEMENT). NO FLY ASH IS ALLOWED IN CONCRETE STRUCTURES.

STANDARD DRAWING NO. R-6020E

CURB INLET
SUMMARY OF QUANTITIES

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE Mar. 2018
STANDARD DRAWING NO. R-6020E

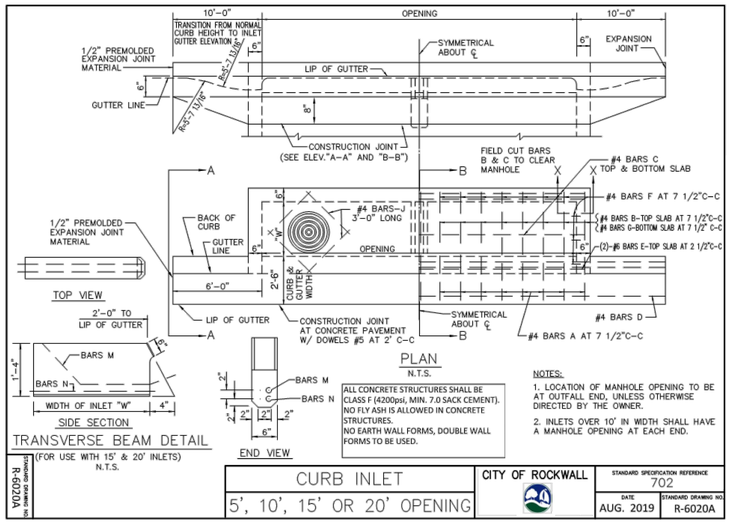


STANDARD DRAWING NO. 6020C

CURB INLET
REBAR & M.H. FRAME & COVER

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE Mar. 2018
STANDARD DRAWING NO. R-6020C



STANDARD DRAWING NO. R-6020A

CURB INLET
5', 10', 15' OR 20' OPENING

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE AUG. 2019
STANDARD DRAWING NO. R-6020A

GENERAL NOTES:

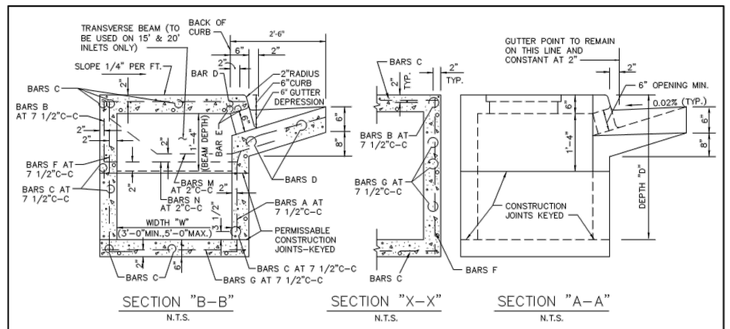
1. IN GENERAL, REINFORCING STEEL SHALL BE #4 BARS ON 12" CENTERS BOTH WAYS FOR GUTTER, BOTTOM SLAB ENDS, FRONT AND BACK WALLS, AND #4 BARS ON 6" CENTERS BOTH WAYS FOR TOP SLAB. AN ADDITIONAL #6 BAR SHALL BE PLACED IN THE FRONT EDGE OF THE TOP SLAB IN THE INLETS AND ADDITIONAL REINFORCING STEEL SHALL BE PLACED AROUND MANHOLES AS SHOWN.
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. ALL CONCRETE STRUCTURES SHALL BE CLASS F (4200psi, MIN. 7.0 SACK CEMENT). ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
4. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" TO THE CENTERS OF THE BARS.
5. 10'-0" OF EXISTING CURB AND GUTTER UPSTREAM AND 10'-0" OF EXISTING CURB AND GUTTER DOWNSTREAM SHALL BE REMOVED AND REPOURED INTEGRALLY WITH EACH INLET.
6. ALL BACK FILLING SHALL BE PERFORMED BY MECHANICAL TAMPING TO 95% STANDARD PROCTOR DENSITY.
7. NO FLY ASH IS ALLOWED IN CONCRETE STRUCTURES.

STANDARD DRAWING NO. R-6030D

CURB INLET RECESSED
GENERAL NOTES

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE Mar. 2018
STANDARD DRAWING NO. R-6030D



GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" CONCRETE.
2. REINFORCING BARS SHALL BE STANDARD GRADE STEEL, DEFORMED REINFORCING BARS OF A DIAMETER AND LENGTH AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
5. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMODATE STORM SEWER PIPE.
6. RING AND COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.

