

November 18, 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: Windhaven Estates Preliminary Civil Construction Plans - Review #1

Dear Ms. Hammonds,

Halff Associates, Inc. was requested by the City of Sanger to review the <u>Preliminary Civil Construction Plans</u> for the Windhaven Estates. This submittal was prepared by Homeyer Engineering, Inc and was received on November 4th, 2024.

General Comments

- 1. 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.
- 2. Please note additional comments may be provided in subsequent reviews once additional data/responses is received.

Drainage Calculation Comments

1. Provide drainage area runoff calculations for proposed drainage

Storm Drain Profile Comments

- 1. Provide Inlet calculations for proposed storm drain systems
- 2. Provide hydraulic calculations for proposed storm drain systems
- 3. Provide plan and profile sheets for proposed storm drain systems showing hydraulic grade lines and flows in pipe segments to ensure minimum and maximum velocities are met.

Grading

- 1. Ensure surface runoff from residential lots does not cross more than one additional lot before being directed toward a street or dedicated drainage system per ordinance 10.106(d)(12)(A)
- 2. Verify that all first-floor elevations are set at a minimum of 1ft above the top of the street curb elevation per ordinance 10.106(d)(4)(C)

Water Line

1. Ensure the spacing between fire hydrants does not exceed the maximum 500ft per City of Sanger ordinance 5.701(b)

Ms. Ramie Hammonds November 18, 2023 Page 2 of 2

2. Ensure that 18' minimum segment of water line at crossing with proposed sanitary sewer is perpendicular to and centered on sewer pipe. Verify that segment is either constructed of ductile iron/steel or encased in cement stabilized sand embedment to comply with TCEQ requirements.

Sanitary Sewer

1. Ensure that maximum sanitary sewer manhole spacing of 500ft per ordinance 10.106(f)(1)(A)(iii) is met in all proposed sanitary sewer lines.

Illumination

1. Street lighting shall be provided for very light traffic in residential areas and lighting fixtures shall in no case exceed 400ft per ordinance 10.106(h)

If you have any questions or need additional information, please do not hesitate to call me at (214) 764-7498.

Sincerely,

Samson Lotigo, PE

HALFF

Firm No. 0312

Attachments: Preliminary Civil Construction Plans markups

NOL

CONSTRUC

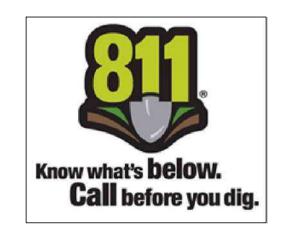
DRAWN: ATG DATE: 10/07/2024

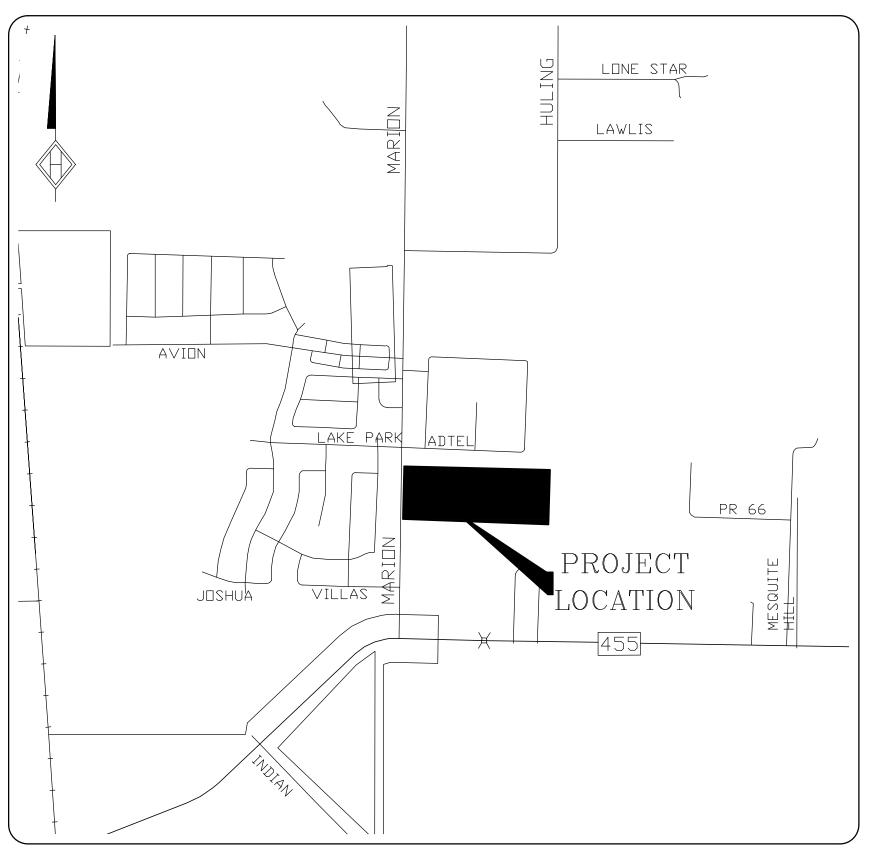
HEI #: 24-0702

PRELIMINARY CIVIL CONSTRUCTION PLANS

for

Windhaven Estates 19.50 Acres City of Sanger Denton County, Texas October 2024





Vicinity Map 1"=1000'

ENGINEER HOMEYER ENGINEERING, INC P.O. BOX 294527 LEWISVILLE, TEXAS 75029 CONTACT: STEVEN R. HOMEYER, PE PHONE: 972-906-9985

OWNER/DEVELOPER WINDHAVEN ESTATES, LLC 6404 SHADY OAKS LANE PLANO, TEXAS 75093 CONTACT: JACK LEONARD

SHEET INDEX

Cover

Plat

- **HEI General Notes**
- Development Plan
- Lilly Lane Plan and Profile
- Lilly Lane and Claire Court Plan and Profile
- Taylor Trail Plan and Profile
- **Grading Plan West**
- **Grading Plan East**
- Existing Drainage Area Map
- Proposed Drainage Area Map
- **Detention Pond Plan**
- Proposed Storm Plan
- **Erosion Control Plan**
- Overall Water
- Water Plan West
- Water Plan East
- Overall Sanitary Sewer Plan
- Sanitary Sewer Line A Plan and Profile
- Sanitary Sewer Line B Plan and Profile
- Sanitary Sewer Line B1 Plan and Profile
- Sanitary Sewer Line C Plan and Profile

PRELIMINARY PLANS

DATE: 10/07/2024

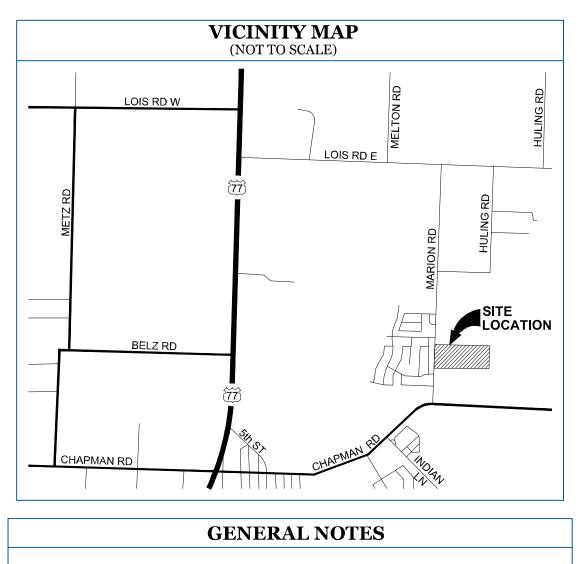
THIS DOCUMENT IS FOR INTERIM

REVIEW AND IS NOT INTENDED FOR

CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

STEVEN R. HOMEYER, PE # 86942

- **Paving Details**
- Water Details
- Water Details
- Sanitary Sewer Details
- Sanitary Sewer Details
- Storm Drain Details
- Storm Drain Details
- **Erosion Control Details**
- C29 Misc. Details



- **1.)** The purpose of this plat is to recreate the lot configuration of a recorded platted residential subdivision to create 30 residential lots and one open space lot.
- 2.) This property is located in "Non-shaded Zone X" as scaled from the F.E.M.A. Flood Insurance Rate Map dated April 18, 2011 as shown on Map Number 48121C0070G.
- 3.) The bearings and coordinates shown on this survey are based on GPS observations utilizing the AllTerra RTK Network, North American Datum of 1983 (Adjustment Realization 2011).
- **4.)** The grid coordinates shown on this survey are based on GPS observations utilizing the AllTerra RTKNET Cooperative network. NAD 83(2011) State Plane Coordinate System (Texas North Central Zone - 4202).
- **5.)** 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/or withholding of utilities and building
- **6.)** The elevations shown on this plat are based on GPS observations utilizing the AllTerra RTKNET Cooperative network. NAVD(88) Datum, (Geoid 12A).
- 7.) All interior property corners are marked with a 1/2-inch iron rod with green plastic cap stamped "EAGLE SURVEYING" unless noted otherwise.
- 8.) All easements shown on previously filed plats for this property are to be abandoned at the time this plat is filed for record.

9.) The Drainage Easements and Open Spaces as shown hereon, are to be maintained

by the Homeowner's Association.

10.) The minimum dwelling unit size for lots in R-1 District is 2000 SF.

11.) All private roads, easements, drainage and detention facilities and common areas are to be maintained by the Home Owners' Association.

12.) The Drainage and Detention Easement will remain open at all times and will be maintained in a safe and sanitary condition by the owners of the lot or lots that are traversed by or adjacent to the Drainage and Detention Easement. The City will not be responsible for the maintenance and operation of said Easement or for any damage to private property or person that results from conditions in the Easement, or for the control of erosion. No obstructions to the natural flow or storm water run]off shall be permitted by construction of any type of building, fence or any other structure within the Drainage and Detention Easement, as herein above defined, unless approved by the City Engineer. Provided, however, it is understood that in the event it becomes necessary for the City to erect of consider erecting any type of drainage structure in order to improve the storm drainage that may be occasioned by drainage in or adjacent to the subdivision, then in such event, the City shall have the right to enter upon the Drainage and Detention Easement at any point, or points, to investigate, survey or to erect, construct and maintain any drainage facility deemed necessary for drainage purposes. Each property owner shall keep the Drainage and Detention Easement clean and free of debris, silt, and any substance which would result in unsanitary conditions or obstruct the flow of water, and the City shall have the right of ingress and egress for the purpose of inspection and supervision of maintenance work by the property owner to alleviate any undesirable conditions which may occur. The natural drainage through the Drainage and Detention Easement is subject to storm water overflow and natural bank erosion to an extent which cannot be definitely defined. The City shall not be held liable for any such damages of any nature resulting from the occurrence of these natural phenomena, or resulting from the failure of any structure or structures, within the Easement.

13.) No wall, fence, structure, sign, tree, or other planting or slope terrace or embankment may be maintained higher than three (3) feet above the street grade so as to cause danger or hazard to traffic by obstructing the view of the intersection within visibility easements.

LEGEND

AC = ACRES SF = SQUARE FEET POB = POINT OF BEGINNING

CIRF = CAPPED IRON ROD FOUND CIRS = CAPPED IRON ROD SET DOC. NO. = DOCUMENT NUMBER P.R.D.C.T. = PLAT RECORDS DENTON COUNTY, TEXAS

O.R.D.C.T. = OFFICIAL RECORDS DENTON COUNTY, TEXAS ROW = RIGHT-OF-WAY

(972) 906-9985

OWNER Windhaven Estates, LLC Contact: Jack Leonard

ENGINEER Homeyer Engineering, Inc. Contact: Matt Haskin 6404 Shady Oaks Lane P.O. Box 294527 Plano, TX 75093 Lewisville, TX 75029

SURVEYOR Eagle Surveying, LLC Contact: Brad Eubanks 222 S. Elm Street, Suite: 200 Denton, TX 76201

(940) 222-3009

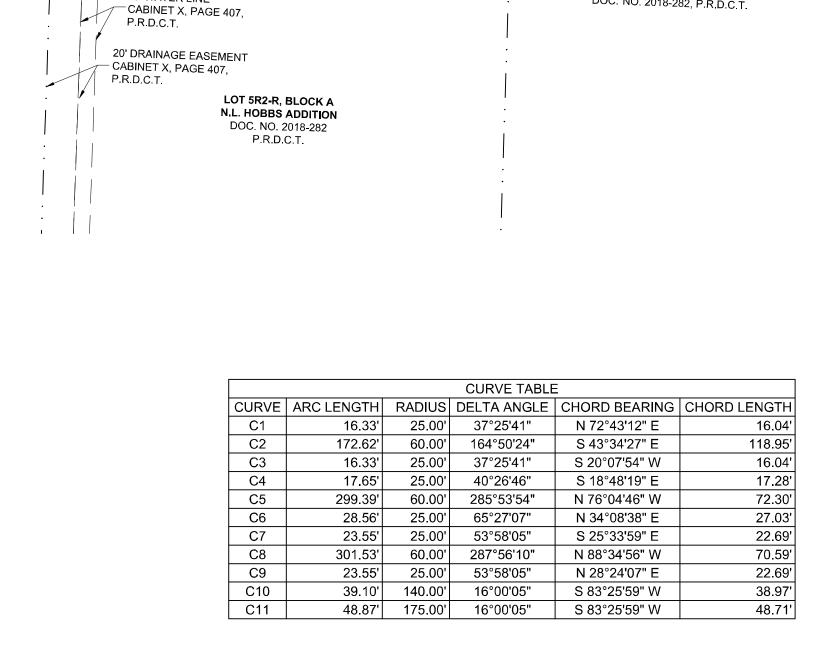
JOB NUMBER 1607.043-11 DATE 09/30/2024 REVISION

BE



Eagle Surveying, LLC 222 South Elm Street Suite: 200 Denton, TX 76201 940.222.3009 www.eaglesurveying.com

TX Firm # 10194177



LINE	BEARING	DISTANCE
L1	N 46°25'33" E	24.75'
L2	S 88°34'56" E	14.69'
L3	S 43°34'27" E	21.22'
L4	N 43°34'27" W	28.29'
L5	S 46°25'33" W	14.14'
L6	N 43°34'27" W	14.14'
L7	N 88°33'58" W	12.49'
L8	S 46°25'33" W	21.23'
L9	N 46°26'32" E	19.80'
L10	S 01°25'04" W	102.77'
L11	S 46°24'07" W	74.02'
L12	S 01°25'14" W	5.86'
L13	S 01°25'14" W	14.14'
L14	S 46°24'07" W	74.02'
L15	S 01°25'04" W	108.49'

LINE TABLE

LOT SUMMARY GROSS: 19.51 ACRES DEDICATED: 2.42 ACRES NET: 17.09 ACRES

WINDHAVEN ESTATES LOTS 1 - 30 & 31X, BLOCK A 19.51 ACRES

30 RESIDENTIAL LOTS / 1 OPEN SPACE LOT & 2.42 ACRES RIGHT-OF-WAY DEDICATION

A REPLAT OF PART OF LOTS 1A - 4A AND ALL OF LOTS 5A -8A, BLOCK A OF MARION POINT ACRES, RECORDED IN DOC. NO. 2015-62, P.R.D.C.T., REUBEN BEBEE SURVEY, ABSTRACT No. 29,

DATE OF PREPARATION: 09/30/2024

		ADTEL LANE 60' PUBLIC RIGHT-OF-WAY (DOC. NO. 2018-207 - P.R.D.C.T.)			
			-··-·-·	. — —	LOT 16 1" = 60' 0 30 60
		D. C.C.	UTILITY EASEMENT OC. NO. 2018-207 P.R.D.C.T.		
LOT 23		DOC. NO. 2018-207 P.R.D.C.T.			
330.26	LOT 21 label easement	LOT 20	LOT 19	LOT 18	LOT 17
	691 699 8	UTILITY EASEMENT DOC. NO. 2018-207— P.R.D.C.T.	; 		
1/2"CIRS 118.00' 99.11' 1abel visibility	DRAINAGE EASEMENT DOC. NO. 2018-207 P.R.D.C.T.	S 88°33'58" E 1,521.15'	105.38'	DRAINAGE EASEMENT DOC. NO. 2018-207 P.R.D.C. T.	N: 7186565.04 E: 2379906.99
easement 100 100 100 100 100 100 100 100 100 10		693	100.36		186.98' ORTION OF 4A, BLOCK A
LOT 1 20,538 St 0.47 AC LOT 2 17,344 SF 0.40 AC LOT 3 17,344 SF 0.40 AC	LOT 5 17,344 S 10.40 AC 18,442 SF 0.42 AC 18,442 SF 0.42 AC	★ 10,442 SF	LOT 9 18,442 SF 18,442 SF	LOT 11 SO DICAMAGE EASEMENT BY THIS PLAT LOT 12	13
PORTION OF LOT 1A, BLOCK A MARION POINT ACRES DOC. NO. 2015-62 ORD.C.T., be less than 15 ft in	The second secon	0.42 AC 0.42 AC 0.42 AC 0.42 AC 0.42 AC NAME OF THE PROPERTY O	0.42 AC PORTION OF 1921 T 3A, BLOCK A ON POINT ACRES	18,442 SF 0.42 AC 0.46 AC 20,115 SF 0.46 AC 21,44 0.49	OSF S
width	BY THIS PLAT 99.11'	105 38'	ORDCT.	24.00' 10.00' 11.55' 74.74'	0.54 AC OLD LOT / ROW LINE
210.00' - 30.0' - 30.0' - ABAND		LILLY LANE 50' PUBLIC RIGHT-OF-WAY (105,600 SF / 2.42 ACRES)		OLD LOT / ROW LINE	N 78°24'04" E 157.03'
TO' UTILITY EASEMENT BY THIS PLAT 10' UTILITY EASEMENT BY THIS PLAT 14.14' SIGHT 14.14' SIGHT	108.00'			50.00' R60'	OLD LOT LINE
14.15' SIGHT SIGHT	26 BY THIS PLAT	16.0'	75.00′	TRAIL HT-OF-WAY	CO. LOT 15 21,310 SF 0.49 AC LOT 15 21,310 SF 0.49 AC
AIR PUBLIC RI	18,900 SF 0.43 AC 18,900 SF 0.43 AC 0.	18,984 SF	LOT 21 17,994 SF 0.41 AC LOT 20 17,994 SF 0.41 AC 0.41 AC	AYLOR 19:00	BRENNA LOUISA BY THIS PLAT BY THIS PLAT BY THIS PLAT N 88°33'58" W 167.90' BRENNA LOUISA BROWN HALL INST NO. 2023-22584 O.R.D.C.T.
	EASEMENT 66 1 67 67 68 68 68 68 68 68	684		IS UTILITY	LOT 16
19,602 SF 0.45 AC	108.00' 108.00' S 88°33'58" E 324.00' S 108.00' S 88°33'58" E 324.00'	108.00' 102.82' N	102.82' N 88°33'58" W 308.46'	EASEMENT BY THIS PLAT N 88°33'58" W 134.87' L2	18,233 SF 0.42 AC 0.42 AC
15' UTILITY EASEMENT OF 20,387 SF 0.47 AC	MARION POINT ACRES LOT 31X DOC. NO. 2015-62 O.R.D.C.T. 140,771 SF 3.23 AC	BY THIS PLAT	LOT 6A, BLOCK A MARION POINT ACRES DOC. NO. 2015-62 ORD.CT.	S Real	N 88°33'58" W 150.20'
LOT 8A, BLOCK A MARION POINT ACRES DOC. NO. 2015-62 LOT 28 21,786 SF 21,786 SF	220' DRAINAGE EASEMENT CABINET L, PAGE 173, PR.D.CT. PARTIALLY ABANDONED	POND REUBEN BEBEES ABSTRACT N	SURVEY, ORDICT.	EDT 18 28,071 SF 0.64 AC 16' DRAINAGE	LOT 17 25,758 SF 0.59 AC
N: 7186052.35 E: 2378372.69 1/2"CIRF POB	BY THIS PLAT	\	685	16' DRAINAGE EASEMENT BY THIS PLAT EASEMENT BY THIS PLAT EASEMENT BY THIS PLAT	LOT 5A, BLOCK A
		7°55'47" W 1,517.24'	361.36' — [686]	192.29'	206.78'
10' WATER LINE CABINET X, PAGE 407, P.R.D.C.T.	10' MUTUAL ACCESS EASEMENT	15' SANITARY SEWER EASEMENT INST. NO. 2017-131155 R.P.R.D.C.T.			1/2"CIRF
20' DRAINAGE EASEMENT CABINET X, PAGE 407, P.R.D.C.T.					
N.L. HOBBS ADDITION DOC. NO. 2018-282 P.R.D.C.T.	LOT 5R1-R, BLOCK A N.L. HOBBS ADDITION DOC. NO. 2018-282 P.R.D.C.T.		RONALEE ROBERTS & JODY ROBERTS INST NO. 2023-71087 O.R.D.C.T. (TRACT 5)	. RONALD BEARD . INST NO. 2023-71087	 - -
			- · · · · · · · · · · · · · · · · · · ·	O.R.D.C.T. (TRACT 1)	: :
				PRELIMINARY this document shall not be recorded for any purpose and shall not be used or viewed or	
				relied upon as a final survey document	

ADTEL LANE

relied upon as a final survey document

REPLAT

PG. 1 OF 2

CITY OF SANGER, DENTON COUNTY, TEXAS

UTILITY PROVIDERS

TELEPHONE: SPRINT

1435 S. Loop 288, Suite: 107

Denton, TX 76205 1- (888) 723-8010

WATER:

CITY OF SANGER
201 Boliver Street
Sanger TV 76266

Sanger, TX 76266 (940) 458-9096

ELECTRIC:

COSERV ELECTRIC 7701 South Stemmons Corinth, TX 76210 1- (800) 274-4014

OWNER'S CERTIFICATE & DEDICATION

STATE OF TEXAS §
COUNTY OF DENTON §

WHEREAS, **WINDHAVEN ESTATES LLC**, is the owner of a 19.51 acre tract of land situated in the Reuben Bebee Survey, Abstract Number 29, City of Sanger, Denton County, Texas, being a part of Lots 1A through 4A, Block A and all of Lots 5A through 8A, Block A of Marion Point Acres, an addition to the Extra-Territorial Jurisdiction of the City of Sanger, Denton County, Texas, according to the plat thereof filed for record under Document Number 2015-62, Plat Records, Denton County, Texas, (P.R.D.C.T.), as conveyed to Windhaven Estates LLC by deed of record in Document Number 2024-78673 of the Official Records of Denton County, Texas (O.R.D.C.T.), said 19.51 acre tract of land being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2-inch capped iron rod found for the Southwest corner of the herein described tract, being in the East Right-of-Way line of Marion Road, and being the Northwest corner of Lot 5R of N.L. Hobbs Addition, an addition to the City of Sanger, according to the plat thereof recorded in Cabinet X, Page 613 of the P.R.D.C.T.;

Thence North 01°25'04" East with the East Right-of-Way line of said Marion Road for a distance of 550.93 feet to a 1/2-inch capped iron rod stamped "Eagle Surveying" set for the Northwest corner of the herein described tract;

Thence South 88°33'58" East with the North boundary line of the herein described tract for a distance of 1521.15 feet to a 1/2-inch capped iron rod stamped "Eagle Surveying" set for the Northeast corner of the herein described tract, and being in the West boundary line of a tract of land described in a deed to Delores S. Brown, according to the deed thereof recorded in Document No. 2002-157064 of the O.R.D.C.T.;

Thence South 01°49'18" West with the West boundary line of said Brown tract for a distance of 567.80 feet to a 1/2-inch capped iron rod found for the Southeast corner of the herein described tract, and being in the Northeast corner of a tract of land described in a deed to Ronald Beard, according to the deed thereof recorded in Document No. 2023-71087 of the O.R.D.C.T.;

Thence North 87°55'47" West with the North boundary line of said Roberts tract and Block A of aforementioned N.L. Hobbs Addition, for a distance of 1,517.24 feet to the **POINT OF BEGINNING** enclosing 19.51 acres of land, more or less.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS:

THAT, **WINDHAVEN ESTATES LLC**, does hereby adopt this plat, designating the herein described property as **WINDHAVEN ESTATES**, an addition to the City of Sanger, Denton County, Texas, and does hereby dedicate to public use forever all streets, alleys, parks, watercourses, drains, easements and public places shown thereon for the purpose and consideration therein expressed. No buildings, fences, trees, shrubs or other improvements or growths shall be constructed or placed upon, over or across the drainage and utility easements as shown. Said drainage and utility easements being hereby reserved for the mutual use and accommodation of all public utilities desiring to use same. All and any public utility shall have the right to remove and keep removed all or parts of any buildings, fences, trees, shrubs or other improvements or growths which may in any way endanger or interfere with the construction, maintenance, or efficiency of its respective system on the drainage and utility easement and all public utilities shall at all times have the full right of ingress and egress to or from and upon the said drainage and utility easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining and adding to or removing all or parts of its respective systems without the necessity at any time of procuring the permission of anyone.

