



May 2, 2024  
AVO 37449.004

Ms. Ramie Hammonds  
Development Services Director/Building Official  
City of Sanger  
201 Bolivar Street  
P.O. Box 1729  
Sanger, Texas 76266

**Re: Lane Ranch Phase 1 Preliminary Plat -Review #3**

Dear Ms. Hammonds,

Halff Associates, Inc. was requested by the City of Sanger to review the Preliminary Plat for Lane Ranch Phase 1. The submittal was prepared by Middleton and Associates, LLC and was dated February 2, 2024.

We have completed our review and offer the following comments:

Please address comments on attached markups and provide annotated responses on markups. Please note, not all comments are written on letter since some comments are easier to show and explain on the markups. Please annotate markup with responses.

**Preliminary Plat Comments**

1. Verify drainage easement boundaries.
2. Provide a drainage easement by separate instrument for the culvert grading and headwall.
3. The PD Ordinance called out is for Sanger Circle. Revise.
4. A more thorough review if the plat is pending the PD approval.

**Final Plat Comments**

1. Define side setbacks on the final plat.
2. Provide a Closure report per ordinance 10.104(d)(10).
3. The PD Ordinance called out is for Sanger Circle. Revise.
4. Easements were added to the preliminary plat based on the 2nd submittal comments. The final plat does not reflect these changes. Reconcile.
5. Show centerline of existing street. Dimensions from centerline to edges of existing and proposed right-of-way on both sides of the centerline per ordinance 10.104(d)(10)(H).
6. Replace with Final Plat approval per ordinance 10.104(d)(10)(X).
7. Add 3" x 3" recording box at the lower right-hand corner 10.104(d)(10)(N).

### **Paving Plan Comments**

1. Verify that elevations match in the plan and profile at Butterfield Drive. and Indian Lane.
2. Show 455 at Butterfield culvert crossing in the profile.
3. Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4). Reconcile throughout.
4. A TxDOT permit is required for the proposed driveway and culvert on FM 455. This comment will remain throughout the review process.

### **Grading Plan/Grading Details Comments**

1. Explain pattern on sheets G3 and G4.
2. Provide HGL, flow, velocity data, etc. Demonstrate that the channel meets requirements per ordinance 10.106(d)(9)(B).
3. Provide agreement for grading on adjacent property and separate instrument for drainage easement.

### **Erosion Control Plan Comments**

1. The 100-yr WSEL is above the headwall. How will erosion be prevented above the wall?
2. Specify construction entrance size.

### **Drainage Area Map Existing Conditions Comments**

1. Revise drainage area boundary to match contour patterns.
2. Remove proposed data from the existing drainage area map for clarity.
3. Provide an overall drainage area map that covers the entirety of phase one including relevant offsite areas.
4. Clearly define the entry and exit points in both the existing and proposed conditions.
5. Clear comparison of existing vs. proposed peak flows are needed at design points to prove no adverse impacts.

### **Drainage Area Map Proposed Conditions Comments**

1. Revise drainage area boundaries 3 and 28.
2. Provide a drainage area map for the proposed culvert including the design discharge for the offsite pond.
3. Show proposed contours.

### **Drainage Calculation Comments**

1. Show calculations for the culverts. Plan set will be provided for future record requests and this information needs to be available on plan sheets without the drainage study.
2. Provide the data taken from the Sanger High School plans. Needs to be available in the plans for future reference.

Ms. Ramie Hammonds  
May 2, 2024  
Page 3 of 3

3. For clarity, it is suggested to match the inlet No. with the naming convention in the plan view and on the hydraulic calculations.
4. HGL elevations do not match the profile and are below the pipe flow line. Profile and calculation elevations should match. Recalculate and revise.
5. Provide hydraulic calculations for proposed culverts.
6. Revise HGL calculations to include losses and hydraulic data at manholes. Recalculate lines 2, 6, and 7.
7. Intensities do not match those defined in Chapter 10 - appendix A of the ordinance.

#### **Storm Drain Plan and Profiles Comments**

1. The 100-yr WSEL is above the headwall. How will erosion be prevented above the wall?
2. HGL does not account for energy losses through manholes. Reconcile.
3. Remove errant linework throughout.

#### **Sanitary Sewer Plan and Profiles Comments**

1. Specify the method to be used to ensure water and sewer crossings are TCEQ compliant.

If you have any questions or need additional information, please do not hesitate to call me at (214) 937-3928.

Sincerely,



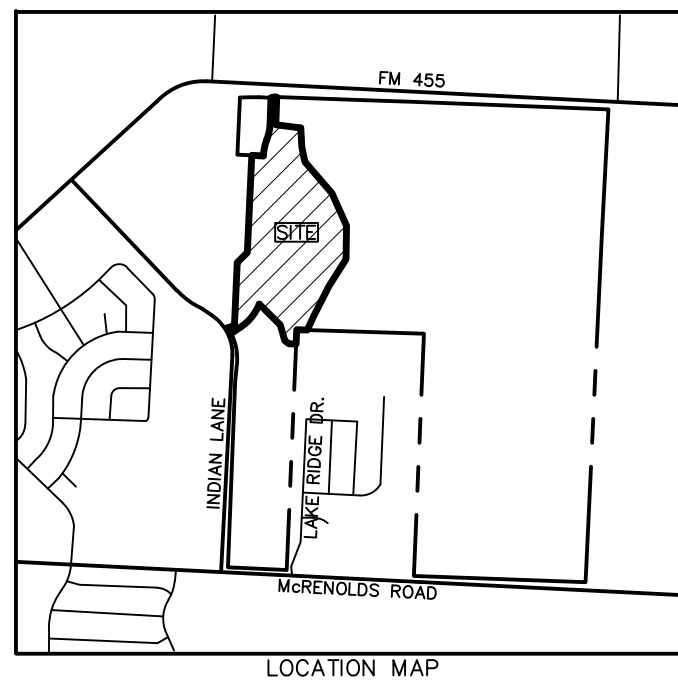
Jamie Akomer, PE, PMP

**HALFF**

Firm No. 0312

Attachments: Plan markups





Verify easement boundaries

Verify boundary does not appear to cover the entire floodplain

SANGER ISD VOL. 1841, PG. 662

MARION PROPERTY HOLDING LLC DOC. NO. 2022-123676

POINT OF BEGINNING

R=550.39'  
Δ=7°35'43"  
L=72.96'  
CD=72.91'  
CB=N31°39'53"W

DE by separate instrument for grading and headwall

SANGER TOWN CENTER LLC DOC. NO. 2017-48301

FLOOD ZONE AE PER LOMR DATED JUNE 26, 2018 CASE NO. 18-06-0546P FIRM PANEL 48121C0210G

OWNER - DEVELOPER:  
SANGER TOWN CENTER LLC  
MARION PROPERTY HOLDING LLC  
101 FOREST BEND DRIVE  
COPPELL, TEXAS 75019  
JONATHAN WANG  
214-316-2256

Scale 1"=60'

LEGEND  
IRS IRON ROD SET  
U.E. UTILITY EASEMENT  
D.E. DRAINAGE EASEMENT  
F.E. FRANCHISE EASEMENT  
S.B. SETBACK  
O.P.R.C.C.T. OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS  
D.R.D.C.T. DEED RECORDS OF DENTON COUNTY, TEXAS  
DOC. NO. DOCUMENT NUMBER  
MFF MIN. FINISHED FLOOR

NOTE:  
1. LOTS NUMBERED WITH AN "X" DESIGNATOR ARE LOTS DEDICATED TO THE HOME OWNERS ASSOCIATION.  
2. ALL EASEMENTS ARE DEDICATED BY THIS PLAT UNLESS NOTED AS BY SEP. INST.

PLAT NOTES  
All lots comply with the minimum size requirements of PD Ord. 09-25-23.  
1. This property may be subject to charges related to impact fees and the applicant should contact the City regarding any applicable fees due.  
2. All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/POA. Any common area within the City's right-of-way will require a facilities agreement, to be reviewed and approved by the City.  
3. 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.  
4. This plat does not alter or remove existing deed restrictions, if any, on this property.  
5. Minimum finished floor elevations are at least 2 feet above the 100 year flood plain.  
6. The subject property lies within 100-year floodplain Zone A according to Community Panel No. 48121C0210G, dated APRIL 18 2011, of the National Flood Insurance Rate Maps for Denton County, Texas.  
7. The purpose of this plat is subdivide the property into single family residential lots.  
8. Bearings are based on the State Plane Coordinate System, Texas North Central Zone (4202), North American Datum of 1983 (NAD 83)

PD Ord. called out is for Sanger Circle. The PD approval for Lane Ranch is required for plat acceptance

PRELIMINARY PLAT - LANE RANCH, PHASE 1  
43.821 ACRES 143 RES. LOTS  
1 COMMERCIAL LOT - 5 HOA LOTS  
7.259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BIBBE SURVEY, ABST. NO. 29  
CITY OF SANGER, DENTON COUNTY, TEXAS

Date: 4-15-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043P1.DWG  
Project No. 0001043

PPT1

JOHN COWAN & ASSOCIATES, INC.  
10147 CR 135 FLINT, TEXAS 75762 PH: (803) 581-2238  
WWW.TXSURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025500

SURVEYOR

Middleton & Assoc, LLC

CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBP# 1-10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

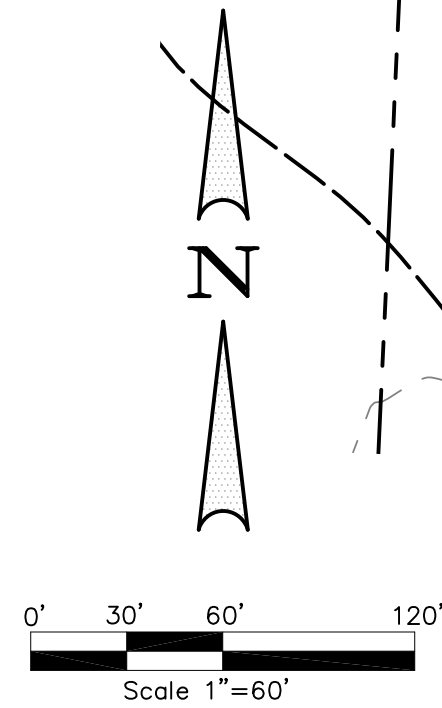
APPROV.

REVISION

DATE

No.

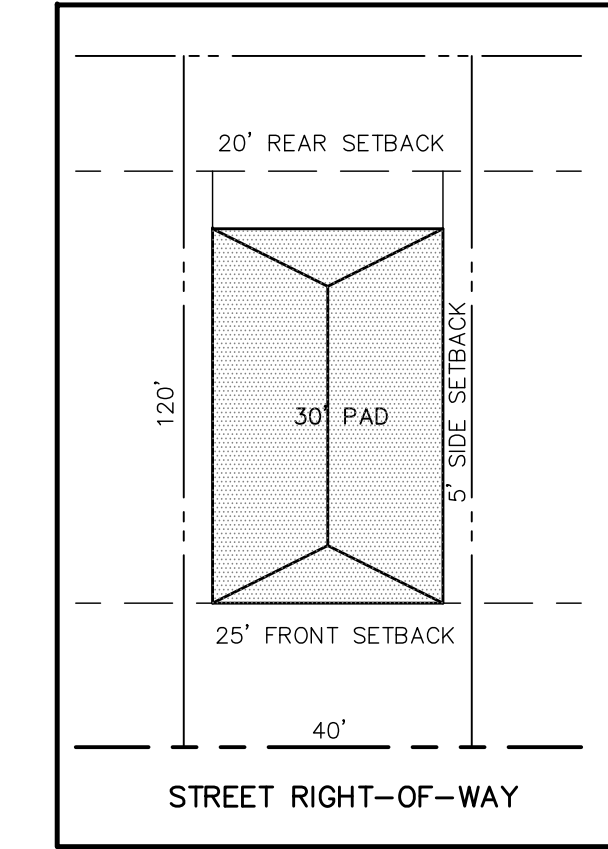




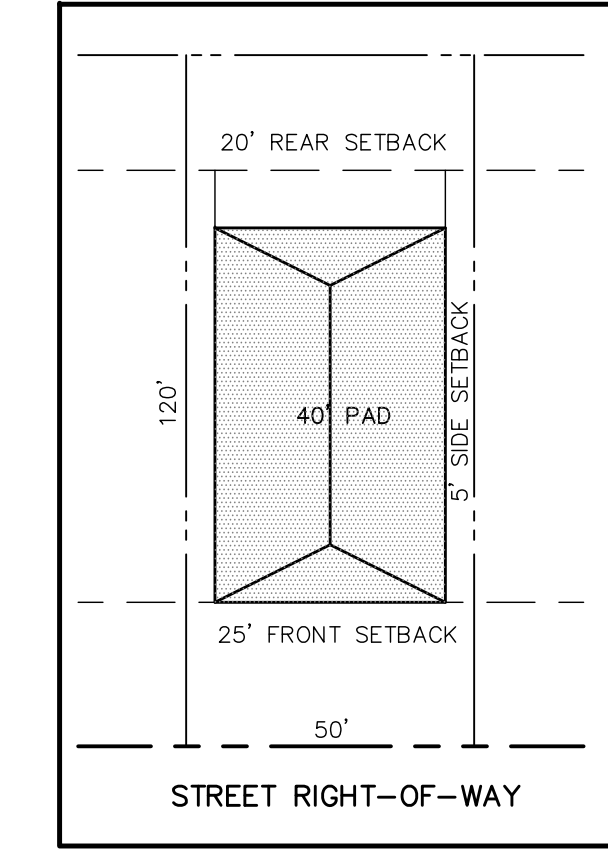
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IRS IRF U.E. D.E. F.E. S.B. O.P.R.C.C.T. D.R.D.C.T. DOC. NO. MFF

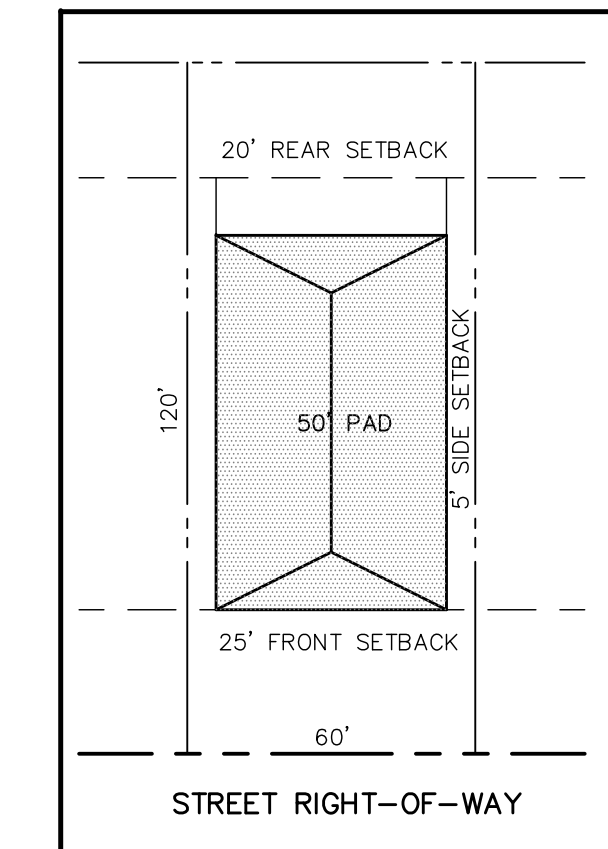
IRON ROD SET  
IRON ROD FOUND  
UTILITY EASEMENT  
DRAINAGE EASEMENT  
FRANCHISE EASEMENT  
SETBACK  
OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS  
DEED RECORDS OF DENTON COUNTY, TEXAS  
DOCUMENT NUMBER  
MIN. FINISHED FLOOR



40' LOTS  
(GARDEN LOTS)



50' LOTS  
(MANOR LOTS)



60' LOTS  
(ESTATE LOTS)

Date: 4-15-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043FPT.DWG  
Project No. 0001043

PPT2

PRELIMINARY PLAT - LANE RANCH, PHASE 1  
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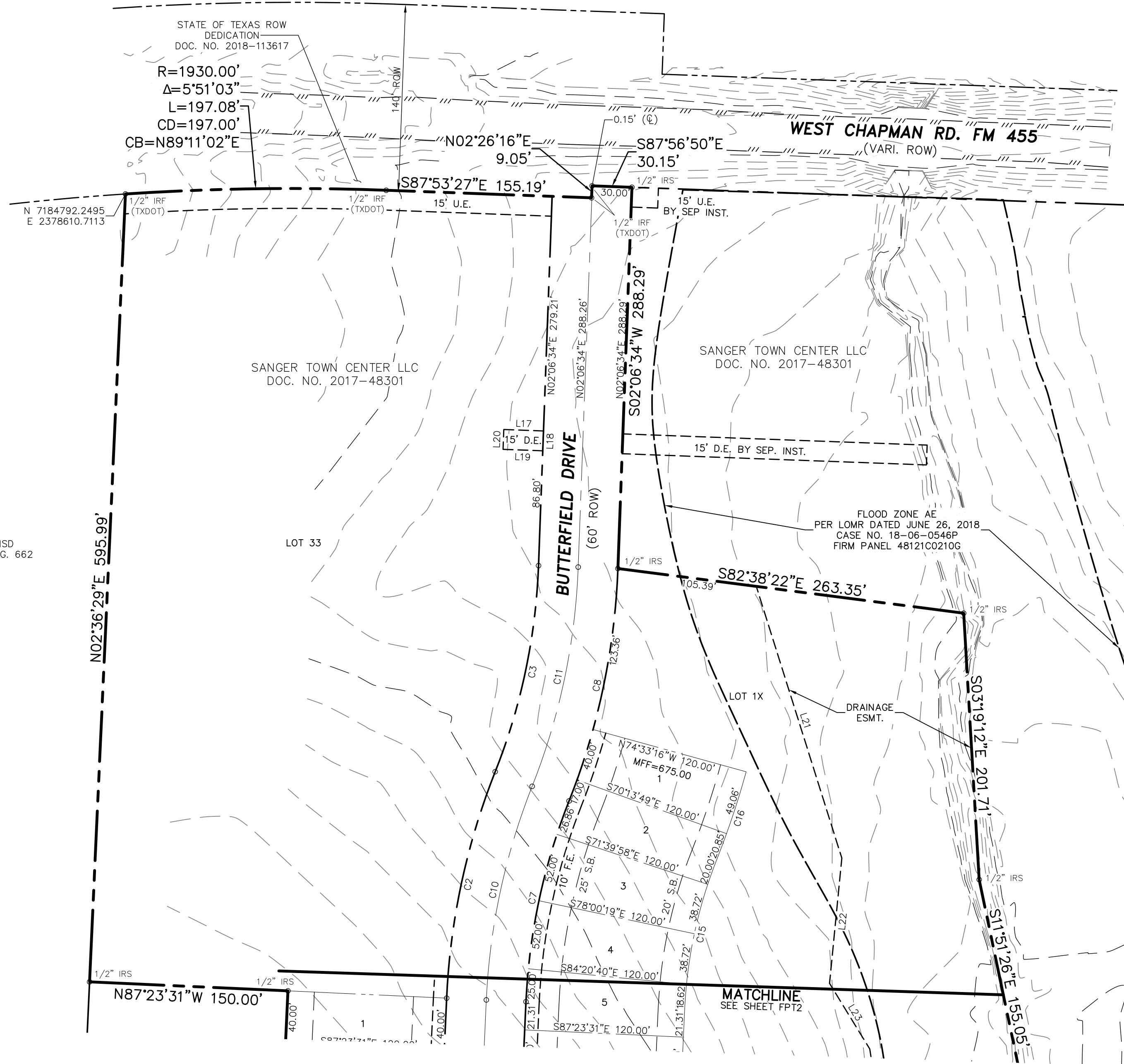
SURVEYOR

M & A

Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBP# 10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

No. DATE REVISION APPROV.

