CITY OF ATHENS, TEXAS
AND
JAB REALTY INVESTMENTS, LLC

CHAPTER 380 ECONOMIC DEVELOPMENT PROGRAM AND AGREEMENT

This **CHAPTER 380 ECONOMIC DEVELOPMENT PROGRAM AND AGREEMENT** (hereinafter referred to as the "Agreement") is made and entered into by and between the **CITY OF ATHENS, TEXAS**, a Texas home-rule municipality ("hereinafter referred to as the "City"), and **JAB REALTY INVESTMENTS, LLC**, a Texas limited liability company (hereinafter referred to as "Developer"), for the purposes and considerations stated below:

WHEREAS, Developer agrees to make a capital investment of more than one-million dollars ($1,000,000) towards the completion of Cardinal Estates (formerly Mill Run Estates) project by performing the work as shown in ***Exhibit A*** – Approved Construction Plans for Cardinal Estates, which is attached hereto and is incorporated herein for all purposes: and

WHEREAS, Developer desires to enter into this Agreement pursuant to Chapter 380 of the Texas Local Government Code (hereinafter referred to as "Chapter 380"); and

WHEREAS, the City has identified a severe deficit in housing within the City limits for the existing workforce, forcing many employees to commute more than 20 miles; and

WHEREAS, The City Council of the City of Athens, Texas is committed to the construction of housing for the existing and future workforce; and

WHEREAS, the City Council of the City of Athens, Texas established FUND 15 and designated a portion of the sales and use tax collected each month to be used in Chapter 380 agreements as monetary incentives to developers for projects that promote economic development by supporting strong workforce; and

WHEREAS, the City desires to provide, pursuant to Chapter 380, an incentive to Developer to completed the necessary infrastructure and construct single-family houses within the City of Athens, Texas; and

WHEREAS, the City has the authority under Chapter 380 to make loans or grants of public funds for the purposes of promoting local economic development and stimulating business and commercial activity within the City of Athens, Texas; and

WHEREAS, the City finds and determines that a grant of funds to Developer will serve the public purpose of promoting local economic development and enhancing business and commercial activity within the City of Athens, Texas by increasing the amount of housing available to employees of the existing businesses in the City; and

WHEREAS, the City has concluded and hereby finds that this Agreement clearly

promotes economic development within the City of Athens, Texas, and meets the requisites under Chapter 380 of the Texas Local Government Code and further, is in the best interests of the City and Developer; and

WHEREAS, the City has concluded and hereby finds that this Agreement clearly promotes economic development in the City of Athens, Texas, and, as such, meets the requirements of Article III, Section 52-a of the Texas Constitution by assisting in the development and diversification of the economy of the state, by eliminating unemployment or underemployment in the state, and by the development or expansion of commerce within the state.

NOW, THEREFORE, for and in consideration of the mutual benefits and promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the City and Developer agree as follows:

SECTION 1. FINDINGS INCORPORATED.

The foregoing recitals are hereby incorporated into the body of this Agreement and shall be considered part of the mutual covenants, consideration and promises that bind the parties.

SECTION 2. TERM.

This Agreement shall be effective as of the Effective Date of this Agreement, and shall continue thereafter until **December 31, 2028**, unless terminated sooner under the provisions hereof.

SECTION 3. DEFINITIONS.

The following words shall have the following meanings when used in this Agreement.

(a) **Agreement**. The word "Agreement" means this Chapter 380 Economic Development Program and Agreement, authorized pursuant to Chapter 380 of the Texas Local Government Code, together with all exhibits and schedules attached to this Agreement from time to time, if any.

(b) **City.** The word "City" means the City of Athens, Texas, a Texas home-rule municipality, whose address for the purposes of this Agreement is 508 E. Tyler Street, Athens, Texas 75751.

(c) **Developer.** The word "Developer" means JAB Realty Investments, LLC, whose address for the purpose of this agreement is 5250 Hwy 78, Suite #750-265, Sachse, Texas 75048.

(d) **Effective Date.** The words "Effective Date" mean the date of the latter to execute this Agreement by and between Developer and the City.

(e) **Event of Default**. The words "Event of Default" mean and include any of the Events of Default set forth below in the section entitled "Events of Default."

(f) **Force Majeure.** Shall mean any events and/or circumstances outside the reasonable control of the affected party, including, but not limited to, acts or restraints of government, war, civil war, riot terrorism, civil disturbance, material or labor shortages, accident, epidemic, pandemic, stoppage of or interference with transport facilities or non-supplies or irregular supplies.

(g) **Incentive Payment** or **Project Incentive Payment.** The words "Project Incentive" or "Project Incentive Payment" mean the economic development grants paid by the City to Developer in accordance with this Agreement.

(h) **Project.** The word "Project" means those expenditures consisting the completion of the necessary infrastructure for Cardinal Estates (streets, water lines, sewer lines, and drainage system) located within the City of Athens, Texas as shown in ***Exhibit A*** and the construction of eighteen single family houses.

(i) **Term.** The word "Term" means the term of this Agreement as specified in Section 2 of this Agreement.

SECTION 4. OBLIGATIONS OF DEVELOPER.

Developer covenants and agrees with the City that, while this Agreement is in effect, it shall comply with the following terms and conditions:

(a) **Project.** The project shall be broken down into two (2) phases.

1. **Phase 1** - Developer covenants and agrees to make a capital investment of not less than **One-Million ($1,000,000)** towards the **Project** by August 31, 2025 to complete the necessary infrastructure for Cardinal Estates (streets, water lines, sewer lines, and drainage system) as shown in ***Exhibit A***.

2. **Phase 2** – Developer agrees to construct eighteen (18) single family houses in Cardinal Estates prior to the expiration of this agreement. The first four (4) houses shall be constructed within six (6) months from the date of completion and acceptance of the Phase 1 improvements by the City.

(b) **Performance**. Developer agrees to perform and comply with all terms, conditions, and provisions set forth in this Agreement and in all other instruments and agreements by and between Developer and the City.

(c) **Warranty**. Developer shall provide the City with a two (2) year maintenance bond as a

warranty covering the infrastructure improvements for Cardinal Estates as shown in **Exhibit A.**

SECTION 5. OBLIGATIONS OF CITY.

City covenants and agrees with Developer that, while this Agreement is in effect, it shall comply with the following terms and conditions:

(a) **Project Incentive Payment.** City shall provide incentive payments to the Developer in accordance with the project phases as outlined below:

1. **Phase 1** – City shall pay Developer **One Hundred Twenty-Five Thousand Dollars ($125,000)** upon the final completion, acceptance, and release of all liens for the necessary infrastructure for Cardinal Estates Subdivision (streets, water lines, sewer lines, and drainage system) as shown in ***Exhibit A***.

2. **Phase 2** – City shall pay Developer Sixty-Five Hundred Dollars ($6500) each for the first eighteen (18) single family houses constructed in Cardinal Estates. The first four (4) shall be constructed within six (6) months from the completion date of Phase 1.

(b) **Performance**. The City agrees to perform and comply with all terms, conditions, and provisions set forth in this Agreement and in all other instruments and agreements by and between Developer and City.

SECTION 6. CESSATION OF ADVANCES.

If City has made any commitment to make any advance of financial assistance to Developer, whether under this Agreement or under any other agreement, the City shall have no obligation to advance or disburse any financial assistance if: (i) Developer becomes insolvent, files a petition in bankruptcy or similar proceedings, or is adjudged bankrupt; or (ii) an Event of Default occurs.

SECTION 7. EVENTS OF DEFAULT.

Each of the following shall constitute an Event of Default under this Agreement:

(a) **General Event of Default.** Failure of Developer or the City to comply with or to perform any other term, obligation, covenant or condition contained in this Agreement, or failure of Developer or City to comply with or to perform any other term, obligation, covenant or condition contained in any other agreement by and between Developer and City is an Event of Default.

(b) **False Statements.** Any warranty, representation, or statement made or furnished to the City by or on behalf of Developer under this Agreement that is false or misleading in any material respect, either now or at the time made or furnished is an Event of Default.

(c) **Insolvency.** Developer's insolvency, appointment of receiver for any part of Developer's property, any assignment for the benefit of creditors of Developer, any type of creditor workout for Developer, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against Developer is an Event of Default.

(d) **Ad Valorem Taxes.** Developer allows its ad valorem taxes owed to the City to become delinquent and fails to timely and properly follow the legal procedures for protest and/or contest of such taxes and to cure such failure within thirty (30) days after written notice thereof from City and/or Henderson County Central Appraisal District is an Event of Default.

SECTION 8. EFFECT OF AN EVENT OF DEFAULT.

Failure of either party to comply with or perform any term, obligation or condition of this Agreement during the term of this Agreement shall constitute an Event of Default. The non-defaulting party shall give written notice to the other party of any default, and the defaulting party shall have thirty (30) days to begin to cure said default. Should said default remain uncured, the non-defaulting party shall have the right to terminate this Agreement, enforce specific performance as appropriate, or maintain a cause of action for damages caused by the event(s) of default. In the event Developer defaults and is unable or unwilling to cure said default within the prescribed time period, the aggregate total of all financial assistance provided by the City to Developer pursuant to Section 5 of this Agreement, shall become immediately due and payable by Developer to the City.

SECTION 9. MISCELLANEOUS PROVISIONS.

The following miscellaneous provisions are a part of this Agreement:

(a) **Amendments**. This Agreement constitutes the entire understanding and agreement of the parties as to the matters set forth in this Agreement. No alteration of or amendment to this Agreement shall be effective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

(b) **Applicable Law and Venue**. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Henderson County, Texas. Venue for any action arising under this Agreement shall lie in the state district courts of Henderson County, Texas.

(c) **Assignment.** This Agreement may not be assigned

(d) **Binding Obligation.** This Agreement shall become a binding obligation on the signatories upon execution by all signatories hereto. Developer warrants and represents that the individual or individuals executing this Agreement on behalf of Developer has full authority to execute this Agreement and bind Developer to the same. warrants and represents that the individual executing this Agreement on its behalf has full authority to execute this Agreement and bind it to the same.

(e) **Caption Headings**. Caption headings in this Agreement are for convenience purposes only and are not to be used to interpret or define the provisions of the Agreement.

(f) **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall constitute one and the same document.

(g) **Notices**. Any notice or other communication required or permitted by this Agreement (hereinafter referred to as the "Notice") is effective when in writing and (i) personally delivered either by facsimile (with electronic information and a mailed copy to follow) or by hand or (ii) three (3) days after notice is deposited with the U.S. Postal Service, postage prepaid, certified with return receipt requested, and addressed as follows:

if to City:	City of Athens, Texas 508 E. Tyler Street Athens, Texas 75751 Attn: Elizabeth Borstad, City Manager Telephone: (903) 675-5131 Email: eborstad@athenstx.gov
if to Developer:	JAB Realty Investments, LLC 5250 Hwy 78, Suite #750-265 Sache, Texas 75048 Attn: Edgar Bobadilla Telephone: 214-803-9096 Email: Edgarj_bobadilla@yahoo.com

(i) **Severability**. If a court of competent jurisdiction finds any provision of this Agreement to be invalid or unenforceable as to any person or circumstance, such finding shall not render that provision invalid or unenforceable as to any other persons or circumstances. If feasible, any such offending provision shall be deemed to be modified to be within the limits of enforceability or validity; however, if the offending provision cannot be so modified, it shall be stricken and all other provisions of this Agreement in all other respects shall remain valid and enforceable.

(j) **Sovereign Immunity**. No party hereto waives any statutory or common law right to sovereign immunity by virtue of its execution hereof.

(k) **Time is of the Essence.** Time is of the essence in the performance of this Agreement.

(l) **Undocumented Workers Provision.** Developer certifies that Developer does not and will not knowingly employ an undocumented worker in accordance with Chapter 2264 of the Texas Government Code, as amended. If during the Term of this Agreement, Developer is convicted of a violation under 8 U.S.C. § 1324a(f), Developer shall repay the amount of the public subsidy provided under this Agreement plus interest, at the rate of six percent (6%), not later than the 120th day after the date the City notifies Developer of the violation of Chapter 2264 of the Texas Government Code.

(m) **Non-Boycott of Israel Provision.** In accordance with Chapter 2270 of the Texas Government Code, a Texas governmental entity may not enter into an agreement with a business entity for the provision of goods or services unless the agreement contains a written verification from the business entity that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the agreement. Chapter 2270 of the Texas Government Code does not apply to a (1) a company that is a sole proprietorship; (2) a company that has fewer than ten (10) full-time employees; or (3) the contract has a value of less than One Hundred Thousand Dollars ($100,000.00). Unless Developer is not subject to Chapter 2270 of the Texas Government Code for the reasons stated herein, the signatory executing this Agreement on behalf of Developer verifies that Developer does not boycott Israel and will not boycott Israel during the Term of this Agreement.

(n) **Prohibition on Contracts with Certain Companies Provision.** In accordance with Section 2252.152 of the Texas Government Code, the Parties covenant and agree that Developer is not on a list maintained by the State Comptroller's office prepared and maintained pursuant to Section 2252.153 of the Texas Government Code.

(o) **Report Agreement to Comptroller's Office.** City covenants and agrees to report this Agreement to the State Comptroller's office within fourteen (14) days of the Effective Date of this Agreement, in accordance with Section 380.004 of the Texas Government Code, as added by Texas House Bill 2404, 87th Tex. Reg. Session (2021) (effective September 1, 2021).

(p) **Verification Against Discrimination of Firearm or Ammunition Industries.** Pursuant to Texas Government Code Chapter 2274, (as added by Texas Senate Bill 19, 87th Tex. Reg. Session (2021) (effective September 1, 2021)) unless otherwise exempt, if the Developer employs at least ten (10) fulltime employees and this Agreement has a value of at least $100,000 that is paid wholly or partly from public funds of the City, the Developer represents that: (1) the Developer does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) the

Developer will not discriminate during the Term of the Agreement against a firearm entity or firearm trade association.

(q) **Verification Against Discrimination Developer Does Not Boycott Energy Companies.** Pursuant to Texas Government Code Chapter 2274, (as added by Texas Senate Bill 13, 87th Tex. Reg. Session (2021) (effective September 1, 2021)) unless otherwise exempt, if the Developer employs at least ten (10) fulltime employees and this Agreement has a value of at least $100,000 that is paid wholly or partly from public funds of the City, the Developer represents that: (1) the Developer does not boycott energy companies; and (2) the Developer will not boycott energy companies during the Term of this Agreement.

[The Remainder of this Page Intentionally Left Blank]

THE PARTIES ACKNOWLEDGE HAVING READ ALL THE PROVISIONS OF THIS AGREEMENT, AND THE PARTIES AGREE TO ITS TERMS. THIS AGREEMENT IS EFFECTIVE AS OF THE EFFECTIVE DATE AS DEFINED HEREIN.

CITY:

CITY OF ATHENS, TEXAS,
a Texas home-rule municipality,

By: _____
Elizabeth Borstad, City Manager

Date Signed: 02/04/2025

ATTEST:

_____
Bonnie Hambrick, City Secretary

STATE OF TEXAS §
§
COUNTY OF HENDERSON §

This instrument was acknowledged before me on the 4th day of February 2025, by Elizabeth Borstad, City Manager of the City of Athens, Texas, a Texas home-rule municipality, on behalf of said Texas municipality.

_____
Notary Public, State of Texas

BONNIE HAMBRICK
My Notary ID # 129969355
Expires September 24, 2026

DEVELOPER:

JAB REALTY INVESTMENTS, LLC
a Texas limited liability company,

By: _____
Edgar Bobadilla, President

Date: 02-03-2025

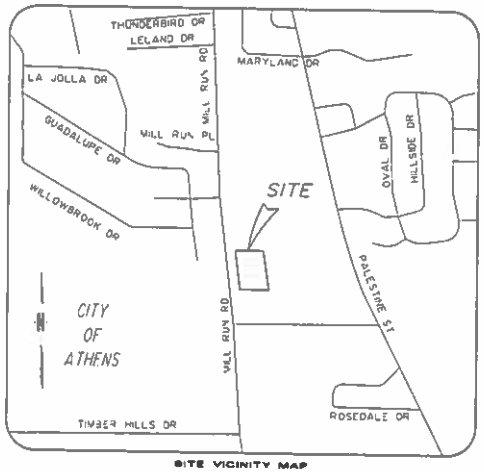
STATE OF TEXAS §
§
COUNTY OF Henderson §

This instrument was acknowledged before me on the 3rd day of February 2025, by Edgar Bobadilla, President of JAB Realty Investments, LLC, a Texas limited liability company, on behalf of said company.

_____
Notary Public, State of Texas

SCHEE ADAMS
My Notary ID # 134393850
Expires June 6, 2027

CONSTRUCTION PLANS
CARDINAL ESTATES
33 SINGLE FAMILY LOTS
7.69 ACRES
CITY OF ATHENS
HENDERSON COUNTY, TX



SITE VICINITY MAP
NOT TO SCALE

PLANS PROFILES AND DETAILS APPROVED FOR THIS PROJECT

SHEETS	DESCRIPTION
C01	COVER SHEET
C02	FINAL PLAT
C03	TYPICAL SECTIONS & GENERAL NOTES
C04	PAVING PLAN AND PROFILES
C05	PAVING DETAILS
C06	PAVING DETAILS
C07	GRADING PLAN
C08	WALL PLAN
C09	DRAINAGE AREA MAP
C10	STORM SEWER PLAN AND PROFILES
C11	STORM SEWER DETAILS
C12	DETENTION POND 1
C13	DETENTION POND 2
C14	DETENTION POND 3
C15	WATER AND WASTEWATER GENERAL NOTES
C16	WATER AND WASTEWATER PLAN
C17	WASTEWATER PROFILES
C18	12" WATER MAIN LOWERING
C19	WATER AND WASTEWATER DETAILS
C20	EROSION CONTROL PLAN
C21	EROSION CONTROL DETAILS

OWNER

JAB REALTY CONSTRUCTION LLC
ATTN: EDGAR BOBADILLA
edgarj bobadilla@yahoo.com
5260 HIGHWAY 78, SUITE 759-265
SACHSE, TX 75048
214-803-9099

ENGINEER/SURVEYOR

ROBERT W. SCHNEEBERG
robert.schneeberg@ge-engineers.com
GONZALEZ & SCHNEEBERG
FIRM NO. F-3376
Surveying License No. 100752-00
801 EAST CAMPBELL ROAD, SUITE 330
RICHARDSON, TEXAS 75081
(972) 516-9858

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG, P.E. 86382 ON 12/19/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

C1

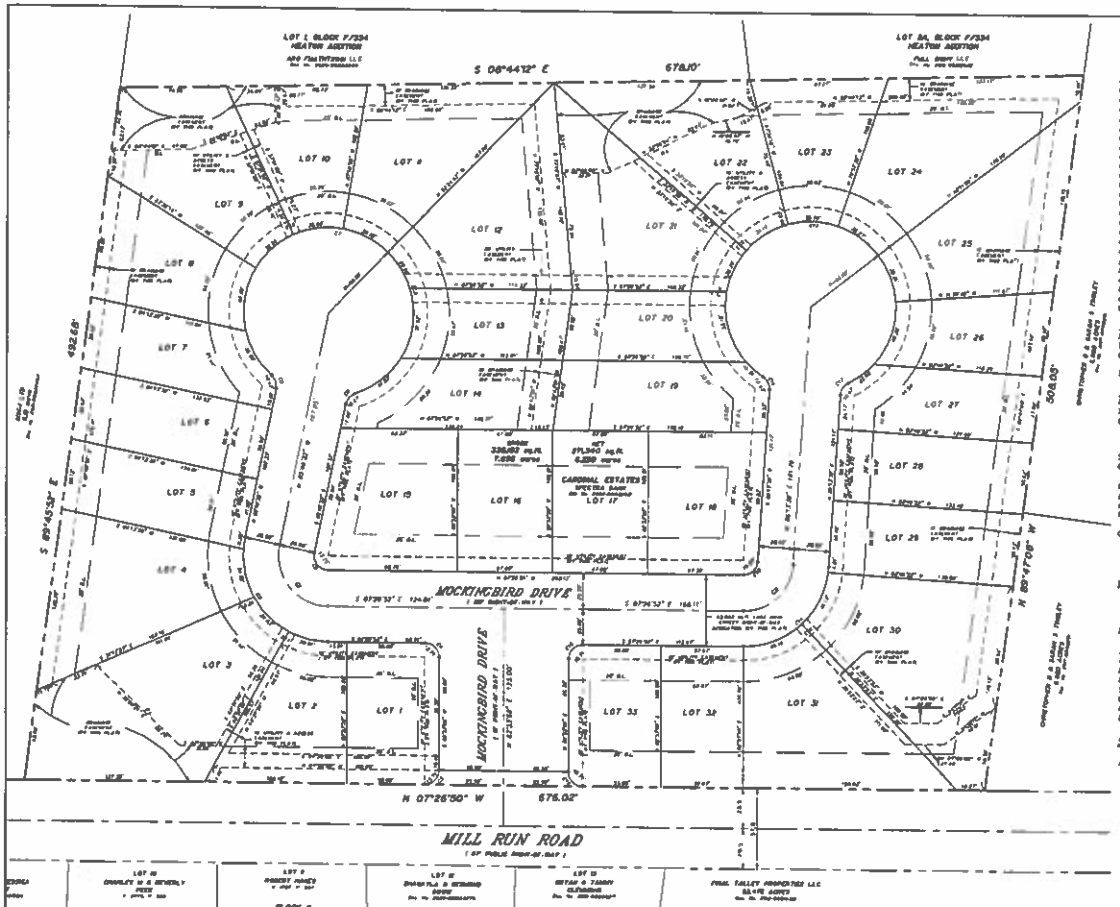
GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

Gonzalez & Schneeberg engineers ◆ surveyors
801 East Campbell Road, Suite 330, Richardson, Texas 75081 (972) 516-9858
ENGINEERING FIRM NO. F-3376 SURVEYING LICENSE NO. 100752-00

COVER SHEET
CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

DESIGNED	DRAWN	DATE	SCALE	PROJECT	FILE	NO.
RWS	CHECK	DECEMBER 2024				



OWNER'S DEDICATION

Now therefore, know all men by these presents, that Owner's name(acting herein by and through its duly authorized officers, does hereby adopt this plat designating the herein above described property as (subdivision name), an addition to the City of Athens, Texas and does hereby dedicate, in fee simple, to the public use forever, the streets, alleys, and public use areas shown hereon, and does hereby dedicate the easements shown on the plat for the purposes indicated to the public use forever, said dedications being free and clear of all liens and encumbrances except as shown herein. No buildings, fences, trees, shrubs, or other improvements shall be constructed or placed upon, over, or across the easements on said plat. Utility easements may also be used for the mutual use and accommodation of all public utilities desiring to use or using the same unless the easement limits the use to a particular utility or utilities, said use by public utilities being subordinate to the public's and City of Athens use thereof. The City of Athens and any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths which in any way endanger or interfere with the construction, maintenance, or efficiency of its respective systems on any of these easements and the City of Athens on any public utility shall at all times have the right of ingress and egress to and from and upon any of said easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining, and adding to or removing all or part of its respective system without the necessity at any time of procuring the permission of anyone. (Owner's name) does hereby bind itself, its successors and assigns to forever warrant and defend all and singular the above described streets, alleys, easements, and rights unto the public against every person whomsoever lawfully claiming or to claim the same or any part thereof. This plat approved subject to all platting ordinances, rules, regulations, and resolutions of the City of Athens.

Witness my hand this _____ day of _____, 20___.

_____
Name:
Title:
Company:

To the best of my knowledge, there are no liens against this property.

_____
Name:
Title:
Company:

STATE OF TEXAS
COUNTY OF _____

BEFORE ME, the undersigned authority, a Notary Public in and for said State, on this day personally appeared _____, known 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 consideration therein expressed, and in the capacity therein stated.

Given under my hand and seal of office this the _____ day of _____, 2025

_____
Notary Public in and for the State of Texas

FLOOD / FEMA STATEMENT:

ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 48213C0330E, DATED APRIL 2, 2014, THIS PROPERTY LIES WITHIN FLOOD ZONE X (AREA OF MINIMAL FLOOD HAZARD).

IF THIS SITE IS NOT WITHIN A SPECIAL FLOOD HAZARD AREA, THIS FLOOD STATEMENT DOES NOT IMPLY THE PROPERTY AND/OR ANY STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. NO FIELD SURVEY WAS PERFORMED TO DETERMINE FLOOD ZONES OR FLOODWAYS AND THE EXACT LOCATION CAN ONLY BE DETERMINED BY AN ELEVATION STUDY

SIDEYARDS:

ALL INTERIOR SIDE YARD BUILDING LINES SHALL BE 10% OF THE LOT WIDTH

CITY OF ATHENS, TEXAS APPROVAL

RECOMMENDED FOR APPROVAL ON THIS _____ DAY OF _____, 20___ BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF ATHENS, TEXAS.

_____
CHAIRPERSON, PLANNING AND ZONING COMMISSION OF ATHENS, TEXAS

_____
SECRETARY, PLANNING AND ZONING COMMISSION OF ATHENS, TEXAS

SURVEYOR'S CERTIFICATE

That I, Robert W. Schneeberg, do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the subdivision regulations of the city of Athens, Texas.

Dated this the _____ day of _____, 2025.

_____
Robert W. Schneeberg
Texas Registered Professional Land Surveyor No. 4804

STATE OF TEXAS
COUNTY OF DALLAS

BEFORE ME, the undersigned authority, a Notary Public in and for said State, on this day personally appeared Robert W. Schneeberg, known 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 consideration therein expressed, and in the capacity therein stated.