OWNER: WINDHAVEN ESTATES LLC

STATE OF TEXAS §
COUNTY OF DENTON §

BEFORE ME, the undersigned authority, on this day personally appeared **JACK LEONARD**, 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 purposes and considerations therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF THE OFFICE this _____ day of ______, 2024

Notary Public in and for the State of Texas

CERTIFICATE OF SURVEYOR

STATE OF TEXAS §
COUNTY OF DENTON §

I, **MATTHEW J. RAABE**, Registered Professional Land Surveyor, do hereby certify that this plat was prepared from an actual survey made on the ground and that the monuments shown hereon were found or placed with 1/2-inch iron rods with green plastic caps stamped "EAGLE SURVEYING" under my direction and supervision in accordance with the current provisions of the Texas Administrative Code and the Ordinances of the City of Sanger, Denton County, Texas.

PRELIMINARY
this document shall not be recorded
for any purpose and shall not be
used or viewed or relied upon as a
final survey document

Matthew J. Raabe, R.P.L.S. # 6402 Date

STATE OF TEXAS §
COUNTY OF TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared **TED A. GOSSETT**, 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 purposes and considerations therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF THE OFFICE this _____ day of ______, 2024.

John Cox, Notary Public in and for the State of Texas

Chairman, Planning & Zoning Commission
City of Sanger, TX

Mayor
City of Sanger, TX

Attested by

City Secretary
City of Sanger, TX

Date

Approved and Accepted

WINDHAVEN ESTATES

REPLAT

LOTS 1 - 30 & 31X, BLOCK A 19.51 ACRES

PG. 2 OF 2

30 RESIDENTIAL LOTS / 1 OPEN SPACE LOT & 2.42 ACRES RIGHT-OF-WAY DEDICATION

A REPLAT OF PART OF LOTS 1A - 4A AND ALL OF LOTS 5A -8A, BLOCK A OF MARION POINT ACRES, RECORDED IN DOC. NO. 2015-62, P.R.D.C.T., REUBEN BEBEE SURVEY, ABSTRACT No. 29, CITY OF SANGER, DENTON COUNTY, TEXAS

DATE OF PREPARATION: 09/30/2024

SURVEYOR
Eagle Surveying, LLC
Contact: Brad Eubanks
222 S. Elm Street, Suite: 200
Denton, TX 76201
(940) 222-3009

ENGINEER
Homeyer Engineering, Inc.
Contact: Matt Haskin
P.O. Box 294527
Lewisville, TX 75029
(972) 906-9985

OWNER
Windhaven Estates, LLC
Contact: Jack Leonard
6404 Shady Oaks Lane
Plano, TX 75093

JOB NUMBER 1607.043-11 DATE 09/30/2024 REVISION -DRAWN BY

BE



Eagle Surveying, LLC 222 South Elm Street Suite: 200 Denton, TX 76201 940.222.3009 www.eaglesurveying.com TX Firm # 10194177

GENERAL NOTES:

- 1. The proposed project is located in the City of Sanger, Texas, hereinafter called "City"
- 2. Prior to any construction, the Contractor shall familiarize himself with the Contract Documents and Specifications, the Plans, including all notes, the City Standard Details and Specifications and any other applicable standards or specifications relevant to the proper completion of the work specified. Failure on the part of the Contractor to familiarize himself with all Standards and Specifications pertaining to this work shall in no way relieve the Contractor of responsibility for performing the work in accordance with all such applicable Standards and Specifications.
- 3. The Contractor shall have in his possession, prior to construction, all necessary permits, licenses, etc. The Contractor shall have at least one set of approved Engineering Plans and Specifications on—site at all times. The Contractor shall notify the City 48 hours prior to the commencement of any work.
- 4. All materials and construction shall conform to the City Standard Construction Details for Paving, Drainage, Water and Sanitary Sewer Facilities and be installed in accordance with the City Specifications and the North Central Texas Council of Governments Standard Specifications for Public Works Construction. These specifications shall be made part of these
- 5. In the event an item of work is not covered in the City Construction Standards, Specifications and Details; or the North Central Texas Council of Governments Standard Specifications for Public Works Construction; the City Engineer shall have the final decision on all materials, methods and procedures.
- 6. Construction inspection may be performed by representatives of the Owner, Engineer, City, Geotechnical Engineer and Reviewing Authorities and Agencies. Unrestricted access shall be provided to them at all times. The Contractor is responsible for understanding and scheduling required inspections.
- 7. All contractors must confine their activities to the work area. No encroachments outside of the defined work area will be allowed, unless specifically noted on the plans. Any damage resulting therefrom shall be the Contractor's responsibility to
- 8. It will be the responsibility of each contractor to protect all existing public and private utilities throughout the construction of this project. The Contractor shall contact the appropriate utility companies for line locations prior to commencement of construction and shall assume full liability to those companies for any damages caused to their facilities.
- 9. The Contractor shall be responsible for providing the required construction staking necessary to complete the construction in accordance with the plans and specifications.
- 10. The Contractor shall be responsible for providing and maintaining all necessary barricading and all other warning and safety devices to protect the public safety and health until all work has been completed and accepted.
- 11. If unforeseen problems or conflicts are encountered in the course of construction, for which an immediate solution is not apparent, the Engineer and Owner shall be notified immediately.
- 12. The Contractor shall be responsible for field locating existing utilities and improvements prior to construction. The locations of existing utilities shown on these plans are approximate. The Contractor shall call 1—800—344—8377 (DIG—TESS), other utility locating services or the underground utility companies a minimum of 48 hours prior to beginning work.
- 13. The Contractor shall employ an Owner approved engineering testing laboratory for all required density, construction and materials testing and water bacteria testing. The testing laboratory shall make tests necessary to insure that construction is in accordance with the approved plans and specifications. Any retesting necessary to insure that a prior failing test meets the plan requirements, shall be at the Contractor's expense. The testing laboratory shall submit testing reports to the Engineer, the Owner and the City.
- 14. The existing utilities shown on these plans have been located from reference information obtained from the respective owner of the utility. The Engineer and Owner do not accept responsibility for the utility locations as shown. It shall be the responsibility of the Contractor to verify the location of all existing utilities prior to construction, to take necessary precautions to protect all facilities encountered and to notify the Engineer promptly of any conflicts with existing facilities.
- 14. The Contractor shall be responsible for removing any existing structures, fences, debris or trees that are located within the boundaries of this project, unless otherwise noted on the plans.
- 15. The Contractor shall remove and dispose of all unsuitable excavated materials and construction debris at no additional cost to the Owner.
- 16. The Contractor shall be solely responsible for maintaining trench safety requirements in accordance with the trench safety plan prepared by others and in accordance with City Standards, Texas State Law and the Occupational Safety and Health Administration Standards.
- 17. All concrete shall meet the minimum compressive strengths as noted and specified on the plans or other specifications. As a minimum, no concrete shall have a compressive strength less than 4,000 psi at 28 days.
- 18. Refer to the architectural plans for building and foundation dimensions.
- 19. The Contractor shall be responsible for providing a two (2) year, 100% maintenance bond to the Owner for all improvements associated with the approved plans.

GRADING NOTES:

- 1. All grading shall be performed in accordance with these plans and the geotechnical report prepared by others.
- 2. New finished contours shown are top of paving in areas to receive pavement and top of soil in areas to be seeded.
- 3. Areas outside of parking lot perimeter shown to be seeded shall receive a minimum of four (4) inches of top soil (or to depth identified on the Landscaping Plans). This topsoil to be placed and leveled by the grading contractor. This material may be stockpiled during stripping operations.
- 4. Rough grading elevations shall be as follows:
- A. Four (4) inches below finished contours in seeded
- B. Six (6) inches below finished contours in paved areas, unless noted otherwise.
- 5. Dimensions on buildings are for grading purposes only and are not intended for use in laying out the building foundation.
- 6. Contractor shall pay all costs associated with raising or lowering existing utility appurtenances as required to match finished grades in conformance with City Standards and these plans.
- 7. The Contractor shall use whatever measures are required to prevent silt and construction debris from leaving the site. Contractor shall comply with all Federal, State and Local erosion, conservation and siltation regulations. Contractor shall remove all temporary erosion control devices upon completion of permanent drainage facilities and the establishment of vegetation sufficient to prevent erosion. Any damage to adjacent properties; downstream channels, ponds or lakes; or wildlife shall be corrected by the Contractor at his expense.
- 8. The Contractor shall take all available precautions to control dust at no additional cost to owner.
- 9. All excavation is unclassified and shall include all materials encountered.
- 10. All areas not covered by the building, paving or proposed landscaping shall be grassed on this lot including adjacent street parkways.
- 11. Prior to the commencement of construction activities, the Contractor shall stake out and mark the items established by the site plan.
- 12. Temporary erosion control devices shall be installed prior to the commencement of grading activities. Contractor shall inspect and maintain all temporary erosion control devices as required.
- 13. All disturbed areas shall be seeded with hydromulch unless otherwise noted. The Contractor shall maintain as much existing vegetation as possible. Grass buffer strips shall remain around the perimeter of the property to aid in the filtering of sedimentation. Sufficient temporary or permanent groundcover shall be established on all slopes, berms and swales to prevent erosion.
- 14. All site grading and earthwork shall comply to the geotechnical report recommendations.
- 15. These specifications do not include grading and preparation of the building foundation area. The Contractor shall confirm the foundation compaction, moisture control, select fill and/or treatment with the Owner, the project geotechnical engineer and structural engineer.
- 16. Areas within five (5) feet horizontally of the parking pavement and/or embankment slopes adjacent to the parking area shall be constructed as per the project geotechnical engineer's recommendations. The specifications identified below are minimum requirements and shall be superseded by the project geotechnical engineer's recommendations if in conflict. The specifications are as follows:
 - A. The area shall be stripped of vegetation a minimum of six (6) inches or as directed by the project geotechnical engineer and proof rolled. Proof rolling consists of rolling the entire area of prepared subgrade with a heavy (25 ton or greater total weight) pneumatic tired roller. The roller shall make several passes over the area. Any soft, wet or weak areas which do not compact by proof rolling shall be removed and recompacted as outlined herein. The proof rolling operation must be performed under the observation of a qualified geotechnical engineer or his representative and density control tested.
 - B. On—site soils with plasticity index (PI) anticipated to be greater than 15 and less than 20, which includes any dark colored surface clay soils, can be used as grade raise fill outside the proposed building area. These clay soils shall be compacted to a dry density of at least 95 percent of standard proctor density. The compacted moisture content of the clays during placement shall be between optimum and four (4) percentage points above optimum.
 - C. Compaction shall be accomplished by placing the fill in six (6) to eight (8) inch thick lifts and compacting each lift to at least the minimum specified dry density. It is imperative that the fill particle sizes be less than six (6) inches in diameter. If larger clods are encountered during grading, these clods must be broken down or removed prior to final placement of the fill.
 - D. In order for the fill materials to perform as intended, the fill material must be placed in a manner which produces a good uniform fill that is compacted within the density and moisture ranges outlined above. Field density tests shall be performed to confirm this performance as construction progresses. For the proposed parking and driveway areas, testing at a frequency of no less than one (1) test per each lift per each 5,000 square feet shall be provided.
- 17. All underground work shall be completed prior to subgrade preparation and placement of paving.

EROSION CONTROL NOTES:

1. Erosion control design and specifications are included in these drawings in accordance with the minimum requirements of the City. Responsibility for compliance with State and Federal Best Management Practices (BMPs), the implementation of erosion control BMP measures and/or the filing of permits or notices shall solely rest with the Contractor(s) and Owner(s). The Texas Commission on Environmental Quality (TCEQ) requires permits for both small and large construction sites under the authority of the Texas Pollution Discharge Elimination System (TPDES) General Permit. General Permit requirements will require the developer/owner and responsible Contractor(s) to complete the following:

> <u>Small Construction Sites</u> — will disturb (alone or as part of a larger development) between 1 acre and 5 acres of

- A. Must develop and implement a Storm Water Pollution Prevention Plan (SWPPP)
- B. Must post copy of the TCEQ Construction Site
- Notice at the project site. C. Must submit a copy of the Construction Site Notice to the City.
- <u>Large Construction Sites</u> will disturb (alone or as part of a larger development) 5 acres or more of land.
 - A. Must develop and implement a SWPPP B. Must submit Notice of Intent (NOI) with application fee to TCEQ at least 2 days prior to commencing
 - construction activities. C. Must post copy of the NOI at the project site. D. Must submit a copy of the NOI to the City.
- Homeyer Engineering, Inc. assumes no responsibility or liability for failure to do so by the Owner, Developer or Contractor.
- 2. The Contractor shall obtain a TPDES General Permit in compliance with TCEQ and implement a SWPPP according to permit requirements and applicable laws.
- 3. The Contractor shall preserve existing vegetation when possible and must stabilize any disturbed area where construction activity has temporarily or permanently ceased. The stabilization must take place within 14 days of the end of activities unless construction will resume within 21 days.
- 4. All of the erosion control devices shown on the erosion control plan for the project shall be installed prior to the start of land disturbing activities.
- 5. If the erosion control plan as approved cannot control erosion and off-site sedimentation from the project, then the erosion control plan will be required to be revised and/or additional erosion control devices will be required on-site.
- 6. The Contractor shall use whatever measures are required to prevent silt and construction debris from leaving the site. Contractor shall comply with all Federal, State and Local erosion, conservation and siltation regulations. Contractor shall remove all temporary erosion control devices upon completion of permanent drainage facilities and the establishment of vegetation sufficient to prevent erosion. Any damage to adjacent properties; downstream channels, ponds or lakes; or wildlife shall be corrected by the Contractor at his expense.
- 7. The Contractor shall take all available precautions to control dust at no additional cost to owner.

PAVING NOTES:

- 1. All dimensions are to the face of curb unless shown otherwise.
- 2. All proposed curb radii are 2.0 feet unless shown otherwise.
- 3. The Contractor shall remove and replace any concrete pavement within five (5) days of saw cutting the existing pavement.
- 4. 20% MAX of fly ash is allowed in the concrete mix design.
- 5. All subgrade shall be tested for sulfates prior to the placement of concrete pavement. If sulfates are found, any treatments shall be in accordance with the recommendations of the geotechnical engineer.
- 6. All concrete shall meet the minimum compressive strengths as noted and specified on the plans or other specifications. Unless noted otherwise, the concrete pavement shall have a minimum compressive strength of 4,000 psi at 28 days.
- 7. It is the Contractor's responsibility to ensure compliance with all handicapped accessibility requirements, including signage, textures, colorings, markings and slopes of ADA accessible routes and parking spaces.
- 8. All signs, pavement markings and other traffic control devices shall conform to the Texas Manual on Uniform Traffic Control Devices.
- 9. All existing signs within the limits of the proposed pavement shall be relocated a minimum of five (5) feet from the proposed back of curb.
- 10. The contractor shall submit a pavement jointing plan to the Engineer for approval prior to the placement of concrete paving.
- 11. Saw joints shall be made as soon as the new concrete can support the weight of the machine and operator without tracking.

WATER AND SEWER NOTES:

- 1. All materials, devices and components used for dispensing potable water shall conform to NSF/ANSI Standard 61 and NSF/ANSI Standard 372 in accordance with the Reduction of Lead in Drinking Water Act and city details.
- 2. All water pipe less than 12 inches in diameter shall be C900, CL 150 (DR 18) PVC unless shown otherwise.
- 3. All sewer pipe less than 12 inches in diameter and less than 10 feet in depth shall be SDR-35 PVC. When the depth exceeds 10 feet, the pipe material shall be SDR-26 PVC.
- 4. All water line appurtenances (valves, fire hydrants, tees, etc.) shall utilize mechanically restrained joints and concrete thrust blocking.
- 5. The contractor shall adjust any valve covers, manholes, etc. to proposed grades. Refer to grading plans, paving plans and landscaping plans for final grades for determining manhole rim elevations.
- 6. Water mains shall have a minimum cover of 48 inches below the proposed finished grade.
- 7. All public pipe, structures and fittings shall be inspected by the City inspector prior to the trench being backfilled.
- 8. Water jetting is not allowed.
- 9. All embedment and backfill shall be wetted to approximate optimum moisture and compacted in 8 inch lifts to 95% Standard Proctor Density or as directed by the Geotechnical Engineer. Density tests shall be obtained for each lift and for each 150 lineal feet of trench or increment thereof or as directed by the Geotechnical Engineer.
- 10. The location of all existing utilities indicated on the plans are taken from existing records. The exact location and elevation of all public utilities shall be determined by the Contractor. It shall be the responsibility of the Contractor to determine whether additional facilities, other than those shown, may be present.
- 11. When installing water lines at sanitary sewer crossings, no joint of water pipe shall be within 9 feet of the centerline of the sanitary sewer pipe.
- 12. A minimum clearance of 2 feet shall be provided between water lines and storm drainage inlets.
- 13. All road bores shall be made using dry bore equipment. No wet bores will be allowed.
- 14. Fire hydrants shall be located a minimum of 3 feet and a maximum of 5 feet behind the back of curb. If the fire hydrant is located within or adjacent to a public right-of-way, the Contractor shall place a blue reflector in the center of the lane adjacent to the fire hydrant.
- 15. Fire hydrants shall be painted in accordance with City Standards.
- 16. Proposed water lines shall be tested and disinfected in accordance with AWWA C601 prior to acceptance.
- 17. Proposed sewer lines shall be subjected to an air test and/or leakage test prior to acceptance.
- 18. The Contractor shall provide a TV inspection for all public sewer mains at Contractor's expense.
- 19. All excavation is unclassified and shall include all materials encountered.

STORM DRAINAGE NOTES:

- 1. All storm drainage pipe shall be Class III RCP, C-76, unless shown otherwise.
- 2. The Contractor shall use Forterra "B-2" (Radius Pipe) or equal for all horizontal or vertical curves with a radius greater than 100 feet. Pre-fabricated bends shall be used if the radius is less than 100 feet.
- 3. Use pre-fabricated Wyes at all pipe intersections and concrete collars at pipe size changes if a junction device (manhole, junction box, inlet, etc.) is not used.
- 4. Open ends of storm drainage pipes shall be adequately protected at the end of each day by the contractor.
- 5. Water jetting is not allowed.
- 6. All embedment and backfill shall be wetted to approximate optimum moisture and compacted in 8 inch lifts to 95% Standard Proctor Density or as directed by the Geotechnical Engineer. Density tests shall be obtained for each lift and for each 150 lineal feet of trench or increment thereof or as directed by the Geotechnical Engineer.
- 7. All excavation is unclassified and shall include all materials encountered.
- 8. The proposed storm drainage system including the detention facility shall be maintained by the property owner.

FIRE LANE NOTES:

1. The fire lane shall be striped on a paved surface and be clearly marked on the pavement with a "red" painted line at least four (4) inches wide. "NO PARKING" and "FIRE LANE" in not less than four (4) inch letters in "white" paint shall be placed every other twenty five (25) feet on the stripe. Where the fire lane is adjacent to a curb, the entire curb shall be painted. All paint referred to shall be a traffic marking

MAINTENANCE AGREEMENT NOTE:

The City of Sanger is not responsible for the design, construction, operation, maintenance or use of the stormwater detention area, and their associated private drainage easements, herein referred to as "features" to be developed and constructed by the owners of their successors. Owners or successors agree to indemnify and hold harmless the City of Sanger, its officers, employees, and agents from any direct or indirect loss, damage, liability, or expense and attorney's fees for any negligence or omissions whatsoever, arising out of the design, construction, operation, maintenance, condition or use of the "features" including any non-performance of the foregoing. Owners and successors accept full responsibility and liability for the "features". All of the above shall be covenants running with the land.

TXDOT GENERAL NOTES:

" permit.

- 1. All construction within the state right of way will require compliance to 2014 TxDOT standard specifications, standard plan, TxDOT on-line manual and the Texas manual on uniform traffic control devices.
- 2. By sealing and signing there permit plans as a professional civil engineer licensed to practice in the state of Texas, i certify that the proposed driveway of public street connections to the state roadway meets or exceeds the minimum stopping sight distance required for a design speed of 50 miles per hour, based on the most recent on—line TxDOT roadway design manual requirements.
- 3. Posted speed limit is 50 miles per hour.
- 4. Specifications adopted by the Texas dept. of transportation November 1, 2014 and specification items listed and dated as follows shall govern on this project for all work within the state right of way.
- 5. Traffic control must be maintained throughout the duration of work within TxDOT row.
- 6. All disturbed row must be re-vegetated with sod and maintained until vegetation is re—established. 7. All lane closures must be coordinated with both TxDOT and
- municipality inspectors.
- 8. No construction shall be permitted within TxDOT right of way prior to TxDOT approval and issuance of permit.
- 10. All lane closures shall take place between 9.00 AM 3.30 PM Monday thru Friday. No lane closures are allowed during peak

PRELIMINARY PLANS

DATE: 10/07/2024

PURPOSES.

