CIVIL CONSTRUCTION PLANS

LOT 5, BLOCK A
MAVERICK RANCH ADDITION
SITE IMPROVEMENTS

JOSEPH STRICKLAND, ABST # 187

CITY OF ROCKWALL

ROCKWALL COUNTY, TEXAS

GENERAL NOTES
(APPLICABLE TO ALL SHEETS)

1. **Excavated material shall be placed as directed by the Owner.**
2. **Construction shall meet the requirements of the latest revision of the Standards of Design and Standard Details for the City of Rockwall & NCTCOG Standards, 5TH Edition.**
3. **All fill areas to be density controlled and compacted to 95% density at optimum moisture content. Compacted with sheep foot roller.**
4. **Pavement thickness and strength shall be as follows:**
   Fire Lanes.....6"
   Parking areas.....5"
   Drive Approach within right of way ..8"
   3600 psi at 28 days and reinforced with No.4 bar at 18" centers each way using a 6 sack mix for machine pour and a 6-1/2 sack mix for hand pour.
5. **All sidewalks shall be 4" thick 3000 psi reinf. conc. with No. 3 rebar at 24" O.C.E.W. Cement content shall be not less than 5.5 sack per cubic yard**
6. **All streets shall be constructed with min. 6% lime stabilized subgrade compacted to 95% standard proctor density, lime series needs to be performed to verify.**
7. **It shall be the responsibility of the Contractor to locate and verify all existing utilities prior to the beginning of construction to insure no conflicts between all utility lines.**
8. **Where water pipelines either cross or otherwise come within 10 feet of a sanitary sewer pipeline, the sewer pipeline shall be with a minimum working pressure Class 150 psi.**
9. **All water lines installed to be PVC pipe C900 conforming to AWWA DR14 Standard C-900, fitting shall be mechanical or O-ring.**
10. **All water lines are to be installed a minimum of 48" deep measured from top of pipe.**
11. **All storm inlets shall be cast-in-place with a minimum of 4200 psi and 7.0 sack for all structures. No fly ash**
12. **Utility contractor shall use MEGALUGS when installing the water line and double strap services when installing the services.**
13. **Water services shall be a minimum of 1" SDR-9 polyethelene pipe installed with two in-line nylon ball cutoff valves inside the meter box. Corporation cock shall be Muellar No. H-15000 w/ straight coupling nut or approved equal. Curb stops shall be Muellar No. H-15174 MK oriseal or approved equal.**
14. **All water lines shall be pressure tested and disinfected in accordance with AWWA C 601.**
15. **All gate valves shall be Muellar or approved equal and conform to AWWA C-500 specifications. All gate valves shall be iron body, bronze mounted, double disk, parallel seat, non-rising stem, internal wedging type.**
16. **All fire hydrants shall be located 2' to 6' behind curb line. All fire hydrants shall be Muellar or approved equal.**
17. **All handicap ramps shall be installed with paving.**
18. **Contractor is responsible for acquiring NCTCOG and Rockwall Standards and Details.**
19. **Blue EMS disk to installed at every change in direction, services, and valves on waterlines**
20. **Green EMS disks to installed at every change in direction, manhole, cleanout, and service on sanitary sewer lines..**
21. **Floodway monument shall be installed per City of Rockwall detail.**
22. **All gravity sewer shall be SDR 35, unless otherwise noted and in conformance with City of Rockwall Standards.**
23. **All City and TxDOT right-of-way to be sodded.**
24. **Contractor to adjust all proposed utilities to grade.**
25. **All detention to be constructed in place, stabilized, and functioning per approved plans with sodd or anchor seeded curlex before paving and building can start.**

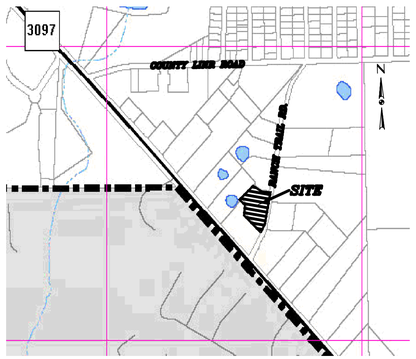
CAUTION!!!

UNDERGROUND UTILITIES

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY THE VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTER SHALL PRESERVE AND PROTECT ALL EXISTING FACILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTER TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE.

NOTE:
CONTRACTOR TO VERIFY IN THE FIELD THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. INFORMATION PROVIDED WITHIN THESE PLANS DOES NOT RELIEVE THE CONTRACTOR OF THE FULL AND TOTAL RESPONSIBILITY FOR THE PROTECTION OF EXISTING UTILITIES NOR ANY DAMAGES CAUSED BY SAID CONTRACTOR DURING CONSTRUCTION.

TEXAS ONE CALL SYSTEM, INC. 1-800-245-4545 STOP-CALL BEFORE YOU DIG!



LOCATION MAP
NTS

SHEET INDEX

GENERAL NOTES
(APPLICABLE TO ALL SHEETS)

1. ALL WORKS ON THIS PROJECT/CONTRACT SHALL COMPLY WITH ALL THE REQUIREMENTS OF CITY OF ROCKWALL AND AUTHORITIES HAVING JURISDICTION.

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 ADEQUCAY OR ACCURACY OF DESIGN.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
DATE: 2-17-26

CIVIL ENGINEER
DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT • SURVEYING
P.O. BOX 1336 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

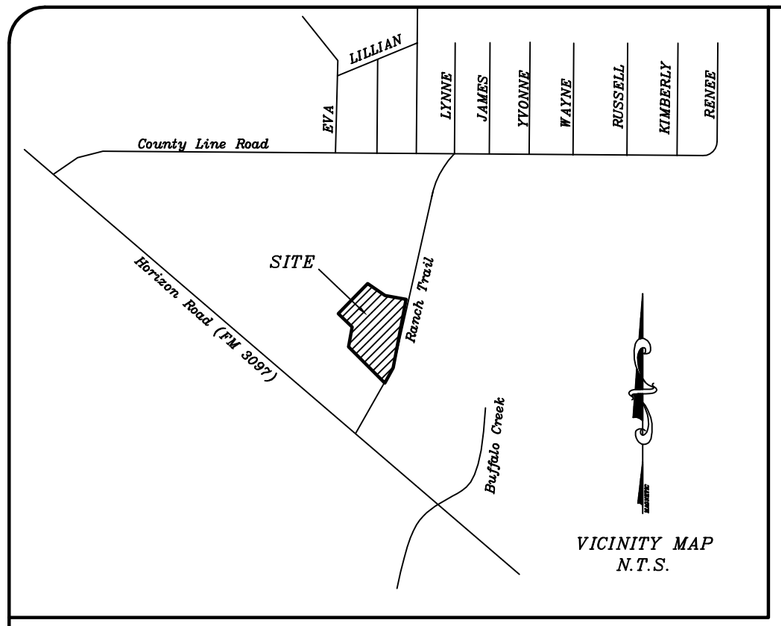
SURVEYOR
JIM ANDERSON
1195 LAKE GLEN CIRCLE
ROCKWALL, TEXAS 75087
(214)-548-2042

OWNER
1800 DALROCK, LLC
2424 RIDGE RD
ROCKWALL, TEXAS 75087
(469)-298-1594

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, TEXAS P.E. NO. 60102, F-886, ON AUG 26, 2019

STATE OF TEXAS W.L. DOUPHRATE III 60102 REGISTERED PROFESSIONAL ENGINEER

LOT 5, BLOCK A, MAVERICK RANCH ADDITION



LEGEND:

IRF = Iron Rod Found
IRS = Iron Rod Set with yellow plastic cap "RLS 5664"
O.P.R.R.C.T. = Official Public Records of Rockwall County, Texas
P.R.R.C.T. = Plat Records of Rockwall County, Texas
(CM) = Control Monument

General Notes:

1). The purpose of this plat is to create easements.

2). The Coordinates (SPC TXNC 4202) shown hereon North American Datum of 1983 on Grid Coordinate Values, no scale and no projection.

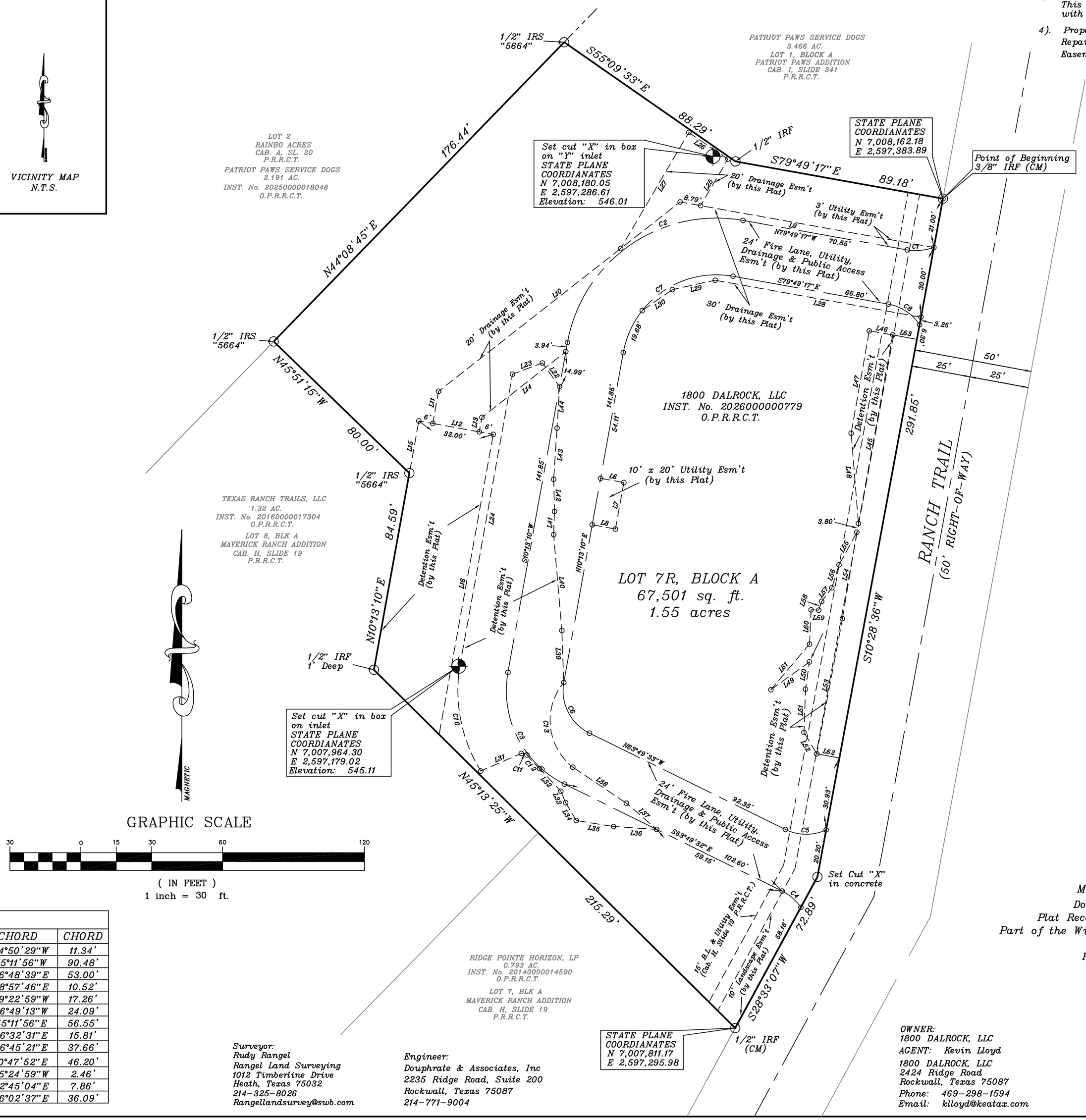
3). According to the F.I.R.M. in Map No. 48397C0040L, This property does lie in Zone X and does not lie with the 100 year flood zone.

4). Property owner shall be responsible for all maintenance, Repair and Replacement of all Drainage and Detention Easements on site.

Note: Basis of Bearings
Northerly line of Lots 7 & 8
Block A, Maverick Ranch Addition
Inst. No. 20200000021169 O.P.R.R.C.T.

LINE TABLE		
LINE	LENGTH	BEARING
L6	10.00'	S79°46'50"E
L7	20.00'	N10°13'10"E
L8	10.00'	S79°46'50"E
L9	109.08'	N79°49'17"W
L10	129.88'	S51°53'58"W
L11	13.83'	S10°13'10"W
L12	20.00'	S79°46'50"E
L13	6.22'	N10°13'10"E
L14	45.11'	N51°53'58"E
L15	22.42'	N10°13'10"E
L16	129.05'	N10°13'10"E
L22	12.29'	N36°10'02"W
L23	13.50'	S69°32'59"W
L24	124.51'	S10°13'10"W
L25	22.83'	N30°23'40"E
L26	20.00'	N55°43'40"W
L27	56.94'	S30°23'40"W
L28	88.46'	N79°49'17"W
L29	18.54'	S77°40'43"W
L30	15.54'	S55°10'43"W
L31	18.69'	N66°37'25"E
L32	13.17'	S43°08'33"E
L33	5.27'	S22°46'58"E
L34	8.76'	S30°49'47"E
L35	15.98'	S80°53'24"E
L36	18.28'	S86°09'17"E
L37	16.95'	N49°05'50"W
L38	27.32'	N56°07'38"W
L39	21.94'	N02°09'41"W
L40	40.73'	N04°53'11"W
L41	9.84'	N02°16'10"E
L42	13.61'	N01°35'07"W
L43	21.70'	N03°45'16"E
L44	17.65'	N03°27'20"E
L45	81.10'	N10°18'59"E
L46	10.10'	N80°19'17"W
L47	44.00'	S10°01'18"W
L48	38.29'	S04°37'40"E
L49	20.07'	N54°11'14"E
L50	11.64'	S08°11'08"W
L51	18.33'	S02°01'03"W
L52	10.56'	S30°58'01"E
L53	58.23'	N10°44'16"E
L54	37.06'	N09°28'22"E
L55	15.73'	S28°45'53"W
L56	10.16'	S17°13'48"W
L57	7.18'	S36°46'02"W
L58	3.93'	S18°25'30"W
L59	3.27'	N87°15'35"W
L60	14.55'	S02°36'49"W
L61	25.24'	S40°13'54"W
L62	9.75'	S79°31'24"E
L63	10.37'	S79°31'24"E

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD
C1	11.46'	23.08'	28°26'43"	S84°50'29"W	11.34'
C2	100.49'	64.00'	89°57'34"	S55°11'56"W	90.48'
C3	56.87'	44.00'	74°03'39"	S26°48'39"E	53.00'
C4	10.64'	20.50'	29°43'43"	S48°57'46"E	10.52'
C5	17.84'	20.00'	51°06'53"	N89°22'59"W	17.26'
C6	25.86'	20.00'	74°04'46"	N26°49'13"W	24.09'
C7	62.80'	40.00'	89°57'34"	N55°11'56"E	56.55'
C8	16.25'	20.00'	46°33'31"	S56°32'31"E	15.81'
C9	38.22'	64.50'	33°57'03"	S06°45'21"E	37.66'
C10	47.26'	64.36'	42°04'17"	S10°47'52"E	46.20'
C11	2.65'	2.00'	75°55'10"	N75°24'59"W	2.46'
C12	7.87'	42.57'	10°35'20"	S42°45'04"E	7.86'
C13	40.22'	25.24'	91°18'32"	S06°02'37"E	36.09'



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

FINAL PLAT
LOT 7R, BLOCK A

A REPLAT OF
LOT 7, BLOCK A
MAVERICK RANCH ADDITION
Document No. 20200000019968
Plat Records of Rockwall, County, Texas
Part of the William Ford Survey, Abstract No. 80
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

Surveyor:
Rudy Rangel
Rangel Land Surveying
1012 Timberline Drive
Heath, Texas 75032
214-325-8026
Rangellandsurvey@swb.com

Engineer:
Douphrate & Associates, Inc
2235 Ridge Road, Suite 200
Rockwall, Texas 75087
214-771-9004

OWNER:
1800 DALROCK, LLC
AGENT: Kevin Lloyd
1800 DALROCK, LLC
2424 Ridge Road
Rockwall, Texas 75087
Phone: 469-298-1594
Email: klloyd@keatax.com

SHEET 1 OF 2
Date: 02-16-2026

CITY CASE No. _____

OWNERS CERTIFICATE:

STATE OF TEXAS

COUNTY OF ROCKWALL

Whereas, 1800 DALROCK, LLC is the owner of a 1.55 acre tract of land being Lot 7, Block A of the MAVERICK RANCH ADDITION, a replat of Lot 5, Block A as recorded in Document No. 20200000019968 of the Plat Records of Rockwall County, Texas

Being all of said Lot 7, Block A and being situated in the William W. Ford Survey, Abstract No. 80, City of Rockwall, Rockwall County, Texas;

BEGINNING at a ⅜" iron rod found for the northeast corner of said Lot 5, Block A, said point also being the southeast corner of Lot 1, Block A of the PATRIOT PAWS Addition as recorded in Cabinet I, Slide 341 of the Plat Records of Rockwall County, Texas and said point being on the west right-of-way line of Ranch Trail (50' wide right-of-way);

THENCE South 10°28'36" West along the said west right-of-way line, a distance of 291.85' to a set cut "x" in concrete for a corner;

THENCE South 28°33'07" West continuing along said west right-of-way line, a distance of 72.89' to a ½" iron rod found for a corner, said point also being the northeast corner of Lot 7, Block A of the MAVERICK RANCH addition as recorded in Instrument No. 20200000021169 of the Official Public Records of Rockwall County, Texas;

THENCE North 45°13'25" West leaving said west right-of-way line and along the north line of Lots 7 & 8, Block A of said MAVERICK RANCH Addition, a distance of 215.29' to a ½" iron rod found for a corner;

THENCE North 10°13'10" East along the northeasterly line of said Lot 8, a distance of 84.59' to a ½" iron rod set with a yellow plastic cap stamped "RLS 5664" for a corner;

THENCE North 45°51'15" West along the northerly line of said Lot 8, a distance of 80.00' to a ½" iron rod set with a yellow plastic cap stamped "RLS 5664" for a corner, said point also being on the easterly line of Lot 2 of the Rainbo Acres Addition, an addition to the City of Rockwall as recorded in Cabinet A, Slide 20 of the Plat Records of Rockwall County, Texas;

THENCE North 44°08'45" East along the easterly line of said Lot 2, a distance of 176.44' to a ½" iron rod set with a yellow plastic cap stamped "RLS 5664" for a corner, said point being an ell corner of Lot 1, Block A of said PATRIOT PAWS addition;

THENCE South 55°09'33" East along the southerly line of said PATRIOT PAWS addition, a distance of 88.29' to a ½" iron rod found for a corner;

THENCE South 79°49'17" East a distance of 89.18' to the POINT OF BEGINNING and containing 1.5 acres or 67,501 square feet of land.