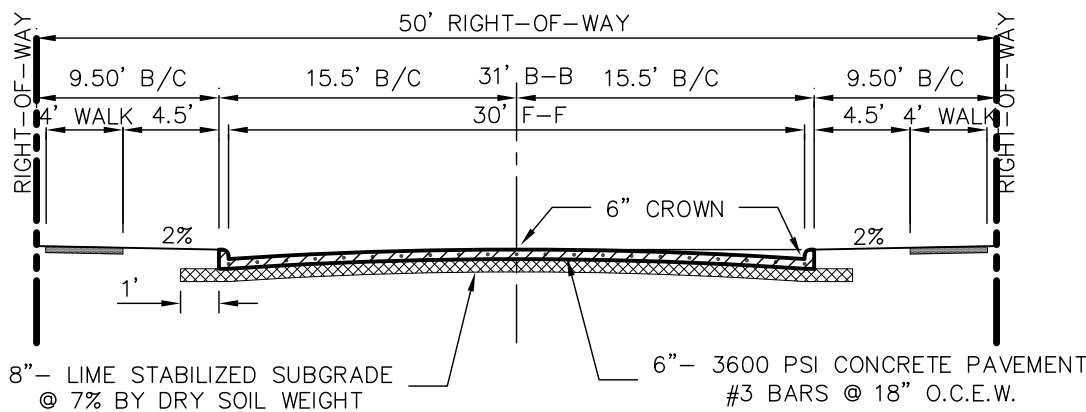
LEGEND  
IRS IRON ROD SET  
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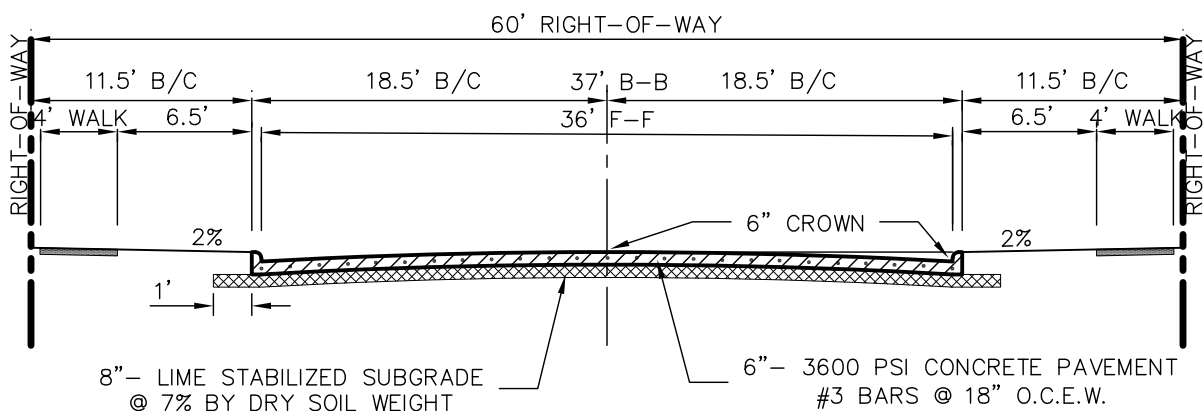
Curve Table					
No.	Delta	Radius	Length	Ch. Dist.	Bearing
C1	53°26'19"	470.00'	438.36'	422.64'	N29°19'38"E
C2	18°59'59"	530.00'	175.75'	174.95'	N12°06'28"E
C3	19°29'53"	470.00'	159.94'	159.17'	N11°51'31"E
C4	53°26'19"	530.00'	494.32'	476.60'	N29°19'38"E
C5	260°00'20"	50.00'	226.90'	76.60'	N52°36'19"E
C6	80°00'20"	10.50'	14.66'	13.50'	N37°23'41"W
C7	18°59'59"	470.00'	155.86'	155.14'	N12°06'28"E
C8	19°29'53"	530.00'	180.36'	179.49'	N11°51'31"E
C9	53°26'19"	500.00'	466.34'	449.62'	N29°19'38"E
C10	18°59'59"	500.00'	165.80'	165.04'	N12°06'28"E
C11	19°29'53"	500.00'	170.15'	169.33'	N11°51'31"E
C12	90°00'00"	35.50'	55.76'	50.20'	S42°23'31"E
C13	90°00'00"	35.50'	55.76'	50.20'	S47°36'29"W
C14	45°31'30"	83.50'	66.35'	64.61'	S20°09'16"E
C15	18°59'59"	350.00'	116.06'	115.53'	N12°06'28"E
C16	6°09'43"	650.00'	69.91'	69.87'	N18°31'36"E

Line Table		
Line #	Bearing	Distance
L1	N47°36'29"E	14.14
L2	S42°23'31"E	14.14
L3	N47°36'29"E	14.14
L4	N42°23'31"W	14.14
L5	N42°23'31"W	14.14
L6	S47°36'29"W	14.14
L7	N47°36'29"E	14.14
L8	S42°23'31"E	14.14
L9	S47°36'29"W	14.14
L10	N42°23'31"W	14.14
L11	S42°23'31"E	14.14
L12	N47°36'29"E	14.14
L13	N63°30'13"W	37.31
L14	S47°36'29"W	56.61
L15	N12°57'46"W	17.22
L16	N47°36'29"E	54.04
L17	S87°53'26"E	30.00
L18	S2°06'34"W	15.00
L19	N87°53'26"W	30.00
L20	N2°06'34"E	15.00
L21	S17°28'09"E	215.21
L22	S5°35'43"W	95.13
L23	S31°28'26"E	58.17
L24	S8°50'24"E	37.80
L25	S9°30'40"W	89.14
L26	S25°43'55"E	43.15
L27	S52°43'10"E	35.42
L28	S89°50'36"E	66.88
L29	S37°30'26"E	18.51
L30	S18°04'52"E	33.95

Line Table		
Line #	Bearing	Distance
L31	S28°18'43"E	52.71
L32	S1°24'50"E	32.26
L33	S78°38'11"E	66.50
L34	S84°03'45"E	82.18
L35	S11°48'36"E	19.01
L36	S87°23'31"E	135.00
L37	S2°36'29"W	570.00
L38	N87°23'31"W	116.16
L39	S2°36'29"W	58.91
L40	S14°06'25"W	96.61
L41	S28°52'25"W	173.99
L42	S39°22'35"W	54.43
L43	S2°36'29"W	141.79
L44	N87°23'31"W	53.15
L45	S2°36'29"W	81.61
L46	N88°11'55"W	183.26
L47	N12°57'46"W	153.01
L48	N14°02'23"W	92.98
L49	N76°36'38"W	49.75
L50	N47°14'10"W	10.36
L51	N21°10'53"W	19.66
L52	N62°42'09"W	63.12
L53	N27°53'47"W	53.85
L54	N80°43'07"W	23.21



50' LOCAL RESIDENTIAL SECTION  
N.T.S.



60' MINOR COLLECTOR SECTION  
BUTTERFIELD LANE  
N.T.S.

REVISION		DATE	APPROV.
No.			

**Middleton & Assoc, LLC**  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBP# 10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

**JOHN COWAN & ASSOCIATES, INC.**  
SURVEYOR  
10147 CR 135 FLINT, TEXAS 75762 PH: (803) 581-2238  
WWW.TXSURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025500

**PRELIMINARY PLAT - LANE RANCH, PHASE 1**  
43.821 ACRES 143 RES. LOTS  
1 COMMERCIAL LOT - 5 HOA LOTS  
7.259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BIBBEE SURVEY, ABST. NO. 29  
CITY OF SANGER, DENTON COUNTY, TEXAS

Date: 4-15-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043FPT.DWG  
Project No. 0001043

PPT3

LEGAL DESCRIPTION

All that certain lot, tract, or parcel of land, being part of the Rueben Bebee Survey, Abstract No. 29, Denton County, Texas, and being a part of that certain called 127.61 acre tract described in a deed from E.M.J. Lane, Inc. to Sanger Town Center, LLC on April 20, 2017, recorded in Document No. 2017-48301 of the Official Public Records of Denton, County, Texas (OPRDCT), and being a part of that certain called 25.00 acre tract of land described in a deed from Marion Hills Apartments, LLC to Marion Property Holding, LLC on August 23, 2022, recorded in Document No. 2022-123676, OPRDCT, and being more completely described as follows, to-wit:

BEGINNING at a 1/2" iron rod (set) for the westerly Southwest corner of the above mentioned 25.00 acre tract, in the westerly North line of the above mentioned 127.61 acre tract, in the South line of the Sanger ISD 35,000 acre tract described in Volume 1841, Page 662 of the Deed Records, Denton County, Texas, in the East right of way of Indian Lane;

THENCE South 88°03'30" East with the South line of the 35.00 acre tract, a distance of 21.92 feet to a 1/2" iron rod (set) for the Southeast corner of same, an ell corner of the 25.00, the Southwest corner of the Sanger Independent School District 3.728 acre tract described in Document No. 2022-160016, OPRDCT;

THENCE northerly and easterly with the East line of the 3.278 acre tract, the East line of the Sanger Independent School District 0.772 acre tract, as follows:

North 56°02'48" East a distance of 62.25 feet to a 1/2" iron rod (set) for corner,  
North 02°36'29" East a distance of 643.72 feet to a 1/2" iron rod (set) for corner,  
North 45°05'54" East a distance of 148.05 feet to a 1/2" iron rod (set) for corner,  
and North 02°36'29" East a distance of 1013.28 feet to a 1/2" iron rod (set) the Northeast corner of the 0.772 acre tract;

THENCE North 87°23'31" West a distance of 150.00 feet a 1/2" iron rod (set) the East line of the 35.00 acre tract;

THENCE northerly with the east line of the 35.00 acre tract North 02°36'29" East a distance of 595.99 feet to a 1/2" iron rod (found) the northeast corner of the 35.00 acre tract and the South right of way of West Chapman Road F.M. 455;

THENCE Easterly with the South right of way of West Chapman Road F.M. 455 as follows:

along a curve to the right, having a radius of 1930.00 feet, a chord of North 89° 11' 02" East - 197.00 feet, a distance of 197.08 feet to a 1/2" iron rod (found) for corner;  
South 87°53'27" East a distance of 155.19 feet to a 1/2" iron rod (found) for corner;  
North 02°26'16" East a distance of 9.05 feet to a 1/2" iron rod (found) for corner;  
South 87°56'50" East a distance of 30.15 feet to a 1/2" iron rod (set) for corner;

THENCE South 02°06'34" West a distance of 288.29 feet to a 1/2" iron rod (set) for corner;

THENCE South 82°38'22" East a distance of 263.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 3°19'12" East a distance of 201.71 feet to a 1/2" iron rod (set) for corner;

THENCE South 11°51'26" East a distance of 155.05 feet to a 1/2" iron rod (set) for corner;

THENCE South 40°39'48" East a distance of 430.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°13'47" East a distance of 371.11 feet to a 1/2" iron rod (set) for corner;

THENCE South 0°45'33" West a distance of 348.74 feet to a 1/2" iron rod (set) for corner;

THENCE South 32°24'46" West a distance of 333.84 feet to a 1/2" iron rod (set) for corner;

THENCE South 27°00'44" West a distance of 346.28 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°21'53" West a distance of 163.17 feet to a 1/2" iron rod (set) for corner in the corner in the easterly South line of the 127.61 acre tract, the North line of the Marion Hills Apartments, LLC tract described in Document No. 2017-92008, OPRDCT;

THENCE North 88°11'55" West with the North line of the Marion Hills Apartments, LLC tract, the easterly South line of the 127.61 acre tract, a distance of 109.93 feet to a 2" pipe found for an ell corner of same, the Northwest corner of the Marion Hills Apartments, LLC tract;

THENCE South 2°25'03" West with the west line of the Marion Hills Apartments, LLC tract, the southerly East line of the 127.61 acre tract, a distance of 149.43 feet to a 1/2" iron rod (set) for corner;

THENCE North 87°34'57" West a distance of 76.30 feet to a 1/2" iron rod (set) for corner;

THENCE North 52°47'15" West a distance of 53.75 feet to a 1/2" iron rod (set) for corner;

THENCE North 15°47'38" West a distance of 171.25 feet to a 1/2" iron rod (set) for corner;

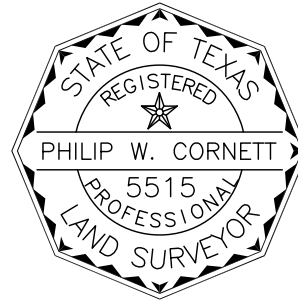
THENCE North 45°08'24" West a distance of 307.06 feet to a 1/2" iron rod (set) for the beginning of a non-tangent curve to the right, having a radius of 530.00 feet, a chord of South 39° 06' 05" West - 308.94 feet, a distance of 313.49 feet to a 1/2" iron rod (set) for corner at p.t of same;

THENCE South 56°02'48" West a distance of 120.23 feet to a 1/2" iron rod (set) for corner in the southerly West line of the 127.61 acre tract, the East right-of-way of Indian Lane, in a curve to the left;

THENCE with the East right-of-way of Indian Lane, with a non-tangent curve to the left, having a radius of 550.39 feet, a chord of North 31° 39' 53" West - 72.91 feet, a distance of 72.96 feet to the place of beginning, containing 43.821 acres, or 1,908,621 square feet of land.

STATE OF TEXAS  
COUNTY OF DENTON

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.



REGISTERED PUBLIC LAND SURVEYOR TEXAS R.P.L.S. NO. 5515 \_\_\_\_\_ DATE \_\_\_\_\_

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS:

THAT, Jonathan Wang acting herein by and through its duly authorized officer, does hereby adopt this plat designating the hereinabove described property as LANE RANCH, PHASE 1, an addition to the City of Sanger, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parks, and watercourses, and to the public use forever easements for sidewalks, storm drainage facilities, utilities and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be installed, if approved by the City of Sanger. The City of Sanger and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

WITNESS MY HAND this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_, Owner

\_\_\_\_\_, Title and Company

State of Texas  
County of Denton

Before me, the undersigned authority, on this day personally appeared Jonathan Wang, 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.

Given under my hand and seal of office this \_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_  
Notary Public in and for the State of Texas

\_\_\_\_\_  
Print Notary's Name

My Commission Expires \_\_\_\_\_

Preliminary Plat for Review Purposes Only	
Approved for Preparation of Final Plat	
_____ City of Sanger, TX Planning & Zoning Commission	_____ Date Planning & Zoning Commission

Date: 4-15-24  
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PPT4

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7.259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BEBEE SURVEY, ABST. NO. 29  
CITY OF SANGER, DENTON COUNTY, TEXAS

JOHN COWAN & ASSOCIATES, INC.  
10147 CR 135 FLINT, TEXAS 75762 PH: (803) 581-2238  
WWW.TEXASURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025500

SURVEYOR

Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBPE #1-10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

APPROV.

REVISION

DATE

No.



CONSTRUCTION PLANS FOR  
PAVING, GRADING, EROSION CONTROL,  
STORM DRAINAGE, WATER & SANITARY SEWER  
  
LANE RANCH, PHASE 1  
CITY OF SANGER, TEXAS

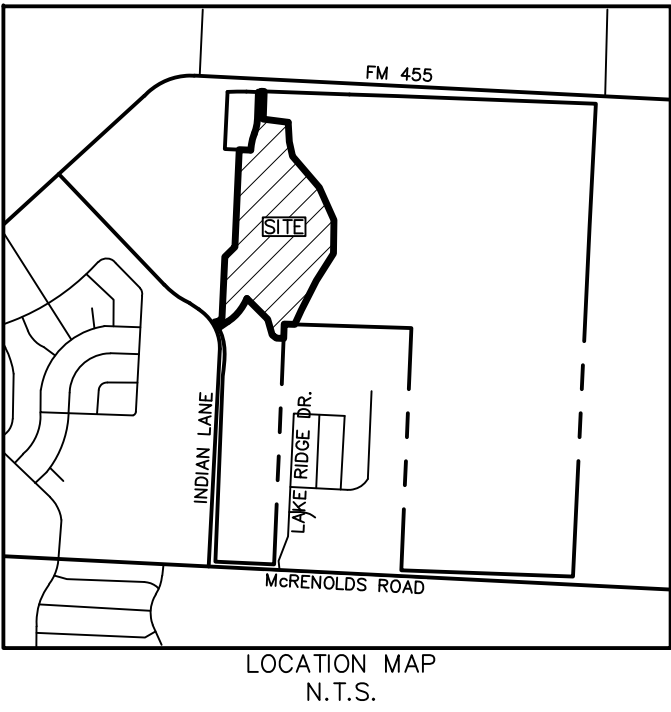
PROJECT DIRECTORY

**SURVEYOR**  
JOHN COWAN & ASSOCIATES, INC.  
10147 CR 135  
FLINT, TEXAS 75762  
903-581-2238

**OWNER — DEVELOPER:**  
SANGER TOWN CENTER LLC  
MARION PROPERTY HOLDING LLC  
101 FOREST BEND DRIVE  
COPPELL, TEXAS 75019  
JONATHAN WANG  
214-316-2256

**GEOTECHNICAL ENGINEER:**  
TERRADYNE ENGINEERS  
1840 HUTTON DRIVE #190  
CARROLLTON, TEXAS 75006  
817-858-0870

**HYDROLOGIST:**  
CARDINAL STRATEGIES  
2770 CAPITAL STREET  
WYLIE, TEXAS 75098  
BEN McWHORTER  
469-547-1281



SECOND SUBMITTAL  
FOR REVIEW ONLY  
2-2-24

1. COVER  
2. FPT1 FINAL PLAT  
3. FPT2 FINAL PLAT  
4. FPT3 FINAL PLAT  
5. FPT4 FINAL PLAT  
6. NOTE1 GENERAL CONSTRUCTION NOTES

- PAVING PLAN & PROFILES**  
7. P1 BUTTERFIELD DRIVE STA. 0+00-7+00  
8. P2 BUTTERFIELD DRIVE STA. 7+00-17+00  
9. P3 BUTTERFIELD DRIVE STA. 17+00-END  
10. P4 GAILLARDIA LANE STA. 0+00-6+15  
11. P5 PAINTBRUSH LANE STA. 6+15-14+70  
12. P6 BEE BALM LANE STA. 14+20-END  
13. P7 WINECUP LANE STA. 0+00-6+00  
14. P8 WINECUP LANE STA. 6+00-END

- PAVING DETAILS**  
15. DT-P1

- LOT GRADING PLANS**  
16. G1  
17. G2  
18. G3  
19. G4  
20. G5

- LOT GRADING DETAILS**  
21. DT-GR1

- EROSION CONTROL PLAN**  
22. ER01 EROSION CONTROL PLAN  
23. ER02 EROSION CONTROL PLAN  
24. ER03 EROSION CONTROL DETAILS  
25. ER04 EROSION CONTROL DETAILS

- DRAINAGE AREA MAP & CALCULATIONS**  
26. C7.2 SANGER ISD PROP. DAM  
27. DAM1 EXISTING CONDITIONS  
28. DAM2 EXISTING CONDITIONS  
29. DAM3 PROPOSED CONDITIONS  
30. DAM4 PROPOSED CONDITIONS  
31. DAM5 PROPOSED CONDITIONS  
32. CALC1 DRAINAGE AREA & INLET CALCS.  
33. CALC2 HYDRAULIC CALCS.