THIS DOCUMENT IS FOR INTERIM

REVIEW AND IS NOT INTENDED FOR

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STEVEN R. HOMEYER, PE # 86942

9. Any utility relocation under TxDOT row requires separate "UIR

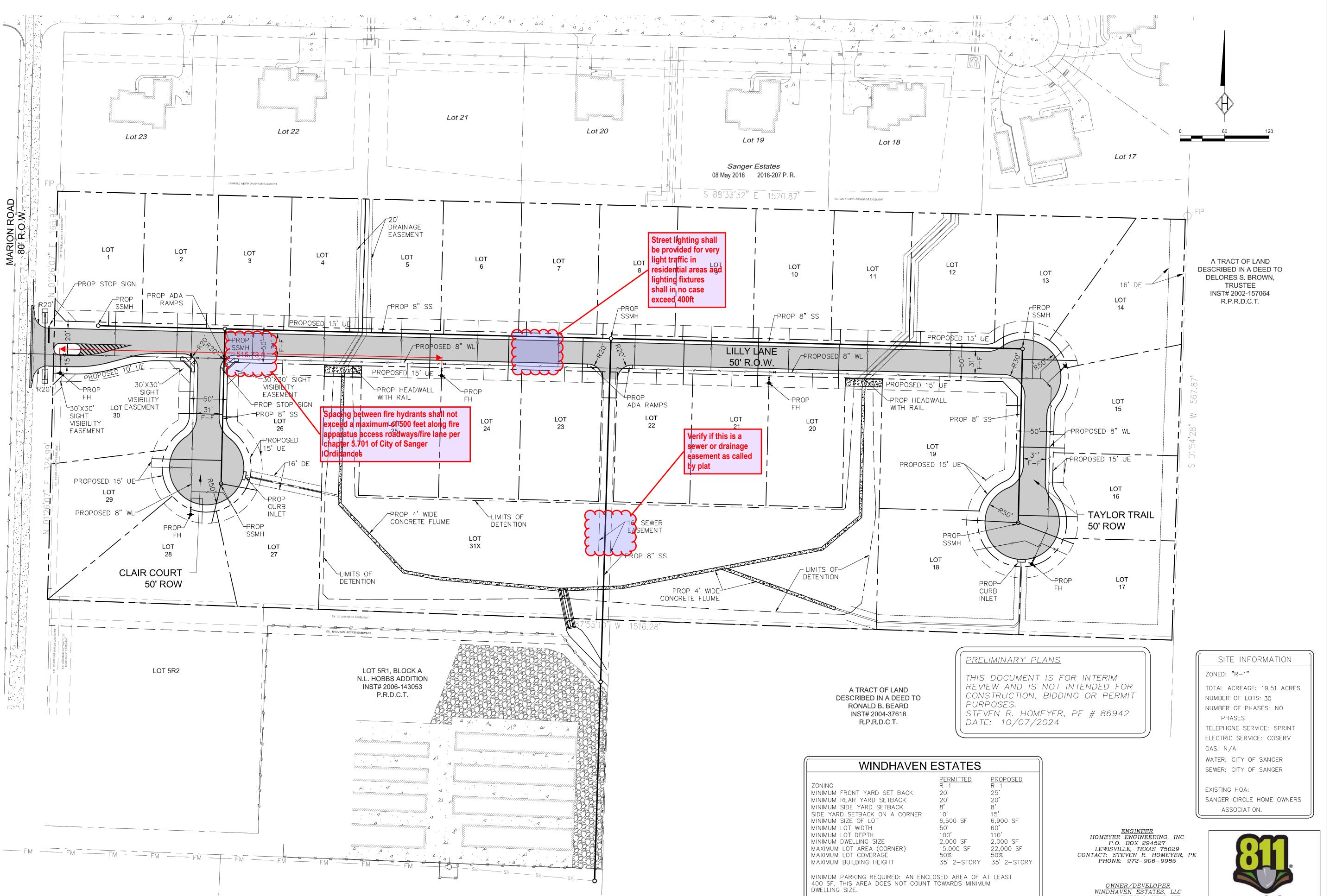
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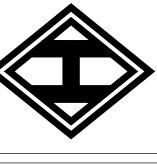
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DATE: 10/07/2024

HEI #: 24-0702

DRAWN: ATG





DEVELOPMEN

6404 SHADY OAKS LANE

PLANO, TEXAS 75093 CONTACT: JACK LEONARD

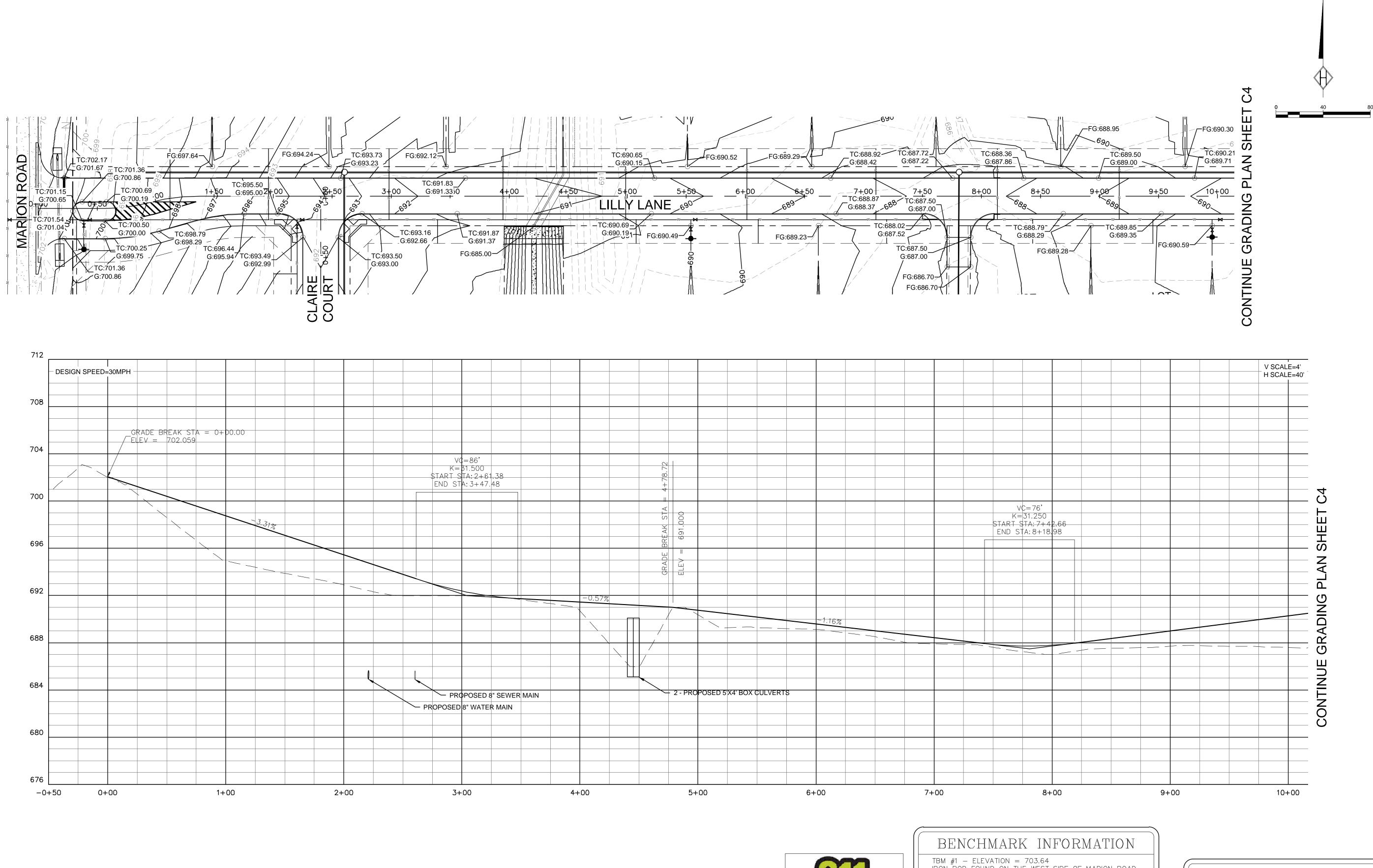
DENSITY IS 30 HOMES ON 19.51 ACRES FOR 1.5 UNITS PER ACRE.



DRAWN: ATG

DATE: 10/07/2024

HEI #: 24-0702





TBM #1 — ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

TBM #2 — ELEVATION = 711.00 IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

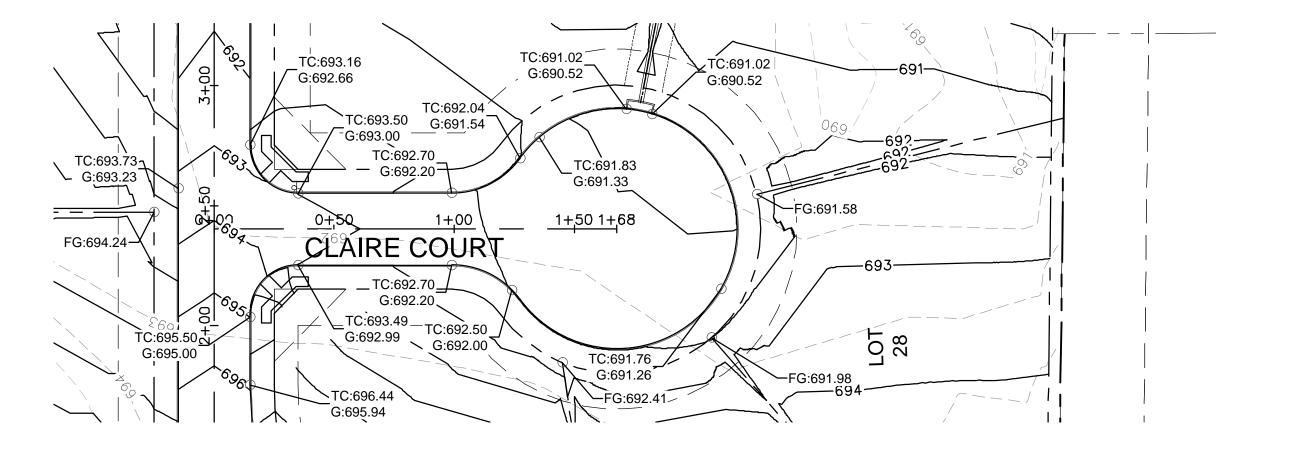
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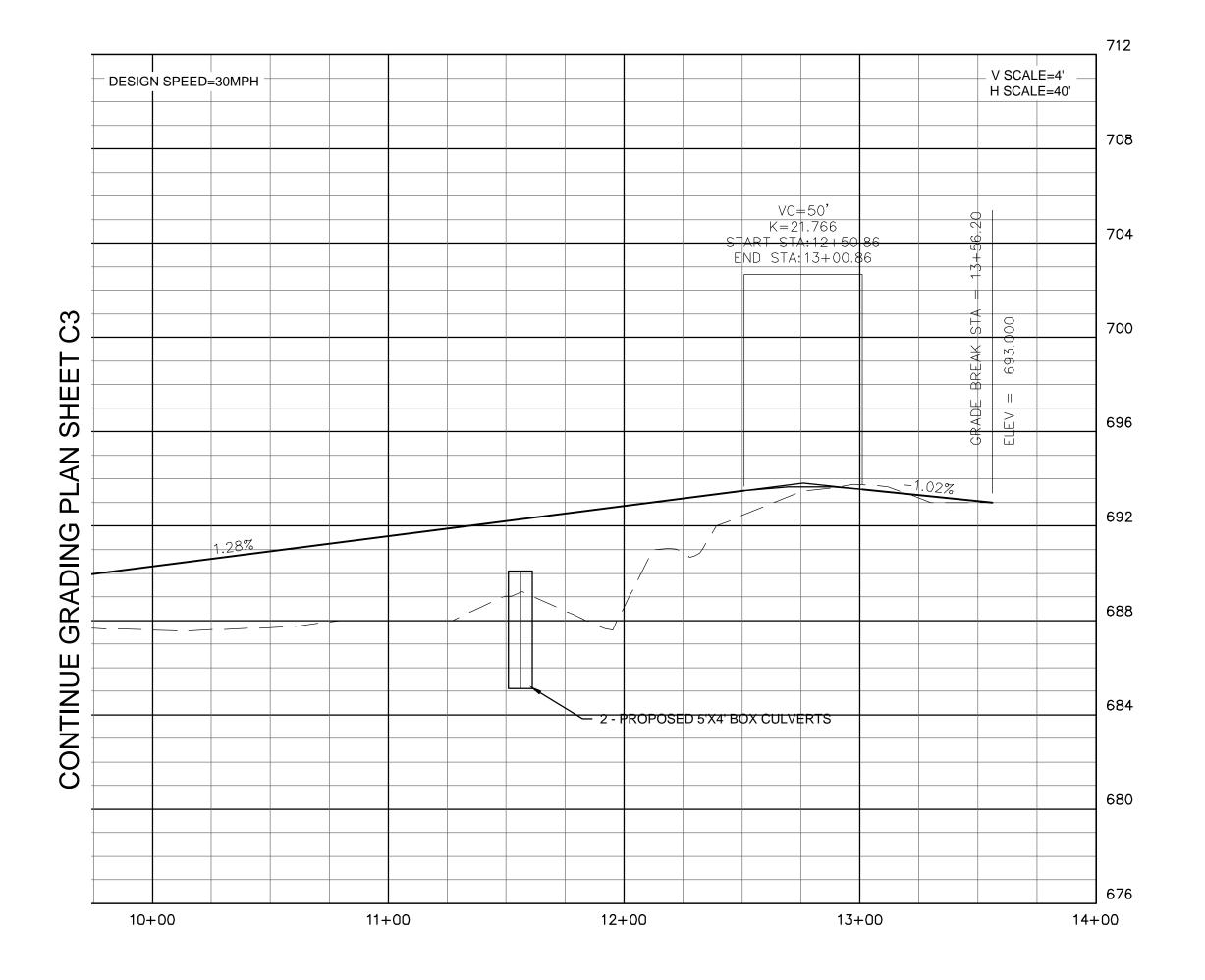
STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 DRAWN: ATG

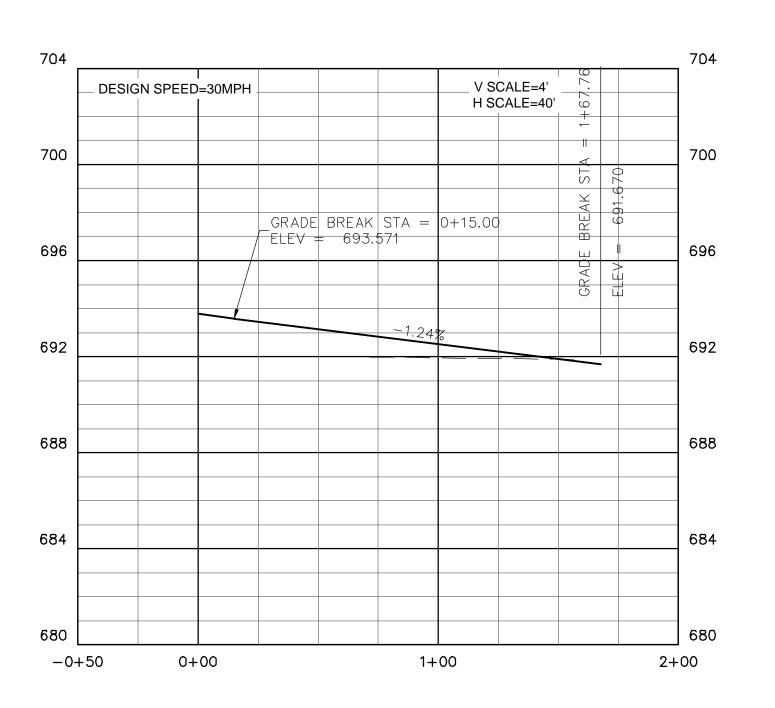
DATE: 10-05-2024
HEI #: 24-0702

WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

LILLY LANE PLAN AND PROFILE







TBM #1 - ELEVATION = 703.64IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

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DATUM: NAVD(88)

PRELIMINARY PLANS

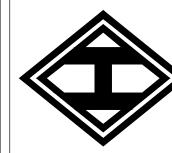
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STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024

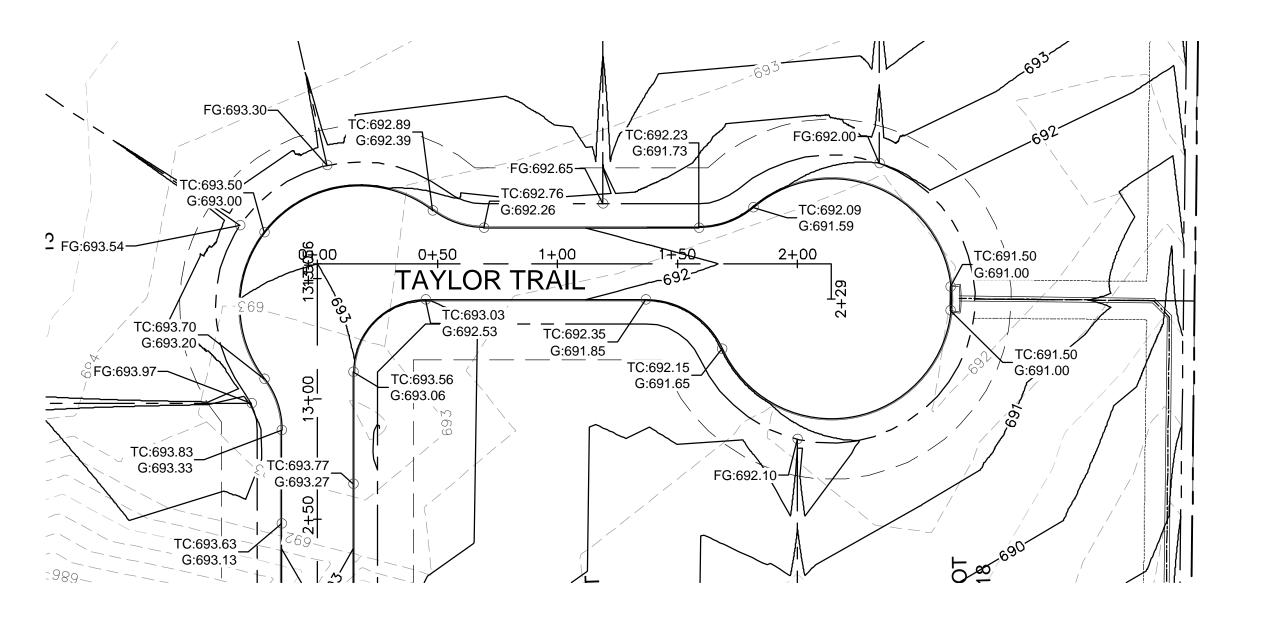
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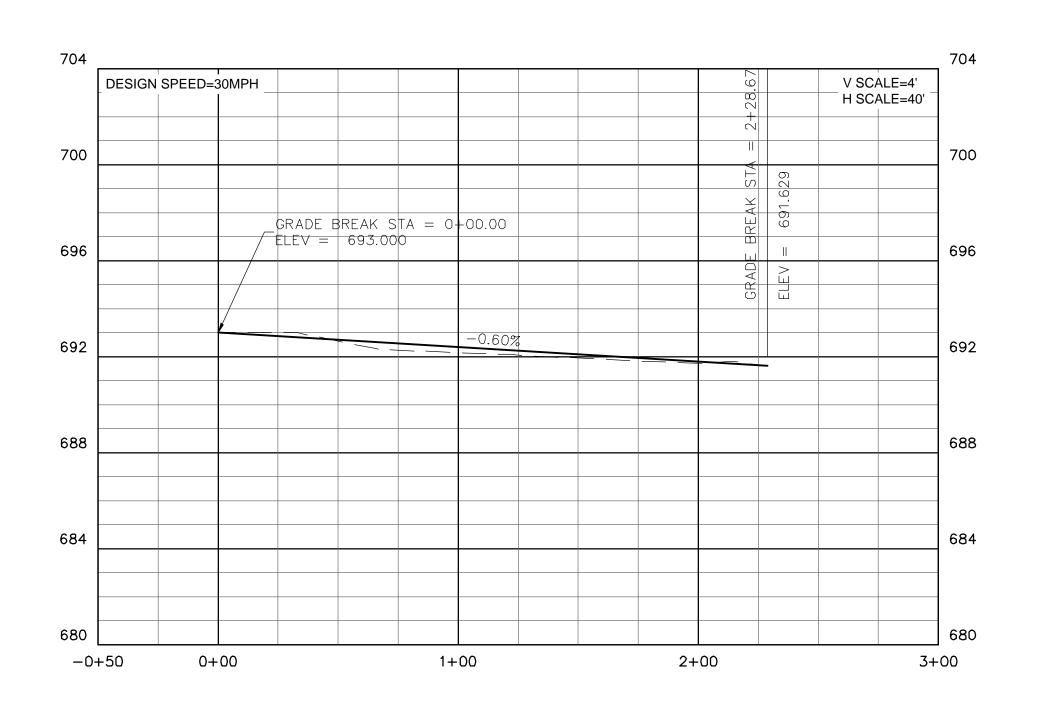
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WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS





TBM #1 — ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

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DATUM: NAVD(88)

PRELIMINARY PLANS

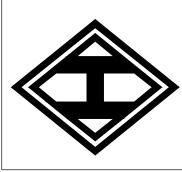
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STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702

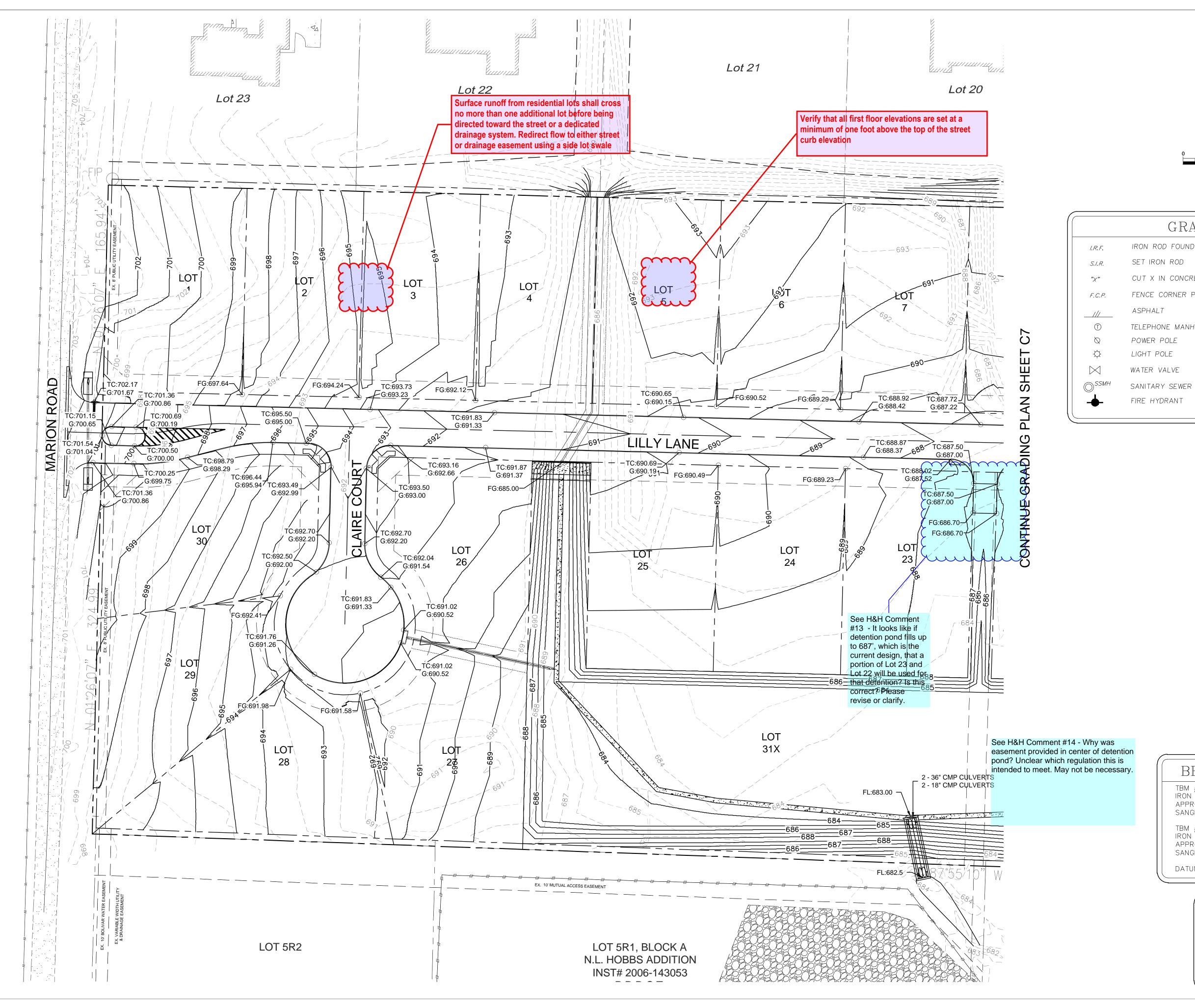
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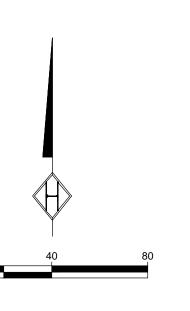
HOME BOX 294527 LEWISVILLE TEX. WWW.HEI.US.COM



WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER

TAYLOR TRAIL PLAN AND PROFILE





GRADING LEGEND WATER METER IRON ROD FOUND TOP OF CURB GUTTER CUT X IN CONCRETE TOP OF PAVEMENT FENCE CORNER POST NATURAL GROUND TOP OF WALL TELEPHONE MANHOLE BOTTOM OF WALL FINISHED FLOOR ---- EXISTING CONTOURS SANITARY SEWER MANHOLE --abla--- High Point



BENCHMARK INFORMATION

TBM #1 — ELEVATION = 703.64
IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD
APPROXIMATELY 90' NORTH OF THE INTERSECTION OF
SANGER CIRCLE DRIVE.