ALL CONCRETE STRUCTURES SHALL BE CLASS F (4200psi, MIN. 7.0 SACK CEMENT). NO FLY ASH IS ALLOWED IN CONCRETE STRUCTURES. NO EARTH WALL FORMS, DOUBLE WALL FORMS TO BE USED.

STANDARD DRAWING NO. R-6020B

CURB INLET
CROSS SECTION & INLET THROAT

CITY OF ROCKWALL

STANDARD SPECIFICATION REFERENCE 702
DATE AUG. 2019
STANDARD DRAWING NO. R-6020B

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

REC RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN PAUL PATRICK, P.E. 80844 ON JANUARY 18, 2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RECORD DRAWING

NOTE: THIS RECORD DRAWING IS A COMPILATION OF THE ORIGINAL SEALED ENGINEERING DRAWING FOR THIS PROJECT, INFORMATION FURNISHED BY THE CONTRACTOR, AND FIELD SURVEY VERIFICATION. TO THE BEST OF OUR KNOWLEDGE, R-DELTA ENGINEERS, INC. STATES THAT THE PLAN IS AS-BUILT.

11/06/2025

FRANK A. POLIMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

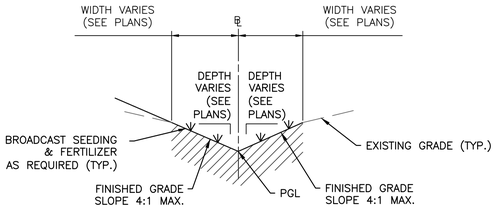
DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
CITY STANDARD DETAILS

CASE# E2023-042

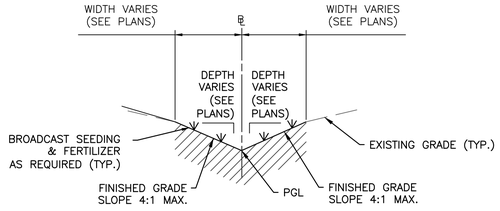
SHEET NO.
C13.3-P2



DITCH SECTION A-A

SCALE: N.T.S.

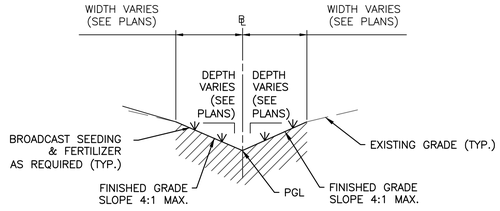
Q_{100} = 13.95 CFS, S = 5.00%
(n=0.035, V_{100} = 4.14 FPS)
n=0.05, Dn = 0.69'
CAP. = 110.5 CFS @ 1.5' DEPTH



DITCH SECTION B-B

SCALE: N.T.S.

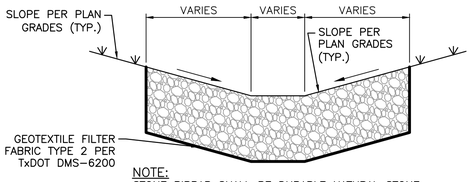
Q_{100} = 15.16 CFS, S = 2.0%
(n=0.035, V_{100} = 2.81 FPS)
n=0.05, Dn = 0.76'
CAP. = 364.3 CFS @ 2.5' DEPTH



DITCH SECTION C-C

SCALE: N.T.S.

Q_{100} = 20.92 CFS, S = 10.62%
(n=0.035, V_{100} = 7.41 FPS)
n=0.05, Dn = 0.96'
CAP. = 275.2 CFS @ 2.5' DEPTH



NOTE:
STONE RIPRAP SHALL BE DURABLE NATURAL STONE WITH A MINIMUM BULK SPECIFIC GRAVITY OF 2.50 AS DETERMINED BY TxDOT TEST PROCEDURE TEX-403-A. CONSTRUCT RIPRAP AND BEDDING IN ACCORDANCE WITH TxDOT ITEM 432.3.2.3. DRY COMMON GROUTING. PROVIDE GROUT IN ACORDANCE WITH TxDOT ITEM 421, HYDRAULIC CEMENT CONCRETE.

TYPICAL GROUTED ROCK RIPRAP SECTION R-R

SCALE: N.T.S.