Given under my hand and seal of office this the _____ day of _____, 2025

_____
Notary Public in and for the State of Texas

SURVEYOR'S NOTES

1. Bearings and Coordinates for this plat are based on the State Plane Coordinate System, Texas North Central Zone 4202, North American Datum of 1983. Adjustment realization 2011.
2. Purpose of this Plat is to create 33 single family lots.

NOTE REGARDING HOA AND COVENANTS

A homeowners association covenant has been approved by the City of Athens and recorded in _____. Each homeowners association shall be responsible for the maintenance of all common areas and facilities and screening walls located in _____ or public right-of-way where a license agreement with the City of Athens is required, or otherwise constituted on the plat.

a. The owner of the single title to every individual lot of land within the subdivision must be a member of the homeowners association.
b. The homeowners association shall have the authority to collect membership fees.
c. The homeowners association shall be responsible for the maintenance of all common areas and screening walls.
d. The homeowners association must grant the City the right of access to common areas to abate any nuisances thereon, and attach a lien for the prorated cost of abatement upon each individual lot.
e. The homeowners association shall indemnify and hold the City harmless from any and all costs, expenses, suits, demands, liabilities, damages, or otherwise including attorney's fees and costs of suit, in connection with the City's maintenance of common areas.
f. The homeowners association shall enter into a license agreement with the City of Athens, where additional right-of-way has been dedicated for the purpose of providing landscaping, additional area for sidewalks, walls, or other amenities, and shall be responsible for the installation and maintenance of all landscape areas that are in the public right-of-way.

CLERK'S OFFICE ACCEPTANCE:

I, COUNTY CLERK FOR HENDERSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT WAS FILED IN MY OFFICE ON THIS THE _____ DAY OF _____, 20___.

_____
COUNTY CLERK, HENDERSON COUNTY, TEXAS

LOT AREA TABLE		
LOT	SQ.FT.	ACRES
LOT 1	6,457	0.148
LOT 2	7,334	0.168
LOT 3	14,850	0.341
LOT 4	8,524	0.235
LOT 5	6,844	0.157
LOT 6	6,856	0.157
LOT 7	6,499	0.149
LOT 8	7,309	0.168
LOT 9	10,206	0.234
LOT 10	6,907	0.159
LOT 11	9,432	0.217
LOT 12	10,669	0.245
LOT 13	5,470	0.126
LOT 14	6,799	0.156
LOT 15	8,937	0.210
LOT 16	8,700	0.154
LOT 17	6,700	0.154

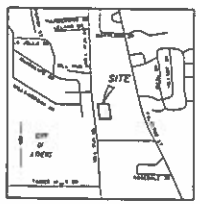
LOT AREA TABLE		
LOT	SQ.FT.	ACRES
LOT 18	7,977	0.183
LOT 19	7,276	0.167
LOT 20	3,674	0.130
LOT 21	10,306	0.243
LOT 22	5,910	0.229
LOT 23	6,745	0.155
LOT 24	8,434	0.263
LOT 25	10,283	0.236
LOT 26	5,68	0.133
LOT 27	6,369	0.146
LOT 28	6,829	0.157
LOT 29	6,652	0.153
LOT 30	13,863	0.318
LOT 31	10,847	0.244
LOT 32	5,767	0.132
LOT 33	6,457	0.148

CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	CH. BEARING
C1	109°40'39"	25.00'	42.97'	62.11'	54.26'	S 43°33'23" W
C2	090°19'39"	25.00'	22.52'	39.73'	47.68'	S 30°39'39" E
C3	090°00'00"	10.00'	10.00'	15.71'	14.14'	S 32°26'58" E
C4	090°00'00"	10.00'	10.00'	15.71'	14.14'	N 37°33'02" E
C5	109°40'39"	60.00'	73.67'	106.97'	93.04'	N 43°33'23" E
C6	090°00'00"	10.00'	5.77'	10.47'	10.00'	N 52°33'21" E
C7	300°00'00"	60.00'	34.64'	314.16'	60.00'	S 07°26'38" W
C8	090°00'00"	10.00'	5.77'	10.47'	10.00'	N 37°33'21" E
C9	109°40'39"	10.00'	12.26'	17.79'	15.24'	S 43°33'23" E
C10	069°19'21"	15.00'	9.38'	15.67'	13.58'	S 39°39'39" E
C11	090°00'00"	10.00'	5.77'	10.47'	10.00'	N 52°33'21" E
C12	300°00'00"	60.00'	34.64'	314.16'	60.00'	S 07°26'38" E
C13	090°00'00"	10.00'	5.77'	10.47'	10.00'	N 37°33'21" E
C14	069°19'39"	60.00'	38.27'	80.48'	62.98'	N 39°39'39" W
C15	090°00'00"	10.00'	10.00'	15.71'	14.14'	S 52°26'38" W
C16	090°00'00"	10.00'	10.00'	15.71'	14.14'	S 37°33'21" E

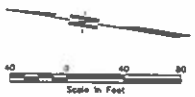
UTILITY & DRAINAGE EASEMENT CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	CH. BEARING
C10	090°33'43"	60.00'	3.02'	10.01'	10.00'	N 30°09'31" E
C11	090°33'37"	60.00'	3.02'	10.01'	10.00'	S 32°09'39" E
C12	6.00'09'21"	60.00'	10.56'	21.17'	21.06'	N 64°48'17" E
C14	01°29'40"	60.00'	15.31'	30.31'	30.31'	N 07°26'29" W
C15	089°33'37"	60.00'	3.02'	10.01'	10.00'	S 56°39'50" E
C16	089°33'37"	60.00'	3.02'	10.01'	10.00'	N 36°26'50" W

LEGEND

PROPERTY LINE
ADJOINING PROPERTY LINE
EASEMENT LINE
CENTERLINE
DRAINAGE EASEMENT
VOLUME
PAGE
SQUARE FEET
BUILDING LINE



VICINITY MAP



BENCHMARK:

Top Center of Existing Manhole at Tanglewood and Mill Run Road.

Elev.: 498.60

OWNER:
SPECTRA BANK
2000 MANDLEY EDENVILLE RD
FORT WORTH, TX 76118

CONTACT:
JAB REALTY CONSTRUCTION LLC
ATTN.: EDGAR BOBADILLA
5250 BIGWAY 70, SUITE 750-290
SACHSE, TX 75048
214-803-9088
edgar_bobadilla@yahoo.com

ENGINEER - SURVEYOR:
GONZALEZ & SCHNEEBERG
ENGINEERS & SURVEYORS, INC.
ROBERT SCHNEEBERG, P.E., R.P.L.S.
robert.schneeberg@gs-engineers.com
2100 Lakeside Boulevard
Suite 200
Richardson, Texas 75082
Phone: 972-516-8806

FINAL PLAT
CARDINAL ESTATES
LOTS 1-33

BEING ALL OF THAT TRACT CONVEYED TO
SPECTRA BANK
COUNTY CLERK'S DOCUMENT NO.
2022-00022621
AND BEING OUT OF THE
THOMAS PARKER SURVEY, ABSTRACT 782
CITY OF ATHENS, HENDERSON COUNTY, TEXAS

Gonzalez & Schneeberg
engineers ▪ surveyors
401 East Campbell Road
Suite 330, Richardson, Texas 75081
(972) 690-9000
TX ENGINEERING FIRM REG. NO. F-3870 TX SURVEYING FIRM REG. NO. 100752-00

SCALE	DATE	PROJ. NO.	DWG. NO.
1" = 40'	DECEMBER, 2024	7237-21-12-03	7237 FINAL PLAT

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE CITY OF ATHENS SUBDIVISION ORDINANCE AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" PUBLISHED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG), LATEST EDITION. IN THE EVENT OF CONFLICT, DUPLICATION, OR VARIANCE, THE CITY ENGINEER SHALL HAVE THE FINAL DECISION ON ALL CONSTRUCTION MATERIALS, METHODS AND PROCEDURES.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES 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 OR SPECIFICATIONS PERTAINING 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. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON SITE AT ALL TIME.

4. ANY ITEM OF WORK CALLED FOR BY THE PLANS AND/OR SPECIFICATION AND NOT INCLUDED AS A BID ITEM SHALL BE SUBSIDIARY TO THE CONSTRUCTION OF THE VARIOUS BID ITEMS.

5. CONSTRUCTION INSPECTION WILL 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. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING REQUIRED INSPECTIONS AS REQUIRED BY CONTRACT DOCUMENTS.

6. THE CONTRACTOR AND ALL SUBCONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES, SHALL BE CONTRACTOR'S RESPONSIBILITY.

7. IT WILL BE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. 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. LOCATIONS OF UTILITIES ARE TAKEN FROM THE CITY AND COMPANY RECORDS. CONTRACTOR SHALL FIELD VERIFY TO DETERMINE EXACT LOCATION OF UTILITIES.

8. TRENCH SAFETY DESIGN WILL BE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING EXCAVATION. TRENCH SIDE SLOPES SHALL MEET OSHA STANDARDS. SHUTTING, SHORING, AND BRACING SHALL BE REQUIRED WHEN SIDE SLOPE STANDARDS ARE NOT MET. A PULL BOX, MEETING OSHA STANDARDS WILL BE ACCEPTABLE. THE CONTRACTOR SHALL SUBMIT DETAILED PLANS TO THE CITY ENGINEERING DEPARTMENT FOR REVIEW SHOWING HOW OSHA STANDARDS FOR EXCAVATION SHALL BE MET PRIOR TO START OF ANY UTILITY CONSTRUCTION. THE PLANS SHALL BE SEALED BY AN ENGINEER REGISTERED BY THE STATE OF TEXAS.

9. CONTRACTOR SHALL STOCKPILE SALVAGE MATERIALS FOR INSPECTION. ALL ITEMS NOT SALVAGED BY THE OWNER SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE. THE OWNER WILL TRANSPORT SALVAGED MATERIALS AWAY FROM THE SITE AT THE OWNER'S EXPENSE. SALVAGE, STOCKPILE AND REMOVAL OF MATERIALS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS AND SHALL NOT BE PAID FOR DIRECTLY UNLESS SUCH ITEMS ARE SPECIFICALLY INCLUDED IN THE BID ITEMS.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL NECESSARY WARNING AND SAFETY WORK MATERIAL AND OPERATIONS NEEDED TO PROVIDE FOR THE HEALTH AND SAFETY OF THE PUBLIC UNTIL ALL WORK HAS BEEN COMPLETED, INCLUDING MAINTENANCE BOND PERIODS, AND TO BE ACCEPTED BY THE CITY OF ATHENS IN WRITING.

11. ALL CONSTRUCTION AND MATERIALS TESTING UNLESS OTHERWISE INDICATED, SHALL BE PERFORMED BY AN ENGINEERING TESTING LABORATORY EMPLOYED BY THE CONTRACTOR. THE TESTING LABORATORY SHALL BE APPROVED BY THE CITY. THE TESTING LABORATORY SHALL SUBMIT TESTING REPORTS TO THE CITY ENGINEER AND DESIGN ENGINEER.

12. SIDEWALKS TO BE INSTALLED BY DEVELOPER WITH PAVING AS PER DETAILS HEREIN AND SHALL CONFORM TO THE DESIGN STANDARDS FOR THE CITY OF ATHENS.

CLEARING AND GRADING NOTES

1. ALL GRADING SHALL CONFORM TO THE CITY OF ATHENS SUBDIVISION ORDINANCE.

2. SITE PREPARATION AND RECOMMENDED EARTHWORK CONSTRUCTION PROCEDURES PER GEOTECHNICAL REPORT PREPARED BY TEAM CONSULTANTS, INC. DATED FEBRUARY 10, 2022. ALL CLEARED AND GRUBBED MATERIALS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

3. SLOPE CONTROL: IN AREAS WHERE CUT OR FILL SLOPE EXCEEDS 3 FEET IN DEPTH/HEIGHT, A SLOPE RATIO OF ONE (VERTICAL) TO 4 (HORIZONTAL) SHALL NOT BE EXCEEDED. COMPACTION OPERATIONS OF FILL SLOPES SHALL BE CONTINUED UNTIL SLOPES ARE STABLE.

4. FIELD DENSITY TESTS OF FILL AND/OR BACKFILL SHALL BE CONTROLLED BY AN ENGINEERING TESTING LABORATORY. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL IS BELOW THE REQUIRED DENSITY, THE PARTICULAR SOIL OR ROCK LAYER SHALL BE REWORKED UNTIL THE PROPER DENSITY AND/OR MOISTURE CONTENT IS ACHIEVED.

5. TOLERANCE FOR ROUGH GRADING: STREETS SHALL BE ROUGH GRADED WITHIN 0.3 FEET OF PLAN GRADES PRIOR TO UTILITY CONSTRUCTION. UTILITY CONTRACTOR SHALL RETURN STREET TO WITHIN 0.3 FEET OF EXCAVATION CONTRACTOR'S ROUGH GRADE PRIOR TO STREET PAVING.

6. SUPERVISION BY THE SOILS ENGINEER SHALL BE OF SUCH CONTINUITY DURING THE GRADING OPERATIONS THAT HE CAN ADEQUATELY DESCRIBE THE WORK DONE AND EVALUATE THAT WORK IN COMPARISON WITH THE SPECIFICATIONS. ACTUAL SUPERVISION SHALL BE THE CONTRACTOR'S SUPERVISOR.

7. REPORTS: THE TESTING LABORATORY SHALL SEND ONE COPY OF EACH TEST, INSPECTION, OR EVALUATION REPORT TO THE CITY ENGINEER, OWNER AND DESIGN ENGINEER.

PAVING NOTES

1. PAVEMENT CROSS SECTION TO BE BASED ON TYPICAL SECTIONS ON THIS SHEET.

2. VAULT MH'S MUST BE ADJUSTED BY FRANCHISE UTILITIES ONLY AND AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE ADJUSTMENTS WITH FRANCHISE UTILITIES.

3. CONTRACTOR SHALL ADJUST ALL MH'S AND APPURTENANCES FOR SANITARY SEWER, STORM SEWER, AND WATER TO PROPOSED TOP OF PAVEMENT GRADE.

4. WATER METERS AND/OR SERVICES SHOWN TO BE IN CONFLICT WITH PROPOSED PAVING OR DRAINAGE FACILITIES ARE TO BE RELOCATED BY APPROPRIATE UTILITY PRIOR TO COMMENCEMENT OF CONSTRUCTION OF PAVING AND DRAINAGE

5. POWER AND TELEPHONE POLES SHOWN TO BE IN CONFLICT WITH PROPOSED SIDEWALK PAVING TO BE RELOCATED BY APPROPRIATE UTILITY PRIOR TO PAVING.

6. IT WILL BE THE RESPONSIBILITY OF THE PAVING CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES OF THIS PROJECT. ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, ETC., MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE UTILITY CONTRACTOR PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING.

7. BACKFILL FOR UTILITY LINES PER GEOTECHNICAL RECOMMENDATIONS, REFER TO REPORT PREPARED BY TEAM CONSULTANTS, INC. DATED FEBRUARY 10, 2022.

STORM WATER DISCHARGE AUTHORIZATION

1. CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ NO LESS THAN 2 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. ALL GRADING ACTIVITIES SHALL CONFORM TO THE EROSION CONTROL PLAN INCLUDED IN THE APPROVED CONSTRUCTION PLANS.

2. A COPY OF THE SWPPP, INCLUDING CONTRACTOR CERTIFICATIONS AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY ENGINEER AND DESIGN ENGINEER AND FILED WITH THE CONSTRUCTION PLANS AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION.

3. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ WHEN THE SITE HAS 100% OF THE DISTURBED AREA STABILIZED AND THE SITE NO LONGER HAS STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, OR THE NOI PERMITTEE OR CO-PERMITTEES NO LONGER HOLD OPERATIONAL CONTROL OF THE CONSTRUCTION.

STORM SEWER NOTES

1. THE SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP SHALL CONFORM TO "THE STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION" PUBLISHED BY NCTCOG, LATEST EDITION.

2. STORM SEWER PIPE SHALL CONFORM TO ASTM C76, CLASS III REINFORCED CONCRETE PIPE, UNLESS NOTED OTHERWISE ON APPROVED PLANS.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3600 PSI AT 28 DAYS UNLESS NOTED OTHERWISE ON THE APPROVED PLANS.

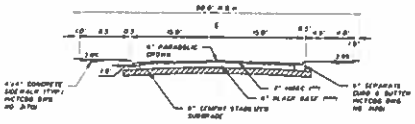
4. ALL REINFORCING STEEL FOR CONCRETE SHALL BE ASTM GRADE 60.

5. THE CONTRACTOR SHALL INSTALL CONCRETE ENCASEMENT AROUND SANITARY SEWER LINES OR WATER LINES AT STORM SEWER CROSSINGS, WHEN THERE IS LESS THAN A TWO-FOOT CLEARANCE BETWEEN THE LINE AND THE STORM SEWER. THE ENCASEMENT SHALL EXTEND TO PROVIDE 6-FEET MINIMUM CLEARANCE TO THE CLOSEST PIPE.

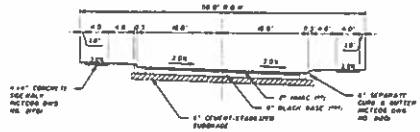
6. NO SALVAGED STORM SEWER PIPE SHALL BE USED UNLESS NOTED OTHERWISE.

7. EMBEDMENT FOR DRAINAGE PIPE SHALL BE INCIDENTAL TO PIPE INSTALLATION AND WILL NOT BE A SEPARATE PAY ITEM.

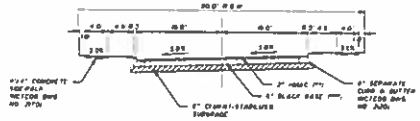
8. ANY UNDERGROUND SPRINGS ENCOUNTERED THAT AFFECT STREETS, SIDEWALKS OR ALLEYS MUST BE FRENCH DRAINED INTO STORM SEWER SYSTEM OR AN APPROVED ALTERNATIVE.



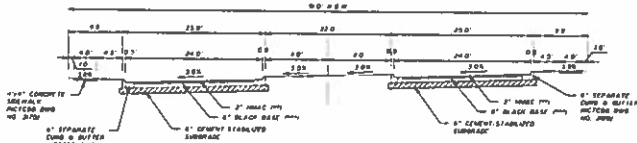
TYPICAL SECTION MOCKINGBIRD DRIVE (E)
STA: 0+60.00 - 1+40.00



TYPICAL SECTION MOCKINGBIRD DRIVE (E)
STA: 1+66.00 - 3+74.90



TYPICAL SECTION MOCKINGBIRD DRIVE (E)
STA: 5+20.00 - 6+98.10



TYPICAL SECTION MOCKINGBIRD DRIVE

* FOR PAVEMENT RECOMMENDATIONS REFER TO GEOTECHNICAL REPORT PREPARED BY TEAM CONSULTANTS, INC. DATED FEBRUARY 10, 2022 AND SUPPLEMENTAL REPORT DATED OCTOBER 31, 2023.

** 2" HOT-MIX ASPHALTIC CONCRETE (TXDOT ITEM 340, TYPE "D")

*** 6" BLACK BASE (TXDOT ITEM 340, TYPE "B")



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT H. SCHNEEBERG, P.E. 66353 ON 12/18/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

C3

PROJ. NO. 7297-31-12-01 DWG. NO. 7297 general notes.dwg

Gonzalez & Schneeberg
engineers • surveyors
601 East Campbell Road
Suite 330, Richardson, Texas
75081 - (972) 680-8888
Registered Firm No. F-3376 Surveying License No. 100732-00

TYPICAL SECTIONS & GENERAL NOTES

CARDINAL ESTATES

LOTS 1-33

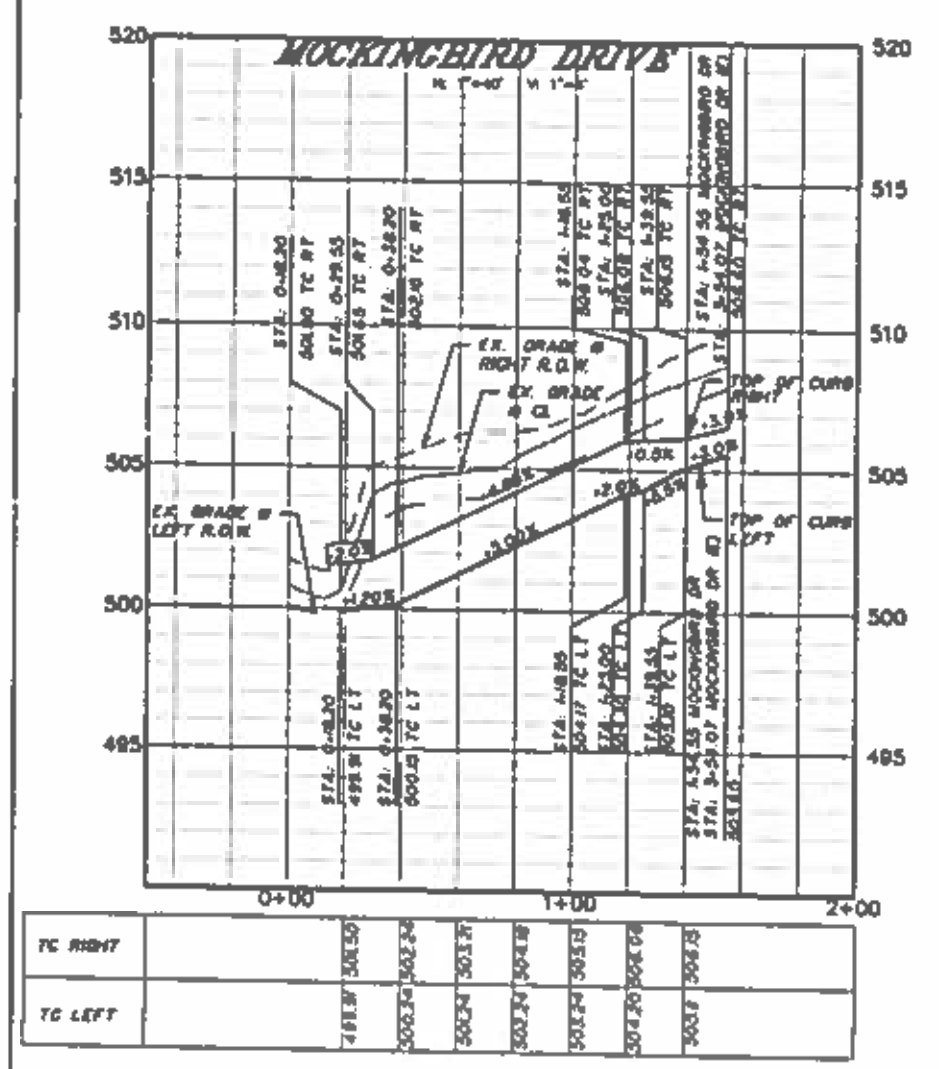
CITY OF ATHENS, TEXAS

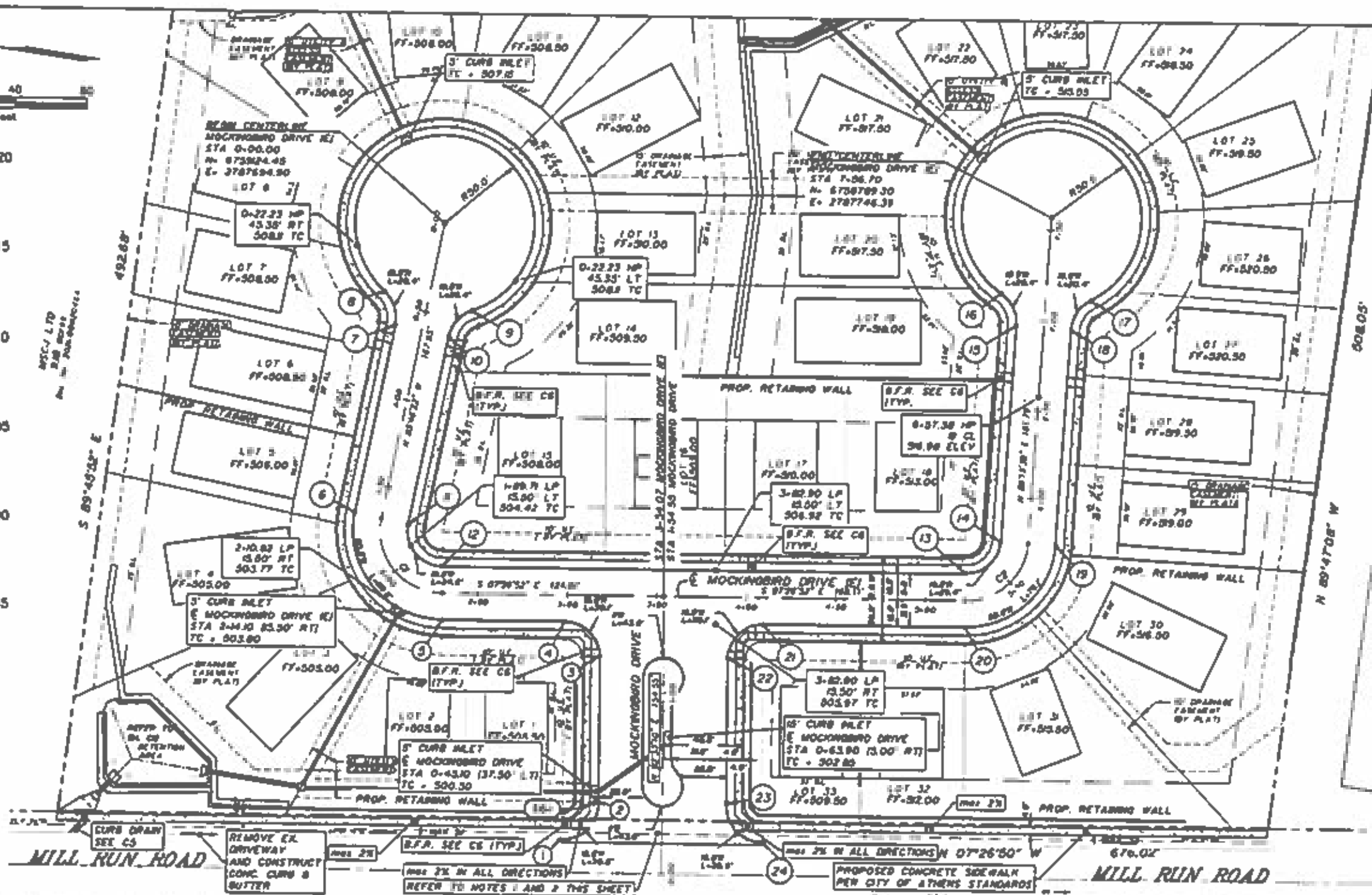
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SWCS	GWCS	DECEMBER 2024	N/A			-