TBM #2 - ELEVATION = 711.00 IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

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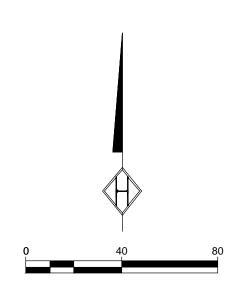
STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 ENGINEERING
TBPELS FIRM REGISTRATION NO
P.O. BOX 294527 LEWISVILLE TEX
972-906-9985 PHONE 972-906-9
WWW.HEI.US.COM

WINDHAVEN ESTATE
19.50 ACRES
CITY OF SANGER
DENTON COLINTY TEX

GRADING PLAN WEST

DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702



GRADING LEGEND WATER METER IRON ROD FOUND SET IRON ROD TOP OF CURB GUTTER CUT X IN CONCRETE TOP OF PAVEMENT FENCE CORNER POST NATURAL GROUND TOP OF WALL TELEPHONE MANHOLE POWER POLE BOTTOM OF WALL LIGHT POLE FINISHED FLOOR WATER VALVE ---- EXISTING CONTOURS SANITARY SEWER MANHOLE FIRE HYDRANT --- HIGH POINT





BENCHMARK INFORMATION

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DATUM: NAVD(88)

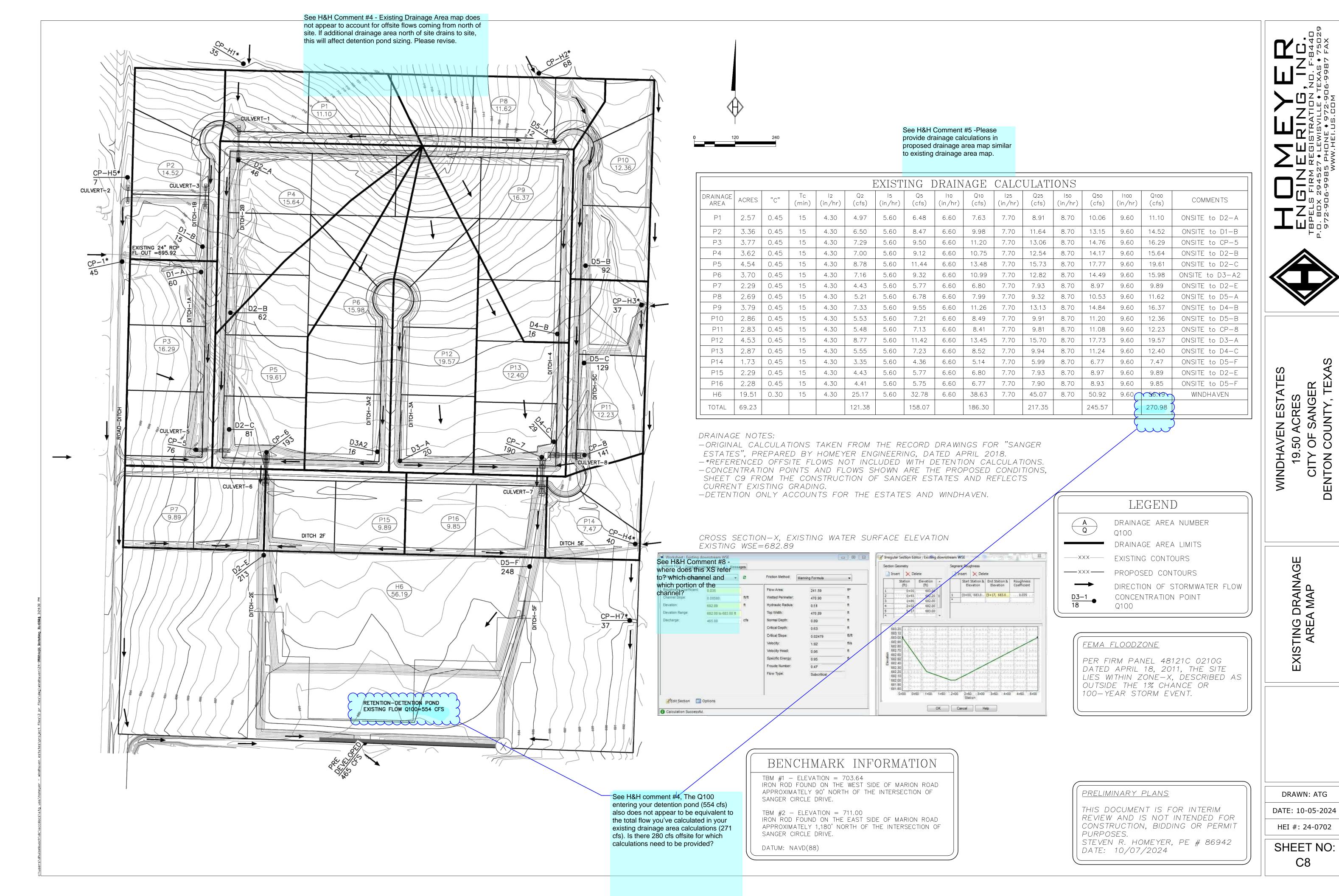
PRELIMINARY PLANS

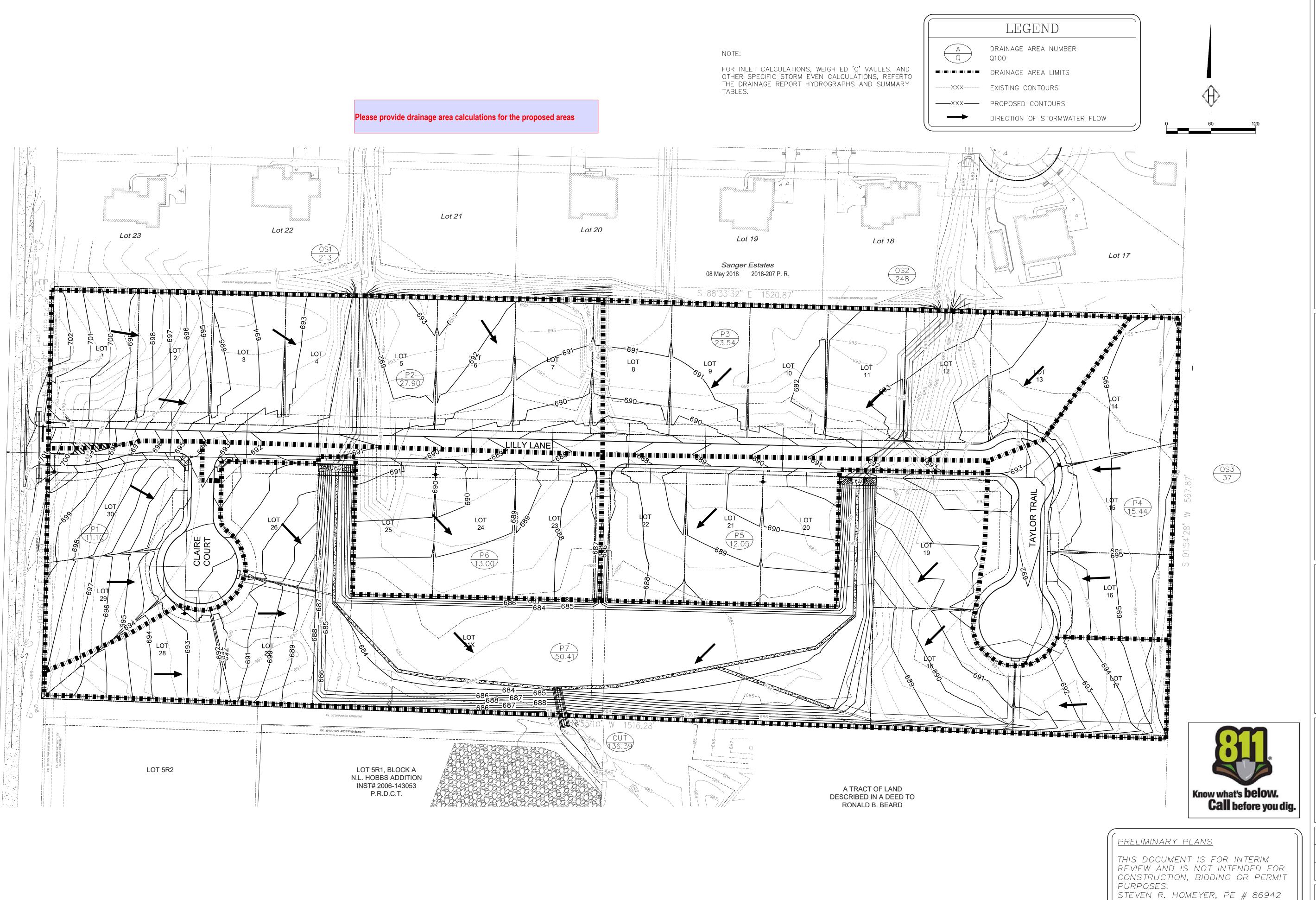
THIS DOCUMENT IS FOR INTERIM REVIEW AND IS NOT INTENDED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 DRAWN: ATG

DATE: 10-05-2024

HEI #: 24-0702





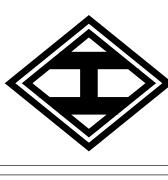
ENGINEERING, INC.

TBPELS FIRM REGISTRATION NO. F-8440

D.O. BOX 294527 & LEWISVILLE & TEXAS & 75029

972-906-9985 PHONE & 972-906-9987 FAX

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WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER

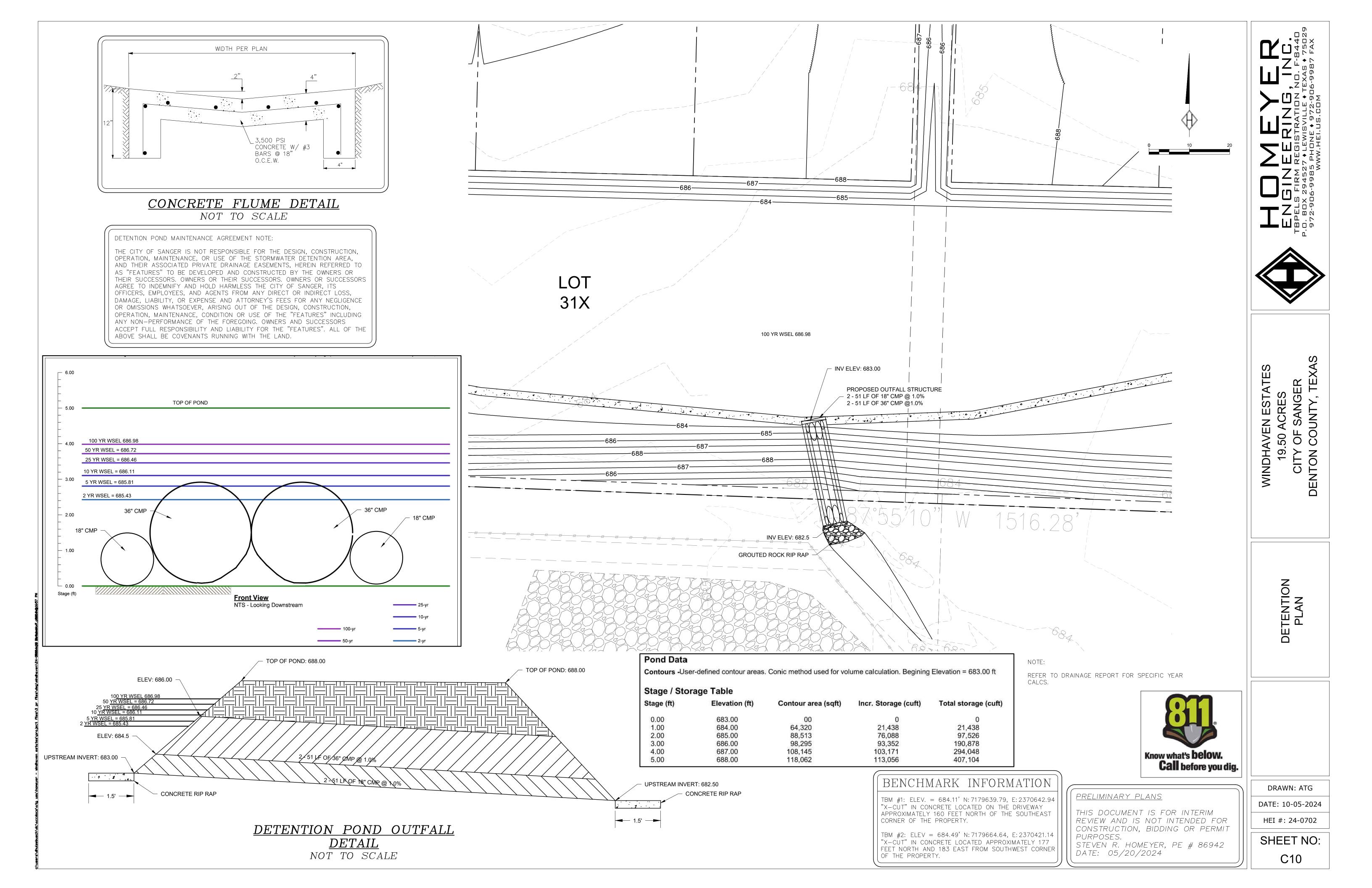
PROPOSED DRAINAGE AREA MAP

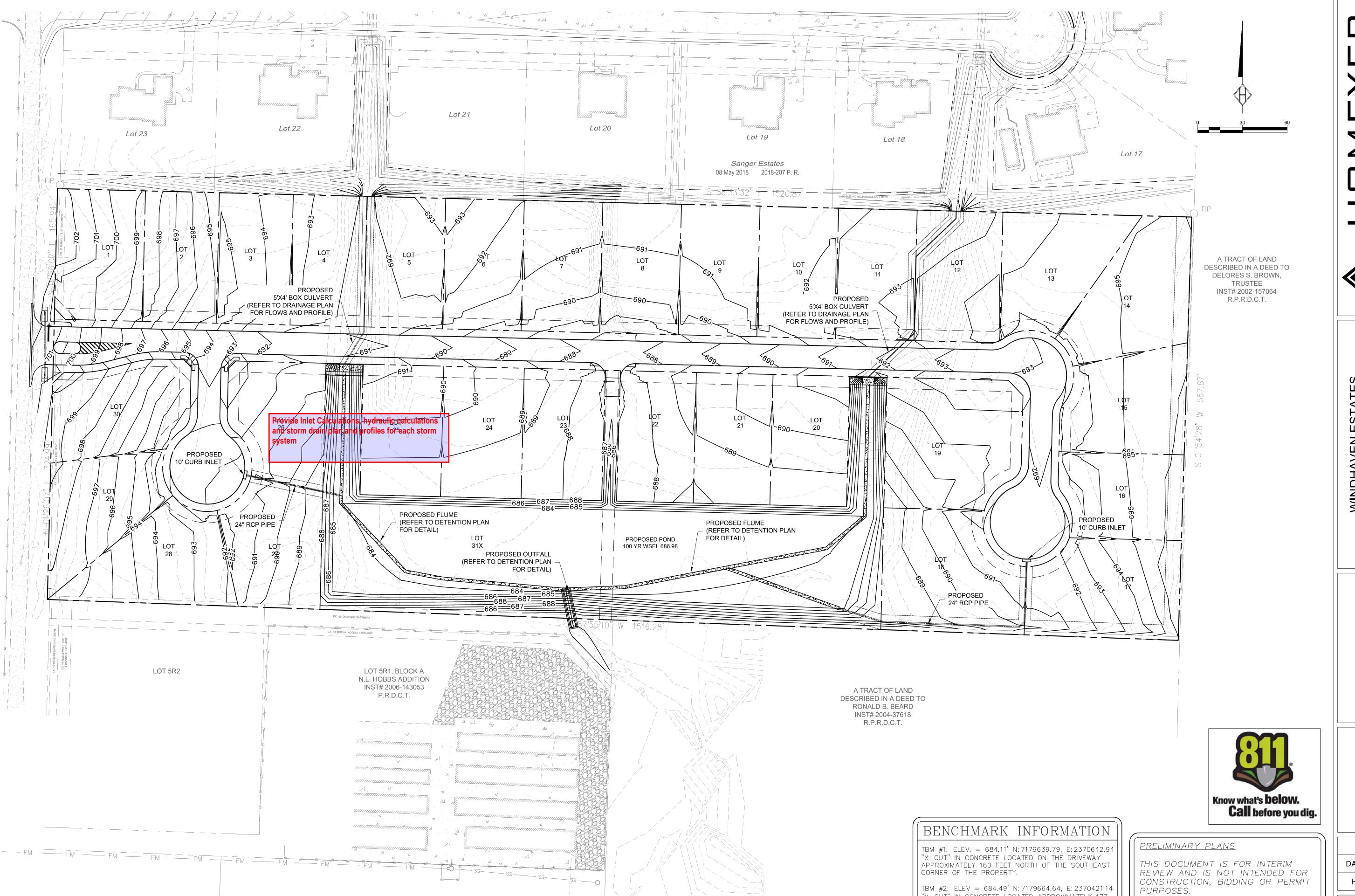
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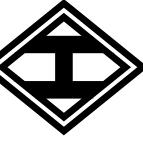
DATE: 10-05-2024 HEI #: 24-0702

SHEET NO: C9

DATE:







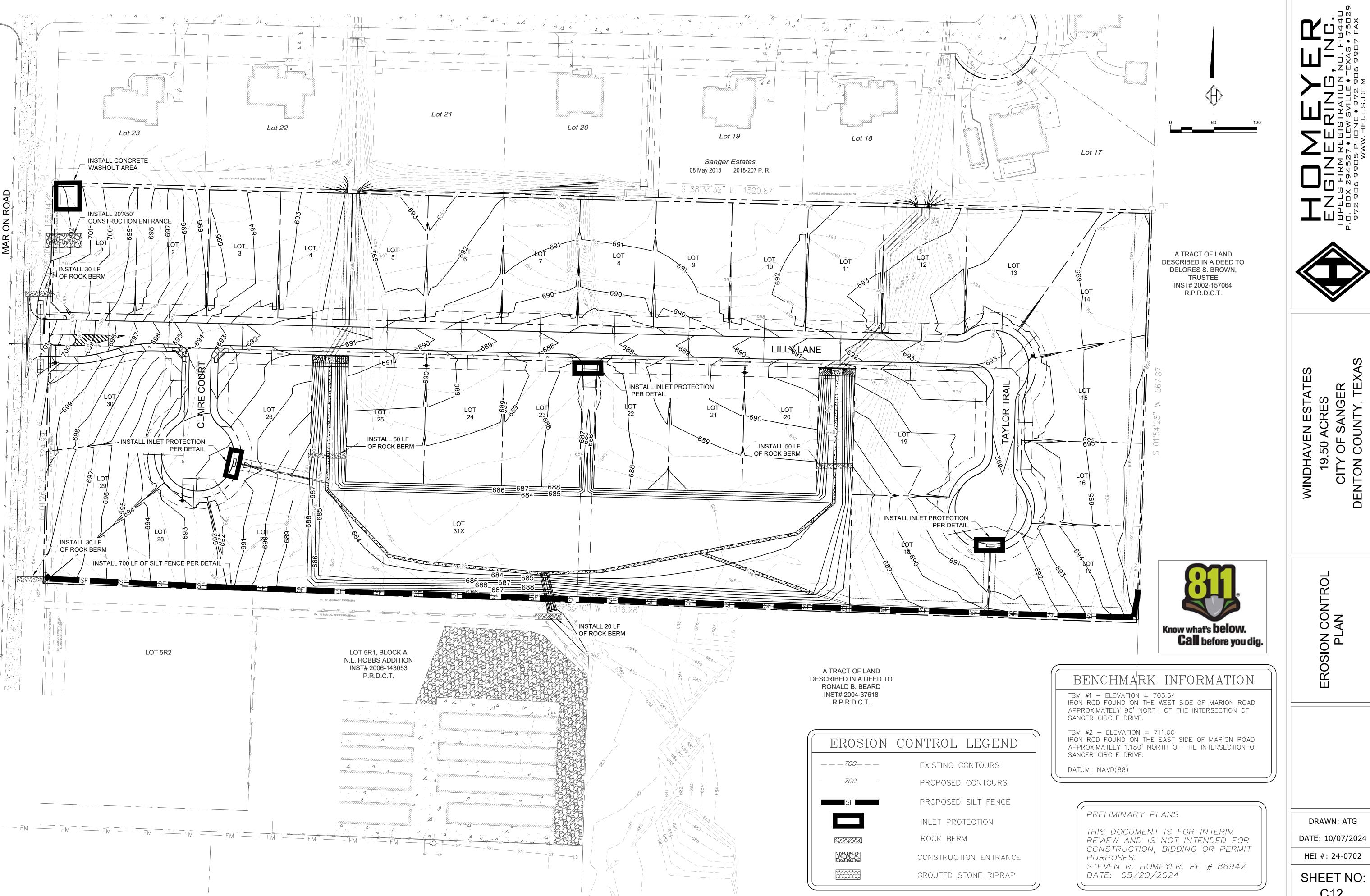
PROPOSED STORM PLAN

"X-CUT" IN CONCRETE LOCATED APPROXIMATELY 177 FEET NORTH AND 183 EAST FROM SOUTHWEST CORNER OF THE PROPERTY.

