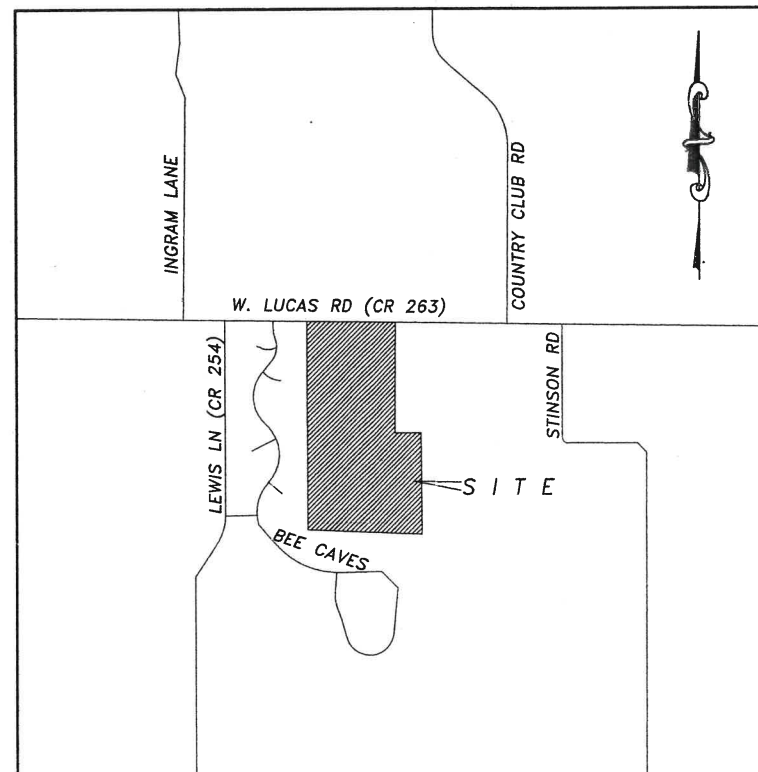


# CONSTRUCTION PLANS FOR ROCKLAND FARMS CITY OF LUCAS

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VICINITY MAP  
(NOT TO SCALE)  
MAPSCO #561R

RELEASED FOR CONSTRUCTION  
STACY CAWELL 3-29-06

## COVER SHEET ROCKLAND FARMS ESTATES

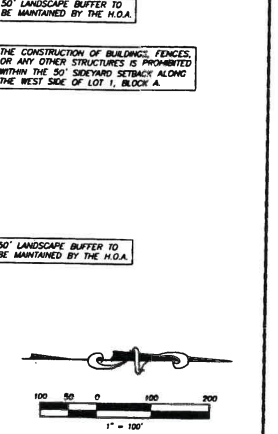
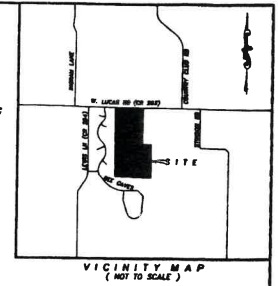
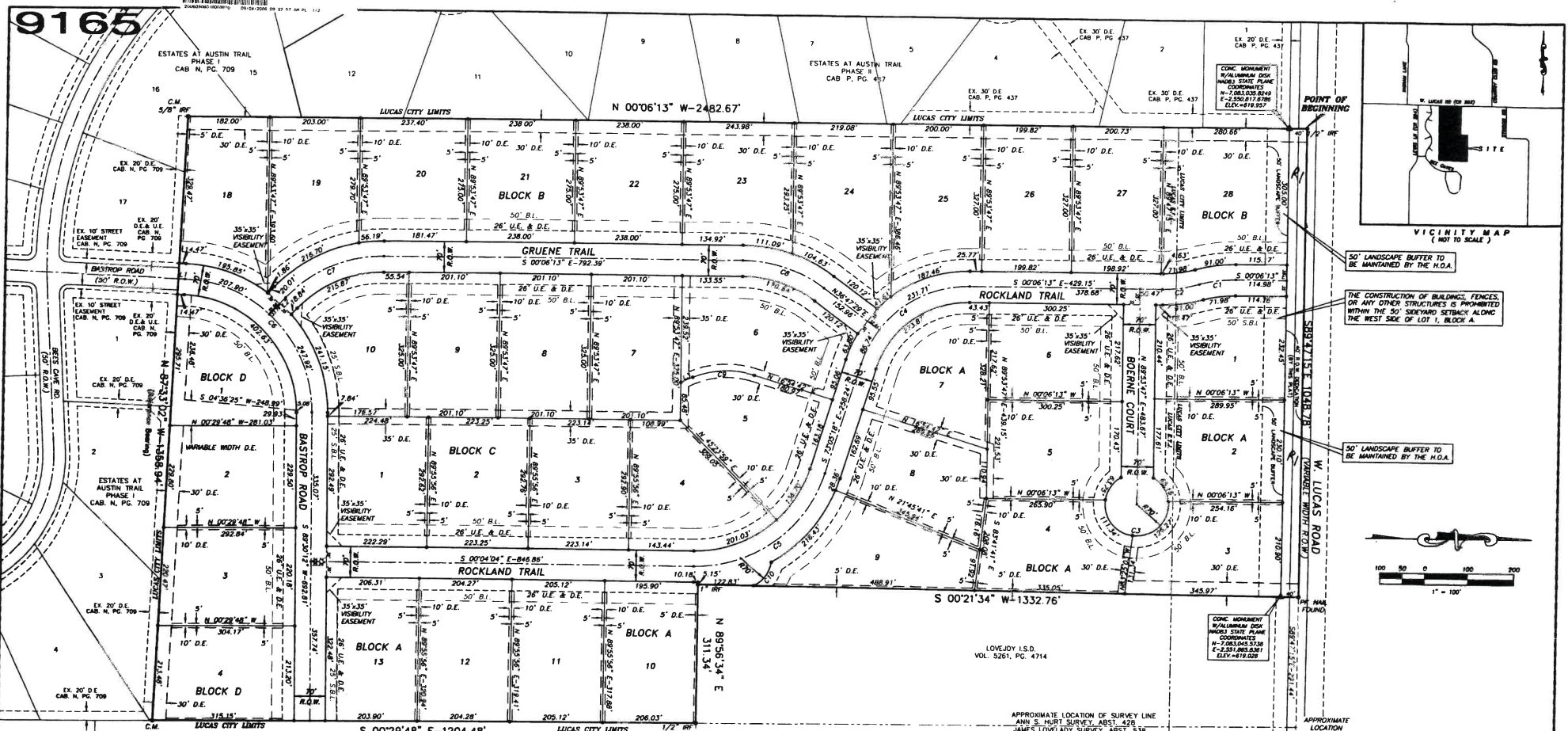


BEING 38 LOTS OUT OF 68.48 ACRES  
LOTS 1-13, BLOCK A  
LOTS 18-28, BLOCK B  
LOTS 1-10, BLOCK C  
LOTS 1-4, BLOCK D  
IN THE  
ANN S. HURT SURVEY, ABSTRACT NO. 428 IN  
COLLIN COUNTY, TEXAS

DEVELOPED BY:  
SPRING HAVEN INVESTMENTS, INC.  
6750 HILLCREST PLAZA SUITE 325 DALLAS, TEXAS 75230  
(972) 386-3333 FAX (972) 386-6190

ENGINEERED BY:  
CRANNELL, CRANNELL & MARTIN ENGINEERING  
801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75028  
(972) 691-6633

SURVEYED BY:  
PEISER SURVEYING  
801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75028  
(972) 724-5776



CENTRAL NORTH CONSTRUCTION LLC  
VOL. 5888 PC. 4515

McCAMY PROPERTIES, LTD.  
C.C. FILE NO. 94-0041597

FROM: 6428-000-0050  
FROM: 6428-000-0090  
YEAR 2017

- NOTES:
- 1) DRAINAGE EASEMENTS (DITCHES & CULVERTS) TO BE MAINTAINED BY INDIVIDUAL LOTS OWNERS
  - 2) NO FLOODPLAIN EXISTS ON THE SITE
  - 3) SINGLE-FAMILY R-1.5 STANDARDS APPLY TO THE SUBDIVISION

NOTES:

Concrete monuments based on City of Allen Geometric Monument No. 1  
3/2" Aluminum Disk set in concrete, located 460' West of the intersection of Whitman Drive and Bathory Road at the East end of a bridge, in the grass median N-7802921.000' E-2532657.2940' Elev-597.82'

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

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
C1	87.49	300.00	153.249°	41.00	81.24	S073307°E
C2	81.48	300.00	153.249°	41.00	81.24	N027307°W
C3	368.52	70.00	300.000°	40.41	70.00	N0000613°W
C4	318.46	250.00	72.920°	184.84	297.36	S363354°E
C5	362.33	300.00	73.714°	223.07	336.88	N382441°W
C6	455.81	300.00	87.031°	284.95	413.22	S453030°W
C7	244.36	300.00	48.402°	128.43	237.58	S272828°E
C8	193.18	300.00	38.342°	100.07	189.86	S182406°E
C9	138.78	200.00	36.450°	72.30	135.99	S045731°E
C10	68.40	70.00	98.761°	37.21	65.71	N5410644°W

LINE	LENGTH	BEARING
L1	14.47	N027307°E
L2	52.50	N454840°W
L3	28.95	N223024°W

TOTAL	ACREAGE	R.O.W.	NET
88.48 AC	10.04 AC		58.44 AC

LEGEND

- ↑ DENOTES 1/2" IRON ROD FOUND UNLESS NOTED OTHERWISE
- ↑ DENOTES 5/8" IRON ROD FOUND WITH RED PLASTIC CAP MARKED RPL543688 UNLESS NOTED OTHERWISE
- ↑ DENOTES CONIC MONUMENT W/ ALUMINUM DISK
- B.L. BUILDING LINE
- S.B.L. STREET ADJACENT SIDE BUILDING LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- IRF. IRON ROD FOUND
- C.M. CONTROLLING MONUMENT

BLOCK	LOT	AREA
BLOCK A	1	65,365 SF
	2	65,300 SF
	3	65,363 SF
	4	65,271 SF
	5	65,341 SF
	6	65,340 SF
	7	65,347 SF
	8	65,454 SF
	9	66,192 SF
	10	65,341 SF
	11	65,359 SF
	12	65,403 SF
	13	65,984 SF
BLOCK B	18	66,419 SF
	19	65,381 SF
	20	65,372 SF
	21	65,450 SF
BLOCK C	1	65,352 SF
	2	65,343 SF
	3	65,342 SF
	4	67,410 SF
	5	68,021 SF
	6	77,582 SF
BLOCK D	1	65,577 SF
	2	65,852 SF
	3	65,725 SF
	4	66,019 SF

# S9165

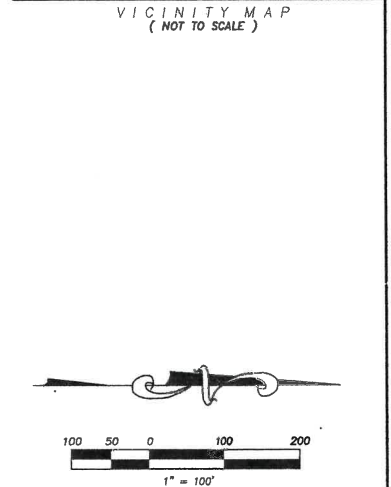
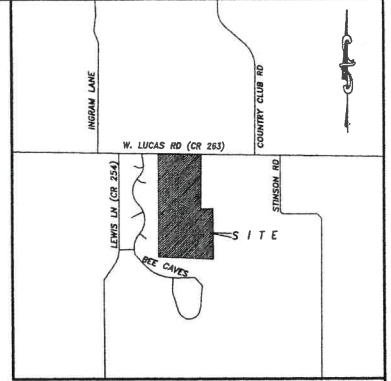
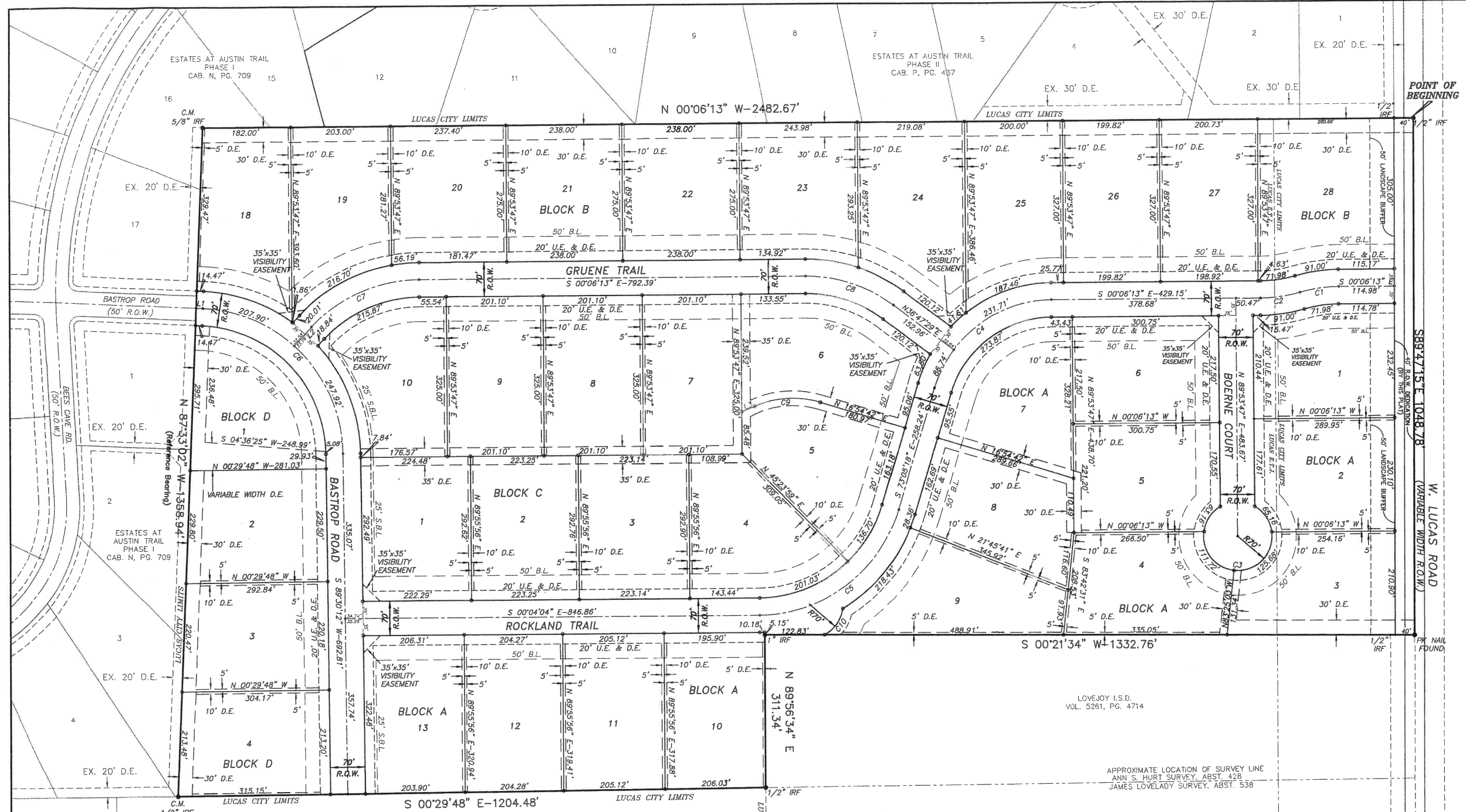
FINAL PLAT FOR ROCKLAND FARMS BEING 38 LOTS OUT OF 68.48 ACRES LOTS 1-13, BLOCK A, LOTS 18-28, BLOCK B LOTS 1-10, BLOCK C, LOTS 1-4, BLOCK D IN THE ANN S. HURT SURVEY, ABSTRACT NO. 428 IN THE CITY OF LUCAS, COLLIN COUNTY, TEXAS

OWNED BY: ROCKLAND FARMS, LTD., A TEXAS LIMITED PARTNERSHIP, BY SPINDROBE INVESTMENTS, INC., A TEXAS CORPORATION 6760 HILLGARY PLAZA, SUITE 300 DALLAS, TEXAS 75263 (972) 386-0203 FAX (972) 386-4190

ENGINEERED BY: CRANNELL, CRANNELL & MARTIN ENGINEERING 801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75026 (972) 694-8851

SUBMITTED BY: PEISER SURVEYING 801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75026 (972) 798-0776 PREPARED ON: FEB. 22, 2018 SHEET 1 OF 2 1" = 100' P-3897 UPDATED ON: MAY 02, 2018





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

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	BEARING
C1	81.49	300.00	15°33'49"	41.00	81.24	S07°53'07"E
C2	81.49	300.00	15°33'49"	41.00	81.24	N07°53'07"W
C3	366.52	70.00	300°00'00"	40.41	70.00	N00°06'13"W
C4	318.46	250.00	72°59'05"	184.94	297.36	S36°35'46"W
C5	382.33	300.00	73°01'14"	222.07	356.98	N36°34'41"W
C6	455.81	300.00	87°03'14"	284.96	413.22	S45°58'35"W
C7	244.39	300.00	46°40'27"	129.43	237.68	S23°26'26"E
C8	193.18	300.00	36°53'42"	100.07	189.86	S18°20'38"W
C9	138.76	200.00	39°45'06"	72.30	135.99	S02°57'51"E
C10	68.40	70.00	55°59'18"	37.21	65.71	N54°06'44"W

LINE TABLE		
LINE	LENGTH	BEARING
L1	14.47	N02°26'58"E
L2	52.60	N46°46'40"W
L3	28.95	N22°50'24"W

ACREAGE		
TOTAL	R.O.W.	NET
68.48 AC	10.04 AC	58.44 AC

LEGEND	
	DENOTES 1/2" IRON ROD FOUND UNLESS NOTED OTHERWISE
	DENOTES 5/8" IRON ROD FOUND WITH RED PLASTIC CAP MARKED RPLS#3688 UNLESS NOTED OTHERWISE
B.L.	BUILDING LINE
S.B.L.	STREET ADJACENT SIDE BUILDING LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
IRF	IRON ROD FOUND
C.M.	CONTROLLING MONUMENT

NOTES:  
1.) DRAINAGE EASEMENTS (DITCHES & CULVERTS) TO BE MAINTAINED BY INDIVIDUAL LOTS OWNERS

BLOCK	LOT	AREA (SF)
BLOCK A	1	65,365 SF
	2	65,350 SF
	3	65,363 SF
	4	65,796 SF
	5	65,342 SF
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	8	65,449 SF
	9	66,191 SF
	10	65,341 SF
	11	65,359 SF
	12	65,403 SF
	13	65,984 SF
BLOCK B	18	66,419 SF
	19	65,381 SF
	20	65,372 SF
	21	65,450 SF
	22	65,450 SF
	23	67,750 SF
	24	77,659 SF
	25	68,695 SF
	26	65,342 SF
	27	65,343 SF
BLOCK C	1	65,352 SF
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**FINAL PLAT**  
FOR  
**ROCKLAND FARMS**  
BEING 38 LOTS OUT OF 68.48 ACRES  
LOTS 1-13, BLOCK A  
LOTS 18-28, BLOCK B  
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COLLIN COUNTY, TEXAS  
DEVELOPED BY:  
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(972) 386-3333 FAX (972) 386-6190  
ENGINEERED BY:  
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801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75028  
(972) 691-6833  
SURVEYED BY:  
PEISER SURVEYING  
801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75028  
(972) 724-6776  
PREPARED ON: DEC. 5, 2005 SHEET 1 OF 2 1" = 100'

CENTRAL NORTH CONSTRUCTION LLC  
VOL. 5869 PG. 4515

McCAMY PROPERTIES, LTD.  
C.C. FILE NO. 94-0641597

APPROXIMATE LOCATION OF SURVEY LINE  
ANN S. HURT SURVEY, ABST. 428  
JAMES LOVELADY SURVEY, ABST. 538

LOVEJOY I.S.D.  
VOL. 5261, PG. 4714

LEGAL DESCRIPTION

STATE OF TEXAS X  
COUNTY OF COLLIN X

Being a 68.48 acre tract of land situated in the ANN S. HURT SURVEY, ABSTRACT NO. 428, being all of that certain tract of land conveyed to Wilpat Real Estate Partners, by deed recorded in Volume 5699, Page 2471 of the Deed Records of Collin County, Texas, and being more particularly described as follows:

BEGINNING at a 1/2 inch iron set in the asphalt pavement at the northwest corner of said Wilpat tract, and being in the approximate centerline of West Lucas Road (a variable-width Right-of-Way);

THENCE South 89°47'15" East, along the centerline of West Lucas Road, more or less, a distance of 1048.78 feet to a PK nail found for corner, said point being the northeast corner of said Wilpat tract, and being the northwest corner of a tract of land conveyed to Lovejoy I.S.D., by deed recorded in Volume 5261, Page 4714, of the Deed Records of Collin County, Texas;

THENCE South 00°21'34" West, along the common of said Wilpat tract, and said Lovejoy I.S.D. tract, passing a 1/2 inch iron rod found at a distance of 50.07 feet, and continuing a total distance of 1332.76 feet to a 1 inch iron rod found for corner, said point being the southwest corner of said Lovejoy I.S.D. tract;

THENCE North 89°56'34" East, along the common line of said Wilpat tract, and said Lovejoy I.S.D. tract, a distance of 311.34 feet to a 1/2 inch iron rod found for corner, said point being the northwest corner of a tract of land conveyed to McCamy Properties, Ltd. by deed recorded in County Clerk's File No. 94-0041597, of the Deed Records of Collin County, Texas;

THENCE South 00°29'48" East, along the common line of said Wilpat tract, and said McCamy tract, a distance of 1204.48 feet to a 1/2 inch iron rod found for corner, said point being the southeast corner of said Wilpat tract, and being the northeast corner of the Estates at Austin Trail, Phase I, an addition to the City of Lucas, according to the plat thereof recorded in Cabinet N, Slide 709, of the Plat Records of Collin County, Texas;

THENCE North 87°33'02" West, along the common line of said Wilpat tract, and said Estates at Austin Trail, Phase I, a distance of 1358.84 feet to a 5/8 inch iron rod found for corner, said point being the southwest corner of said Wilpat tract;

THENCE North 00°06'13" West, passing at 252.14 feet a 5/8 inch iron rod found for corner, said point being the southeast corner of Estates at Austin Trail, Phase II, an addition to the City of Lucas, according to the plat thereof recorded in Cabinet P, Slide 437, of the Plat records of Collin County, Texas, and continuing for a distance of 2442.68 feet to a 1/2 inch iron rod found for the northeast corner of said Estates at Austin Trail, Phase II, and continuing a total distance of 2482.67 feet to the POINT OF BEGINNING and containing 2,982,944 square feet or 68.48 acres of computed land.