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100732-00
601 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

CAUTION!!!
GAS MAIN MAY BE IN VICINITY OF CONSTRUCTION. CONTACT APPROPRIATE UTILITY FRANCHISE 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATION

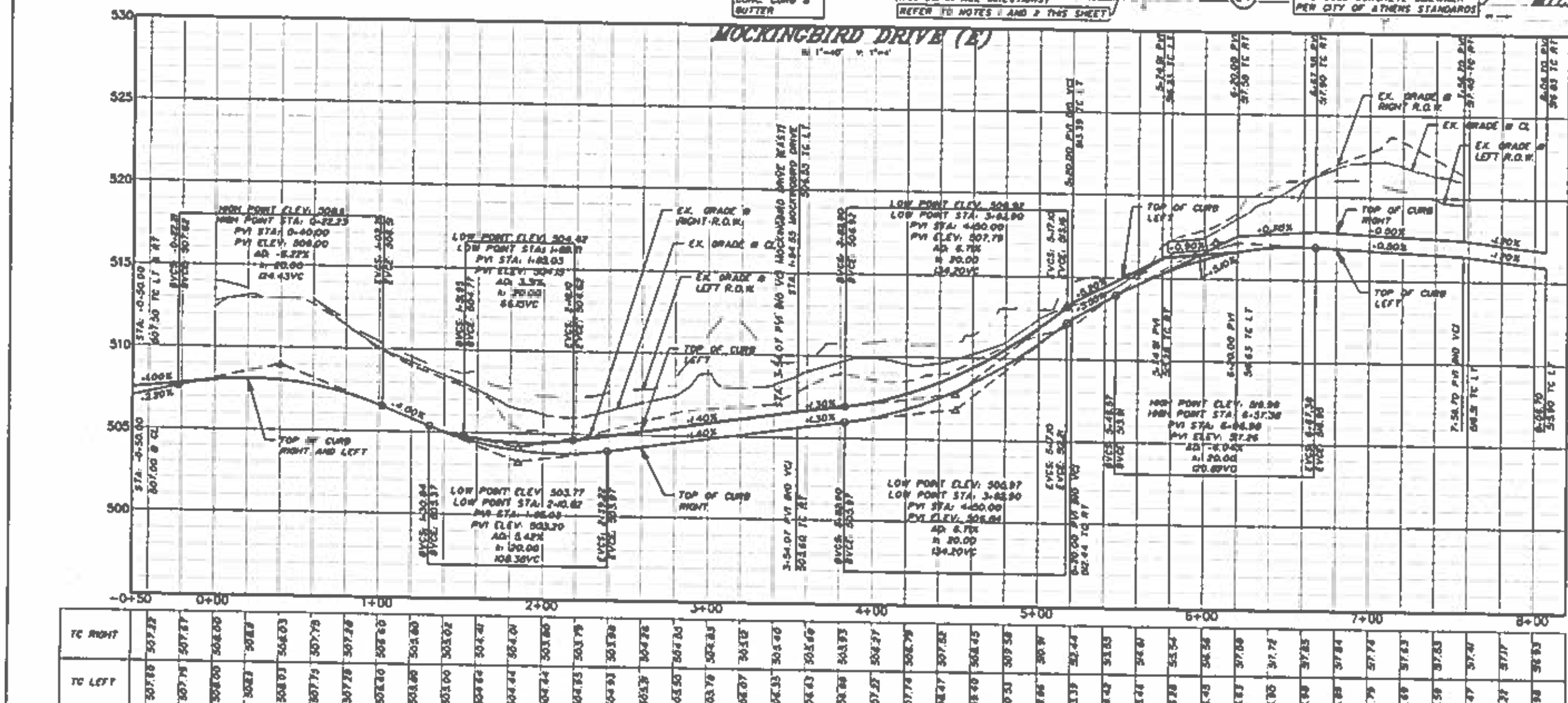




POINT DESCRIPTIONS				
Point No	NORTHING	EASTING	℄ MOCKINGBIRD DR STA/OFFSET	TC ELEV
1	6758903.37	2787363.24	0+17.85 / 37.15' LT	499.50
2	6758895.21	2787387.30	0+39.55 / 36.00' LT	500.10
3	6758933.65	2787467.32	1+20.90 / 36.00' LT	504.20
22	6758934.25	2787476.63	1+20.90 / 36.00' RT	506.05
23	6758923.62	2787396.63	0+39.55 / 36.00' RT	502.10
24	6758901.28	2787378.33	0+17.85 / 37.15' RT	502.50

POINT DESCRIPTIONS				
Point No	NORTHING	EASTING	℄ MOCKINGBIRD DR (E) STA/OFFSET	TC ELEV
4	6759027.44	2787483.63	2+98.37 / 15.50' RT	504.85
5	6759093.38	2787474.75	2+30.06 / 15.50' RT	503.90
6	6759152.28	2787528.35	1+67.93 / 15.50' RT	504.30
7	6759144.37	2787633.58	0+60.62 / 15.50' RT	507.75
8	6759132.83	2787653.14	0+43.73 / 25.75' RT	507.45
9	6759107.49	2787649.42	0+43.73 / 25.25' LT	507.65
10	6759113.46	2787633.30	0+60.62 / 15.50' LT	507.50
11	6759121.37	2787526.76	1+67.93 / 15.50' LT	505.70
12	6759089.38	2787505.49	2+30.06 / 15.50' LT	504.80
13	6758805.74	2787548.35	5+22.18 / 15.50' LT	513.35
14	6758782.81	2787561.87	5+74.91 / 15.50' LT	516.25
15	6758800.78	2787684.89	6+86.08 / 15.50' LT	516.85
16	6758811.63	2787701.09	7+12.97 / 25.25' LT	516.50
17	6758781.25	2787704.41	7+12.97 / 25.25' RT	518.05
18	6758769.85	2787686.92	6+86.08 / 15.50' RT	517.80
19	6758761.87	2787566.61	5+74.91 / 15.50' RT	515.35
20	6758805.72	2787512.61	5+22.18 / 15.50' RT	512.60
21	6758917.38	2787498.82	4+09.37 / 15.50' RT	506.33

MOCKINGBIRD DRIVE (E) CENTERLINE PAVING CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	CH. BEARING
C1	101°45'30"	35.00'	42.97'	62.11'	54.30'	S 43°23'23" W
C2	088°19'30"	35.00'	32.83'	52.73'	47.88'	S 38°36'37" E

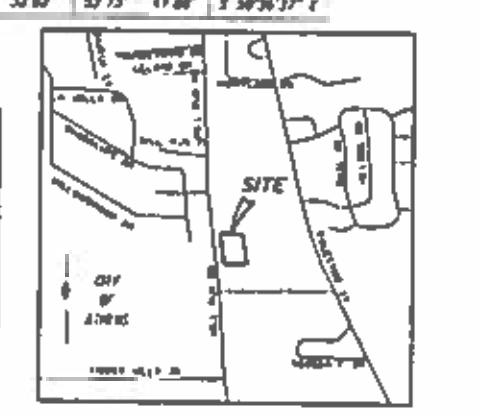


SIGNAGE AND STRIPING PLAN NOTES BY NUMBER	
(oval)	INDICATES SHEET KEYNOTE ON PLAN
SG-1	INSTALL: 30" STOP SIGN AND GROUND MOUNTED STREET NAME BLADES ASSEMBLY (R1-1, 2 x D3-1) WITH "MILL RUN RD. AND "MOCKINGBIRD DRIVE" & "NO OUTLET" SIGN (W14-2A) REFER TO TEXAS MUTCD LATEST EDITION

NOTES:
1. EXISTING 12" WATER MAIN TO BE LOWERED AS REQUIRED AND PER CITY STANDARDS (SEE C10)
2. 2% MAX CROSS SLOPE FOR THE WALK PATH OF THE APPROACH

WARNING
EXISTING UTILITIES IN THE AREA.
CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE FRANCHISE UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS/REPLACEMENTS.

1-800-344-8377 (DIG-TESS)
Contractor shall contact Dig-Tess or other utility locator service no earlier than 14 days and no later than 48 hours prior to construction activity. Gonzalez & Schneeberg Engineers & Surveyors, Inc. is not responsible for locating all existing utilities or depicting exact locations of utilities on drawing.



LEGEND
2" HOT-MIX ASPHALTIC CONCRETE (TXDOT ITEM 340, TYPE "D"), WITH 6" BLACK BASE (TXDOT ITEM 340, TYPE "B") AND 6" CEMENT STABILIZED SUBGRADE REFER TO SH C3
PROPOSED 4" CONCRETE SIDEWALK (NCTCOG DWG NO. 2114)

GONZALEZ & SCHNEEBERG ENGINEERS & SURVEYORS INC. REGISTRATION F-3376

STATE OF TEXAS ROBERT W. SCHNEEBERG 66362 PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG, P.E. 66362 ON 12/10/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and Mill Run Road.
Elev.: 491.60

C4

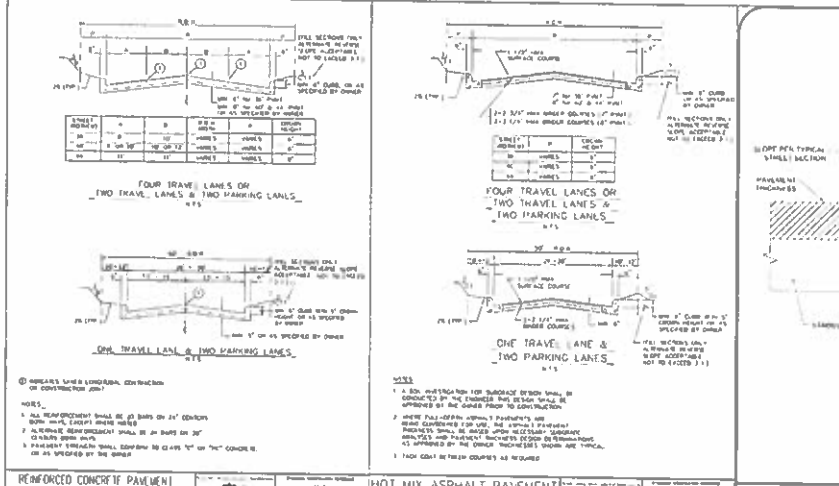
GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100732-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

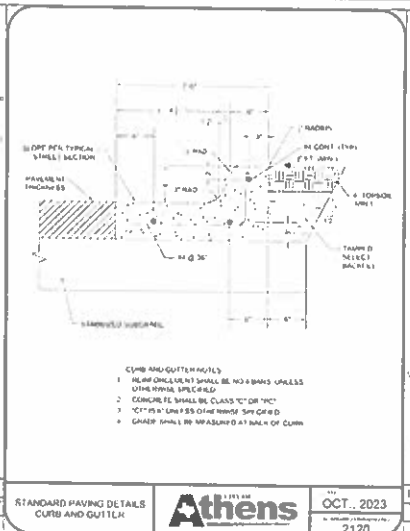
Gonzalez & Schneeberg 801 East Campbell Road Suite 330, Richardson, Texas 75081
engineers • surveyors (972) 516-8855
ENGINEERING FIRM NO. F-3376 SURVEYING LICENSE NO. 100732-00

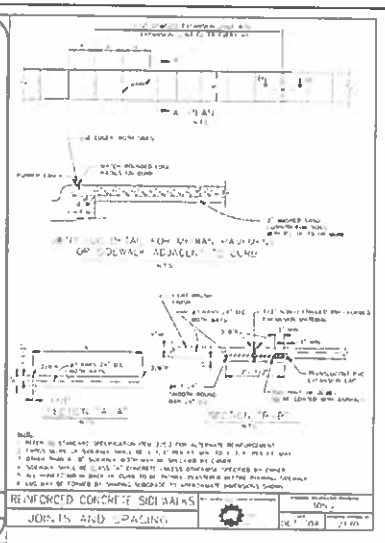
PAVING PLAN & PROFILE
CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

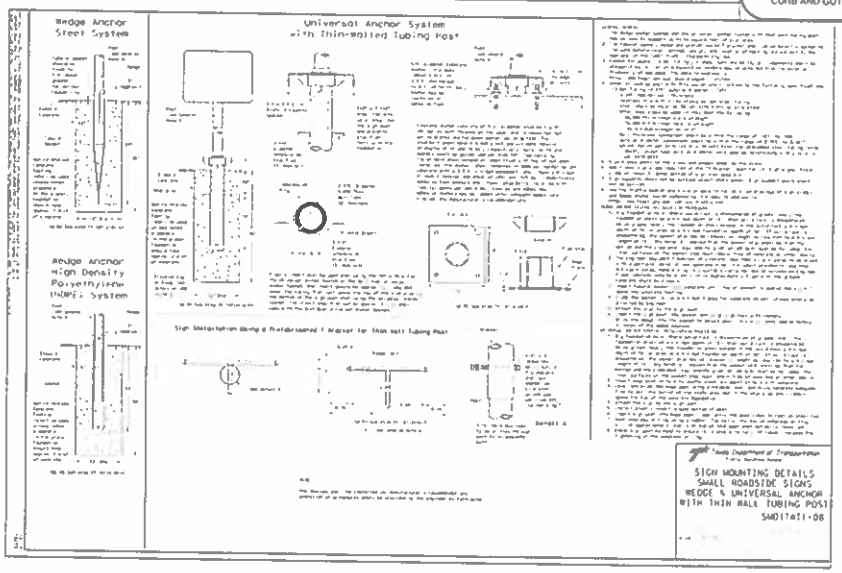
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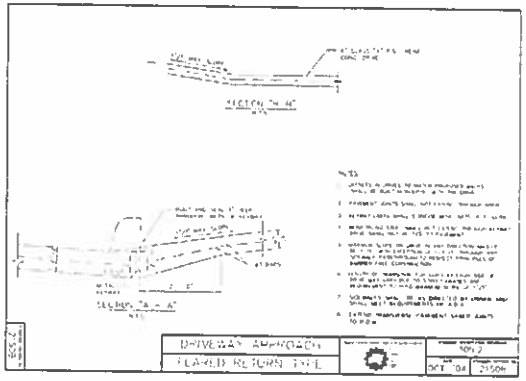
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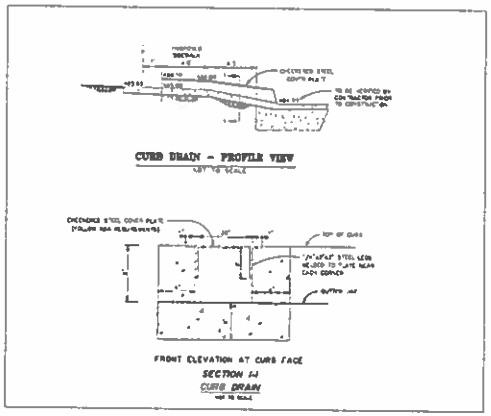












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GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100737-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

C5

FINAL NO. 7237-21-12-03 PRE. NO. 7237 per subdivision

Gonzalez & Schneeberg engineers • surveyors
801 East Campbell Road Suite 330, Richardson, Texas 75081 (972) 918-9060
Engineering Firm No. F-3376 Surveying License No. 100737-00

PAVING DETAILS

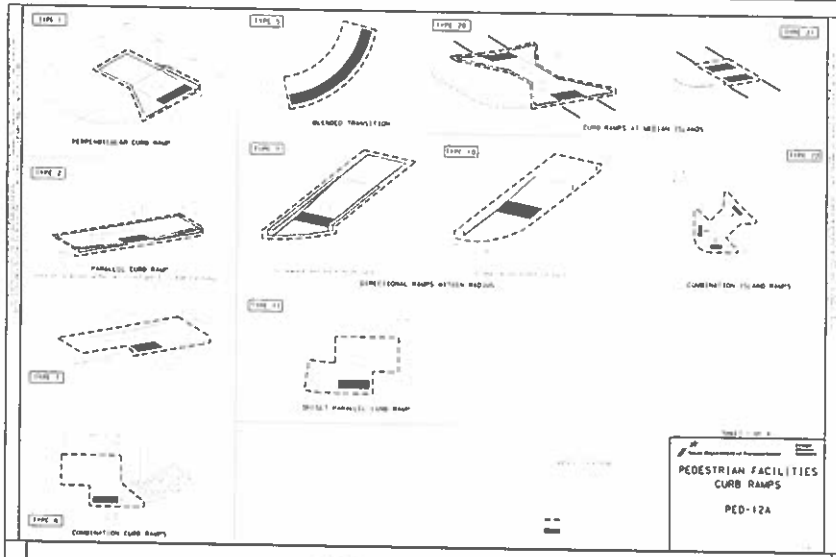
CARDINAL ESTATES

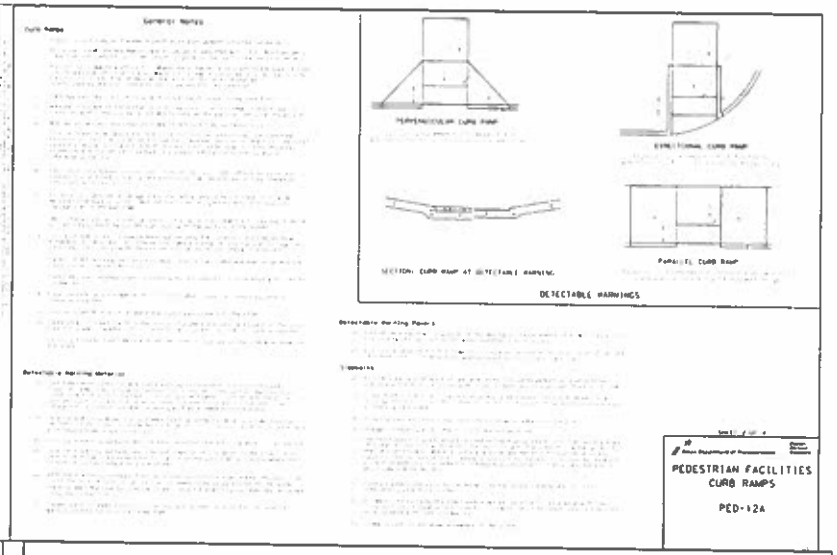
LOTS 1-33

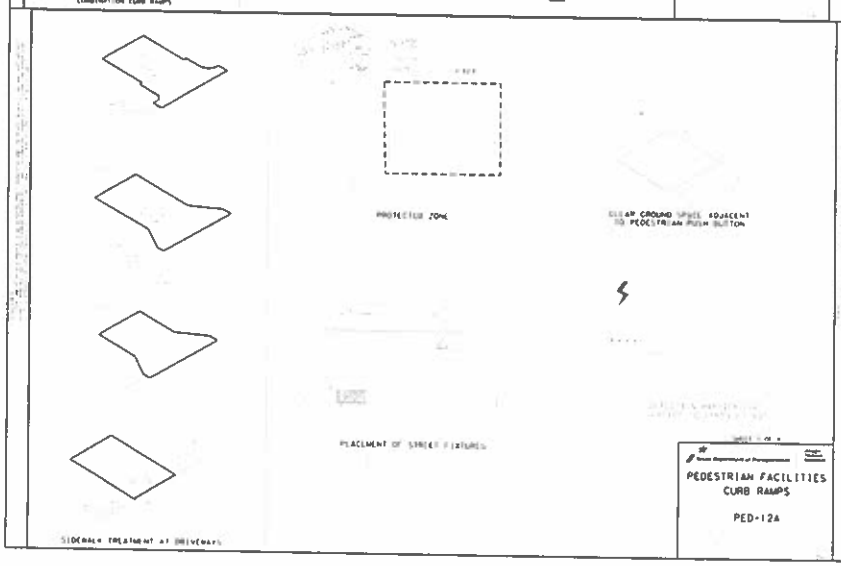
CITY OF ATHENS, TEXAS

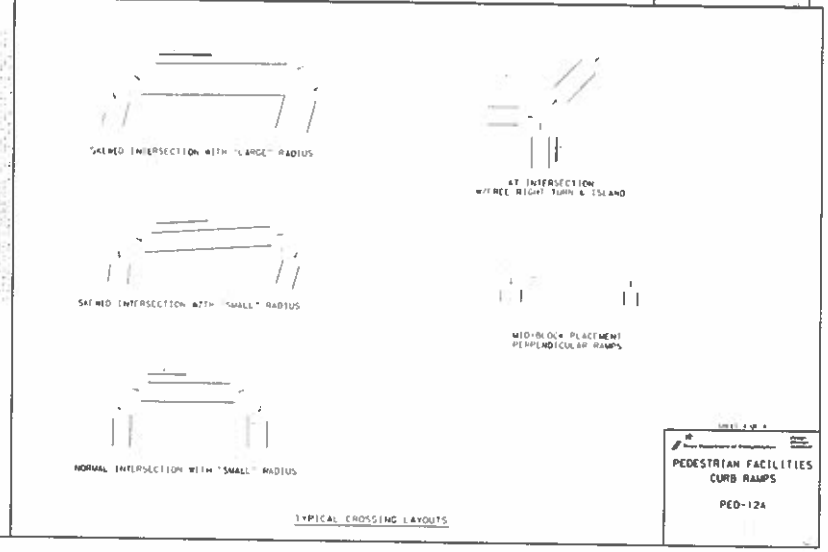
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DWCS	GWCS	DECEMBER 2024	1:1			-

NO. DATE REVISION









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C6

FIRM NO. 7357-21-13-03 SURV. NO. 7357 per date.dwg

Gonzalez & Schneeberg
engineers = surveyors
Engineering Firm No. F-3376 Surveying License No. 100758-00
801 East Campbell Road Suite 330, Richardson, Texas 75081 (972) 235-9000

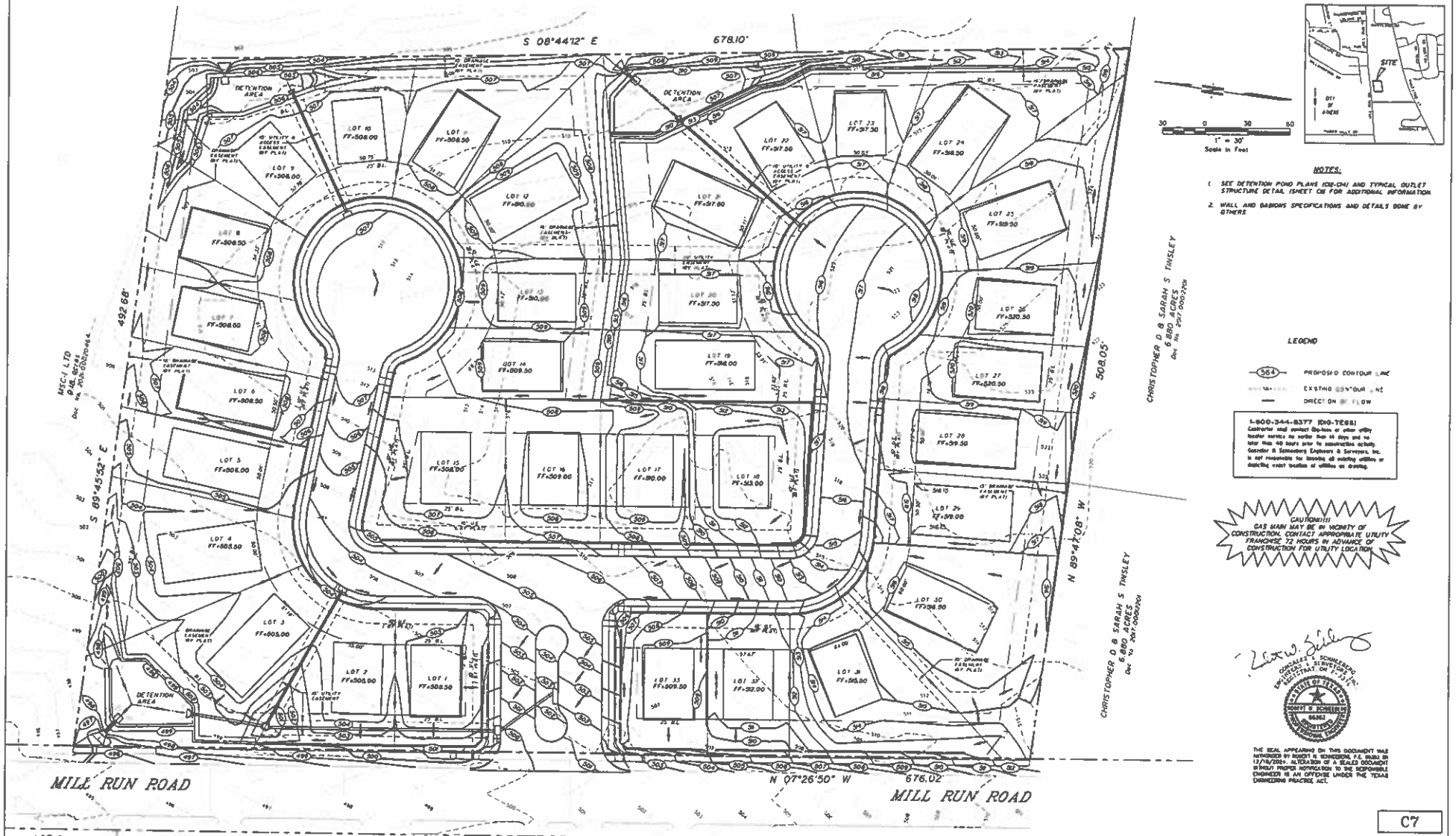
PAVING DETAILS & GENERAL NOTES

CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

AUTHOR	DRAWN	DATE	SCALE	ADDED	FILE	NO.
GBES	GBES	DECEMBER 2024	1=1			

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100758-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION



NOTES:

1. SEE DETENTION POND PLANS (C16-C24) AND TYPICAL OUTLET STRUCTURE DETAIL (SHEET C18) FOR ADDITIONAL INFORMATION.
2. WALL AND GABIONS SPECIFICATIONS AND DETAILS DONE BY OTHERS

LEGEND

564 PROPOSED CONTOUR LINE
EXISTING CONTOUR LINE
DIRECTION OF FLOW

1-800-344-8377 (DIG-TESS)
Contractor shall contact dig-tess or other utility locator service no earlier than 14 days and no later than 48 hours prior to construction activity. Gonzalez & Schneeberg Engineers & Surveyors, Inc. is not responsible for locating all existing utilities or depicting exact location of utilities on drawing.