- STORM DRAIN PLAN & PROFILE**  
34. ST-ALL OVERALL STORM DRAIN PLAN  
35. ST1 ST LINE 1  
36. ST2 ST LINE 2  
37. ST3 ST LINE 3 & 4  
38. ST4 ST LINE 5  
39. ST5 ST LINE 6  
40. ST6 ST LINE 7  
41. ST7 ST LINE 8  
42. ST8 ST LINE 9

- STORM DRAIN DETAILS**  
43. DT-ST1  
44. DT-ST2  
45. DT-ST3  
46. DT-ST4  
47. DT-ST5  
48. DT-ST6

- SANITARY SEWER PLAN & PROFILE**  
49. SS-ALL OVERALL SEWER PLAN  
50. SS1 SS LINE A STA. 0+00-8+00  
51. SS2 SS LINE A STA. 8+00-15+00  
52. SS3 SS LINE A STA. 15+00-END  
53. SS4 SS LINE B STA. 0+00-8+00  
54. SS5 SS LINE B STA. 8+00-END  
55. SS6 SS LINE C  
56. SS7 SS LINE D STA. 0+00-4+00  
57. SS8 SS LINE D STA. 4+00-11+00  
58. SS9 SS LINE D STA. 17+00-END

- SEWER DETAILS**  
59. DT-SS1

- WATER PLAN**  
60. W-ALL OVERALL WATER PLAN  
61. W1  
62. W2  
63. W3  
64. W4

- WATER DETAILS**  
65. DT-W1  
66. DT-W2

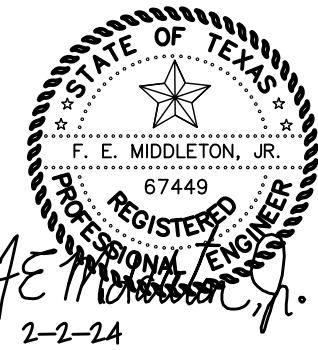
- SIDEWALK PLAN**  
67. WALK1

- STREET LIGHT. & SIGNAGE PLAN**  
68. LT1



THE CONTRACTOR SHALL USE THE CITY OF SANGER'S STANDARD CONSTRUCTION DETAILS FOR THIS PROJECT.

**CAUTION!!! UNDERGROUND UTILITIES!!!**  
EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY 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 CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. CONTACT ALL POSSIBLE UTILITY AND UNDERGROUND FACILITY OWNERS.

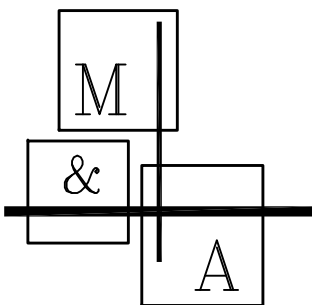


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY FLOYD E. MIDDLETON, JR., PE REGISTRATION #67449 ON 2-2-24. ANY ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

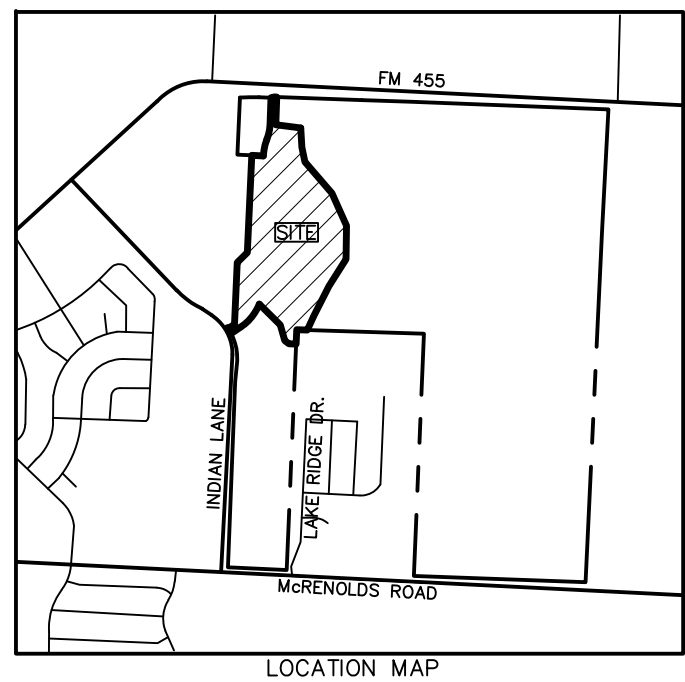
PROJECT ENGINEER:

**Middleton  
& Associates, LLC.**

CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBPE #F-10900 © Copyright 2024  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800







SANGER ISD  
VOL. 1841, PG. 662

SANGER ISD  
DOC. NO. 2022-160016

SANGER TOWN CENTER LLC  
DOC. NO. 2017-48301

SANGER TOWN CENTER LLC  
DOC. NO. 2017-48301

FLOOD ZONE AE  
PER LOMR DATED JUNE 26, 2018  
CASE NO. 18-06-0546P  
FIRM PANEL 48121C0210G

OWNER - DEVELOPER:  
SANGER TOWN CENTER LLC  
MARION PROPERTY HOLDING LLC  
101 FOREST BEND DRIVE  
COPPELL, TEXAS 75019  
JONATHAN WANG  
214-316-2256

LEGEND  
IRS IRON ROD SET  
U.E. UTILITY EASEMENT  
D.E. DRAINAGE EASEMENT  
F.E. FRANCHISE EASEMENT  
S.B. SETBACK  
O.P.R.C.C.T. OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS  
D.R.D.C.T. DEED RECORDS OF DENTON COUNTY, TEXAS  
DOC. NO. DOCUMENT NUMBER  
MFF MIN. FINISHED FLOOR

NOTE:  
1. LOTS NUMBERED WITH AN "X" DESIGNATOR ARE LOTS  
DEDICATED TO THE HOME OWNERS ASSOCIATION.

Provide Closure report per  
ordinance 10.104(d)(10)

Define side setbacks

Easements were  
added to the  
preliminary plat based  
on the 2nd submittal  
comments. The final  
plat does not reflect  
these changes  
Reconcile

PD Ord. called out is  
for Sanger Circle.  
The PD approval for  
Lane Ranch is  
required for plat  
acceptance

PLAT NOTES  
All lots comply with the minimum size requirements of PD Ord. 09-25-23.  
1. This property may be subject to charges related to impact fees and other applicant should contact the City regarding any applicable fees due.  
2. All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/POA. Any common area within the City's right-of-way will require a facilities agreement, to be reviewed and approved by the City.  
3. 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.  
4. This plat does not alter or remove existing deed restrictions, if any, on this property.  
5. Minimum finished floor elevations are at least 2 feet above the 100 year flood plain.  
6. The subject property lies within a 100-year floodplain according to Community Panel No. 48121C0210G, dated APRIL 18 2011, of the National Flood Insurance Rate Maps for Denton County, Texas. It does lie within Zone A.  
7. The purpose of this plat is to subdivide the property into single family residential lots.  
8. Bearings are based on the State Plane Coordinate System, Texas North Central Zone (4202), North American Datum of 1983 (NAD 83)

DATE REVISION APPROV.  
No. Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBP# 10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

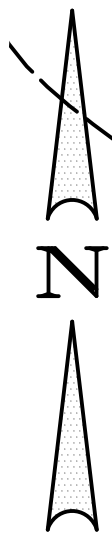
SURVEYOR  
JOHN COWAN & ASSOCIATES, INC.  
10147 CR 135 FLINT, TEXAS 75762 PH: (803) 581-2238  
WWW.TX.SURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025500

FINAL PLAT - LANE RANCH, PHASE 1  
43.820 ACRES 143 RES. LOTS  
1 COMMERCIAL LOT - 5 HOA LOTS  
7-259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BIBBE SURVEY, ABST. NO. 29  
CITY OF SANGER, DENTON COUNTY, TEXAS

Date: 2-2-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043FPT1.DWG  
Project No. 0001043

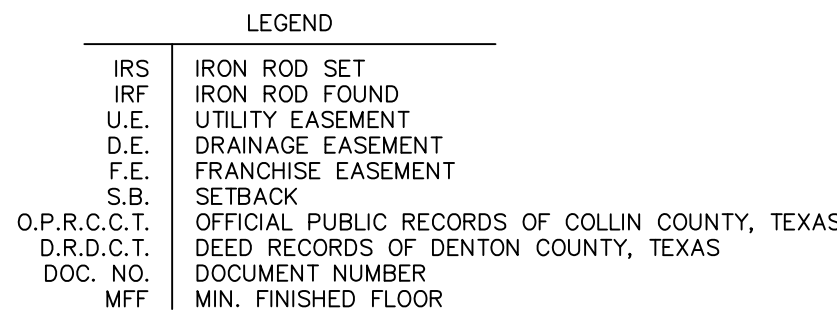
FPT1





SANGER ISD  
DOC. NO. 2022-160016

SANGER ISD  
DOC. NO. 2022-160017



No.	DATE	REVISION	APPROV.

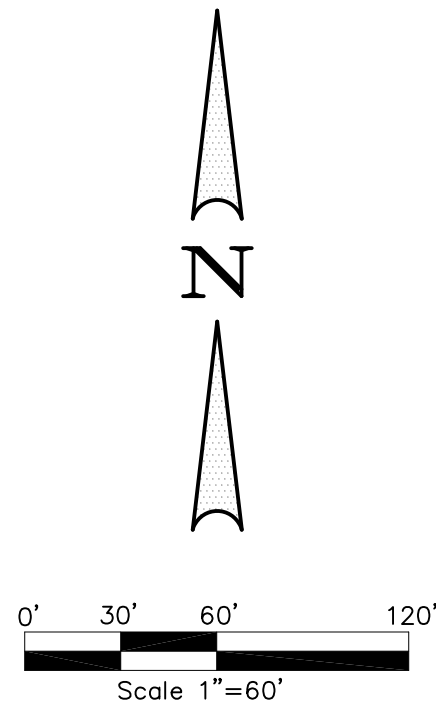
**JOHN COWAN & ASSOCIATES, INC.**  
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FIRM REGISTRATION CERTIFICATION NO. 10025500

**FINAL PLAT – LANE RANCH, PHASE 1**  
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CITY OF SANGER, DENTON, COUNTY, TEXAS

Date: 2-2-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043FPT.DWG  
Project No. 0001043

FPT2





SANGER ISD  
VOL. 1841, PG. 662

SANGER TOWN CENTER LLC  
DOC. NO. 2017-48301

LOT 33

LOT 1X

MATCHLINE  
SEE SHEET FPT2

Show centerline of existing street.  
Dimensions from centerline to edges of  
existing and proposed right-of-way on  
both sides of the centerline  
per ordinance 10.104(d)(10)(H)  
TYP

WEST CHAPMAN RD. FM 455  
(VARI. ROW)

LEGEND	
IRS	IRON ROD SET
IRF	IRON ROD FOUND
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
F.E.	FRANCHISE EASEMENT
S.B.	SETBACK
O.P.R.C.C.T.	OFFICIAL PUBLIC RECORDS OF COLLIN COUNTY, TEXAS
D.R.D.C.T.	DEED RECORDS OF DENTON COUNTY, TEXAS
DOC. NO.	DOCUMENT NUMBER
MF	MIN. FINISHED FLOOR

Curve Table					
No.	Delta	Radius	Length	Ch. Dist.	Bearing
C1	53°26'19"	470.00'	438.36'	422.64'	N29°19'38"E
C2	18°59'59"	530.00'	175.75'	174.95'	N12°06'28"E
C3	19°29'53"	470.00'	159.94'	159.17'	N11°51'31"E
C4	53°26'19"	530.00'	494.32'	476.60'	N29°19'38"E
C5	260°00'20"	50.00'	226.90'	76.60'	N52°36'19"E
C6	80°00'20"	10.50'	14.66'	13.50'	N37°23'41"W
C7	18°59'59"	470.00'	155.86'	155.14'	N12°06'28"E
C8	19°29'53"	530.00'	180.36'	179.49'	N11°51'31"E
C9	53°26'19"	500.00'	466.34'	449.62'	N29°19'38"E
C10	18°59'59"	500.00'	165.80'	165.04'	N12°06'28"E
C11	19°29'53"	500.00'	170.15'	169.33'	N11°51'31"E
C12	90°00'00"	35.50'	55.76'	50.20'	S42°23'31"E
C13	90°00'00"	35.50'	55.76'	50.20'	S47°36'29"W
C14	45°31'30"	83.50'	66.35'	64.61'	S20°09'16"E
C15	18°59'59"	350.00'	116.06'	115.53'	N12°06'28"E
C16	6°09'43"	650.00'	69.91'	69.87'	N18°31'36"E

Line Table		
Line #	Bearing	Distance
L1	N47°36'29"E	14.14
L2	S42°23'31"E	14.14
L3	N47°36'29"E	14.14
L4	N42°23'31"W	14.14
L5	N42°23'31"W	14.14
L6	S47°36'29"W	14.14
L7	N47°36'29"E	14.14
L8	S42°23'31"E	14.14
L9	S47°36'29"W	14.14
L10	N42°23'31"W	14.14
L11	S42°23'31"E	14.14
L12	N47°36'29"E	14.14
L13	N63°30'13"W	37.31
L14	S47°36'29"W	50.00
L15	N42°23'31"W	15.00
L16	N47°36'29"E	55.90

Date: 2-2-24  
Dwg Scale: 1"=60'  
Dwg File: 0001043FPT.DWG  
Project No. 0001043

FPT3

FINAL PLAT - LANE RANCH, PHASE 1  
43.820 ACRES 143 RES. LOTS  
1 COMMERCIAL LOT - 5 HOA LOTS  
7.259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BIBBEE SURVEY, ABST. NO. 29  
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WWW.TXSURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025500

SURVEYOR

M & A

Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBP# 10900 © Copyright 2024  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

No. DATE REVISION APPROV.

LEGAL DESCRIPTION

All that certain lot, tract, or parcel of land, being part of the Rueben Bebee Survey, Abstract No. 29, Denton County, Texas, and being a part of that certain called 127.61 acre tract described in a deed from E.M.J. Lane, Inc. to Sanger Town Center, LLC on April 20, 2017, recorded in Document No. 2017-48301 of the Official Public Records of Denton, County, Texas (OPRDCT), and being a part of that certain called 25.00 acre tract of land described in a deed from Marion Hills Apartments, LLC to Marion Property Holding, LLC on August 23, 2022, recorded in Document No. 2022-123676, OPRDCT, and being more completely described as follows, to-wit:

BEGINNING at a 1/2" iron rod (set) for the westerly Southwest corner of the above mentioned 25.00 acre tract, in the westerly North line of the above mentioned 127.61 acre tract, in the South line of the Sanger ISD 35,000 acre tract described in Volume 1841, Page 662 of the Deed Records, Denton County, Texas, in the East right of way of Indian Lane;

THENCE South 88°03'30" East with the South line of the 35.00 acre tract, a distance of 21.92 feet to a 1/2" iron rod (set) for the Southeast corner of same, an ell corner of the 25.00, the Southwest corner of the Sanger Independent School District 3.728 acre tract described in Document No. 2022-160016, OPRDCT;

THENCE northerly and easterly with the East line of the 3.278 acre tract, the East line of the Sanger Independent School District 0.772 acre tract, as follows:

North 56°02'48" East a distance of 62.25 feet to a 1/2" iron rod (set) for corner,  
North 02°36'29" East a distance of 643.72 feet to a 1/2" iron rod (set) for corner,  
North 45°05'54" East a distance of 148.05 feet to a 1/2" iron rod (set) for corner,  
and North 02°36'29" East a distance of 1013.28 feet to a 1/2" iron rod (set) the Northeast corner of the 0.772 acre tract;

THENCE North 87°23'31" West a distance of 150.00 feet a 1/2" iron rod (set) the East line of the 35.00 acre tract;

THENCE northerly with the east line of the 35.00 acre tract North 02°36'29" East a distance of 595.99 feet to a 1/2" iron rod (found) the northeast corner of the 35.00 acre tract and the South right of way of West Chapman Road F.M. 455;

THENCE Easterly with the South right of way of West Chapman Road F.M. 455 as follows:

along a curve to the right, having a radius of 1930.00 feet, a chord of North 89° 11' 02" East - 197.00 feet, a distance of 197.08 feet to a 1/2" iron rod (found) for corner;  
South 87°53'27" East a distance of 155.19 feet to a 1/2" iron rod (found) for corner;  
North 02°26'16" East a distance of 9.05 feet to a 1/2" iron rod (found) for corner;  
South 87°56'50" East a distance of 30.15 feet to a 1/2" iron rod (set) for corner;

THENCE South 02°06'34" West a distance of 288.29 feet to a 1/2" iron rod (set) for corner;

THENCE South 82°38'22" East a distance of 263.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 3°19'12" East a distance of 201.71 feet to a 1/2" iron rod (set) for corner;

THENCE South 11°51'26" East a distance of 155.05 feet to a 1/2" iron rod (set) for corner;

THENCE South 40°39'48" East a distance of 430.35 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°13'47" East a distance of 371.11 feet to a 1/2" iron rod (set) for corner;

THENCE South 0°45'33" West a distance of 348.74 feet to a 1/2" iron rod (set) for corner;

THENCE South 32°24'46" West a distance of 333.84 feet to a 1/2" iron rod (set) for corner;

THENCE South 27°00'44" West a distance of 346.28 feet to a 1/2" iron rod (set) for corner;

THENCE South 24°21'53" West a distance of 163.11 feet to a 1/2" iron rod (set) for corner in the corner in the easterly South line of the 127.61 acre tract, the North line of the Marion Hills Apartments, LLC tract described in Document No. 2017-92008, OPRDCT;

THENCE North 88°13'32" West with the North line of the Marion Hills Apartments, LLC tract, the easterly South line of the 127.61 acre tract, a distance of 109.95 feet to a 2" pipe found for an ell corner of same, the Northwest corner of the Marion Hills Apartments, LLC tract;

THENCE South 2°25'03" West with the west line of the Marion Hills Apartments, LLC tract, the southerly East line of the 127.61 acre tract, a distance of 149.43 feet to a 1/2" iron rod (set) for corner;

THENCE North 87°34'57" West a distance of 76.30 feet to a 1/2" iron rod (set) for corner;

THENCE North 52°47'15" West a distance of 53.75 feet to a 1/2" iron rod (set) for corner;

THENCE North 15°47'38" West a distance of 171.25 feet to a 1/2" iron rod (set) for corner;

THENCE North 45°08'24" West a distance of 307.06 feet to a 1/2" iron rod (set) for the beginning of a non-tangent curve to the right, having a radius of 530.00 feet, a chord of South 39° 06' 05" West - 308.94 feet, a distance of 313.49 feet to a 1/2" iron rod (set) for corner at p.t of same;

THENCE South 56°02'48" West a distance of 120.23 feet to a 1/2" iron rod (set) for corner in the southerly West line of the 127.61 acre tract, the East right-of-way of Indian Lane, in a curve to the left;

THENCE with the East right-of-way of Indian Lane, with a non-tangent curve to the left, having a radius of 550.39 feet, a chord of North 31° 39' 53" West - 72.91 feet, a distance of 72.96 feet to the place of beginning, containing 43.820 acres, or 1,908,818 square feet of land.

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS:

THAT, Jonathan Wang acting herein by and through its duly authorized officer, does hereby adopt this plat designating the hereinabove described property as LANE RANCH, PHASE 1, an addition to the City of Sanger, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parks, and watercourses, and to the public use forever easements for sidewalks, storm drainage facilities, utilities and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be installed, if approved by the City of Sanger. The City of Sanger and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

WITNESS MY HAND this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_, Owner

\_\_\_\_\_, Title and Company

State of Texas  
County of Denton

Before me, the undersigned authority, 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.