OWNER'S CERTIFICATE:

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That 1800 DALROCK, LLC, the undersigned owner of the land shown on this plat, and designated herein as Lot 7R, Block A, MAVERICK RANCH Addition, a subdivision 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 Lot 9, Block A, MAVERICK RANCH subdivision 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 utility easements as described herein.
2. Any public utility shall have the right to remove 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 of their respective system on any of these easement strips; and any public utility shall at all times have the right of ingress or egress to, from and upon said easement strips for purpose of construction, reconstruction, inspecting, patrolling, maintaining, and either 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 steers in the subdivision.
4. The developer and subdivision engineer shall bear total responsibility for storm drain improvements.
5. The developer 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 the storm drainage from the development.
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 o the Subdivision Regulations of the City of Rockwall regarding improvements with respect to the entire block on the street or streets on which the 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 sewer, and alleys, all according to the specifications of the City of Rockwall; or
   Until an escrow deposit, sufficient to pay for the cost o 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 a 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 s 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 tor 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.
7. Property owners are responsible for maintenance, repair, and replacement of all retaining walls and drainage and detention systems in easements.

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 dedication of exactions made herein.

FOR: 1800 DALROCK, LLC

_____

By:

FOR: _____ (LIEN HOLDER)

BY: _____ NAME: _____

TITLE: _____

NOTARY CERTIFICATE

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, a Notary Public in and for the said County and State on this day personally appeared_____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and in the capacity therein stated and as the act and deed therein stated.

Given under my han and seal of office, this _____ day of _____, 2026.

_____

Notary Signature

GENERAL NOTES

1. 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 Subdivision and Property Development, of the Texas Local Government Code, and shall be subject to the City of Rockwall withholding utilities and building permits.

2. 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 the subdivision plat by the City of Rockwall does not constitute any representation, assurance or guarantee that any building within such subdivision plat shall be approved, authorized, or permit issued, nor shall such approval constitute any representaion, assurance or guarantee by the City of Rockwall of the adequacy oand 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. The 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. All Fire Lanes will be constructed, maintained, repaired and replaced by the property owner. Fire Lanes shall be constructed in accordance with the approval of Civil Engineering Plans for both on-site and off-site Fire Lane improvements.

5. All decorative signage, post, or lights installed in public right-of-way shall be installed, maintained, repaired, and replaced by the Homeowner's Association (HOA).

APPROVAL CERTIFICATE

APPROVED:

I hereby certify that the above and foregoing plat of an addition to the City of Rockwall, Texas, was approved by the City Council of the City of Rockwall on the _____day of _____ ,2026.

This approval shall be invalid unless the approved plat for such addition is recorded in the office of the County Clerk of Rockwall, County, Texas, within one hundred and eighty (180) days from said date of final approval.

_____ _____

MAYOR OF THE CITY OF ROCKWALL PLANNING AND ZONING CHAIRMAN

_____ _____

CITY SECRETARY CITY ENGINEER

SURVEYOR'S CERTIFICATE

NOW, THEREFORE KNOW ALL MEN BY THESE PRESENTS:

That I Rudy Rangel, do hereby certify that this plat was prepared from an actual and accurate survey of the land, and that the corner monuments shown thereon were properly placed under my personal supervision.

GIVEN UNDER MY HAND AND SEAL THIS _____ DAY _____ ,2026.

_____

RUDY RANGEL
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF TEXAS NO. 5664
TBPLS No. 10077100

NOTARY CERTIFICATE

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, a Notary Public in and for the said County and State on this day personally appeared_____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and in the capacity therein stated and as the act and deed therein stated.

Given under my han and seal of office, this _____ day of _____, 2026.

_____

Notary Signature

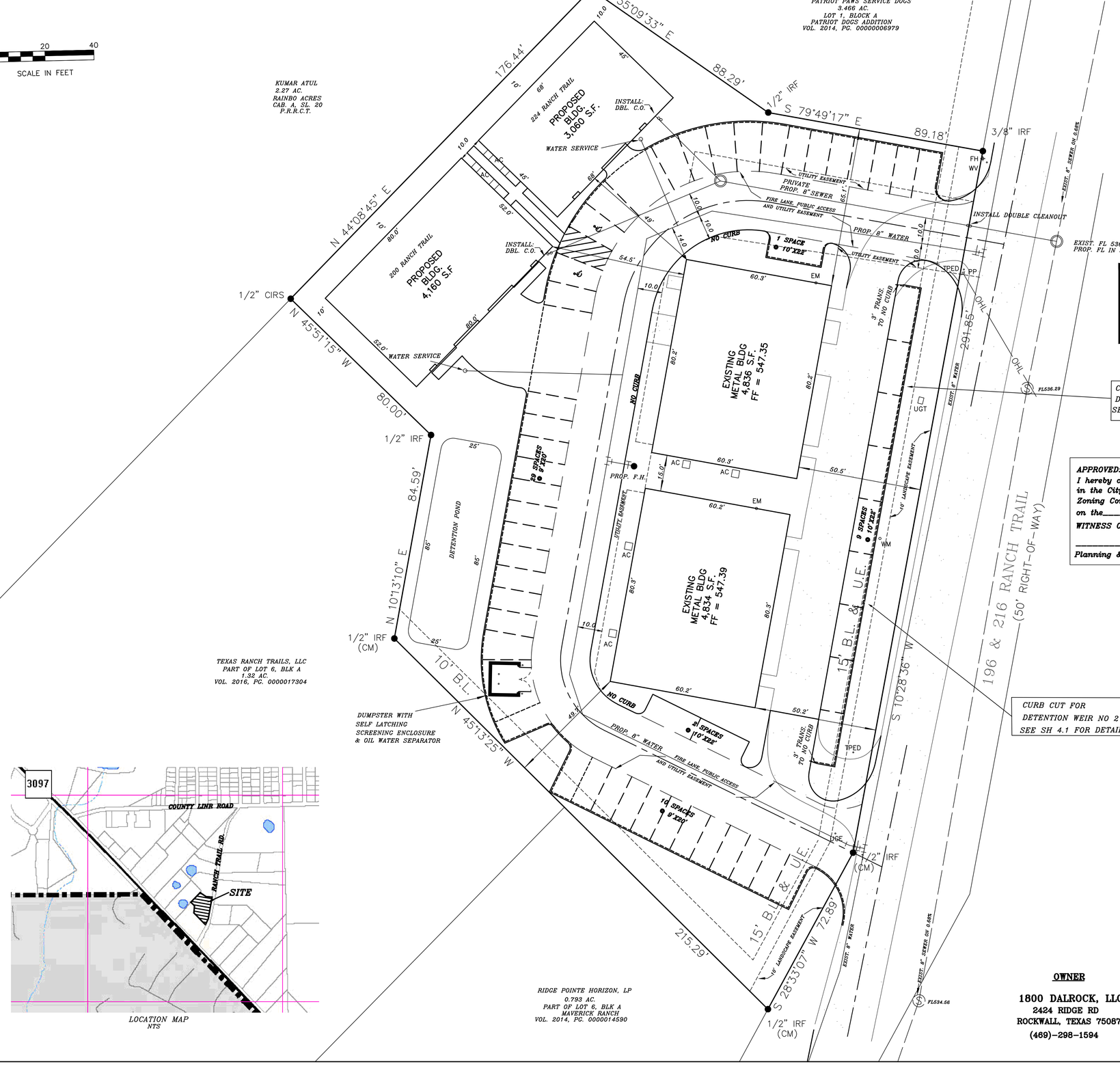
FINAL PLAT
LOT 7R, BLOCK A
A REPLAT OF
LOT 7, BLOCK A
MAVERICK RANCH ADDITION
Document No. 20200000019968
Plat Records of Rockwall, County, Texas
Part of the William Ford Survey, Abstract No. 80
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

Surveyor:
Rudy Rangel
Rangel Land Surveying
1012 Timberline Drive
Heath, Texas 75032
214-325-8026
Rangellandsurvey@swb.com

Engineer:
Douphrate & Associates, Inc
2235 Ridge Road, Suite 200
Rockwall, Texas 75087
214-771-9004

OWNER:
1800 DALROCK, LLC
AGENT: Kevin Lloyd
1800 DALROCK, LLC
2424 Ridge Road
Rockwall, Texas 75087
Phone: 469-298-1594
Email: klloyd@keatax.com

Date: 02-16-2026 CITY CASE No. _____



NOTE: THERE WILL BE NO OUTSIDE STORAGE ALLOWED

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

APPROVED:

I hereby certify the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the_____ day of _____, _____.

WITNESS OUR HANDS, this _____day of _____, _____.

Planning & Zoning Commission, Chairman *Director of Planning and Zoning*

SITE DATA SUMMARY

ZONING	C (COMMERCIALL)
PROPOSED USE	BUSINESS OFFICES
LOT AREA	1.550 ACRES
BUILDING SQUARE FOOTAGE	16,890 SQ. FT.
BUILDING FOOTPRINT	16,890 SQ. FT.
BUILDING HEIGHT	28 FT.
LOT COVERAGE	25.02%
PARKING REQUIRED	1 SPACE/300 S.F. = 57 SPACES
HANDICAP PARKING REQ'D	2 SPACE
PARKING PROVIDED	51 SPACES
HANDICAP PARKING PROVIDED	2 SPACE
INTERIOR LANDSCAPING REQ'D	15% OF TOTAL SITE (10,124 SQ.FT.)
INTERIOR LANDSCAPING PROVIDED	31,900 SQ. FT.
TOTAL SQUARE FOOTAGE OF IMPERVIOUS SURFACE	35,602 SQ. FT.

SITE NOTES:
1. PARKING SPACES ARE 9'X20'
2. ALL GROUND MOUNTED HVAC UNITS TO BE SCREENED WITH LANDSCAPING
3. EXTERIOR LIGHTING TO BE WALL PACKS SEE BUILDING ELEVATIONS

TAX ROLL DESCRIPTION:
ABSTRACT 0080 - WILLIAM M. FORD SURVEY
TRACT 81844, ACRES 1.550

1.550 AC.
67,502 SQ. FT.

OWNER

1800 DALROCK, LLC
2424 RIDGE RD
ROCKWALL, TEXAS 75087
(469)-298-1594

SURVEYOR

FINCHER LAND SURVEYING. PLLC
3213 INTERSTATE HIGHWAY 30, #107
MEAQUITE, Texas 75150
(903)-944-6397
TeXas Firm No. 10194258

CASE NO. SP 2024-003

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE III, REG. NO. 60102, P.E. ON JAN 29, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

SITE PLAN
LOT 7, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE 1"= 20'H 1"= V	
JAN 29, 2024	DATE
23028	PROJECT
2.0	SHEET SITE PLAN

N

0 20 40

SCALE IN FEET

CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	BEARING	DISTANCE
C1	74°04'00"	32.00'	24.14'	41.37'	N26°48'50"W	38.55'
C2	89°57'34"	52.00'	51.96'	81.64'	N55°11'56"E	73.51'

TYPICAL PAVING SECTION

SIDEWALK:
4" – 3000 PSI 5.5 Sack Concrete Pvmt w/ #3 Bars at 24" O.C.E.W.
4" COMPACTED SUBGRADE

PARKING AREAS:
5"–3000 PSI 5.5 Sack Concrete Pvmt w/ #3 Bars at 24" O.C.E.W.
6" Subgrade compacted at 98% Standard Proctor Density at or Near Optimum Moisture Content.

FIRE, TRUCK LANES, & ROW :
6" – 3,600 PSI 6.5 Sack Concrete Pavement with #3 Bars at 24" O.C.E.W.
6" Lime Stabilized Subgrade compacted at 98% Standard Proctor Density at or Near Optimum Moisture Content.

DUMPSTER:
7" – 3,600 PSI 6.5 Sack Concrete Pvmt with #3 Bars at 24" O.C.E.W.
6" Lime Stabilized Subgrade compacted at 98% Standard Proctor Density at or Near Optimum Moisture Content.

KUMAR ATUL
2.27 AC.
RAINBO ACRES
CAB. A, SL. 20
P.R.R.C.T.

PATRIOT PAWS SERVICE DOGS
3.466 AC.
LOT 1, BLOCK A
PATRIOT DOGS ADDITION
VOL. 2014, PG. 00000006979

TEXAS RANCH TRAILS, LLC
PART OF LOT 6, BLK A
1.32 AC.
VOL. 2016, PG. 0000017304

RIDGE POINTE HORIZON, LP
0.793 AC.
PART OF LOT 6, BLK A
MAVERICK RANCH
VOL. 2014, PG. 0000014590

SPC TXNC 4202
N 7,008,162.15
E 2,597,384.12

SPC TXNC 4202
N 7007811.27
E 2597295.72

RANCH TRAIL
(60' RIGHT-OF-WAY)

PROPOSED BLDG. 3,060 S.F.

PROPOSED BLDG. 4,160 S.F

EXISTING METAL BLDG 4,836 S.F. FF = 547.35

EXISTING METAL BLDG 4,834 S.F. FF = 547.39

1/2" IRF
1/2" CIRS
1/2" IRF (CM)

N 44°08'45" E 176.44'
S 55°09'39" E 88.29'
S 79°49'17" E 89.18'
N 45°51'15" W 80.00'
N 10°13'10" E 84.59'
N 45°13'25" W 215.29'
S 28°38'07" W 72.89'
S 10°28'36" W 291.95'
N63°49'39"W 115.09'

20' DRAINAGE EASEMENT
24' FIRE LANE, UTILITY, DRAINAGE AND ACCESS EASEMENT
3' UTILITY EASEMENT
DETENTION EASEMENT
10' LANDSCAPE EASEMENT
4' WALK
BEGIN CURB
NO CURB
EXIST 20' TO REMAIN
20.5' TO BC
29 SPACES @ 9'X20'
2 HC
1 SPACES @ 9'X20'
14 SPACES @ 9'X20'
2 SPACES @ 10'X22'
1 SPACE @ 10'X22'
DUMPSTER
TPED
FH
WM
AC
EM
OHL
UGE

20 L.F. SAW-CUT CONNECT TO EXIST. CONC. PVMT WITH LONGITUDINAL BUTT JOINT REMOVE 166.4 S.Y. CONC. PVMT.
20 L.F. SAW-CUT CONNECT TO EXIST. CONC. PVMT WITH LONGITUDINAL BUTT JOINT REMOVE 159.3 S.Y. CONC. PVMT.
69 L.F. SAW-CUT CONNECT TO EXIST. CONC. PVMT WITH LONGITUDINAL BUTT JOINT
82.5 L.F. SAW-CUT CONNECT TO EXIST. CONC. PVMT WITH LONGITUDINAL BUTT JOINT

BC= BACK OF CURB

PAVED AREA WITHIN RIGHT OF WAY SHALL BE 8" 3600 PSI W/ MINIMUM OF 6.5 SACK MIX
SEE TYP PAVEMENT SECTION DETAIL FOR FIRE, TRUCK, & ROW THIS SHEET

POWER POLE TO REMAIN

NOTE: FOR PAVING DESIGNS SEE COVER SHEET GENERAL NOTES
LINE ITEM NO 4 FOR FIRE LANE, RIGHT OF WAY , AND PARKING PAVING
LINE ITEM NO 5 FOR SIDEWALK PAVING

CURB CUT FOR DETENTION WEIR NO 1
SEE SH 4.1 FOR DETAILS

CURB CUT FOR DETENTION WEIR NO 2
SEE SH 4.1 FOR DETAILS

INSTALL 2' WIDE 4" INVERTED CONC. PILOT FLUME
SEE DETAIL ON DIMENSION CONTROL SHEET

PAVED AREA WITHIN RIGHT OF WAY SHALL BE 8" 3600 PSI W/ MINIMUM OF 6.5 SACK MIX

DEMO AND HAUL OFF EX DRIVEWAY PAVMT AS SHOWN IN HATCHED AREA

DUMPSTER WITH SELF LATCHING SCREENING ENCLOSURE & OIL WATER SEPARATOR
PAVED AREA WITHIN 15'X15' DUMPSTER PAD SHALL BE 7" 3600 PSI W/ MINIMUM OF 6.5 SACK MIX

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.