CAUTION!!!!
GAS MAIN MAY BE IN VICINITY OF CONSTRUCTION. CONTACT APPROPRIATE UTILITY FRANCHISE 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATION.

GONZALEZ & SCHNEEBERG
ENGINEERING FIRM NO. F-3376
SURVEYING LICENSE NO. 100758-00
901 East Campbell Road
Suite 330, Richardson, Texas 75081

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C7

LOT 9
MICHAEL J & JESSICA EMRHARDT
Doc. No. 2020 0001636

LOT 10
CHARLES M & BEVERLY PEEK
V. 2779, P. 533

LOT 11
ROBERT HANES
V. 1767, P. 367
BLOCK 8
BELAIR ADDITION
V. C. P. 248
D.R.D.C.T.

LOT 12
SHAGAYLA & DESMOND BOWIE
Doc. No. 2020-00003778

LOT 13
BRYAN & TAMMY CLEMMONS
Doc. No. 2016-0000927

FINAL TALLEY PROPERTIES LLC
53.475 ACRES
Doc. No. 2017-00016361

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and Mill Run Road.
Elev: 498.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100758-00
901 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

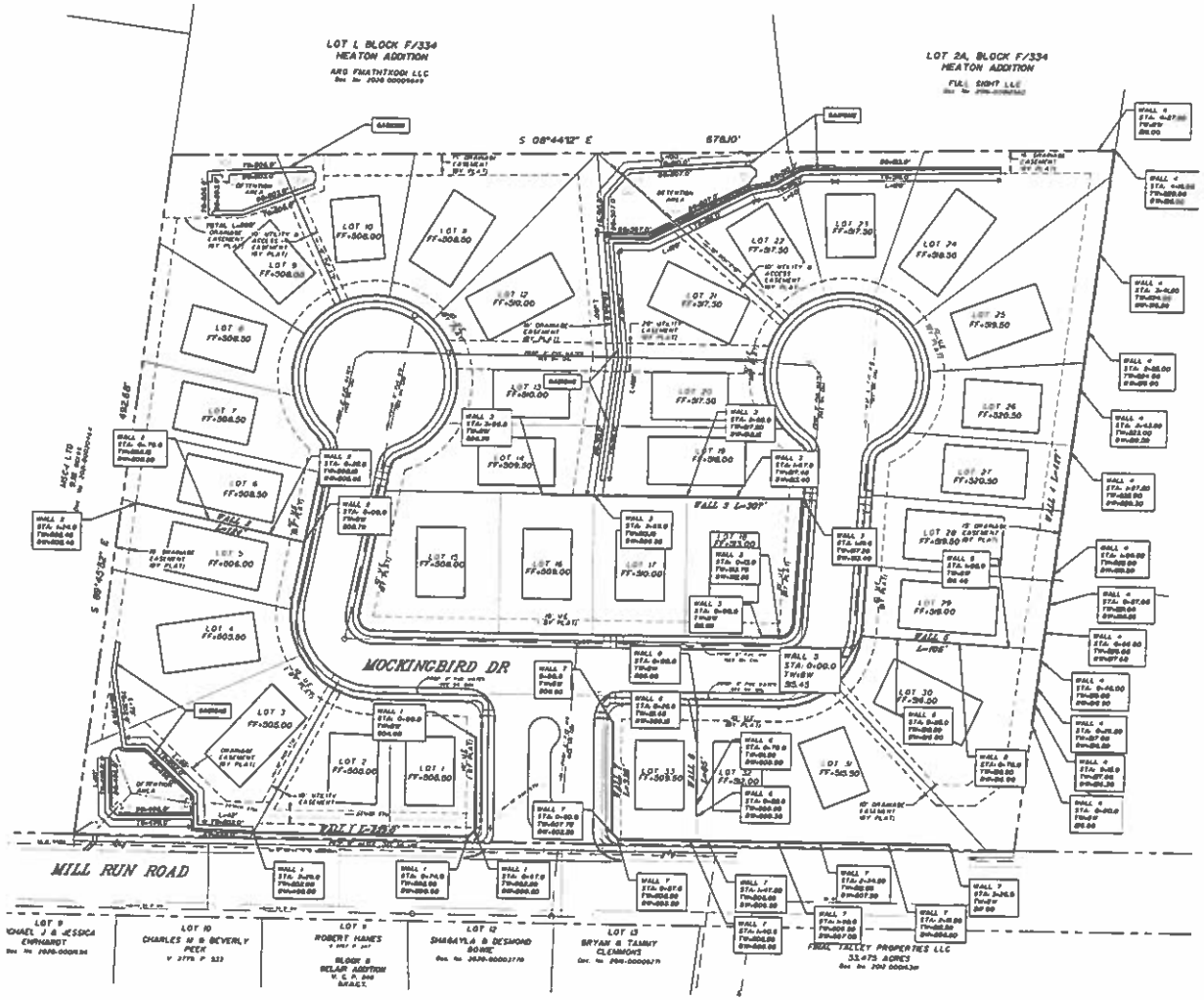
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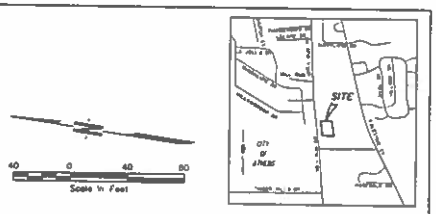
Gonzalez & Schneeberg
engineers ▪ surveyors
901 East Campbell Road Suite 330, Richardson, Texas 75081
(972) 918-0055
ENGINEERING FIRM NO. F-3376 | SURVEYING LICENSE NO. 100758-00

GRADING PLAN

CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	SURVEY	FILE	NO.
GSCS	GSCS	DECEMBER 2024	1:60			-





40 0 40 80
Scale in Feet

NOTE:
WALL AND GABION SPECIFICATIONS AND DETAILS DONE BY OTHERS

1-800-344-8377 (DIG-TESS)
Contractor shall contact Dig-Tess or other utility locator service no earlier than 14 days and no later than 48 hours prior to construction activity. Gonzalez & Schneeberg Engineers & Surveyors, Inc. is not responsible for locating all existing utilities or depicting exact location of utilities on drawing

CAUTION!!!
GAS MAIN MAY BE IN VICINITY OF CONSTRUCTION. CONTACT APPROPRIATE UTILITY FRANCHISE 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATION.

WARNING
EXISTING UTILITIES IN THE AREA
CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE FRANCHISE UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS/REPLACEMENTS.

LEGEND

TW=562.75	TOP OF WALL
BW=562.75	BOTTOM OF WALL
TG=562.75	TOP OF GABIONS
BG=562.75	BOTTOM OF GABIONS

CAUTION!!!
GAS MAIN MAY BE IN VICINITY OF CONSTRUCTION. CONTACT APPROPRIATE UTILITY FRANCHISE 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATION.

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C8

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and Mill Run Road.
Elev. 491.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
901 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

PROJ. NO. 7307-21-11-01 DWG. NO. 7307 auto dwg

Gonzalez & Schneeberg
engineers = surveyors
901 East Campbell Road Suite 330, Richardson, Texas 75081 (972)234-9666
ENGINEERING FIRM NO. F-3376 SURVEYING LICENSE NO. 100752-00

WALL PLAN

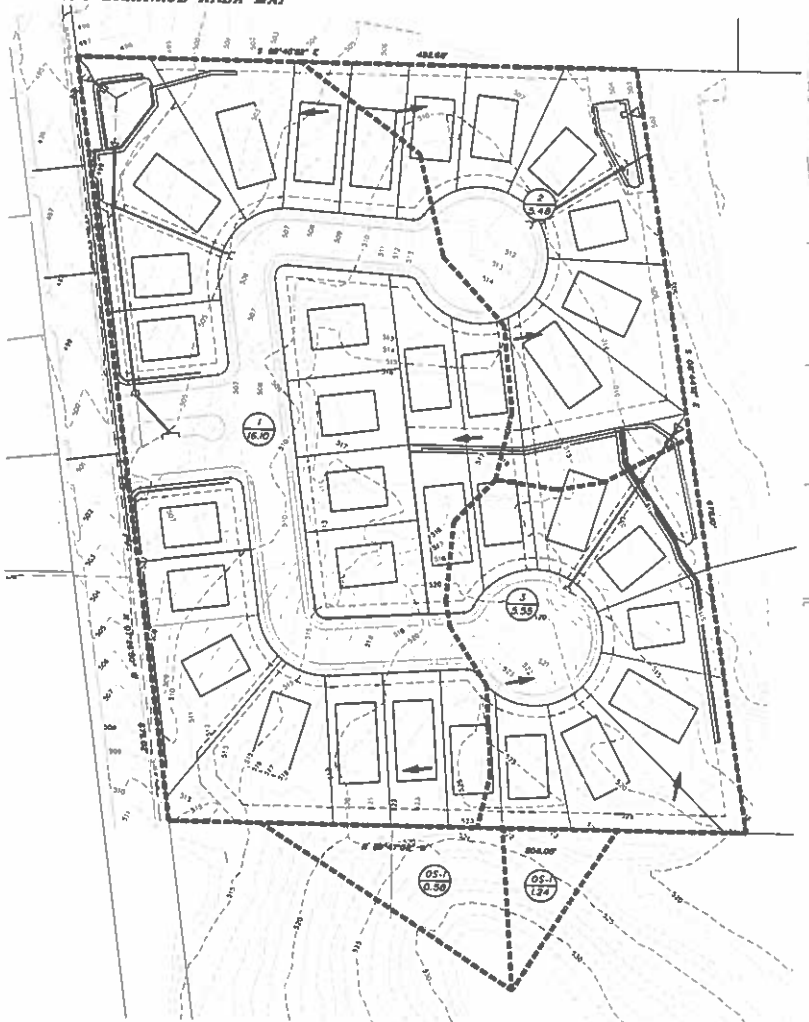
CARDINAL ESTATES

LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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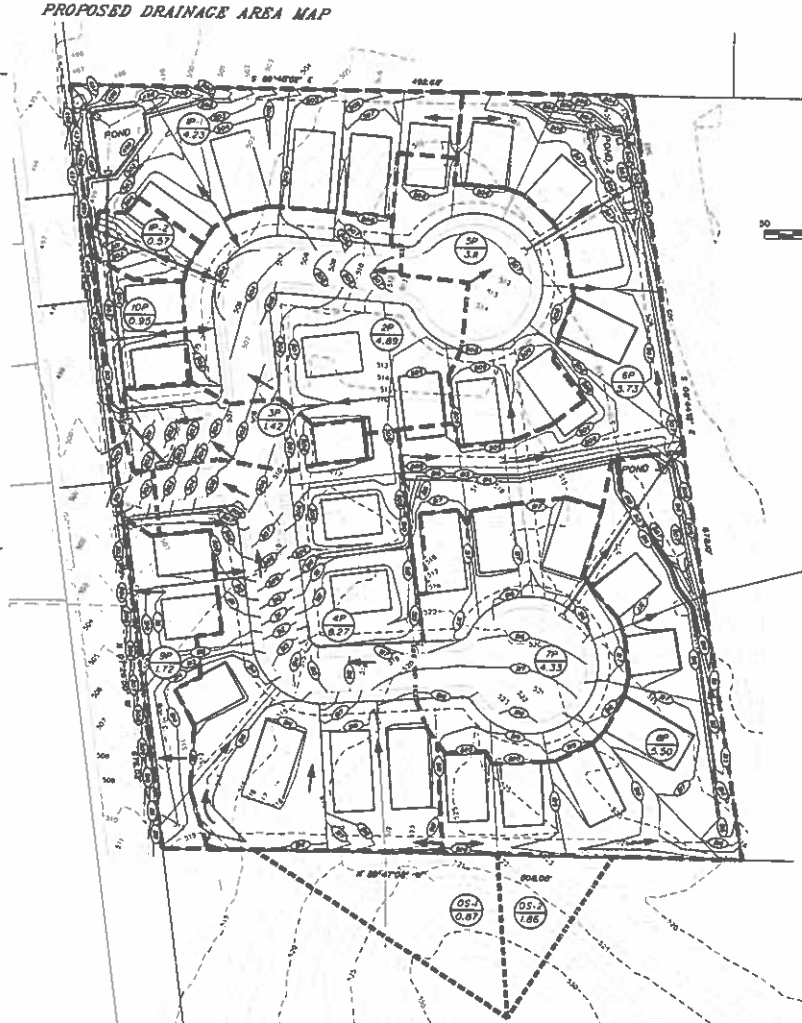
EXISTING DRAINAGE AREA MAP



Area No.	Square Feet	Acres	C	Tc (min)	I (in/hr)	Q (cfs)	Comments
1	714636	16.41	0.40	15	6.87	18.08	Drains to S&W Run Road
2	238705	5.48	0.40	15	6.87	5.88	Drains to the adjacent property to the east
3	169170	3.88	0.40	15	6.87	5.55	Drains to the adjacent property to the east
OS-1	21780	0.50	0.40	15	6.87	0.96	Off site run on
OS-2	58370	1.34	0.40	15	6.87	1.84	Off site run on

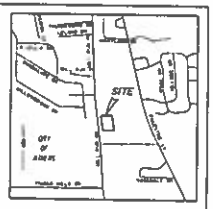
Existing Drainage Conditions

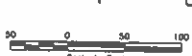
PROPOSED DRAINAGE AREA MAP



Area No.	Square Feet	Acres	C	Tc (min)	I (in/hr)	Q (cfs)	Comments
1P-1	34740	0.80	0.60	15	6.87	4.73	Drains to detention pond 1
1P-2	4710	0.11	0.60	15	6.87	0.57	Drains to detention pond 1
2P	40266	0.92	0.60	15	6.87	4.89	Drains to detention pond 1
3P	13655	0.27	0.60	15	6.87	1.62	Drains to detention pond 1
4P	48098	1.46	0.60	15	6.87	8.27	Drains to detention pond 1
5P	154671	3.59	0.60	15	6.87	3.11	Drains to detention pond 2
6P	67128	1.88	0.60	15	6.87	5.73	Drains to detention pond 2
7P	35665	0.82	0.60	15	6.87	4.33	Drains to detention pond 2
8P	45265	1.04	0.60	15	6.87	5.50	Drains to detention pond 1
9P	14180	0.34	0.60	15	6.87	1.72	Drains to S&W Run Rd
1DP	7741	0.18	0.60	15	6.87	0.95	Drains to S&W Run Rd
OS-1	7260	0.17	0.60	15	6.87	0.87	Off site run on
OS-2	25275	0.79	0.60	15	6.87	1.86	Off site run on

Proposed Drainage Conditions





LEGEND

- DRAINAGE DIVIDE LINE
- FLOW LINE
- 564 PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- Area No. / Q Acre



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BENCHMARK:

Top Center of Existing Manhole at Tanglewood and S&W Run Road

Elev: 486.50

C9

PROJ. NO. 7257-21-12-01 DWG. NO. 7257 Drainage

Gonzalez & Schneeberg engineers • surveyors

601 East Campbell Road Suite 330, Richardson, Texas 75081 (972) 516-0066

Engineering Firm No. F-3376 Surveying License No. 100752-00

DRAINAGE AREA MAP

CARDINAL ESTATES

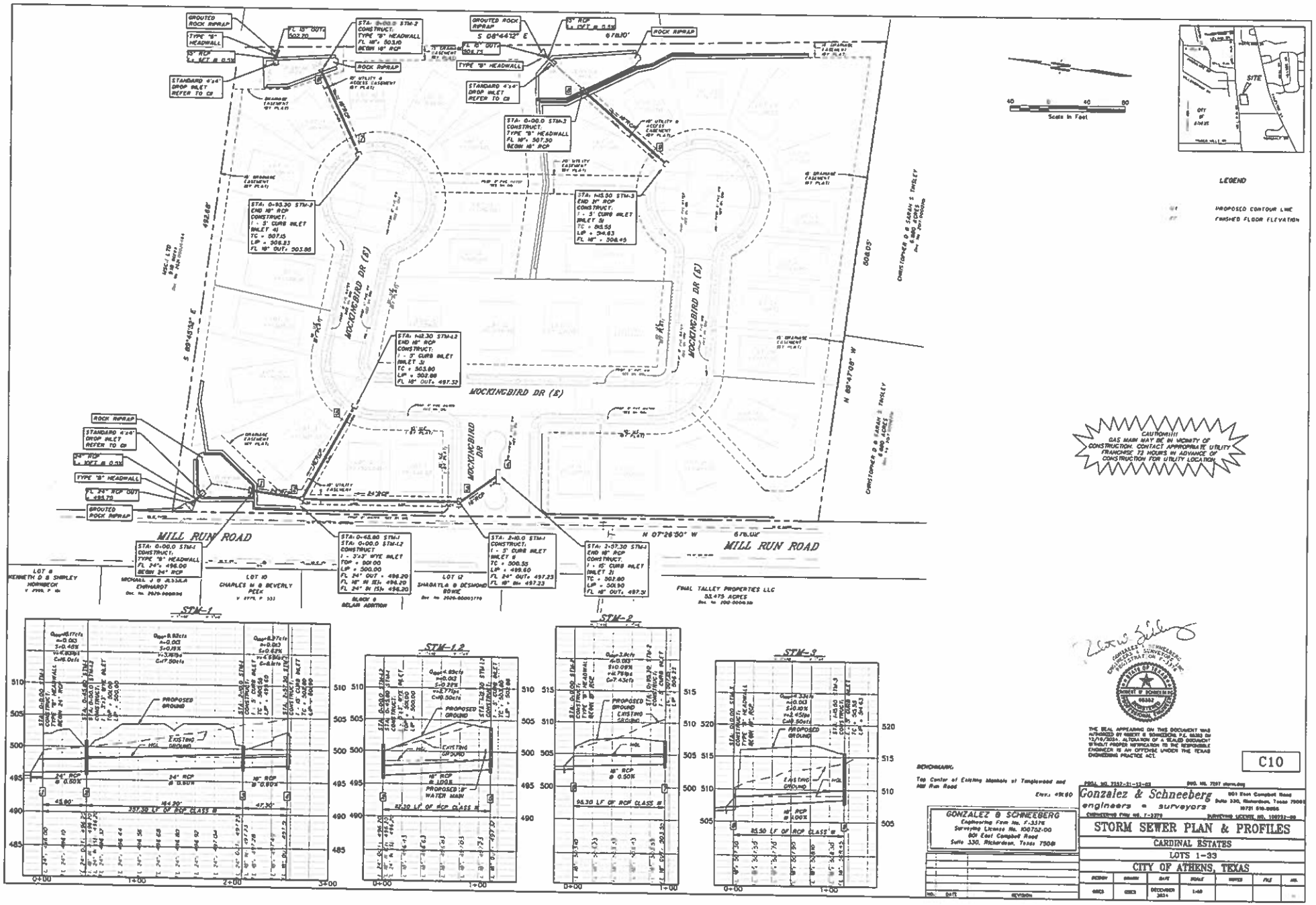
LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	APPROVED	FILE	NO.
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GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
601 East Campbell Road
Suite 330, Richardson, Texas 75081

NO. DATE REVISION



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C10

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and Mill Run Road
Elev. = 496.00

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100702-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

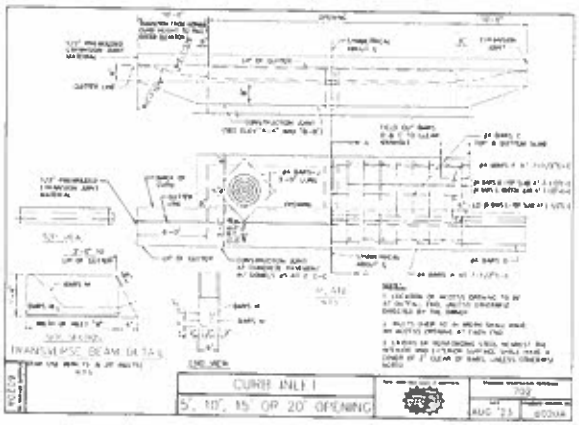
Gonzalez & Schneeberg engineers ▪ surveyors
801 East Campbell Road Suite 330, Richardson, Texas 75081 (972) 510-9955
Engineering Firm No. F-3376 Surveying License No. 100702-00

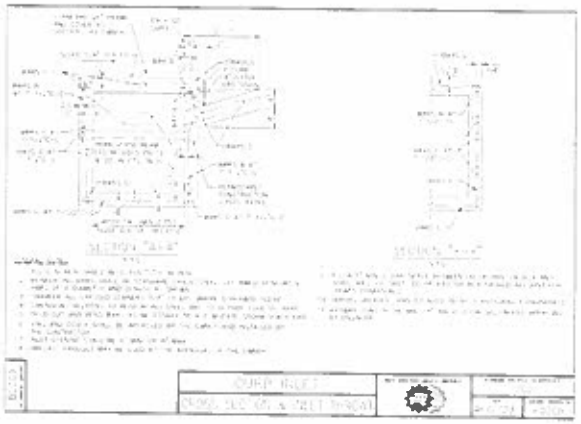
STORM SEWER PLAN & PROFILES

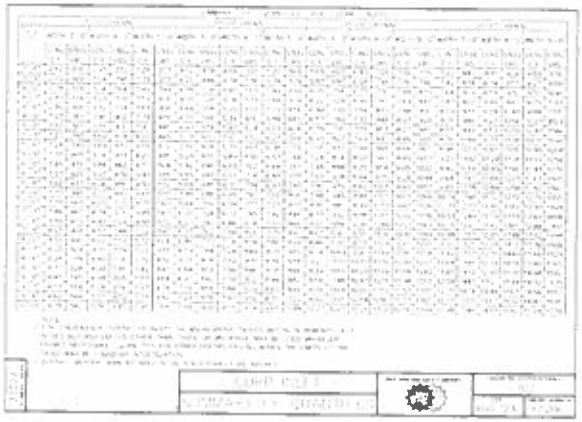
CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

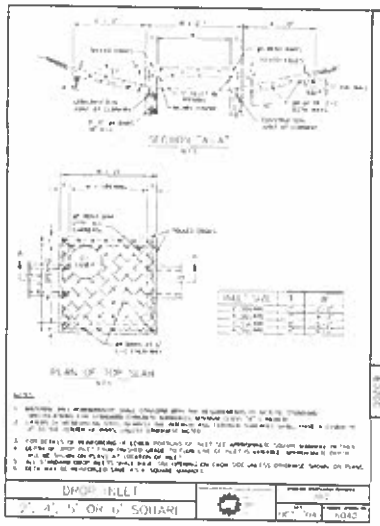
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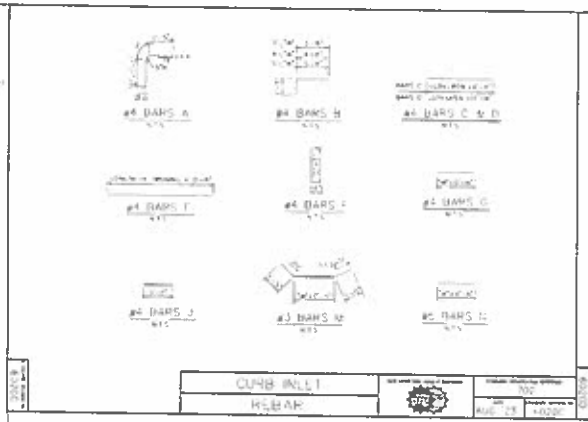
No. DATE REVISION