RIPRAP GRADATION
SIZE: 12"
MAXIMUM SIZE: 200 LB
90% SIZE: 80-180 LB
50% SIZE: 30-75 LB
8% SIZE: 3 LB MINIMUM

RIPRAP SIZE
SIZE: 12 IN
Dmax: 13.76 IN
D90: 10.14-13.29 IN
D50: 7.31-9.92 IN
D8: 3.39 IN

TYPICAL GROUTED ROCK RIPRAP GRADATION & SIZE

SCALE: N.T.S.

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
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DALLAS, TX 75201- 4240

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SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
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OWNER/ APPLICANT
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087
469-402-2100

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040
TBPE No. F-1515

RayburnElectric COOPERATIVE

STATE OF TEXAS
BRIAN PAUL PATRICK
80844
REGISTERED
PROFESSIONAL ENGINEER

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RECORD DRAWING

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11/06/2025

FRANK A. POLMA, P.E. TX #80274
R-DELTA ENGINEERS, INC.
TBPE FIRM NO F-001515

REVISION

NO.	DESCRIPTION	DATE

PROJECT NUMBER
3036.21

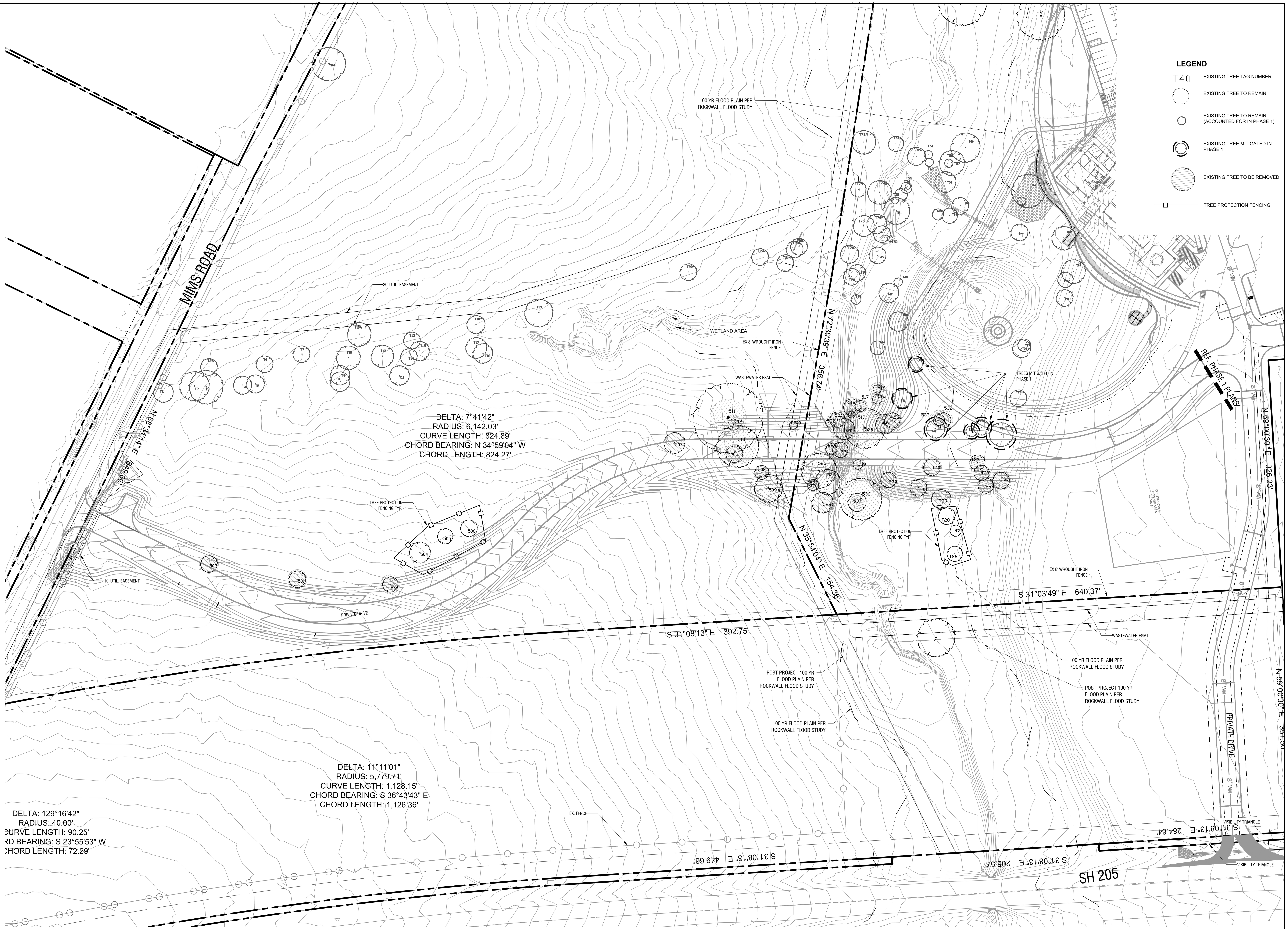
DATE