Given under my hand and seal of office this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

\_\_\_\_\_  
Notary Public in and for the State of Texas

\_\_\_\_\_  
Print Notary's Name

My Commission Expires \_\_\_\_\_

Preliminary Plat for Review Purposes Only

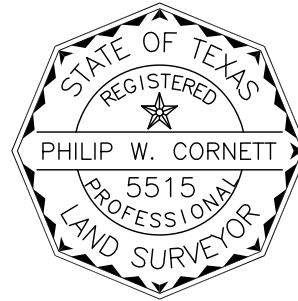
Approved for Preparation of Final Plat

\_\_\_\_\_  
City of Sanger, TX Date  
Planning & Zoning Commission

Replace with Final  
Plat approval per  
ordinance  
10.104(d)(10)(X)

STATE OF TEXAS  
COUNTY OF DENTON

I HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND UNDER MY SUPERVISION.



REGISTERED PUBLIC LAND SURVEYOR TEXAS R.P.L.S. NO. 5515 \_\_\_\_\_ DATE \_\_\_\_\_

Date: 2-2-24  
Dwg Scale: 1"=60'

Dwg File: 0001043FPT.DWG  
Project No. 0001043

FPT4

SURVEYOR  
JOHN COWAN & ASSOCIATES, INC.

10147 CR 135 FULT, TEXAS 75762 PH: (803) 581-2238  
WWW.SURVEYS.COM  
FIRM REGISTRATION CERTIFICATION NO. 10025000

FINAL PLAT - LANE RANCH, PHASE 1

43.820 ACRES 143 RES. LOTS  
1 COMMERCIAL LOT - 5 HOA LOTS  
7.259 AC. RIGHT-OF-WAY DEDICATION  
REUBEN BEBEE SURVEY, ABST. NO. 29  
CITY OF SANGER, DENTON COUNTY, TEXAS

APPROVAL

REVISION

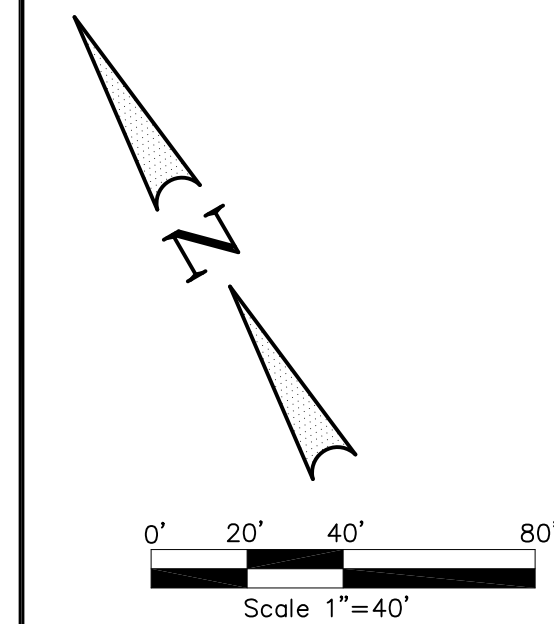
DATE

NO.

Middleton & Assoc, LLC

CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBPE #1-10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800





The profile view of Butterfield Drive shows the vertical alignment of the road. The horizontal axis represents stationing from -0+50 to 7+00. The vertical axis represents elevation in feet, ranging from 655 to 690. The profile includes several vertical curves (VC) and grades. Key features include:

- Vertical Curves:**
  - 120' VC LT: PVI STA. 1+00.00, PVI ELEV. 677.57, E=0.84', K=21, HIGH PT. 0+52.87, HIGH PT. 677.25.
  - 120' VC RT: PVI STA. 1+00.00, PVI ELEV. 677.57, E=0.97', K=19, HIGH PT. 0+67.54, HIGH PT. 676.88.
  - 165' VC: PVI STA. 2+50.00, PVI ELEV. 670.07, E=-0.91', K=38, LOW PT. STA. 3+32.50, LOW PT. ELEV. 669.58.
  - 100' VC: PVI STA. 5+00.00, PVI ELEV. 668.57, E=-0.15', K=83, LOW PT. STA. 5+00.00, LOW PT. ELEV. 668.72.
- Grades:**
  - 0.60% LT (Left Turn)
  - 1.49% RT (Right Turn)
  - 5.00% LT (Left Turn)
  - 5.00% (Downward slope)
  - 0.60% (Downward slope)
  - 0.60% (Upward slope)
- Key Points:**
  - PI STA. -0+01.22 RT
  - PI STA. 0+00.56 LT
  - CR STA. 0+16.86 RT
  - CR STA. 0+20.45 LT
  - PVC STA. 0+40.00
  - TC 677.21
  - PVT STA. 1+60.00
  - TC 674.57
  - PVC STA. 1+67.50
  - TC 674.19
  - PVT STA. 3+32.50
  - TC 669.98
  - PVC STA. 4+50.00
  - TC 668.87
  - PVT STA. 5+50.00
  - TC 668.87
- Other Features:**
  - EX. GRADE (Existing Grade) and PROP. GRADE (Proposed Grade) are shown as dashed lines.
  - A 3'-5'x3' BOX CROSSING is indicated near station 4+50.
  - COMPACTED FILL PER GEOTECH REPORT is noted near the crossing.
  - Matchline STA 7+00 is shown at the right end of the profile.

**CAUTION!!! UNDERGROUND UTILITIES!!!**

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATION SURVEY OR SHALL BE RESPONSIBLE TO THE CONTRACTOR TO VERIFY BOTH THE HORIZONTAL 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 CONTRACTOR SHALL PROTECT AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. CONTACT ALL POSSIBLE UTILITY AND UNDERGROUND FACILITY OWNERS.

NOTE:

1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.

No.	DATE	REVISION	APPROV.

**Middleton & Assoc, LLC**  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TYPE #1-10900 © Copyright 2024  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800



THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR.,

LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS

SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
101 FOREST BEND DRIVE  
COPELL, TEXAS 75019

JONATHAN WANG — 214-316-2256

PAVING PLAN & PROFILE  
BUTTERFIELD DRIVE  
STA. 0+00 - 7+00  
LANE RANCH, PHASE 1

Date: 2-2-24  
Dwg Scale: Hor. 1"=40'  
Vert. 1"=4'  
Dwg File: 0001043PAV.DWG  
Project No. 0001043

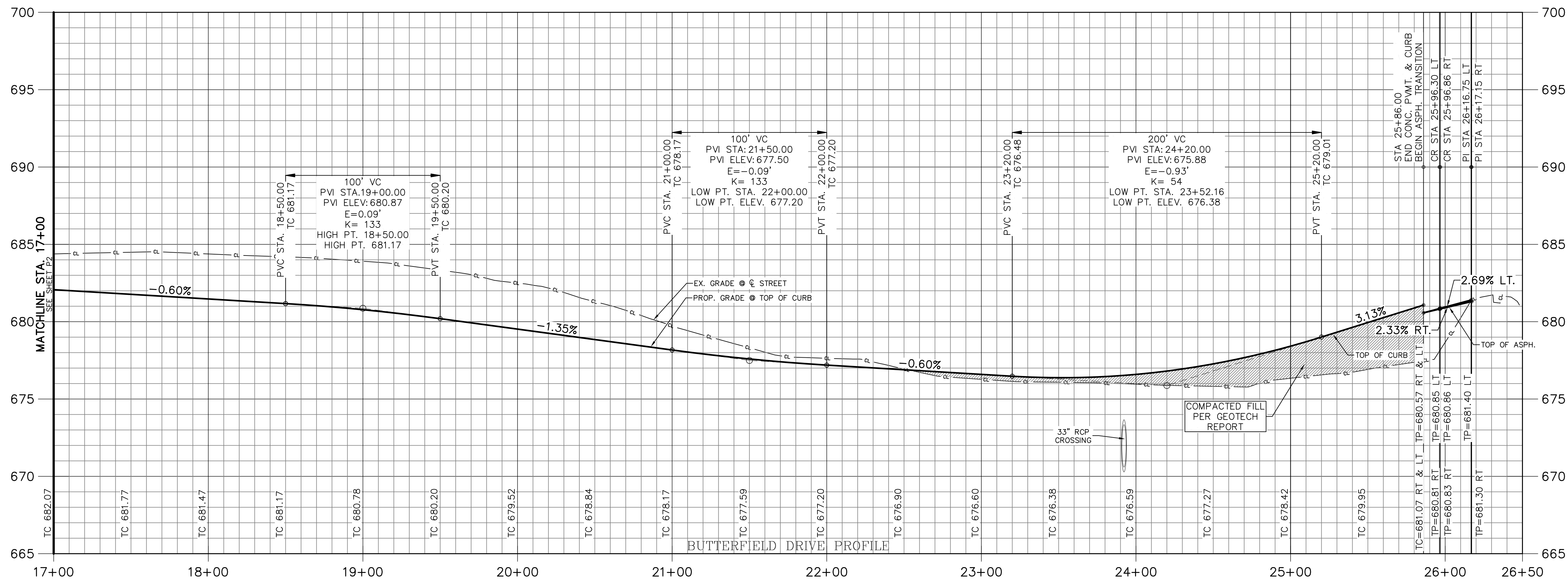
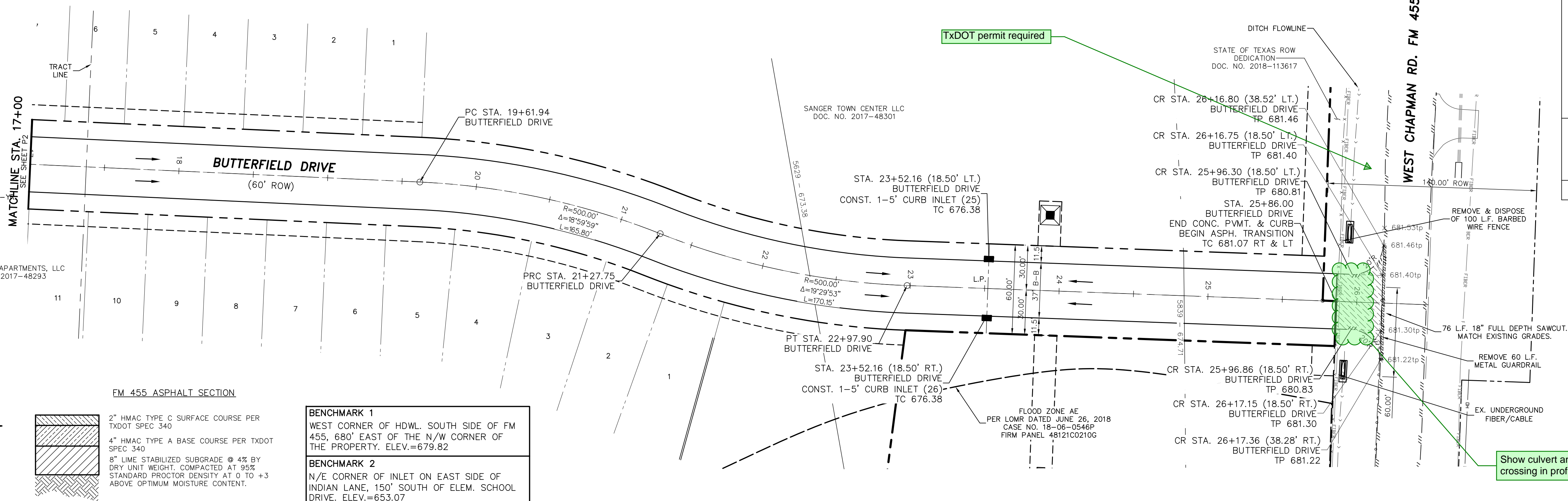
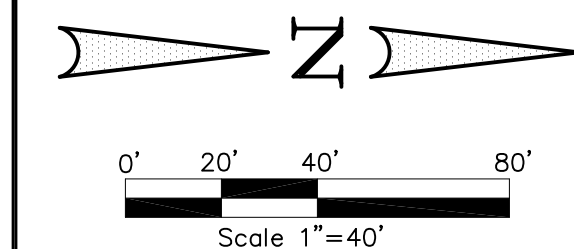
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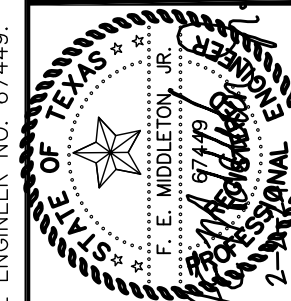
- LEGEND
- PP Power Pole
  - CW Guy Wire
  - MH Manhole
  - WV Water Valve
  - TP Telephone Pedestal
  - WM Water Meter
  - FH Fire Hydrant
  - LP Light Pole
  - IV Irrigation Valve
  - SN Sign
  - RF Iron Rod Found
  - IRS Iron Rod Set

- LEGEND
- TC TOP OF CURB
  - TP TOP OF PAVEMENT
  - CR CURB RETURN
  - FL FLOW LINE
  - VG VALLEY GUTTER
  - H.P. HIGH POINT
  - L.P. LOW POINT
  - 2 STREET STATION
  - BFR HC RAMP
  - 1140-667.57 FLOOD CROSS SECTION & 100-  
ELEV. PER FLOOD REPORT
  - OH EX. OVERHEAD UTILITY
  - X EX. FENCE
  - STREET NAME CHANGE

MARION HILLS APARTMENTS, LLC  
DOC. NO. 2017-48293



THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE  
RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR.,  
REGISTERED PROFESSIONAL ENGINEER NO. 67449.



LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS  
SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
10001 DAVIS DRIVE  
COFFEE, TEXAS 75018  
JONATHAN WANG - 214-316-2256

PAVING PLAN & PROFILE  
BUTTERFIELD DRIVE  
STA. 17+00 - END  
LANE RANCH, PHASE 1

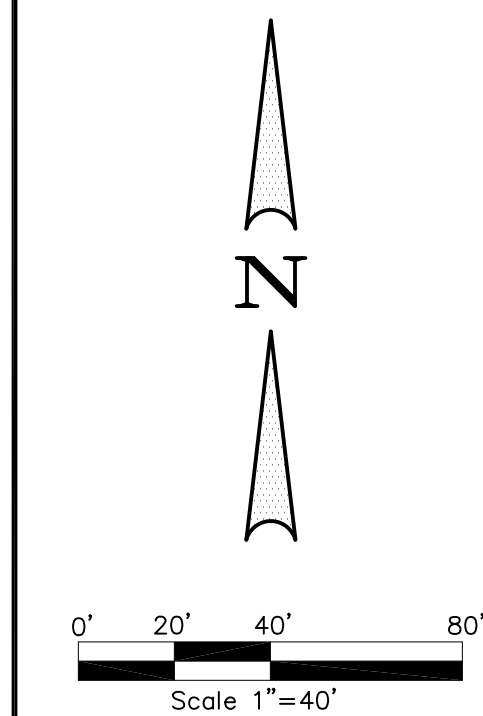
Date: 2-2-24  
Dwg Scale: Hor. 1"=40'  
Vert. 1"=4'  
Dwg File: 0001043PAV.DWG  
Project No. 0001043

P3

APPROV. Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TSPE #119900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

NO.	DATE	REVISION	APPROV.
1			

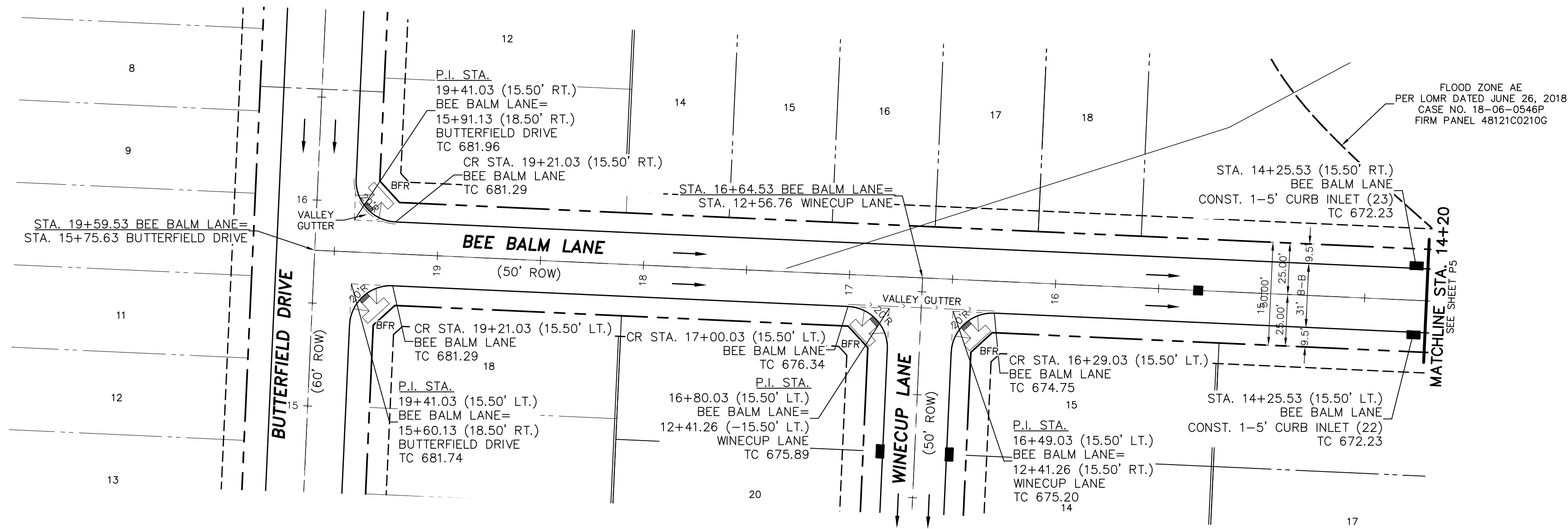
- LEGEND
- PP Power Pole  
CW Guy Wire  
MH Manhole  
WV Water Valve  
TP Telephone Pedestal  
WM Water Meter  
FH Fire Hydrant  
LP Light Pole  
IV Irrigation Valve  
SN Sign  
RF Iron Rod Found  
IRS Iron Rod Set
- LEGEND
- TC TOP OF CURB  
TP TOP OF PAVEMENT  
CR CURB RETURN  
FL FLOW LINE  
VG VALLEY GUTTER  
H.P. HIGH POINT  
L.P. LOW POINT  
2 STREET STATION
- BFR HC RAMP
- 1140-667.57 FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT
- OH EX. OVERHEAD UTILITY
- x-x EX. FENCE
- STREET NAME CHANGE