SURVEYOR'S CERTIFICATE

STATE OF TEXAS §  
COUNTY OF DALLAS §

THIS IS TO CERTIFY THAT I, HUGH E. PEISER, A REGISTERED PROFESSIONAL LAND SURVEYOR OF THE STATE OF TEXAS, HAVE PLATTED THE ABOVE SUBDIVISION FROM AN ACTUAL SURVEY ON THE GROUND, AND THAT ALL THE LOT CORNERS, ANGLE POINTS AND CURVES HAVE BEEN PROPERLY MARKED ON THE GROUND.

PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE 12-05-05  
Hugh E. Peiser, R.P.L.S. No. 3688  
Peiser Surveying Co., Inc.  
801 ENTERPRISE DRIVE  
FLOWER MOUND, TEXAS 75028

STATE OF TEXAS §  
COUNTY OF DALLAS §

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR DALLAS COUNTY, TEXAS, ON THIS DAY PERSONALLY APPEARED HUGH E. PEISER KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSE AND CONSIDERATIONS THEREIN

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

NOTARY PUBLIC IN AND FOR DALLAS COUNTY, TEXAS

OWNERS DEDICATION

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

THAT SPRING HAVEN INVESTMENTS do hereby adopt this plat, designating the herein above described property as ROCKLAND FARMS an addition to the City of Lucas, Collin County, Texas and do hereby dedicate, in fee simple, to the public use forever the streets and alleys shown thereon. The easements shown thereon are hereby reserved for the purpose indicated. The utility and fire lane easements shall be open to the public, fire and police units, garbage and rubbish collection agencies, and all public and private utilities for each particular use. The maintenance of paving on the utility and fire lane easements is the responsibility of the property owner. No buildings, fences, trees, shrubs or other improvements or growths shall be constructed reconstructed or placed upon, over or across the easements as shown. Said easements being hereby reserved for the mutual use and accommodation of all public utilities using or desiring to use same. All, and any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths which in any way may endanger or interfere with the construction, maintenance or efficiency of its respective system on the easements, and all public utilities shall at all times have the full right of ingress and egress to or from and upon the said easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining an adding to or removing all or parts of its respective systems without the necessity at any time of procuring the permission of anyone. (Any public utility shall have the right of ingress and egress to private property for the purpose of reading meters and any maintenance of service required or ordinarily performed by that utility).

Water main and wastewater easements shall also include additional area of working space for construction and maintenance of the systems. Additional easement area is also conveyed for installation and maintenance of manholes, cleanouts, fire hydrants, water services and wastewater services from the main to the curb or pavement line, and description of such additional easements herein granted shall be determined by their location as installed.

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

WITNESS, my hand at \_\_\_\_\_, Texas, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

OWNER \_\_\_\_\_

OWNER \_\_\_\_\_

WITNESS, my hand at \_\_\_\_\_, Texas this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

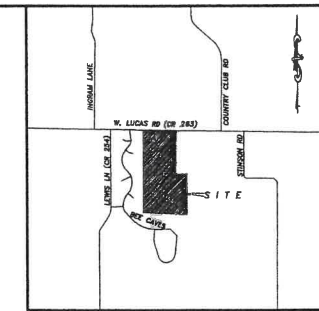
BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

STATE OF TEXAS §  
COUNTY OF DALLAS §  
BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR DALLAS COUNTY, TEXAS, 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 EXECUTED THE SAME FOR THE PURPOSE AND CONSIDERATIONS THEREIN

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

NOTARY PUBLIC IN AND FOR DALLAS COUNTY, TEXAS



VICINITY MAP  
(NOT TO SCALE)

RECOMMENDED FOR APPROVAL

Chairman, Planning and Zoning Commission \_\_\_\_\_ Date  
City of Lucas, Texas

APPROVED FOR CONSTRUCTION

Mayor, City of Lucas, Texas \_\_\_\_\_ Date

The undersigned, the City Secretary of the City of Lucas, Texas, hereby certifies that the foregoing final plat of the \_\_\_\_\_ Subdivision or Addition to the City of Lucas was submitted to the City Council on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, and the Council, by formal action, then and there accepted the dedication of streets, alleys, parks, easements, public places, and water and sewer lines, as shown and set forth in and upon said plat, and said Council further authorized the Mayor to note the acceptance thereof for construction by signing his/her name as hereinabove subscribed.

Witness my hand this \_\_\_ day of \_\_\_\_\_ A.D., 20\_\_.

City Secretary  
City of Lucas, Texas

FINAL PLAT  
FOR  
ROCKLAND FARMS

BEING 38 LOTS OUT OF 68.48 ACRES  
LOTS 1-13, BLOCK A  
LOTS 18-28, BLOCK B  
LOTS 1-10, BLOCK C  
LOTS 1-4, BLOCK D

IN THE  
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ENGINEERED BY:  
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801 ENTERPRISE DRIVE FLOWER MOUND, TEXAS 75028  
(972) 691-6833

SURVEYED BY:  
PEISER SURVEYING  
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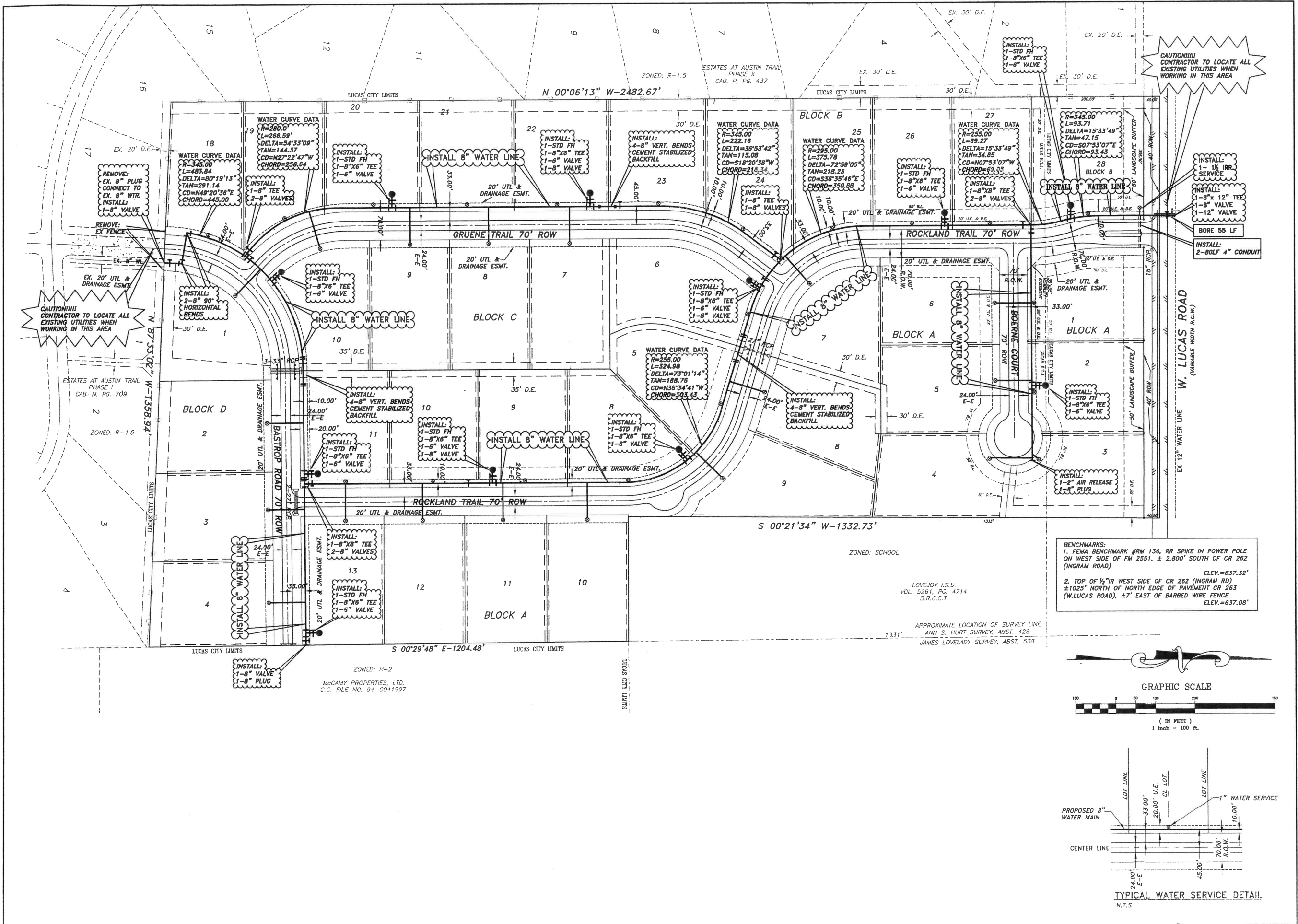


**Engineering Corporation**  
 801 Enterprise Drive  
 Flower Mound, Texas 75028

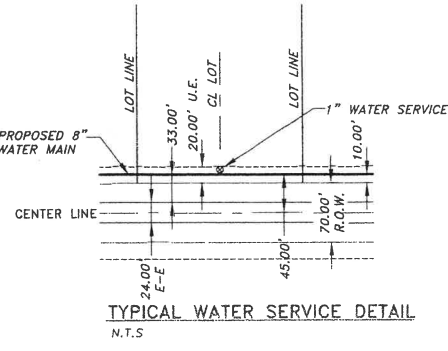
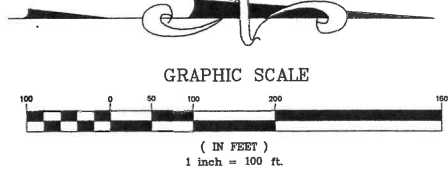
Ph: (972) 691-6633 Fax: (972) 691-6628



**WATER PLAN**  
**ROCKLAND FARMS**  
 COLLIN COUNTY, TEXAS



**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ± 1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W. LUCAS ROAD), ± 7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



**REVISIONS**

1	
2	
3	
4	

DESIGN: ROV  
 DRAWN: MIR  
 DATE: 12-13-05  
 SCALE: 1" = 100'  
 NOTES:  
 FILE:  
 Sheet 4 of 26



**GENERAL NOTES:**

Fire hydrants shall conform strictly to AWWA Specifications C-502, Fire Hydrants for Ordinary Water Works Service with the following supplementary details and changes or additions.

A. Fire hydrants shall meet the requirements of the Texas Fire Insurance Division of the State Board of Insurance Commissioners.

B. Type of shut-off may be compression type with the flow.

C. Unless otherwise ordered, inlet connections shall be six inch (6") standard mechanical joint hub, complete with all joint accessories. Inlet valve shall have not less than a five and one quarter inch (5-1/4") opening. Hydrant barrel I. D. shall not be less than seven and one quarter inches (7-1/4").

D. All hydrant connections shall be equipped with two (2) hose connectors and one (1) steamer connector. The hose connectors shall be two and one-half inches (2-1/2") nominal I. D. National Standard Thread. Pumper nozzle shall be four and one half inches (4.5") nominal I. D., National Standard Thread. All connectors shall be mechanically attached. The pumper connection (4.5") shall be installed to face the city street.

E. Positive operating drain valve or valves shall be provided to drain the hydrant properly. The seat of the drain valve shall be bronze (or other corrosion-resistant material), fastened securely to the hydrant. Stem threads shall be sealed away from water.

F. All fire hydrants shall be painted with two (2) coats of aluminum paint over one (1) shop coat of red primer paint. The hydrants shall receive a final coat of paint as follows:  
**BONNET COLOR CODE**  
 Under 4 inches Black  
 4 inches Red  
 6 inches Silver  
 8 inches Blue  
 10 inches and over Yellow

G. All fire hydrants shall open by turning to the left (counter-clockwise).

H. Unless otherwise ordered, hydrants shall be furnished for a four-foot (4') depth of bury. Lower barrel must be one (1) piece.

I. Hydrants shall be of the breakable type, designed to break approximately three inches (3"), but not over five inches (5") above the ground line. These parts shall be of the breakable flange type, or breakaway lug. Breakable flanges screwed to the standpipe are not acceptable. Flanges shall be so designed that an end wrench can be used on the nuts and bolts. Provision shall be made in the design of the stem to disconnect the stem from the hydrant parts above the standpipe break point in the event of a traffic accident. If breakable or sleeve type couplings are used, they shall have sufficient torsion strength such that a torsion failure of the stem will occur at some point other than at the coupling. Design of the coupling shall be such that when the coupling is broken no parts will come loose and fall into the hydrant.

J. All hydrants shall be capable of being extended to accommodate future grade changes.

K. Main valve seats on compression type hydrants closing with the flow shall be of such design that incorrect positioning is impossible and that the threads will be adequately guided into position. Arrangements shall also be made to hold the main valve gasket in place during assembly. Stainless steel bolts shall be furnished on the lower barrel to shoe connection.

L. Gaskets furnished for ground line flanges shall be full face or shall be recessed to hold the gasket in place.

M. "O" - rings may be furnished in lieu of packing. They shall be the double "O"-ring type, designed so that the rubber rings move against a bronze surface. All hydrants must have travel stop device. Those using stem nut must be capable of being removed without any special tools. Any packing gland nut must be bronze.

N. Hydrants must be so constructed that the nozzle may face any direction and may be located eighteen inches (18") from ground line.

O. Each hydrant must have a sealed oil reservoir to provide positive lubrication of stem threads and bearing surfaces each time the hydrant is operated or shall be provided with a lifetime lubrication system contained in a grease chamber filled with an oil temperature (-50 deg. F to 125 deg. F) grease.

P. All hydrants must be equipped with a water cap to prevent water from entering the bonnet.

Q. Each hydrant shall have a 4 mil epoxy coating on the interior of the shoe.

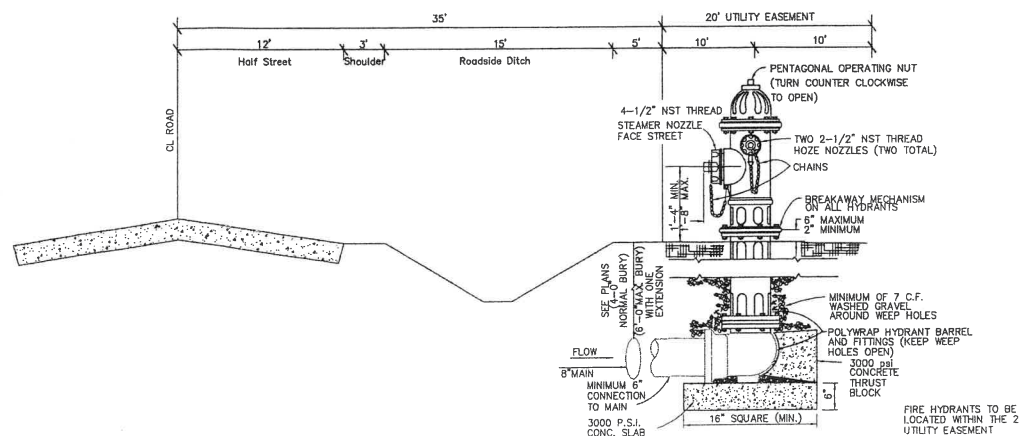
R. In order to maintain a manageable parts inventory, to ensure and a working knowledge of fire hydrants and valves, the following hydrants are approved: Waterous, and Mueller, which meet the standards of the City of Lucas.

S. Iron or steel stems shall have bronze or stainless steel metal sleeves where passing through stuffing sealed against contact with the water at all times regardless of open or closed position of the main valve.

T. The hydrants shall close with the pressure and shall have either a bronze cap nut to seal the bottom end of stem threads against contact with water, or the stem shall not penetrate the lower valve plate.

**Fire hydrant installation**  
 All fire hydrants shall be located as shown on the plans or as directed by the City Engineer and shall be set truly vertical with the base resting upon a stone or concrete slab four inches (4") thick and approximately twelve inches (12") square. The base of the hydrant shall be surrounded by not less than two (2) cubic feet of clean crushed stone or gravel, a size of one inch (1") to two inches (2"). Pipe joints shall be made as specified for pipe laying. The hydrants shall be carefully and substantially blocked against firm trench walls with sound stone, sound slabs of old concrete or 2000 p. s. i. concrete, but no additional pay will be allowed for same.

**TYPICAL FIRE HYDRANT DETAIL**



**GENERAL NOTES:**

1. All water lines shall be constructed of approved materials. Main distribution lines and feeder lines shall be constructed of Class 160 or higher-grade polyvinyl chloride pipe with joint connections of the same material. Customer service lines may be constructed of copper tubing, Type K for underground service and Type L for interior and other services or polyvinyl chloride pipe, Class 160. Rings shall be natural rubbers.

2. Main distribution lines, feeder lines and water meters shall be located within the utility easement. Main distribution lines and feeder lines shall not be closer than two and one half (2-1/2) feet to the boundary of the easement as measured from the closest surface of the pipe to the boundary of the easement. Water meters shall not be located outside of the easements and right-of-way, but shall not be more than one (1) foot from the extreme point of the meter to the boundary of the easement.

3. Water mains and feeder lines shall be embedded in trenches so as to provide a back fill depth of not less than forty two (42) inches from the surface grade to the top of the pipe. A minimum of four (4) inches of crushed stone bedding shall be between the lower surface of the pipe and the bottom of the trench. A minimum of six (6) inches of bedding sand shall cover the top surface of the pipe. The pipe may be laid with gradual curves but is limited to curves with a minimum radius of one hundred (100) feet for pipe two (2) inches and smaller in diameter. No pipe will be permitted to be deflected at the joint. Thrust blocks of concrete shall be used at all ties and bends and be computed for no less than one hundred sixty (160) pounds per square inch of internal pressure.

4. All improvements proposed for any subdivision shall be constructed in accordance with the current "Standard Specifications for Public Works Construction" published by the North Central Texas Council of Governments.

A. From and after July 1, 1994, all streets and roads constructed in the City of Lucas shall be constructed of concrete in accordance with the standards of the City of Lucas and the specifications as approved by the Lucas City Engineer.

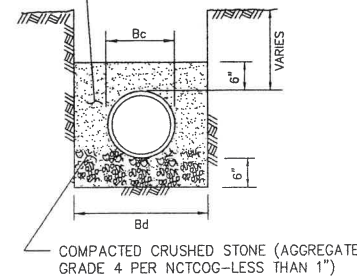
5. The contractor shall furnish a good and sufficient maintenance bond in the amount of ten percent (10%) of the total cost or contract price of each job, with a reputable and solvent corporate surety licensed to write insurance in the State of Texas, in favor of the City, to indemnify the City against any repairs which may become necessary to any part of the construction work performed in connection with the subdivision, arising from defective workmanship or materials used therein, for a full period of two (2) years from the date of final acceptance of the entire project. Final acceptance shall be withheld until said maintenance bond is furnished to the City.

6. No acceptance will be given on any work covered before the official representing the City has inspected the work.

7. A minimum of a eight-hour advance notice must be given before the designated City Official is expected at the job site. Any work or improvements covered before inspections must be uncovered.

8. Within thirty (30) days of acceptance of the subdivision, the engineer for the developer shall submit to the City a complete set of reproducible drawings of the paving, drainage, water and sanitary sewer improvements, if any, showing all changes made in the plans during construction and containing on each sheet an "Record-Drawing" stamp bearing the signature of the engineer and the date. In addition, a reproducible drawing of the utility plan sheets, containing the Record-Drawing information, shall be submitted to the City.