01/18/2024

ISSUE
ISSUE FOR CONSTRUCTION SUBMITTAL

SHEET TITLE
DRAINAGE DETAILS

CASE# E2023-042

SHEET NO.
C13.10-P2



Treescape Plan
Scale: 1" = 60' - 0"

A

TEMPLATE VERSION:

PLOT DATE:

HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST
SUITE 100
DALLAS, TX 75201

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATE, INC.
260 EAST DAVIS STREET, SUITE 100
MCKINNEY, TX 75069

STRUCTURAL ENGINEER
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

MEP ENGINEERS
SYSKA HENNESSY GROUP
4925 GREENVILLE AVENUE, SUITE 415
DALLAS, TX 75206

OWNER
RAYBURN ELECTRIC COOPERATIVE
950 SIDS ROAD
ROCKWALL, TX 75087

CIVIL ENGINEER
R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040

Rayburn Electric COOPERATIVE

CAMPUS EXPANSION PHASE 2

REGISTERED LANDSCAPE ARCHITECT
STATE OF TEXAS
3480
01/08/24

KEY PLAN

REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
3036.21
DATE
01/08/24
ISSUE
ENGINEERING PLAN SUBMITTAL
SHEET TITLE
TREESCAPE PLAN

CASE# E2023-007
SHEET NO.
TS 1.01

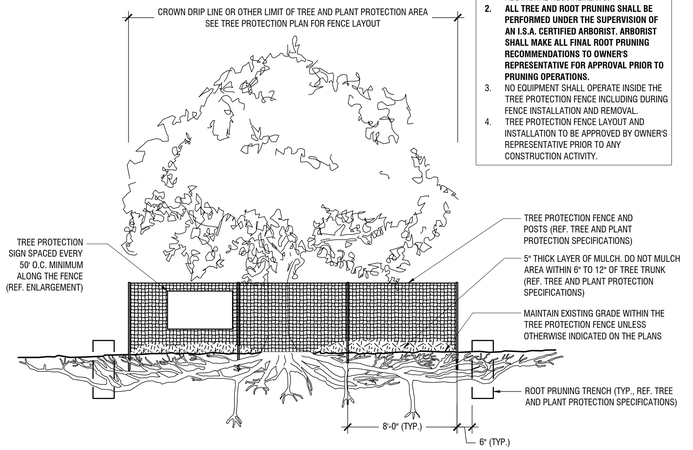
Existing Tree Listing
Rayburn Electric Cooperative Rockwall Campus, PHASE II
October 20, 2023