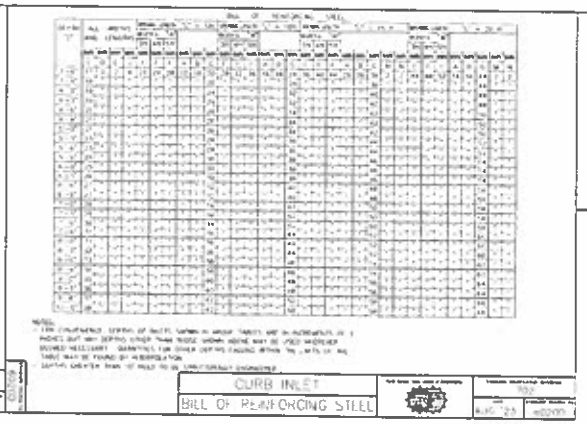


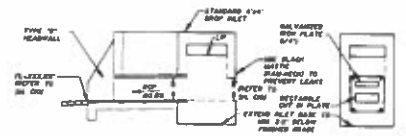












TYPICAL OUTLET DETAIL FOR POND

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C11

PROJ. NO. 7257-21-12-02 DWG. NO. 7257 storm details.dwg

Gonzalez & Schneeberg
engineers • surveyors
Engineering Firm No. F-3376 Surveying License No. 100752-00
801 East Campbell Road, Suite 330, Richardson, Texas 75081
(972) 690-9806

STORM SEWER DETAILS

CARDINAL ESTATES

LOTS 1-33

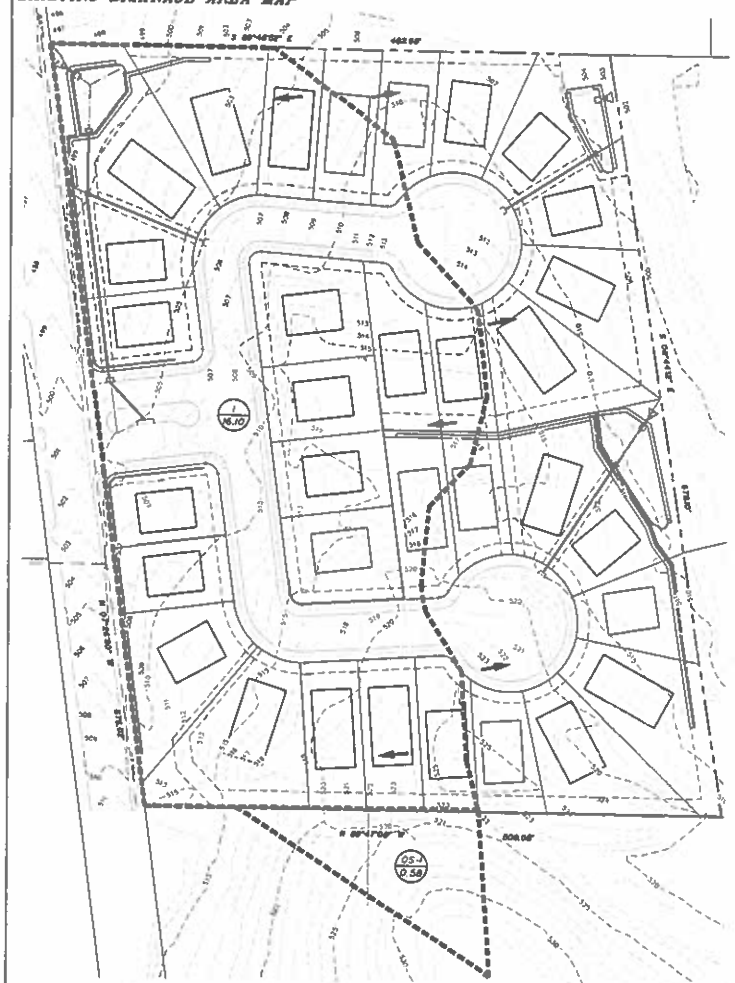
CITY OF ATHENS, TEXAS

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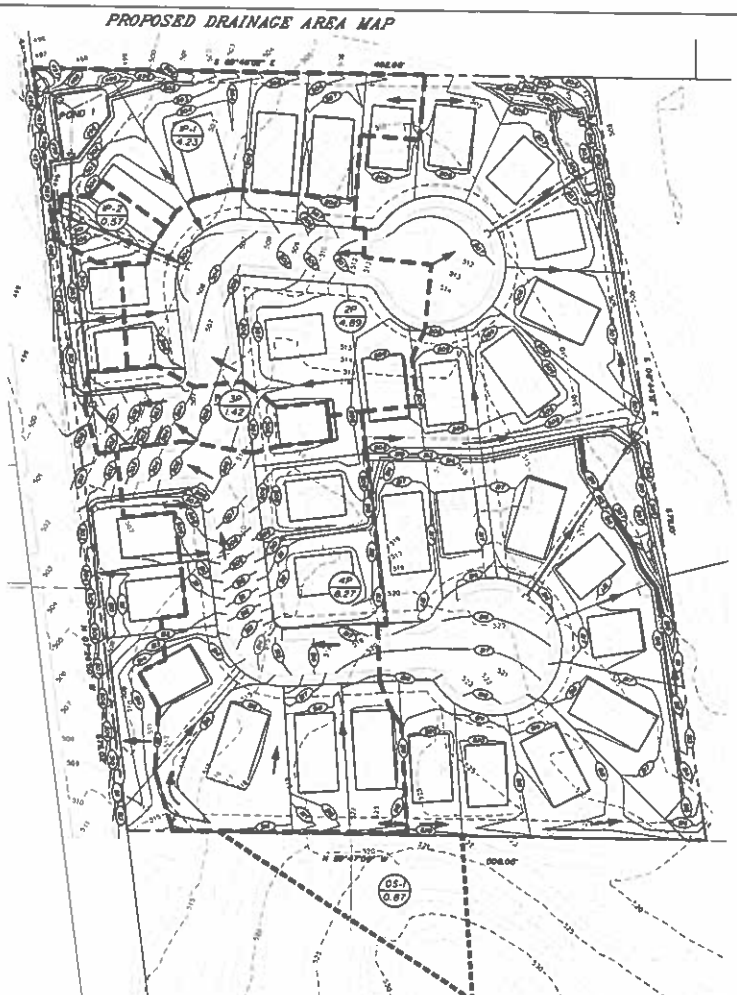
GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

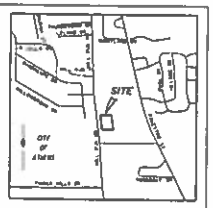
NO. | DATE | REVISION

EXISTING DRAINAGE AREA MAP



PROPOSED DRAINAGE AREA MAP





N

50 0 50 100
Scale in Feet

LEGEND
DRAINAGE DIVIDE LINE
FLOW LINE
Area No.
Q 100

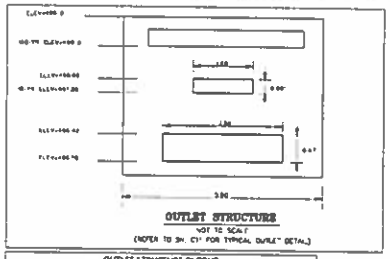
100 - YEAR STORAGE CALCULATIONS - POND 1

Ex. Drainage Area (ac)	4.56	Prop. Drainage Area (ac)	18
Design Storm (yrs)	100	Design Storm (yrs)	100
Existing Conditions (100yr)		Proposed Conditions (100yr)	
C=	0.40	C=	0.60
Tc (min)=	15.00	Tc (min)=	15.00
I (in/hr)=	8.82	I (in/hr)=	8.82
CA=	1.82	CA=	10.92
Q (cfs)=	16.05	Q (cfs)=	96.31

DETENTION POND 1
4,011 cu.ft.
STORAGE NEEDED

ELEVATION	AREA	VOLUME
497	1,939	3614.00
498	3,848	3,960.00
499	5,988	6,141.00

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	10.70	24.96	14951	12084	2868
15	8.82	20.57	18242	14479	3763
20	7.58	17.42	20933	16892	4041
30	6.38	14.09	25196	23158	3038
40	5.38	12.49	29869	26845	3024
50	4.65	10.86	33868	31171	2697
60	4.09	9.40	35836	34757	2262
120	2.52	5.75	41858	40155	3703
180	2.11	4.84	53367	48111	4825
360	1.51	3.51	69024	187386	119962



OUTLET STRUCTURE
NOT TO SCALE
(REFER TO SH. C11 FOR TYPICAL OUTLET DETAIL)

OUTLET STRUCTURE OUTPUT

		W	H	A	Flowline Elev.	Top Elev.
		(ft)	(ft)	(sf)		
Stage 1	10 yr-hr	2.50	0.67	1.67	497.75	498.42
Stage 2	100 yr-hr	1.00	0.50	0.50	497.50	498.00

	W ≤ 2	STAGE 1		STAGE 2	
		H	Q	H	Q
	(ft)	(ft)	(cfs)	(ft)	(cfs)
10 yr-hr	497.75	1.467	9.76	0	0
100 yr-hr	498.00	1.717	11.64	0.5	1.12

	Q TOTAL (cfs)	Q ALLOWED (cfs)	CHECK % CHANGE	FREQUENCY
	9.76	10.73	8.98	10 yr-hr
	12.76	16.09	20.70	100 yr-hr

5 - YEAR STORAGE CALCULATIONS - POND 1

Ex. Drainage Area (ac)	4.56	Prop. Drainage Area (ac)	18
Design Storm (yrs)	5	Design Storm (yrs)	5
Existing Conditions (5yr)		Proposed Conditions (5yr)	
C=	0.40	C=	0.60
Tc (min)=	15.00	Tc (min)=	15.00
I (in/hr)=	5.07	I (in/hr)=	5.07
CA=	1.82	CA=	10.92
Q (cfs)=	9.25	Q (cfs)=	55.35

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	5.07	11.83	8524	6458	2066
15	4.48	10.03	12078	9730	2348
20	3.96	8.68	14186	12486	1701
30	2.99	6.87	16490	15298	1192
40	2.61	6.00	19991	18913	1078
50	2.34	5.38	19358	20860	1445
60	2.16	4.96	21857	23452	1595
120	1.30	2.98	24153	27455	2702
180	0.87	1.99	21300	30000	2703
360	0.54	1.24	13757	30836	30780

10 - YEAR STORAGE CALCULATIONS - POND 1

Ex. Drainage Area (ac)	4.56	Prop. Drainage Area (ac)	18
Design Storm (yrs)	10	Design Storm (yrs)	10
Existing Conditions (10yr)		Proposed Conditions (10yr)	
C=	0.40	C=	0.60
Tc (min)=	15.00	Tc (min)=	15.00
I (in/hr)=	5.88	I (in/hr)=	5.88
CA=	1.82	CA=	10.92
Q (cfs)=	10.71	Q (cfs)=	64.25

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	5.88	10.72	9734	8068	1666
15	5.08	9.53	13784	10648	3136
20	4.50	11.55	23981	21081	2900
30	3.39	9.47	17062	14479	2583
40	2.67	7.97	19138	17694	1443
50	2.34	6.76	20809	20918	-74
60	2.12	6.25	22502	24112	-1610
120	1.32	3.95	28458	43417	-14959
180	1.00	2.94	31764	62762	-30998
360	0.76	1.94	28717	120658	-91941

25 - YEAR STORAGE CALCULATIONS - POND 1

Ex. Drainage Area (ac)	4.56	Prop. Drainage Area (ac)	18
Design Storm (yrs)	25	Design Storm (yrs)	25
Existing Conditions (25yr)		Proposed Conditions (25yr)	
C=	0.40	C=	0.60
Tc (min)=	15.00	Tc (min)=	15.00
I (in/hr)=	7.02	I (in/hr)=	7.02
CA=	1.82	CA=	10.92
Q (cfs)=	12.80	Q (cfs)=	76.79

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	7.02	12.80	11631	9631	2000
15	6.08	11.08	16639	11524	5115
20	5.39	13.90	36683	33665	3018
30	4.50	11.26	30268	27286	2982
40	4.13	9.49	23178	21127	1650
50	3.62	8.33	24796	20969	12
60	3.25	7.47	26887	28810	-1923
120	2.09	4.80	34580	51858	-17278
180	1.60	3.68	39703	74906	-35192
360	0.96	2.21	48850	144650	-95800



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG P.E. 94381 ON 12/18/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

BENCHMARK
Top Center of Existing Manhole at Tanglewood and Mill Run Road
Elev.: 498.60

NO.	DATE	REVISION

C12

PROJ. NO. 7257-01-13-00 Dwg. No. 7257 pond-1.dwg

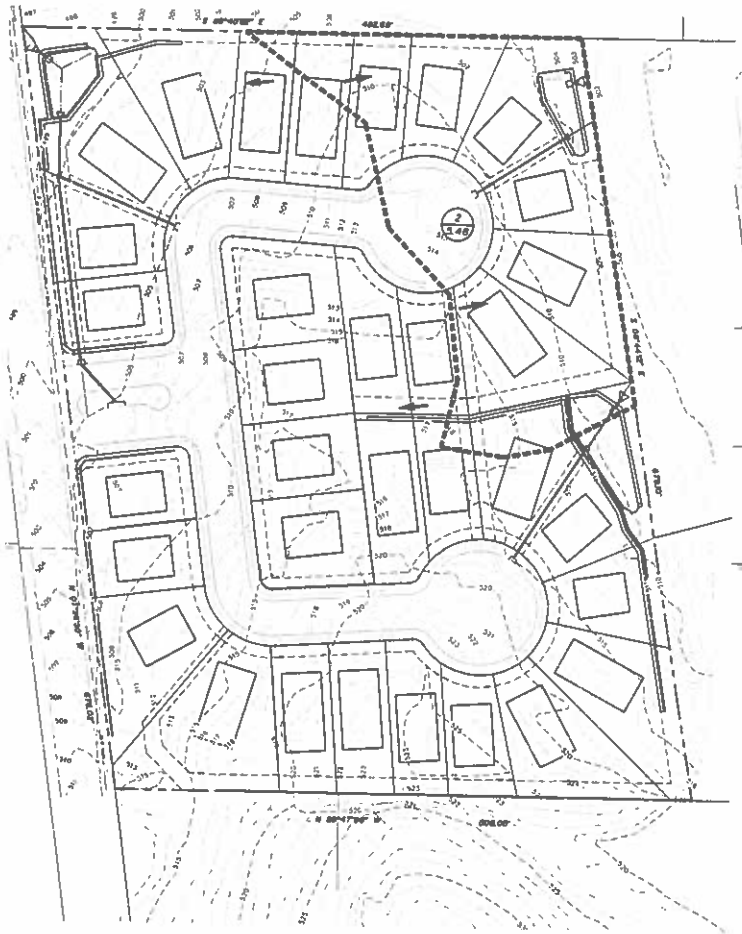
Gonzalez & Schneeberg
engineers • surveyors
ENGINEERING FIRM NO. F-2279
607 East Campbell Road
Suite 330, Richardson, Texas 75081
(972) 690-9005
SURVEYING LICENSE NO. 100737-00

DETENTION POND 1

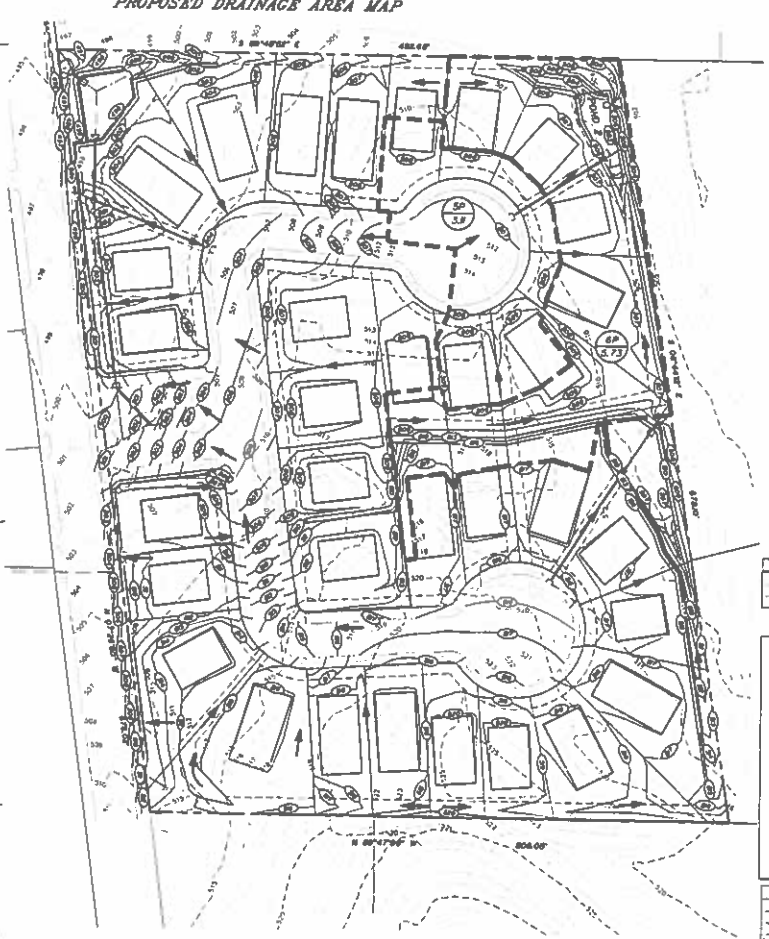
CARDINAL ESTATES
LOTS 1–33
CITY OF ATHENS, TEXAS

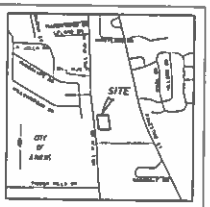
DESIGN	DRAWN	DATE	SCALE	CHECK	FILE	JOB
GGCS	GGCS	DECEMBER 2024	1:50			

EXISTING DRAINAGE AREA MAP



PROPOSED DRAINAGE AREA MAP





Scale in Feet

LEGEND

DRAINAGE DIVIDE LINE

FLOW LINE

Area No. Q 100

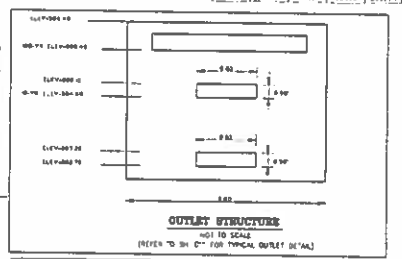
100 - YEAR STORAGE CALCULATIONS - POND 2

Tot. Drainage Area [ac]	1.54	Prop. Drainage Area [ac]	1.67
Design Storm [yrs]	100	Design Storm [yrs]	100
Existing Conditions [100yr]		Proposed Conditions [100yr]	
C =	0.60	C =	0.60
T_c [min] =	15.00	T_c [min] =	15.00
I [in/hr] =	6.82	I [in/hr] =	6.82
CA =	1.00	CA =	1.00
Q [cfs] =	6.47	Q [cfs] =	6.84

DETENTION POND 2
3,674 cu.ft.
STORAGE NEEDED

ELEVATION	AREA	VOLUME
504	1,465	1799.00
505	2,190	1814.00
506	2,920	2366.00

Storm Duration	I [in/hr]	Q [cfs]	Inflow [cu ft]	Outflow [cu ft]	Storage [cu ft]
10	10.10	10.77	6461	4801.1	1732
15	8.82	8.84	7954	4921.36	3032
20	7.58	7.60	9114	5741.82	3372
30	6.11	6.34	11406	7382.36	3626
40	5.10	5.33	12847	9457.86	3388
50	4.55	4.56	13671	10658.38	3014
60	4.09	4.30	14753	12385.9	2368
120	2.72	2.73	19623	22347.82	2524
180	2.11	2.16	23934	31992.36	1958
360	1.31	1.31	28955	45119.5	1836



OUTLET STRUCTURE
NOT TO SCALE
(REFER TO SH C** FOR TYPICAL OUTLET DETAIL)

OUTLET STRUCTURE OUTPUT

		W	H	A	Headwater Elev.	Top Elev.
		[ft]	[ft]	[sq ft]		
Stage 1	10 yr-24 hr	0.83	0.5	0.415	503.75	504.25
Stage 2	100 yr-24 hr	0.83	0.5	0.415	504.65	505.15

	W.S.E.	STAGE 1		STAGE 2				
		H	Q	H	Q			
	[ft]	[ft]	[cfs]	[ft]	[cfs]			
10 yr-24 hr	504.16	1.16	2.76					
100 yr-24 hr	505.06	2.06	3.11	0.5	1.5			
		Q TOTAL [cfs]	Q ALLOWED [cfs]	CHECK % CHANGE	FREQUENCY			
		7.5	3.65	30.67%	10 yr			
		8.61	6.49	16.75%	100 yr			

C13

5 - YEAR STORAGE CALCULATIONS - POND 2

Tot. Drainage Area [ac]	1.54	Prop. Drainage Area [ac]	1.67
Design Storm [yrs]	5	Design Storm [yrs]	5
Existing Conditions [5-yr]		Proposed Conditions [5-yr]	
C =	0.60	C =	0.60
T_c [min] =	15.00	T_c [min] =	15.00
I [in/hr] =	5.07	I [in/hr] =	5.07
CA =	1.00	CA =	1.00
Q [cfs] =	5.14	Q [cfs] =	5.08

Storm Duration	I [in/hr]	Q [cfs]	Inflow [cu ft]	Outflow [cu ft]	Storage [cu ft]
10	4.07	4.08	3649	2353.55	1240
15	5.07	5.08	4577	2829.06	1747
20	4.18	4.19	5267	3300.57	1966
30	3.56	3.57	6421	4243.59	2177
40	2.99	3.00	7190	5186.61	2004
50	2.61	2.62	7846	6129.63	1716
60	2.38	2.38	8443	7072.65	1368
120	1.46	1.46	10533	12780.77	2198
180	1.10	1.10	11904	18488.89	3085
360	0.67	0.67	14501	35363.25	7086

10 - YEAR STORAGE CALCULATIONS - POND 2

Tot. Drainage Area [ac]	1.54	Prop. Drainage Area [ac]	1.67
Design Storm [yrs]	10	Design Storm [yrs]	10
Existing Conditions [10 yr]		Proposed Conditions [10 yr]	
C =	0.60	C =	0.60
T_c [min] =	15.00	T_c [min] =	15.00
I [in/hr] =	5.88	I [in/hr] =	5.88
CA =	1.00	CA =	1.00
Q [cfs] =	5.96	Q [cfs] =	5.91

Storm Duration	I [in/hr]	Q [cfs]	Inflow [cu ft]	Outflow [cu ft]	Storage [cu ft]
10	7.06	7.07	4244	2734.2	1510
15	5.88	5.89	5301	3281.04	2020
20	5.07	5.08	6096	3827.88	2268
30	4.12	4.13	7431	4921.56	2509
40	3.47	3.48	8345	6015.24	2329
50	3.03	3.04	9108	7108.92	1999
60	2.72	2.73	9812	8202.6	1609
120	1.72	1.72	12409	14764.68	2755
180	1.30	1.30	14068	21326.76	2259
360	0.76	0.76	16882	41013	-24131

25 - YEAR STORAGE CALCULATIONS - POND 2

Tot. Drainage Area [ac]	1.54	Prop. Drainage Area [ac]	1.67
Design Storm [yrs]	25	Design Storm [yrs]	25
Existing Conditions [25 yr]		Proposed Conditions [25 yr]	
C =	0.60	C =	0.60
T_c [min] =	15.00	T_c [min] =	15.00
I [in/hr] =	7.02	I [in/hr] =	7.02
CA =	1.00	CA =	1.00
Q [cfs] =	7.01	Q [cfs] =	7.01

Storm Duration	I [in/hr]	Q [cfs]	Inflow [cu ft]	Outflow [cu ft]	Storage [cu ft]
10	8.45	8.47	5080	3264.3	1816
15	7.02	7.01	6331	3917.16	2413
20	6.05	6.06	7275	4570.02	2705
30	4.96	4.91	8838	5875.74	2962
40	4.15	4.14	9932	7181.46	2750
50	3.62	3.63	10862	8487.18	2375
60	3.25	3.26	11723	9792.9	1931
120	2.09	2.09	15078	17627.22	2549
180	1.60	1.60	17335	25461.54	2126
360	0.94	0.94	21260	48944.1	-27684



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG, P.E. 68353 ON 12/10/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

BENCHMARK:

Top Center of Existing Manhole at Templewood and Mill Run Road

Elev. 494.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3379
Surveying License No. 100752-00
601 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

PROJ. NO. 2307-31-12-01 DWG. NO. 7957 pond-5.dwg

Gonzalez & Schneeberg engineers = surveyors
601 East Campbell Road Suite 330, Richardson, Texas 75081 (972) 918-9888
ENGINEERING FIRM NO. F-3379 SURVEYING LICENSE NO. 100752-00