1.550 AC.
67,502 SQ. FT.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2–17–26

CASE NO. SP 2024–003

LEGEND:

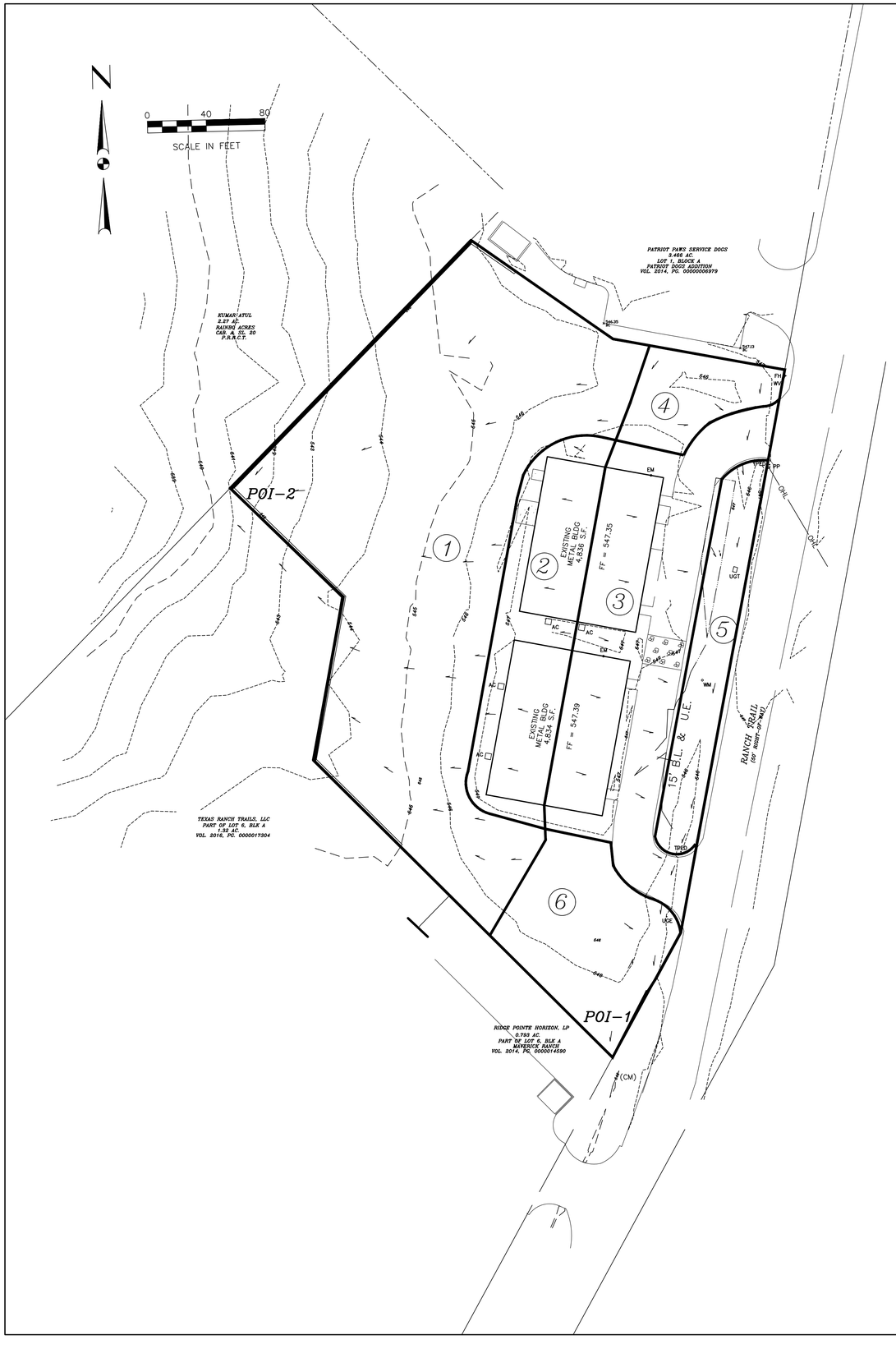
- WV WATER MAIN VALVE
- FIRE HYDRANT
- SSCO SANITARY SEWER CLEAN–OUT
- (S) SANITARY SEWER MANHOLE
- POWER POLE
- IRF IRON ROD FOUND
- WM WATER METER
- CLF = Chainlink Fence
- OHL OVERHEAD POWER
- UGE UNDERGROUND ELECTRIC

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY WILL D. DOUPHRATE, P.E. NO. 60102, F–886, ON MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771–9004 FAX: (972)771–9005

DIMENSION CONTROL AND PAVING PLAN
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE 1"= 20'H 1"= 'V	
MAY 5, 2024	DATE
23028	PROJECT
3.0	



PRE-CONSTRUCTION DRAINAGE TABLE

DRAINAGE AREA NO.	ACRES	T.C.	C	I 100 YR.	Q 100 YR.	SUM Q 100 YR.	COMMENTS
1	0.71	10	0.35	9.8	2.44	2.44	
2	0.24	"	0.90	"	2.12	4.56*	*POI-2 ALLOWED DISCHARGED
3	0.32	"	0.90	"	2.78	2.78	
4	0.07	"	0.35	"	0.24	3.02	
5	0.10	"	0.35	"	0.34	3.36	
6	0.14	"	0.35	"	0.48	3.84*	*POI-1 ALLOWED DISCHARGED

PRE- CONSTRUCTION CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-1= 3.84 CFS

PRE- CONSTRUCTION CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-2= 4.56 CFS

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 ADEQUCAY OR ACCURACY OF DESIGN.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, TEXAS P.E. NO. 60102, F-886, ON MAY 5, 2024.

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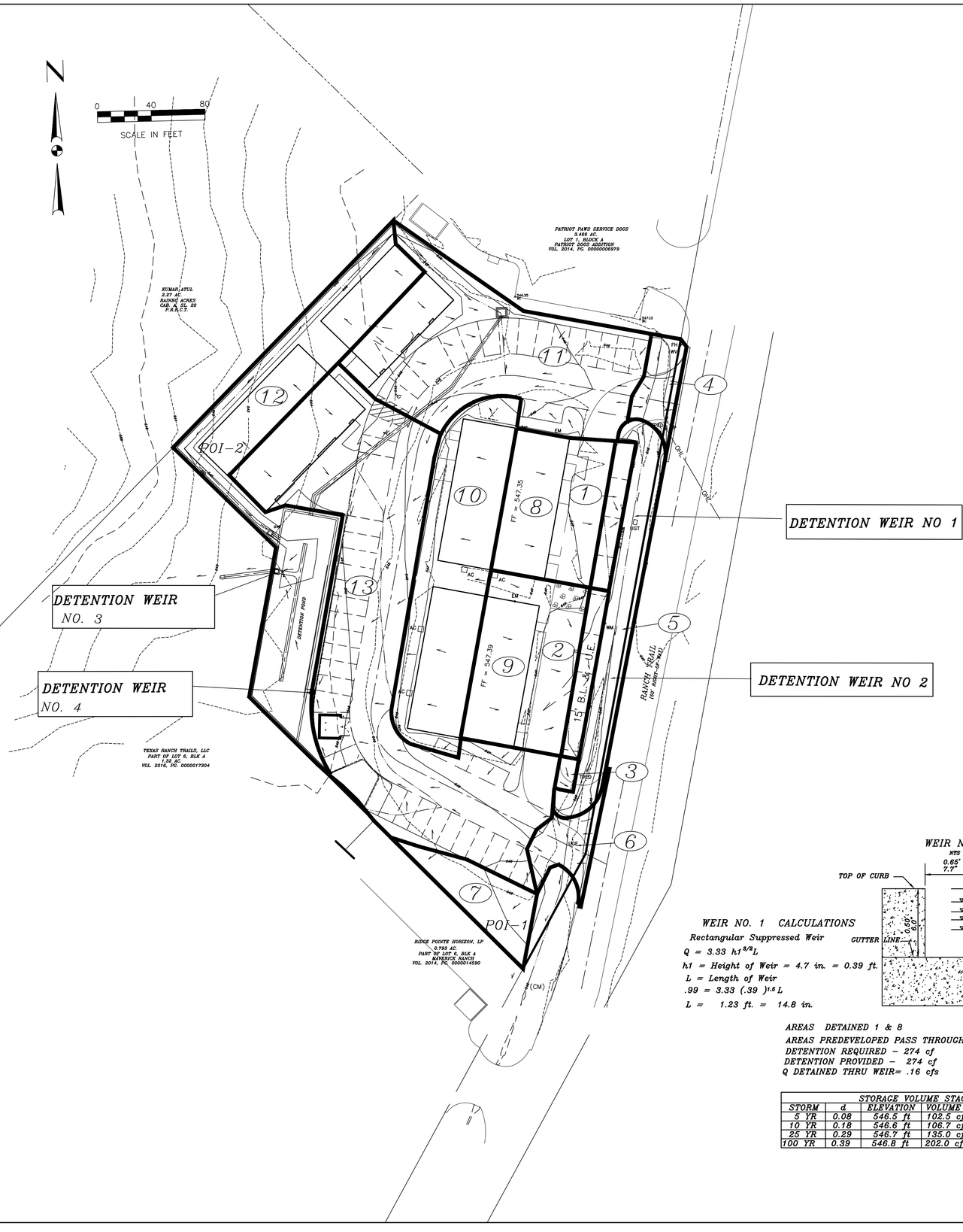
EXISTING DRAINAGE AREA MAP
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE 1"= 30'H 1"= 4'V	
MAY, 2024	DATE
23028	PROJECT
4.0	



REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

LEGEND:

- WV — WATER MAIN VALVE
- FH — FIRE HYDRANT
- SSCO — SANITARY SEWER CLEAN-OUT
- S — SANITARY SEWER MANHOLE
- PP — POWER POLE
- IRF — IRON ROD FOUND
- WM — WATER METER
- CLF — Chainlink Fence
- OHL — OVERHEAD POWER
- UGE — UNDERGROUND ELECTRIC

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.

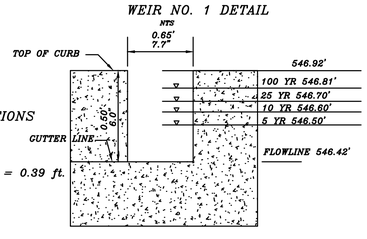
POST-CONSTRUCTION DRAINAGE TABLE

DRAINAGE AREA NO.	ACRES	T.C.	C	I 100 YR.	Q 100 YR.	SUM Q 100 YR.	COMMENTS
1	0.02	10	0.9	9.8	0.18	0.18	DETAINED WEIR 1
2	0.02	"	0.9	"	0.18	0.36	DETAINED WEIR 2
3	0.004	"	0.9	"	0.04	0.36	(BYPASS)
4	0.03	"	0.9	"	0.26	0.63	(BYPASS)
5	0.09	"	0.9	"	0.79	1.42	(BYPASS)
6	0.03	"	0.9	"	0.26	1.68	(BYPASS)
7	0.04	"	0.9	"	0.35	2.03	(BYPASS)
8	0.11	"	0.9	"	0.97	3.00	PASS THROUGH (BYPASS)
9	0.13	"	0.9	"	1.15	4.15	PASS THROUGH (BYPASS)
				"			
10	0.18	"	0.9	"	1.59	1.59	PASS THROUGH (BYPASS)
11	0.24	"	0.9	"	3.00	4.59	DETAINED AT WEIR 4
12	0.23	"	0.9	"	0.26	4.85	DETAINED AT WEIR 4
13	0.60	"	0.9	"	5.29	10.14	DETAINED AT WEIR 5

PRE- CONSTRUCTION EXIST CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-1= 3.84 CFS
TOTAL DETAINED FOR POI-1 = 4.15 CFS (DEVELOPED AREAS 1-9) - 3.84 (RELEASE ALLOWED) = .31 CFS
WEIR NO 1 AND WEIR NO 2 WILL EACH DETAIN .16 CFS
THEREFORE ALLOWABLE RELASE RATE FOR WEIR NO 1 (AREAS 8 & 1) = 1.15- .16= .99 CFS
ALLOWABLE RELASE RATE FOR WEIR NO 2 (AREAS 9 & 2) = 1.33- .16= 1.17 CFS

PRE- CONSTRUCTION CONDITIONS TOTAL ALLOWABLE RELEASE RATE FOR POI-2= 4.56 CFS
TOTAL DETAINED FOR POI-2 = 10.14 CFS (DEVELOPED AREAS 10,11,12, & 13)- 4.56(RELEASE ALLOWED)= 5.58 CFS
THEREFORE COMBINED ALLOWABLE RELASE RATE FOR WEIR NOs 4 & 5 (AREAS 10-13) = 4.56 cfs

WEIR NO. 1 DETAIL



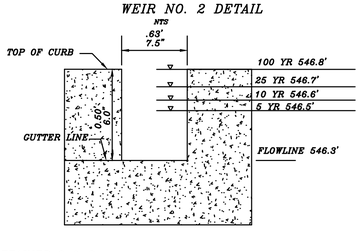
WEIR NO. 1 CALCULATIONS

Rectangular Suppressed Weir
$Q = 3.33\ h1^{3/2}L$
h1 = Height of Weir = 4.7 in. = 0.39 ft.
L = Length of Weir
$.99 = 3.33\ (.39)^{1.5}L$
L = 1.23 ft. = 14.8 in.

AREAS DETAINED 1 & 8
AREAS PREDEVELOPED PASS THROUGH 8
DETENTION REQUIRED - 274 cf
DETENTION PROVIDED - 274 cf
Q DETAINED THRU WEIR= .16 cfs

STORAGE VOLUME STAGE					
STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	0.08	546.5 ft	102.5 cf	.67 cfs	.67 cfs
10 YR	0.18	546.6 ft	106.7 cf	.79 cfs	.79 cfs
25 YR	0.29	546.7 ft	135.0 cf	.90 cfs	.90 cfs
100 YR	0.39	546.8 ft	202.0 cf	.99 cfs	.99 cfs

WEIR NO. 2 DETAIL



WEIR NO. 2 CALCULATIONS

Rectangular Suppressed Weir
$Q = 3.33\ h1^{3/2}L$
h1 = Height of Weir = 6.0 in. = 0.5 ft.
L = Length of Weir
$1.17 = 3.33\ (.50)^{1.5}(L)$
L = .99 ft. = 11.9 in.

AREA DETAINED 2 & 9
AREAS PREDEVELOPED PASS THROUGH 9
DETENTION REQUIRED - 292 cf
DETENTION PROVIDED - 292 cf
Q DETAINED THRU WEIR= .16 CFS

STORAGE VOLUME STAGE					
STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	0.20	546.5 ft	126.6 cf	.76 cfs	.76 cfs
10 YR	0.30	546.6 ft	133.0 cf	.90 cfs	.90 cfs
25 YR	0.40	546.7 ft	167.0 cf	1.0 cfs	1.0 cfs
100 YR	0.50	546.8 ft	246.5 cf	1.17 cfs	1.17 cfs

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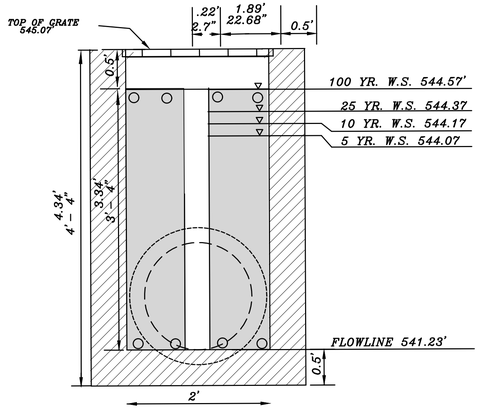
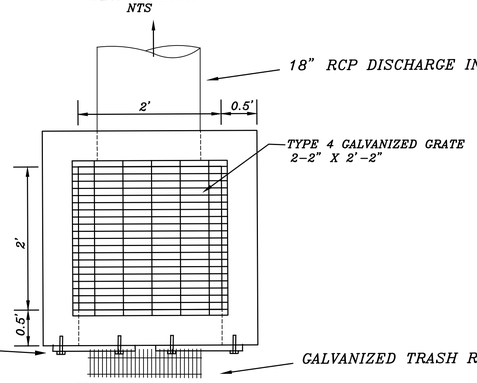
DRAINAGE AREA MAP / WEIR DETAILS 1 & 2
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION
W.L.D.
CHECKED
G.C.W.
DRAWN
SCALE
1"= 30'H
1"= 'V
MAY, 2024
DATE
23028
PROJECT
4.1

WEIR NO 3 DETAIL



WEIR SECTION
NTS



WEIR PLAN VIEW
NTS

DETENTION REQUIRED - 1698 cf BYPASSED (AT WEIR 4) + 3592 cf (DA 11 & 12)= 5290 cf
DETENTION PROVIDED - 9315 cf

ALLOWABLE Q DISCHARGE THRU WEIR = 4.56 cfs

DETENTION POND NO. 3 OVER DETAINS 1698 cf FOR VOLUME OVERFLOW AT WEIR 4

WEIR NO 3 CALCULATIONS

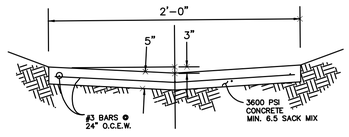
Rectangular Suppressed Weir

$Q = 3.33\ h1^{3/2}\ (L)$
Q = Exist. Conditions Flowrate = 4.56 cfs
h1 = Height of Weir at 100 yr elev = 3.34' = 3'ft - 4"in.
L = Length of Weir

$4.56 = 3.33\ (3.34)\ \hat{}1.5\ (L)$
L = 0.22 ft. = 2.7 in.

STORAGE VOLUME STAGE					
STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	2.84	544.07ft	1845 cf	1.81 cfs	1.81 cfs
10 YR	2.94	544.17ft	2082 cf	2.13 cfs	2.13 cfs
25 YR	3.14	544.37ft	2593 cf	2.43 cfs	2.43 cfs
100 YR	3.34	544.57ft	5290 cf	4.56 cfs	4.56 cfs

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.