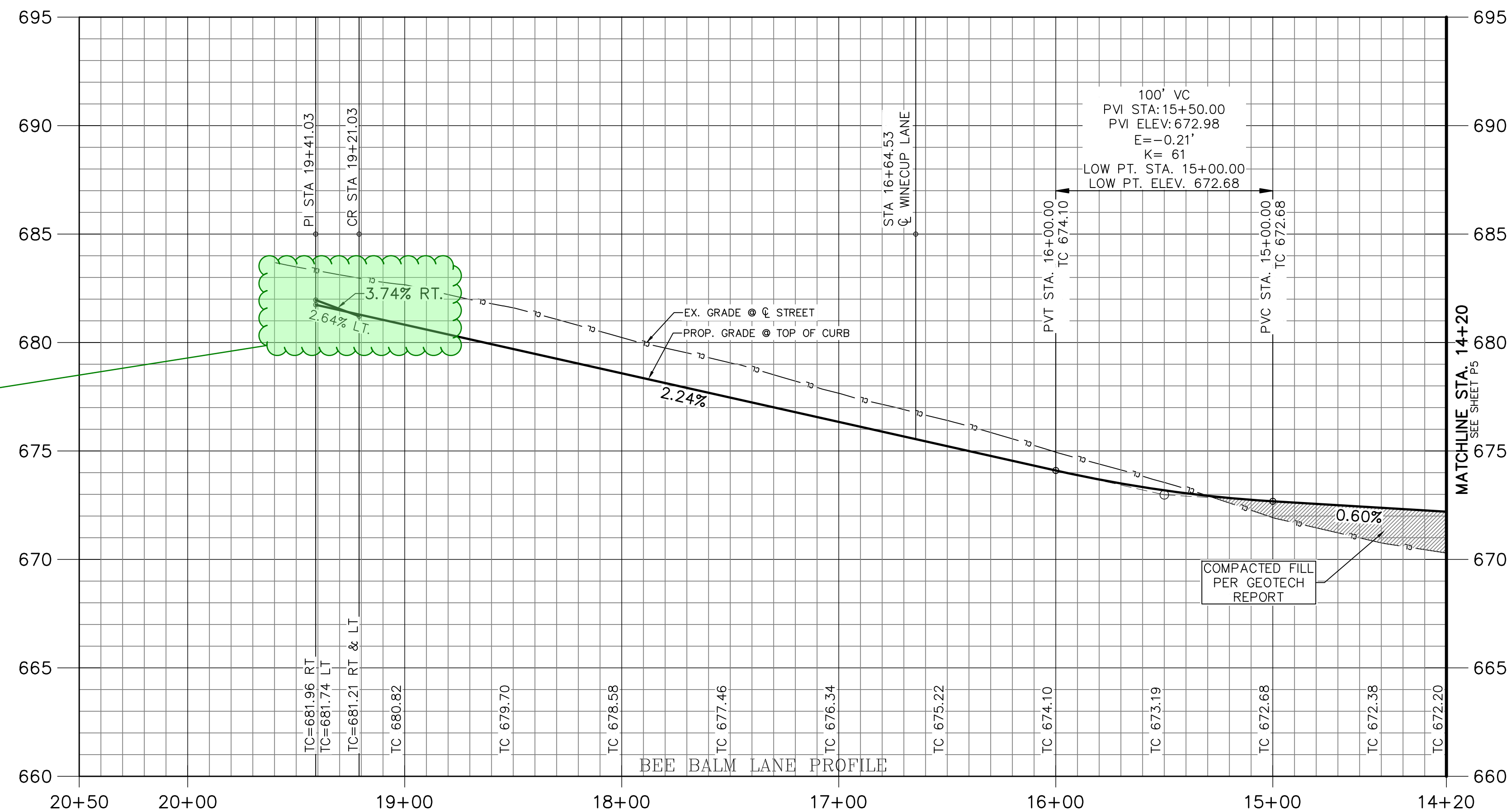
**BENCHMARK 1**  
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

**BENCHMARK 2**  
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4).

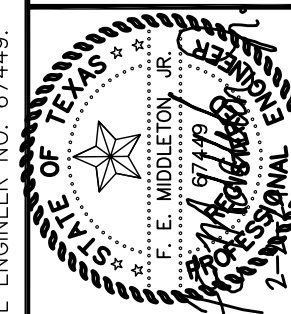


NOTE:  
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.  
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.



NO.	DATE	REVISION	APPROV.
1			Middleton & Assoc, LLC
2			CONSULTING CIVIL ENGINEERS & LAND PLANNERS
3			CSPE #1-10900
4			2785 ROCKBROOK DRIVE, SUITE 105
5			LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67443.

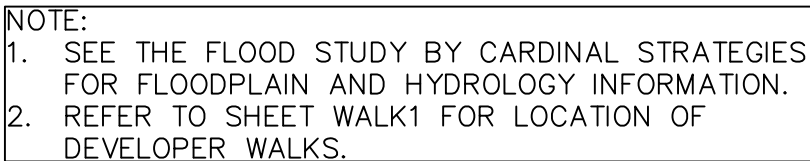


LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS  
SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
10001 DAVIS DRIVE  
CORPELL, TEXAS 75019  
JONATHAN WANG - 214-316-2256

PAVING PLAN & PROFILE  
BEE BALM LANE  
STA. 14+20 - END  
LANE RANCH, PHASE 1

Date: 2-2-24  
Dwg Scale: Hor. 1"=40'  
Vert. 1"=4'  
Dwg File: 0001043PAV.DWG  
Project No. 0001043





Profile view of Winecup Lane showing elevation (650 to 685) versus stationing (0+00 to 6+00). The profile includes a proposed grade line (top of curb) and an existing grade line (street centerline). Key features include a 0.99% grade, a 1.16% right-of-way (RT) grade, and a 4.11% right-of-way (RT) grade. The profile is bounded by stationing 0+00 to 6+00 and elevation 650 to 685. A green shaded area highlights a section of the profile between stations 4+00 and 5+00.

Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4).

STATE OF TEXAS  
F. E. MIDDLETON, JR.  
5749  
MECHANICAL ENGINEER  
2-17-71



LEGEND

PP

CW

MH

WV

TP

WM

FH

LP

IV

SN

RF

IRS

Power Pole

Guy Wire

Manhole

Water Valve

Telephone Pedestal

Water Meter

Fire Hydrant

Light Pole

Irrigation Valve

Sign

Iron Rod Found

Iron Rod Set

LEGEND

TC

TP

CR

FL

VG

H.P.

L.P.

2

BFR

1

1140-667.57

OH

x - x

◆

TOP OF CURB

TOP OF PAVEMENT

CURB RETURN

FLOW LINE

VALLEY GUTTER

HIGH POINT

LOW POINT

STREET STATION

HC RAMP

FLOW ARROWS

FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT

EX. OVERHEAD UTILITY

EX. FENCE

STREET NAME CHANGE

0'

20'

40'

80'

Scale 1"=40'

BENCHMARK 1

WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2

N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Plan view of Winecup Lane showing stationing from 6+00 to 13+00. The lane is 50' wide (ROW). Key features include: Matchline STA. 6+00, Station 11+71.76 (15.50' LT.), Station 12+21.26 (15.50' LT.), Station 12+41.26 (15.50' LT.), Station 12+56.76 (15.50' LT.), Station 16+41.26 (15.50' LT.), Station 16+80.03 (15.50' LT.), Station 16+49.03 (15.50' LT.), Station 16+64.53 (15.50' LT.), Station 16+49.03 (15.50' RT.), Station 16+49.03 (15.50' LT.), Station 16+49.03 (15.50' RT.), Station 16+49.03 (15.50' LT.).

NOTE:  
1. SEE THE FLOOD STUDY BY CARDINAL STRATEGIES FOR FLOODPLAIN AND HYDROLOGY INFORMATION.  
2. REFER TO SHEET WALK1 FOR LOCATION OF DEVELOPER WALKS.

Profile view of Winecup Lane showing elevation from 660 to 695 and stationing from 6+00 to 13+00. Key features include: Matchline STA. 6+00, Station 11+71.76 (15.50' LT.), Station 12+21.26 (15.50' LT.), Station 12+41.26 (15.50' LT.), Station 12+56.76 (15.50' LT.), Station 16+41.26 (15.50' LT.), Station 16+80.03 (15.50' LT.), Station 16+49.03 (15.50' LT.), Station 16+64.53 (15.50' LT.), Station 16+49.03 (15.50' RT.), Station 16+49.03 (15.50' LT.), Station 16+49.03 (15.50' RT.), Station 16+49.03 (15.50' LT.).

Maximum longitudinal slopes within one hundred feet (100') of intersections shall not exceed two percent (2%) 10.106(b)(4).

APPROV.

REVISION

DATE

NO.

Middleton & Assoc, LLC

CONSULTING CIVIL ENGINEERS & LAND PLANNERS

TSPE #1-19900

2785 ROCKBROOK DRIVE, SUITE 105

LEWISVILLE, TEXAS 75067 (972) 393-9800

LANE RANCH, PHASE 1

CITY OF SANGER

DENISON COUNTY, TEXAS

SANGER TOWN CENTER LLC & MARION PROPERTY HOLDING LLC

10001 DAVIS DRIVE

COPELLE, TEXAS 75019

JONATHAN WANG - 214-316-2256

PAVING PLAN & PROFILE

WINECUP LANE

STA. 6+00 - END

LANE RANCH, PHASE 1

Date: 2-2-24

Dwg Scale: Hor. 1"=40'

Dwg File: 0001043PAV.DWG

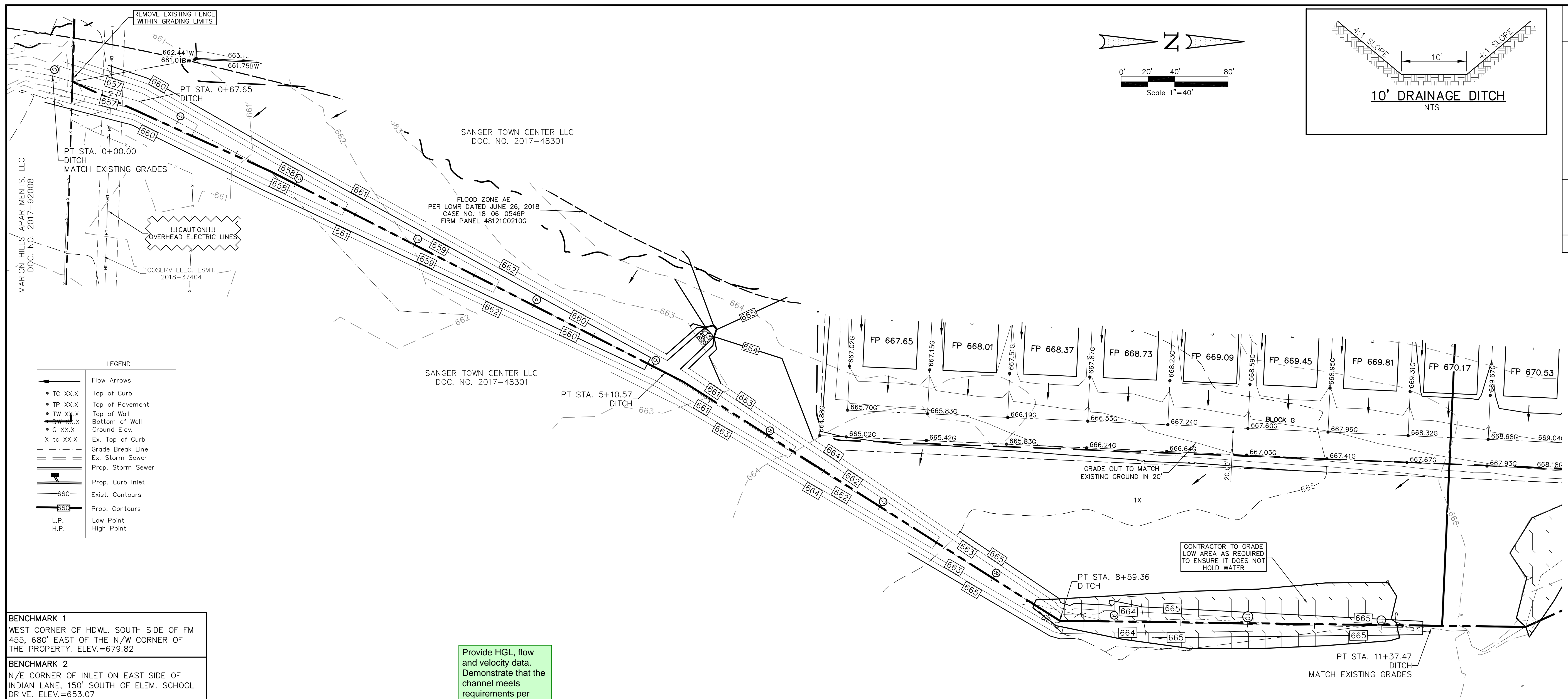
Project No. 0001043

P8







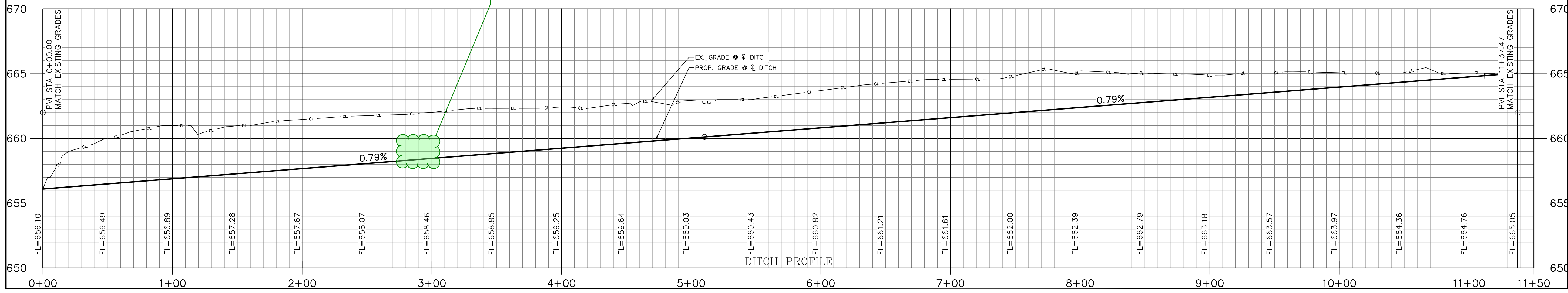


- LEGEND
- Flow Arrows
  - TC XX.X Top of Curb
  - TP XX.X Top of Pavement
  - TW XX.X Top of Wall
  - EW XX.X Bottom of Wall
  - G XX.X Ground Elev.
  - X to XX.X Ex. Top of Curb
  - Grade Break Line
  - - - Ex. Storm Sewer
  - Prop. Storm Sewer
  - Prop. Curb Inlet
  - 660 Exist. Contours
  - 660 Prop. Contours
  - L.P. Low Point
  - H.P. High Point

**BENCHMARK 1**  
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

**BENCHMARK 2**  
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07

Provide HGL, flow and velocity data. Demonstrate that the channel meets requirements per ordinance 10.106(d)(9)(B)



No.	DATE	REVISION	APPROV.
M			Middleton & Assoc, LLC

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 07449.

**LOT GRADING PLAN**

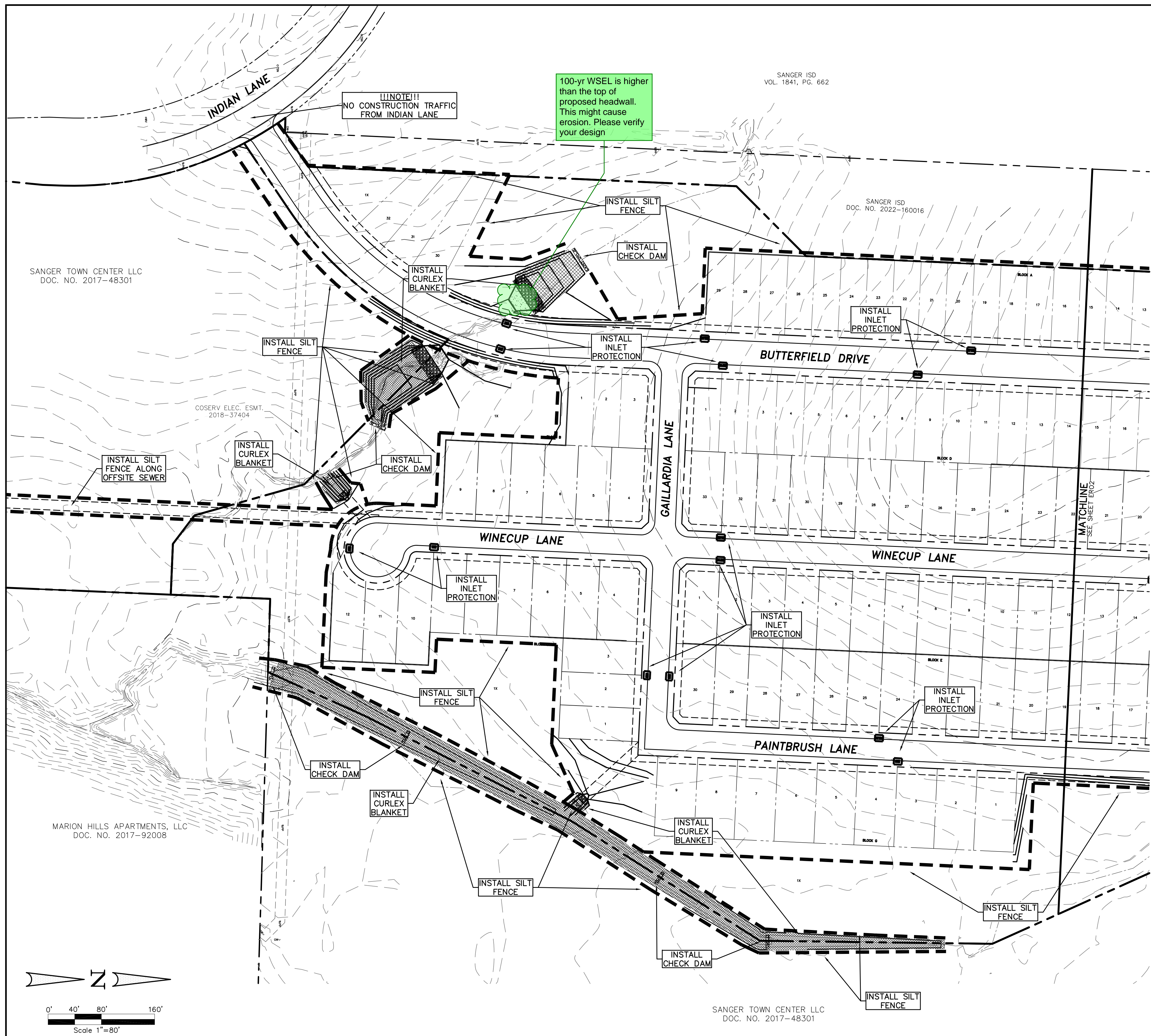
DATE: 2-2-24  
Dwg Scale: Hor. 1"=40'  
Vert. 1"=10'  
Dwg File: 0001043SITE.DWG  
Project No. 0001043

**G5**

LANE RANCH, PHASE 1  
CITY OF SANGER  
DENISON COUNTY, TEXAS  
SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
10000 FM 455  
COPEL, TEXAS 75019  
JONATHAN WANG 214-316-2256

LANE RANCH, PHASE 1





EROSION CONTROL SEQUENCING	
PHASE	DEVICES
1.GRADING	SILT FENCE & EXISTING INLET(S) PROTECTION
2.UTILITY INSTALLATION	SILT FENCE
3.DRAINAGE INSTALLATION	SILT FENCE, INLET PROTECTION
4.PAVING OPERATIONS	SILT FENCE, CURB AND DROP INLET PROTECTION
5.LANDSCAPE	SILT FENCE, CURLEX, SEEDING AND SODDING,
INLET(S) PROTECTION	
6.FINAL CLEAN-UP	SILT FENCE

TOTAL DISTURBED AREA = 32.4 ACRES

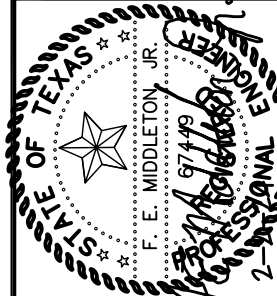
NOTE:  
1. A 4' BAND OF CURLEX BLANKET SHALL BE PLACED BEHIND THE CURB ONCE ALL FRANCHISE UTILITIES ARE COMPLETE.  
2. ALL LOTS WILL BE SEEDED WITH GRASS AFTER FINAL LOT BENCHING.