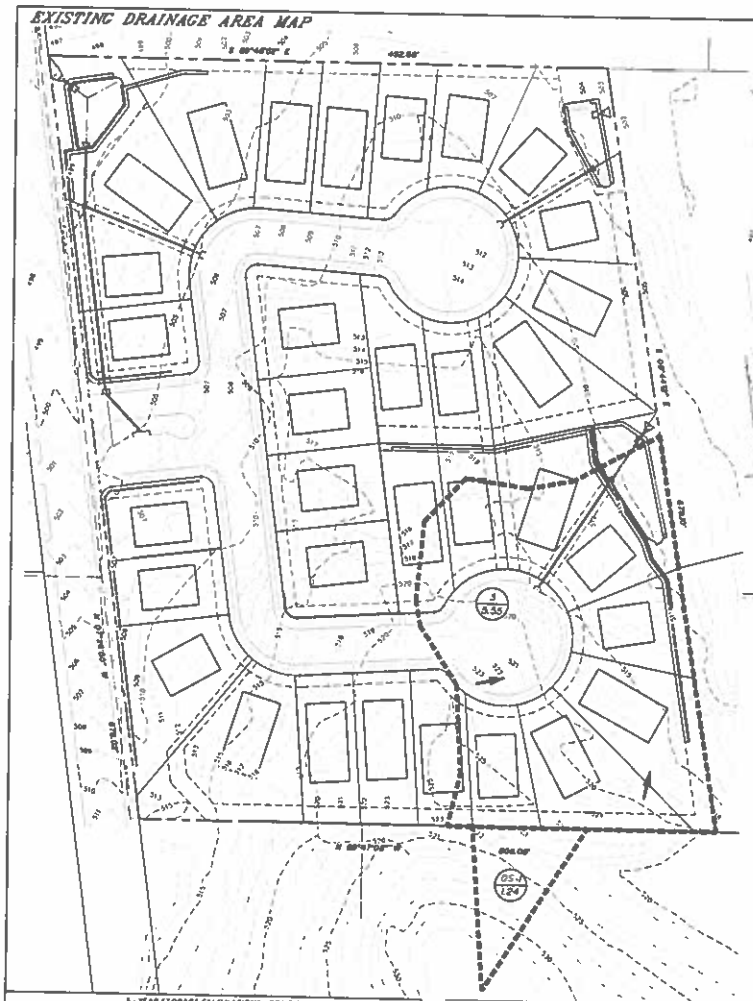
DETENTION POND 2

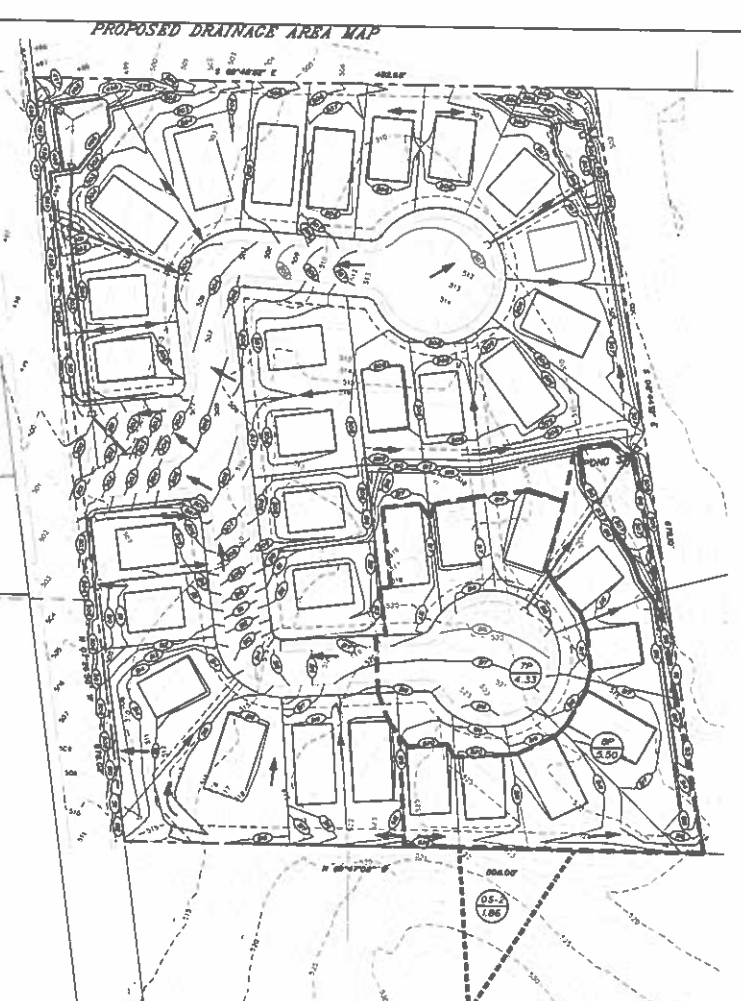
CARDINAL ESTATES

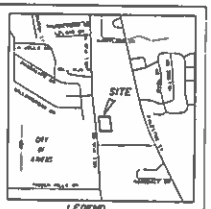
LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	SHEET	FILE	NO.
GWS	GWS	DECEMBER 2024	1"=50'			







LEGEND

DRAINAGE DIVIDE LINE

FLOW LINE

Area No. / Q 100

50 0 50 100

Scale in Feet

100 - YEAR STORAGE CALCULATIONS - POND 3

Pre Drainage Area (ac) 1.57

Design Storm (yrs) 100

Existing Conditions (100yr)

C= 0.40

Tc (min)= 15.00

I (in/hr)= 8.82

CA= 1.00

Q (cfs)= 5.54

Prop Drainage Area (ac) 3.71

Design Storm (yrs) 100

Proposed Conditions (100yr)

C= 0.60

Tc (min)= 15.00

I (in/hr)= 8.82

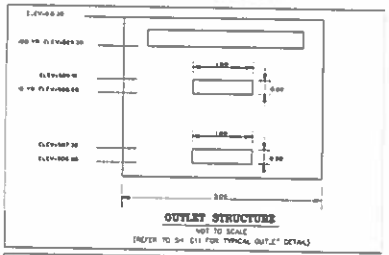
CA= 1.00

Q (cfs)= 11.70

DETENTION POND 3
7,346 cu.ft.
STORAGE NEEDED

ELEVATION	AREA	VOLUME
508	3,047	29,100
509	3,478	6,707.00
510	4,016	9975.00

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	10.30	34.39	20613	4134.22	4950
15	8.82	31.70	30526	6985.064	5561
20	7.50	30.05	40061	9815.908	6245
30	6.13	0.13	59031	3677.596	7353
40	5.18	6.87	76405	9139.284	7346
50	4.55	6.01	91900	10820.92	7799
60	4.09	5.42	105534	12462.56	8061
120	2.72	3.61	179968	22482.29	8586
180	2.11	2.80	252117	32402.02	8186
360	1.31	1.74	475470	62313.33	-24793



OUTLET STRUCTURE OUTPUT

		W	H	A	Flowline Elev	Top Elev
		(ft)	(ft)	(sf)		
Stage 1	10 yr or	1'	0.5'	0.5 sf	508.00	507.95
Stage 2	100 yr or	1'	0.5'	0.5 sf	508.00	507.95

	W S E	STAGE 1		STAGE 2	
		H (ft)	Q (cfs)	H (ft)	Q (cfs)
10 year	508.00	1.5	2.99	0	0
100 year	508.00	2.25	3.52	0.45	1.01

	Q TOTAL (cfs)	Q ALLOWED (cfs)	CHECK % CHANGE	FREQUENCY
	2 yrs	3.69	20.15	
	5 yrs	5.54	0.37	

5 - YEAR STORAGE CALCULATIONS - POND 3

Pre Drainage Area (ac) 1.57

Design Storm (yrs) 5

Existing Conditions (5 yr)

C= 0.40

Tc (min)= 15.00

I (in/hr)= 5.82

CA= 1.00

Q (cfs)= 3.69

Prop Drainage Area (ac) 3.71

Design Storm (yrs) 5

Proposed Conditions (5 yr)

C= 0.60

Tc (min)= 15.00

I (in/hr)= 5.82

CA= 1.00

Q (cfs)= 5.54

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	6.07	6.07	36479	7318.797	7483
15	4.97	4.97	44753	8984.364	7193
20	4.28	5.81	51459	10339.15	6676
30	3.56	4.77	64012	12838.34	6149
40	2.99	3.96	75135	15053.56	6762
50	2.61	3.46	85185	16708.77	6476
60	2.34	3.10	93170	18703.33	6006
120	1.46	1.94	127139	12999.04	7044
180	1.08	1.46	157513	18626.13	7873
360	0.61	0.89	193981	36899.55	16630

10 - YEAR STORAGE CALCULATIONS - POND 3

Pre Drainage Area (ac) 1.57

Design Storm (yrs) 10

Existing Conditions (10 yr)

C= 0.40

Tc (min)= 15.00

I (in/hr)= 5.86

CA= 1.00

Q (cfs)= 3.69

Prop Drainage Area (ac) 3.71

Design Storm (yrs) 10

Proposed Conditions (10 yr)

C= 0.60

Tc (min)= 15.00

I (in/hr)= 5.86

CA= 1.00

Q (cfs)= 5.57

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	7.46	9.36	56613	2769.46	7683
15	6.08	7.63	70113	5423.196	8084
20	5.20	6.52	80617	7837.273	8140
30	4.17	5.46	98164	12481.08	8849
40	3.47	4.60	113041	16913.89	8950
50	3.01	4.02	125753	21016.69	8651
60	2.72	3.63	137464	24804.48	8660
120	1.77	2.28	166421	39955.39	8466
180	1.30	1.72	186617	51603.94	7985
360	0.78	1.05	221980	81542.27	19262

25 - YEAR STORAGE CALCULATIONS - POND 3

Pre Drainage Area (ac) 1.57

Design Storm (yrs) 25

Existing Conditions (25 yr)

C= 0.40

Tc (min)= 15.00

I (in/hr)= 7.02

CA= 1.00

Q (cfs)= 4.43

Prop Drainage Area (ac) 3.71

Design Storm (yrs) 25

Proposed Conditions (25 yr)

C= 0.60

Tc (min)= 15.00

I (in/hr)= 7.02

CA= 1.00

Q (cfs)= 6.65

Storm Duration	I (in/hr)	Q (cfs)	Inflow (cu ft)	Outflow (cu ft)	Storage (cu ft)
10	8.95	11.20	67273	9306.62	7436
15	7.30	9.31	83178	9967.704	6436
20	6.05	8.02	96217	4628.988	2996
30	4.90	6.50	116575	9953.536	5766
40	4.14	5.66	133161	7276.124	5869
50	3.63	4.80	144001	8596.697	5804
60	3.25	4.31	155514	9919.26	5595
120	2.09	2.77	199956	14969.67	7099
180	1.60	2.12	229133	25750.08	7817
360	0.96	1.30	276069	69979.3	-71574

BENCHMARK

Top Center of Existing Manhole at Tanglebrook and Mill Run Road

Elev. = 486.68

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT B. SCHNEEBERG, P.E. 86383 ON 12/20/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100732-00
901 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

Gonzalez & Schneeberg
engineers • surveyors
901 East Campbell Road
Suite 330, Richardson, Texas 75081
972/ 690-0010
ENGINEERING FIRM NO. F-3376 SURVEYING LICENSE NO. 100732-00

PROJ. NO. P207-21-11-05 DWG. NO. 7307 pond-3.dwg

DETENTION POND 3

CARDINAL ESTATES

LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	SHEET	FILE	NO.
GMS	GMS	DECEMBER 2024	1:60			

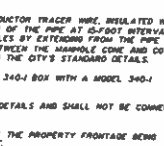
C14

WATER GENERAL NOTES

1. ALL PIPELINE MATERIAL AND INSTALLATION SHALL CONFORM TO THE CITY OF ATHENS STANDARD TECHNICAL SPECIFICATIONS AND ALL APPLICABLE LOCAL AND STATE REQUIREMENTS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS ARE IN HAND BEFORE COMMENCEMENT OF CONSTRUCTION.
3. ALL UTILITY OWNERS AND DIGTESS SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO STARTING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY FIBEROPTICS COMPANIES SEVEN (7) WORKING DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY IN THEIR AREA. EXTREME CAUTION SHALL BE USED IN AREA WHERE FIBEROPTIC CABLE IS LOCATED ADJACENT TO CONSTRUCTION ACTIVITY.
5. ALL PIPING AND/OR APPURTENANCE CONNECTING TO ADJACENT CONSTRUCTION SHALL BE PLUGGED IF ADJACENT WORK HAS NOT BEEN COMPLETED.
6. A WATERPROOF PLUG SHALL BE INSTALLED IN THE EXPOSED END OF LINE AT THE END OF EACH WORKING DAY. IF CONTRACTOR FAILS TO INSTALL THE PLUG, THE CONTRACTOR SHALL BE REQUIRED TO DISINFECT THE ENTIRE WATER LINE BY SWABBING WITH CHLORINATED SOLUTION AS REQUIRED BY THE LATEST VERSION OF AWWA C-651 PRIOR TO HYDROSTATIC TESTING.
7. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINTS, BRACING, TEST PLUGS AND/OR OTHER DEVICES NECESSARY TO SUCCESSFULLY COMPLETE PRESSURE TESTING OF ALL PRESSURE PIPING SYSTEMS.
8. ALL DUCTILE IRON FITTINGS, RESTRAINTS, AND VALVES SHALL BE POLY WRAPPED TO AVOID DIRECT CONTACT WITH SOIL/EMBEDMENT.
9. ALL PRESSURIZED WATER MAINS SHALL BE RESTRAINED AGAINST THRUST FORCES DUE TO CHANGE IN PIPELINE DIAMETER OR ALIGNMENT IN ORDER TO PREVENT JOINT SEPARATION OR MOVEMENT. THRUST RESTRAINT SHALL BE ACCOMPLISHED BY CONCRETE THRUST BLOCKS AND/OR RESTRAINED JOINTS. ALL VALVES AND FITTINGS SHALL HAVE CONCRETE THRUST BLOCKS AND RESTRAINED JOINTS INSTALLED. CONCRETE THRUST BLOCKING SHALL NOT BE USED ON VERTICAL BEND AND ALIGNMENT CHANGES. NEW PIPELINE SECTIONS SHALL USE PIPING WITH INTERNALLY RESTRAINED BELL AND SPIGOT JOINTS WITHIN THE THRUST RESTRAINT ZONE. THRUST BLOCKING SHALL BE CLASS "A" CONCRETE PER NCTCOG ITEM 702.2.4.3 AND BE ABLE TO WITHSTAND A MINIMUM 200 PSI TEST PRESSURE WITH A MINIMUM SAFETY FACTOR OF 1.5 WITHOUT EXCEEDING THE SOIL BEARING CAPACITY.
10. VALVES SHALL BE FULL OPENING IRON BODY, NON-RISING STEM, RESILIENT SEATED WEDGE TYPE SO DESIGNED TO HAVE COMPLETE ZERO LEAKAGE WITH FLOW IN EITHER DIRECTION AT PRESSURES UP TO TWO HUNDRED (200) PSI. ALL VALVES SHALL OPEN BY TURNING TO THE LEFT AND SHALL HAVE A TWO (2) INCH SQUARE OPERATING NUT OR BE HANDWHEEL OPERATED AS SHOWN ON THE PLANS. VALVES ARE REQUIRED TO HAVE 316 STAINLESS STEEL HARDWARE.
11. ALL FASTENERS SHALL BE MANUFACTURED OF NON-CORROSIVE MATERIALS.
12. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN DERIVED FROM EXISTING UTILITY RECORDS AND ACCURACY OF THIS INFORMATION IS NOT GUARANTEED. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, DEPTH AND CHARACTER OF ALL UTILITIES PRIOR TO EXCAVATION IN ORDER TO PROTECT THEM DURING CONSTRUCTION.
13. WHERE MINIMUM SEPARATION BETWEEN THE UTILITIES IS REQUIRED, THE DISTANCE SHALL BE MEASURED FROM THE OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
14. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE FORTY-EIGHT (48) HOURS IN ADVANCE OF THE PROPOSED WORK. IF THERE IS A CONFLICT, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND THE CITY OF ATHENS IMMEDIATELY. INFORMATION OF THE OBSTRUCTION SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL INCLUDE: LOCATION, ELEVATION, UTILITY TYPE, MATERIAL AND SIZE.
15. LOCATIONS AND DIMENSIONS OF EXISTING RIGHT-OF-WAY AND EASEMENTS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE LIMITS OF RIGHT-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.
16. THE CONTRACTOR SHALL REPLACE SOD 3 FEET FROM ALL DISTURBED AREAS; STRUCTURES, SIDEWALKS, ROADS, AND POND IMPROVEMENT AREAS. ALL OTHER DISTURBED AREAS SHALL BE SODDED OR SEEDED AND MULCHED.
17. THE CONTRACTOR SHALL REPLACE, BUT NOT LIMITED TO, PAVING, STABILIZED EARTH, DRIVEWAYS OR ANY ITEMS DISTURBED OR DAMAGED BY THE CONSTRUCTION OR ITS RELATED ACTIVITIES. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL OR AS DIRECTED BY THE CITY OF ATHENS.
18. THE DISPOSAL OF ANY EXCESS EARTHWORK MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
19. ALL PRACTICAL AND NECESSARY EFFORT SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL.
20. THE CONTRACTOR SHALL NOTIFY THE CITY OF ATHENS UTILITY DEPARTMENT 72 HOURS BEFORE COMMENCING WITH CONSTRUCTION.
21. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND DISTRIBUTION OF ADVANCE NOTIFICATIONS TO CUSTOMERS RELATIVE TO SERVICE INTERRUPTIONS. A SAMPLE NOTICE SHALL BE PROVIDED TO THE UTILITY DIRECTOR FOR APPROVAL PRIOR TO DISTRIBUTION OF SCHEDULED SERVICE INTERRUPTION NOTICES.
22. PIPE MEASUREMENTS SHALL BE CENTER TO CENTER OF FITTINGS AND VALVES.
23. PVC PIPE SHALL BE DESIGNED, MANUFACTURED, AND TESTED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AWWA C-900-16, AND AWWA M-23.
24. ALL PIPE AND POLYETHYLENE SERVICE TUBING SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL OF APPROVAL FOR POTABLE WATER SERVICE.
25. FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON IN ACCORDANCE WITH AWWA C110 OR AWWA C153. FITTINGS: ANSI/AWWA C104/A21.4, EXCEPT GASKETS SHALL BE NEOPRENE OR OTHER SYNTHETIC RUBBER. NATURAL RUBBER WILL NOT BE ACCEPTED. ALL BOLTS AND NUTS SHALL BE ASTM A325 TYPE 2 ENHANCED CORROSION RESISTANT STEEL, OR STAINLESS-STEEL GRADE 304. ALL BURIED METAL SHALL BE WRAPPED IN POLYETHYLENE TUBE WRAP. ANSI/AWWA C105/A21.5.
26. PROPER BACKFLOW PREVENTION ASSEMBLIES SHALL BE PROVIDED IN ACCORDANCE WITH RULE 290-5D5.360, F.A.C. AND AWWA MANUAL M14, "BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL" LATEST EDITION.
27. ALL WATER SYSTEM CONVEYANCE SHALL HAVE A 14 AWG, COPPER CONDUCTOR TRACER WIRE, INSULATED WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE), ATTACHED DIRECTLY TO THE TOP OF THE PIPE AT NO GREATER THAN 15-FOOT INTERVALS AND SHALL BE TERMINATED AT GROUND LEVEL FOR ACCESSIBILITY. TRACER WIRE TEST STATIONS SHALL BE LOCATED WITHIN A CONCRETE SPLASH PAD AROUND FIRE HYDRANTS AS SHOWN ON THE CITY'S STANDARD DETAILS, OR AS REQUIRED BY THE CITY'S UTILITY DIRECTOR. REFER TO CITY OF ATHENS STANDARD DRAWING NO. 1006. ALL LINES LAID IN ROCKY AREAS SHALL HAVE AT LEAST 6-INCH CUSHION UNDER PIPE. BACKFILL MATERIAL SHALL BE FREE OF ROCKS OR OTHER MATERIALS WHICH COULD DAMAGE PIPE.
28. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED IN ACCORDANCE WITH AWWA STANDARDS, LATEST REVISIONS. HYDROSTATIC TESTING FOR PVC MAINS SHALL BE 150 PSI FOR MINIMUM OF 2 HOURS AND MEET AWWA STANDARD C605. DUCTILE IRON MAINS SHALL BE TESTED AT 150 PSI FOR 2 HOURS PER AWWA C600. ALL NEW MAINS SHALL BE DISINFECTED PER AWWA STANDARD C651 AND THE CITY OF ATHENS SPECIFICATIONS.
29. ALL POTABLE AND RAW WATER MAINS SHALL BE INSTALLED WITH THE MINIMUM HORIZONTAL/VERTICAL SEPARATION FROM ALL EXISTING AND/OR PROPOSED SANITARY, STORM AND REUSE WATER PIPING AS REQUIRED BY TCEQ RULES. CONFLICTS BETWEEN REUSE WATER MAINS, STORM AND SANITARY SEWER SYSTEMS, FORCE MAINS AND PROPOSED POTABLE OR RAW WATER MAINS SHALL BE RESOLVED BY ADJUSTING THE PROPOSED POTABLE/RAW WATER MAIN.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND ACCOUNTING FOR AS WELL AS RECONNECTING ALL SERVICE CONNECTIONS AFFECTED BY THE PROPOSED WATER MAIN INSTALLATION.
31. RE-USE EXISTING VALVES AND FITTINGS WHERE CONDITIONS ALLOW AND WHEN HAVE BEEN DETERMINED TO BE IN GOOD CONDITION AND IN WORKING ORDER. THE CITY OF ATHENS WILL MAKE THE DECISION REGARDING THE INCORPORATION OF USED MATERIAL INTO THE WORK.
32. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS FOR APPROVAL TO THE CITY OF ATHENS PRIOR TO PROCUREMENT.
33. ALL NEW WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 4 FEET OF COVER, UNLESS NOTED OTHERWISE.
34. THE AMOUNT OF OPEN TRENCH EXCAVATION WITHIN FIFTEEN (15) FEET OF AND/OR ADJACENT TO A RIGHT OF WAY OR PEDESTRIAN ACCESS SHALL NOT EXCEED THREE HUNDRED (300) FEET AND SHALL BE BACKFILLED AT THE END OF EACH DAY. NO NEW INSTALLATION SHALL BE BACKFILLED UNTIL INSPECTED. BARRICADES, SAFETY FENCING, AND LIGHTS WILL BE REQUIRED AROUND ANY OPEN TRENCH LEFT OVERNIGHT.
35. THREE (3) INCH AND LARGER BURIED UTILITY MAINS TO BE ABANDONED IN PLACE, SHALL BE CUT, PLUGGED AND FILLED WITH GROUT.
36. GUARANTEE: MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTIVE WORK AND ALL DAMAGES CAUSED THEREBY WHICH MAY OCCUR DURING THE TERM OF THE AFOREMENTIONED GUARANTEE WILL BE REPAIRED AND/OR REPLACED AT NO EXPENSE TO THE OWNER
37. WATER MAIN TAPPING SADDLES FOR SERVICE TAPS SHALL BE DOUBLE BAND, BRASS OR S.S. SMITH BLAIR No. 313 OR APPROVED EQUAL.
38. WATER MAIN TAPPING SADDLES FOR MAIN TAPS SHALL BE STAINLESS STEEL OR EPOXY COATED.
39. ALL MULTIPLE TAPS SHALL HAVE A MINIMUM 4-FEET BETWEEN METER BOXES.
40. ALL MULTIPLE TAPS SHALL HAVE BRASS FITTINGS AND BRASS REDUCERS OUT OF GATE VALVE TO INDIVIDUAL SERVICES. NEED 2-INCH BRASS TEE FOR SPLIT.
41. ALL SERVICE PIPELINES SHALL BE CONSTRUCTED WITH CR-9, HIGH DENSITY POLYETHYLENE TUBING, A MINIMUM SIZE OF ONE (1) INCH, AND INCLUDE A 14 AWG, COPPER CONDUCTOR TRACER WIRE, INSULATED WITH HMWPE AND EXTENDING FROM THE METER BOX TO THE CORPORATION STOP.
42. ALL CONNECTIONS SHALL BE COMPRESSION TYPE OR APPROVED EQUAL.
43. SERVICE SADDLE SHALL BE BRONZE, DOUBLE FLATTENED STRAPS WITH BRASS BODY. SADDLES FABRICATED ENTIRELY OF STAINLESS STEEL SHALL ALSO BE ACCEPTABLE. MINIMUM SIZE TAP SHALL BE ONE (1) INCH DIAMETER
44. ALL BRASS FITTINGS SHALL BE DOMESTIC MANUFACTURED, AWWA APPROVED.
45. ALL METER BOXES SHALL BE SAN ANTONIO METER BOX AS MANUFACTURED BY SIP INDUSTRIES
46. SAN ANTONIO METER BOX 12" X 18" STEM NO.423DI FOR 3/4" - 1" CONNECTION
47. SAN ANTONIO METER BOX 13" X 23" STEM NO. 424DI FOR 1-1/2" - 2" CONNECTION
48. FIRE HYDRANTS SHALL BE CONSTRUCTED PER CITY OF ATHENS STANDARD DRAWING NO. 1001. FIRE HYDRANTS ARE TO BE INSTALLED ADJACENT TO THE RIGHT-OF-WAY, BUT NO MORE THAN 10-FEET BEHIND THE PROPOSED CURB OR EDGE OF ROAD. ALL FITTINGS ON FIRE HYDRANT LEADS SHALL BE SWIVEL FITTINGS WITH ANCHOR COUPLINGS AS MANUFACTURED BY TYLER PIPE COMPANY OR APPROVED EQUAL. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARDS PRIOR TO THE MAIN BEING PLACED IN SERVICE. ANY DELAYS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR IF THE HYDRANT HAS NOT BEEN INSTALLED PER CITY STANDARDS. IT IS RECOMMENDED THAT EXISTING CURBS, SIDEWALKS, FINAL GROUND ELEVATIONS, AND OTHER FEATURES BE STAKED BY THE CONTRACTOR AS NEEDED TO ENSURE COMPLIANCE WITH THE CITY STANDARDS AND AVOID ADDITIONAL ADJUSTMENTS OR RELOCATIONS THAT MAY DELAY APPROVALS.
49. ALL VALVE BOXES 5-FEET OR DEEPER SHALL HAVE CONCRETE POURED AROUND BASE OF BOX TO ENSURE BOX STAYS CENTERED OVER OPERATOR NUT. ALL VALVE BOXES LOCATED IN EASEMENTS OR IN OFF ROAD OR ISOLATED LOCATIONS SHALL HAVE A 24"x24" CONCRETE PAD POURED AROUND BOX WITH APPROPRIATE VALVE SIGNS OR MARKERS. ALL WATER MAINS IN ISOLATED AREAS NEED 5ISH POST MARKING LOCATION OF SAID MAIN.
50. ALL DUCTILE IRON FITTINGS, RESTRAINTS, AND VALVES SHALL BE POLY WRAPPED TO AVOID DIRECT CONTACT WITH SOIL/EMBEDMENT.
51. ALL STEEL CASINGS SHALL BE PLUGGED AT BOTH ENDS WITH EITHER CONCRETE OR APPROPRIATE MATERIALS TO KEEP FROM SETTLING AND KEEP FROM FILLING CASING AND SHALL BE INSPECTED BEFORE BACKFILLING.
52. ALL WATER PIPE TO BE C900 PVC WATER PIPE. ALL C900 PVC WATER PIPE SHALL BE BLUE IN COLOR.
53. WHEN CONNECTING TO AN EXISTING MAIN, IT MAY BE REQUIRED TO PROVIDE A CUT-IN CONNECTION WITH A TEE AND VALVE THE UTILITY DEPARTMENT IS RESPONSIBLE FOR DETERMINING THE SCHEDULE FOR A CUT-IN CONNECTION THE COSTS ASSOCIATED WITH THIS TYPE OF CONNECTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER. SAMPLES REQUIRED AFTER A SYSTEM SHUTDOWN SHALL BE COLLECTED BY THE CITY AND PAID BY THE CONTRACTOR/DEVELOPER.
54. ALL CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE UNDER PRESSURE UNLESS DRY CONNECTIONS WILL NOT CAUSE ANY LOSS OF SERVICE. THE UTILITY DIRECTOR WILL ADVISE THE DEVELOPER/CONTRACTOR ON WHICH METHOD SHALL BE USED TO CONNECTING NEW PIPELINE SECTIONS TO EXISTING, AND ANY ASSOCIATED WORK RELATING TO DISINFECTION NOTIFICATIONS, AND TESTING.