2' CONC. PILOT CHANNEL BOTTOM

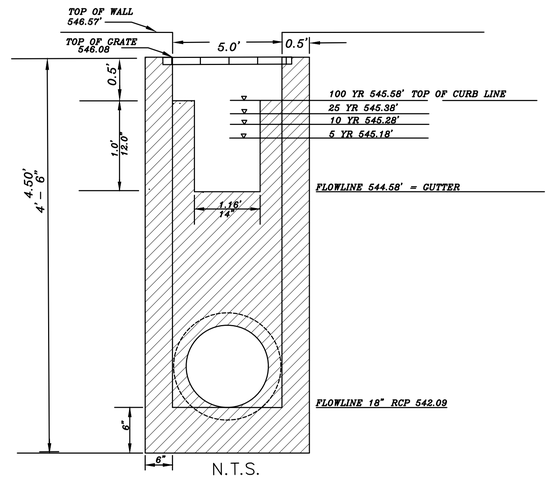
FOR DET POND NO. 3

SEE GRADING SHT 6.0

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
DATE: 2-17-26

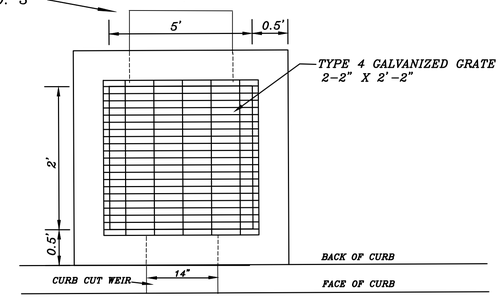
CURB INLET / WEIR NO. 4 DETAIL

NTS



N.T.S.

18" RCP DISCHARGE INTO DET. POND NO. 3



WEIR PLAN VIEW
NTS

DETENTION REQUIRED - 3858 cf (DA 10 & 13)
DETENTION PROVIDED - 2160 cf
DETENTION VOLUME BYPASSED - 1698 cf
Q BYPASSED = 1698/3858 X 6.88 cfs (Developed Flow) = 3.03 cfs
Q DETAINED THRU WEIR = 6.88 - 3.03 = 3.85 cfs

DETENTION POND NO. 3 OVER DETAINS 1698 cf FOR VOLUME OVERFLOW AT WEIR 4

WEIR NO. 4 CALCULATIONS

Rectangular Suppressed Weir

$Q = 3.33\ h1^{3/2}\ (L-.2h1)$
Q = Exist. Conditions Flowrate Allowed= 4.05 cfs
h1 = Height of Weir = 12 in. = 1.0 ft.
L = Length of Weir
$3.85 = 3.33(1.00)^{1.5}(L)$
L = 1.16 ft. = 13.9 in.

STORAGE VOLUME STAGE					
STORM	d	ELEVATION	VOLUME	Qallowable	Qactual
5 YR	0.60	545.2 ft	1360 cf	2.52cfs	2.52cfs
10 YR	0.70	545.3 ft	1555 cf	2.98cfs	2.98cfs
25 YR	0.80	545.4 ft	1928 cf	3.39cfs	3.39 cfs
100 YR	1.00	545.6 ft	2160 cf	4.0cfs	3.85cfs

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WEIR DETAILS 3 & 4, CONC. PILOT FLUME
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION
W.L.D.
CHECKED
G.C.W.
DRAWN
SCALE
1"= 30'H
1"= 'V
MAY, 2024
DATE
23028
PROJECT
4.2

RANCH TRAIL
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13	Areas 1 & 8 Detained	
C =	0.777	Composite C Factor = .777	
Tc =	10		
I5 =	6.1		
Q5 =	0.616161		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0
Aadj=	0.13				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I5 =	6.1	I5 =	6.1	I5 =	6.1
Q5 =	0.7137	Q5 =	0	Q5 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	6.1	0.9	0.7137	10 min	6.1	0.9	0
15 min	5.5	0.9	0.6435	15 min	5.5	0.9	0
20 min	5	0.9	0.585	20 min	5	0.9	0
30 min	4	0.9	0.468	30 min	4	0.9	0
40 min	3.4	0.9	0.3978	40 min	3.4	0.9	0
50 min	2.9	0.9	0.3393	50 min	2.9	0.9	0
60 min	2.6	0.9	0.3042	60 min	2.6	0.9	0
70 min	2.4	0.9	0.2808	70 min	2.4	0.9	0
80 min	2.2	0.9	0.2574	80 min	2.2	0.9	0
90 min	2	0.9	0.234	90 min	2	0.9	0
100 min	1.8	0.9	0.2106	100 min	1.8	0.9	0
110 min	1.7	0.9	0.1989	110 min	1.7	0.9	0

Storage Calculations

10 min			
Inflow	428.22	Storage	58.5234
Outflow	369.6966		
15 min			
Inflow	579.15	Storage	117.0293
Outflow	462.1208		
20 min			
Inflow	702	Storage	147.4551
Outflow	554.5449		
30 min			
Inflow	842.4	Storage	103.0068
Outflow	739.3932		
40 min			
Inflow	954.72	Storage	30.4785
Outflow	924.2415		
50 min			
Inflow	1017.9	Storage	-91.1898
Outflow	1109.09		
60 min			
Inflow	1095.12	Storage	-198.818
Outflow	1293.938		
70 min			
Inflow	1179.36	Storage	-299.426
Outflow	1478.786		
80 min			
Inflow	1235.52	Storage	-428.115
Outflow	1663.635		
90 min			
Inflow	1263.6	Storage	-584.883
Outflow	1848.483		
100 min			
Inflow	1263.6	Storage	-769.731
Outflow	2033.331		
110 min			
Inflow	1193.4	Storage	-1024.78
Outflow	2218.18		

RANCH TRAIL
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13	Areas 1 & 8 Detained	
C =	0.777	Composite C Factor = .777	
Tc =	10		
I_{10} =	7.2		
Q_{10} =	0.727272		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0
Aadj=	0.13				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{10} =	7.2	I_{10} =	7.2	I_{10} =	7.2
Q_{10} =	0.8424	Q_{10} =	0	Q_{10} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	7.2	0.9	0.8424	10 min	7.2	0.5	0
15 min	6.5	0.9	0.7605	15 min	6.5	0.5	0
20 min	5.8	0.9	0.6786	20 min	5.8	0.5	0
30 min	4.7	0.9	0.5499	30 min	4.7	0.5	0
40 min	4	0.9	0.468	40 min	4	0.5	0
50 min	3.5	0.9	0.4095	50 min	3.5	0.5	0
60 min	3	0.9	0.351	60 min	3	0.5	0
70 min	2.7	0.9	0.3159	70 min	2.7	0.5	0
80 min	2.5	0.9	0.2925	80 min	2.5	0.5	0
90 min	2.3	0.9	0.2691	90 min	2.3	0.5	0
100 min	2.2	0.9	0.2574	100 min	2.2	0.5	0
110 min	1.9	0.9	0.2223	110 min	1.9	0.5	0

Storage Calculations

10 min			
Inflow	505.44	Storage	69.0768
Outflow	436.3632		
15 min			
Inflow	684.45	Storage	138.996
Outflow	545.454		
20 min			
Inflow	814.32	Storage	159.7752
Outflow	654.5448		
30 min			
Inflow	989.82	Storage	117.0936
Outflow	872.7264		
40 min			
Inflow	1123.2	Storage	32.292
Outflow	1090.908		
50 min			
Inflow	1228.5	Storage	-80.5896
Outflow	1309.09		
60 min			
Inflow	1263.6	Storage	-263.671
Outflow	1527.271		
70 min			
Inflow	1326.78	Storage	-418.673
Outflow	1745.453		
80 min			
Inflow	1404	Storage	-559.634
Outflow	1963.634		
90 min			
Inflow	1453.14	Storage	-728.676
Outflow	2181.816		
100 min			
Inflow	1544.4	Storage	-855.598
Outflow	2399.998		
110 min			
Inflow	1333.8	Storage	-1284.38
Outflow	2618.179		

RANCH TRAIL
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13	Areas 1 & 8 Detained	
C =	0.777	Composite C Factor = .777	
Tc =	10		
I25 =	8.2		
Q25 =	0.828282		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0
Aadj=	0.13				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I25 =	8.2	I25 =	8.2	I25 =	8.2
Q25 =	0.9594	Q25 =	0	Q25 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	8.2	0.9	0.9594	10 min	8.2	0.5	0
15 min	7.5	0.9	0.8775	15 min	7.5	0.5	0
20 min	6.7	0.9	0.7839	20 min	6.7	0.5	0
30 min	5.5	0.9	0.6435	30 min	5.5	0.5	0
40 min	4.7	0.9	0.5499	40 min	4.7	0.5	0
50 min	4	0.9	0.468	50 min	4	0.5	0
60 min	3.5	0.9	0.4095	60 min	3.5	0.5	0
70 min	3.2	0.9	0.3744	70 min	3.2	0.5	0
80 min	2.7	0.9	0.3159	80 min	2.7	0.5	0
90 min	2.5	0.9	0.2925	90 min	2.5	0.5	0
100 min	2.4	0.9	0.2808	100 min	2.4	0.5	0
110 min	2.3	0.9	0.2691	110 min	2.3	0.5	0

Storage Calculations

10 min			
Inflow	575.64	Storage	78.6708
Outflow	496.9692		
15 min			
Inflow	789.75	Storage	168.5385
Outflow	621.2115		
20 min			
Inflow	940.68	Storage	195.2262
Outflow	745.4538		
30 min			
Inflow	1158.3	Storage	164.3616
Outflow	993.9384		
40 min			
Inflow	1319.76	Storage	77.337
Outflow	1242.423		
50 min			
Inflow	1404	Storage	-86.9076
Outflow	1490.908		
60 min			
Inflow	1474.2	Storage	-265.192
Outflow	1739.392		
70 min			
Inflow	1572.48	Storage	-415.397
Outflow	1987.877		
80 min			
Inflow	1516.32	Storage	-720.041
Outflow	2236.361		
90 min			
Inflow	1579.5	Storage	-905.346
Outflow	2484.846		
100 min			
Inflow	1684.8	Storage	-1048.53
Outflow	2733.331		
110 min			
Inflow	1614.6	Storage	-1367.22
Outflow	2981.815		

RANCH TRAIL
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.13	Areas 1 & 8 Detained	
C =	0.777	Composite C Factor = .777	
Tc =	10		
I_{100} =	9.8		
Q_{100} =	0.989898		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.13	A =	0	A=	0
Aadj=	0.13				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	1.1466	Q_{100} =	0	Q_{100} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	9.8	0.9	1.1466	10 min	9.8	0.5	0
15 min	9	0.9	1.053	15 min	9	0.5	0
20 min	8.3	0.9	0.9711	20 min	8.3	0.5	0
30 min	6.9	0.9	0.8073	30 min	6.9	0.5	0
40 min	5.8	0.9	0.6786	40 min	5.8	0.5	0
50 min	5	0.9	0.585	50 min	5	0.5	0
60 min	4.5	0.9	0.5265	60 min	4.5	0.5	0
70 min	4	0.9	0.468	70 min	4	0.5	0
80 min	3.7	0.9	0.4329	80 min	3.7	0.5	0
90 min	3.5	0.9	0.4095	90 min	3.5	0.5	0
100 min	3.4	0.9	0.3978	100 min	3.3	0.5	0
110 min	3.2	0.9	0.3744	110 min	2.9	0.5	0

Storage Calculations

10 min			
Inflow	687.96	Storage	94.0212
Outflow	593.9388		
15 min			
Inflow	947.7	Storage	205.2765
Outflow	742.4235		
20 min			
Inflow	1165.32	Storage	274.4118
Outflow	890.9082		
30 min			
Inflow	1453.14	Storage	265.2624
Outflow	1187.878		
40 min			
Inflow	1628.64	Storage	143.793
Outflow	1484.847		
50 min			
Inflow	1755	Storage	-26.8164
Outflow	1781.816		
60 min			
Inflow	1895.4	Storage	-183.386
Outflow	2078.786		
70 min			
Inflow	1965.6	Storage	-410.155
Outflow	2375.755		
80 min			
Inflow	2077.92	Storage	-594.805
Outflow	2672.725		
90 min			
Inflow	2211.3	Storage	-758.394
Outflow	2969.694		
100 min			
Inflow	2386.8	Storage	-879.863
Outflow	3266.663		
110 min			
Inflow	2246.4	Storage	-1317.23
Outflow	3563.633		

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
DATE: 2-17-26

STATE OF TEXAS
W.L. DOUPHRATE II
80102
REGISTERED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, P.E. NO. 80102, F-886, ON DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT • SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

DRAINAGE DETENTION CALCULATIONS WEIR NO 1
RANCH TRAIL OFFICES
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION
W.L.D.
CHECKED
Q.C.W.
DRAWN
SCALE
1"=20' H
1"=' V
MAY, 2024
DATE
23028
PROJECT
5.0

RANCH TRAIL
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.15	Areas 2 & 9 Detained	
C =	0.796	Composite C Factor = .796	
Tc =	10		
I5 =	6.1		
Q5 =	0.72834		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.15	A =	0	A=	0
Aadj=	0.15				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I5 =	6.1	I5 =	6.1	I5 =	6.1
Q5 =	0.8235	Q5 =	0	Q5 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C	Q	
10 min	6.1	0.9	0.8235	10 min	6.1	0.5	0	
15 min	5.5	0.9	0.7425	15 min	5.5	0.5	0	
20 min	5	0.9	0.675	20 min	5	0.5	0	
30 min	4	0.9	0.54	30 min	4	0.5	0	
40 min	3.4	0.9	0.459	40 min	3.4	0.5	0	
50 min	2.9	0.9	0.3915	50 min	2.9	0.5	0	
60 min	2.6	0.9	0.351	60 min	2.6	0.5	0	
70 min	2.4	0.9	0.324	70 min	2.4	0.5	0	
80 min	2.2	0.9	0.297	80 min	2.2	0.5	0	
90 min	2	0.9	0.27	90 min	2	0.5	0	
100 min	1.8	0.9	0.243	100 min	1.8	0.5	0	
110 min	1.7	0.9	0.2295	110 min	1.7	0.5	0	

Storage Calculations

10 min			
Inflow	494.1	Storage	57.096
Outflow	437.004		
15 min			
Inflow	668.25	Storage	121.995
Outflow	546.255		
20 min			
Inflow	810	Storage	154.494
Outflow	655.506		
30 min			
Inflow	972	Storage	97.992
Outflow	874.008		
40 min			
Inflow	1101.6	Storage	9.09
Outflow	1092.51		
50 min			
Inflow	1174.5	Storage	-136.512
Outflow	1311.012		
60 min			
Inflow	1263.6	Storage	-265.914
Outflow	1529.514		
70 min			
Inflow	1360.8	Storage	-387.216
Outflow	1748.016		
80 min			
Inflow	1425.6	Storage	-540.918
Outflow	1966.518		
90 min			
Inflow	1458	Storage	-727.02
Outflow	2185.02		
100 min			
Inflow	1458	Storage	-945.522
Outflow	2403.522		
110 min			
Inflow	1377	Storage	-1245.02
Outflow	2622.024		

RANCH TRAIL
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.15	Areas 2 & 9 Detained	
C =	0.796	Composite C Factor = .796	
Tc =	10		
I_{10} =	7.2		
Q_{10} =	0.85968		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.15	A =	0	A=	0
Aadj=	0.15				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{10} =	7.2	I_{10} =	7.2	I_{10} =	7.2
Q_{10} =	0.972	Q_{10} =	0	Q_{10} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C	Q	
10 min	7.2	0.9	0.972	10 min	7.2	0.5	0	
15 min	6.5	0.9	0.8775	15 min	6.5	0.5	0	
20 min	5.8	0.9	0.783	20 min	5.8	0.5	0	
30 min	4.7	0.9	0.6345	30 min	4.7	0.5	0	
40 min	4	0.9	0.54	40 min	4	0.5	0	
50 min	3.5	0.9	0.4725	50 min	3.5	0.5	0	
60 min	3	0.9	0.405	60 min	3	0.5	0	
70 min	2.7	0.9	0.3645	70 min	2.7	0.5	0	
80 min	2.5	0.9	0.3375	80 min	2.5	0.5	0	
90 min	2.3	0.9	0.3105	90 min	2.3	0.5	0	
100 min	2.2	0.9	0.297	100 min	2.2	0.5	0	
110 min	1.9	0.9	0.2565	110 min	1.9	0.5	0	

Storage Calculations

10 min			
Inflow	583.2	Storage	67.392
Outflow	515.808		
15 min			
Inflow	789.75	Storage	144.99
Outflow	644.76		
20 min			
Inflow	939.6	Storage	165.888
Outflow	773.712		
30 min			
Inflow	1142.1	Storage	110.484
Outflow	1031.616		
40 min			
Inflow	1296	Storage	6.48
Outflow	1289.52		
50 min			
Inflow	1417.5	Storage	-129.924
Outflow	1547.424		
60 min			
Inflow	1458	Storage	-347.328
Outflow	1805.328		
70 min			
Inflow	1530.9	Storage	-532.332
Outflow	2063.232		
80 min			
Inflow	1620	Storage	-701.136
Outflow	2321.136		
90 min			
Inflow	1676.7	Storage	-902.34
Outflow	2579.04		
100 min			
Inflow	1782	Storage	-1054.94
Outflow	2836.944		
110 min			
Inflow	1539	Storage	-1555.85
Outflow	3094.848		