- EROSION CONTROL SEQUENCING
1. THE EROSION CONTROL CONTRACTOR SHALL INSTALL SILT FENCE ALONG THE PERIMETER OF THE SITE AND CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCES AT THE LOCATIONS SHOWN ON THIS PLAN PRIOR TO CONSTRUCTION.
  2. THE GRADING CONTRACTOR SHALL STRIP, CLEAR AND MASS GRADE THE SITE. THE GRADING CONTRACTOR IS TO ASSUME RESPONSIBILITY OF THE EROSION CONTROL DEVICES DURING GRADING OPERATIONS AND ENSURE THAT THESE DEVICES REMAIN IN GOOD WORKING ORDER. AFTER GRADING IS COMPLETE, THE GRADING CONTRACTOR SHALL INSPECT THE DEVICES TO ENSURE THAT THEY REMAIN IN GOOD WORKING ORDER.
  3. BEGIN UTILITY INSTALLATION. THE UTILITY CONTRACTOR SHALL ASSUME RESPONSIBILITY OF THE EROSION CONTROL DEVICES DURING UTILITY CONSTRUCTION AND ENSURE THAT THESE DEVICES REMAIN IN GOOD WORKING ORDER. AFTER THE STORM DRAIN INLET INVERT AND WALLS ARE ERECTED, THE CONTRACTOR SHALL PROTECT THE INLET FROM SILTATION BY SURROUNDING IT WITH SILT FENCE OR HAY BALES. AFTER THIS PHASE OF UTILITY INSTALLATION IS COMPLETE, THE UTILITY CONTRACTOR SHALL INSPECT THE DEVICES PRIOR TO MOVING OFF SITE TO ENSURE THAT THEY REMAIN IN GOOD WORKING ORDER.
  4. BEGIN PAVING CONSTRUCTION. THE PAVING CONTRACTOR SHALL ASSUME RESPONSIBILITY OF THE EROSION CONTROL DEVICES DURING PAVING CONSTRUCTION AND ENSURE THAT THESE DEVICES REMAIN IN GOOD WORKING ORDER. AFTER PAVING CONSTRUCTION IS COMPLETE, THE PARKWAYS SHALL BE BACKFILLED TO A FINISHED SLOPE OF 1/4" PER FOOT. THE PAVING CONTRACTOR SHALL INSPECT THE DEVICES PRIOR TO MOVING OFF SITE TO ENSURE THAT THEY REMAIN IN GOOD WORKING ORDER.
  5. THE UTILITY CONTRACTOR SHALL REMOBILIZE AND FINISH THE STORM DRAIN INLET CONSTRUCTION BY COMPLETING THE ERECTION OF THE WALLS AND TOP. AFTER PUBLIC UTILITY CONSTRUCTION IS COMPLETE, THE UTILITY CONTRACTOR SHALL INSPECT THE DEVICES TO ENSURE THAT THEY REMAIN IN GOOD WORKING ORDER.
  6. THE EROSION CONTROL CONTRACTOR SHALL INSTALL THE CURB INLET PROTECTION DETAILED ON THIS PLAN.
  7. BEGIN FRANCHISE UTILITY CONSTRUCTION. EACH FRANCHISE UTILITY CONTRACTOR SHALL ASSUME RESPONSIBILITY OF THE EROSION CONTROL DEVICES DURING FRANCHISE UTILITY CONSTRUCTION AND ENSURE THAT THESE DEVICES REMAIN IN GOOD WORKING ORDER. AFTER FRANCHISE UTILITY CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL INSPECT THE DEVICES TO ENSURE THAT THEY REMAIN IN GOOD WORKING ORDER.
  8. AFTER CONSTRUCTION IS COMPLETE, THE EROSION CONTROL CONTRACTOR SHALL SEED ALL DISTURBED AREAS. WHEN SUFFICIENT GRASS GROWTH HAS BEEN ESTABLISHED, ALL SILT FENCE AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED FROM THE SITE.

LEGEND	
	Ex. Storm Sewer
	Prop. Storm Sewer
	Prop. Curb Inlet
	Exist. Contours
	Prop. Contours
	Prop. Silt Fence
	Prop. Curb Inlet Protection
	Prop. Drop Inlet Protection
	Prop. Construction Entrance
	Prop. Curlex & Grass Seed
	Prop. Rock Check Dam

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.

Middleton & Assoc, LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TSPE #1-10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800



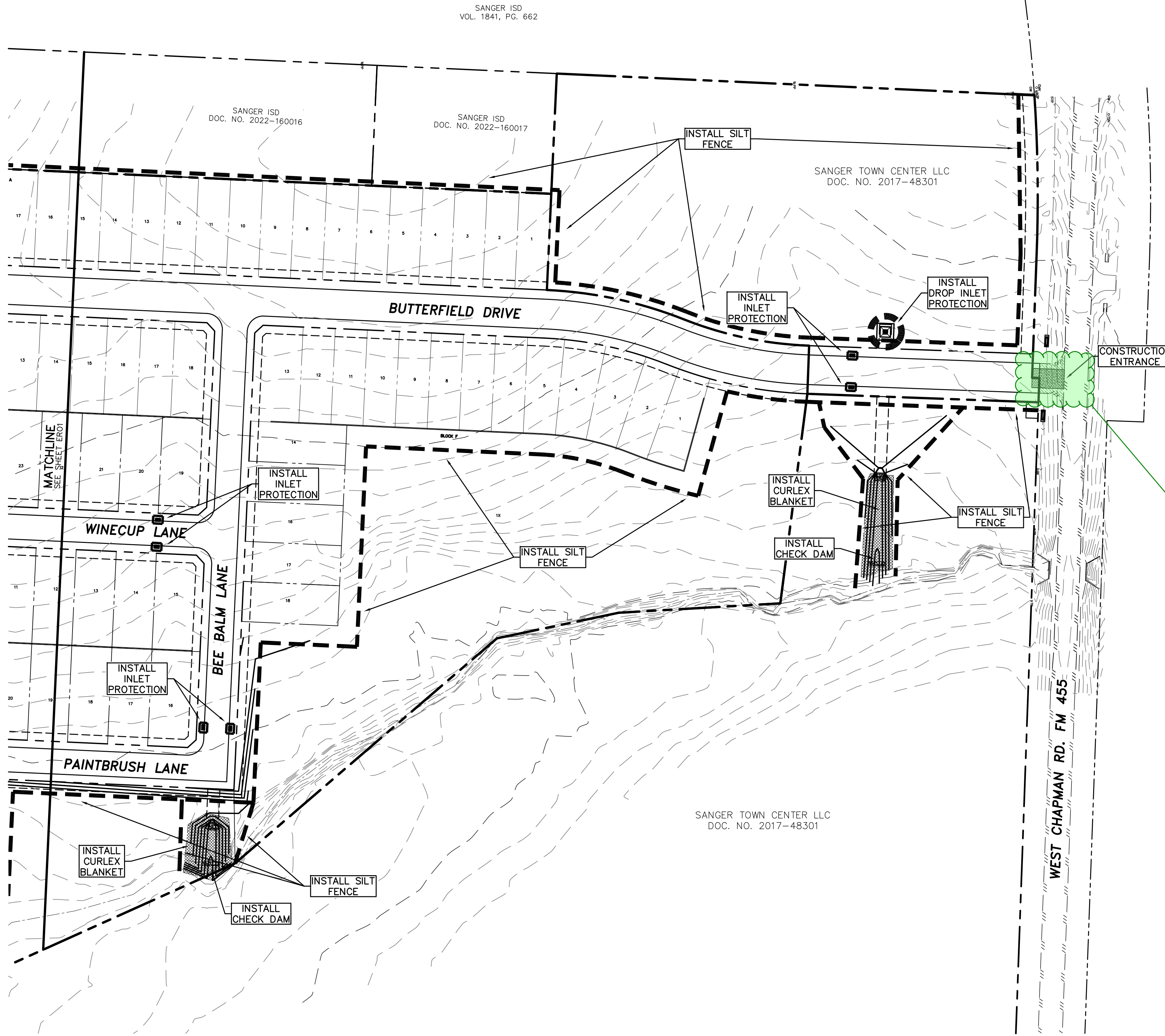
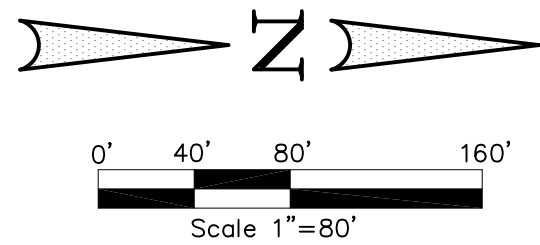
LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS  
SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
10000 PRESERVE DRIVE  
COPELAND, TEXAS 75019  
JONATHAN WANG - 214-316-2256

EROSION CONTROL PLAN

Date: 2-2-24  
Dwg Scale: Hor. 1"=80'  
Vert. 1"=8'  
Dwg File: 0001043ERO.DWG  
Project No. 0001043

ERO1





EROSION CONTROL GENERAL NOTES:

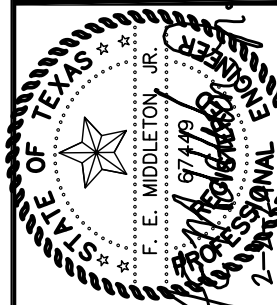
1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
2. ALL SEEDING AND FERTILIZATION OF DISTURBED AREAS WILL BE THE RESPONSIBILITY OF THE EROSION CONTROL CONTRACTOR. SEEDING WILL BE DONE PRIOR TO ANY EROSION CONTROL BLANKET INSTALLATIONS.
3. EROSION PROTECTION WILL BE DELETED OR ADDED PER THE COUNTY.
4. THE SWPPP INSPECTOR SHALL MAKE INSPECTIONS OF THE EROSION CONTROL DEVICES EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN DEPTH.
5. THE EROSION CONTROL CONTRACTOR SHALL SEED, WATER, AND FERTILIZE ALL DISTURBED AREAS BY THE 14TH DAY AFTER THE LAST DISTURBANCE (EXCEPT THOSE WITHIN LANDSCAPED AREAS) UNTIL SUFFICIENT GRASS GROWTH HAS BEEN PROVIDED TO STOP EROSION. SILT FENCES SHALL REMAIN IN GOOD WORKING CONDITION UNTIL GRASS HAS BEEN ESTABLISHED.
6. THE POST DEVELOPMENT RUNOFF COEFFICIENT IS 0.55.
7. EROSION CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS, OR IN CHANNELS, DRAINAGE WAYS OR BORROW DITCHES AT RISK OF CONTRACTOR.
8. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURES, INCLUDING FLOODING DAMAGE, WHICH MAY OCCUR DUE TO BLOCKED DRAINAGE.
9. AT THE CONCLUSION OF ANY PROJECT, ALL CHANNELS, DRAINAGE WAYS OR BORROW DITCHES IN THE WORK ZONE SHALL BE DREDGED OF ANY SEDIMENT GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF EROSION CONTROL MEASURES.
10. SILT FENCES SHALL BE MRF1 100 X OR APPROVED EQUAL AND INSTALLED PER MANUFACTURER RECOMMENDATIONS.
11. EROSION CONTROL BLANKETS SHALL BE CURLEX I OR APPROVED EQUAL FOR ALL SLOPES FROM 4:1 TO FLATTER. ALL OTHER SLOPES FROM 4:1 OR GREATER SHALL BE CURLEX II OR APPROVED EQUAL. ALL AREAS REQUIRING EROSION CONTROL BLANKETS SHALL BE SEED AND FERTILIZED PRIOR TO EROSION CONTROL BLANKET INSTALLATION.
12. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES ALREADY IN PLACE. CONTRACTOR SHALL REMOVE AND REPLACE EROSION CONTROL AS NEEDED FOR CONSTRUCTION OR ACCESS. ALL EROSION CONTROL MUST BE IN PLACE AT THE END OF EACH DAY.
13. ALL PERIMETER PROTECTION SHALL BE INSTALLED PRIOR TO EXTENSIVE ON-SITE GRADING.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE WHATEVER MEANS ARE NECESSARY TO CONTROL AND LIMIT SILT AND SEDIMENT LEAVING THE SITE. SPECIFICALLY, THE CONTRACTOR SHALL PROTECT ALL PUBLIC STREETS, ALLEYS, STREAMS, STORM DRAIN SYSTEMS AND INLETS FROM EROSION DEPOSITS.
15. USE OF ON-SITE FUEL STORAGE TANKS IS DISCOURAGED. HOWEVER, IF USED, THE PREVENTION OF HAZARDS TO THE GROUND WATER IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR UTILIZING SAID STORAGE. SEE NCTCOG CONSTRUCTION BMP MANUAL SECTION 4 HAZARDOUS WASTE MANAGEMENT.
16. A CENTRALIZED PIT/WASH BASIN SHALL BE CONSTRUCTED ON-SITE FOR THE PURPOSE OF CONCRETE TRUCK WASHING. SEE NCTCOG CONSTRUCTION BMP MANUAL SECTION 4 HAZARDOUS WASTE MANAGEMENT.
17. "SEDIMENT BARRIER" INDICATES SILT FENCE OR CHECK DAM (OR A COMBINATION OF THE TWO), AS SELECTED BY THE CONTRACTOR AND APPROVED BY THE CONSULTANT ENGINEER.
18. CONTRACTORS SHALL PARK, STORE EQUIPMENT AND MATERIALS, AND SERVICE VEHICLES AT THE "PARKING AND STORAGE AREA". THE LOCATION OF SAID AREA IS TO BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE.
19. CONSTRUCTION ENTRANCES ARE TO BE INSTALLED AT ALL POINTS WHERE EQUIPMENT ENTERS OR LEAVES THE SITE. THE LOCATION OF SAME IS TO BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE.

Provide dimensions

LEGEND	
	Ex. Storm Sewer
	Prop. Storm Sewer
	Prop. Curb Inlet
	Exist. Contours
	Prop. Contours
	Prop. Silt Fence
	Prop. Curb Inlet Protection
	Prop. Drop Inlet Protection
	Prop. Construction Entrance
	Prop. Curlex & Grass Seed
	Prop. Rock Check Dam

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67449.

No.	DATE	REVISION	APPROV.
M			Middleton & Assoc, LLC
			CONSULTING CIVIL ENGINEERS & LAND PLANNERS
			TSPE #1-10900
			2785 ROCKBROOK DRIVE, SUITE 105
			LEWISVILLE, TEXAS 75067 (972) 393-9800



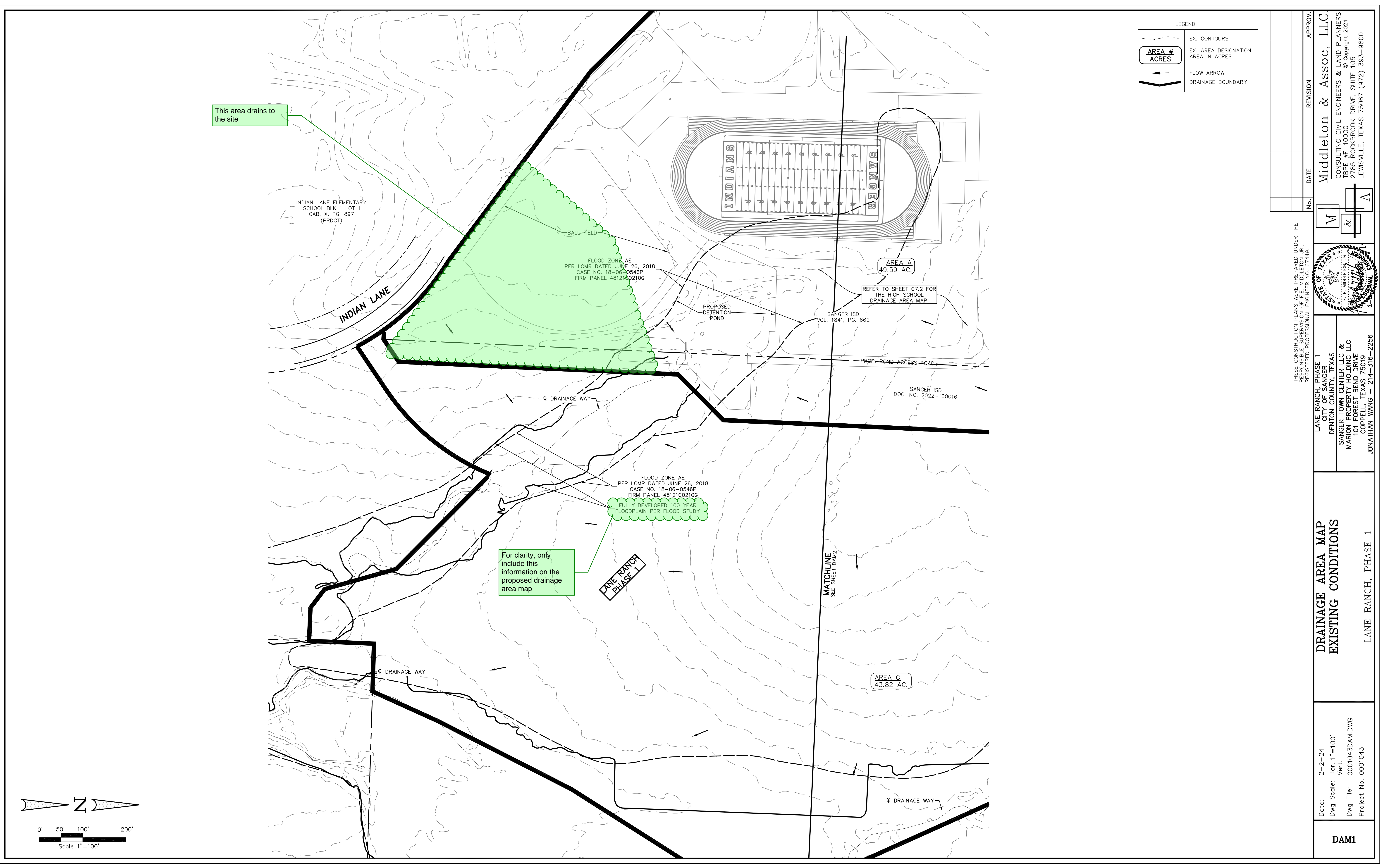
LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS  
SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
10001043.0  
COPEL, TEXAS 75019  
JONATHAN WANG - 214-316-2256

EROSION CONTROL PLAN

Date: 2-2-24  
Dwg Scale: Hor. 1"=80'  
Vert. 1"=80'  
Dwg File: 0001043ERO.DWG  
Project No. 0001043

ERO2











Provide this data

## DRAINAGE AREA CALCULATIONS EXISTING CONDITIONS SANGER RESIDENTIAL PHASE 1

Drainage Area	Area (ac)	Runoff Coefficient	Time of Concentration (min)	Intensity 10 Year (in/hr)	Intensity 100 Year (in/hr)	Q 10 Year (cfs)	Q 100 Year (cfs)
A							
B							
C	43.82	0.30	15	9.60	9.60	88.76	126.20
D	0.44	0.90	15	6.60	9.60	2.61	3.80

## DRAINAGE AREA CALCULATIONS DEVELOPED CONDITIONS SANGER RESIDENTIAL PHASE 1

Drainage Area	Area (ac)	Runoff Coefficient "C"	Time of Concentration (min)	Intensity 10 Year (in/hr)	Intensity 100 Year (in/hr)	Q 10 Year (cfs)	Q 100 Year (cfs)
1	0.04	0.90	15	6.60	9.60	0.24	0.35
2	0.04	0.90	15	6.60	9.60	0.24	0.35
3	1.04	0.55	15	6.60	9.60	3.78	5.49
4	1.03	0.55	15	6.60	9.60	3.74	5.44
5	1.38	0.55	15	6.60	9.60	5.01	7.29
6	1.12	0.55	15	6.60	9.60	4.07	5.91
7	1.53	0.55	15	6.60	9.60	5.55	8.08
8	1.36	0.55	15	6.60	9.60	4.94	7.18
9	1.27	0.55	15	6.60	9.60	4.61	6.71
10	0.59	0.55	15	6.60	9.60	2.14	3.12
11	0.74	0.55	15	6.60	9.60	2.69	3.91
12	0.33	0.55	15	6.60	9.60	1.20	1.74
13	0.93	0.55	15	6.60	9.60	3.38	4.91
14	1.49	0.55	15	6.60	9.60	5.41	7.87
15	1.46	0.55	15	6.60	9.60	5.30	7.71
16	1.46	0.55	15	6.60	9.60	5.30	7.71
17	1.56	0.55	15	6.60	9.60	5.66	8.24
18	0.41	0.55	15	6.60	9.60	1.49	2.16
19	1.19	0.55	15	6.60	9.60	4.32	6.28
20	0.84	0.55	15	6.60	9.60	3.05	4.44
21	0.84	0.55	15	6.60	9.60	3.05	4.44
22	0.68	0.55	15	6.60	9.60	2.47	3.59
23	0.59	0.55	15	6.60	9.60	2.14	3.12
24	0.55	0.55	15	6.60	9.60	2.00	2.90
25	1.41	0.55	15	6.60	9.60	5.12	7.44
26	2.02	0.55	15	6.60	9.60	7.33	10.67
27	4.34	0.90	10	6.60	9.60	25.78	37.50
28	2.17	0.30	10	6.60	9.60	4.30	6.25
OS-1	0.74	0.70	10	6.60	9.60	3.42	4.97
OS-2	0.44	0.90	10	6.60	9.60	2.61	3.80
OS-3	0.28	0.90	10	6.60	9.60	1.66	2.42
OS-4	11.38	0.30	10	6.60	9.60	22.53	32.77

✓ Show calculations for the culverts. Plan set  
✓ will be provided for future record requests  
✓ and this information needs to be available.