CLEAN SAND COMPACTED TO 90% STD PROCTOR DENSITY



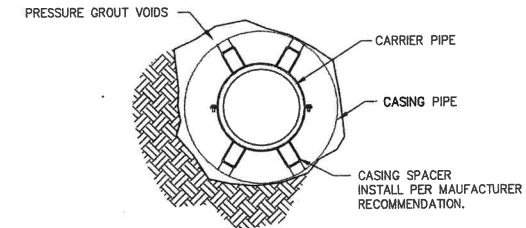
**NOTES:**

- Bc = OUTSIDE DIAMETER OF PIPE
- Bd = TRENCH WIDTH - MINIMUM 12" GREATER THAN Bc
- LOCATOR/METAL TAPE TO BE INSTALLED IN TRENCH 12"-18" BELOW SURFACE.

**WATERLINE EMBEDMENT**

**BORING & CASING GENERAL NOTES**

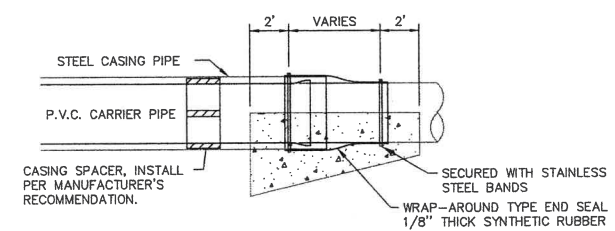
- ENCASEMENT PIPE SPECIFICATION: SMOOTH STEEL PIPE, MINIMUM WALL THICKNESS OF 1/4", WITH BITUMINOUS COATING. ALL ENCASEMENT PIPE SHALL BE NEW AND HAVE A MINIMUM YIELD STRENGTH OF 35,000 P.S.I.
- CARRIER PIPE TO BE MADE UP OUTSIDE THE ENCASEMENT PIPE AND PUSHED THROUGH THE ENCASEMENT PIPE AND SUPPORTED WITH CASING SPACERS.
- DRY MECHANICAL BORES SHALL BE USED FOR BORES WITH ENCASEMENT PIPE.
- ALL VOIDS BETWEEN BORE WALL AND ENCASEMENT PIPES (CARRIER PIPE IF NO ENCASEMENT IS USED) SHALL BE FILLED WITH GROUT PER ASTM C 476.
- WHERE CIRCUMSTANCES NECESSITATE THE EXCAVATION OF A BORE PIT OR TRENCH CLOSER TO THE EDGE OF PAVEMENT THAN SET FORTH ON THIS SHEET, GUARD FENCE OR OTHER APPROVED PROTECTIVE DEVICES WILL BE INSTALLED FOR THE PROTECTION OF THE TRAVELING PUBLIC.
- CONCRETE SHALL BE 2000 P.S.I.
- THE MINIMUM INSIDE DIAMETER OF THE ENCASEMENT PIPE SHALL BE 18".



**NOTES:**

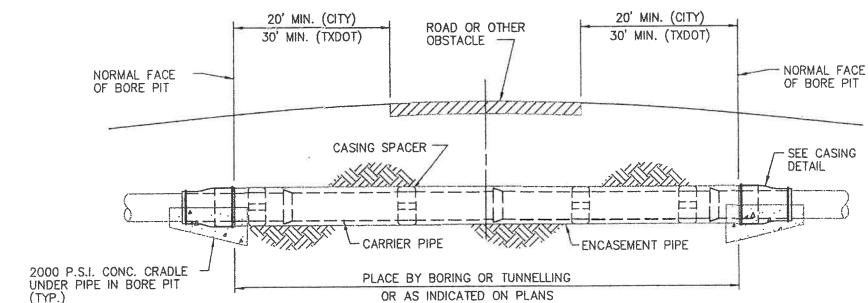
- CARRIER PIPE SHALL BE INSTALLED IN CASING PIPE WITH CASING SPACERS. STRAPPED TO CARRIER PIPE. (PIPE BELLS SHALL NOT REST ON STEEL CASING PIPE)
- CASING SPACERS, INCLUDING PARTS SHALL BE PVC PLASTIC AND/OR 304 STAINLESS STEEL TO BE MANUFACTURED BY: PIPELINE SEAL AND INSULATOR, INC. OR APPROVED EQUAL.

**PIPE SECTION**



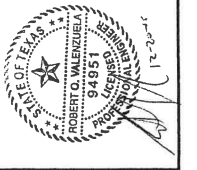
NOTES:  
 WRAP-AROUND END SEAL TO BE Model AW, AS MANUFACTURED BY ADVANCED PRODUCTS & SYSTEMS, INC. OR EQUAL

**END SEAL CASING DETAIL**



**BORED & CASSED CROSSING**

**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



Engineering Corporation  
 801 Enterprise Drive  
 Flower Mound, Texas 75028  
 Ph: (972) 691-6633 Fax: (972) 691-6628



**GENERAL NOTES**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

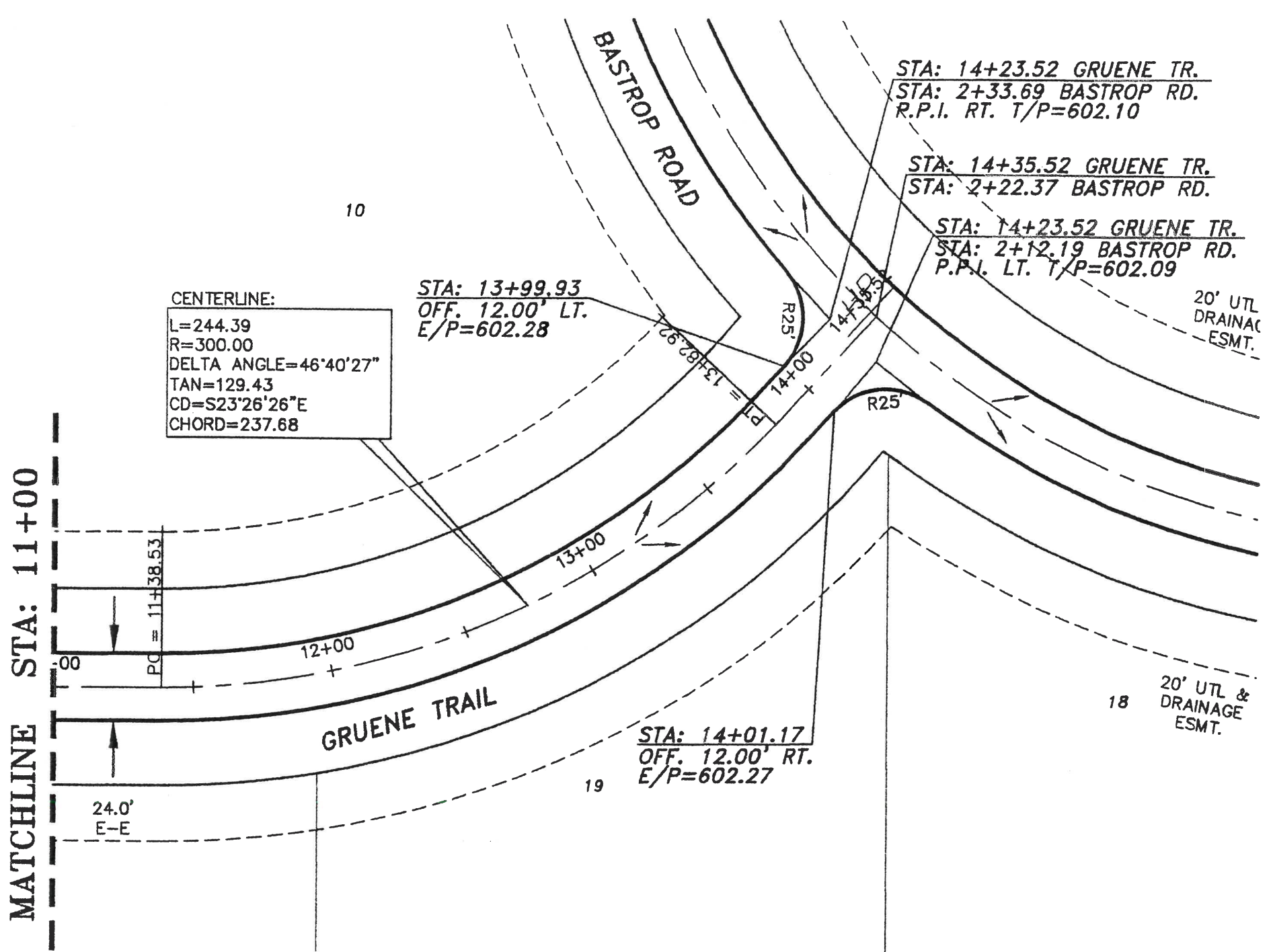
REVISIONS

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 DRAWN: ROV  
 DATE: 12-13-05  
 SCALE: 1"=100'  
 NOTES:  
 FILE:









CENTERLINE:  
 L=244.39  
 R=300.00  
 DELTA ANGLE=46°40'27"  
 TAN=129.43  
 CD=S23°26'26"E  
 CHORD=237.68

STA: 13+99.93  
 OFF. 12.00' LT.  
 E/P=602.28

STA: 14+23.52 GRUENE TR.  
 STA: 2+33.69 BASTROP RD.  
 R.P.I. RT. T/P=602.10

STA: 14+35.52 GRUENE TR.  
 STA: 2+22.37 BASTROP RD.

STA: 14+23.52 GRUENE TR.  
 STA: 2+12.19 BASTROP RD.  
 P.P.I. LT. T/P=602.09

STA: 14+01.17  
 OFF. 12.00' RT.  
 E/P=602.27

MATCHLINE STA: 11+00

NOTE:  
 95% STANDARD PROCTOR DENSITY IN 6"  
 MAXIMUM LIFTS. NO ROCKS OR  
 DELETERIOUS MATTER 6" OR LARGER  
 ALLOWED IN COMPACTED FILL.

BENCHMARKS:  
 1 FFMA BENCHMARK #BM 136 PP SPIKE IN POWER POLE



GRAPHIC SCALE

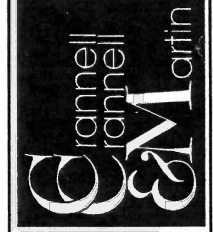








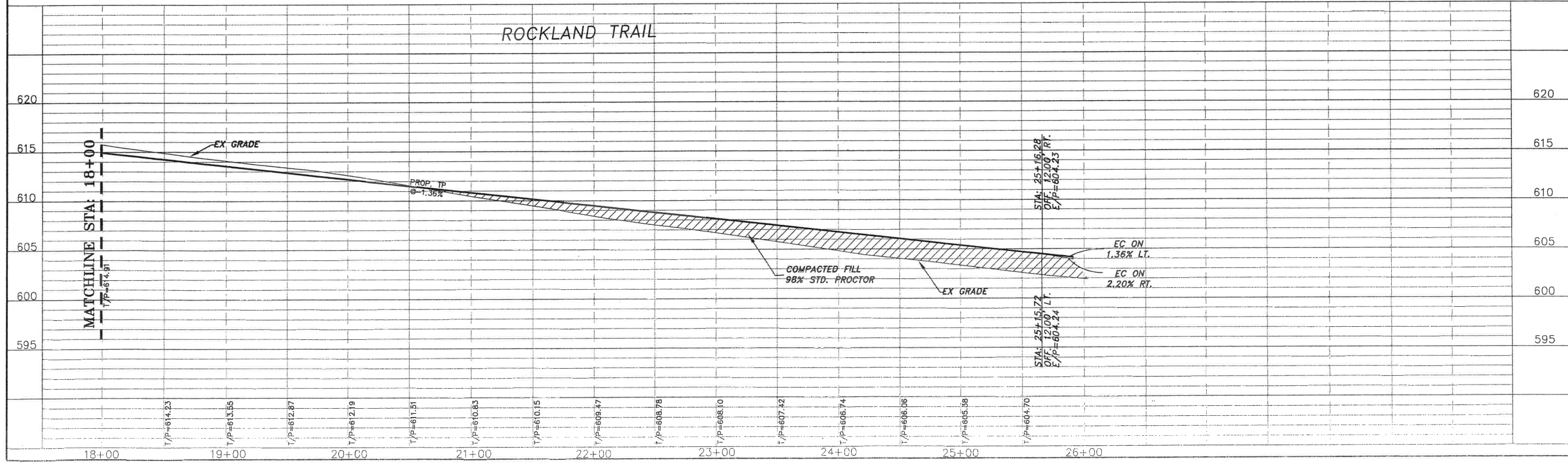
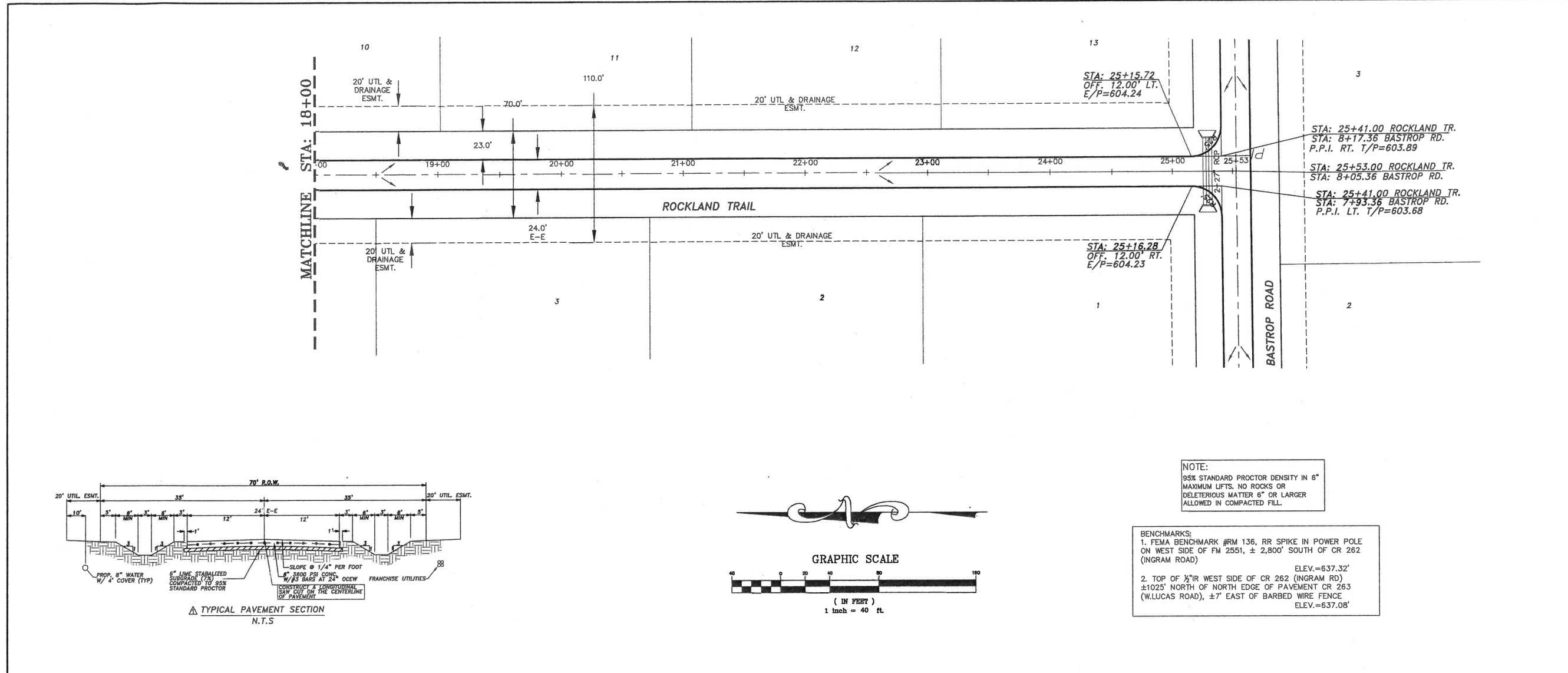
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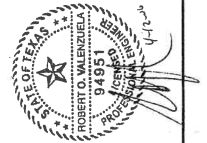
PAVING PLAN & PROFILE  
 ROCKLAND TRAIL  
 18+00 TO 25+53.00  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

REVISIONS	
△	REVISED PAVING CROSS SECTION
△	
△	
△	

DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES:  
 FILE:







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 801 Enterprise Drive  
 Flower Mound, Texas 75028

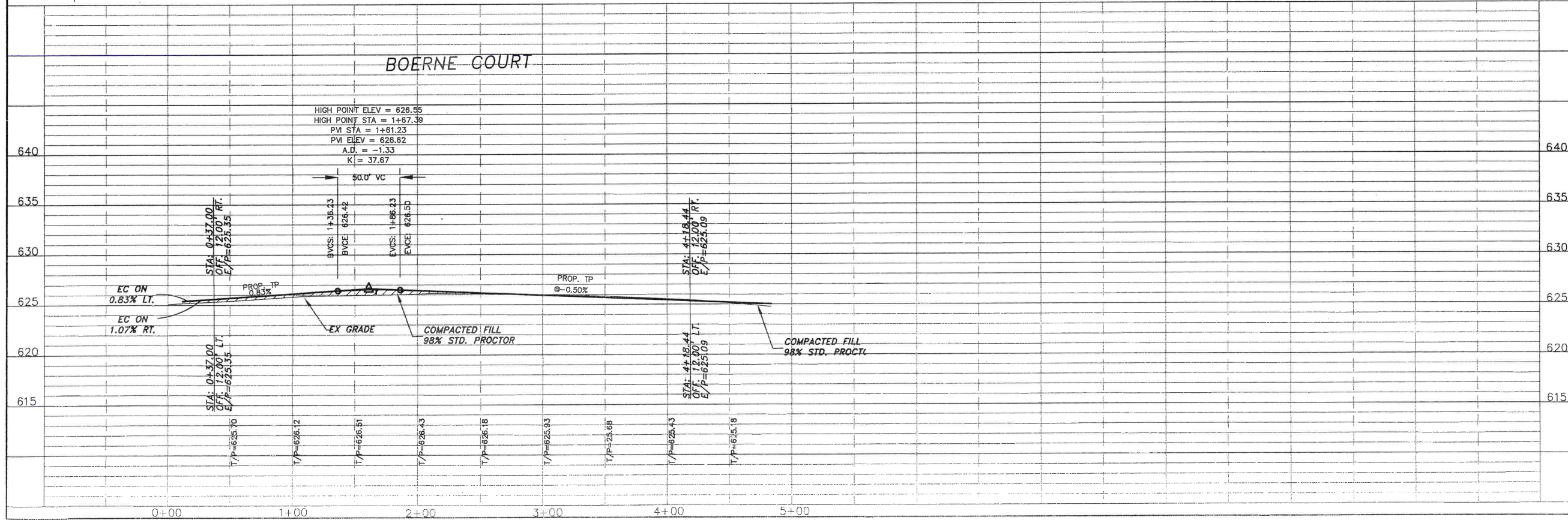
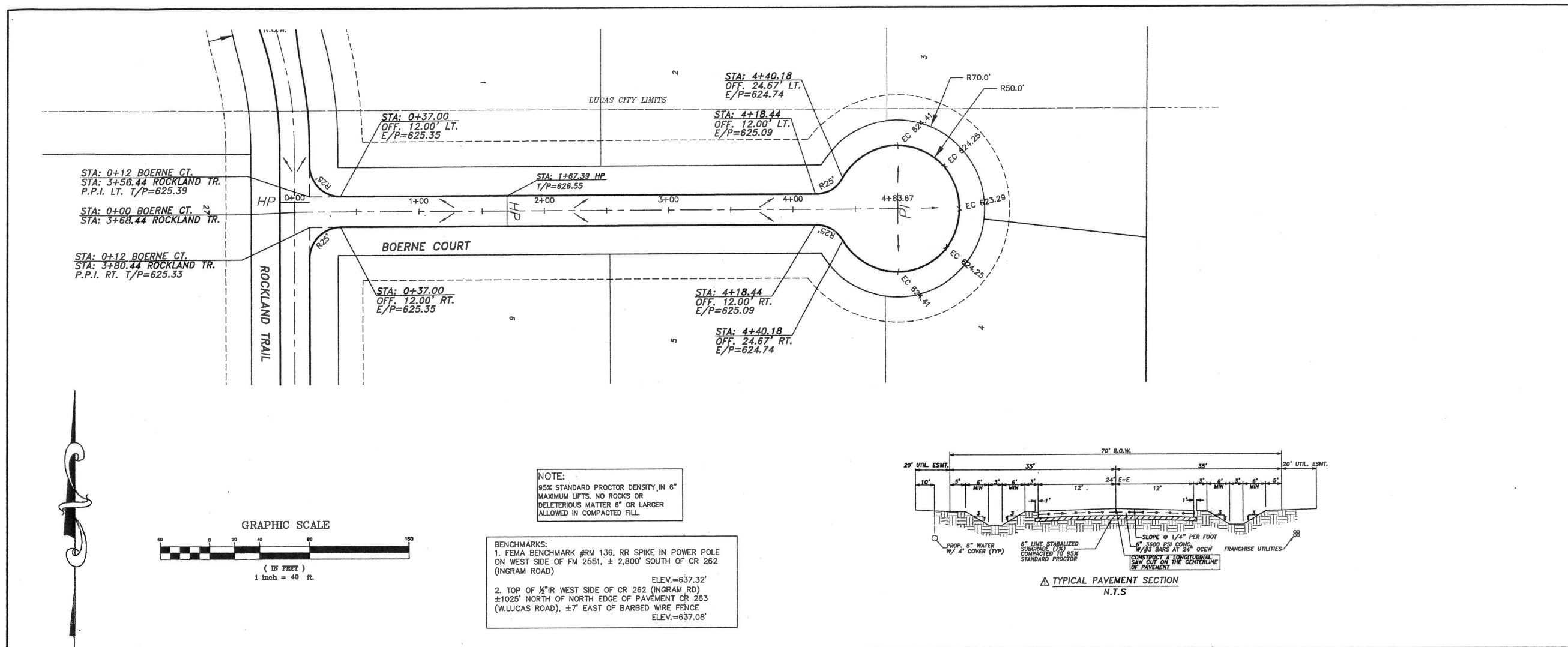
Ph: (972) 691-6633 Fax: (972) 691-6628