RANCH TRAIL
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.15	Areas 2 & 9 Detained	
C =	0.796	Composite C Factor = .796	
Tc =	10		
I25 =	8.2		
Q25 =	0.97908		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.15	A =	0	A=	0
Aadj=	0.15				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I25 =	8.2	I25 =	8.2	I25 =	8.2
Q25 =	1.107	Q25 =	0	Q25 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C	Q	
10 min	8.2	0.9	1.107	10 min	8.2	0.5	0	
15 min	7.5	0.9	1.0125	15 min	7.5	0.5	0	
20 min	6.7	0.9	0.9045	20 min	6.7	0.5	0	
30 min	5.5	0.9	0.7425	30 min	5.5	0.5	0	
40 min	4.7	0.9	0.6345	40 min	4.7	0.5	0	
50 min	4	0.9	0.54	50 min	4	0.5	0	
60 min	3.5	0.9	0.4725	60 min	3.5	0.5	0	
70 min	3.2	0.9	0.432	70 min	3.2	0.5	0	
80 min	2.7	0.9	0.3645	80 min	2.7	0.5	0	
90 min	2.5	0.9	0.3375	90 min	2.5	0.5	0	
100 min	2.4	0.9	0.324	100 min	2.4	0.5	0	
110 min	2.3	0.9	0.3105	110 min	2.3	0.5	0	

Storage Calculations

10 min			
Inflow	664.2	Storage	76.752
Outflow	587.448		
15 min			
Inflow	911.25	Storage	176.94
Outflow	734.31		
20 min			
Inflow	1085.4	Storage	204.228
Outflow	881.172		
30 min			
Inflow	1336.5	Storage	161.604
Outflow	1174.896		
40 min			
Inflow	1522.8	Storage	54.18
Outflow	1468.62		
50 min			
Inflow	1620	Storage	-142.344
Outflow	1762.344		
60 min			
Inflow	1701	Storage	-355.068
Outflow	2056.068		
70 min			
Inflow	1814.4	Storage	-535.392
Outflow	2349.792		
80 min			
Inflow	1749.6	Storage	-893.916
Outflow	2643.516		
90 min			
Inflow	1822.5	Storage	-1114.74
Outflow	2937.24		
100 min			
Inflow	1944	Storage	-1286.96
Outflow	3230.964		
110 min			
Inflow	1863	Storage	-1661.69
Outflow	3524.688		

RANCH TRAIL
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.15	Areas 2 & 9 Detained	
C =	0.796	Composite C Factor = .796	
Tc =	10		
I_{100} =	9.8		
Q_{100} =	1.17012		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.15	A =	0	A=	0
Aadj=	0.15				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	1.323	Q_{100} =	0	Q_{100} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C	Q	
10 min	9.8	0.9	1.323	10 min	9.8	0.5	0	
15 min	9	0.9	1.215	15 min	9	0.5	0	
20 min	8.3	0.9	1.1205	20 min	8.3	0.5	0	
30 min	6.9	0.9	0.9315	30 min	6.9	0.5	0	
40 min	5.8	0.9	0.783	40 min	5.8	0.5	0	
50 min	5	0.9	0.675	50 min	5	0.5	0	
60 min	4.5	0.9	0.6075	60 min	4.5	0.5	0	
70 min	4	0.9	0.54	70 min	4	0.5	0	
80 min	3.7	0.9	0.4995	80 min	3.7	0.5	0	
90 min	3.5	0.9	0.4725	90 min	3.5	0.5	0	
100 min	3.4	0.9	0.459	100 min	3.3	0.5	0	
110 min	3.2	0.9	0.432	110 min	2.9	0.5	0	

Storage Calculations

10 min			
Inflow	793.8	Storage	91.728
Outflow	702.072		
15 min			
Inflow	1093.5	Storage	215.91
Outflow	877.59		
20 min			
Inflow	1344.6	Storage	291.492
Outflow	1053.108		
30 min			
Inflow	1676.7	Storage	272.556
Outflow	1404.144		
40 min			
Inflow	1879.2	Storage	124.02
Outflow	1755.18		
50 min			
Inflow	2025	Storage	-81.216
Outflow	2106.216		
60 min			
Inflow	2187	Storage	-270.252
Outflow	2457.252		
70 min			
Inflow	2268	Storage	-540.288
Outflow	2808.288		
80 min			
Inflow	2397.6	Storage	-761.724
Outflow	3159.324		
90 min			
Inflow	2551.5	Storage	-958.86
Outflow	3510.36		
100 min			
Inflow	2754	Storage	-1107.4
Outflow	3861.396		
110 min			
Inflow	2592	Storage	-1620.43
Outflow	4212.432		

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY WILLIAM L. DOUPHRATE II, P.E. NO. 80102, F-886, ON DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
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PHONE: (972)771-9004 FAX: (972)771-9005

DRAINAGE DETENTION CALCULATIONS WEIR
RANCH TRAIL OFFICES
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION

W.L.D.	CHECKED
Q.C.W.	DRAWN
SCALE 1"=20' H 1"= V	
MAY, 2024	DATE
23028	PROJECT
5.1	

RANCH TRAIL
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.004		Area 20 Detained
C =	0.35		
Tc =	10		
I5 =	6.1		
Q5 =	0.00854		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.004	A =	0	A=	0
Aadj=	0.004				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I5 =	6.1	I5 =	6.1	I5 =	6.1
Q5 =	0.02196	Q5 =	0	Q5 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C		Q
10 min	6.1	0.9	0.02196	10 min	6.1	0.5		0
15 min	5.5	0.9	0.0198	15 min	5.5	0.5		0
20 min	5	0.9	0.018	20 min	5	0.5		0
30 min	4	0.9	0.0144	30 min	4	0.5		0
40 min	3.4	0.9	0.01224	40 min	3.4	0.5		0
50 min	2.9	0.9	0.01044	50 min	2.9	0.5		0
60 min	2.6	0.9	0.00936	60 min	2.6	0.5		0
70 min	2.4	0.9	0.00864	70 min	2.4	0.5		0
80 min	2.2	0.9	0.00792	80 min	2.2	0.5		0
90 min	2	0.9	0.0072	90 min	2	0.5		0
100 min	1.8	0.9	0.00648	100 min	1.8	0.5		0
110 min	1.7	0.9	0.00612	110 min	1.7	0.5		0

Storage Calculations

10 min			
Inflow	13.176	Storage	8.052
Outflow	5.124		

15 min			
Inflow	17.82	Storage	11.415
Outflow	6.405		

20 min			
Inflow	21.6	Storage	13.914
Outflow	7.686		

30 min			
Inflow	25.92	Storage	15.672
Outflow	10.248		

40 min			
Inflow	29.376	Storage	16.566
Outflow	12.81		

50 min			
Inflow	31.32	Storage	15.948
Outflow	15.372		

60 min			
Inflow	33.696	Storage	15.762
Outflow	17.934		

70 min			
Inflow	36.288	Storage	15.792
Outflow	20.496		

80 min			
Inflow	38.016	Storage	14.958
Outflow	23.058		

90 min			
Inflow	38.88	Storage	13.26
Outflow	25.62		

100 min			
Inflow	38.88	Storage	10.698
Outflow	28.182		

110 min			
Inflow	36.72	Storage	5.976
Outflow	30.744		

RANCH TRAIL
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.004		Area 20 Detained
C =	0.35		
Tc =	10		
I_{10} =	7.2		
Q_{10} =	0.01008		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.004	A =	0	A=	0
Aadj=	0.004				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{10} =	7.2	I_{10} =	7.2	I_{10} =	7.2
Q_{10} =	0.02592	Q_{10} =	0	Q_{10} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C		Q
10 min	7.2	0.9	0.02592	10 min	7.2	0.5		0
15 min	6.5	0.9	0.0234	15 min	6.5	0.5		0
20 min	5.8	0.9	0.02088	20 min	5.8	0.5		0
30 min	4.7	0.9	0.01692	30 min	4.7	0.5		0
40 min	4	0.9	0.0144	40 min	4	0.5		0
50 min	3.5	0.9	0.0126	50 min	3.5	0.5		0
60 min	3	0.9	0.0108	60 min	3	0.5		0
70 min	2.7	0.9	0.00972	70 min	2.7	0.5		0
80 min	2.5	0.9	0.009	80 min	2.5	0.5		0
90 min	2.3	0.9	0.00828	90 min	2.3	0.5		0
100 min	2.2	0.9	0.00792	100 min	2.2	0.5		0
110 min	1.9	0.9	0.00684	110 min	1.9	0.5		0

Storage Calculations

10 min			
Inflow	15.552	Storage	9.504
Outflow	6.048		

15 min			
Inflow	21.06	Storage	13.5
Outflow	7.56		

20 min			
Inflow	25.056	Storage	15.984
Outflow	9.072		

30 min			
Inflow	30.456	Storage	18.36
Outflow	12.096		

40 min			
Inflow	34.56	Storage	19.44
Outflow	15.12		

50 min			
Inflow	37.8	Storage	19.656
Outflow	18.144		

60 min			
Inflow	38.88	Storage	17.712
Outflow	21.168		

70 min			
Inflow	40.824	Storage	16.632
Outflow	24.192		

80 min			
Inflow	43.2	Storage	15.984
Outflow	27.216		

90 min			
Inflow	44.712	Storage	14.472
Outflow	30.24		

100 min			
Inflow	47.52	Storage	14.256
Outflow	33.264		

110 min			
Inflow	41.04	Storage	4.752
Outflow	36.288		

RANCH TRAIL
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.004		Area 20 Detained
C =	0.35		
Tc =	10		
I25 =	8.2		
Q25 =	0.01148		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.004	A =	0	A=	0
Aadj=	0.004				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I25 =	8.2	I25 =	8.2	I25 =	8.2
Q25 =	0.02952	Q25 =	0	Q25 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C		Q
10 min	8.2	0.9	0.02952	10 min	8.2	0.5		0
15 min	7.5	0.9	0.027	15 min	7.5	0.5		0
20 min	6.7	0.9	0.02412	20 min	6.7	0.5		0
30 min	5.5	0.9	0.0198	30 min	5.5	0.5		0
40 min	4.7	0.9	0.01692	40 min	4.7	0.5		0
50 min	4	0.9	0.0144	50 min	4	0.5		0
60 min	3.5	0.9	0.0126	60 min	3.5	0.5		0
70 min	3.2	0.9	0.01152	70 min	3.2	0.5		0
80 min	2.7	0.9	0.00972	80 min	2.7	0.5		0
90 min	2.5	0.9	0.009	90 min	2.5	0.5		0
100 min	2.4	0.9	0.00864	100 min	2.4	0.5		0
110 min	2.3	0.9	0.00828	110 min	2.3	0.5		0

Storage Calculations

10 min			
Inflow	17.712	Storage	10.824
Outflow	6.888		

15 min			
Inflow	24.3	Storage	15.69
Outflow	8.61		

20 min			
Inflow	28.944	Storage	18.612
Outflow	10.332		

30 min			
Inflow	35.64	Storage	21.864
Outflow	13.776		

40 min			
Inflow	40.608	Storage	23.388
Outflow	17.22		

50 min			
Inflow	43.2	Storage	22.536
Outflow	20.664		

60 min			
Inflow	45.36	Storage	21.252
Outflow	24.108		

70 min			
Inflow	48.384	Storage	20.832
Outflow	27.552		

80 min			
Inflow	46.656	Storage	15.66
Outflow	30.996		

90 min			
Inflow	48.6	Storage	14.16
Outflow	34.44		

100 min			
Inflow	51.84	Storage	13.956
Outflow	37.884		

110 min			
Inflow	49.68	Storage	8.352
Outflow	41.328		

RANCH TRAIL
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.004		Area 20 Detained
C =	0.35		
Tc =	10		
I_{100} =	9.8		
Q_{100} =	0.01372		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.004	A =	0	A=	0
Aadj=	0.004				
C =	0.9	C =	0.5	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	0.03528	Q_{100} =	0	Q_{100} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)				
Time	I	C	Q	Time	I	C		Q
10 min	9.8	0.9	0.03528	10 min	9.8	0.5		0
15 min	9	0.9	0.0324	15 min	9	0.5		0
20 min	8.3	0.9	0.02988	20 min	8.3	0.5		0
30 min	6.9	0.9	0.02484	30 min	6.9	0.5		0
40 min	5.8	0.9	0.02088	40 min	5.8	0.5		0
50 min	5	0.9	0.018	50 min	5	0.5		0
60 min	4.5	0.9	0.0162	60 min	4.5	0.5		0
70 min	4	0.9	0.0144	70 min	4	0.5		0
80 min	3.7	0.9	0.01332	80 min	3.7	0.5		0
90 min	3.5	0.9	0.0126	90 min	3.5	0.5		0
100 min	3.4	0.9	0.01224	100 min	3.3	0.5		0
110 min	3.2	0.9	0.01152	110 min	2.9	0.5		0

Storage Calculations

10 min			
Inflow	21.168	Storage	12.936
Outflow	8.232		

15 min			
Inflow	29.16	Storage	18.87
Outflow	10.29		

20 min			
Inflow	35.856	Storage	23.508
Outflow	12.348		

30 min			
Inflow	44.712	Storage	28.248
Outflow	16.464		

40 min			
Inflow	50.112	Storage	29.532
Outflow	20.58		

50 min			
Inflow	54	Storage	29.304
Outflow	24.696		

60 min			
Inflow	58.32	Storage	29.508
Outflow	28.812		

70 min			
Inflow	60.48	Storage	27.552
Outflow	32.928		

80 min			
Inflow	63.936	Storage	26.892
Outflow	37.044		

90 min			
Inflow	68.04	Storage	26.88
Outflow	41.16		

100 min			
Inflow	73.44	Storage	28.164
Outflow	45.276		

110 min			
Inflow	69.12	Storage	19.728
Outflow	49.392		

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, P.E. NO. 80102, F-886, ON DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
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DRAINAGE DETENTION CALCULATIONS WEIR NO 3
RANCH TRAIL OFFICES
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION

W.L.D.
CHECKED

Q.C.W.
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MAY, 2024
DATE

23028
PROJECT

5.2

RANCH TRAIL
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.47	Areas = 11 & 12 Detained	
C =	0.35		
Tc =	10		
I5 =	6.1		
Q5 =	1.00345		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.47	A =	0.78	A=	0
Aadj=	0.47				
C =	0.9	C =	0.53	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I5 =	6.1	I5 =	6.1	I5 =	6.1
Q5 =	2.5803	Q5 =	2.52174	Q5 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	6.1	0.9	2.5803	10 min	6.1	0.53	2.52174
15 min	5.5	0.9	2.3265	15 min	5.5	0.53	2.2737
20 min	5	0.9	2.115	20 min	5	0.53	2.067
30 min	4	0.9	1.692	30 min	4	0.53	1.6536
40 min	3.4	0.9	1.4382	40 min	3.4	0.53	1.40556
50 min	2.9	0.9	1.2267	50 min	2.9	0.53	1.19886
60 min	2.6	0.9	1.0998	60 min	2.6	0.53	1.07484
70 min	2.4	0.9	1.0152	70 min	2.4	0.53	0.99216
80 min	2.2	0.9	0.9306	80 min	2.2	0.53	0.90948
90 min	2	0.9	0.846	90 min	2	0.53	0.8268
100 min	1.8	0.9	0.7614	100 min	1.8	0.53	0.74412
110 min	1.7	0.9	0.7191	110 min	1.7	0.53	0.70278

Storage Calculations

10 min			
Inflow	3061.224	Storage	946.11
Outflow	2115.114		
15 min			
Inflow	4140.18	Storage	1496.288
Outflow	2643.893		
20 min			
Inflow	5018.4	Storage	1845.729
Outflow	3172.671		
30 min			
Inflow	6022.08	Storage	1791.852
Outflow	4230.228		
40 min			
Inflow	6825.024	Storage	1537.239
Outflow	5287.785		
50 min			
Inflow	7276.68	Storage	931.338
Outflow	6345.342		
60 min			
Inflow	7828.704	Storage	425.805
Outflow	7402.899		
70 min			
Inflow	8430.912	Storage	-29.544
Outflow	8460.456		
80 min			
Inflow	8832.384	Storage	-685.629
Outflow	9518.013		
90 min			
Inflow	9033.12	Storage	-1542.45
Outflow	10575.57		
100 min			
Inflow	9033.12	Storage	-2600.01
Outflow	11633.13		
110 min			
Inflow	8531.28	Storage	-4159.4
Outflow	12690.68		

RANCH TRAIL
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.47	Areas = 11 & 12 Detained	
C =	0.35		
Tc =	10		
I_{10} =	7.2		
Q_{10} =	1.1844		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.47	A =	0.78	A=	0
Aadj=	0.47				
C =	0.9	C =	0.53	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{10} =	7.2	I_{10} =	7.2	I_{10} =	7.2
Q_{10} =	3.0456	Q_{10} =	2.97648	Q_{10} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	7.2	0.9	3.0456	10 min	7.2	0.53	2.97648
15 min	6.5	0.9	2.7495	15 min	6.5	0.53	2.6871
20 min	5.8	0.9	2.4534	20 min	5.8	0.53	2.39772
30 min	4.7	0.9	1.9881	30 min	4.7	0.53	1.94298
40 min	4	0.9	1.692	40 min	4	0.53	1.6536
50 min	3.5	0.9	1.4805	50 min	3.5	0.53	1.4469
60 min	3	0.9	1.269	60 min	3	0.53	1.2402
70 min	2.7	0.9	1.1421	70 min	2.7	0.53	1.11618
80 min	2.5	0.9	1.0575	80 min	2.5	0.53	1.0335
90 min	2.3	0.9	0.9729	90 min	2.3	0.53	0.95082
100 min	2.2	0.9	0.9306	100 min	2.2	0.53	0.90948
110 min	1.9	0.9	0.8037	110 min	1.9	0.53	0.78546