STEVEN R. HOMEYER, PE # 86942 DATE: 05/20/2024

DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702

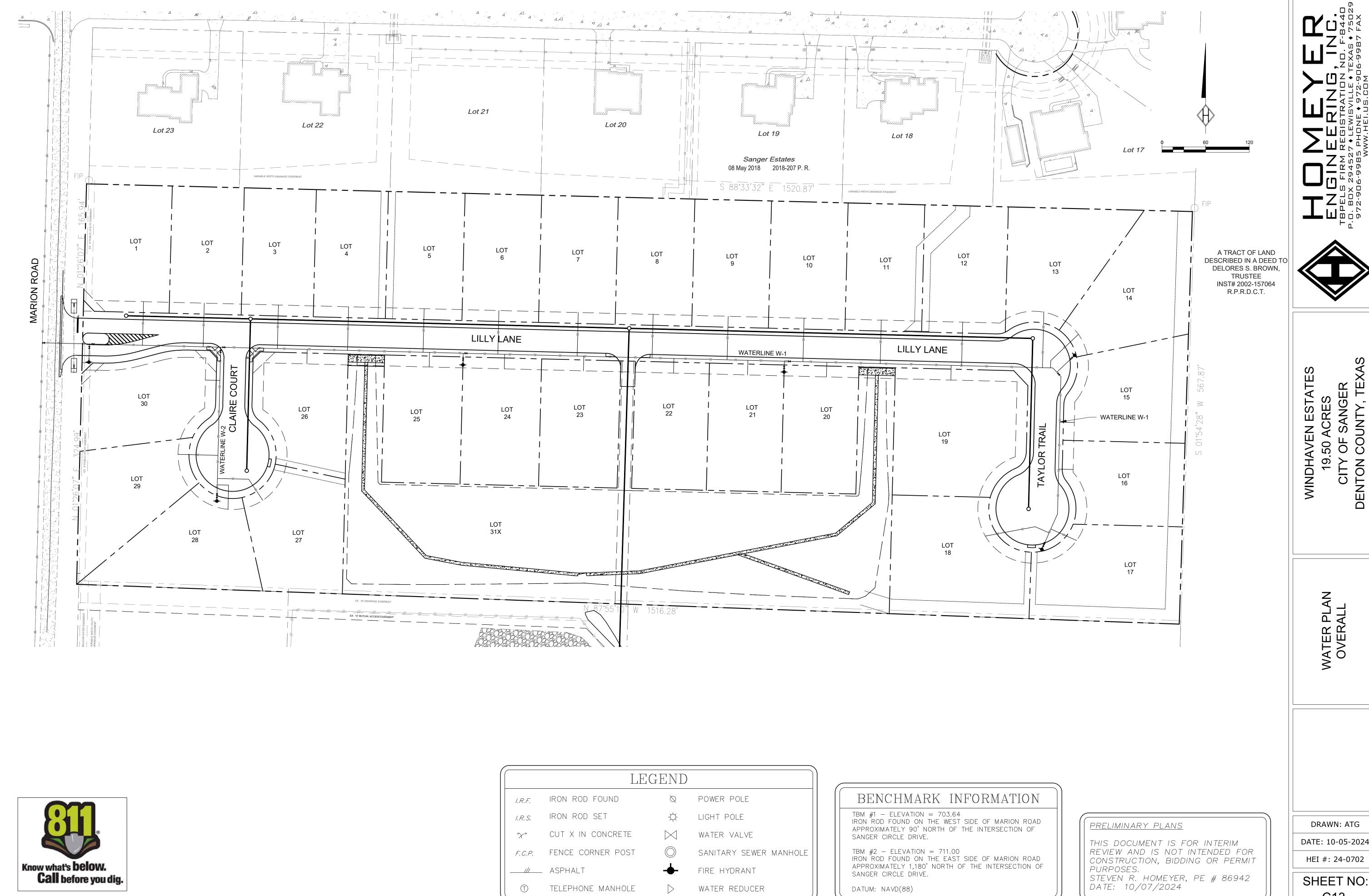


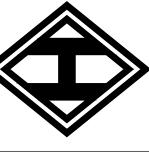


EROSION CONTROI PLAN

DRAWN: ATG

HEI #: 24-0702

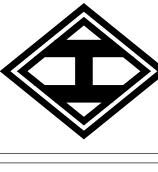




DRAWN: ATG

DATE: 10-05-2024

ENGINEERION NO. F-842
TBPELS FIRM REGISTRATION NO. F-842
P.O. BOX 294527 • LEWISVILLE • TEXAS • 750
972-906-9985 PHONE • 972-906-9987 FAX



N ESTATES ACRES SANGER

CI.

NATER PLAN WEST

DRAWN: ATG

DATE: 10-05-2024
HEI #: 24-0702

SHEET NO: C14

DATE: 10/07/2024

DATUM: NAVD(88)



TBM #1 — ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

TBM #2 - ELEVATION = 711.00 IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

THIS DOCUMENT IS FOR INTERIM
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PURPOSES.
STEVEN R HOMEYER PE # 86942

STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024

DATE: 10-05-2024

HEI #: 24-0702

DRAWN: ATG

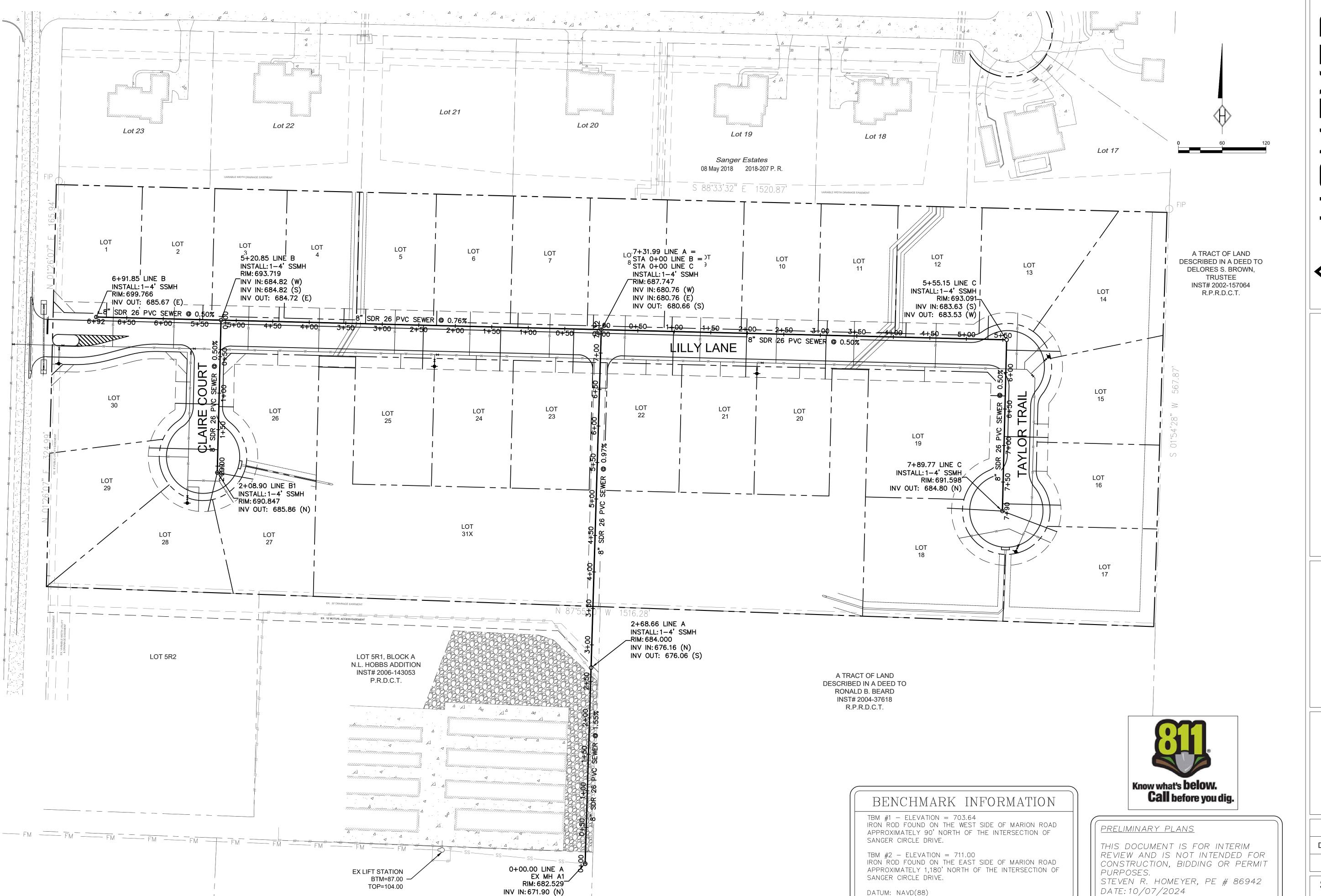
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BOX 294527 & LEWISVILLE & TEXAS & 3

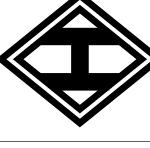
WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

ATER PLAN EAST



ENGINEERING, INC.

TBPELS FIRM REGISTRATION NO. F-844C
P.O. BOX 294527 • LEWISVILLE • TEXAS • 7502
972-906-9985 PHONE • 972-906-9987 FAX
WWW.HEI.US.COM

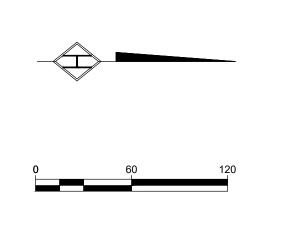


WINDHAVEN ESTATES 19.50 ACRES CITY OF SANGER

> OVERALL SANITARY

DRAWN: ATG

DATE: 10-05-2024
HEI #: 24-0702



700 V SCALE=4' H SCALE=40' 696 692 PROPOSED GROUND 688 — EXISTING GROUND 684 676 676 672 672 668 664 660 -0+50 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

Ensure that 18' min segment of water line is perpendicular to and centered on sewer pipe.

Verify that segment is either constructed of ductile iron/steel or encased in cement stabilized sand embedment



BENCHMARK INFORMATION

TBM #1 - ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

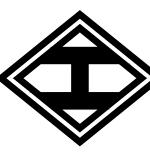
TBM #2 - ELEVATION = 711.00
IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD
APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF
SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

THIS DOCUMENT IS FOR INTERIM REVIEW AND IS NOT INTENDED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 ENGINEERING
TBPELS FIRM REGISTRATIO
P.O. BOX 294527 • LEWISVILLE
972-906-9985 PHONE • 972-



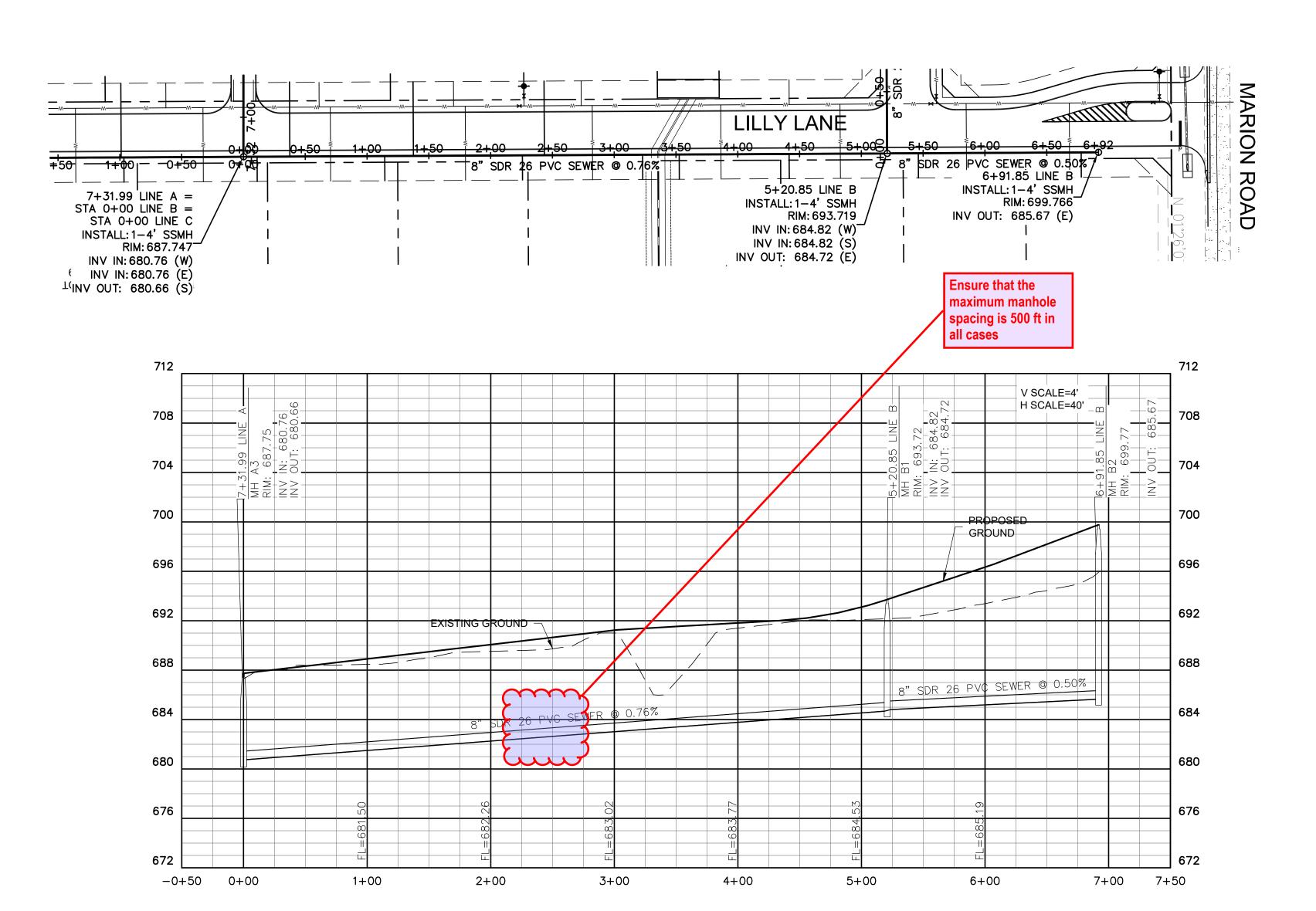
WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

SEWER LINE A PLAN AND

DRAWN: ATG

DATE: 10-05-2024

HEI #: 24-0702





TBM #1 - ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

TBM #2 — ELEVATION = 711.00 IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE:10/07/2024 ENGINEERING,
TBPELS FIRM REGISTRATION I
P.O. BOX 294527 • LEWISVILLE • T
972-906-9985 PHONE • 972-906
WWW.HEI.US.GOM

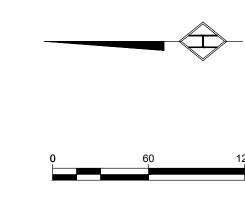
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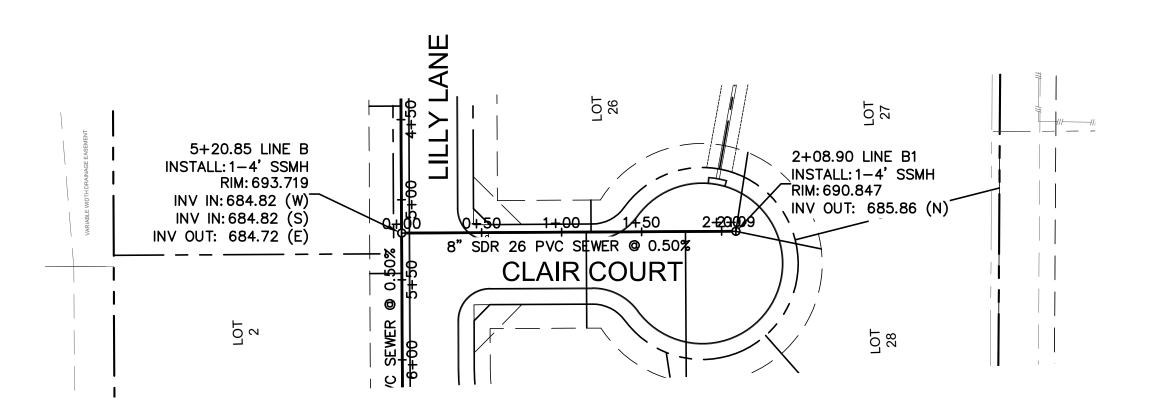
WINDHAVEN ESTATES 19.50 ACRES CITY OF SANGER DENTON COUNTY, TEXA

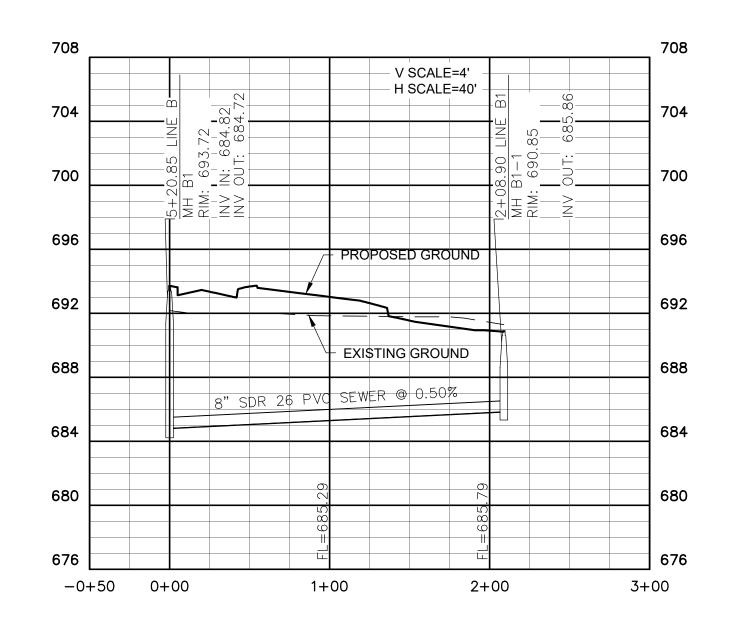
> SEWER LINE B PLAN AND

DRAWN: ATG

DATE: 10-05-2024
HEI #: 24-0702









TBM #1 — ELEVATION = 703.64 IRON ROD FOUND ON THE WEST SIDE OF MARION ROAD APPROXIMATELY 90' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

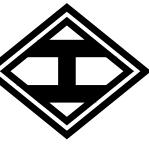
TBM #2 — ELEVATION = 711.00 IRON ROD FOUND ON THE EAST SIDE OF MARION ROAD APPROXIMATELY 1,180' NORTH OF THE INTERSECTION OF SANGER CIRCLE DRIVE.

DATUM: NAVD(88)

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 ENGINEERIN TBPELS FIRM REGISTRATIC P.O. BOX 294527 & LEWISVILLE 972-906-9985 PHONE • 972-

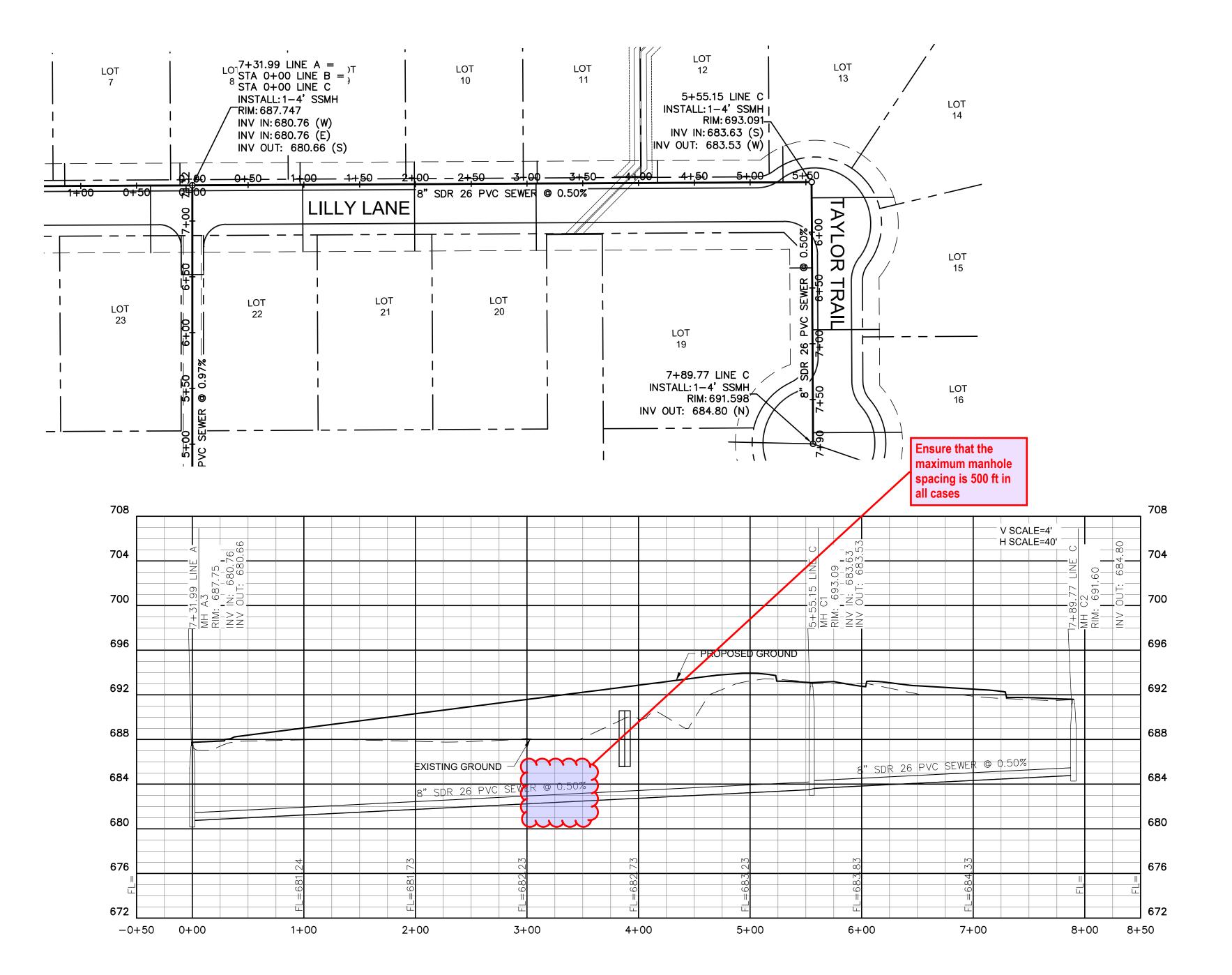


WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

PLAN AND
PROFILE

DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702





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PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: 10/07/2024 DRAWN: ATG

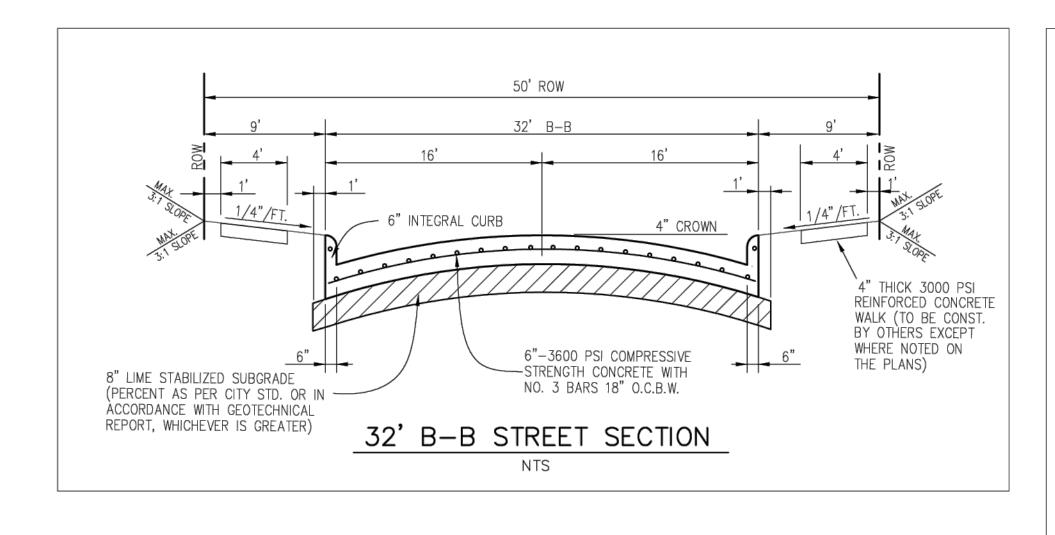
DATE: 10-05-2024 HEI #: 24-0702

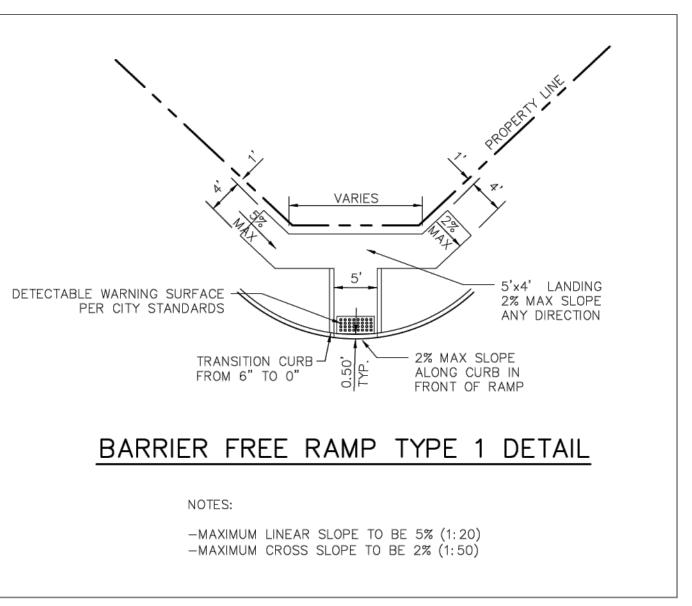
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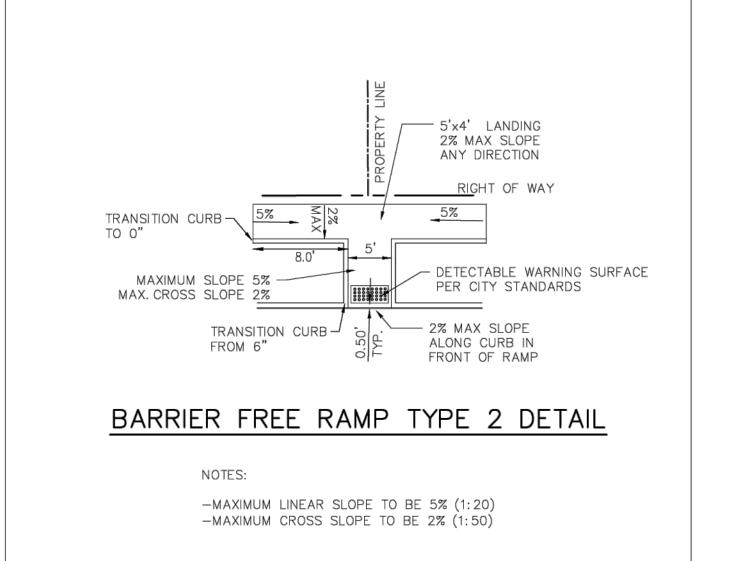
ENGIN TBPELS FIRM I P.O. BOX 294527 972-906-9985

WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

SEWER LINE C PLAN AND PROFILE







PRELIMINARY PLANS

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PURPOSES.
STEVEN R HOMEYER PF # 86942

STEVEN R. HOMEYER, PE # 86942 DATE: ENGINEERING TNC.
TBPELS FIRM REGISTRATION NO. F-8440
P.O. BOX 294527 LEWISVILLE TEXAS 7502
972-906-9985 PHONE 972-906-9987 FAX
WWW.HEI.US.COM



WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER

PAVING DETAILS

DRAWN: ATG

DATE: 10-05-2024

HEI #: 24-0702

STANDARD SPECIFICATION REFERENCE

OCT. '04 |

502.4

4040

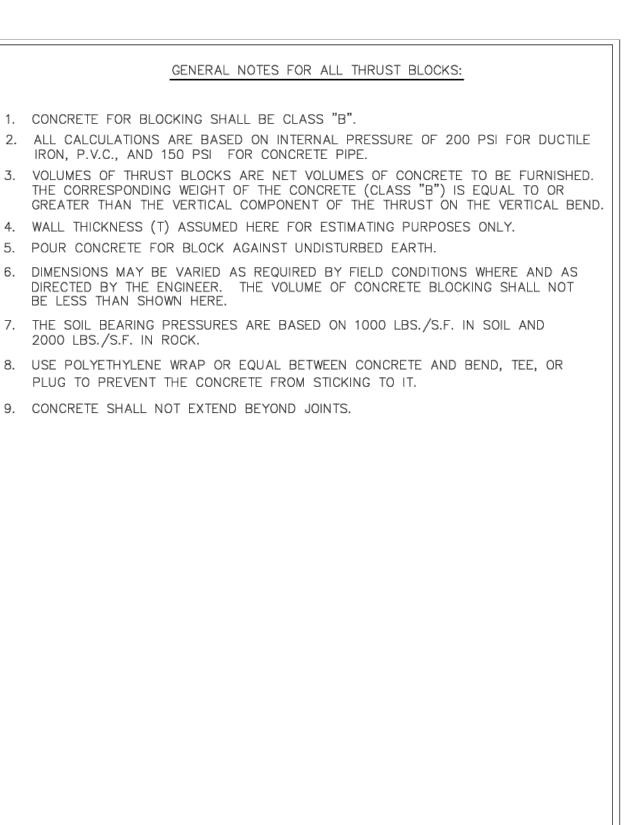
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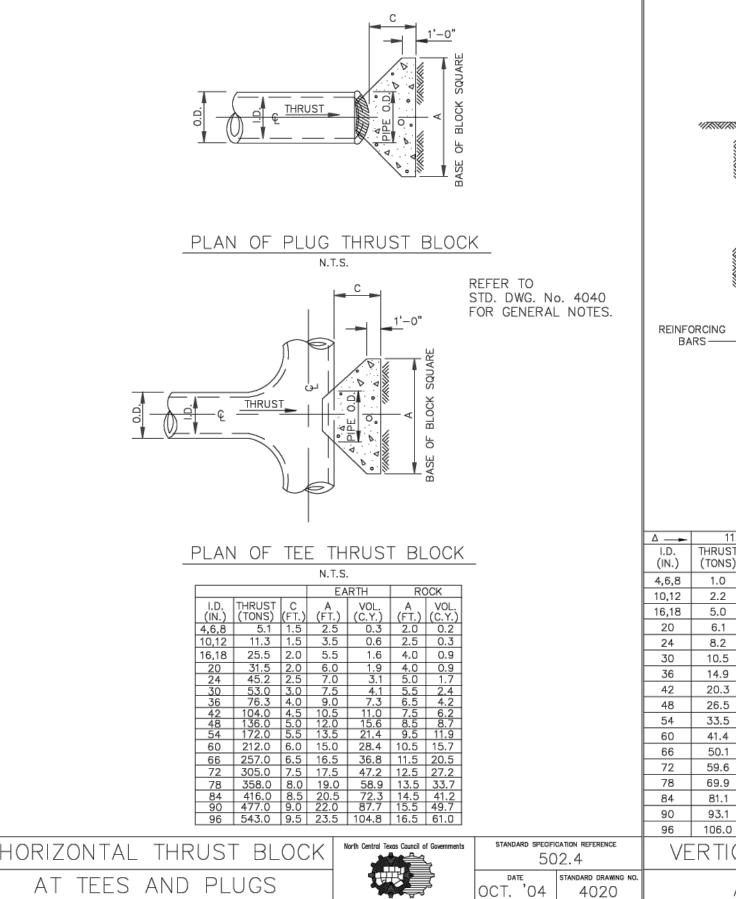
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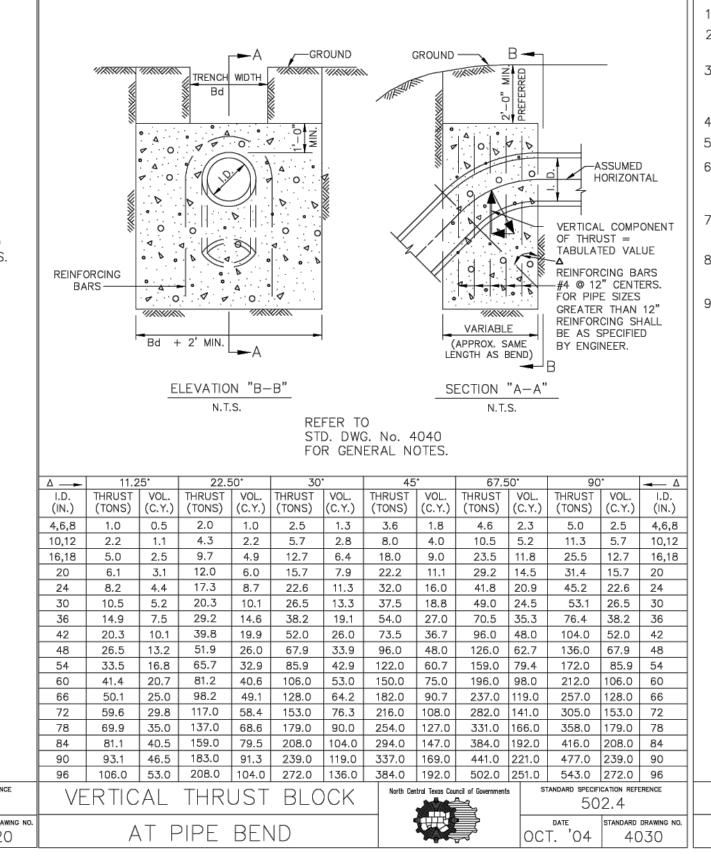
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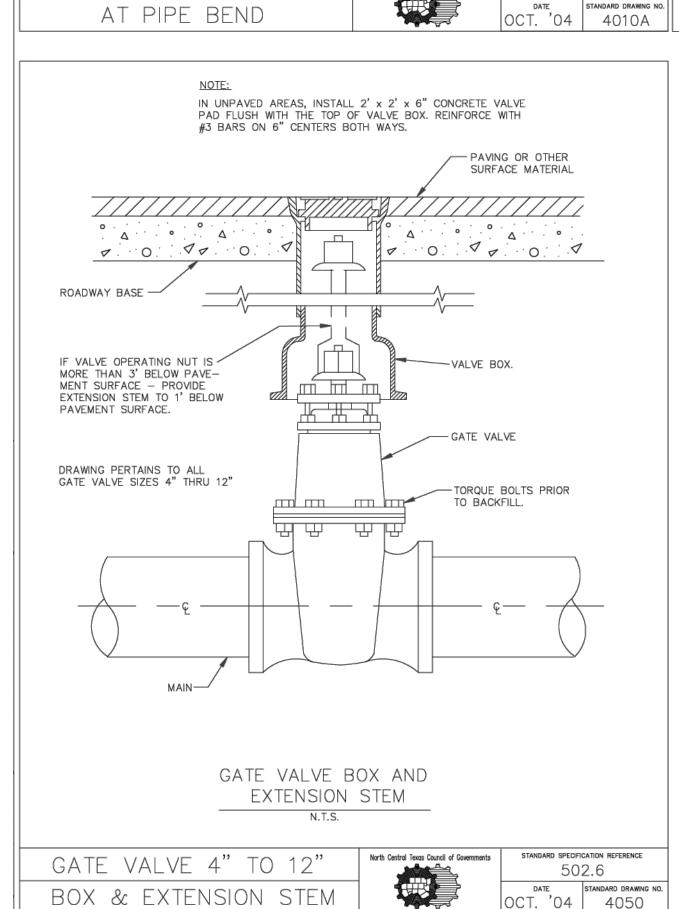
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HEI #: 24-0702









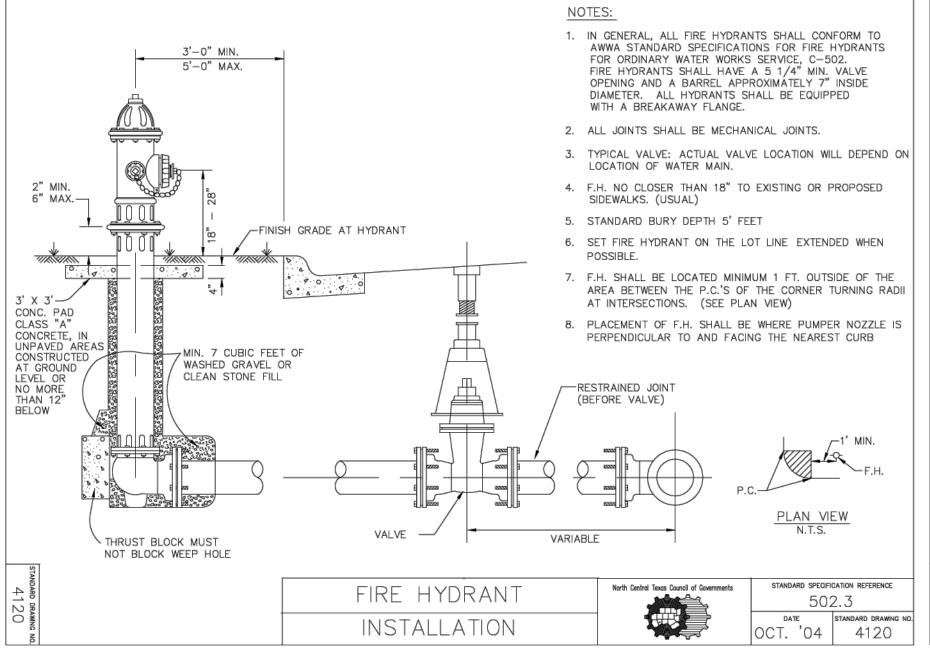
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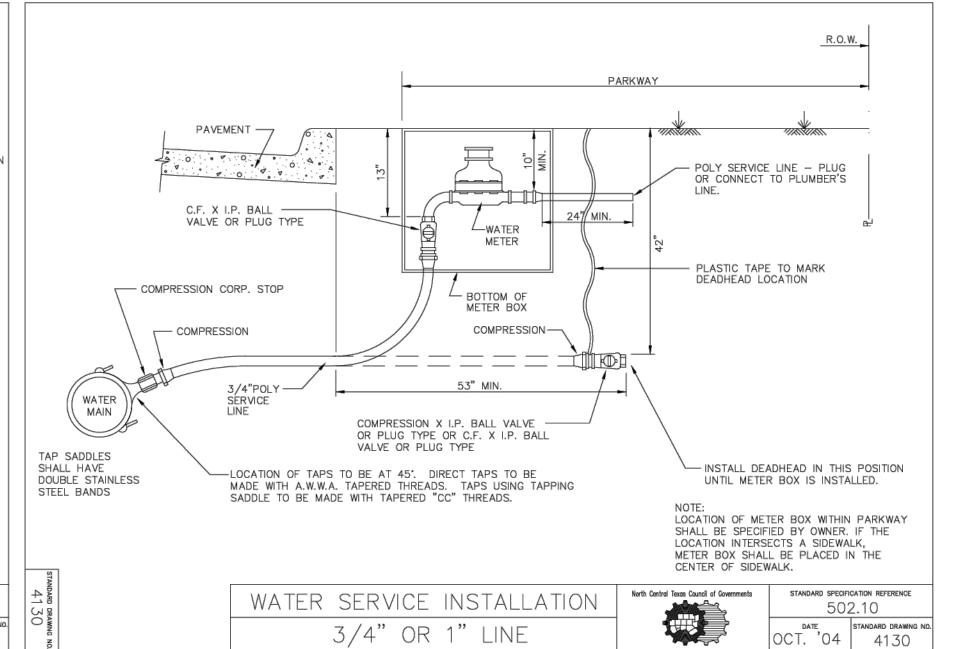
HORIZONTAL THRUST BLOCK

STD. DWG. No. 4040 FOR GENERAL NOTES

STANDARD SPECIFICATION REFERENCE

502.4





THRUST BLOCK

GENERAL NOTES

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942
DATE:

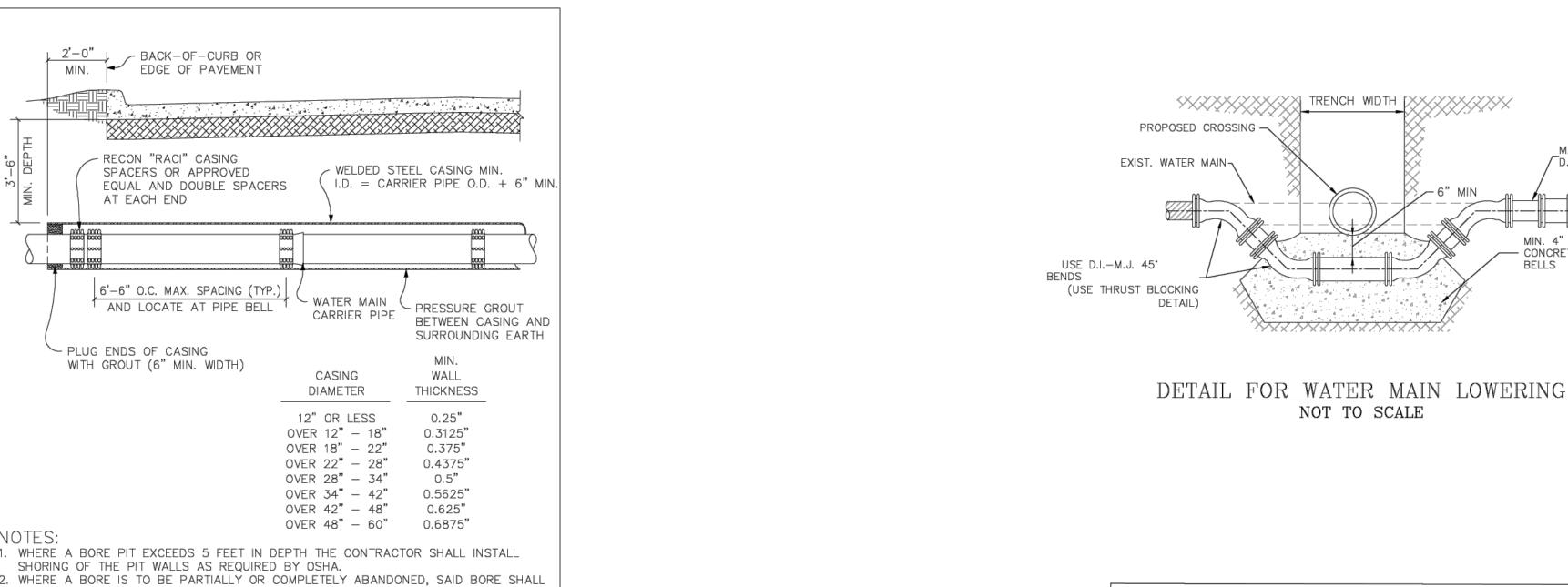
SEE SHEET C32 FOR TYPICAL WATER LATERAL LOCATIONS.

<u>NOTE</u>

DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702

SHEET NO: C23



WATER SYSTEM CONSTRUCTION DETAILS WATER LINE BORE AND CASING

BE COMPLETELY FILLED WITH HYDRAULICALLY PLACED CEMENT GROUT.

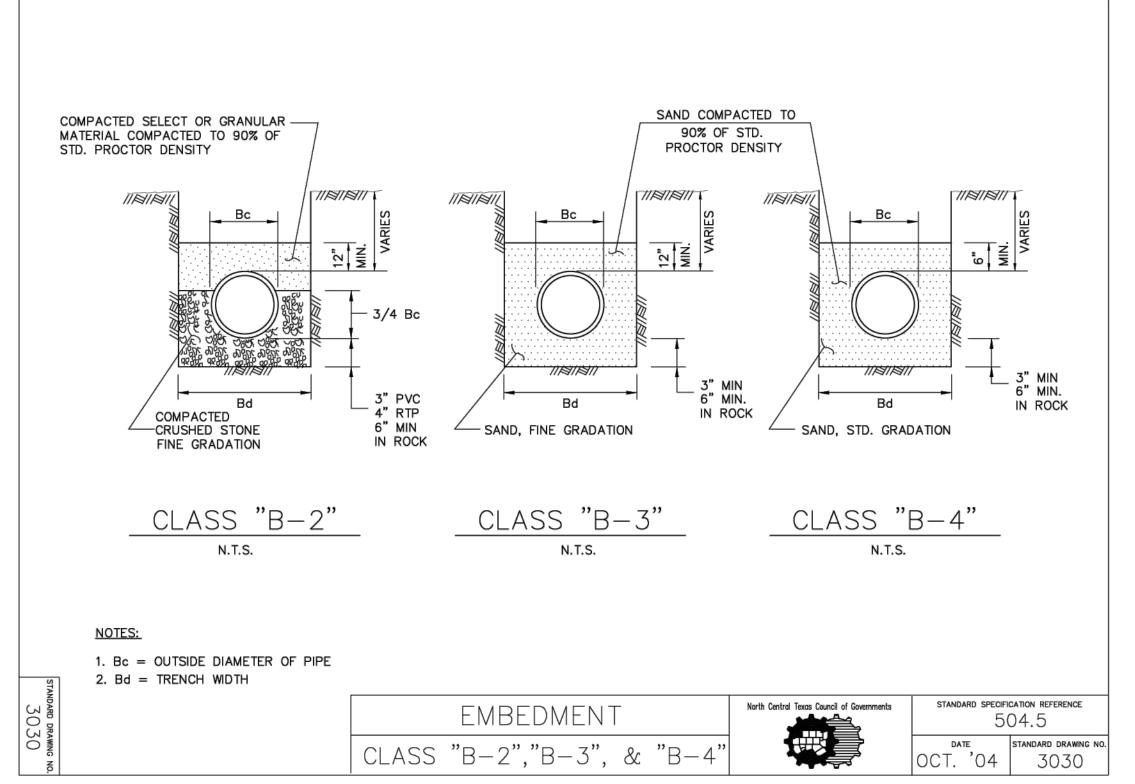
5. STEEL CASING PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35 KSI.

AND RAILROAD CROSSINGS.

OR EDGE OF PAVEMENT.

3. CASING SHALL BE EXTENDED TO THE RIGHT-OF-WAY LINE FOR STATE HIGHWAY

4. THE EDGE OF BORE PIT SHALL BE A MINIMUM OF 4' BEHIND THE BACK OF CURB



WATER LINE EMBEDMENT SHALL BE CLASS "B-3" OR CLASS "B-4" PER CITY REQUIREMENTS

LOCATIONS OF MAINS AND SERVICES WITHIN STREET RIGHT OF WAY. 10'-15' DOWNHILL SIDE UTILITY EASEMENT UTILITY EASEMENT TYPICAL FOR SINGLE HOMES

_M.J. D.I. SOLID SLEEVE

PRELIMINARY PLANS

PURPOSES.