Location Key	Size DBH (Inches)	Description	Common Name	Comments	Tree Designation				Removal Status	Replacement Caliper Inches
					Feature	Primary	Secondary	Non-Protected		
501	12	M.T.	Eastern Red Cedar				X		Removed	6
502	14	M.T.	Eastern Red Cedar				X		Removed	7
503	12		Eastern Red Cedar				X		Removed	6
504	14		Eastern Red Cedar				X			
505	11		Eastern Red Cedar				X			
506	14		Eastern Red Cedar				X			
507	13		Eastern Red Cedar				X		Removed	6.5
508	10		Hercules Club			X			Removed	10
509	18		Bois D'Arc					X	Removed	
510	5		Bradford Pear			X			Removed	5
511	31	M.T.	Bois D'Arc					X	Removed	
512	7		Hercules Club			X			Removed	7
513	32		Bois D'Arc					X	Removed	
514	12		Eastern Red Cedar				X		Removed	6
515	6		Bois D'Arc					X	Removed	
516	9	M.T.	Bois D'Arc					X	Removed	
517	8		American Elm			X			Removed	8
518	10		Eastern Red Cedar				X		Removed	
519	4		Persimmon			X			Removed	4
520	17	M.T.	White Ash			X			Removed	17
521	10		Cedar Elm			X			Removed	10
522	6		White Ash			X			Removed	6
523	9		Slippery Elm	Dead		X			Removed	
524	11		Eastern Red Cedar				X		Removed	5.5
525	25	M.T.	Bois D'Arc					X	Removed	
526	35	M.T.	Bois D'Arc					X	Removed	
527	7		Bois D'Arc					X	Removed	
528	14		White Ash			X			Removed	14
529	28	M.T.	Bois D'Arc					X	Removed	
530	14	M.T.	Eastern Red Cedar				X		Removed	7
531	10	M.T.	Eastern Red Cedar				X		Removed	
535	9	M.T.	Bois D'Arc					X	Removed	
536	25	M.T.	Bois D'Arc					X	Removed	
537	14	M.T.	Hackberry				X		Removed	7
538	10		Hackberry				X		Removed	
539	9	M.T.	Bois D'Arc					X	Removed	
T26	11		Eastern Red Cedar				X			
T27	8		White Ash			X				
T28	13	M.T.	Eastern Red Cedar				X			
T34	17		White Ash	Mitigated in Phase 1		X			Removed	
T38	11		Hackberry	Mitigated in Phase 1			X		Removed	
T39	8		Slippery Elm	Mitigated in Phase 1		X			Removed	
T41	13		Hackberry	Mitigated in Phase 1			X		Removed	
T42	14	M.T.	Eastern Red Cedar	Mitigated in Phase 1			X		Removed	

TOTAL REPLACEMENT INCHES REQUIRED:	132.0
PHASE 1 MITIGATION CREDITS	3.5
MITIGATION INCHES REQUIRED:	128.5
NUMBER OF TREES REQUIRED TO SATISFY MITIGATION	**33**

TREE PROTECTION SIGN ENLARGEMENT

NOTE: CONTRACTOR TO PROVIDE PHONE NUMBER INFORMATION



NOTES:
1. SEE TREE AND PLANT PROTECTION SPECIFICATIONS FOR WATERING AND OTHER ADDITIONAL REQUIREMENTS.
2. **ALL TREE AND ROOT PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN I.S.A. CERTIFIED ARBORIST. ARBORIST SHALL MAKE ALL FINAL ROOT PRUNING RECOMMENDATIONS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PRUNING OPERATIONS.**
3. NO EQUIPMENT SHALL OPERATE INSIDE THE TREE PROTECTION FENCE INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
4. TREE PROTECTION FENCE LAYOUT AND INSTALLATION TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION ACTIVITY.

TREE PRESERVATION AND REMOVAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH ISA CERTIFIED ARBORIST AND PROPERTY OWNERS TO VERIFY OBJECTIVES PRIOR TO COMMENCING ANY PRUNING OR TREE REMOVAL ACTIVITIES.

2. ALL CREW MEMBERS SHOULD BE WEARING THE APPROPRIATE SAFETY GEAR: HARD HATS, EYE PROTECTION, APPROVED BOOTS, HEARING PROTECTION, CHAIN SAW CHAPS FOR GROUNDWORK.

3. ANY TREES REMOVED, AND ALL TREE MATERIALS REMOVED SHALL BE REMOVED FROM THE PROPERTY AT THE CONTRACTOR'S EXPENSE.

4. ALL TRASH AND DEBRIS FROM ANY CONSTRUCTION RELATED ACTIVITIES SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE, FOLLOWING COMPLETION OF THE PROJECT.

5. ANY DAMAGE TO THE EXISTING LANDSCAPE, PAVEMENT, BUILDING, OR ANY OTHER SITE FEATURES SHALL BE REPLACED BY THE CONTRACTOR AND/OR RESTORED TO PRE-CONSTRUCTION CONDITION.

PLOT DATE:
TEMPLATE VERSION:

HKS

ARCHITECT
HKS, INC.
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R - DELTA ENGINEERS, INC.
618 MAIN STREET
GARLAND, TEXAS 75040

Rayburn Electric COOPERATIVE

REGISTERED LANDSCAPE ARCHITECT
AARON R. [illegible]
3480
STATE OF TEXAS

01/08/24

KEY PLAN

REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
3036.21

DATE
01/08/24

ISSUE
ENGINEERING PLAN SUBMITTAL

SHEET TITLE
TREESCAPE TABLE

CASE# E2023-007

SHEET NO.
TS 1.02

CAMPUS EXPANSION PHASE 2