**PAVING PLAN & PROFILE**  
**BOERNE COURT**  
**0+00 TO 4+83.67**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS
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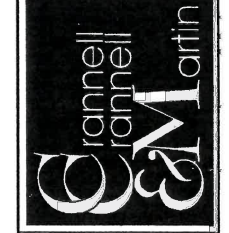
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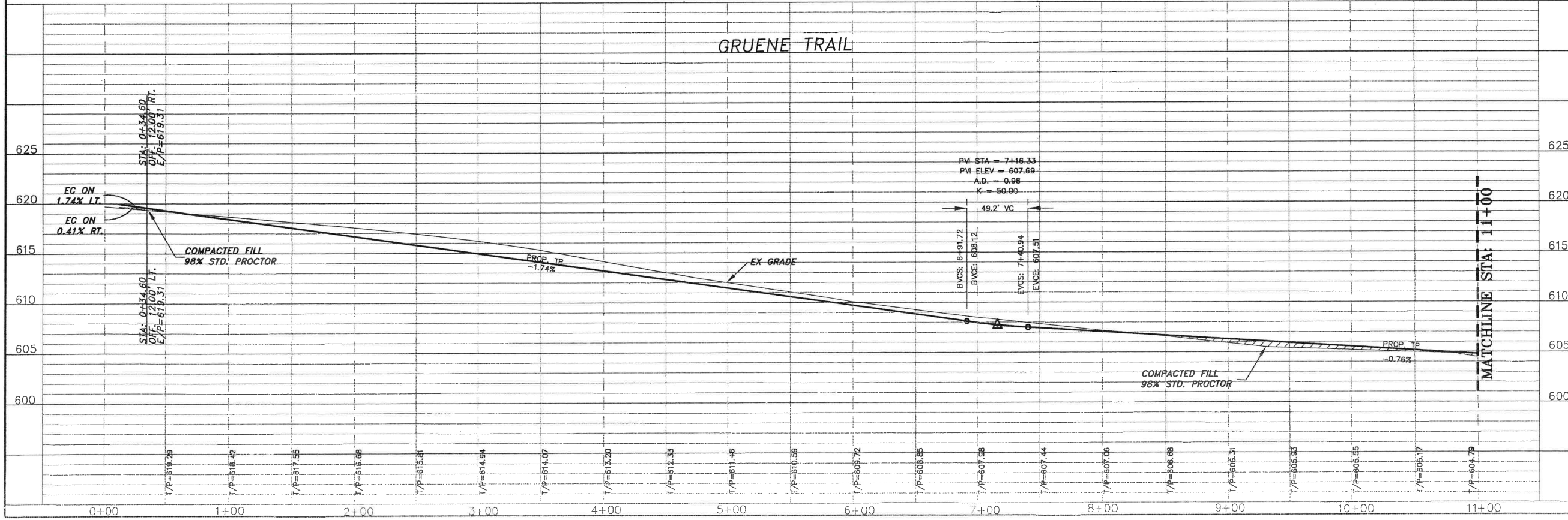
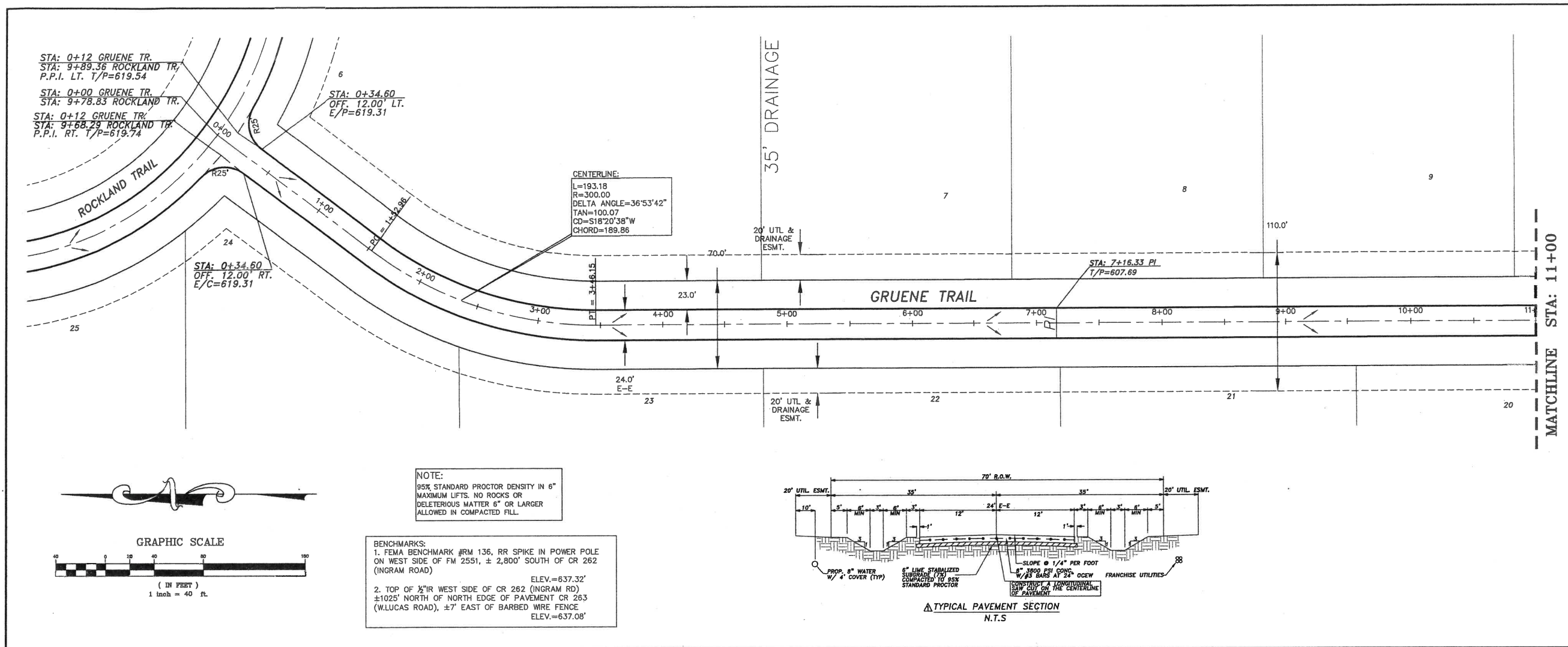
Engineering Corporation  
 801 Enterprise Drive  
 Flower Mound, Texas 75028  
 Ph: (972) 691-6653 Fax: (972) 691-6628



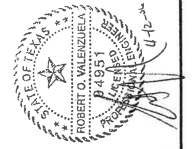
PAVING PLAN & PROFILE  
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 0+00 TO 11+00  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

REVISIONS	
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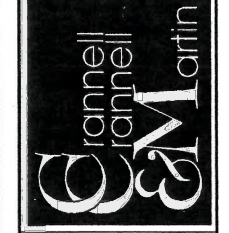
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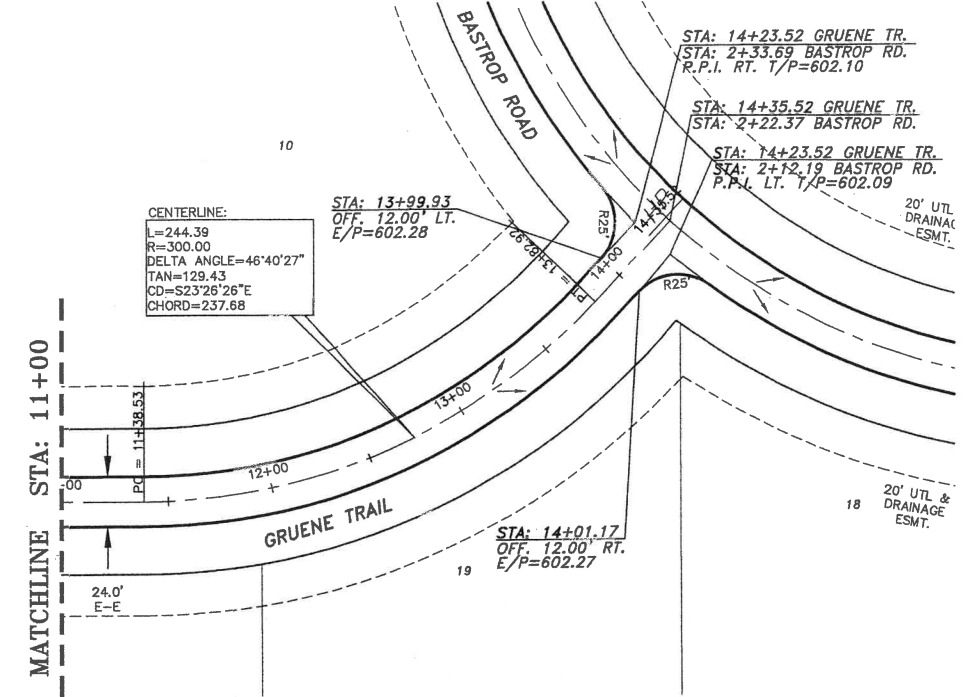
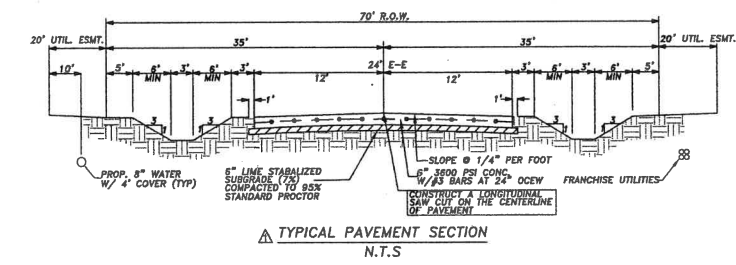
Engineering Corporation  
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PAVING PLAN & PROFILE  
 GRUENE TRAIL  
 11+00 TO 14+35.52  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

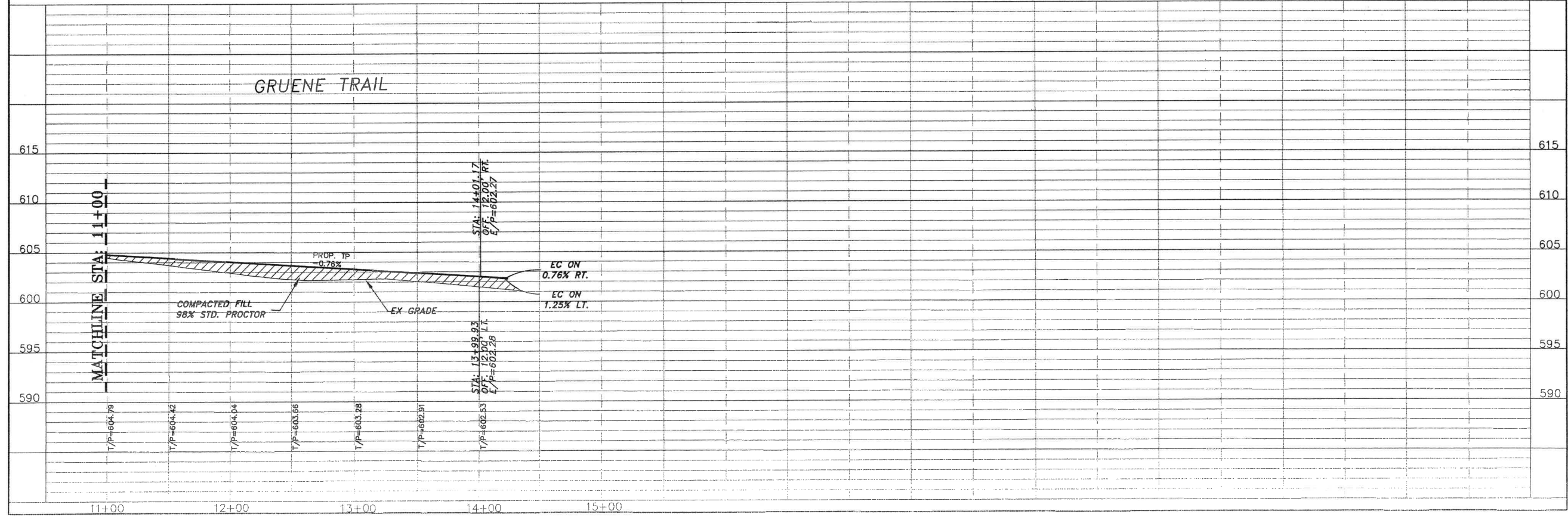
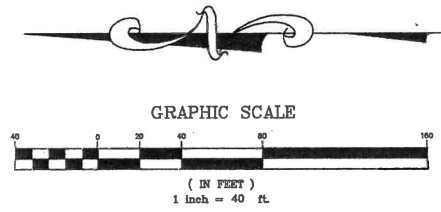
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DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H:1"=40' V:1"=5'  
 NOTES:  
 FILE:



NOTE:  
 95% STANDARD PROCTOR DENSITY IN 6\"/>

BENCHMARKS:  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2\"/>







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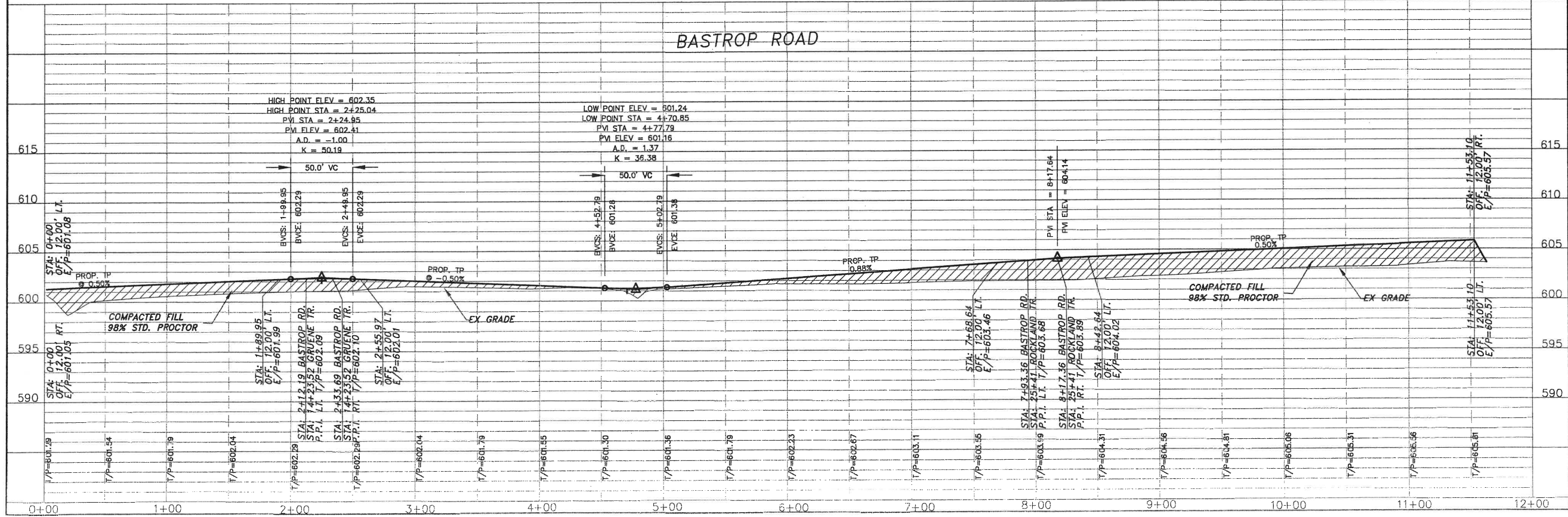
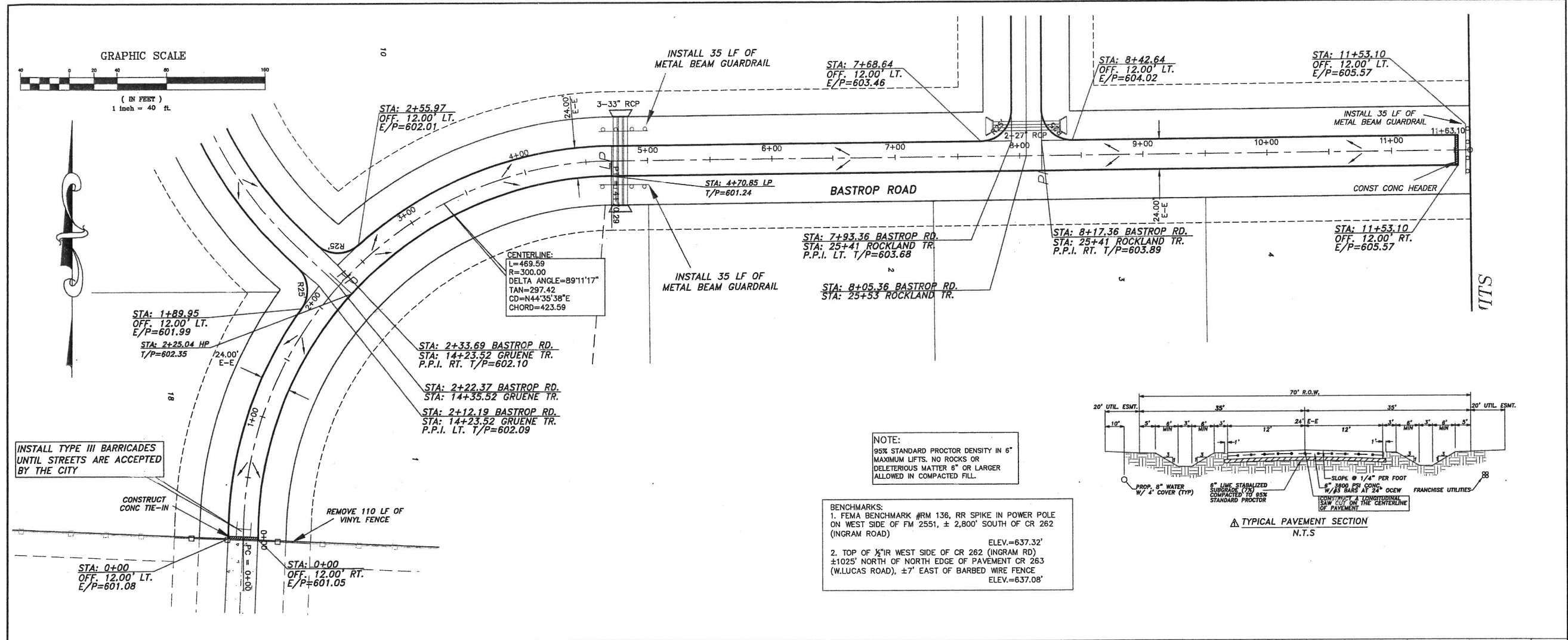


**PAVING PLAN & PROFILE**  
**BASTROP ROAD**  
**0+00 TO 11+63.10**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS

△	REVISED PAVING CROSS SECTION
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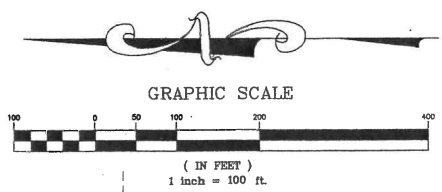
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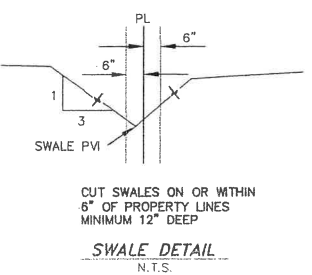
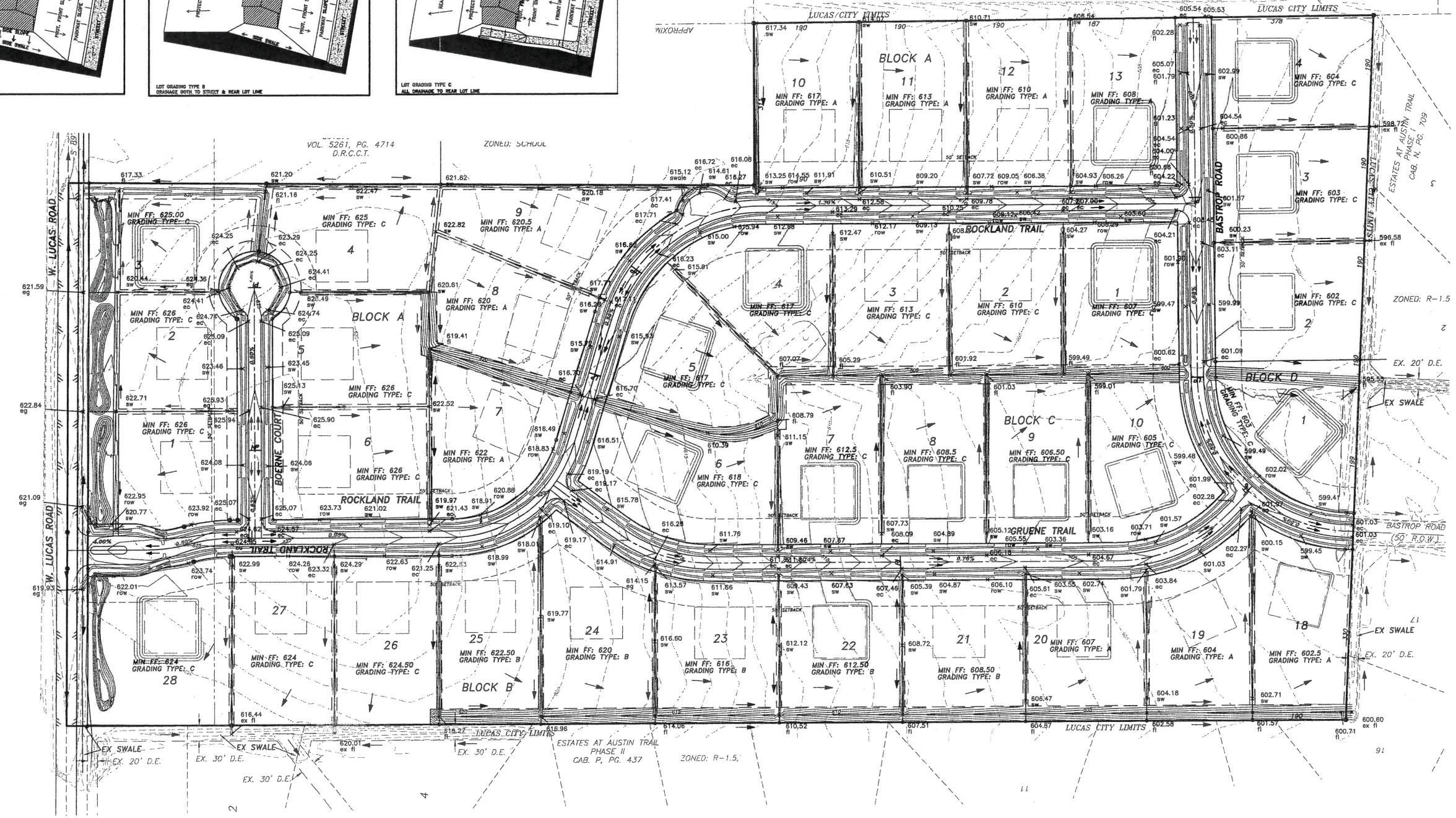
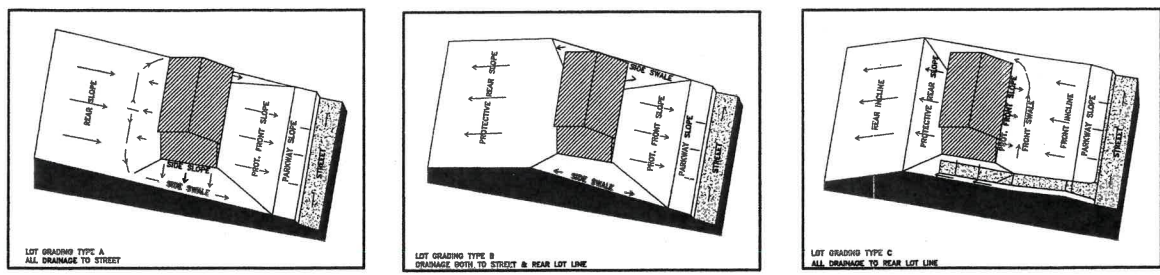




BENCHMARKS:  
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McCAMY PROPERTIES, LTD.  
C.C. FILE NO. 34-0641597  
ZONED: R-2



**GENERAL NOTES:**

1. THE PROCESS SHALL BE TESTED FOR COMPACTION IN EACH 8" LIFTS AND APPROVED BY AN APPROVED TESTING LABORATORY.
2. ALL SELECT BACKFILL SHALL NOT HAVE ROCK OR STONE (DEBRIS) LARGER THAN SIX(6") INCHES IN ALL DIRECTIONS.
3. ALL FILL MUST BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AT OPTIMAL MOISTURE.
4. AREAS WHICH FAIL THE COMPACTION TEST SHALL BE EXCAVATED, THE MATERIAL REPLACED (OR NEW MATERIAL IMPORTED, DEPENDING ON MOISTURE CONTENT) RECOMPACTED AND RETESTED.
5. ELEVATIONS SHOWN ARE FINISHED PAD ELEVATIONS.
6. EXCESS EXCAVATION SHALL BE DISTRIBUTED AS DIRECTED BY THE DEVELOPER'S ENGINEER.
7. FINISHED FLOOR (FF) ELEVATIONS SHALL BE A MINIMUM OF 1' ABOVE TOP OF CURB.
8. ANY WALL OVER 4" MUST BE ENGINEERED

LEGEND

- ec - edge of concrete
- sw - swale
- fl - flowline
- gb - gradebreak
- eg - existing grade
- - - - - proposed pad



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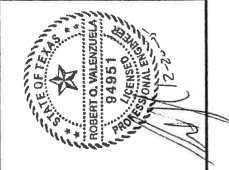
**GRADING PLAN**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS

NO.	DATE	REVISION

DESIGN: CDC  
DRAWN: CDC  
DATE: 12-05  
SCALE: 1"-100'  
NOTES:  
FILE:  
Sheet **13** of **26**

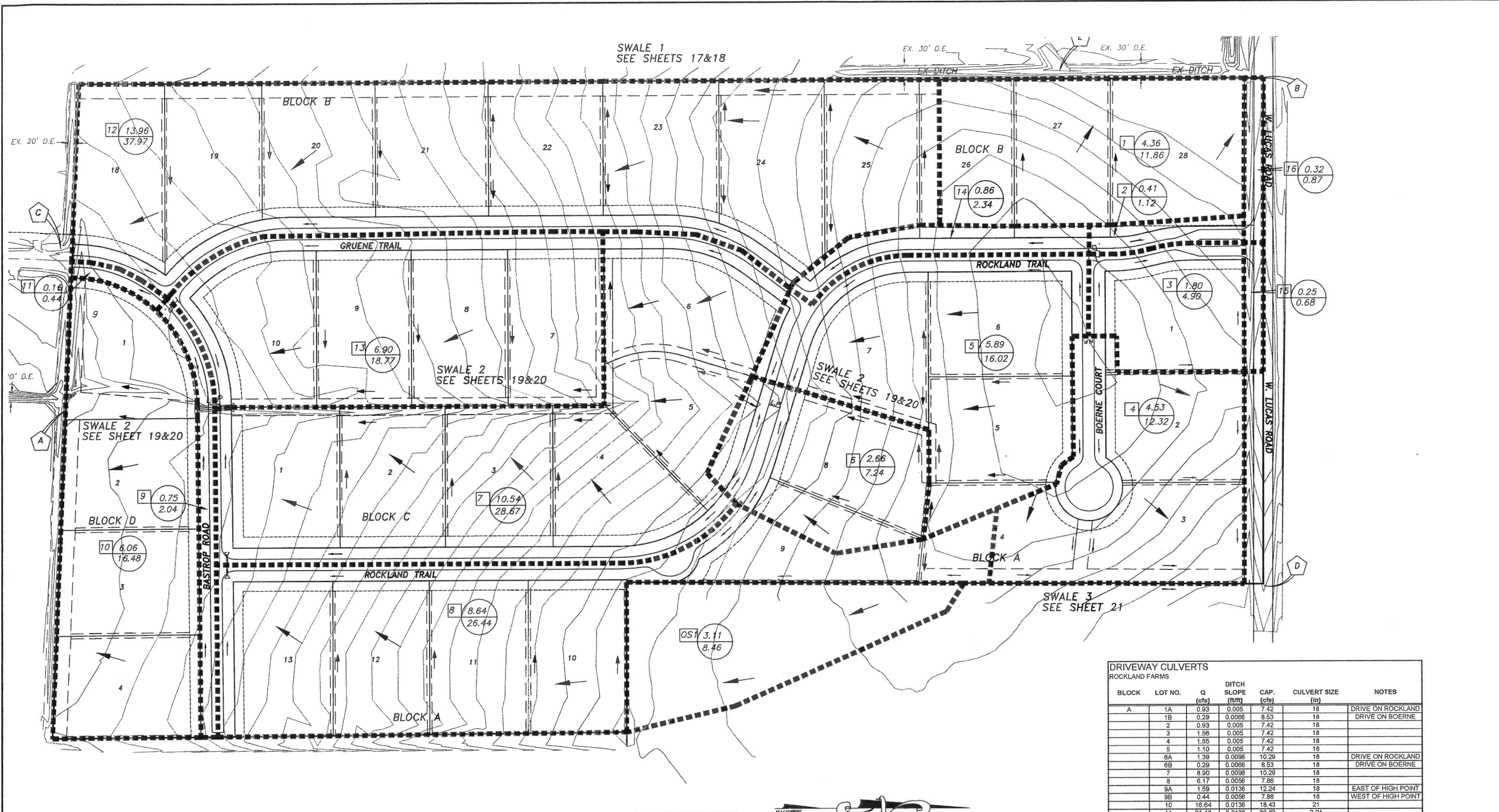




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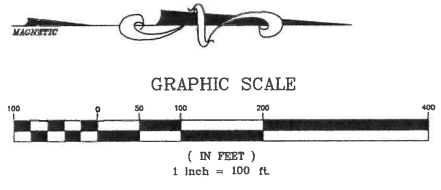


**DRAINAGE AREA MAP**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

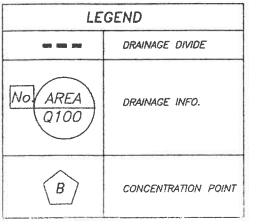


DRAINAGE CALCULATIONS 100 YEAR					
C	0.40				
Ca	1				
Tc=20min / 1/100	6.80				
No.	AREA (AC)	C	I100	Q100	COMMENTS
1	4.36	0.40	6.80	11.86	TO DITCH
2	0.41	0.40	6.80	1.12	TO DITCH
3	1.80	0.40	6.80	4.90	TO DITCH
4	4.53	0.40	6.80	12.32	TO DITCH
5	5.89	0.40	6.80	16.02	TO DITCH
6	2.66	0.40	6.80	7.24	TO DITCH
7	10.54	0.40	6.80	28.67	TO DITCH
8	8.64	0.45	6.80	26.44	TO DITCH
9	0.75	0.40	6.80	2.04	TO DITCH
10	6.06	0.40	6.80	16.48	TO DITCH
11	0.16	0.40	6.80	0.44	TO DITCH
12	13.96	0.40	6.80	37.97	TO DITCH
13	6.90	0.40	6.80	18.77	TO DITCH
14	0.86	0.40	6.80	2.34	TO DITCH
15	0.25	0.40	6.80	0.68	TO DITCH
16	0.32	0.40	6.80	0.87	TO DITCH
OS1	3.11	0.40	6.80	8.46	TO DITCH

**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



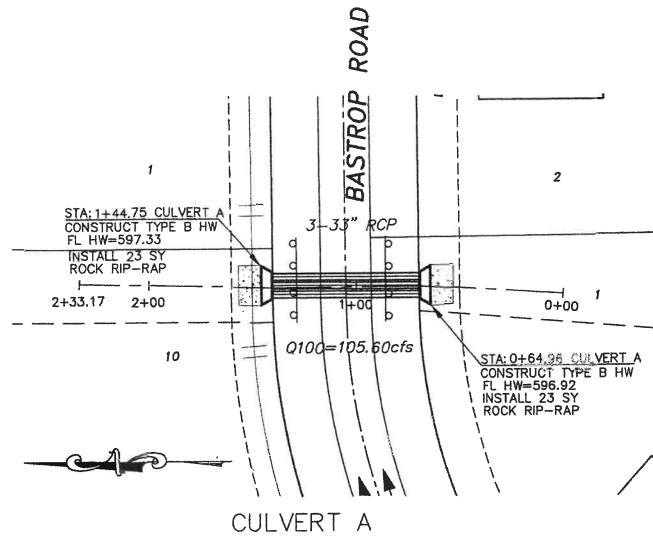
Q100 AT CONCENTRATION POINT		
CONC. PT.	Q100	DISCHARGE TO
A	107.64	EX DITCH @ AUSTIN TRAILS
B	6.02	ROADSIDE DITCH W. LUCAS ROAD
C	37.97	EX DITCH @ AUSTIN TRAILS
D	12.32	ROADSIDE DITCH W. LUCAS ROAD
E	11.86	EX DITCH @ AUSTIN TRAILS



DRIVEWAY CULVERTS ROCKLAND FARMS						
BLOCK	LOT NO.	Q (cfs)	DITCH SLOPE (ft/ft)	CAP. (cfs)	CULVERT SIZE (in)	NOTES
A	1A	0.93	0.005	7.42	18	DRIVE ON ROCKLAND
A	1B	0.29	0.0066	8.53	18	DRIVE ON BOERNE
A	2	0.93	0.005	7.42	18	
A	3	1.56	0.005	7.42	18	
A	4	1.55	0.005	7.42	18	
A	5	1.10	0.005	7.42	18	
A	6A	1.39	0.0096	10.29	18	DRIVE ON ROCKLAND
A	6B	0.29	0.0066	8.53	18	DRIVE ON BOERNE
A	7	8.90	0.0096	10.29	18	
A	8	6.17	0.0056	7.86	18	
A	9A	1.59	0.0136	12.24	18	EAST OF HIGH POINT
A	9B	0.44	0.0056	7.86	18	WEST OF HIGH POINT
A	10	16.64	0.0136	18.43	21	
A	11	21.48	0.0136	36.82	2-21	
A	12	25.81	0.0136	36.82	2-21	
A	13A	30.02	0.0136	36.82	2-21	DRIVE ON ROCKLAND
A	13B	3.04	0.005	7.42	18	DRIVE ON BASTROP
B	18	30.17	0.005	31.96	2-24	
B	19	25.16	0.0075	27.37	2-21	
B	20	20.57	0.0075	27.37	2-21	
B	21	15.99	0.0075	18.19	2-18	
B	22	13.28	0.0173	13.81	18	
B	23	10.39	0.0173	13.81	18	
B	24	7.85	0.0173	13.81	18	
B	25	1.95	0.0096	10.29	18	
B	26	1.27	0.0056	10.29	18	
B	27	0.58	0.0056	10.29	18	
B	28	0.66	0.005	7.42	18	
C	1A	2.28	0.0136	12.24	18	DRIVE ON ROCKLAND
C	1B	31.07	0.0088	42.40	2-24	DRIVE ON BASTROP
C	2	1.78	0.0136	12.24	18	
C	3	1.29	0.0136	12.24	18	
C	4	0.79	0.0136	12.24	18	
C	5	0.91	0.0056	7.86	18	
C	6A	0.56	0.0096	10.29	18	DRIVE ON ROCKLAND
C	6B	0.96	0.0173	13.81	18	DRIVE ON GRUENE
C	7	4.98	0.0173	13.81	18	
C	8	5.37	0.0075	9.09	18	
C	9	5.70	0.0075	9.09	18	
C	10A	6.82	0.0075	9.09	18	DRIVE ON GRUENE
C	10B	0.005	7.42	18	DRIVE ON BASTROP	
D	1A	0.44	0.005	7.42	18	WEST OF HIGH POINT
D	1B	0.46	0.005	7.42	18	EAST OF HIGH POINT
D	2	2.27	0.0088	9.85	18	
D	3	1.35	0.0088	9.85	18	
D	4	0.58	0.005	7.42	18	

REVISIONS  
 DESIGN: ROV  
 DRAWN: ROV  
 DATE: 12-2005  
 SCALE: 1"=100'  
 NOTES:  
 FILE:  
 Sheet 14 of 26





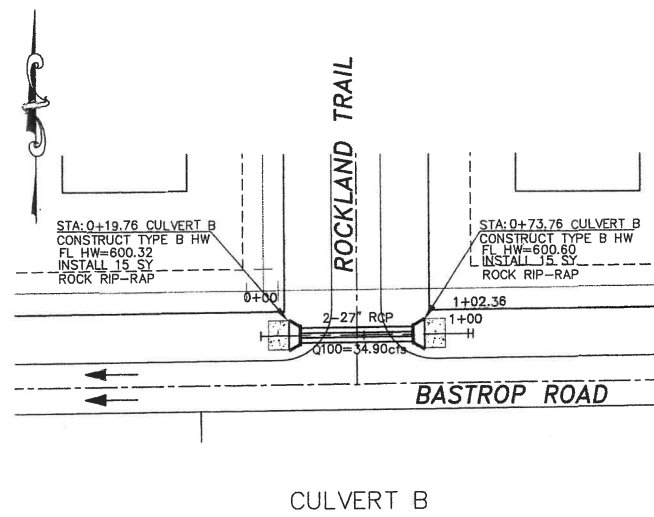
**Culvert Calculator**

Entered Data:

Shape	Circular
Number of Barrels	1
Solving for	Headwater
Chart Number	1
Scale Number	1
Chart Description	CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
Scale Description	SQUARE EDGE ENTRANCE WITH HEADWALL
Overtopping	Off
Flowrate	35.2000 cfs
Manning's n	0.0130
Roadway Elevation	600.9100 ft
Inlet Elevation	597.3300 ft
Outlet Elevation	596.9200 ft
Diameter	33.0000 in
Length	79.7900 ft
Entrance Loss	0.0000
Tailwater	2.7300 ft

Computed Results:

Headwater	600.6056 ft Inlet Control
Slope	0.0051 ft/ft
Velocity	7.2286 fps



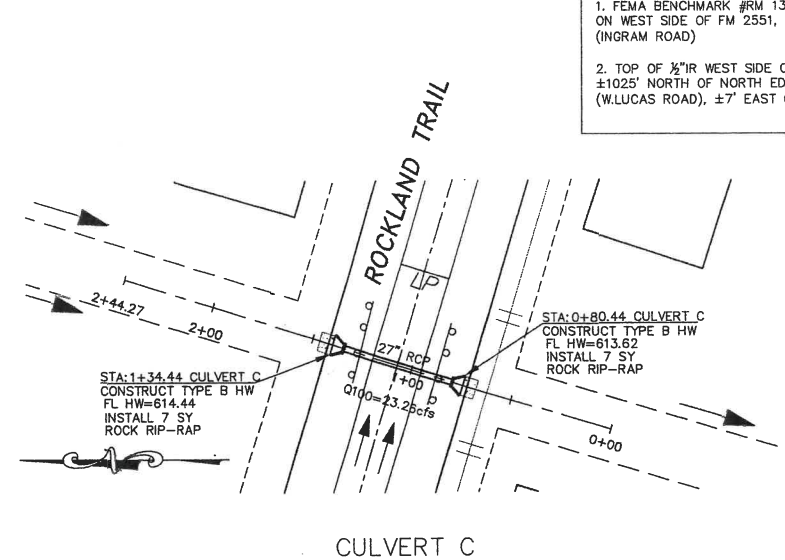
**Culvert Calculator**

Entered Data:

Shape	Circular
Number of Barrels	1
Solving for	Headwater
Chart Number	1
Scale Number	1
Chart Description	CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
Scale Description	SQUARE EDGE ENTRANCE WITH HEADWALL
Overtopping	Off
Flowrate	17.4500 cfs
Manning's n	0.0130
Roadway Elevation	603.9700 ft
Inlet Elevation	600.6000 ft
Outlet Elevation	600.3200 ft
Diameter	27.0000 in
Length	54.0000 ft
Entrance Loss	0.0000
Tailwater	1.8900 ft

Computed Results:

Headwater	602.8776 ft Inlet Control
Slope	0.0052 ft/ft
Velocity	6.2166 fps



**Culvert Calculator**

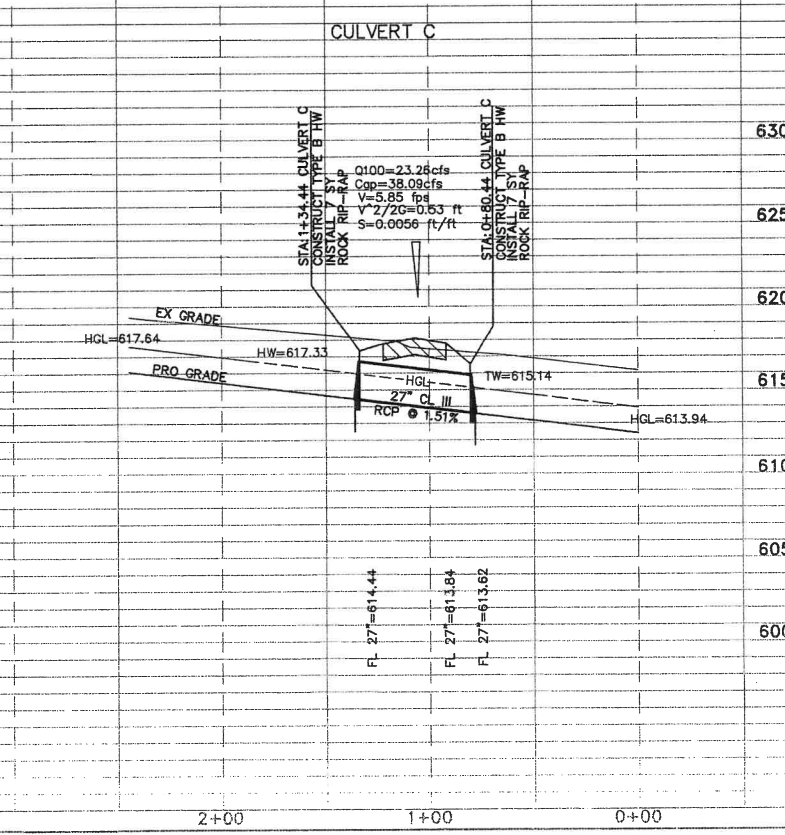
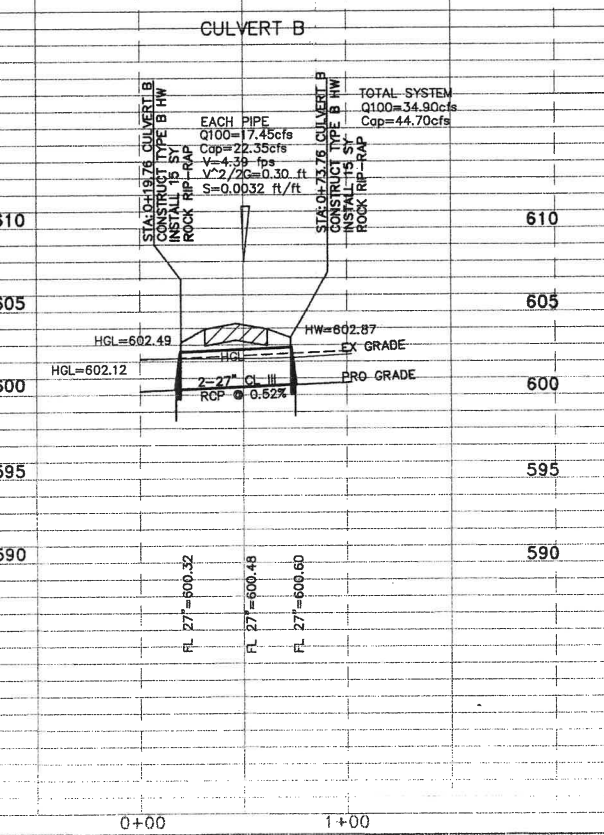
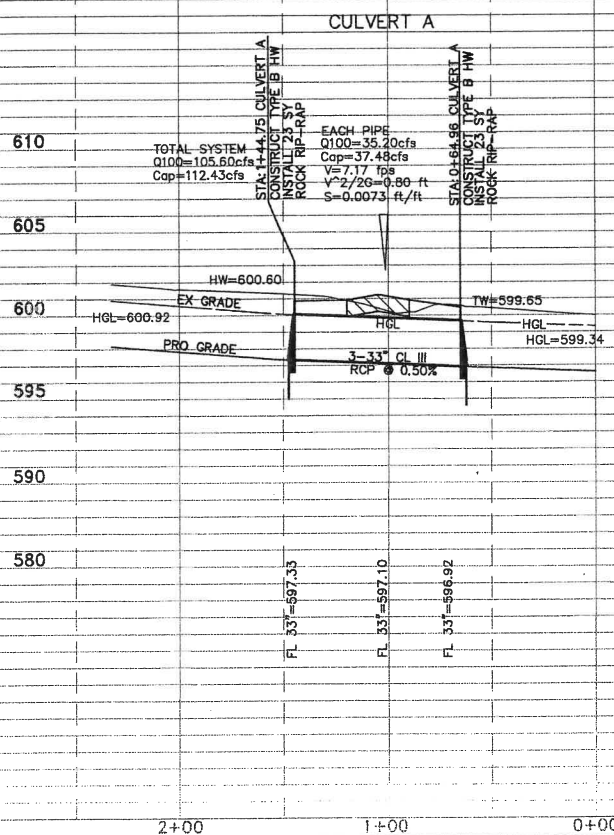
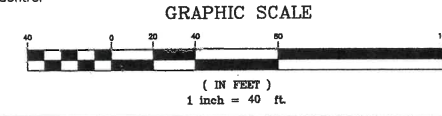
Entered Data:

Shape	Circular
Number of Barrels	1
Solving for	Headwater
Chart Number	1
Scale Number	1
Chart Description	CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
Scale Description	SQUARE EDGE ENTRANCE WITH HEADWALL
Overtopping	Off
Flowrate	23.2600 cfs
Manning's n	0.0130
Roadway Elevation	617.7900 ft
Inlet Elevation	614.4400 ft
Outlet Elevation	613.6200 ft
Diameter	27.0000 in
Length	54.0000 ft
Entrance Loss	0.0000
Tailwater	1.5200 ft

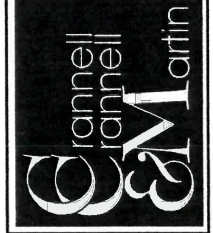
Computed Results:

Headwater	617.3310 ft Inlet Control
Slope	0.0152 ft/ft
Velocity	10.0782 fps

**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



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 Flower Mound, Texas 75028  
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**CULVERT PLAN & PROFILE**  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

REVISIONS


DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H:1"; 40' V:1"=5'  
 NOTES:  
 FILE:

Sheet **15** of **26**





**Engineering Corporation**  
**801 Enterprise Drive**  
**Flower Mound, Texas 75028**

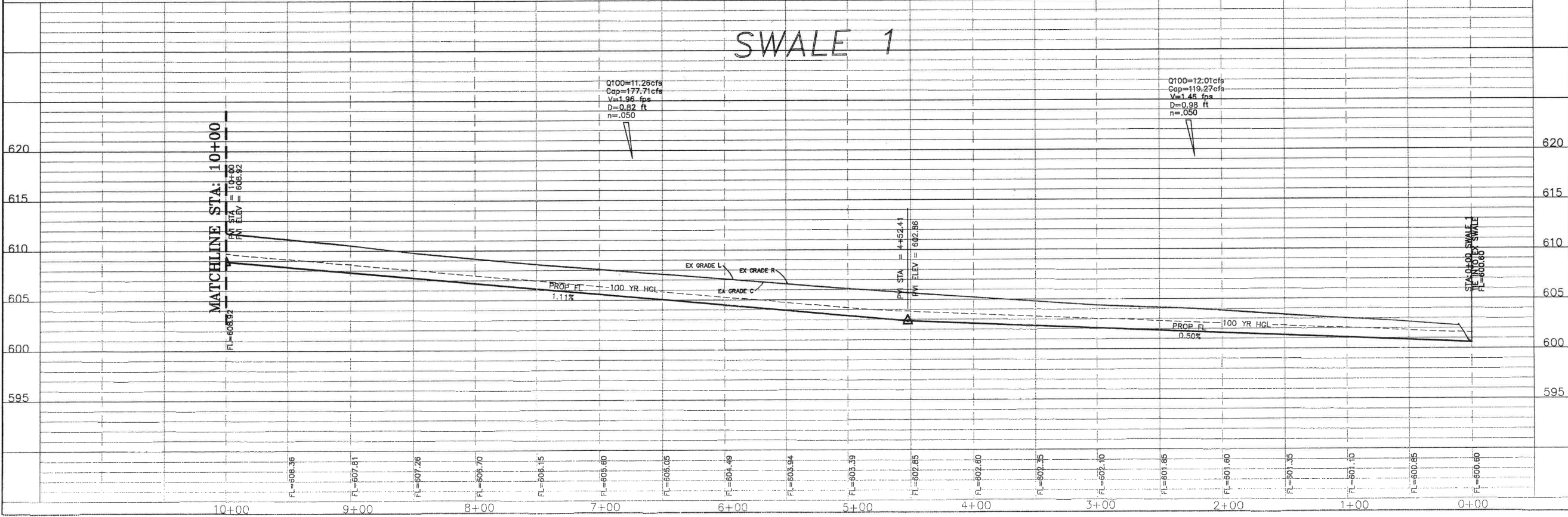
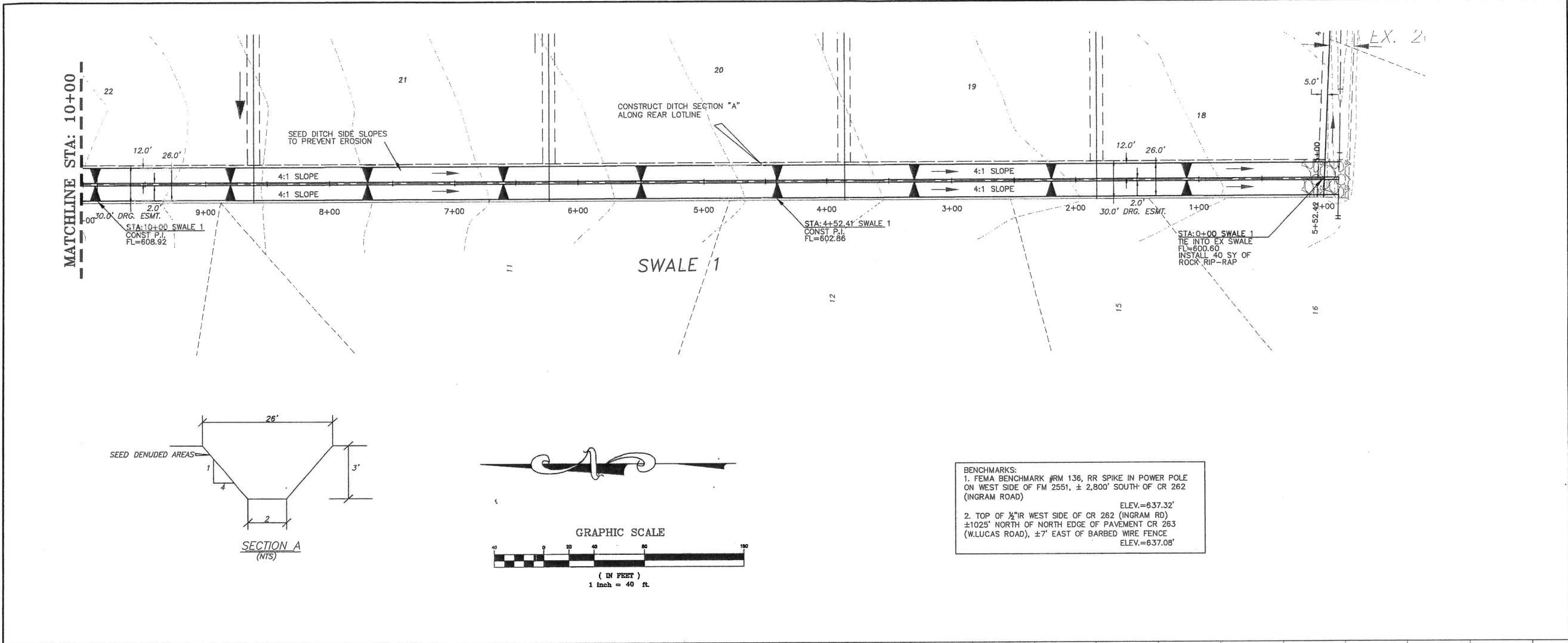
Ph: (972) 691-6633 Fax: (972) 691-6628



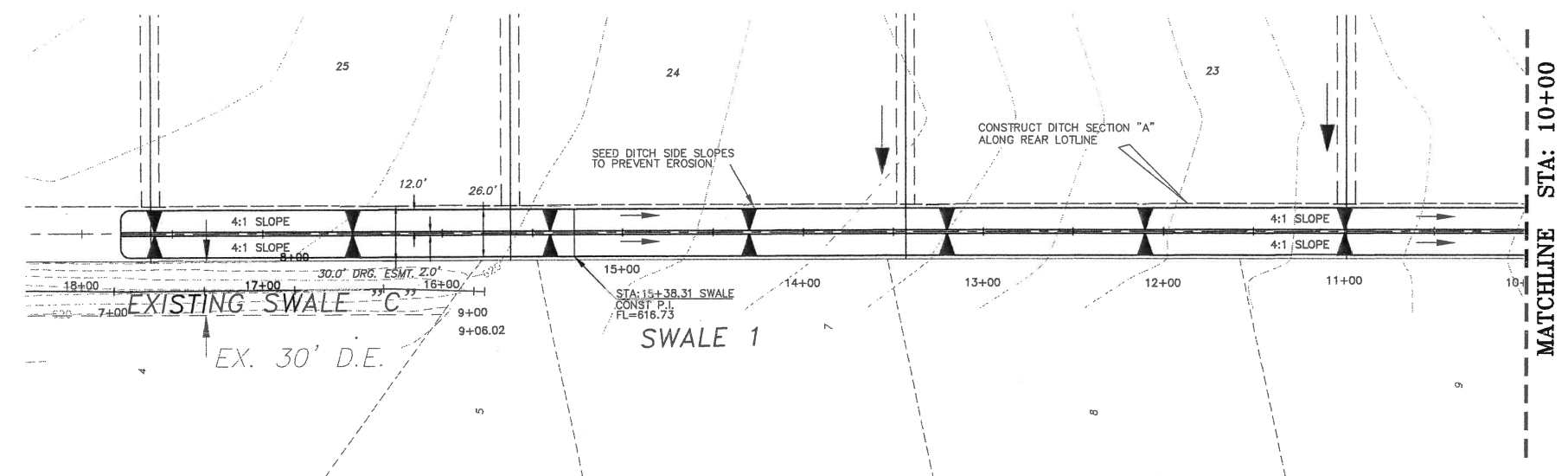
**SWALE 1 PLAN & PROFILE**  
**0+00 TO 10+00**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS

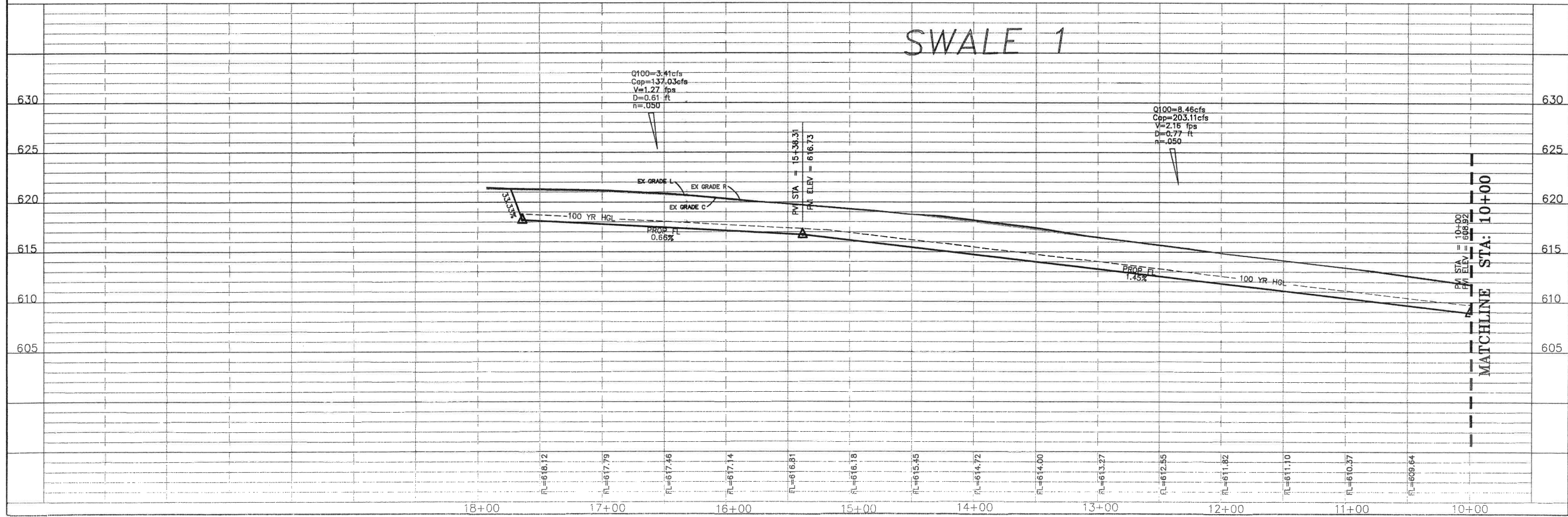
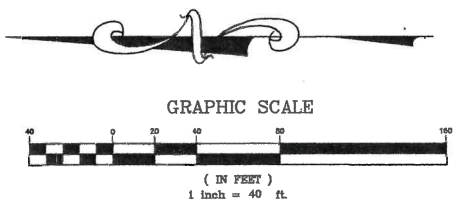
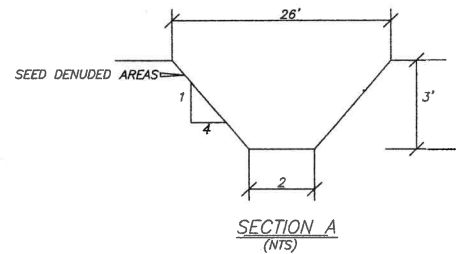
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 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES:  
 FILE:







**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



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**SWALE 1 PLAN & PROFILE**  
 10+00 TO 17+73.55  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

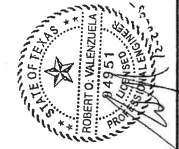
REVISIONS

DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES:  
 FILE:









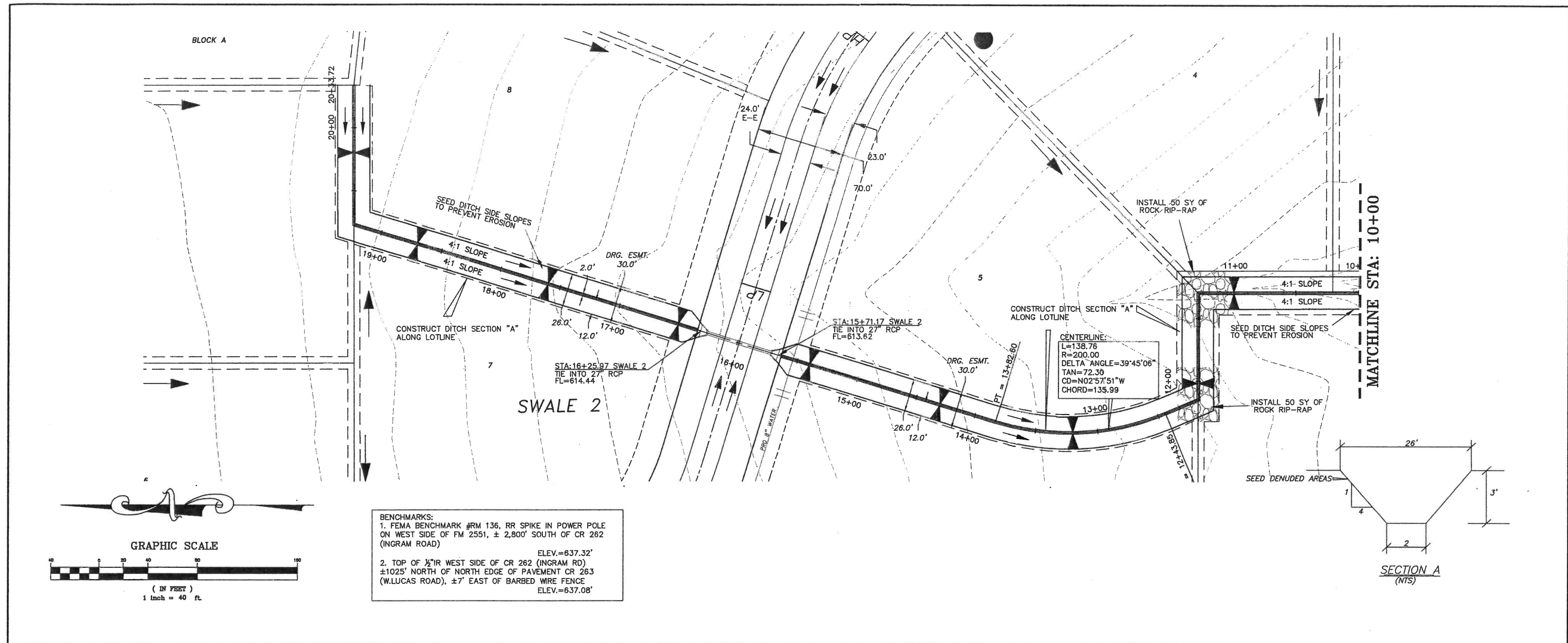
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Flower Mound, Texas 75028  
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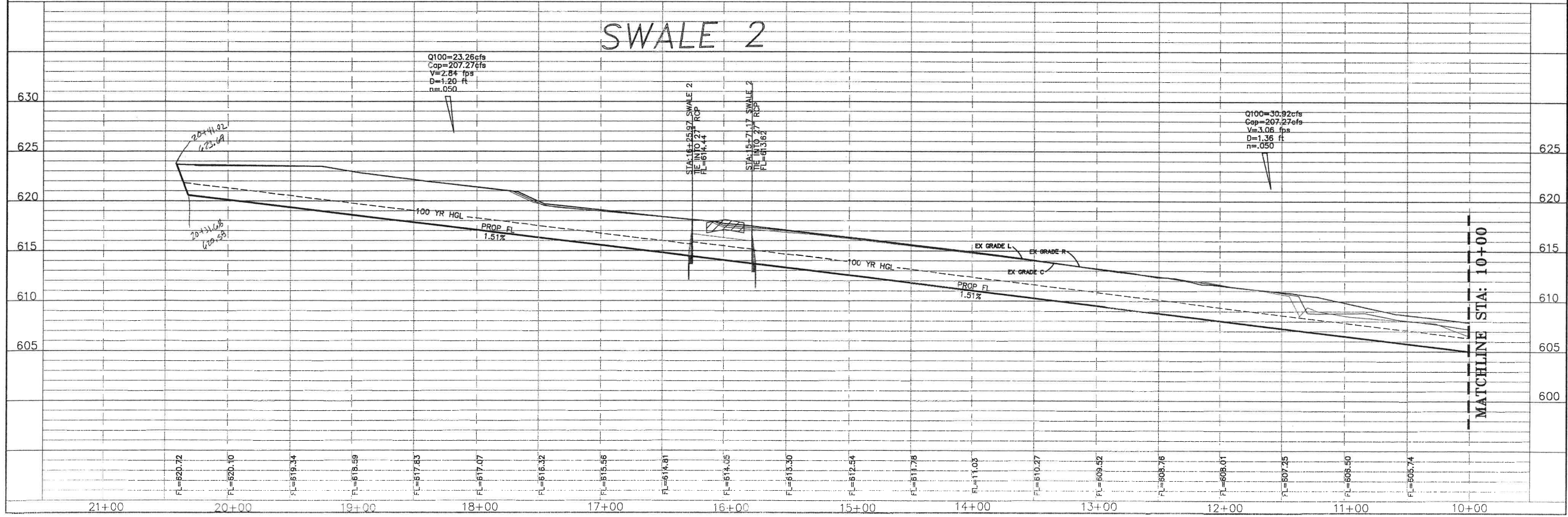
**SWALE 2 PLAN & PROFILE**  
10+00 TO 20+33.72  
ROCKLAND FARMS  
CITY OF LUCAS  
COLLIN COUNTY, TEXAS