DATE:

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STEVEN R. HOMEYER, PE # 86942

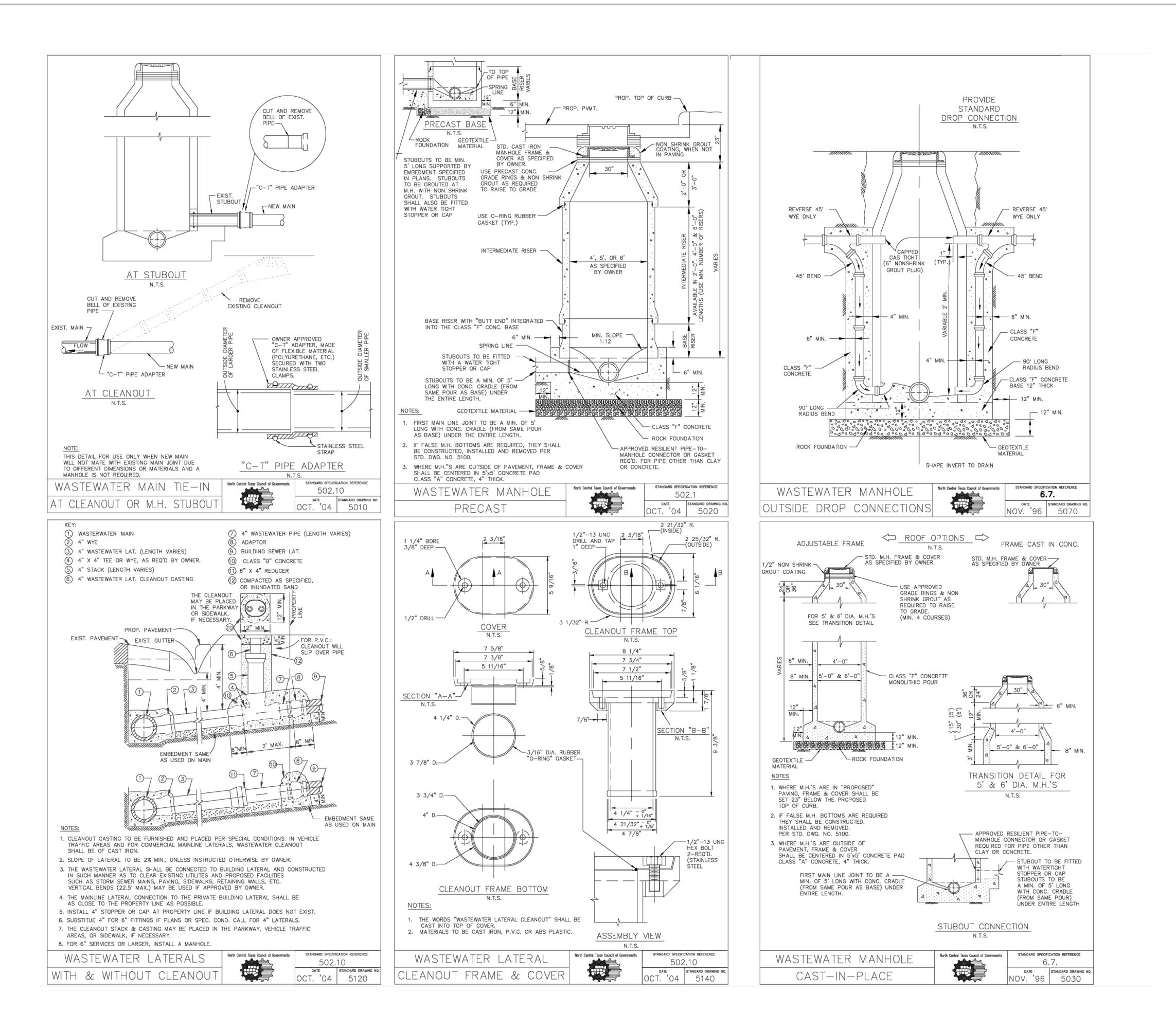
D.I. NIPPLE

MIN. 4" THICK - 2000 PSI - CONCRETE AROUND PIPE &

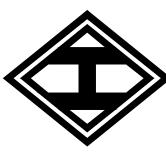
BELLS

LOCATIONS OF MAINS AND SERVICES

-SOME WATER LATERALS MAY ONLY SERVICE ONE LOT DUE TO ODD LOTS OR OBSTACLES. IF THIS IS THE CASE THE LATERAL IS NOT SHOWN ON THE LOT LINE IN THE PLAN VIEW. A 2-INCH SLEEVE IS STILL REQUIRED FOR A SINGLE SERVICE. -SANITARY SEWER TO BE ON THE DOWNHILL OR LOWER SIDE OF THE LOT. LATERAL TYPICALLY TO BE 10' TO 15' FROM LOT LINE AND 10-FEET FROM WATER SERVICES.







WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER

SANITARY SEWER DETAILS

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942
DATE:

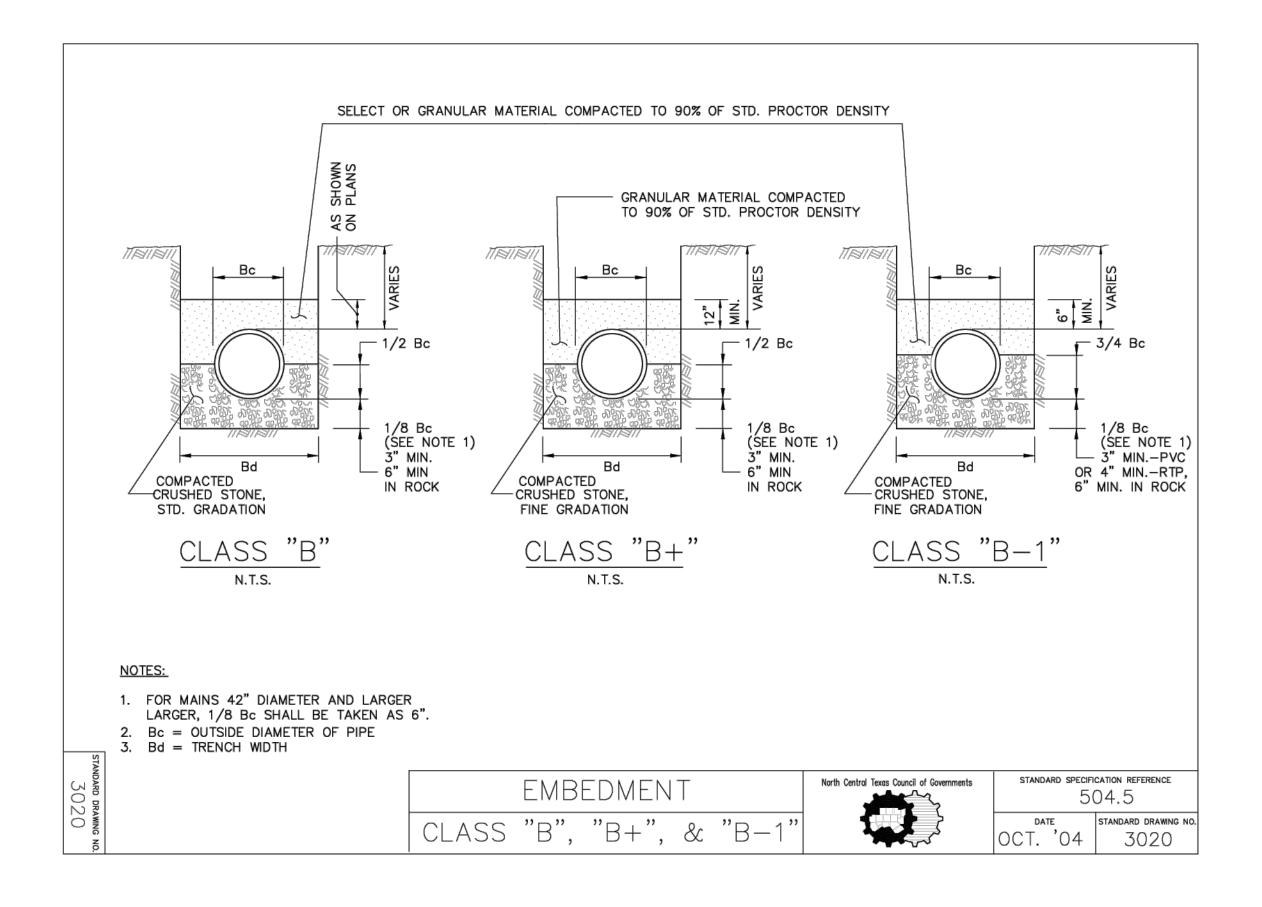
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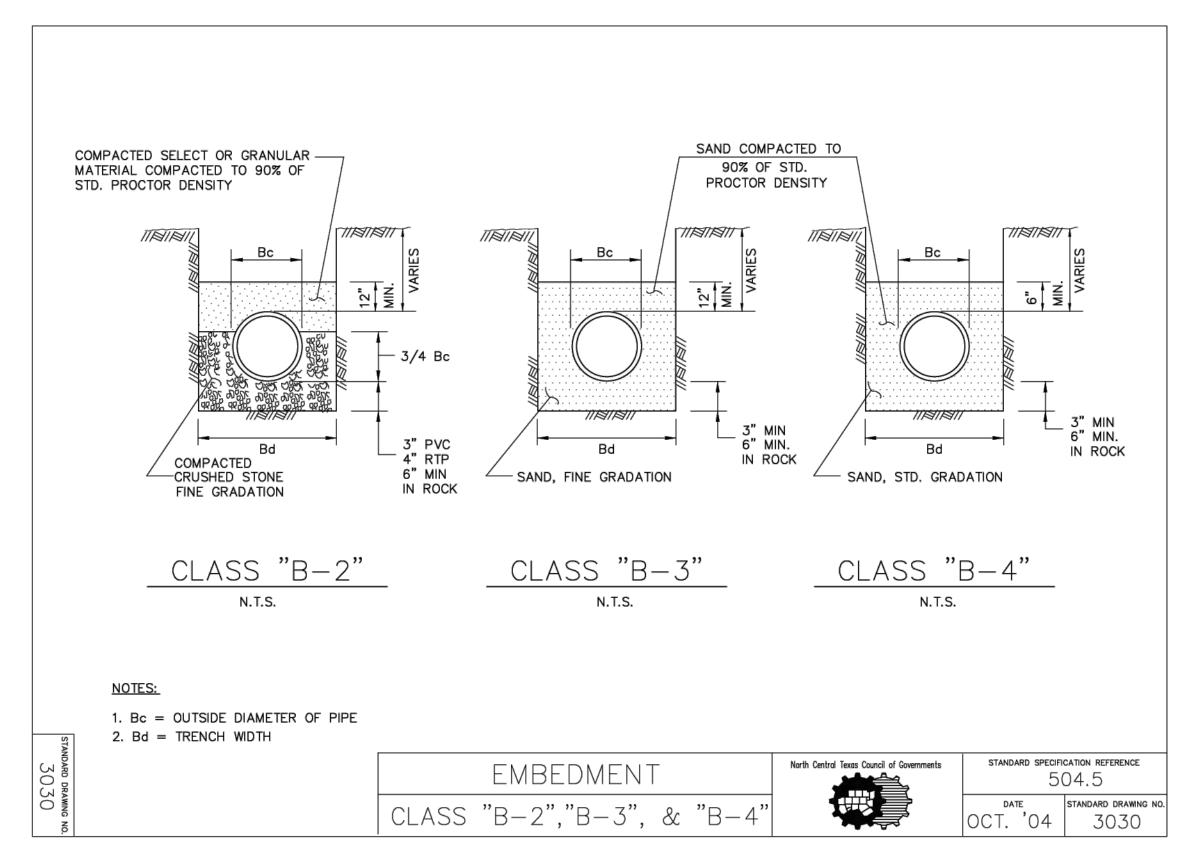
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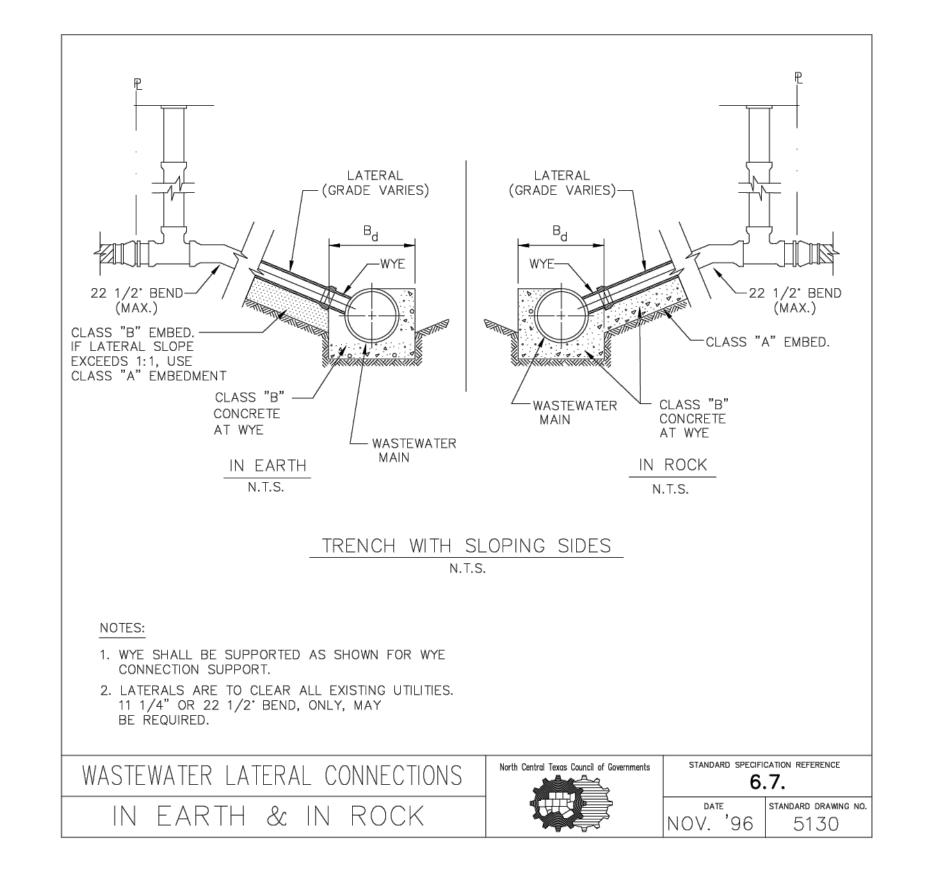
SHEET NO:

HEI #: 24-0702

C24







<u>NOTE</u>

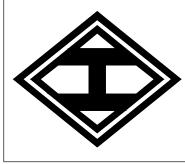
SANITARY SEWER LINE EMBEDMENT
SHALL BE CLASS "B", "B+", "B-1" OR
CLASS "B-2" PER CITY REQUIREMENTS

LATERAL CONNECTIONS SHALL BE INSTALLED PER NCTCOG DETAIL 5130 PER CITY REQUIREMENTS

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: ENGINEERING NO. F-8440
P.O. BOX 294527 LEWISVILLE TEXAS 75026
972-906-9985 PHONE 972-906-9987 FAX
WWW.HEI.US.COM

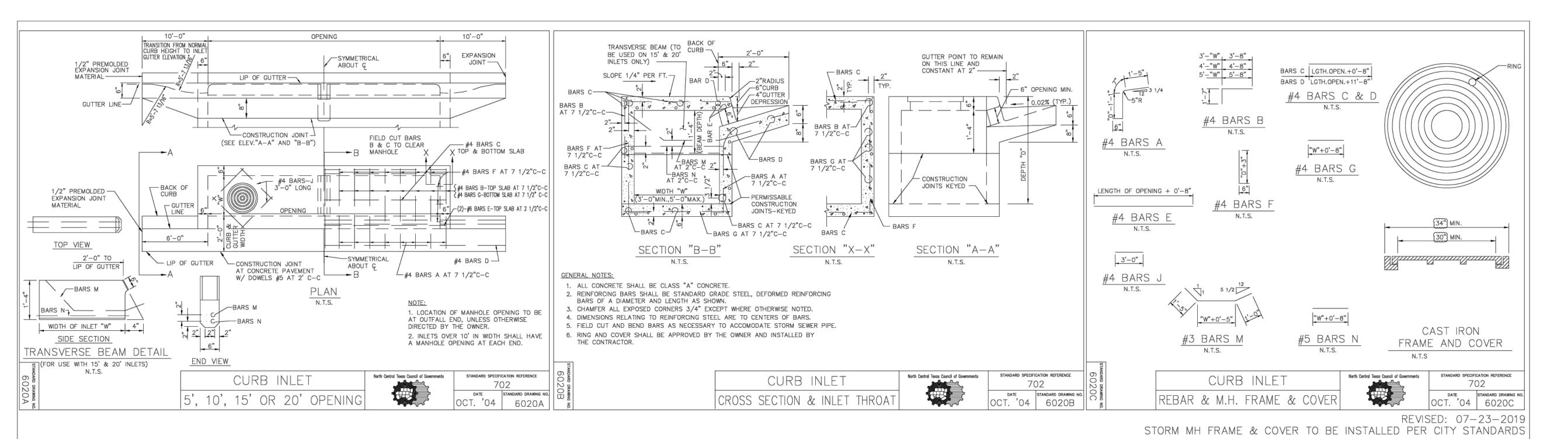


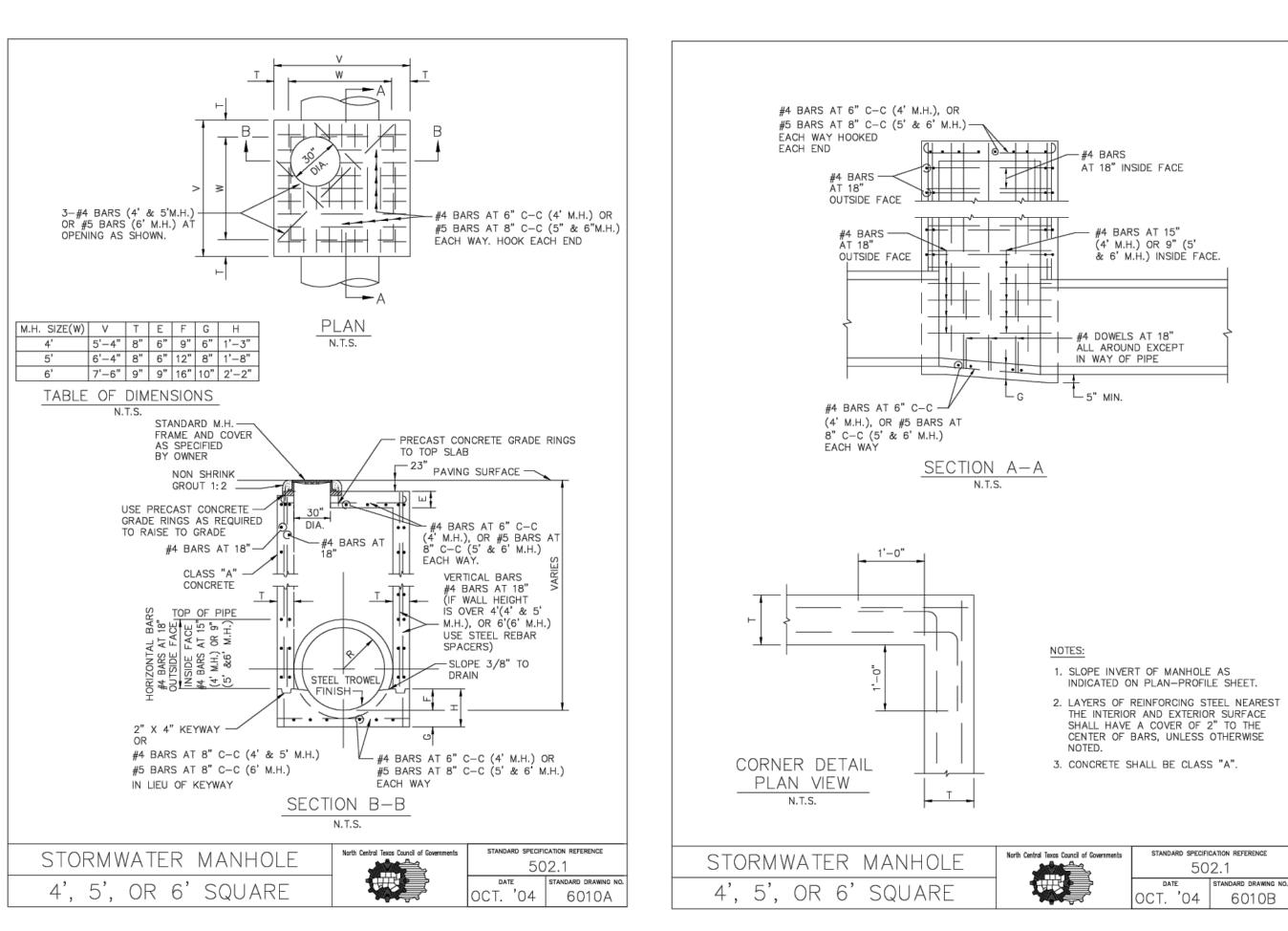
WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER

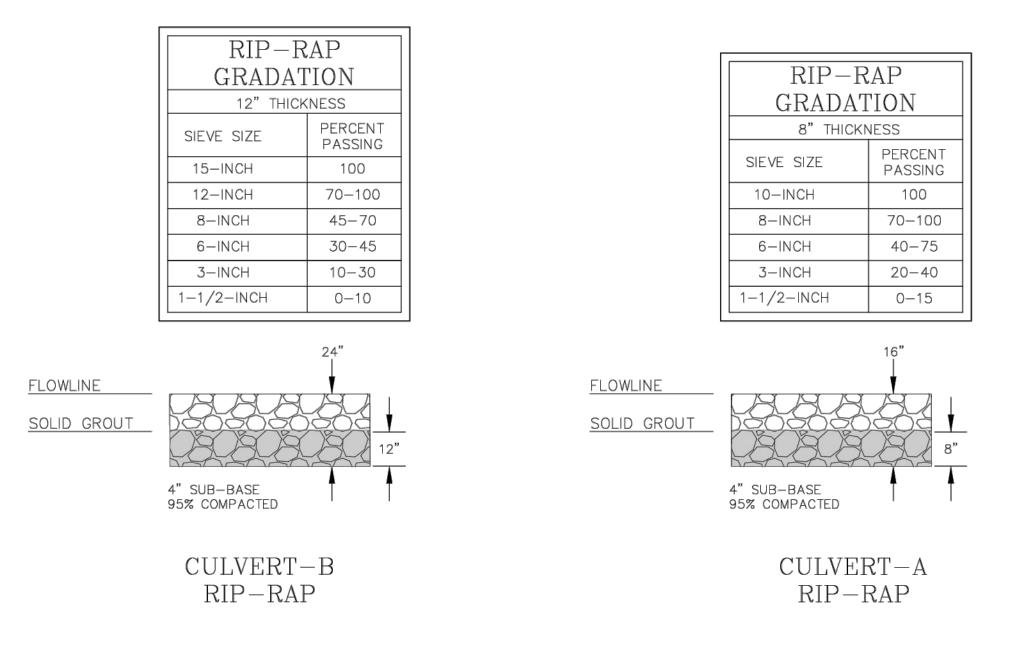
SANITARY SEWER DETAILS

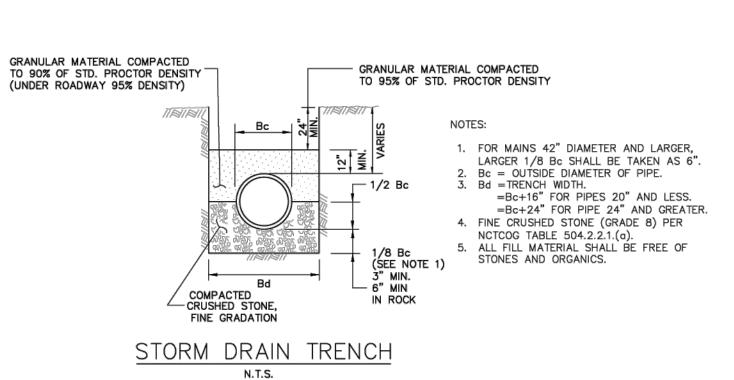
DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702







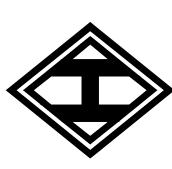


storm drain details

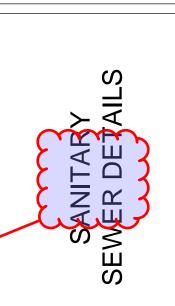
PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: ENGINEERING TOO. BOX 294527 LEWISVILLE TEXAS 75 972-906-9985 PHONE 972-906-9987 FA