SANITARY SEWER GENERAL NOTES

1. ALL PIPELINE MATERIAL AND INSTALLATION SHALL CONFORM TO THE CITY OF ATHENS STANDARDS AND NCTCOG, CONTRACT DOCUMENTS, TECHNICAL SPECIFICATIONS AND ALL APPLICABLE LOCAL AND STATE REQUIREMENTS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS ARE IN HAND BEFORE COMMENCEMENT OF CONSTRUCTION.
3. ALL UTILITY OWNERS AND DIGTESS SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS PRIOR TO STARTING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY FIBEROPTICS COMPANIES SEVEN (7) WORKING DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY IN THEIR AREA. EXTREME CAUTION SHALL BE USED IN AREA WHERE FIBEROPTIC CABLE IS LOCATED ADJACENT TO CONSTRUCTION ACTIVITY.
5. ALL PIPING AND/OR APPURTENANCE CONNECTING TO ADJACENT CONSTRUCTION SHALL BE PLUGGED IF ADJACENT WORK HAS NOT BEEN COMPLETED.
6. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN DERIVED FROM EXISTING UTILITY RECORDS AND ACCURACY OF THIS INFORMATION IS NOT GUARANTEED. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, DEPTH AND CHARACTER OF ALL UTILITIES PRIOR TO EXCAVATION IN ORDER TO PROTECT THEM DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE FORTY-EIGHT (48) HOURS IN ADVANCE OF THE PROPOSED WORK. IF THERE IS A CONFLICT, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AND THE CITY OF ATHENS IMMEDIATELY. INFORMATION OF THE OBSTRUCTION SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL INCLUDE: LOCATION, ELEVATION, UTILITY TYPE, MATERIAL AND SIZE.
8. LOCATIONS AND DIMENSIONS OF EXISTING RIGHT-OF-WAY AND EASEMENTS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE LIMITS OF RIGHT-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.
9. THE CONTRACTOR SHALL REPLACE SOD 3 FEET FROM ALL DISTURBED AREAS; STRUCTURES, SIDEWALKS, ROADS, AND POND IMPROVEMENT AREAS. ALL OTHER DISTURBED AREAS SHALL BE SODDED OR SEEDED AND MULCHED.
10. THE CONTRACTOR SHALL REPLACE, BUT NOT LIMITED TO, PAVING, STABILIZED EARTH, DRIVEWAYS OR ANY ITEMS DISTURBED OR DAMAGED BY THE CONSTRUCTION OR ITS RELATED ACTIVITIES. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL OR AS DIRECTED BY THE CITY OF ATHENS.
11. THE DISPOSAL OF ANY EXCESS EARTHWORK MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE HIS WORK WITH THE WORK SCHEDULE OF ADJACENT CONTRACTORS AS WELL AS THE OPERATIONS STAFF OF THE CITY OF ATHENS.
13. THE CONTRACTOR SHALL NOTIFY THE CITY OF ATHENS UTILITY DEPARTMENT 72 HOURS BEFORE COMMENCING WITH CONSTRUCTION.
14. WHERE MINIMUM SEPARATION BETWEEN THE UTILITIES IS REQUIRED, THE DISTANCE SHALL BE MEASURED FROM THE OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
15. WASTEWATER MAIN PIPING SHALL BE MINIMUM SDR 26, GASKETED, BELL AND SPIGOT, GREEN IN COLOR, PVC. SOLVENT WELD FITTINGS ARE NOT ACCEPTABLE. WHERE GASKETED, SDR 26 HEAVY WALL FITTINGS CANNOT BE USED TO MAKE FIELD CONNECTIONS, A MANADAPTOR COUPLING AS MANUFACTURED BY GRAPPER GASKET, OR CITY APPROVED EQUAL, MAY BE USED. STANDARD FERNCO FLEXIBLE COUPLINGS WILL NOT BE ACCEPTABLE.
16. ALL NEW SANITARY SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 4-FEET OF COVER, UNLESS NOTED OTHERWISE.
17. IN AREAS WHERE CONSTRUCTION ACTIVITIES RESTRICT NORMAL ACCESS TO PROPERTIES, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALTERNATE ACCESS ROUTES WHICH ARE SUBJECT TO APPROVAL BY THE CITY OF ATHENS.
18. ALL PRACTICAL AND NECESSARY EFFORT SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL.
19. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS FOR APPROVAL TO THE CITY OF ATHENS PRIOR TO PROCUREMENT.
20. PIPE MEASUREMENTS ON THE MAIN "RUNS" SEWER SHALL BE FROM CENTER TO CENTER OF MANHOLES OR CLEANOUTS, UNLESS OTHERWISE NOTED.
21. PIPE MEASUREMENTS FOR SERVICE LATERALS SHALL BE FROM THE MAIN "RUNS" SEWER TO THE PROPERTY LINE. THE DEPTH OF THE LATERAL AT THE PROPERTY LINE SHALL BE MEASURED AND RECORDED ON THE RECORD DRAWINGS.
22. A DEFLECTION TEST SHALL BE MADE OF THE PIPING AFTER THE PIPE HAS BEEN CLEANED BY BAILING AND FLUSHING AND AFTER ALL UNDERGROUND CONSTRUCTION IN THE AREA BY OTHER AGENCIES IS COMPLETE. TO BE ACCEPTABLE, A MANDREL SHALL BE DRAWN TO THE PIPE USING ONLY THE FORCE THAT CAN BE EXERTED BY ONE MAN ON THE END OF A ROPE, USING NO MECHANICAL ADVANTAGE. A LEAKAGE TEST SHALL BE PERFORMED ON ALL MANHOLES, PUMP STATIONS, WET WELLS AND OTHER STRUCTURES BY FILLING TO THE TOP WITH WATER AND SHALL SHOW NO LEAKAGE OVER A THIRTY (30) MINUTE PERIOD.
23. CONFLICT BETWEEN WATER MAINS, STORM AND REUSE SYSTEMS AND PROPOSED SANITARY SEWER MAINS SHALL BE RESOLVED BY ADJUSTING THE PRESSURE MAINS AS NECESSARY.
24. ALL EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH WORK DAY.
25. FOR A SCHEDULED INTERRUPTION OF SANITARY SEWER MAIN FLOW, THE CONTRACTOR SHALL PROVIDE TO THE CITY OF ATHENS FOR REVIEW A WRITTEN SCHEDULE AS TO THE METHOD AND DURATION OF FLOW INTERRUPTION
26. DURING NORMAL SANITARY SEWER MAIN FLOW INTERRUPTION, THE CONTRACTOR SHALL PROVIDE UNINTERRUPTED BY-PASS FLOW AND SHALL PROVIDE ALL EQUIPMENT NECESSARY TO ACCOMPLISH THE SAME IN THE FORM OF, BUT NOT LIMITED TO, THE FOLLOWING: POWER, PUMPS, PIPING, APPURTENANT VALVES AND FITTINGS AND/OR SEPTIC TANKER TRUCK PUMPING, HAULING AND DISPOSAL SERVICES.
27. ALL BURIED UTILITY PIPES TO BE ABANDONED IN PLACE SHALL BE CUT, PLUGGED AND FILLED WITH GROUT.
28. IT IS THE INTENT OF THIS CONTRACT FOR THE CONTRACTOR TO MAINTAIN CONTINUOUS RESTORATION BEHIND THE UTILITY WORK ON A DAILY BASIS, NO MORE THAN FIFTY (50) LINEAR FEET OF UNRESTORED LINE WORK SHALL REMAIN AT THE END OF EACH WORK DAY.
29. ALL ABANDONED MANHOLES NEED CONCRETE CAPS ON ALL LINES AND INSPECTED BEFORE BACKFILLED
30. ALL STEEL CASING SHALL BE PLUGGED AT BOTH ENDS WITH EITHER CONCRETE OR APPROPRIATE MATERIALS TO KEEP FROM SETTLING AND KEEP FROM FILLING CASING AND SHALL BE INSPECTED BEFORE BACKFILLING.
31. MANHOLES SHALL BE MONOLITHIC CAST-IN-PLACE CONCRETE, OR PRE-CAST CONCRETE AS SHOWN IN THE CITY'S STANDARD DETAILS. THE USE OF BRICKS TO ADJUST A MANHOLE COVER TO GRADE OR CONSTRUCT A MANHOLE IS PROHIBITED.
32. A ROUND, THIRTY (30) INCH DIAMETER, DUCTILE IRON FRAME AND COVER WITHOUT PICK HOLES SHALL BE REQUIRED FOR ALL NEW MANHOLES. FRAMES AND COVERS BE NON-PAVED AREAS WILL HAVE A DOUBLE MINE WHEREAS PAVED AREAS SHALL NOT BE MINDED.
33. A MANHOLE COVER LOCATED IN A ROADWAY SHALL MEET OR EXCEED THE AMERICAN ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS STANDARD M-306 FOR LOAD BEARING.
34. A MANHOLE-PIPE CONNECTION MUST USE WATERTIGHT, SIZE-ON-SIZE RESILIENT CONNECTORS THAT ALLOW FOR DIFFERENTIAL SETTLEMENT AND MUST CONFORM TO ASTM C-923.
35. CONNECTIONS TO MANHOLES SHALL BE ACCOMPLISHED BY CORING THROUGH THE MANHOLE WALL AND NOT BY BREAKING OR HAMMERING. CONNECTIONS SHALL ENTER THE MANHOLE AT AN ELEVATION THAT PROVIDES A SLOPE TO THE FLOW LINE. THE BENCH AND CHANNEL SHALL BE MODIFIED AND PATCHED AS NECESSARY TO DIRECT THE FLOW INTO THE MAIN CHANNEL. FLOW SHALL NOT DROP ONTO A BENCH.
36. SERVICE LATERAL PIPING FOR RESIDENTIAL CUSTOMERS SHALL BE MINIMUM FOUR (4) INCH DIAMETER SDR 26 PVC.
37. ALL FITTINGS SHALL BE SDR 26 HEAVY WALL WITH GASKET JOINTS. SOLVENT WELD JOINTS ARE NOT ACCEPTABLE.
38. PROPERTY LINE CLEANOUTS SHALL BE LOCATED IN A BASS AND HAYES MODEL 340-1 BOX WITH A MODEL 340-1 SEWER LID.
39. ALL WASTEWATER SYSTEM CONVEYANCE SHALL HAVE A 14 AWG, COPPER CONDUCTOR TRACER WIRE, INSULATED WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE), ATTACHED DIRECTLY ON TOP OF THE PIPE AT 15-FOOT INTERVALS. TRACER WIRE SHALL BE ACCESSIBLE FROM INSIDE NEWLY CONSTRUCTED MANHOLES BY EXTENDING FROM THE PIPE ALONG THE EXTERIOR OF A MANHOLE, THEN EXTENDING INTO THE MANHOLE BETWEEN THE MANHOLE CONE AND COVER FRAME. TERMINATION OF TRACER WIRE AT MANHOLES SHALL BE AS SHOWN ON THE CITY'S STANDARD DETAILS.
40. PROPERTY LINE CLEANOUTS SHALL BE LOCATED IN A BASS AND HAYES MODEL 340-1 BOX WITH A MODEL 340-1 SEWER LID.
41. SERVICE LATERALS SHALL BE INSTALLED AS SHOWN IN THE CITY'S STANDARD DETAILS AND SHALL NOT BE CONNECTED TO MAINS GREATER THAN TEN (10) FEET DEEP.
42. A CLEANOUT SHALL BE PLACED AT THE PROPERTY LINE NEAR THE CENTER OF THE PROPERTY FRONTAGE BEING SERVED WITH A MINIMUM TEN (10) FEET SEPARATION FROM THE WATER SERVICE.
43. ALL CLEANOUT BOXES SHALL BE INSTALLED SO THAT THE LID WILL BE AT FINAL GRADE.
44. ALL SEWER SERVICE CONNECTIONS WILL NEED TO BE INSPECTED PRIOR TO COVERING UP FOR TIE-IN AND CAPPING OF OLD LINE VERIFICATION
45. NO CONNECTIONS TO AN EXISTING PIPELINE, MANHOLE, OR CLEANOUT SHALL BE MADE WITHOUT A CITY INSPECTOR PRESENT TO WITNESS THE WORK. ANY WORK COVERED AFTER INSTALLATION SHALL BE EXPOSED FOR INSPECTION AT THE CONTRACTOR EXPENSE.
46. A DETECTOR TAPE MUST BE LAID IN THE SAME TRENCH AS A GRAVITY WASTEWATER MAIN. THE DETECTOR TAPE MUST BE LOCATED SIX (6) TO TWELVE (12) INCHES ABOVE AND PARALLEL TO THE GRAVITY WASTEWATER MAINS. THE DETECTOR TAPE MUST BEAR THE LABEL 'SEWER PIPE BELOW' CONTINUOUSLY REPEATED IN AT LEAST 1.5-INCH LETTERS.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT B. SCHNEEBERG, P.E. 68882 ON 12/16/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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NO.	DATE	REVISION

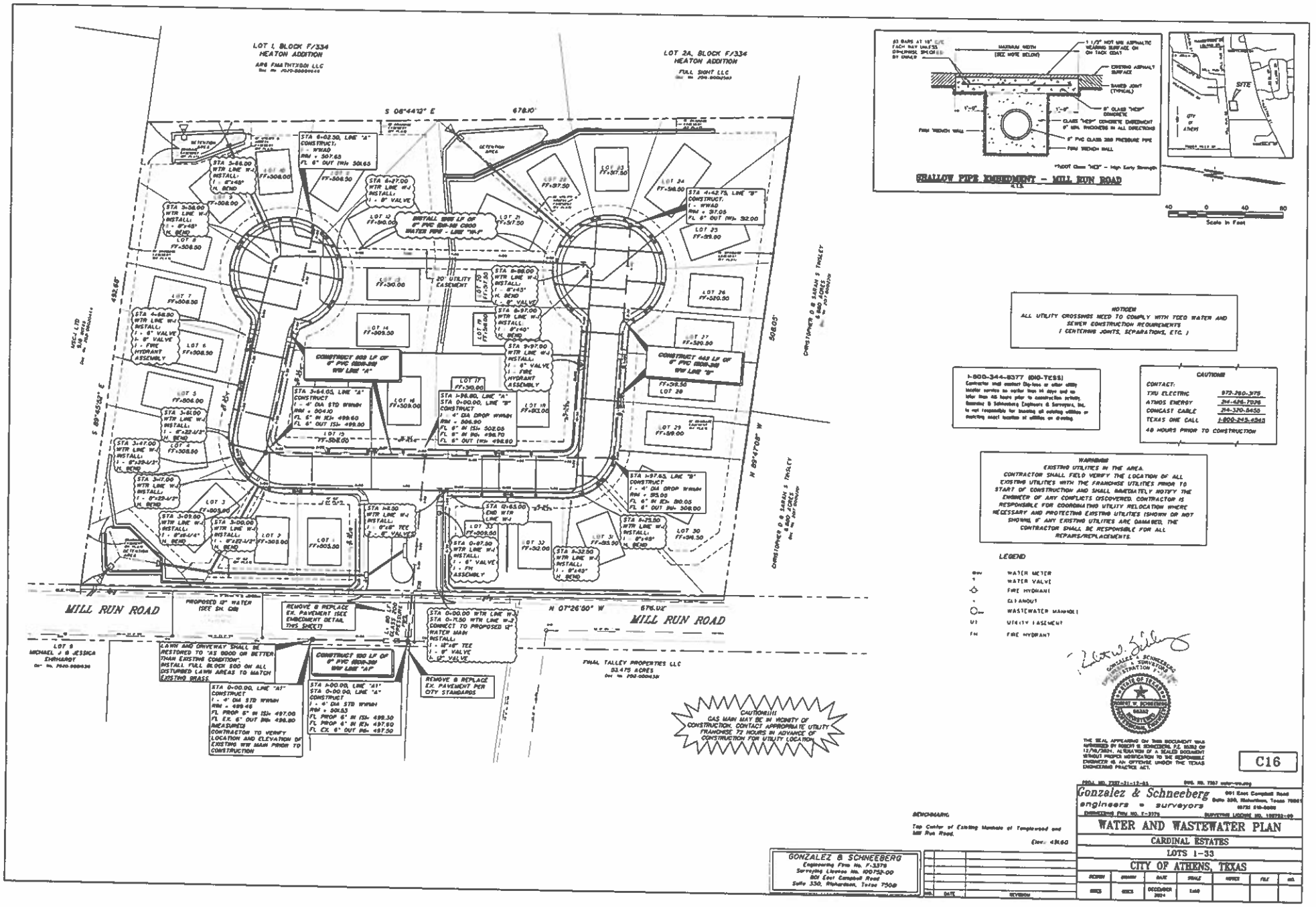
WATER & WASTEWATER & GENERAL NOTES

CARDINAL ESTATES

LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RBS	CBS	DECEMBER 2024	1:10			-



SHALLOW PIPE EMBEDMENT - MILL RUN ROAD
N.T.S.

NOTICE!!!
ALL UTILITY CROSSINGS NEED TO COMPLY WITH TCEQ WATER AND SEWER CONSTRUCTION REQUIREMENTS (CENTERING JOINTS, SEPARATIONS, ETC.)

1-800-344-8377 (DIG-TESS)
Contractor shall contact Dig-Tess or other utility locator service no earlier than 14 days and no later than 48 hours prior to construction activity. Gonzalez & Schneeberg Engineers & Surveyors, Inc. is not responsible for locating all existing utilities or marking exact location of utilities on drawing.

CAUTION!!!
CONTACT:

TXU ELECTRIC	972-280-3175
ATMOS ENERGY	214-496-7026
COMCAST CABLE	214-320-5450
TEXAS ONE CALL	1-800-245-4545

48 HOURS PRIOR TO CONSTRUCTION

WARNING!!!
EXISTING UTILITIES IN THE AREA.
CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE FRANCHISE UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS/REPLACEMENTS.

LEGEND

WM	WATER METER
	WATER VALVE
	FIRE HYDRANT
	CLEANOUT
	WASTEWATER MANHOLE
UE	UTILITY EASEMENT
FH	FIRE HYDRANT

GONZALEZ & SCHNEEBERG ENGINEERING & SURVEYING INC. STATE OF TEXAS ROBERT W. SCHNEEBERG 86352 REGISTERED PROFESSIONAL ENGINEER

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BENCHMARK
Top Center of Existing Manhole at Tanglewood and Mill Run Road.
Elev.: 491.60

GONZALEZ & SCHNEEBERG
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NO.	DATE	REVISION

Gonzalez & Schneeberg engineers • surveyors
801 East Campbell Road, Suite 330, Richardson, Texas 75081
(972) 610-9600
ENGINEERING FIRM NO. F-3378 SURVEYING LICENSE NO. 100752-00

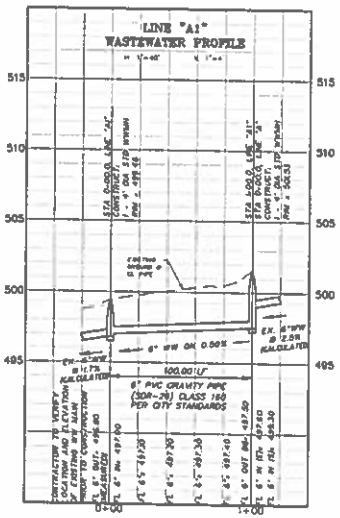
WATER AND WASTEWATER PLAN

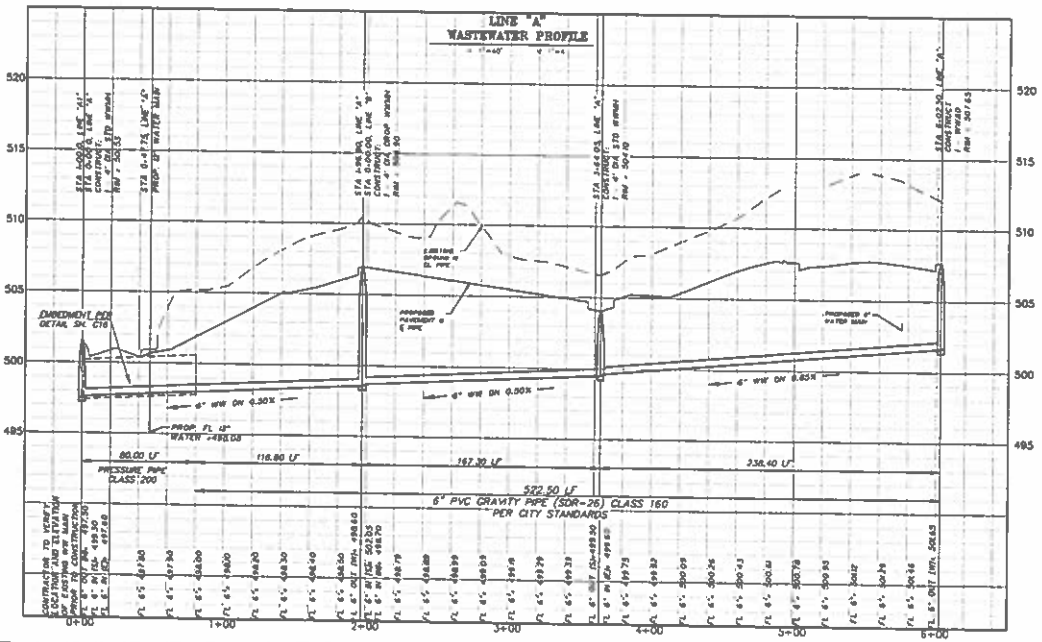
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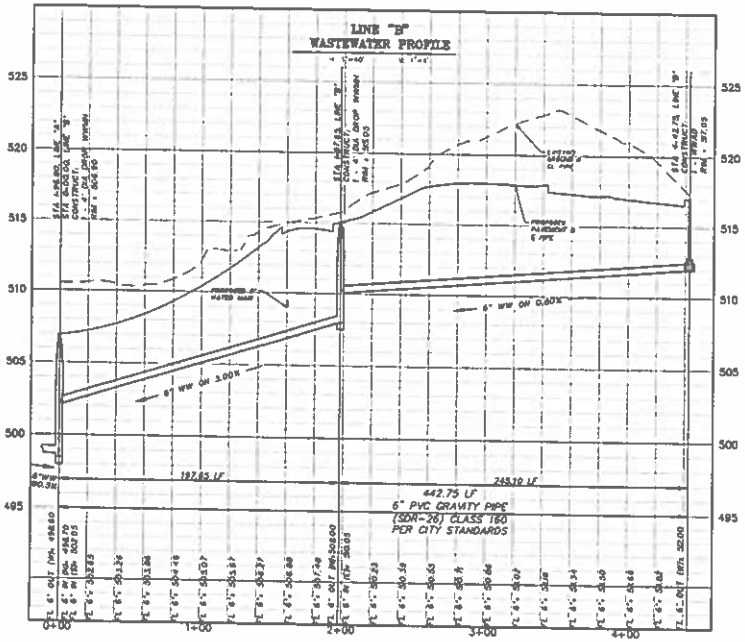
LOTS 1-33

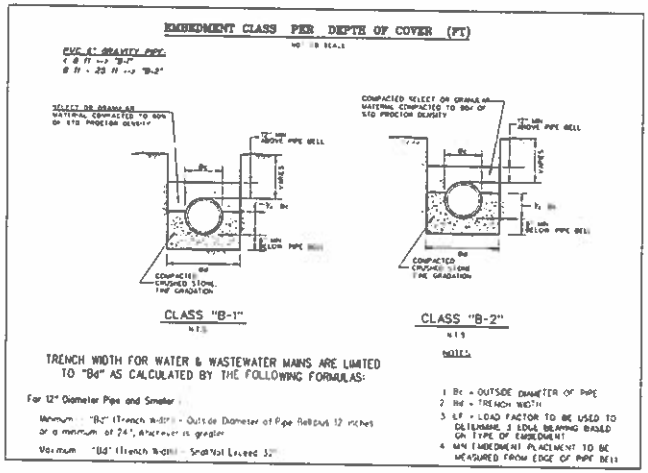
CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	REVIEW	FILE	JOB
GSCS	GSCS	DECEMBER 2024	1:60			









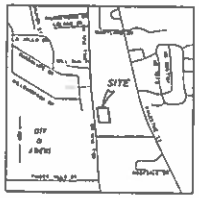
TRENCH WIDTH FOR WATER & WASTEWATER MAINS ARE LIMITED TO "Bd" AS CALCULATED BY THE FOLLOWING FORMULAS:

For 12" Diameter Pipe and Smaller

Minimum - "Bd" (Trench width) = Outside Diameter of Pipe Bell plus 12 inches or a minimum of 24", whichever is greater

Maximum - "Bd" (Trench Width) = Shall Not Exceed 32"

1. Bc = OUTSIDE DIAMETER OF PIPE
2. Bd = TRENCH WIDTH
3. LF = LOAD FACTOR TO BE USED TO DETERMINE 1 LOAD BEARING BASED ON TYPE OF EMBEDMENT
4. MIN EMBEDMENT PLACEMENT TO BE MEASURED FROM EDGE OF PIPE BELL



NOTICE
ALL UTILITY CROSSINGS NEED TO COMPLY WITH TCEQ WATER AND SEWER CONSTRUCTION REQUIREMENTS (CENTERING JOINTS, SEPARATIONS, ETC.)