REVISIONS

DESIGN: CDC  
DRAWN: CDC  
DATE: 11-05  
SCALE: H: 1"=40' V: 1"=5'  
NOTES:  
FILE:



**BENCHMARKS:**  
1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'







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Flower Mound, Texas 75028

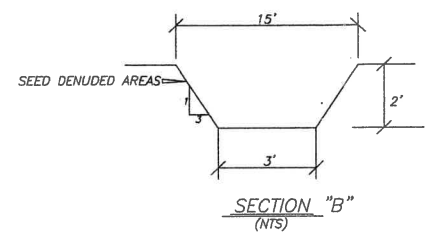
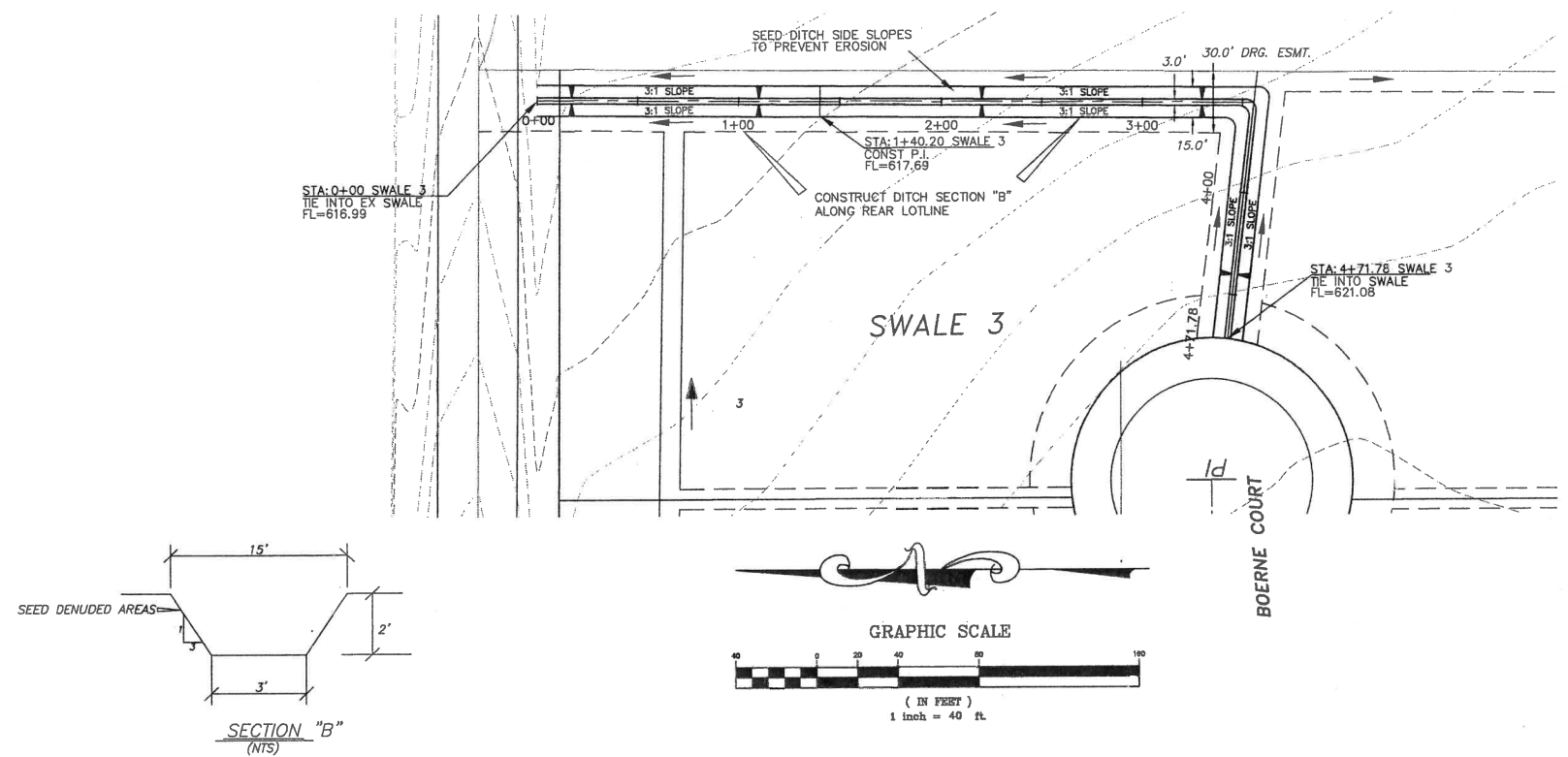
Ph: (972) 691-6633 Fax: (972) 691-6628



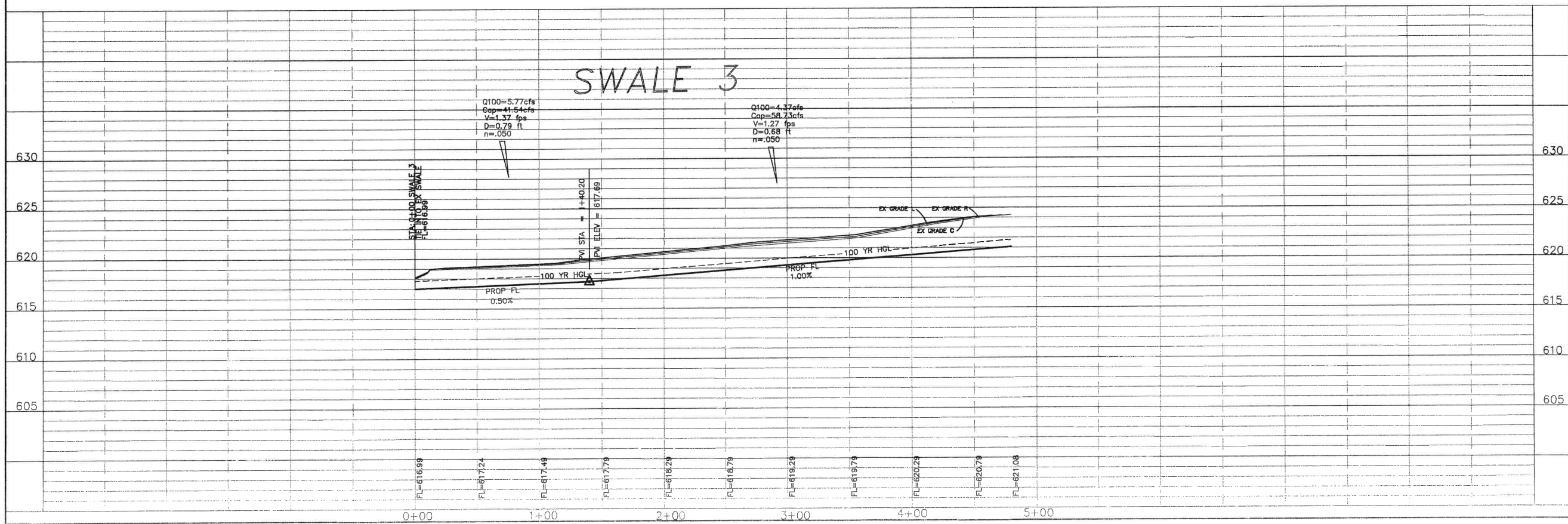
SWALE 3 PLAN & PROFILE  
0+00 TO 4+71.78  
ROCKLAND FARMS  
CITY OF LUCAS  
COLLIN COUNTY, TEXAS

REVISIONS
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▲
▲
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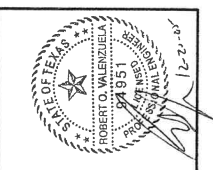
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NOTES:  
FILE:



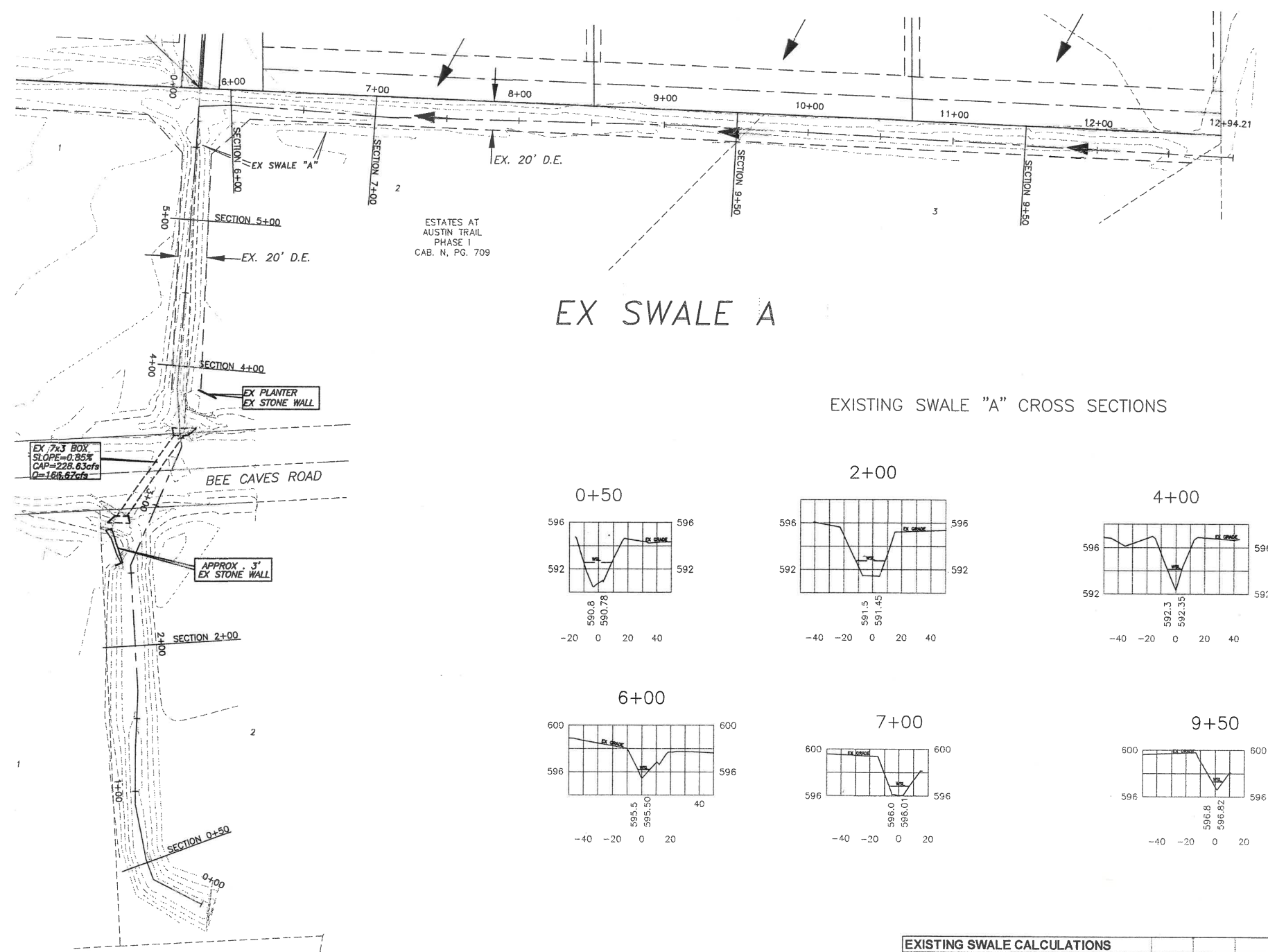
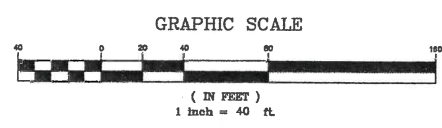
BENCHMARKS:  
1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'





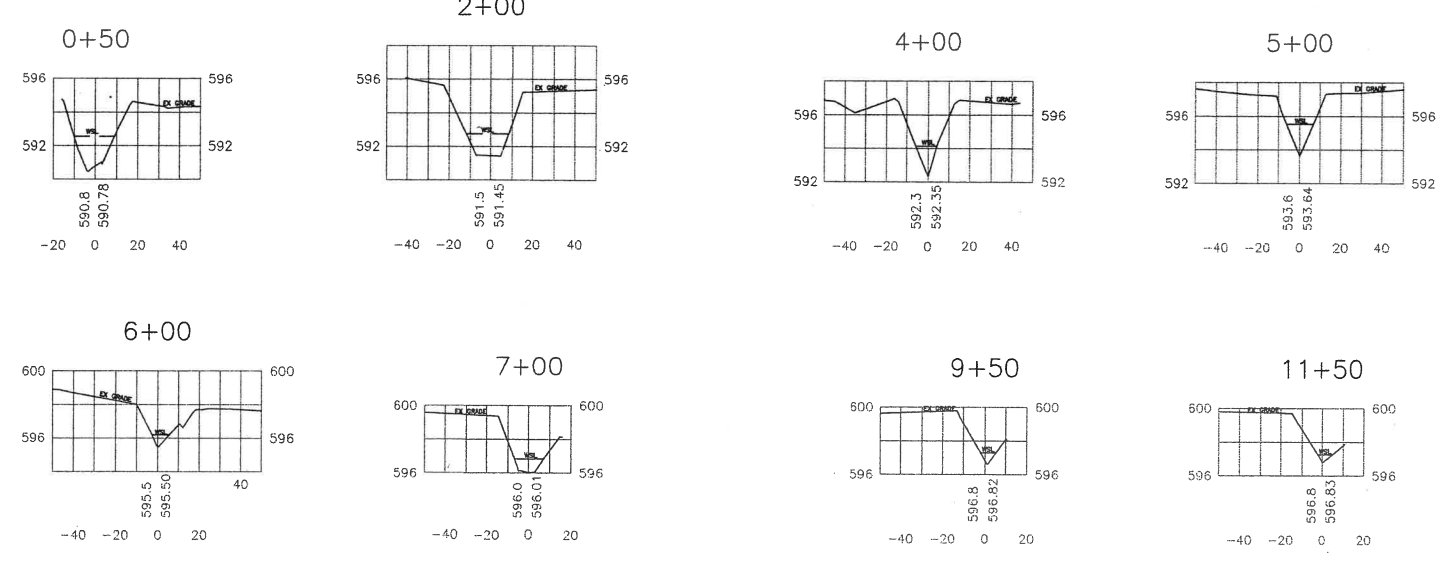


**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



### EX SWALE A

EXISTING SWALE "A" CROSS SECTIONS



Station	Area (ft <sup>2</sup> )	n	W <sub>p</sub> (ft)	R=A/W <sub>p</sub> (ft)	Slope (ft/ft)	Q <sub>100</sub> (cfs)	Q <sub>1%</sub> (cfs)	Depth (ft)
0+50	80.81	0.05	34.77	2.32	0.0121	482.88	168.67	2.12
2+00	98.24	0.05	38.78	2.53	0.0048	376.92	166.67	1.33
4+00	83.98	0.05	28.04	2.28	0.0068	272.50	129.87	1.81
5+00	43.99	0.05	25.02	1.76	0.0081	171.87	123.12	1.9
6+00	34.86	0.05	29.06	1.20	0.0065	94.56	16.48	0.72
7+00	35.29	0.05	29.68	1.19	0.0020	52.78	10.76	0.7
9+50	11.81	0.05	11.82	1.00	0.0052	25.36	6.29	0.69
11+50	8.40	0.05	16.61	0.51	0.0068	13.10	4.11	0.48

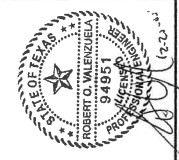
**Engineering Corporation**  
**801 Enterprise Drive**  
**Flower Mound, Texas 75028**  
 Ph: (972) 691-6633 Fax: (972) 691-6628  
**Rockland Farms**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS


DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES:  
 FILE:

Sheet 22 of 26





Engineering Corporation  
 801 Enterprise Drive  
 Flower Mound, Texas 75028  
 Ph: (972) 691-6633 Fax: (972) 691-6628

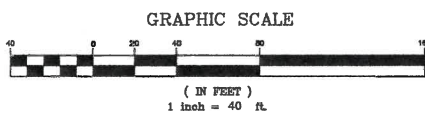
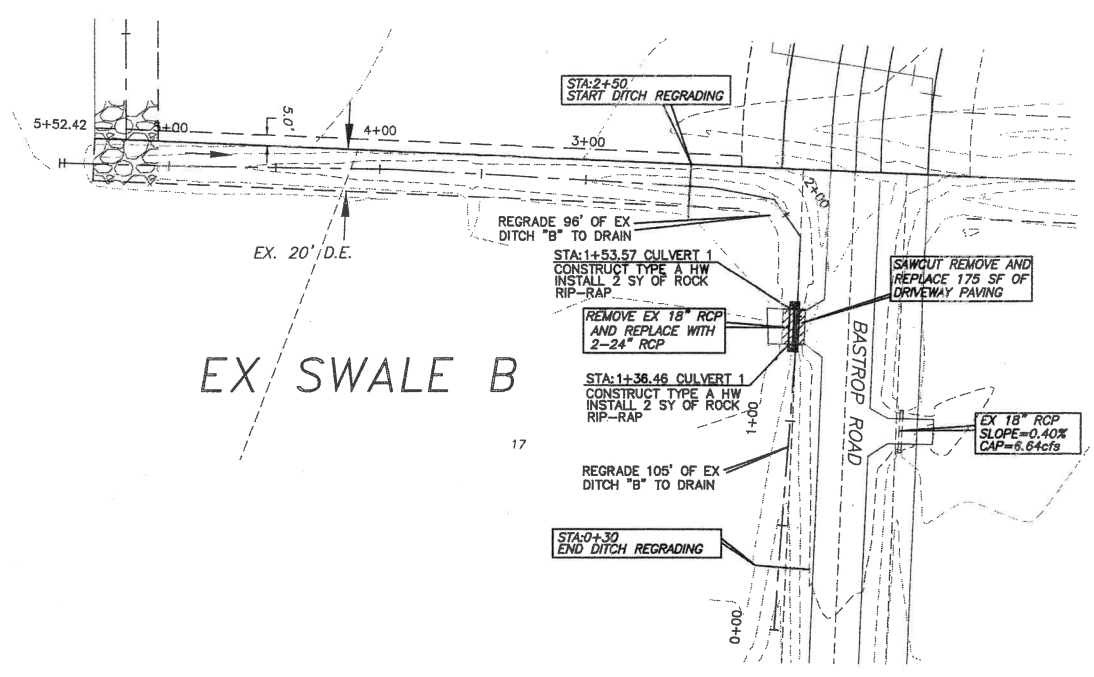


EXISTING SWALE B  
 ROCKLAND FARMS  
 CITY OF LUCAS  
 COLLIN COUNTY, TEXAS

REVISIONS  
 DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES:  
 FILE:  
 Sheet 23 of 26