Storage Calculations

10 min			
Inflow	3613.248	Storage	1116.72
Outflow	2496.528		
15 min			
Inflow	4892.94	Storage	1772.28
Outflow	3120.66		
20 min			
Inflow	5821.344	Storage	2076.552
Outflow	3744.792		
30 min			
Inflow	7075.944	Storage	2082.888
Outflow	4993.056		
40 min			
Inflow	8029.44	Storage	1788.12
Outflow	6241.32		
50 min			
Inflow	8782.2	Storage	1292.616
Outflow	7489.584		
60 min			
Inflow	9033.12	Storage	295.272
Outflow	8737.848		
70 min			
Inflow	9484.776	Storage	-501.336
Outflow	9986.112		
80 min			
Inflow	10036.8	Storage	-1197.58
Outflow	11234.38		
90 min			
Inflow	10388.09	Storage	-2094.55
Outflow	12482.64		
100 min			
Inflow	11040.48	Storage	-2690.42
Outflow	13730.9		
110 min			
Inflow	9534.96	Storage	-5444.21
Outflow	14979.17		

RANCH TRAIL
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.47	Areas = 11 & 12	
C =	0.35		
Tc =	10		
I25 =	8.2		
Q25 =	1.3489		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.47	A =	0.78	A=	0
Aadj=	0.47				
C =	0.9	C =	0.53	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I25 =	8.2	I25 =	8.2	I25 =	8.2
Q25 =	3.4686	Q25 =	3.38988	Q25 =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	8.2	0.9	3.4686	10 min	8.2	0.53	3.38988
15 min	7.5	0.9	3.1725	15 min	7.5	0.53	3.1005
20 min	6.7	0.9	2.8341	20 min	6.7	0.53	2.76978
30 min	5.5	0.9	2.3265	30 min	5.5	0.53	2.2737
40 min	4.7	0.9	1.9881	40 min	4.7	0.53	1.94298
50 min	4	0.9	1.692	50 min	4	0.53	1.6536
60 min	3.5	0.9	1.4805	60 min	3.5	0.53	1.4469
70 min	3.2	0.9	1.3536	70 min	3.2	0.53	1.32288
80 min	2.7	0.9	1.1421	80 min	2.7	0.53	1.11618
90 min	2.5	0.9	1.0575	90 min	2.5	0.53	1.0335
100 min	2.4	0.9	1.0152	100 min	2.4	0.53	0.99216
110 min	2.3	0.9	0.9729	110 min	2.3	0.53	0.95082

Storage Calculations

10 min			
Inflow	4115.088	Storage	1271.82
Outflow	2843.268		
15 min			
Inflow	5645.7	Storage	2091.615
Outflow	3554.085		
20 min			
Inflow	6724.656	Storage	2459.754
Outflow	4264.902		
30 min			
Inflow	8280.36	Storage	2593.824
Outflow	5686.536		
40 min			
Inflow	9434.592	Storage	2326.422
Outflow	7108.17		
50 min			
Inflow	10036.8	Storage	1506.996
Outflow	8529.804		
60 min			
Inflow	10538.64	Storage	587.202
Outflow	9951.438		
70 min			
Inflow	11241.22	Storage	-131.856
Outflow	11373.07		
80 min			
Inflow	10839.74	Storage	-1954.96
Outflow	12794.71		
90 min			
Inflow	11291.4	Storage	-2924.94
Outflow	14216.34		
100 min			
Inflow	12044.16	Storage	-3593.81
Outflow	15637.97		
110 min			
Inflow	11542.32	Storage	-5517.29
Outflow	17059.61		

RANCH TRAIL
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.47	Areas = 11 & 12 Detained	
C =	0.35		
Tc =	10		
I_{100} =	9.8		
Q_{100} =	1.6121		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.47	A =	0.78	A=	0
Aadj=	0.47				
C =	0.9	C =	0.53	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	4.1454	Q_{100} =	4.05132	Q_{100} =	0

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	I	C	Q	Time	I	C	Q
10 min	9.8	0.9	4.1454	10 min	9.8	0.53	4.05132
15 min	9	0.9	3.807	15 min	9	0.53	3.7206
20 min	8.3	0.9	3.5109	20 min	8.3	0.53	3.43122
30 min	6.9	0.9	2.9187	30 min	6.9	0.53	2.85246
40 min	5.8	0.9	2.4534	40 min	5.8	0.53	2.39772
50 min	5	0.9	2.115	50 min	5	0.53	2.067
60 min	4.5	0.9	1.9035	60 min	4.5	0.53	1.8603
70 min	4	0.9	1.692	70 min	4	0.53	1.6536
80 min	3.7	0.9	1.5651	80 min	3.7	0.53	1.52958
90 min	3.5	0.9	1.4805	90 min	3.5	0.53	1.4469
100 min	3.4	0.9	1.4382	100 min	3.3	0.53	1.36422
110 min	3.2	0.9	1.3536	110 min	2.9	0.53	1.19886

Storage Calculations

10 min			
Inflow	4918.032	Storage	1519.98
Outflow	3398.052		
15 min			
Inflow	6774.84	Storage	2527.275
Outflow	4247.565		
20 min			
Inflow	8330.544	Storage	3233.466
Outflow	5097.078		
30 min			
Inflow	10388.09	Storage	3591.984
Outflow	6796.104		
40 min			
Inflow	11642.69	Storage	3147.558
Outflow	8495.13		
50 min			
Inflow	12546	Storage	2351.844
Outflow	10194.16		
60 min			
Inflow	13549.68	Storage	1656.498
Outflow	11893.18		
70 min			
Inflow	14051.52	Storage	459.312
Outflow	13592.21		
80 min			
Inflow	14854.46	Storage	-436.77
Outflow	15291.23		
90 min			
Inflow	15807.96	Storage	-1182.3
Outflow	16990.26		
100 min			
Inflow	16814.52	Storage	-1874.77
Outflow	18689.29		
110 min			
Inflow	15314.76	Storage	-5073.55
Outflow	20388.31		

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, P.E. NO. 80102, F-886, ON DATE: MAY 5, 2024

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DRAINAGE DETENTION CALCULATIONS WEIR NO 3
RANCH TRAIL OFFICES
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION
W.L.D.
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Q.C.W.
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MAY, 2024
DATE
23028
PROJECT
5.3

RANCH TRAIL
5 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.78	Areas 10 & 13 Detained	
C =	0.53	COMPOSITE C = .53	
Tc =	10		
I5 =	6.1		
Q5 =	2.52174		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.52	A =	0.18	A=	0
Aadj=	0.52				
C =	0.9	C =	0.71	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I5 =	6.1	I5 =	6.1	I5 =	6.1
Q5 =	2.8548	Q5 =	0.77958	Q5 =	0

Flow for Storm Durations (Developed)

Time	I	C	Q
10 min	6.1	0.9	2.8548
15 min	5.5	0.9	2.574
20 min	5	0.9	2.34
30 min	4	0.9	1.872
40 min	3.4	0.9	1.5912
50 min	2.9	0.9	1.3572
60 min	2.6	0.9	1.2168
70 min	2.4	0.9	1.1232
80 min	2.2	0.9	1.0296
90 min	2	0.9	0.936
100 min	1.8	0.9	0.8424
110 min	1.7	0.9	0.7956

Flow for Storm Durations (Offsite)

Time	I	C	Q
10 min	6.1	0.71	0.77958
15 min	5.5	0.71	0.7029
20 min	5	0.71	0.639
30 min	4	0.71	0.5112
40 min	3.4	0.71	0.43452
50 min	2.9	0.71	0.37062
60 min	2.6	0.71	0.33228
70 min	2.4	0.71	0.30672
80 min	2.2	0.71	0.28116
90 min	2	0.71	0.2556
100 min	1.8	0.71	0.23004
110 min	1.7	0.71	0.21726

Storage Calculations

10 min			
Inflow	2180.628	Storage	704.184
Outflow	1476.444		
15 min			
Inflow	2949.21	Storage	1103.655
Outflow	1845.555		
20 min			
Inflow	3574.8	Storage	1360.134
Outflow	2214.666		
30 min			
Inflow	4289.76	Storage	1336.872
Outflow	2952.888		
40 min			
Inflow	4861.728	Storage	1170.618
Outflow	3691.11		
50 min			
Inflow	5183.46	Storage	754.128
Outflow	4429.332		
60 min			
Inflow	5576.688	Storage	409.134
Outflow	5167.554		
70 min			
Inflow	6005.664	Storage	99.888
Outflow	5905.776		
80 min			
Inflow	6291.648	Storage	-352.35
Outflow	6643.998		
90 min			
Inflow	6434.64	Storage	-947.58
Outflow	7382.22		
100 min			
Inflow	6434.64	Storage	-1685.8
Outflow	8120.442		
110 min			
Inflow	6077.16	Storage	-2781.5
Outflow	8858.664		

RANCH TRAIL
10 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.78	Areas 10 & 13 Detained	
C =	0.53	COMPOSITE C = .53	
Tc =	10		
I_{10} =	7.2		
Q_{10} =	2.97648		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.52	A =	0.18	A=	0
Aadj=	0.52				
C =	0.9	C =	0.71	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{10} =	7.2	I_{10} =	7.2	I_{10} =	7.2
Q_{10} =	3.3696	Q_{10} =	0.92016	Q_{10} =	0

Flow for Storm Durations (Developed)

Time	I	C	Q
10 min	7.2	0.9	3.3696
15 min	6.5	0.9	3.042
20 min	5.8	0.9	2.7144
30 min	4.7	0.9	2.1996
40 min	4	0.9	1.872
50 min	3.5	0.9	1.638
60 min	3	0.9	1.404
70 min	2.7	0.9	1.2636
80 min	2.5	0.9	1.17
90 min	2.3	0.9	1.0764
100 min	2.2	0.9	1.0296
110 min	1.9	0.9	0.8892

Flow for Storm Durations (Offsite)

Time	I	C	Q
10 min	7.2	0.71	0.92016
15 min	6.5	0.71	0.8307
20 min	5.8	0.71	0.74124
30 min	4.7	0.71	0.60066
40 min	4	0.71	0.5112
50 min	3.5	0.71	0.4473
60 min	3	0.71	0.3834
70 min	2.7	0.71	0.34506
80 min	2.5	0.71	0.3195
90 min	2.3	0.71	0.29394
100 min	2.2	0.71	0.28116
110 min	1.9	0.71	0.24282

Storage Calculations

10 min			
Inflow	2573.856	Storage	831.168
Outflow	1742.688		
15 min			
Inflow	3485.43	Storage	1307.07
Outflow	2178.36		
20 min			
Inflow	4146.768	Storage	1532.736
Outflow	2614.032		
30 min			
Inflow	5040.468	Storage	1555.092
Outflow	3485.376		
40 min			
Inflow	5719.68	Storage	1362.96
Outflow	4356.72		
50 min			
Inflow	6255.9	Storage	1027.836
Outflow	5228.064		
60 min			
Inflow	6434.64	Storage	335.232
Outflow	6099.408		
70 min			
Inflow	6756.372	Storage	-214.38
Outflow	6970.752		
80 min			
Inflow	7149.6	Storage	-692.496
Outflow	7842.096		
90 min			
Inflow	7399.836	Storage	-1313.6
Outflow	8713.44		
100 min			
Inflow	7864.56	Storage	-1720.22
Outflow	9584.784		
110 min			
Inflow	6792.12	Storage	-3664.01
Outflow	10456.13		

RANCH TRAIL
25 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.78	Areas 10 & 13 Detained	
C =	0.53	COMPOSITE C = .53	
Tc =	10		
I25 =	8.2		
Q25 =	3.38988		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.52	A =	0.18	A=	0
Aadj=	0.52				
C =	0.9	C =	0.71	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I25 =	8.2	I25 =	8.2	I25 =	8.2
Q25 =	3.8376	Q25 =	1.04796	Q25 =	0

Flow for Storm Durations (Developed)

Time	I	C	Q
10 min	8.2	0.9	3.8376
15 min	7.5	0.9	3.51
20 min	6.7	0.9	3.1356
30 min	5.5	0.9	2.574
40 min	4.7	0.9	2.1996
50 min	4	0.9	1.872
60 min	3.5	0.9	1.638
70 min	3.2	0.9	1.4976
80 min	2.7	0.9	1.2636
90 min	2.5	0.9	1.17
100 min	2.4	0.9	1.1232
110 min	2.3	0.9	1.0764

Flow for Storm Durations (Offsite)

Time	I	C	Q
10 min	8.2	0.71	1.04796
15 min	7.5	0.71	0.9585
20 min	6.7	0.71	0.85626
30 min	5.5	0.71	0.7029
40 min	4.7	0.71	0.60066
50 min	4	0.71	0.5112
60 min	3.5	0.71	0.4473
70 min	3.2	0.71	0.40896
80 min	2.7	0.71	0.34506
90 min	2.5	0.71	0.3195
100 min	2.4	0.71	0.30672
110 min	2.3	0.71	0.29394

Storage Calculations

10 min			
Inflow	2931.336	Storage	946.608
Outflow	1984.728		
15 min			
Inflow	4021.65	Storage	1540.74
Outflow	2480.91		
20 min			
Inflow	4790.232	Storage	1813.14
Outflow	2977.092		
30 min			
Inflow	5898.42	Storage	1928.964
Outflow	3969.456		
40 min			
Inflow	6720.624	Storage	1758.804
Outflow	4961.82		
50 min			
Inflow	7149.6	Storage	1195.416
Outflow	5954.184		
60 min			
Inflow	7507.08	Storage	560.532
Outflow	6946.548		
70 min			
Inflow	8007.552	Storage	68.64
Outflow	7938.912		
80 min			
Inflow	7721.568	Storage	-1209.71
Outflow	8931.276		
90 min			
Inflow	8043.3	Storage	-1880.34
Outflow	9923.64		
100 min			
Inflow	8579.52	Storage	-2336.48
Outflow	10916		
110 min			
Inflow	8222.04	Storage	-3686.33
Outflow	11908.37		

RANCH TRAIL
100 YR STORM CALCULATIONS
Present Conditions
Q=CIA

A =	0.78	Areas 10 & 13 (Detained)	
C =	0.53	COMPOSITE C = .53	
Tc =	10		
I_{100} =	9.8		
Q_{100} =	4.05132		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.78	A =	0	A=	0
Aadj=	0.78				
C =	0.9	C =	0.9	C=	0.9
Tc =	10	Tc =	10	Tc=	10
I_{100} =	9.8	I_{100} =	9.8	I_{100} =	9.8
Q_{100} =	6.8796	Q_{100} =	0	Q_{100} =	0

Flow for Storm Durations (Developed)

Time	I	C	Q
10 min	9.8	0.9	6.8796
15 min	9	0.9	6.318
20 min	8.3	0.9	5.8266
30 min	6.9	0.9	4.8438
40 min	5.8	0.9	4.0716
50 min	5	0.9	3.51
60 min	4.5	0.9	3.159
70 min	4	0.9	2.808
80 min	3.7	0.9	2.5974
90 min	3.5	0.9	2.457
100 min	3.4	0.9	2.3868
110 min	3.2	0.9	2.2464

Flow for Storm Durations (Offsite)

Time	I	C	Q
10 min	9.8	0.9	0
15 min	9	0.9	0
20 min	8.3	0.9	0
30 min	6.9	0.9	0
40 min	5.8	0.9	0
50 min	5	0.9	0
60 min	4.5	0.9	0
70 min	4	0.9	0
80 min	3.7	0.9	0
90 min	3.5	0.9	0
100 min	3.3	0.9	0
110 min	2.9	0.9	0

Storage Calculations

10 min			
Inflow	4127.76	Storage	1696.968
Outflow	2430.792		
15 min			
Inflow	5686.2	Storage	2647.71
Outflow	3038.49		
20 min			
Inflow	6991.92	Storage	3345.732
Outflow	3646.188		
30 min			
Inflow	8718.84	Storage	3857.256
Outflow	4861.584		
40 min			
Inflow	9771.84	Storage	3694.86
Outflow	6076.98		
50 min			
Inflow	10530	Storage	3237.624
Outflow	7292.376		
60 min			
Inflow	11372.4	Storage	2864.628
Outflow	8507.772		
70 min			
Inflow	11793.6	Storage	2070.432
Outflow	9723.168		
80 min			
Inflow	12467.52	Storage	1528.956
Outflow	10938.56		
90 min			
Inflow	13267.8	Storage	1113.84
Outflow	12153.96		
100 min			
Inflow	14320.8	Storage	951.444
Outflow	13369.36		
110 min			
Inflow	13478.4	Storage	-1106.35
Outflow	14584.75		