## ON GRADE INLET CALCULATIONS

		DRAINAGE AREA				Gutter Slope S (ft/ft)	Street Section (type)	Pavement Cross Slope Sx (ft/ft)	Cross Slope of Gutter sx (ft/ft)	Mannings Coefficient for pavement (n)	100 Year Intensity (in./hr.)	100 Year Runoff (cfs)	100 Year Carryover Flow (cfs)	100 Year Total Flow Q (cfs)	Street Capacity Half Section (cfs)	Right of Way Capacity Half Section (cfs)	Design Storm of Inlet	Depth of Flow at Inlet for 100 Year Y (ft)	Spread of Flow for 100 Year T (ft)	Pick up per Foot Qo/Lo (cfs/ft)	Length of Inlet Required Lo (ft)	Length of Inlet Provided L (ft)	L/Lo	Q/Qo	Inlet Capacity Q (cfs)	100 Year Carryover Flow (cfs)	Comments
Inlet No.	Location	Drainage Area	Area (Ac.)	Runoff Coefficient C	Time of Concentration (min.)																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
5	8+01.94 Butterfield Drive (Lt.)	5	1.38	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	7.29	0.00	7.29	14.45	39.78	100 Yr	0.387	13.93	0.85	8.56	10	1.17	1.17	8.52	0.00	Curb Inlet
6	8+30.63 Butterfield Drive (Rt.)	6	1.12	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.91	0.00	5.91	14.45	39.78	100 Yr	0.358	12.88	0.82	7.21	10	1.39	1.39	8.20	0.00	Curb Inlet
7	12+01.94 Butterfield Drive (Lt.)	7	1.53	0.55	15 min.	0.0070	straight crown	0.0278	0.267	0.017	9.60	8.08	0.00	8.08	15.61	42.97	100 Yr	0.391	14.06	0.86	9.44	10	1.06	1.06	8.56	0.00	Curb Inlet
8	11+23.72 Butterfield Drive (Rt.)	8	1.36	0.55	15 min.	0.0070	straight crown	0.0278	0.267	0.017	9.60	7.18	0.00	7.18	15.61	42.97	100 Yr	0.374	13.46	0.84	8.57	10	1.17	1.17	8.38	0.00	Curb Inlet
10	+0.91.76 Winecup Lane (Lt.)	10	0.59	0.55	15 min.	0.0096	straight crown	0.0333	0.267	0.017	9.60	3.12	0.00	3.12	24.71	50.32	100 Yr	0.276	8.29	0.73	4.24	5	1.18	1.18	3.67	0.00	Curb Inlet
15	+5.21.76 Winecup Lane (Lt.)	15	1.46	0.55	15 min.	0.0176	straight crown	0.0333	0.267	0.017	9.60	7.71	0.00	7.71	20.57	39.50	100 Yr	0.346	10.39	0.81	9.55	10	1.05	1.05	8.08	0.00	Curb Inlet
16	+5.21.76 Winecup Lane (Rt.)	16	1.46	0.55	15 min.	0.0176	straight crown	0.0333	0.267	0.017	9.60	7.71	0.00	7.71	20.57	39.50	100 Yr	0.346	10.39	0.81	9.55	10	1.05	1.05	8.08	0.00	Curb Inlet
17	+9.04.76 Paintbrush Lane (Lt.)	17	1.56	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	8.24	0.38	8.62	12.01	23.06	100 Yr	0.441	13.25	0.91	9.47	10	1.06	1.06	9.11	0.00	Curb Inlet
18	+9.34.76 Paintbrush Lane (Rt.)	18	0.41	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	2.16	0.00	2.16	12.01	23.06	100 Yr	0.263	7.90	0.72	3.00	5	1.67	1.67	3.61	0.00	Curb Inlet
20	+11.71.76 Winecup Lane (Lt.)	20	0.84	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.44	0.00	4.44	12.01	23.06	100 Yr	0.344	10.33	0.81	5.51	5	0.91	0.91	4.03	0.41	Curb Inlet
21	+11.71.76 Winecup Lane (Rt.)	21	0.84	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.44	0.00	4.44	12.01	23.06	100 Yr	0.344	10.33	0.81	5.51	5	0.91	0.91	4.03	0.41	Curb Inlet
22	+14+25.53 Bee Balm Lane (Lt.)	22	0.68	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	3.59	0.82	4.41	12.01	23.06	100 Yr	0.343	10.30	0.80	5.48	5	0.91	0.91	4.02	0.38	Curb Inlet
23	+14+25.53 Bee Balm Lane (Rt.)	23	0.59	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	3.12	0.00	3.12	12.01	23.06	100 Yr	0.301	9.05	0.76	4.09	5	1.22	1.22	3.81	0.00	Curb Inlet

For clarity, it is suggested to match the inlet No. with the naming convention in the plan view and on the hydraulic calculations.

NOTES:  
1) THE PAVEMENT SECTION IS 30' F-F WITH A 6" CURB AND 6" CROWN EXCEPT FOR BUTTERFIELD WHICH IS 36' F-F.

### SUMP INLET CALCULATIONS

		DRAINAGE AREA				Minimum Incoming Gutter Slope S (ft/ft)	Street Section (type)	Pavement Cross Slope Sx (ft/ft)	Cross Slope of Gutter sx (ft/ft)	Mannings Coefficient for pavement (n)	100 Year Intensity (in./hr.)	100 Year Runoff (cfs)	100 Year Carryover Flow (cfs)	100 Year Total Flow Q (cfs)	Street Capacity Half Section (cfs)	Right of Way Capacity Half Section (cfs)	Design Storm of Inlet	Depth of Gutter Flow for 100 Year Yo (ft)	Depth of Depression a (ft)	Depth of Flow at Opening Y (ft)	Capacity of Inlet per Foot Q/L (cfs/ft)	Length of Inlet Required Lo (ft)	Length of Inlet Provided L (ft)	Inlet Capacity Q (cfs)	100 Year Carryover Flow (cfs)	
Inlet No.	Location	Drainage Area	Area (Ac.)	Runoff Coefficient C	Time of Concentration (min.)	Slope S (ft/ft)	Section (type)	Sx (ft/ft)	sx (ft/ft)	n	I (in/hr.)	R (cfs)	F (cfs)	TQ (cfs)	CS (cfs)	ROW CS (cfs)	DSI	DG (ft)	DD (ft)	DF (ft)	CI (cfs/ft)	LIR (ft)	LIP (ft)	IC (cfs)	OCF (cfs)	Comments
1	Butterfield Drive (LT)	3	4	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.49	0.00	5.49	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.07	5	13.24	0.00	Curb Inlet
4	5+00.00 Butterfield Drive (Rt.)	4	1.03	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	5.44	0.00	5.44	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.05	5	13.24	0.00	Curb Inlet
9	0+00.00 Wirewax Lane (Lt.)	9	1.27	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	6.71	0.00	6.71	16.19	24.06	100 Yr	0.500	0.420	0.920	2.65	1.89	5	13.24	0.00	Curb Inlet
13	4+90.00 Gaillardia Lane (Rt.)	13	0.93	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	4.91	0.00	4.91	12.01	23.06	100 Yr	0.500	0.420	0.920	2.65	1.85	5	13.24	0.00	Curb Inlet
14	4+90.00 Gaillardia Lane (Lane Lt.)	14	1.49	0.55	15 min.	0.0060	straight crown	0.0333	0.267	0.017	9.60	7.87	0.00	7.87	12.01	23.06	100 Yr	0.500	0.420	0.920	2.65	2.97	5	13.24	0.00	Curb Inlet
25	23+52.16 Butterfield Drive (Lane Lt.)	25	1.41	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	7.44	0.00	7.44	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	2.81	5	13.24	0.00	Curb Inlet
26	23+52.16 Butterfield Drive (Rt.)	26	2.02	0.55	15 min.	0.0060	straight crown	0.0278	0.267	0.017	9.60	10.67	0.00	10.67	14.45	39.78	100 Yr	0.500	0.420	0.920	2.65	4.03	5	13.24	0.00	Curb Inlet
27	23+52.20 Butterfield Drive (Lane Lt.)	27 OS-1	0.86	0.85	15 min.	0.0060				0.017	9.60	41.45	0.00	41.45			100 Yr	0.500	0.420	1.000	3.00	13.82	16	48.00	0.00	**Type Inlet

NOTES:  
1) THE PAVEMENT SECTION IS 30' F-F WITH A 6" CURB AND 6" CROWN EXCEPT FOR BUTTERFIELD WHICH IS 36' F-F.  
2) STANDARD INLET DEPRESSION IS 5".

No.	DATE	REVISION	APPROV.

**Middleton & Assoc., LLC**  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TBPE #1-10900 © Copyright 2024  
2765 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR.,



LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS

SANGER TOWN CENTER LLC &  
MARION PROPERTY HOLDING LLC  
101 FOREST BEND DRIVE  
COPPELL, TEXAS 75019

JONATHAN WANG – 214-316-2256

## DRAINAGE AREA & INLET CALCULATIONS

LANE RANCH, PHASE 1

Date: 2-2-24  
Dwg Scale: Hor. NTS  
Vert.  
Dwg File: 0001043CALC.DWG  
Project No. 0001043

## CALC1



Does not match intensities defined in Chapter 10 - appendix A of the ordinance

Calculations do not include manholes. Revise

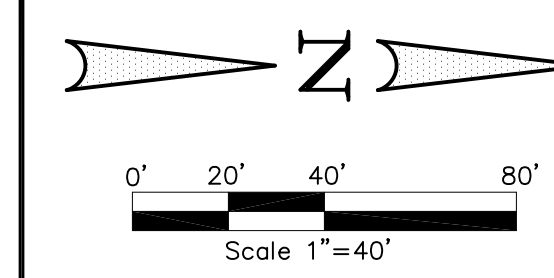
STORM SEWER HYDRAULIC CALCULATIONS																																		
From	To	Pipe Length (ft)	Drainage Area			Runoff "C" 7	Incr. CA 8	Total CA 9	Time of Concentration			10 Yr Intensity (in/hr) 13	100 Yr Intensity (in/hr) 14	Q10 Runoff (cfs) 15	Q100 Runoff (cfs) 16	Total Carryover (cfs) 17	Q Pipe (cfs) 18	Pipe Size (in) 19	Pipe Coefficient "n" 20	Friction Slope Sf (ft/ft) 21	HGL		HEAD LOSS CALCULATIONS										U/S T/C Elev. (ft) 34	COMMENTS
			No.	Area (ac)	Total Area (ac) 6				Inlet (min) 10.00	Travel (min) 11	Total (min) 12										D/S (elev) 22	U/S (elev) 23	V1 IN (UPSTREAM) (fps) 24	V2 OUT (PIPE) (fps) 25	V1 <sup>2</sup> /2G (ft) 26	V2 <sup>2</sup> /2G (ft) 27	K <sub>f</sub> 28	K <sub>V</sub> V1 <sup>2</sup> /2G 29	H <sub>L</sub> 30	Design HGL (elev) 31	From (ft) 32	To (ft) 33		
1.00	2.00	3.00	4	5	6	7	8	9	10.00	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE 2																																		
787.46	808.83	21.37	AREA 07	1.53	1.53	0.55	0.84	0.84	15.00	0.32	15.32	5.61	8.00	4.72	6.73	0.00	6.73	18	0.013	0.0041	667.07	667.16	0.00	3.81	0.00	0.23	1.75	0.00	0.23	667.38	673.57	674.24	678.74	
709.24	787.46	78.22			1.53			0.84	15.32	1.16	16.48	5.44	7.77	4.58	6.54	0.00	6.54	18	0.013	0.0039	666.77	667.07	3.81	3.70	0.23	0.21	1.25	0.28	0.00	667.07	670.77	673.57		
416.15	709.24	293.09	LAT. 2E	1.36	2.89	0.55	0.75	1.59	16.48	4.36	20.84	4.88	7.02	7.75	11.16	0.00	11.16	24	0.013	0.0024	666.04	666.75	3.70	3.55	0.21	0.20	0.85	0.18	0.02	666.77	663.58	670.77		
387.46	416.15	28.69	LAT. 2D	1.12	4.01	0.55	0.62	2.21	20.84	0.43	21.27	4.83	6.95	10.65	15.34	0.00	15.34	30	0.013	0.0014	666.00	666.04	3.55	3.13	0.20	0.15	0.85	0.17	0.00	666.04	662.94	663.58		
85.58	387.46	301.88	LAT. 2C	1.38	5.39	0.55	0.76	2.96	21.27	4.49	25.76	4.38	6.35	12.99	18.82	0.00	18.82	30	0.013	0.0021	665.26	665.90	3.13	3.84	0.15	0.23	0.85	0.13	0.10	666.00	660.93	662.94		
77.34	85.58	8.24	LAT. 2B	1.04	6.43	0.55	0.57	3.54	25.76	0.12	25.89	4.37	6.34	15.46	22.40	0.00	22.40	36	0.013	0.0011	665.25	665.26	3.84	3.17	0.23	0.16	0.85	0.19	0.00	665.26	660.89	660.93		
72.40	77.34	4.94	LAT. 2A	1.03	7.46	0.55	0.57	4.10	25.89	0.02	25.91	4.37	6.33	17.93	25.98	0.00	25.98	36	0.013	0.0015	665.17	665.18	3.17	3.68	0.16	0.21	0.85	0.13	0.08	665.25	660.86	660.89		
0.00	72.40	72.40			7.46			4.10	25.91	0.31	26.22	4.34	6.30	17.82	25.83	0.00	25.83	36	0.013	0.0015	665.06	665.17	3.68	3.65	0.21	0.21	1.25	0.26	0.00	665.17	660.50	660.86		
LAT. 2A																																		
0.00	26.67	26.67	AREA 04	1.03	1.03	0.55	0.57	0.57	15.00	0.16	15.16	5.64	8.03	3.19	4.55	0.00	4.55	18	0.013	0.0019	665.25	665.30	0.00	2.58	0.00	0.10	1.75	0.00	0.10	665.41	661.64	664.22	668.72	
LAT. 2B																																		
0.00	21.23	21.23	AREA 03	1.04	1.04	0.55	0.57	0.57	15.00	0.12	15.12	5.64	8.04	3.23	4.60	0.00	4.60	18	0.013	0.0019	665.26	665.30	0.00	2.60	0.00	0.11	1.75	0.00	0.11	665.41	661.68	664.22	668.72	
LAT. 2C																																		
0.00	21.36	21.36	AREA 05	1.38	1.38	0.55	0.76	0.76	15.00	0.13	15.13	5.64	8.04	4.28	6.10	0.00	6.10	18	0.013	0.0034	666.00	666.07	0.00	3.45	0.00	0.19	1.75	0.00	0.19	666.26	663.44	665.88	670.38	
LAT. 2D																																		
0.00	21.36	21.36	AREA 06	1.12	1.12	0.55	0.62	0.62	15.00	0.13	15.13	5.64	8.04	3.48	4.95	0.00	4.95	18	0.013	0.0022	666.04	666.09	0.00	2.80	0.00	0.12	1.75	0.00	0.12	666.21	663.71	666.10	670.60	
LAT. 2E																																		
0.00	21.36	21.36	AREA 08	1.36	1.36	0.55	0.75	0.75	15.00	0.13	15.13	5.64	8.04	4.22	6.01	0.00	6.01	18	0.013	0.0033	666.77	666.84	0.00	3.40	0.00	0.18	1.75	0.00	0.18	667.02	671.02	672.59	677.09	
LINE 3																																		
109.33	170.00	60.67	AREAS 27 & OS-1	5.08	5.08	0.55	2.79	2.79	15.00	0.36	15.36	5.61	7.99	15.67	22.33	0.00	22.33	33	0.013	0.0018	674.17	674.28	0.00	3.76	0.00	0.22	1.75	0.00	0.22	674.49	670.55	670.85	676.00	
0.00	109.33	109.33	LINE 4	3.43	8.51	0.55	1.89	4.68	15.36	0.64	16.00	5.51	7.86	25.78	36.80	0.00	36.80	42	0.013	0.0013	673.98	674.13	3.76	3.83	0.22	0.23	0.85	0.19	0.04	674.17	670.03	670.55		
LINE 4																																		
33.50	54.86	21.36	AREA 25	1.41	1.41	0.55	0.78	0.78	15.00	0.13	15.13	5.64	8.04	4.38	6.24	0.00	6.24	18	0.013	0.0035	674.32	674.39	0.00	3.53	0.00	0.19	1.75	0.00	0.19	674.59	671.39	671.88	676.38	
25.68	33.50	7.82			1.41			0.78	15.13	0.05	15.17	5.64	8.03	4.37	6.23	0.00	6.23	18	0.013	0.0035	674.29	674.32	3.53	3.53	0.19	0.19	1.25	0.24	0.00	674.32	671.30	671.39		
14.14	25.68	11.54	LAT. 4A	2.02	3.43	0.55	1.11	1.89	15.17	0.07	15.24	5.63	8.02	10.61	15.12	0.00	15.12	27	0.013	0.0024	674.20	674.23	3.53	3.80	0.19	0.22	0.85	0.16	0.06	674.29	671.24	671.30		
0.00	14.14	14.14			3.43			1.89	15.24	0.08	15.32	5.61	8.00	10.59	15.09	0.00	15.09	27	0.013	0.0024	674.17	674.20	3.80	3.80	0.22	0.22	1.25	0.28	0.00	674.20	671.17	671.24		
LAT. 4A																																		
0.00	26.16	26.16	AREA 26	2.02	2.02	0.55	1.11	1.11	15.00	0.15	15.15	5.64	8.03	6.26	8.93	0.00	8.93	18	0.013	0.0072	674.29	674.48	0.00	5.05	0.00	0.40	1.75	0.00	0.40	674.87	671.68	671.88	676.38	
LINE 5																																		
264.05	281.94	17.89	AREA 13	0.93	0.93	0.55	0.51	0.51	15.00	0.10	15.10	5.65	8.04	2.89	4.12	0.00	4.12	18	0.013	0.0015	664.70	664.73	0.00	2.33	0.00	0.08	1.75	0.00	0.08	664.81	662.69	663.21	666.71	
257.49	264.05	6.56			0.93			0.51	15.10	0.04	15.14	5.64	8.04	2.88	4.11	0.00	4.11	18																