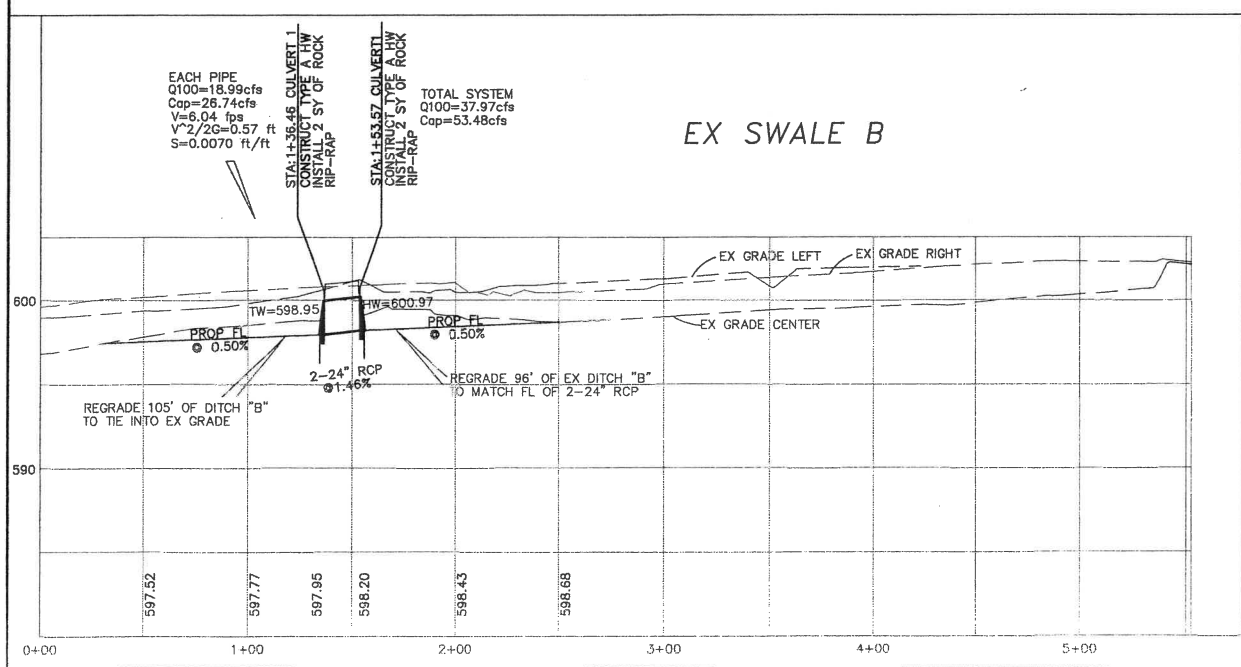
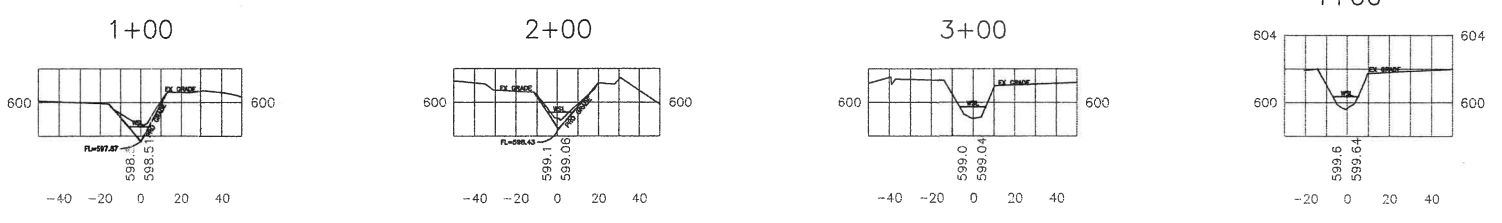
BENCHMARKS:  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
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NOTES:  
 1) Contractor shall locate all existing utilities, including irrigation, prior to construction.  
 2) Contractor shall contact homeowner 48 hours prior to start of construction.  
 3) Contractor shall reface type A headwall to match existing brick color and style; and otherwise repair any damage to existing features.  
 4) All denuded surfaces shall be seeded with congruent grass type at termination of construction.



EXISTING SWALE "B" CROSS SECTIONS

**Culvert Calculator**  
 Entered Data:  
 Shape ..... Circular  
 Number of Barrels ..... 2  
 Solving for ..... Headwater  
 Chart Number ..... 1  
 Scale Number ..... 1  
 Chart Description ..... CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE  
 Scale Description ..... SQUARE EDGE ENTRANCE WITH HEADWALL  
 Overtopping ..... Off  
 Flowrate ..... 37.9700 cfs  
 Manning's n ..... 0.0130  
 Roadway Elevation ..... 601.1700 ft  
 Inlet Elevation ..... 598.2000 ft  
 Outlet Elevation ..... 597.9500 ft  
 Diameter ..... 24.0000 in  
 Length ..... 17.1100 ft  
 Entrance Loss ..... 0.0000  
 Tailwater ..... 1.0000 ft  
 Computed Results:  
 Headwater ..... 600.9789 ft Inlet Control  
 Slope ..... 0.0146 ft/ft  
 Velocity ..... 9.4035 fps



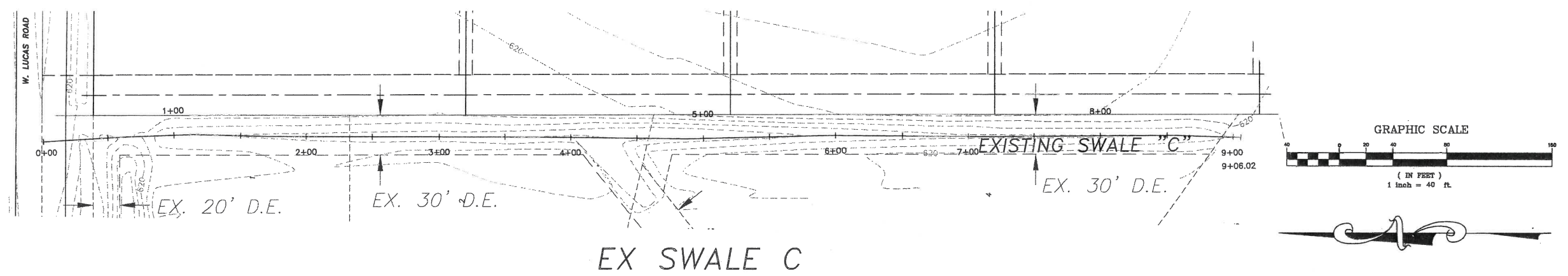
**EXISTING SWALE CALCULATIONS**

Station	Area (ft <sup>2</sup> )	n	W <sub>p</sub> (ft)	R=A/W <sub>p</sub> (ft)	Slope (ft/ft)	Q <sub>cap</sub> (cfs)	Q <sub>100</sub> (cfs)	Depth (ft)
1+00	33.44	0.05	24.31	1.38	0.0050	87.15	37.97	0.89
2+00	31.63	0.05	24.57	1.29	0.0050	78.87	37.97	0.98
3+00	26.17	0.05	29.52	0.89	0.0050	50.89	12.01	0.71
4+00	27.09	0.05	28.84	0.94	0.0035	45.81	12.01	0.77

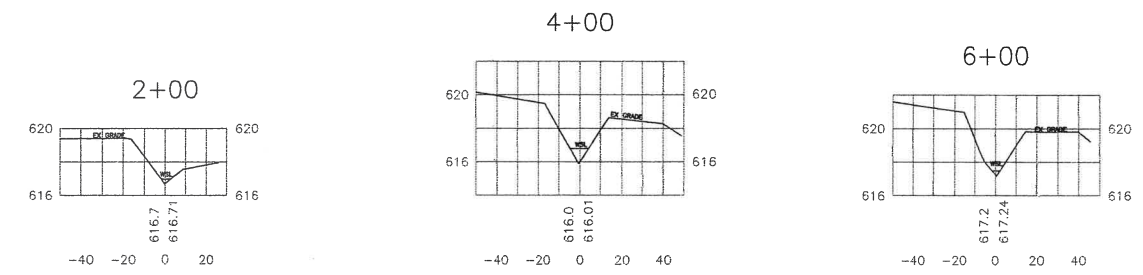




**BENCHMARKS:**  
 1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2,800' SOUTH OF CR 262 (INGRAM ROAD) ELEV.=637.32'  
 2. TOP OF 1/2" IR WEST SIDE OF CR 262 (INGRAM RD) ±1025' NORTH OF NORTH EDGE OF PAVEMENT CR 263 (W.LUCAS ROAD), ±7' EAST OF BARBED WIRE FENCE ELEV.=637.08'



EXISTING SWALE "C" CROSS SECTIONS



**EXISTING SWALE CALCULATIONS**  
**EXISTING SWALE C**

Station	Area (ft <sup>2</sup> )	n	W <sub>p</sub> (ft)	R=A/W <sub>p</sub> (ft)	Slope (ft/ft)	Q <sub>cap</sub> (cfs)	Q <sub>100</sub> (cfs)	Depth (ft)
2+00	5.87	0.05	13.89	0.42	0.0047	6.75	2.49	0.29
4+00	36.45	0.05	27.33	1.33	0.0021	60.31	12.84	0.91
6+00	34.33	0.05	27.2	1.26	0.0079	106.20	1.51	0.32

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**Flower Mound, Texas 75028**  
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**EXISTING SWALE C**  
**ROCKLAND FARMS**  
**CITY OF LUCAS**  
**COLLIN COUNTY, TEXAS**

REVISIONS


DESIGN: CDC  
 DRAWN: CDC  
 DATE: 11-05  
 SCALE: H: 1"=40' V: 1"=5'  
 NOTES: .  
 FILE:

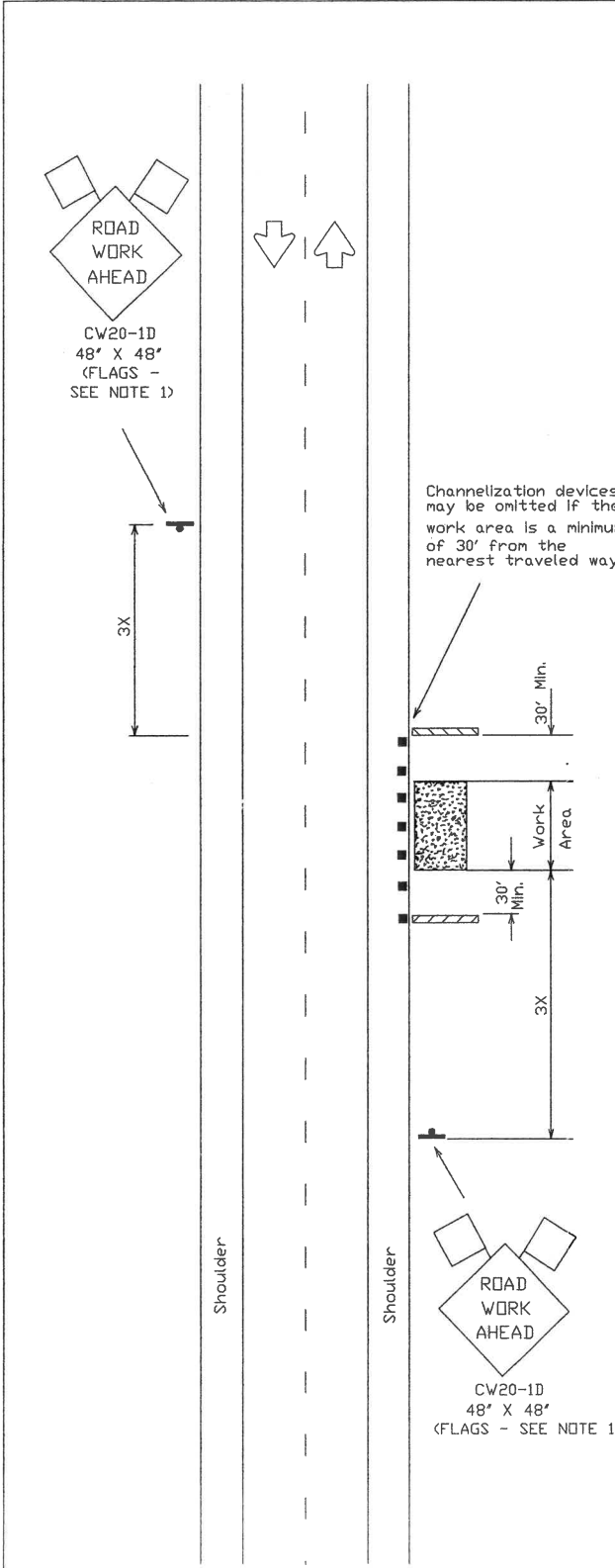




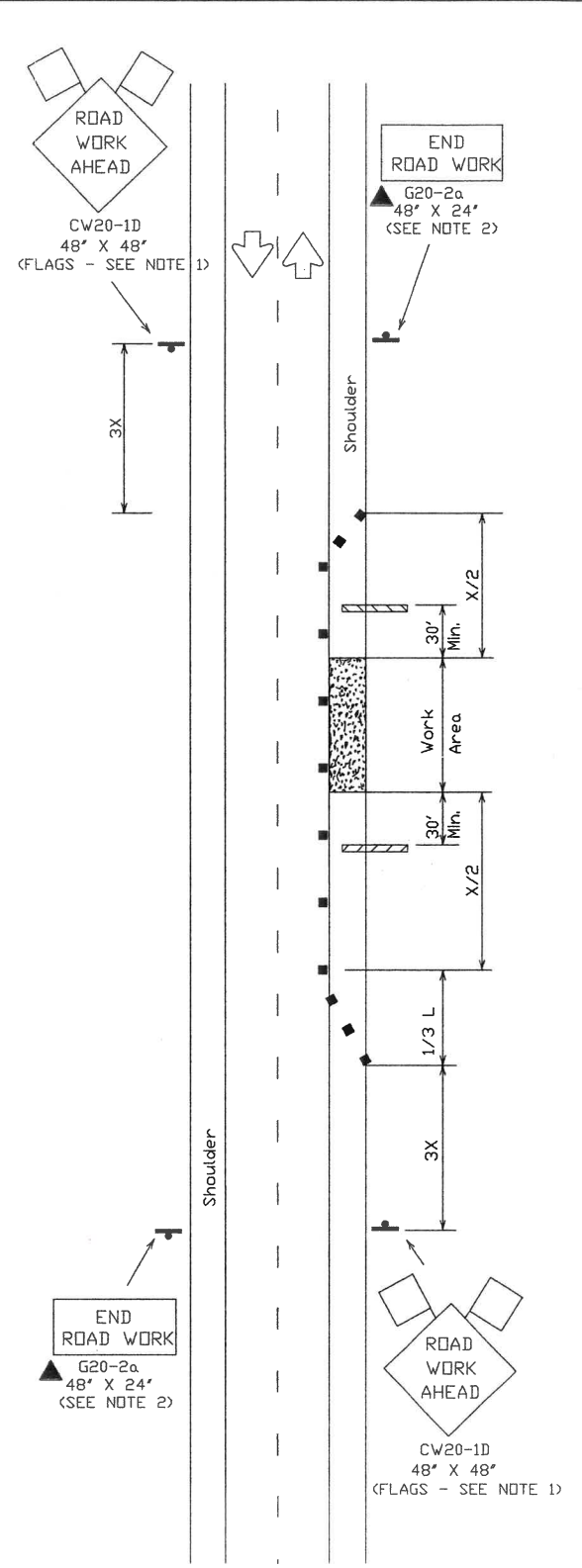


DISCLAIMER  
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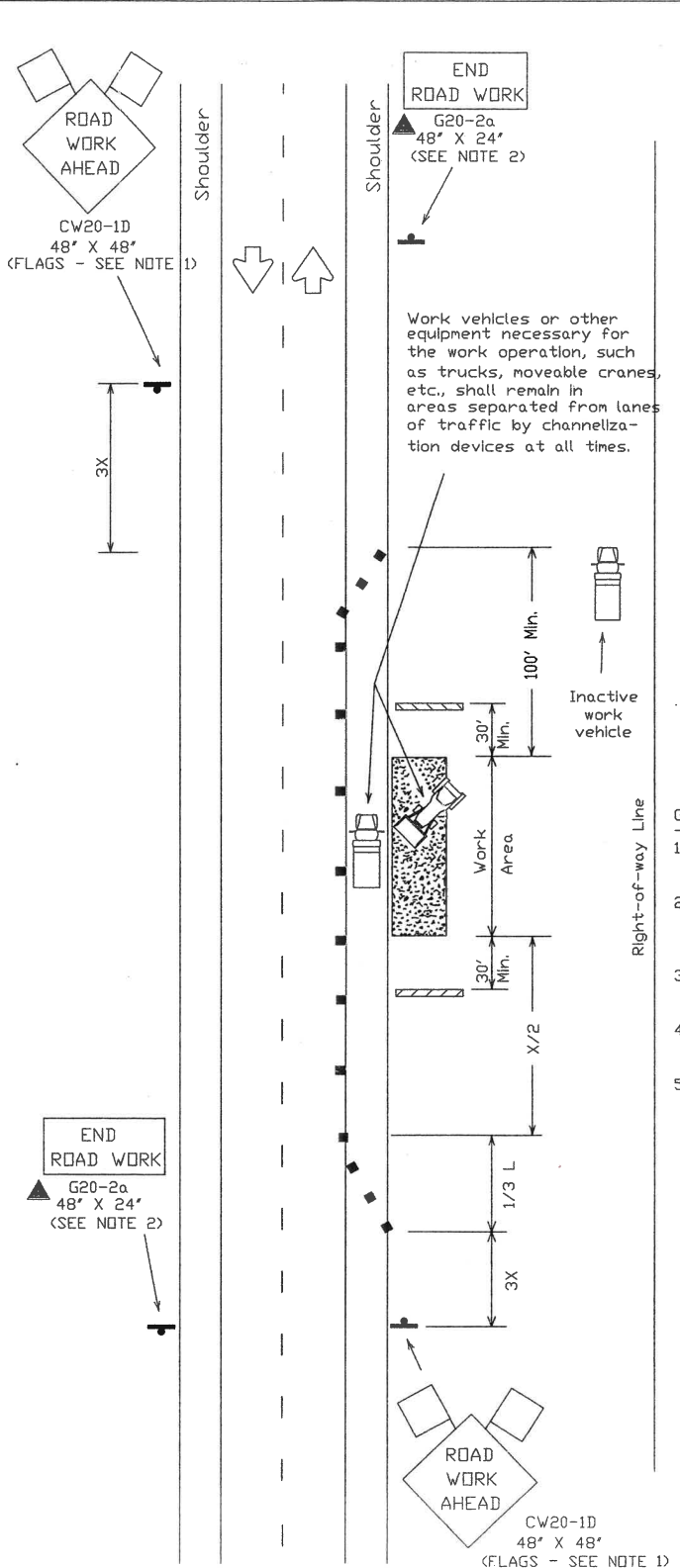
LEVELS DISPLAYED	DATE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	
DN CK; DV; CK;	ACC; FILE;



TCP (2-1a)  
Work Area Near Shoulder



TCP (2-1b)  
Work Area on Shoulder



TCP (2-1c)  
Work Vehicles on Shoulder

LEGEND

- Type III Barricade
- Channelizing Devices
- Flag
- Heavy Work Vehicle
- Truck Mounted Attenuator
- Trailer Mounted Flashing Arrow Panel
- Portable Changeable Message Sign
- Flagger
- Sign Post

Posted Speed*	Formula	Minimum Desirable Taper Lengths**			Suggested Maximum Spacing of Device		Minimum Sign Spacing X Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'	120'
35		205'	225'	245'	35'	70'-90'	160'
40		265'	295'	320'	40'	80'-100'	240'
45	L=WS	450'	495'	540'	45'	90'-110'	320'
50		500'	550'	600'	50'	100'-125'	400'
55		550'	605'	660'	55'	110'-140'	500'
60		600'	660'	720'	60'	120'-150'	* 600'
65		650'	715'	780'	65'	130'-165'	* 700'
70		700'	770'	840'	70'	140'-175'	* 800'

\* Conventional Roads Only  
\*\* Taper lengths have been rounded off.  
L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

TYPICAL USAGE:

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY

- GENERAL NOTES:
- Unless otherwise stated in the plans, flags attached to signs are **REQUIRED**.
  - All traffic control devices illustrated are **REQUIRED**, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
  - Type III barricades are required on both sides of work area at all times. (See BC Standards for barricade details.)
  - Stockpiled material should be placed a minimum 30' from nearest traveled way.
  - On high speed facilities advance warning signs should be installed approximately 3X from the work area or from the beginning of a lane or shoulder taper. On low speed facilities the advance warning sign should be placed on the 'X' minimum distance.

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer  
Traffic Operations Division - TE  
Texas Department of Transportation  
125 East 11th Street  
Austin, Texas 78701-2483  
Phone (512) 416-3335  
Fax (512) 416-3161  
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

STANDARD PLANS  
TEXAS DEPARTMENT OF TRANSPORTATION  
Traffic Operations Division

TRAFFIC CONTROL PLAN

TCP(2-1)-98

REVISIONS	STATE DISTRICT	FEDERAL REGION	DN-LR	CK-MT	DV-DN	CK-MT	NEG NO.
2-94	6						
8-95							
1-97	COUNTY	CONTROL SECTION	JOB	HIGHWAY			
4-98							