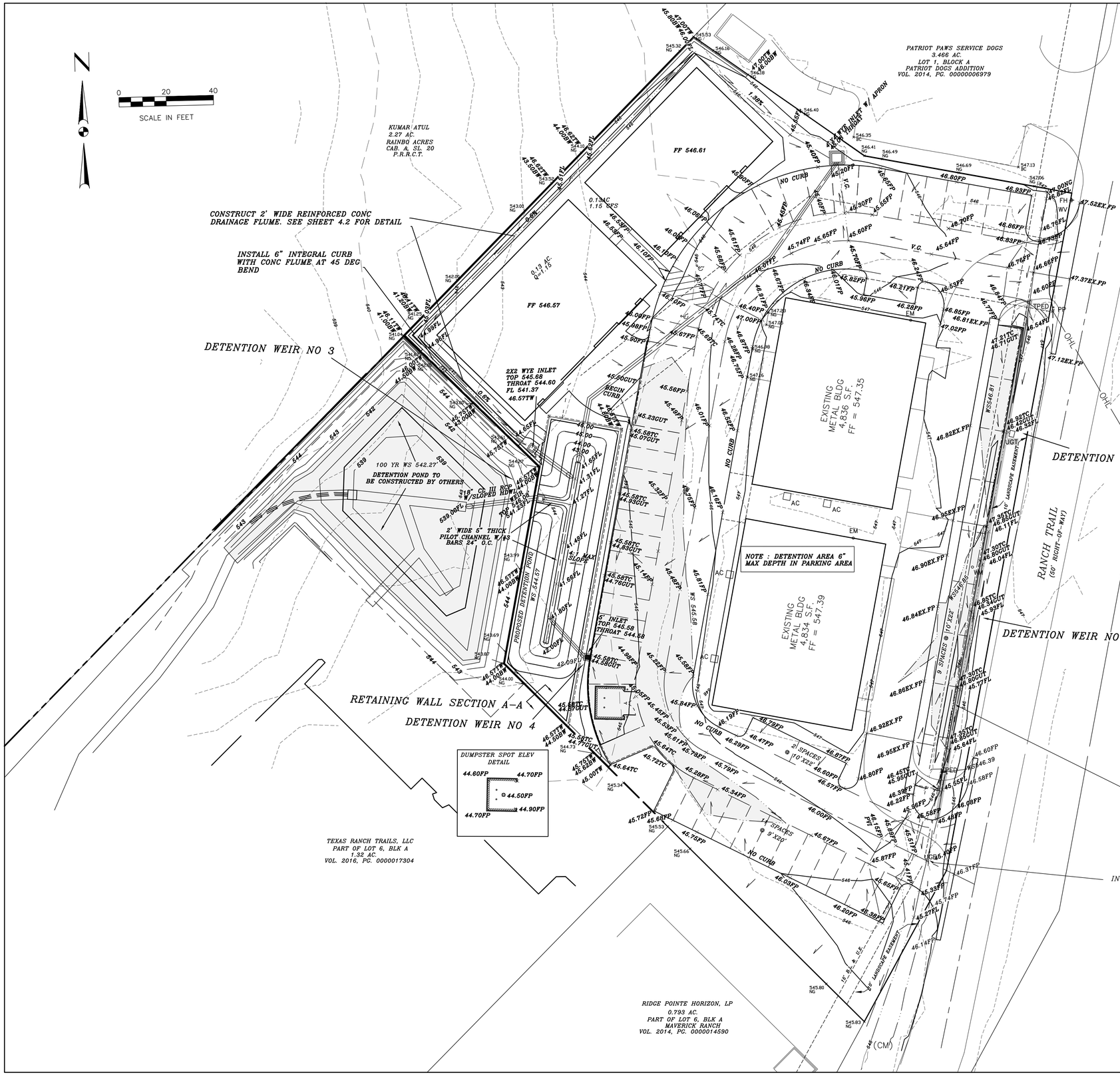
REVISED TO CONFORM TO CONSTRUCTION RECORDS.
W.L.D. DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE III, P.E. NO. 80102, F-886, ON DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT • SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

DRAINAGE DETENTION CALCULATIONS WEIR NO 4
RANCH TRAIL OFFICES
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

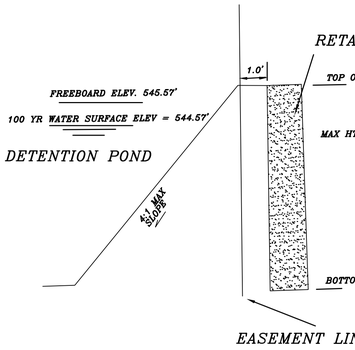
REVISION
W.L.D. CHECKED
Q.C.W. DRAWN
SCALE 1"=50' H 1"=' V
MAY, 2024 DATE
23028 PROJECT
5.4



LEGEND:

- WV — WATER MAIN VALVE
- FIRE HYDRANT
- SSCO — SANITARY SEWER CLEAN-OUT
- SANITARY SEWER MANHOLE
- POWER POLE
- IRF — IRON ROD FOUND
- WM — WATER METER
- CLF = Chainlink Fence
- OHL — OVERHEAD POWER
- UGE — UNDERGROUND ELECTRIC

RETAINING WALL CROSS SECTION DETAIL A-A
NOT TO SCALE
TYPICAL (BOTTOM OF WALL ELEV MAY VARIE)



NOTE: ALL WALLS TO BE ROCK OR STONE CONTRACTOR TO PROVIDE ENGINEERING DESIGN TO CITY FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF CONSTRUCTION

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 ADEQUCAY OR ACCURACY OF DESIGN.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

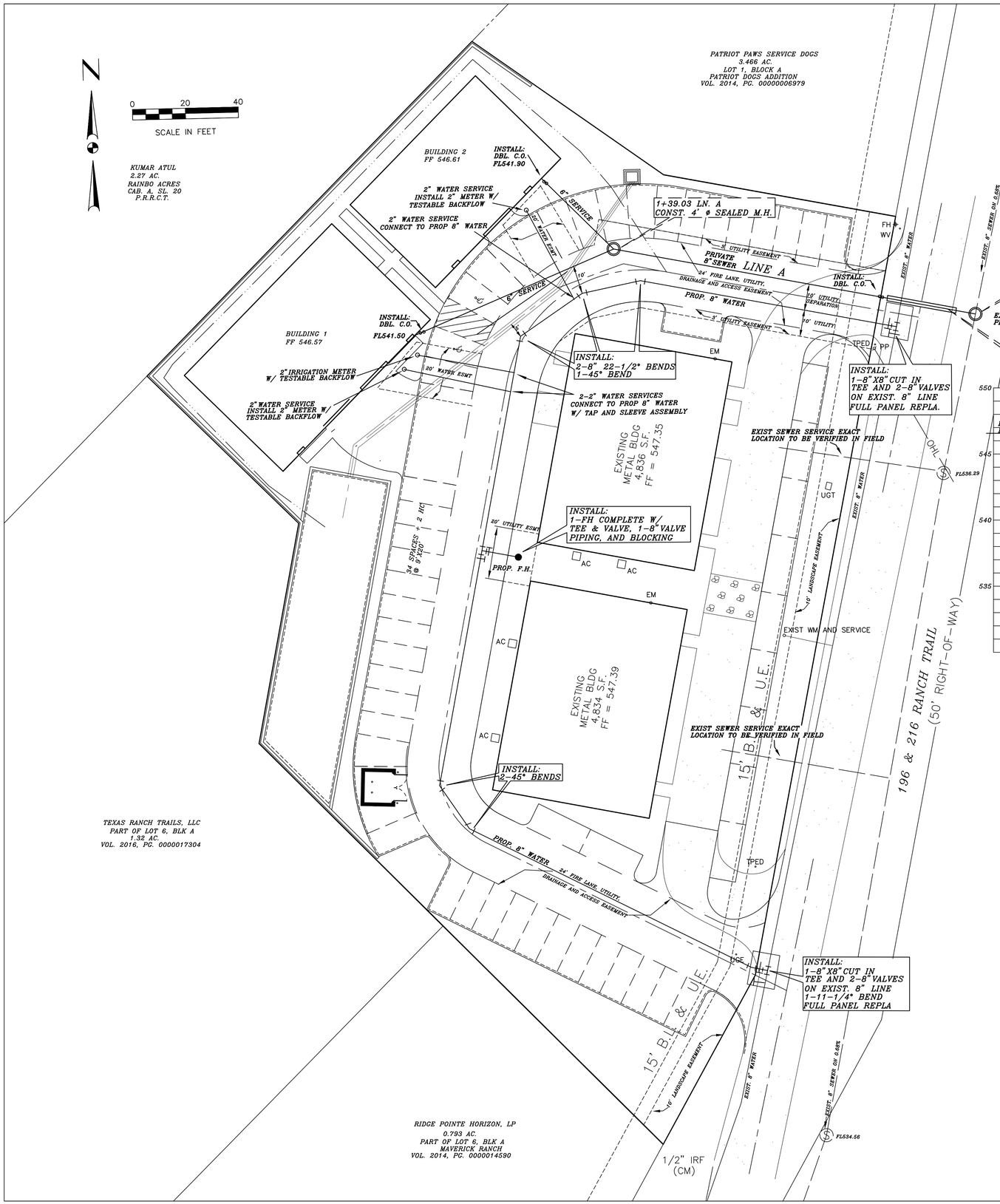
W.L.D. DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY WILL DOUPHRATE III, P.E. NO. 60102, F-886, ON MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

GRADING PLAN
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

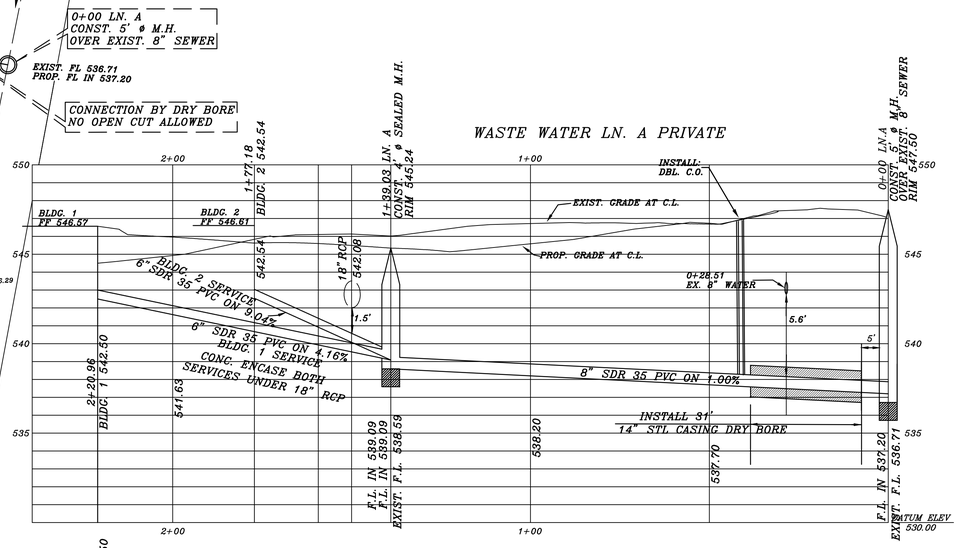
REVISION	
W.L.D.	CHECKED
Q.C.W.	DRAWN
SCALE 1"= 20'H 1"= 'V	
MAY, 2024	DATE
23028	PROJECT
6.0	



NOTE: ALL SANITARY SEWER MANHOLES CONSTRUCTED TO BE RAVEN LINED OR APPROVED EQUAL

LEGEND:

- WV — WATER MAIN VALVE
- FIRE HYDRANT
- SSCO — SANITARY SEWER CLEAN-OUT
- Ⓢ — SANITARY SEWER MANHOLE
- POWER POLE
- IRF — IRON ROD FOUND
- ○ WM — WATER METER
- CLF = Chainlink Fence
- OHL — OVERHEAD POWER
- UGE — UNDERGROUND ELECTRIC



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 ADEQUCAY OR ACCURACY OF DESIGN.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

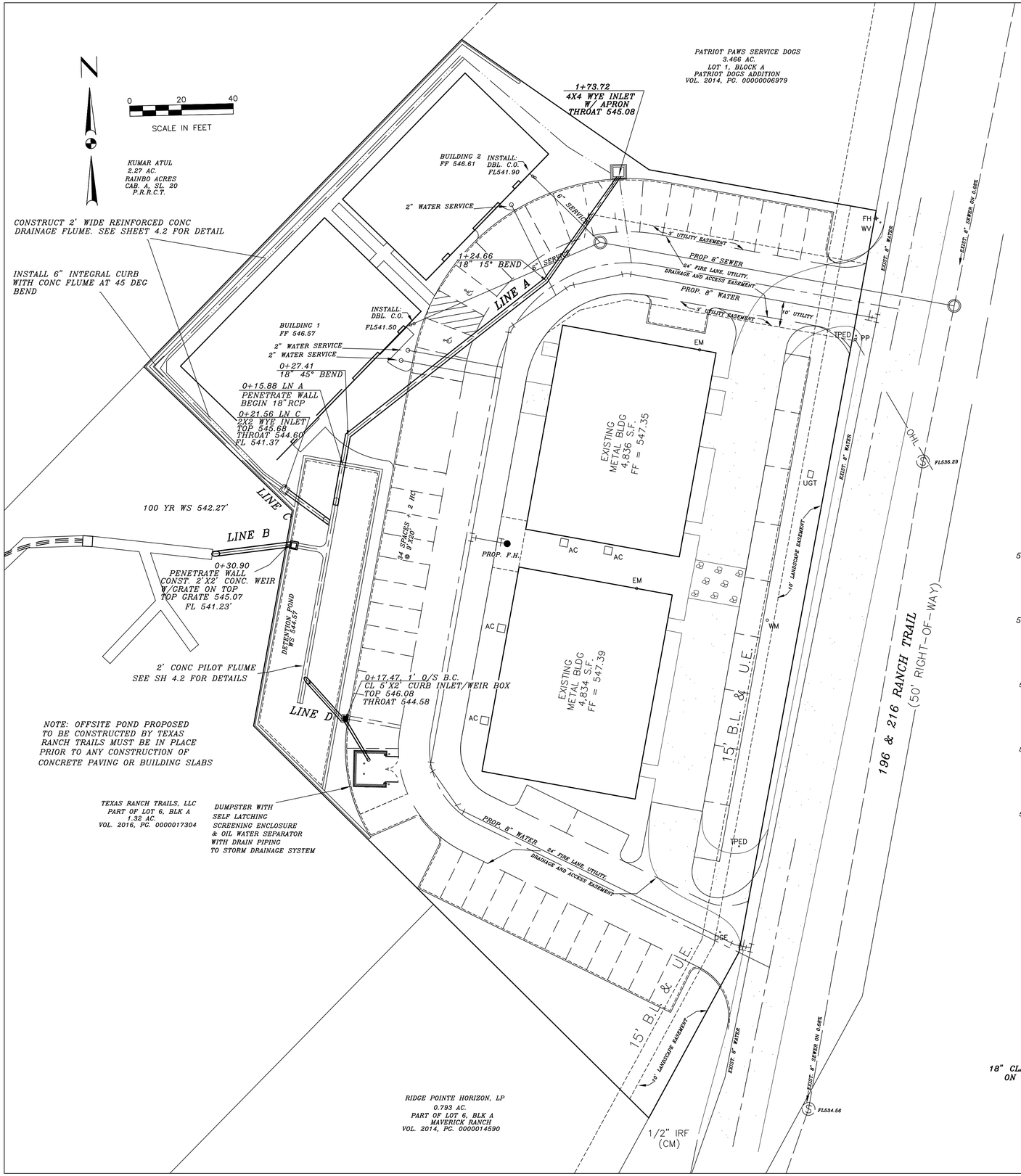
DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE, P.E. NO. 60102 ON THE DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

PROPOSED UTILITIES
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE 1"= 20'H 1"= 4'V	
MAY, 2024	DATE
23028	PROJECT
7.0	19007 WSS



LEGEND:

- WV — WATER MAIN VALVE
- FIRE HYDRANT
- SSCO — SANITARY SEWER CLEAN-OUT
- (S) — SANITARY SEWER MANHOLE
- POWER POLE
- IRF — IRON ROD FOUND
- WM — WATER METER
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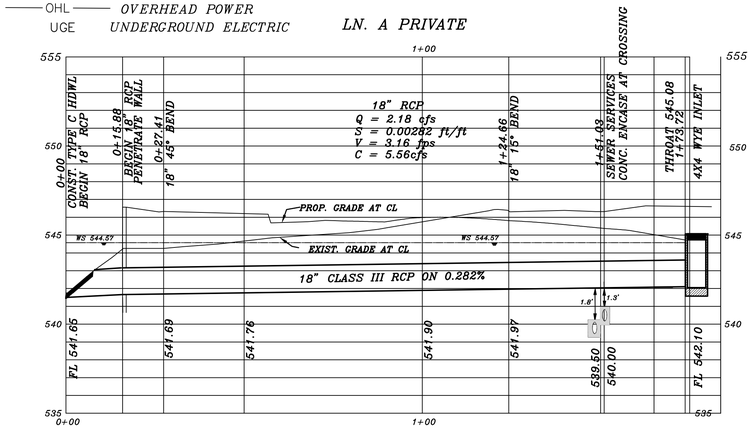
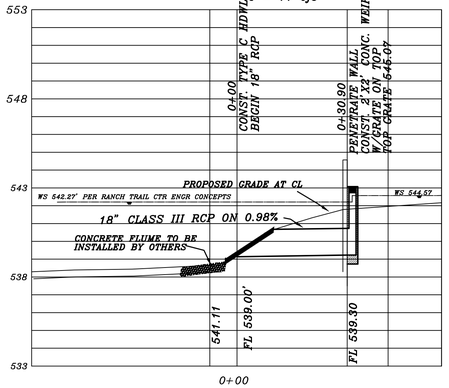
ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUCAY OR ACCURACY OF DESIGN.

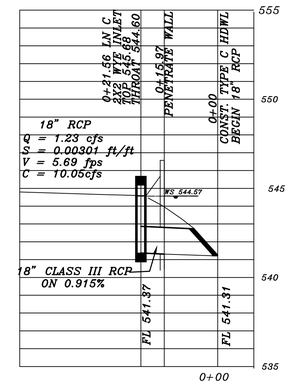
LN. A PRIVATE



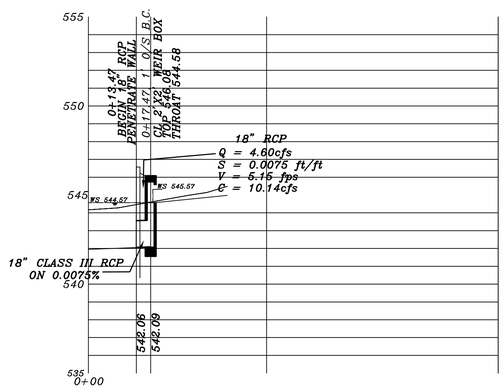
LN. B PRIVATE



LN. C PRIVATE



LN. D PRIVATE



REVISED TO CONFORM TO CONSTRUCTION RECORDS.