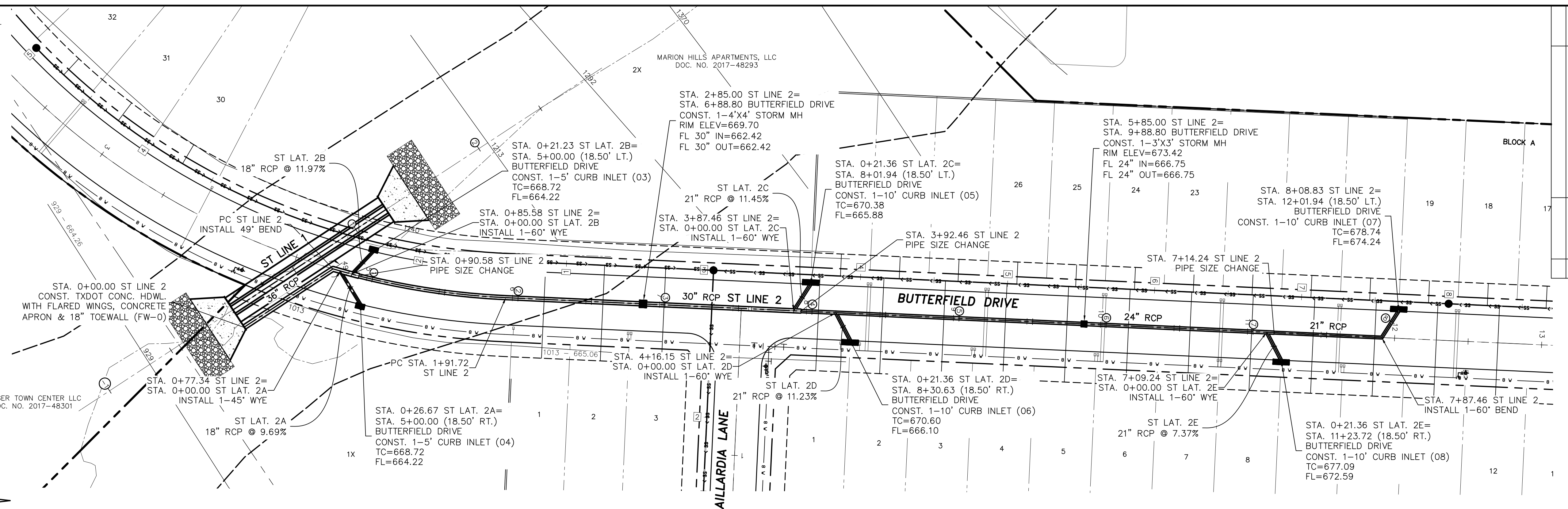


- LEGEND
- Ex. Water
  - Ex. Fire Hydrant
  - Ex. Sanitary Sewer
  - Ex. Sewer Manhole
  - Ex. Storm Sewer
  - Ex. Overhead Utility
  - Prop. Sanitary Sewer
  - Prop. Sewer Manhole
  - Prop. Water
  - Prop. Fire Hydrant
  - Prop. Storm Drain
  - Street Stations
  - Water Stations
  - Storm Stations
  - FLOOD CROSS SECTION & 100-YR. ELEV. PER FLOOD REPORT

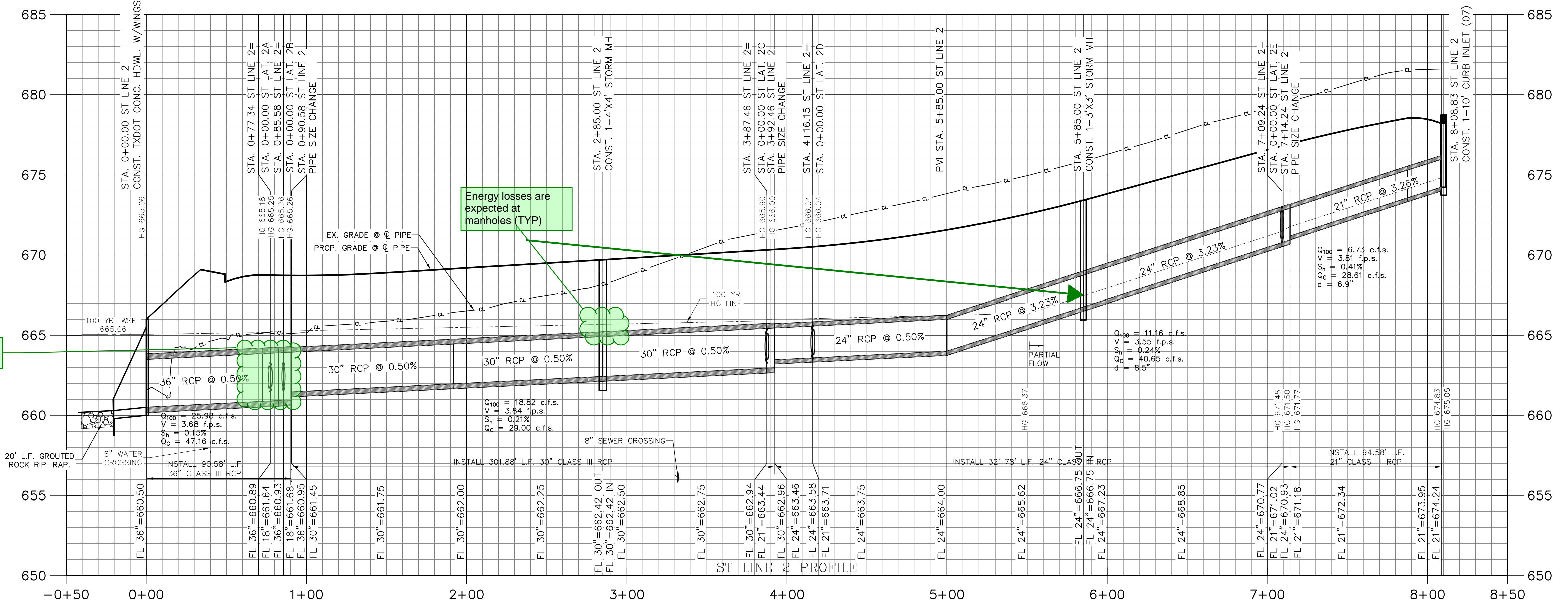


BENCHMARK 1  
WEST CORNER OF HDWL. SOUTH SIDE OF FM 455, 680' EAST OF THE N/W CORNER OF THE PROPERTY. ELEV.=679.82

BENCHMARK 2  
N/E CORNER OF INLET ON EAST SIDE OF INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL DRIVE. ELEV.=653.07



Remove extra linework for clarity



DATE	REVISION	APPROV.

THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR., REGISTERED PROFESSIONAL ENGINEER NO. 67443.

LANE RANCH, PHASE 1  
CITY OF SANGER  
DENTON COUNTY, TEXAS

SANGER TOWN CENTER LLC &  
MARION HILLS APARTMENTS, LLC  
10000 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75019

JONATHAN WANG - 214-316-2256

Middleton & Assoc., LLC  
CONSULTING CIVIL ENGINEERS & LAND PLANNERS  
TSPE #1-10900  
2785 ROCKBROOK DRIVE, SUITE 105  
LEWISVILLE, TEXAS 75067 (972) 393-9800

STORM DRAIN PLAN & PROFILE  
ST LINE 2

LANE RANCH, PHASE 1

Date: 2-2-24  
Dwg Scale: Hor. 1"=40'  
Vert. 1"=4'  
Dwg File: 00010430TLLD.DWG  
Project No. 0001043

ST2



TCEQ "CHAPTER 217 DESIGN CRITERIA FOR DOMESTIC WASTE WATER SYSTEM"  
TABLE C.1

CASE

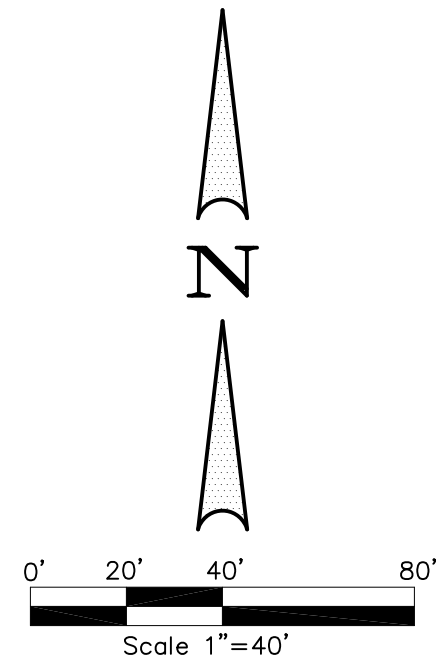
CROSSING PIPES WITHIN NINE FEET, WHERE  
THE COLLECTION SYSTEM PIPE IS ABOVE THE  
WATER SUPPLY PIPE.

CROSSING PIPES WITHIN NINE FEET, WHERE  
THE COLLECTION SYSTEM PIPE IS BELOW THE  
WATER SUPPLY PIPE.

PROTECTION REQUIREMENT

ENCASED IN A CASING PIPE ACCORDING TO PARAGRAPH  
(5)(A) OF THIS SUBSECTION -OR-  
CONSTRUCTED USING 150 PER SQUARE INCH (PSI)  
PRESSURE CLASS PIPE ACCORDING TO PARAGRAPH (5)(B)  
OF THIS SUBSECTION.

CONSTRUCTED USING 150 PSI PRESSURE CLASS PIPE  
ACCORDING TO PARAGRAPH (7)(A) OF THIS SUBSECTION.



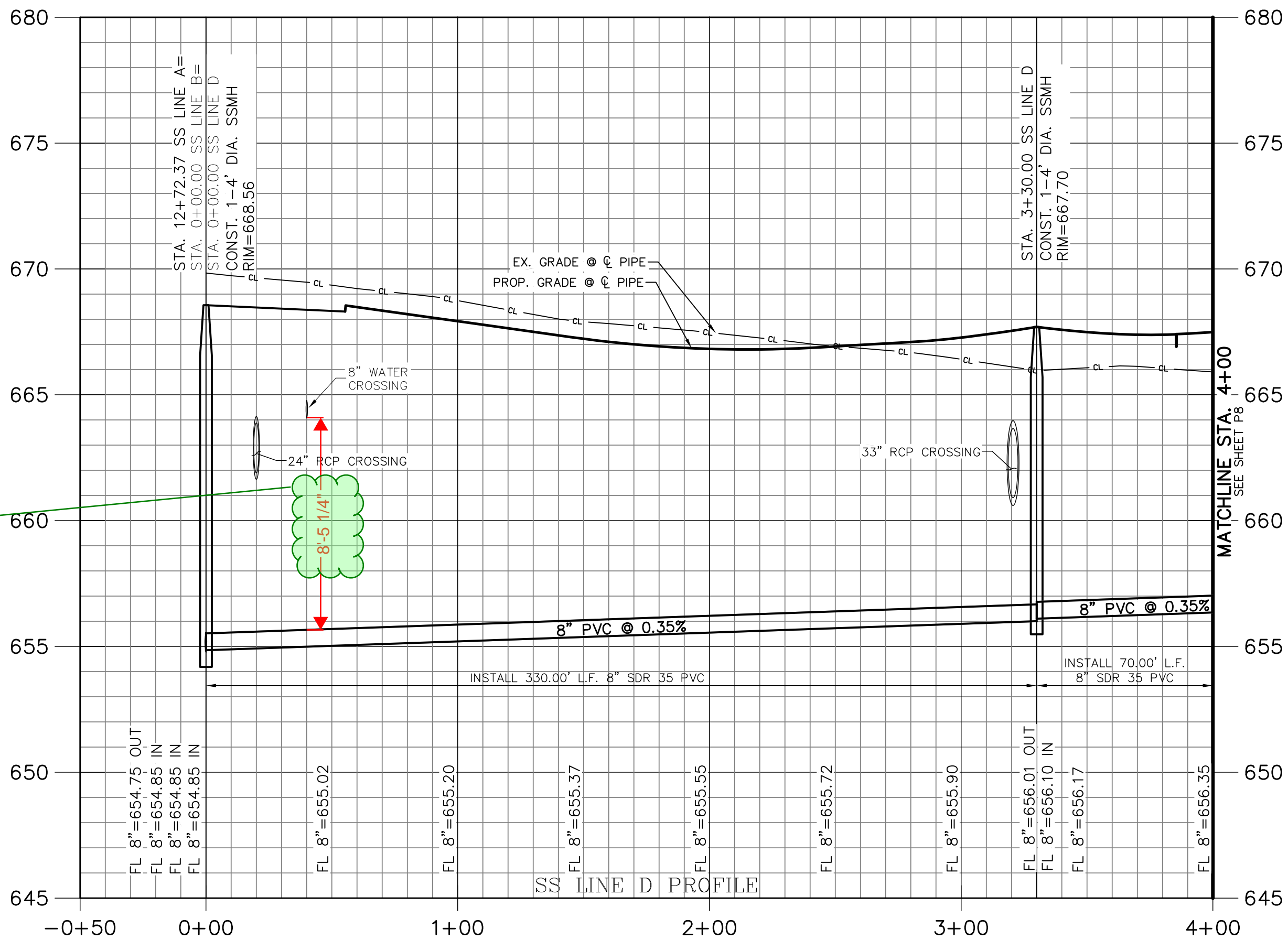
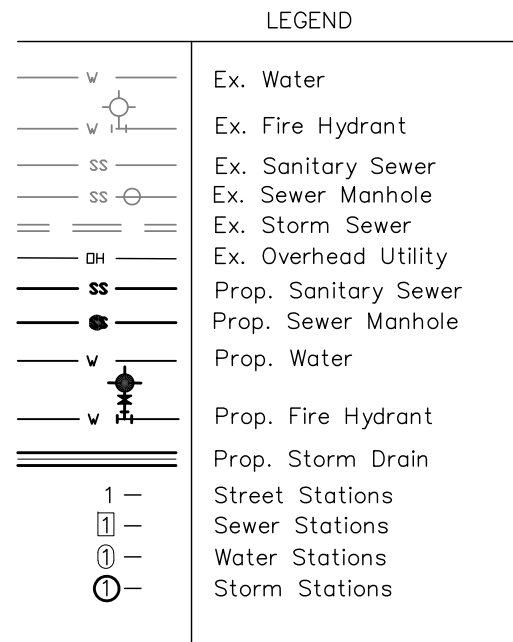
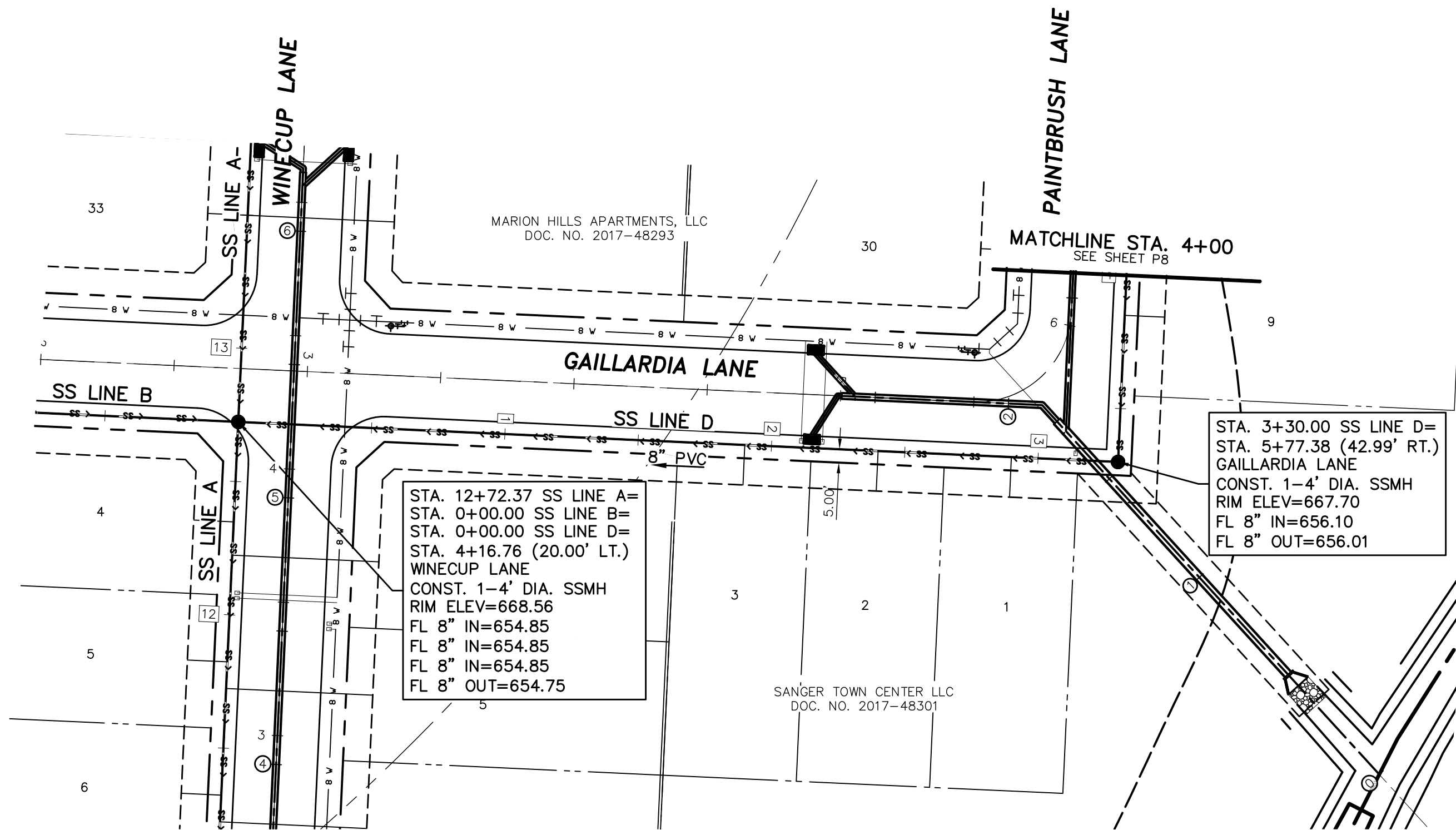
BENCHMARK 1

WEST CORNER OF HDWL. SOUTH SIDE OF FM  
455, 680' EAST OF THE N/W CORNER OF  
THE PROPERTY. ELEV.=679.82

BENCHMARK 2

N/E CORNER OF INLET ON EAST SIDE OF  
INDIAN LANE, 150' SOUTH OF ELEM. SCHOOL  
DRIVE. ELEV.=653.07

Does now meet  
clearance standard  
for TCEQ. Per TCEQ  
use pressure pipe or  
encase sewer at  
crossing



THESE CONSTRUCTION PLANS WERE PREPARED UNDER THE  
RESPONSIBLE SUPERVISION OF F.E. MIDDLETON JR.,  
REGISTERED PROFESSIONAL ENGINEER NO. 67443.

APPROV.

REVISION

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