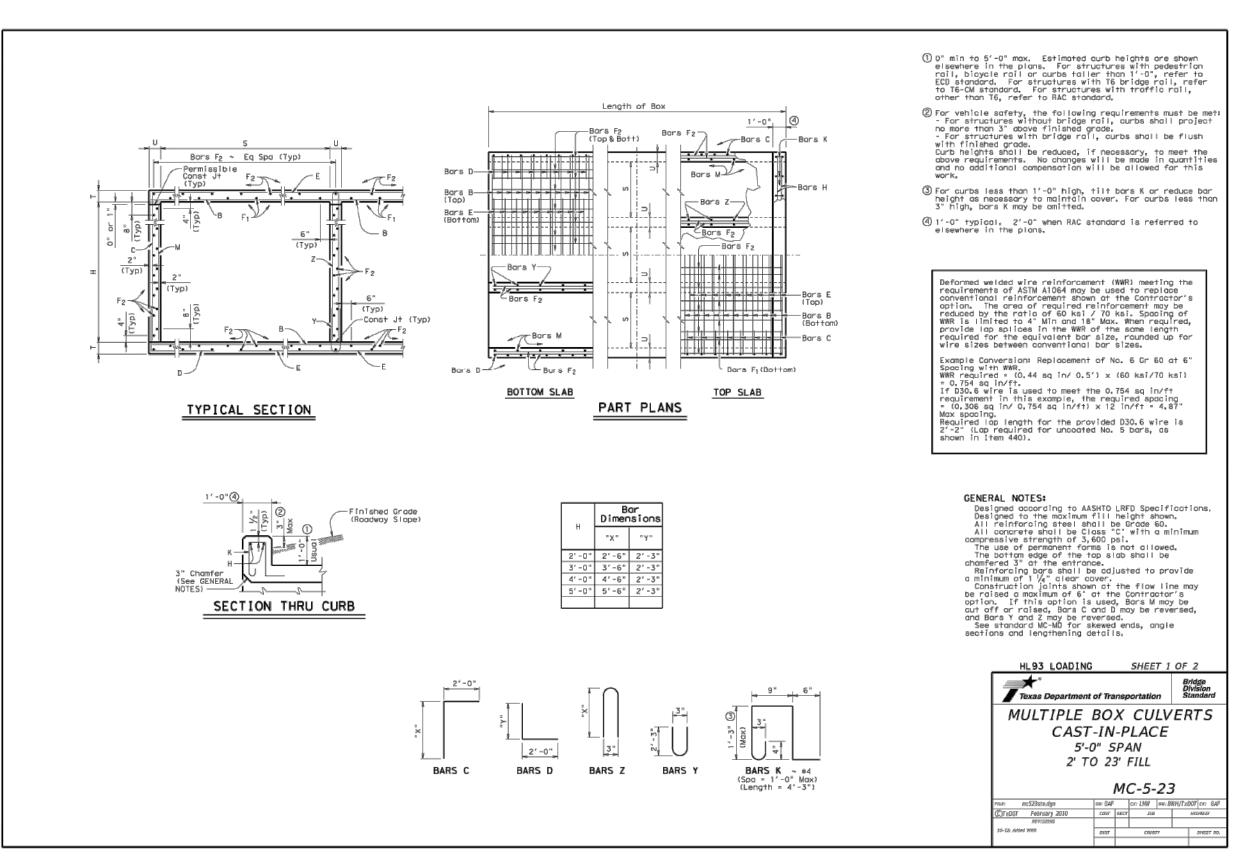
WINDHAVEN ESTATES 19.50 ACRES CITY OF SANGER DENTON COUNTY, TEXA

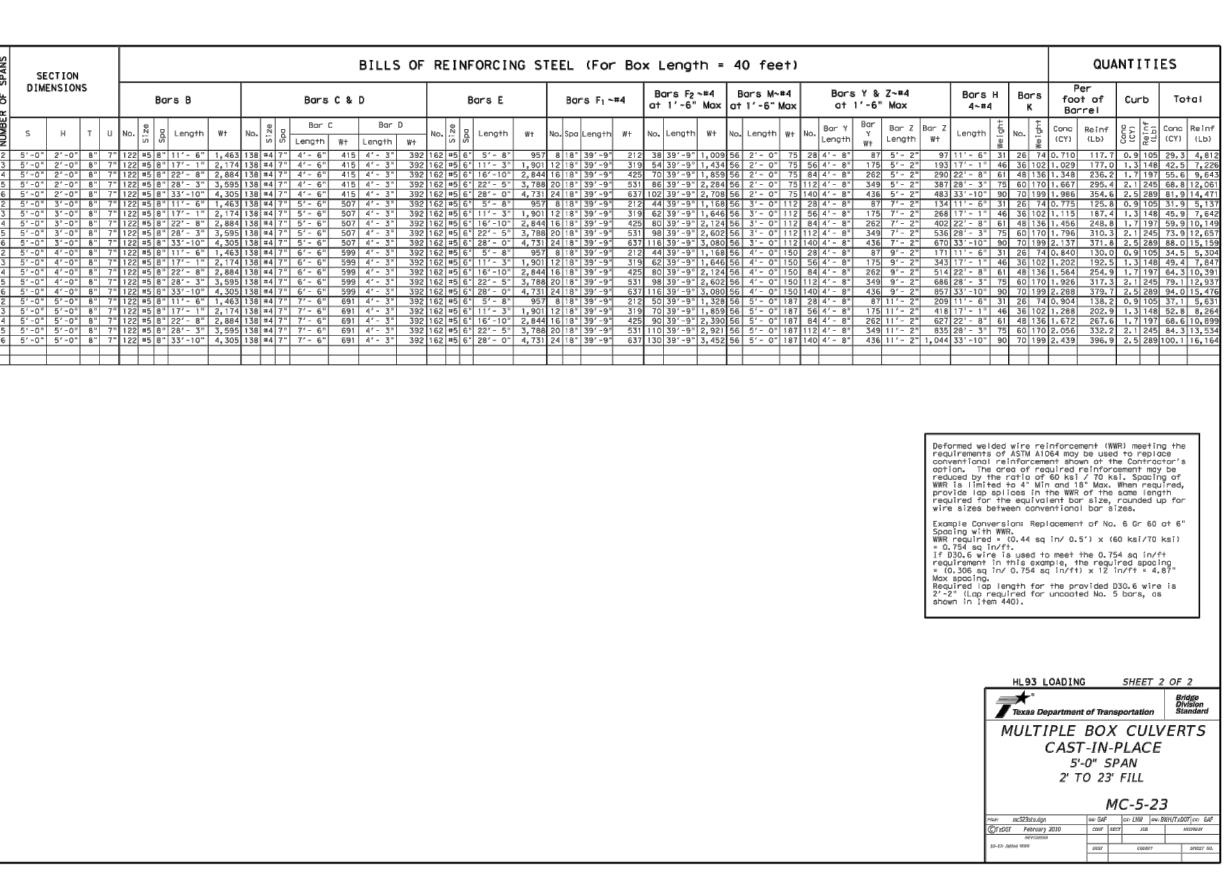


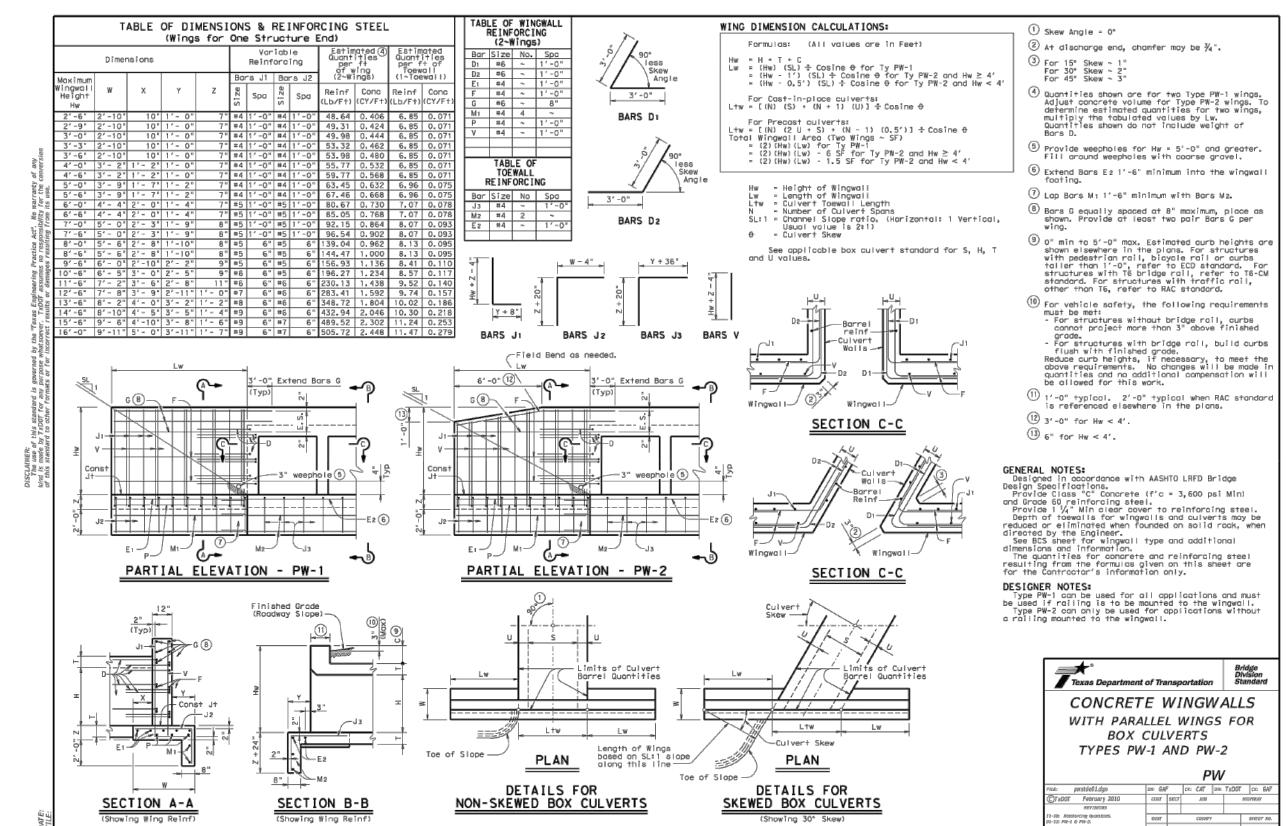
DRAWN: ATG

DATE: 10-05-2024

HEI #: 24-0702







ENGINEERING IN F-844
TBPELS FIRM REGISTRATION NO. F-844
P.O. BOX 294527 LEWISVILLE TEXAS 750
972-906-9985 PHONE 972-906-9987 FAX



WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

STORM DRAIN DETAILS

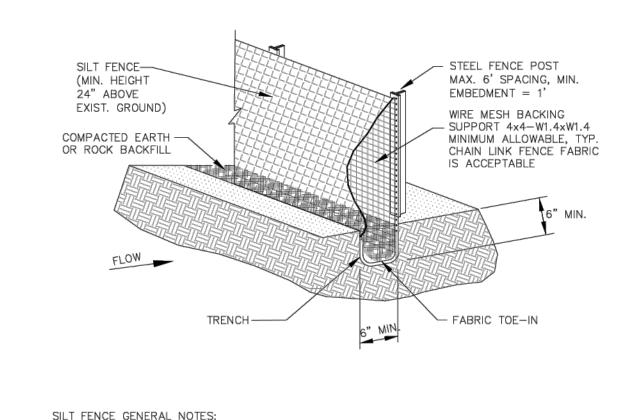
PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: DRAWN: ATG

DATE: 10-05-2024

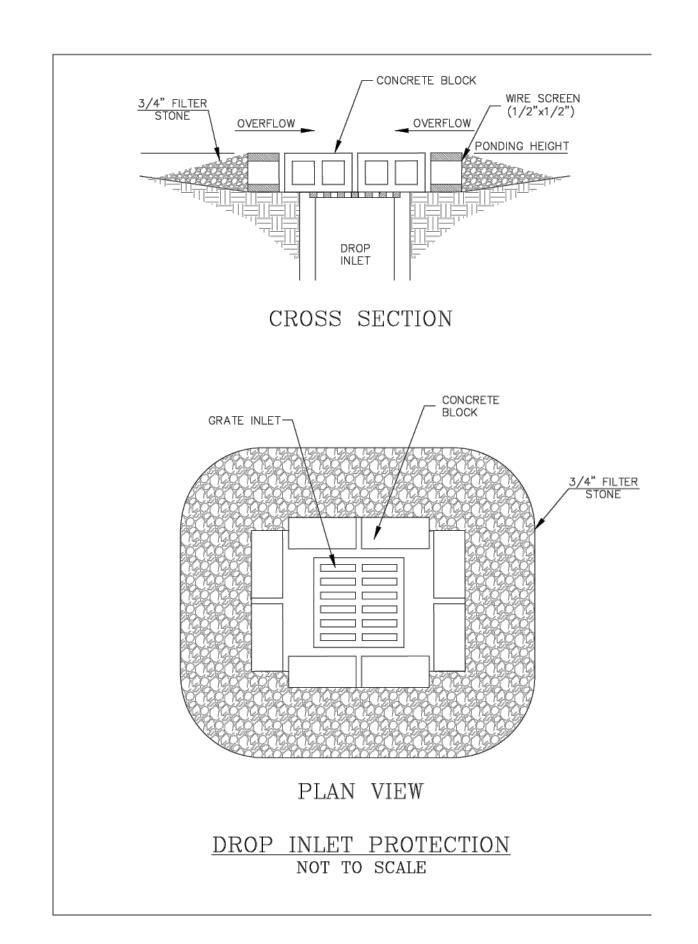
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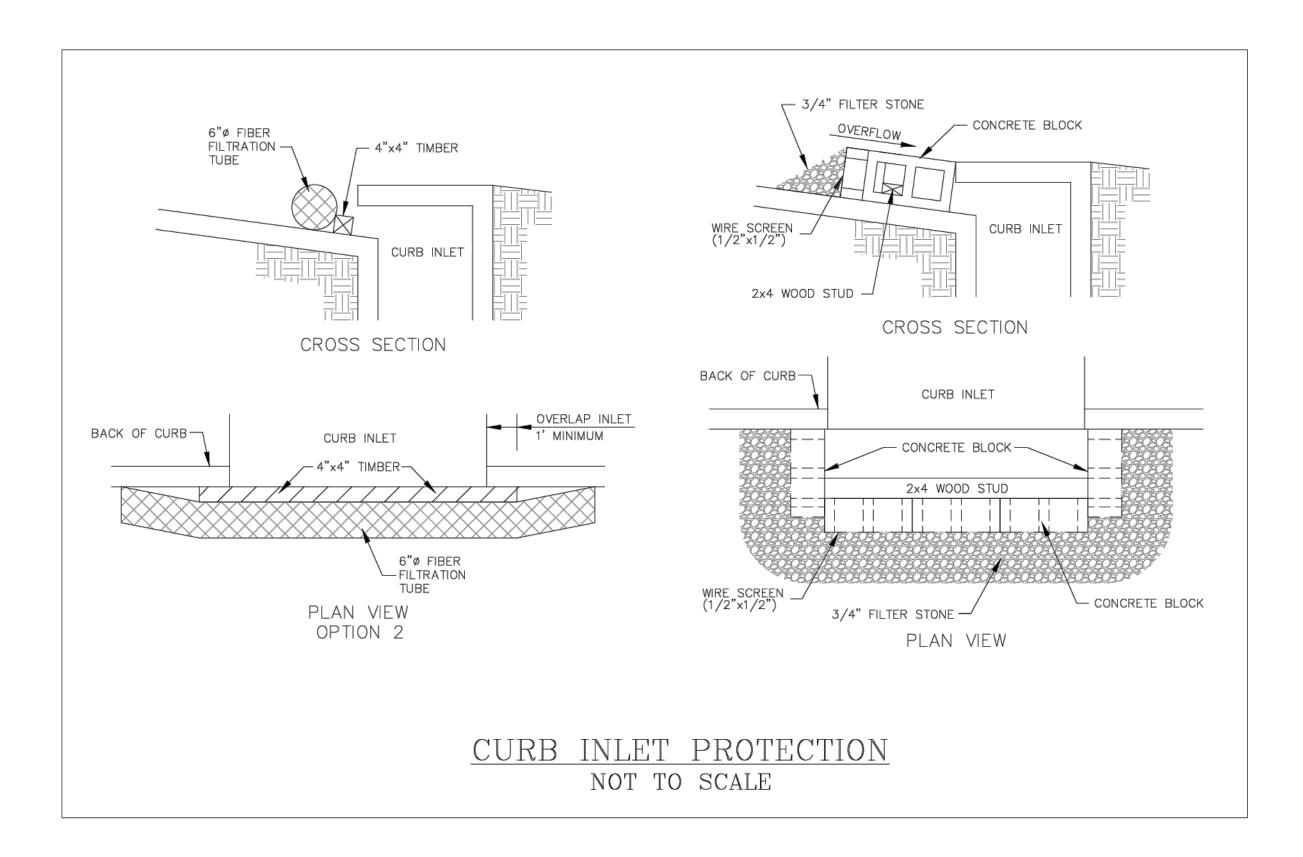


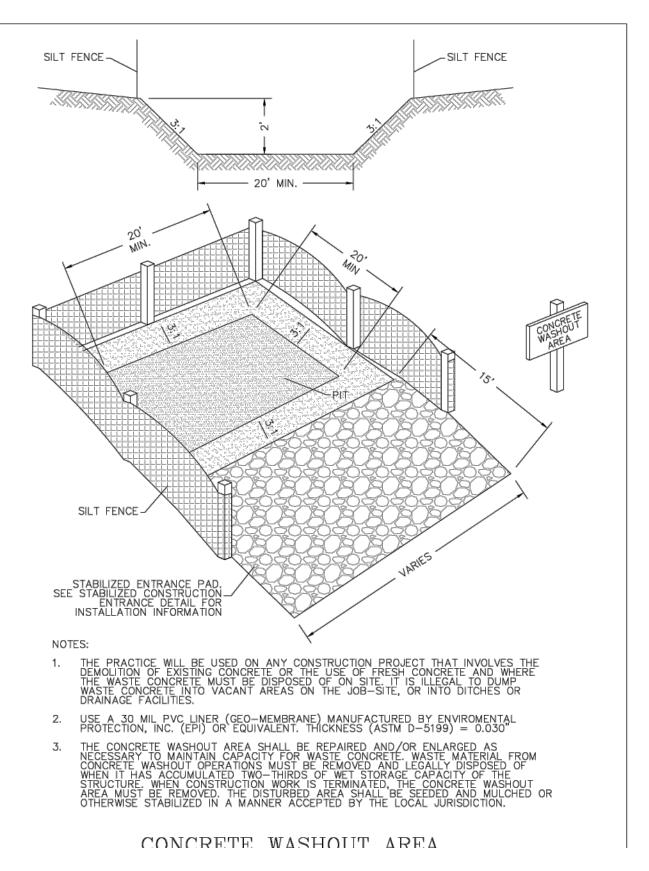
SILT FENCE GENERAL NOTES:

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

SILT FENCE NOT TO SCALE

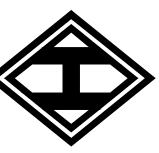






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EROSION CONTROL DETAILS

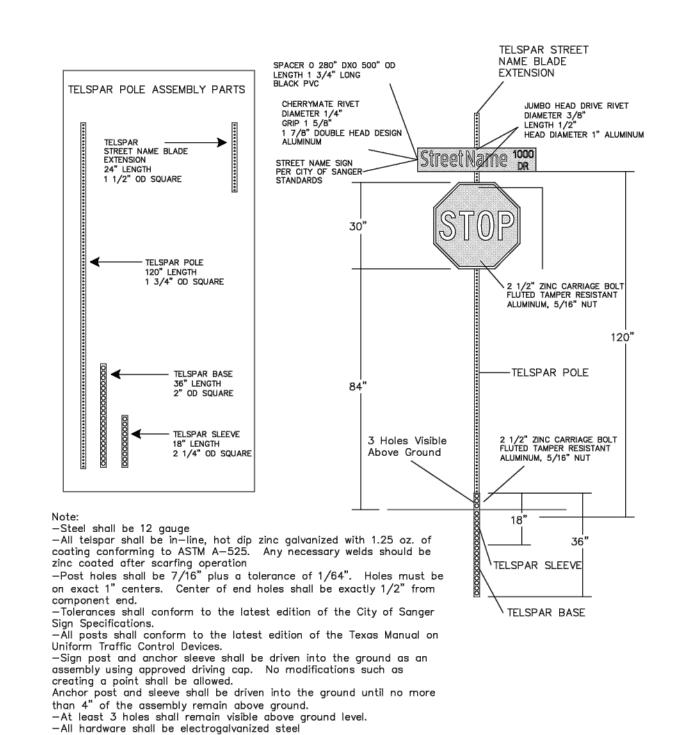
DRAWN: ATG

DATE: 10-05-2024 HEI #: 24-0702

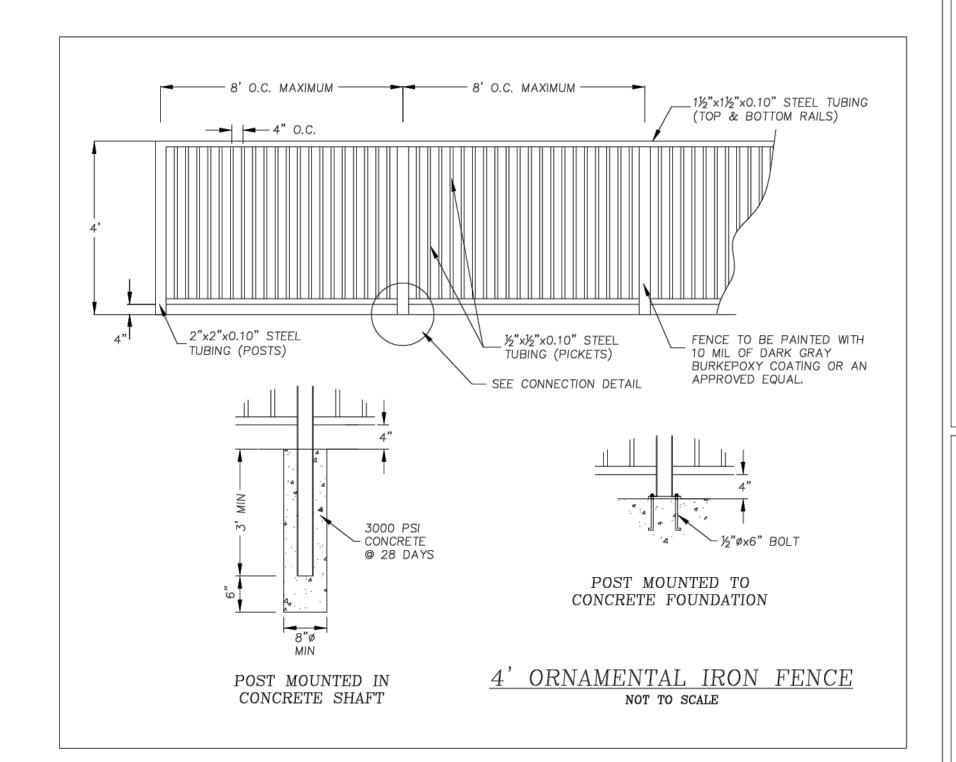
CURB AND GUTTER

TYPICAL LOT DRAINAGE n.t.s.

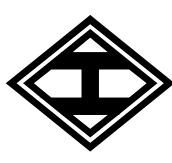
FLOW DIRECTION



SIGN DETAIL



ENGINEERING TO F-84 P.O. BOX 294527 LEWISVILLE TEXAS 75 972-906-9985 PHONE 972-906-9987 FA



WINDHAVEN ESTATES
19.50 ACRES
CITY OF SANGER
DENTON COUNTY, TEXAS

MISCELLANEOUS DETAILS

PRELIMINARY PLANS

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STEVEN R. HOMEYER, PE # 86942 DATE: DRAWN: ATG

SHEET NO:

C29

DATE: 10-05-2024

HEI #: 24-0702