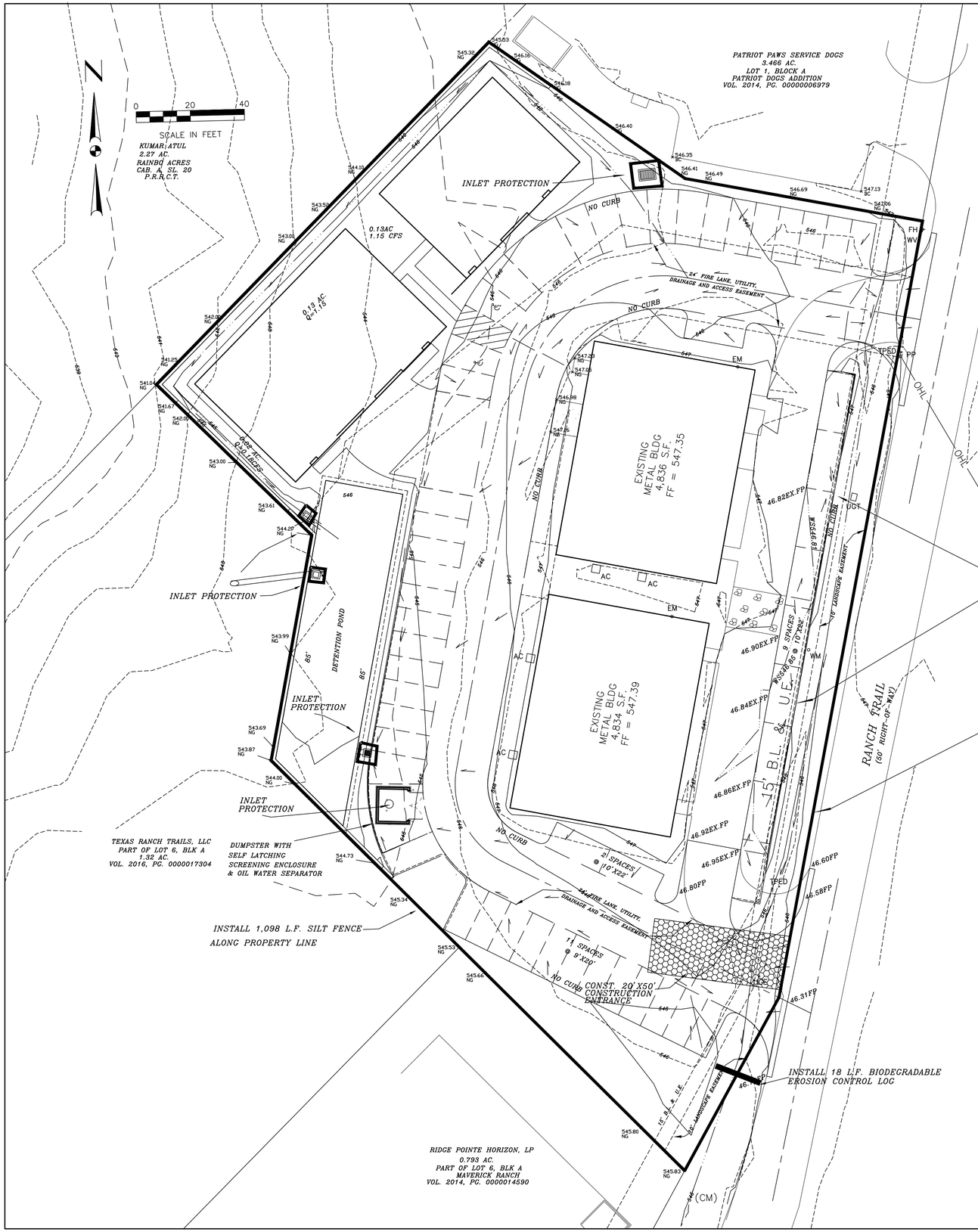
W.L.D. DATE: 2-17-26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE, P.E. NO. 60102 ON THE DATE: MAY 5, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

PROPOSED STORM SEWER
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE	1"= 20'H 1"= 4'V
MAY, 2024	DATE
23028	PROJECT
8.0	19007 WSS



STANDARDS FOR SILT FENCE

DEFINITION

TEMPORARY BARRIER FENCE MADE OF BURLAP OR POLYPROPYLENE MATERIAL WHICH IS WATER PERMEABLE BUT WILL TRAP WATER – BORNE SEDIMENT.

PURPOSE

TO INTERCEPT AND DETAIN WATER – BORNE SEDIMENT FROM UNPROTECTED AREAS OF LIMITED EXTENT.

CONDITIONS WHERE PRACTICE APPLIES

SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY.

DESIGN CRITERIA

SILT FENCE IS CONSTRUCTED NEAR THE PERIMETER OF A DISTURBED SITE WITHIN THE DEVELOPING AREA. IT IS NOT TO BE CONSTRUCTED OUTSIDE THE PROPERTY LINES WITHOUT OBTAINING A LETTER OF PERMISSION FROM THE AFFECTED ADJACENT PROPERTY OWNERS.

A DESIGN IS NOT REQUIRED FOR THE INSTALLATION OF THE SILT FENCE. HOWEVER, THE FOLLOWING CRITERIA SHALL BE OBSERVED :

DRAINAGE AREA –	LESS THAN TWO ACRES
HEIGHT –	30 INCHES MINIMUM HEIGHT MEASURED FROM EXISTING OR GRADED GROUND.
MATERIAL –	BURLAP, POLYPROPYLENE FABRIC, OR NYLON REINFORCED WITH POLYESTER NETTING. THE MULLEN BURST STRENGTH SHALL BE GREATER THAN 150 PSI. THE EDGES SHALL BE TREATED TO PREVENT UNRAVELING.
SUPPORT –	STEEL FENCE POSTS SPACED A MAXIMUM OF 8 FEET APART. WOVEN WIRE WILL BE USED TO SUPPORT THE MATERIAL.

OUTLET

SILT FENCE SHALL BE PLACED AND CONSTRUCTED IN SUCH A MANNER THAT RUNOFF FROM A DISTURBED SURFACE OR EXPOSED UPLAND AREA SHALL BE INTERCEPTED, SEDIMENT TRAPPED, AND THE SURFACE RUNOFF ALLOWED TO PERCOLATE THROUGH THE STRUCTURE.

SILT FENCE SHALL BE PLACED IN SUCH A MANNER THAT SURFACE RUNOFF WHICH PURCOLATES THROUGH WILL FLOW ONTO AN UNDISTURBED STABILIZED AREA OR STABILIZED OUTLET.

NOTES :
1. SHOULD WORK CEASE FOR A PERIOD OF 21 DAYS PERMANENT STABALIZATION SHALL BE INSTALLED.
2. SHOULD THE CONTRACTOR STORE ANY FUEL OR OTHER HAZARDOUS MATERIAL ONSITE THIS PLAN WILL BE MODIFIED TO REFLECT PROTECTION MEASURES.

EROSION CONTROL GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TO THE LINE OF FLOW.

   FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

   BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

   DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 7 ABOVE.
9. EROSION PROTECTION WILL BE DELETED OR ADDED PER THE CITY OF ROCKWALL
10. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
11. ALL SEEDING AND FERTILIZATION OF DISTURBED AREAS WILL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR.

STORM DRAIN INLET PROTECTION CONSTRUCTION SPECIFICATIONS

1. STEEL FRAME IS TO BE CONSTRUCTED OF SUITABLE MATERIAL.
2. WIRE MESH MUST BE OF SUFFICIENT STRENGTH TO SUPPORT FILTER FABRIC, AND STONE FOR CURB INLETS, WITH WATER FULLY IMPOUNDED AGAINST IT.
3. FILTER CLOTH MUST BE OF A TYPE APPROVED FOR THIS PURPOSE, RESISTANT TO SUNLIGHT WITH SIEVE SIZE, EOS, 40–85, TO ALLOW SUFFICIENT PASSAGE OF WATER AND REMOVAL OF SEDIMENT.
4. STONE IS TO BE 2" IN SIZE AND CLEAN, SINCE FINES WOULD CLOG THE CLOTH.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE WIRE MESH AND FILTER CLOTH TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 2" STONE OVER THE WIRE MESH AND FILTER FABRIC IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE FILTER CLOTH.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.

NOTE:
1. SILTATION FENCE SHALL BE PLACED AROUND INLETS DURING CONSTRUCTION.
2. 75%–80% OF ALL DISTURBED AREAS TO HAVE MINIMUM 1" STAND OF GRASS (NOT RYE OR WEEDS) PRIOR TO CITY ACCEPTANCE.

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 ADEQUCAY OR ACCURACY OF DESIGN.

REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2–17–26

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE II, P.E. NO. 60102, F–886, ON MAY 6, 2024

DOUPHRATE & ASSOCIATES, INC.
ENGINEERING • PROJECT MANAGEMENT SURVEYING
2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771–9004 FAX: (972)771–9005

EROSION CONTROL PLAN
LOT 5, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	
W.L.D.	CHECKED
G.C.W.	DRAWN
SCALE 1"= 20'H 1"= 'V	
MAY 2024	DATE
23028	PROJECT
9.0	

N

0 20 40

SCALE IN FEET

---PROPOSED TREES---

4" LIVE OAK (LO)

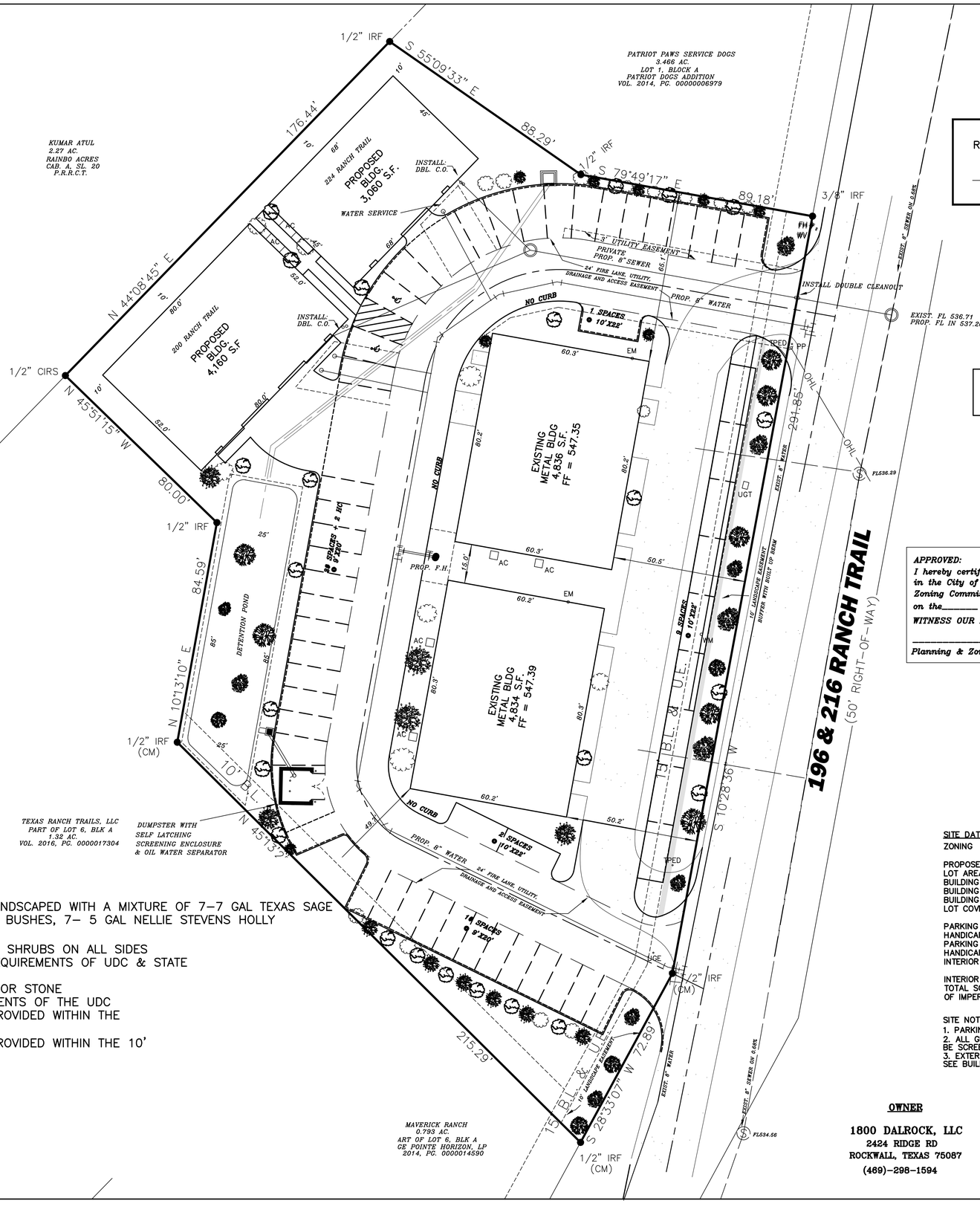
4" AUTUMN BLAZE RED MAPLE (RM)

---PROPOSED SHRUBS---

NELLIE STEVENS HOLLY (NS)

TEXAS SAGE DESPARADO (SD)

WAX LEAF PRIVET LIGUSTRUM (PL)



REVISED TO CONFORM TO CONSTRUCTION RECORDS.

DATE: 2-17-26

NOTE: ALL TREE LANDSCAPING TO BE PLANTED 10' FROM ANY UTILITIES

APPROVED:

I hereby certify the above and foregoing site plan for a development in the City of Rockwall, Texas, was approved by the Planning & Zoning Commission of the City of Rockwall on the_____ day of _____, _____

WITNESS OUR HANDS, this _____day of _____, _____.

Planning & Zoning Commission, Chairman *Director of Planning and Zoning*

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 ADEQUCAY OR ACCURACY OF DESIGN.

LANDSCAPE NOTES

1. 9-4" LIVE OAK, 9-4" AUTUMN BLAZE RED MAPLE,
2. SCREEN HEDGEROW INTERIOR PARKING FRONTAGE LANDSCAPED WITH A MIXTURE OF 7-7 GAL TEXAS SAGE DESPERADO, 7-5 GAL WAX LEAF PRIVET LIGUSTRUM BUSHES, 7- 5 GAL NELLIE STEVENS HOLLY
3. NO TREES WITHIN 5' OF UTILITY EASEMENTS
4. ALL GROUNDED A/C UNITS WILL BE SCREENED WITH SHRUBS ON ALL SIDES
5. THE LANDSCAPING IRRIGATION SYSTEM WILL MEET REQUIREMENTS OF UDC & STATE STATE OF TEXAS TCEQ
6. ALL RETAINING WALLS SHALL BE FINISHED IN ROCK OR STONE
7. THE IRRIGATION SYSTEM SHALL MEET THE REQUIREMENTS OF THE UDC
8. 3 CANOPY TREES AND 2 ACCENT TREES WILL BE PROVIDED WITHIN THE DETENTION POND AREA
9. 8 CANOPY TREES AND 8 ACCENT TREES WILL BE PROVIDED WITHIN THE 10' LANDSCAPE BUFFER ALONG RANCH TRAIL

SITE DATA SUMMARY

ZONING	C (COMMERCIALL)
PROPOSED USE	BUSINESS OFFICES
LOT AREA	1.550 ACRES
BUILDING SQUARE FOOTAGE	16,890 SQ. FT.
BUILDING FOOTPRINT	16,890 SQ. FT.
BUILDING HEIGHT	28 FT.
LOT COVERAGE	25.02%
PARKING REQUIRED	1 SPACE/300 S.F. = 57 SPACES
HANDICAP PARKING REQ'D	2 SPACE
PARKING PROVIDED	51 SPACES
HANDICAP PARKING PROVIDED	2 SPACE
INTERIOR LANDSCAPING REQ'D	15% OF TOTAL SITE (10,124 SQ.FT.)
INTERIOR LANDSCAPING PROVIDED	31,900 SQ. FT.
TOTAL SQUARE FOOTAGE OF IMPERVIOUS SURFACE	35,602 SQ. FT.

SITE NOTES:
1. PARKING SPACES ARE 9'X20'
2. ALL GROUND MOUNTED HVAC UNITS TO BE SCREENED WITH LANDSCAPING
3. EXTERIOR LIGHTING TO BE WALL PACKS SEE BUILDING ELEVATIONS

1.550 AC.
67,502 SQ. FT.

OWNER

1800 DALROCK, LLC
2424 RIDGE RD
ROCKWALL, TEXAS 75087
(469)-298-1594

SURVEYOR

FINCHER LAND SURVEYING. PLLC
3213 INTERSTATE HIGHWAY 30, #107
MEAQUITE, Texas 75150
(903)-944-6397
TeXas Firm No. 10194258

CASE NO. SP 2024-003

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY W.L. DOUPHRATE III, REGISTERED PROFESSIONAL LAND SURVEYOR, TEXAS P.E. NO. 60102, F-886, ON JAN 29, 2024

DOUPHRATE & ASSOCIATES, INC.
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2235 RIDGE RD., # 200 ROCKWALL, TEXAS 75087
PHONE: (972)771-9004 FAX: (972)771-9005

LANDSCAPING PLAN
LOT 7, BLOCK A
MAVERICK RANCH ADDITION
CITY ROCKWALL
ROCKWALL COUNTY, TEXAS

REVISION	W.L.D.
CHECKED	Q.C.W.
DRAWN	SCALE 1"= 20'H 1"= V
DATE	JAN 29, 2024
PROJECT	23028
23028 SITE PLAN	2.0