NOTE
CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATIONS OF THE EXISTING 12" WATER MAIN AND IF NECESSARY SHALL PROVIDE A PLAN TO ADDRESS AND MAINTAIN ADEQUATE COVER OR VERTICAL REALIGNMENT FOR 12" WATER MAIN.

CAUTION!!!
GAS MAIN MAY BE IN VICINITY OF CONSTRUCTION. CONTACT APPROPRIATE UTILITY FRANCHISE 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATION.

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and 600 Run Road.
Elev. = 496.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
601 East Campbell Road
Suite 330, Richardson, Texas 75081

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT B SCHNEEBERG, P.E. 83261 ON 12/18/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

C17

FIRM NO. 7357-21-12-93 SWR NO. 7357 water-ww-only

Gonzalez & Schneeberg
engineers • surveyors
CONSTRUCTION FIRM NO. C-3376
601 East Campbell Road
Suite 330, Richardson, Texas 75081
(972) 516-0066
SURVEYING LICENSE NO. 100752-00

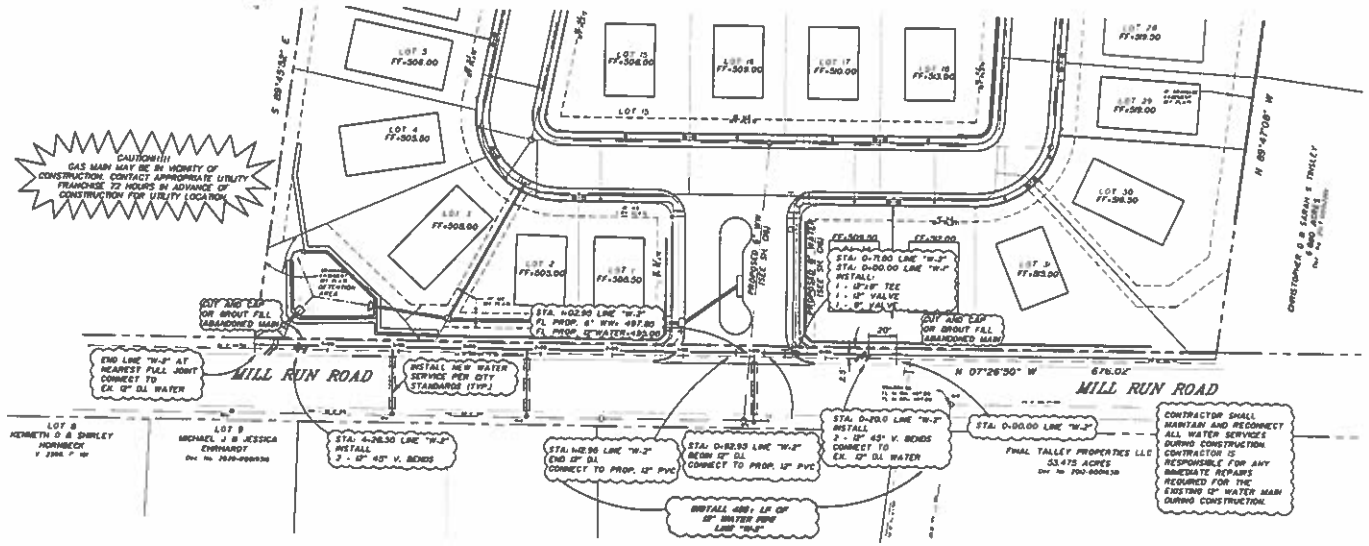
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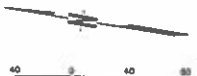
CARDINAL ESTATES

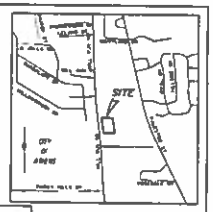
LOTS 1-33

CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	PROJECT	FILE	NO.
GMS	GMS	DECEMBER 2024	1=40			







NOTICE!!
ALL UTILITY CROSSINGS NEED TO COMPLY WITH TCEQ WATER AND SEWER CONSTRUCTION REQUIREMENTS (CENTERING JOINTS, SEPARATIONS, ETC.)

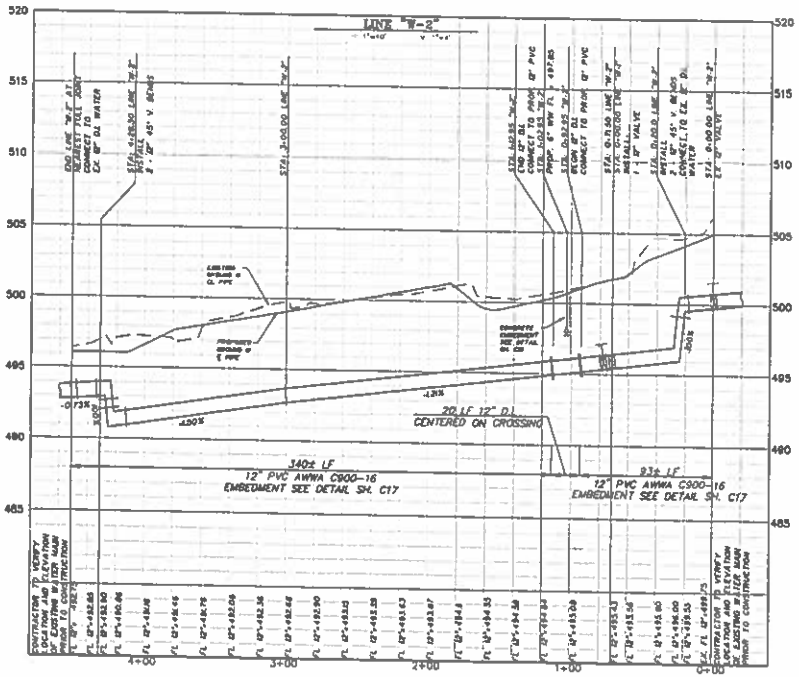
1-800-344-8377 (ONE-TEXAS)
Contractor shall contact Dig-Tess or other utility locator services no earlier than 14 days and no later than 48 hours prior to construction activity. Gonzalez & Schneeberg Engineers & Surveyors, Inc. is not responsible for locating all existing utilities or detecting exact location of utilities on survey.

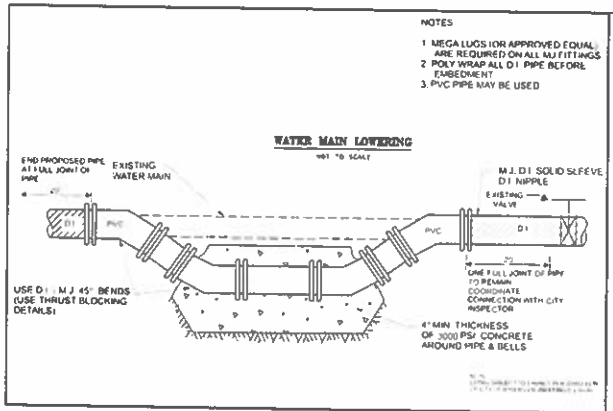
CAUTIONS!!

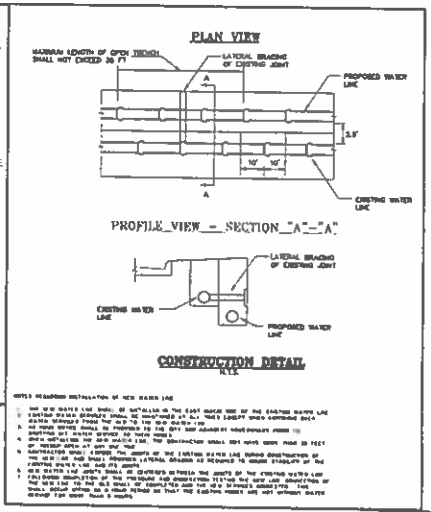
CONTACT:	
TXU ELECTRIC	972-390-3175
ATMOS ENERGY	214-426-7329
COMCAST CABLE	214-320-0436
TEXAS ONE CALL	1-800-245-4545

48 HOURS PRIOR TO CONSTRUCTION

WARNING!!
EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE FRANCHISE UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS/REPLACEMENTS.







C18

GONZALEZ & SCHNEEBERG ENGINEERING FIRM NO. F-3378 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS ROBERT W. SCHNEEBERG 66382

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG, P.E. 66382 ON 12/10/2020. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

BENCHMARK:
Top Center of Existing Manhole at Tanglewood and Mill Run Road.
Elev.: 498.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3378
Surveying License No. 100752-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

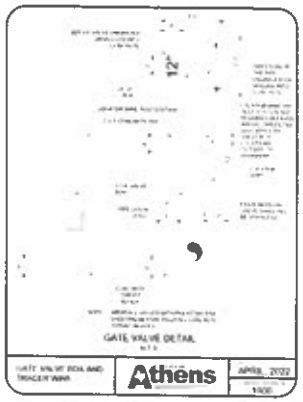
FIRM NO. F-3378 — SURV. NO. 100752-00

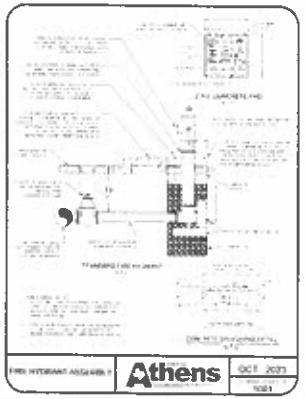
Gonzalez & Schneeberg
engineers = surveyors
801 East Campbell Road, Suite 330, Richardson, Texas 75081
(972) 578-6605
ENGINEERING FIRM NO. F-3378 — SURVEYING LICENSE NO. 100752-00

12-IN WATER MAIN LOWERING

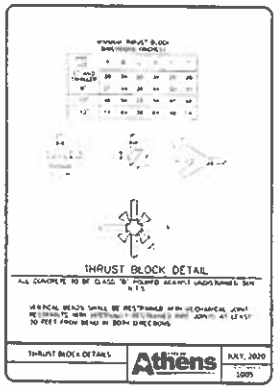
CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

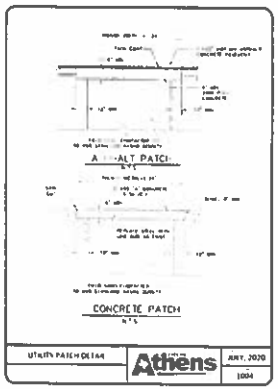
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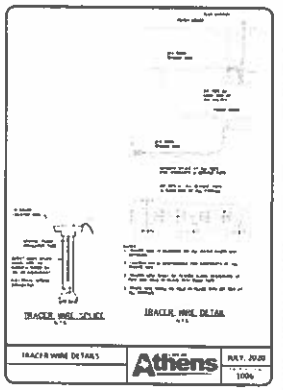


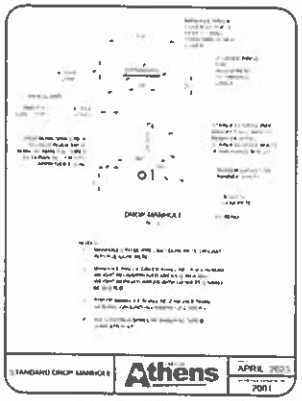


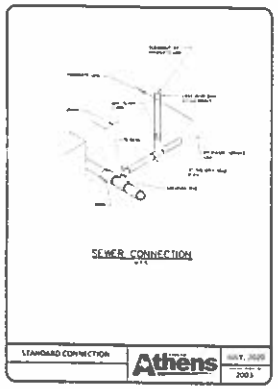


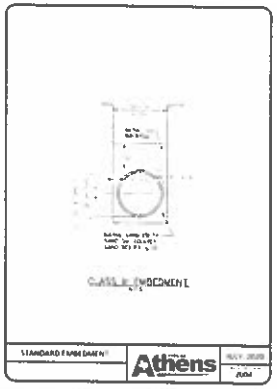


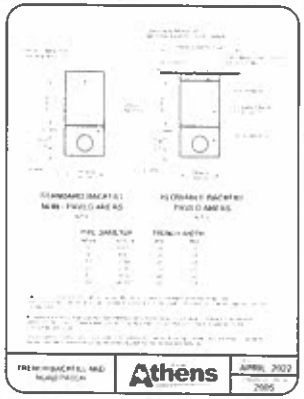




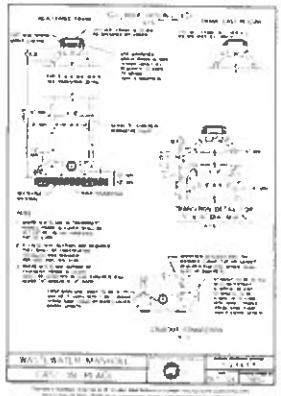


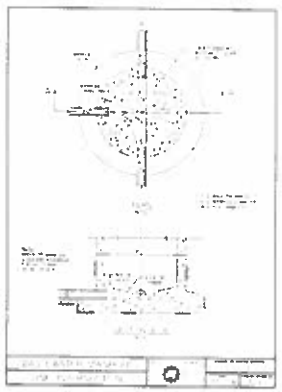


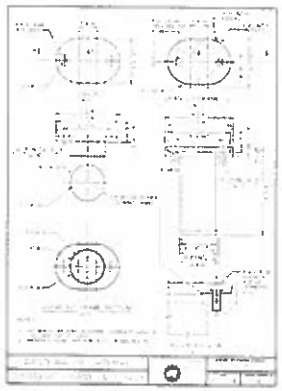


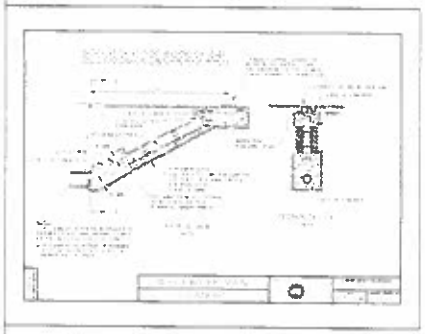












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GENERAL NOTES

1. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE WITH AWWA C110 OR AWWA C153
2. FITTINGS: ANSI/AWWA C104/A21, EXCEPT GASKETS SHALL BE NEOPRENE OR OTHER SYNTHETIC RUBBER. NATURAL RUBBER WILL NOT BE ACCEPTED.
3. ALL BOLTS AND NUTS SHALL BE ASTM A307 TYPE B ENHANCED CORROSION RESISTANT STEEL, OR STAINLESS-STEEL GRADE 304.
4. ALL BURIED METAL SHALL BE WRAPPED IN POLYETHYLENE TUBE WRAP, ANSI/AWWA C105/A21.5.
5. THE CONTRACTOR SHALL PROVIDE 48-HOUR NOTICE TO THE CITY AND TO THE PUBLIC OF ANY SCHEDULED SHUTDOWNS.

C19

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3376
Surveying License No. 100752-00
801 East Campbell Road
Suite 330, Richardson, Texas 75081

NO.	DATE	REVISION

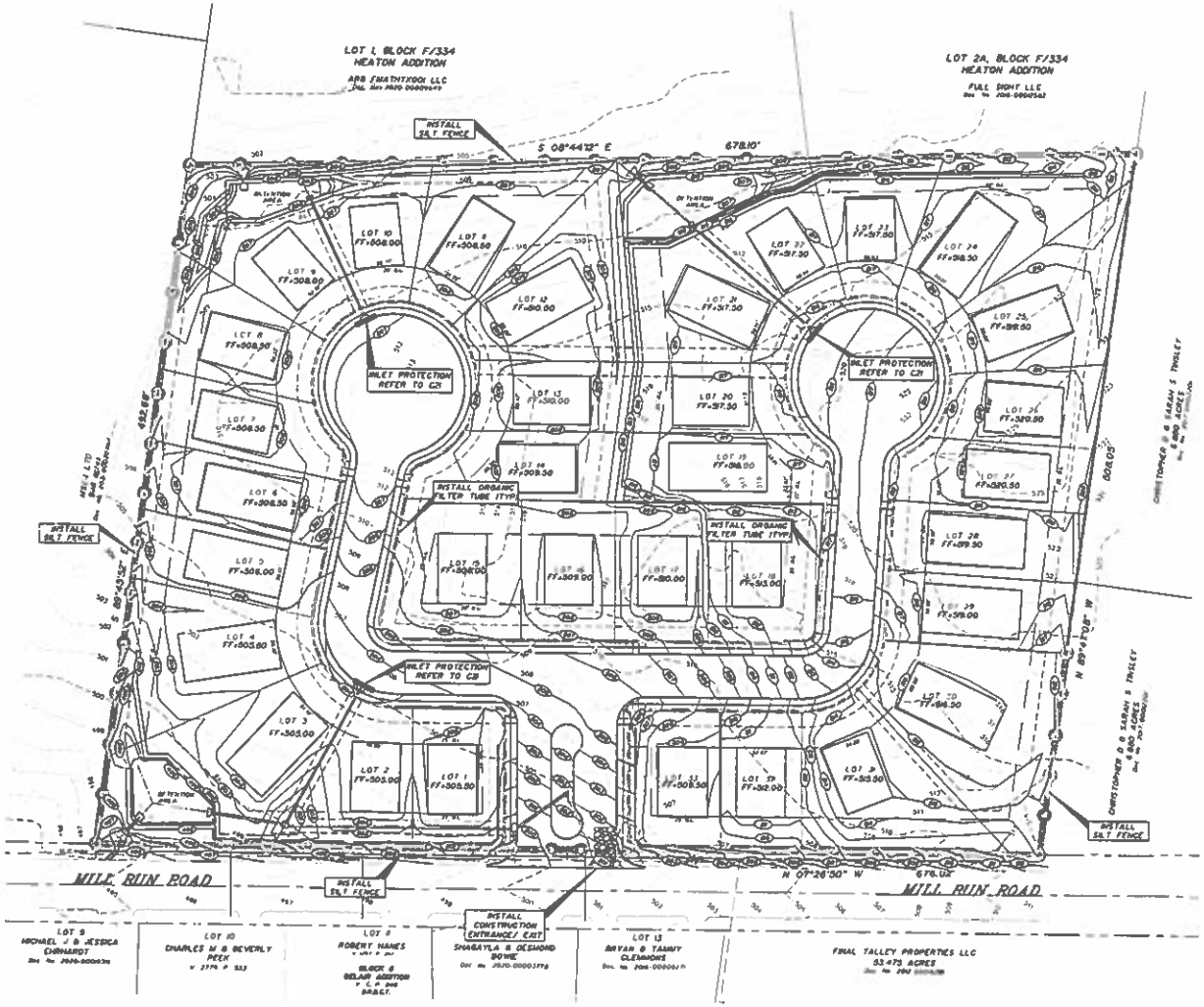
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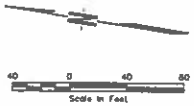
Gonzalez & Schneeberg
engineers • surveyors
801 East Campbell Road, Suite 330, Richardson, Texas 75081
(972) 516-0066
Engineering Firm No. F-3376 — Surveying License No. 100752-00

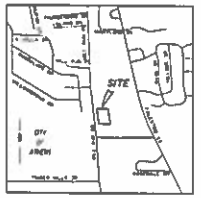
WATER & WASTEWATER DETAILS

CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

DESIGN	DRAWN	DATE	SCALE	PAPER	FILE	NO.
RBS	GBS	DECEMBER 2024	1:1.00			

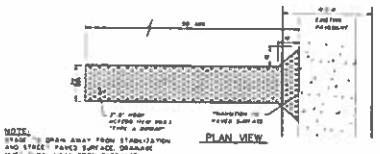






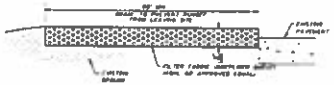
LEGEND

- SILT FENCE
- CONSTRUCTION ENTRANCE
- 564 PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE



NOTE: STAKE DRAIN AWAY FROM STABILIZATION AND STREET FENCE SURFACE DRAINAGE MUST FLOW AWAY FROM ENTRANCE

PLAN VIEW



PROFILE

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ROBERT W. SCHNEEBERG, P.E. 83363 ON 11/18/2024. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

C20

PROJ. NO. 7257-21-13-01 DWG. NO. 7257 grading

Gonzalez & Schneeberg
engineers • surveyors
Engineering Firm No. F-3178 Surveying License No. 100753-00
901 East Compost Road Suite 330, Richardson, Texas 75081
10721 690-8866

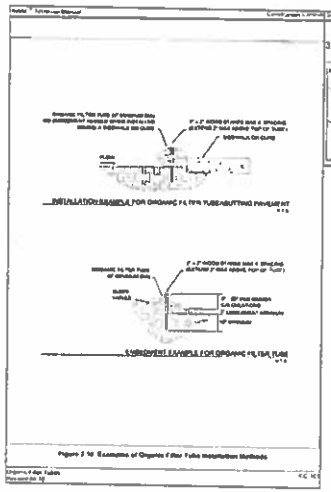
EROSION CONTROL
CARDINAL ESTATES
LOTS 1-33
CITY OF ATHENS, TEXAS

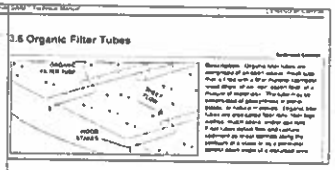
DESIGN	DRAWN	DATE	SCALE	SURVEY	FILE	NO.
CHECK	DWG	DECEMBER 2024	1=60			

BENCHMARK:
Top Center of Existing Manhole at Templewood and Mill Run Road.
Elev. 438.60

GONZALEZ & SCHNEEBERG
Engineering Firm No. F-3178
Surveying License No. 100753-00
901 East Compost Road
Suite 330, Richardson, Texas 75081

NO. DATE REVISION





PROJECT NAME & LOCATION: CARDINAL ESTATES
1101 MILL RUN ROAD
ATHENS, TEXAS 75751

OWNER NAME & ADDRESS: JAB REALTY CONSTRUCTION LLC
3250 HIGHWAY 78, SUITE 758-265
SACHSE, TX 75048

PROJECT DESCRIPTION: 33 SINGLE FAMILY HOMES AND
PUBLIC STREETS AND PEDESTRIAN WALKWAYS

TOTAL PROJECT AREA: 7.7 ACRES

TOTAL AREA TO BE DISTURBED: 7.70 ACRES

ESTIMATED PROJECT START DATE:

ESTIMATED PROJECT END DATE:

STRUCTURAL CONTROL PRACTICES TO BE USED:
SILT FENCING, ROCK CONSTRUCTION ENTRANCE.

ALLOWABLE NON-STORM WATER DISCHARGES

- DISCHARGES FROM FIRE FIGHTING ACTIVITIES
- FIRE HYDRANT FLUSHINGS
- WATER USED TO WASH VEHICLES OR CONTROL DUST
- POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS CONTAINING LESS THAN 1000 GALLONS/
- UNCONTAMINATED GROUND WATER INCLUDING DEWATERING GROUNDWATER INFILTRATION)
- FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS
- SPRINGS, RIPARIAN HABITATS, WETLANDS AND UNCONTAMINATED GROUNDWATER
- AIR CONDITIONING CONDENSATE
- EXTERIOR BUILDING WASH WATER WITHOUT DETERGENTS
- PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILL MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED

POLLUTION CONTROL GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED TO PROVIDE MEANS TO PREVENT OR MINIMIZE POLLUTION OF STORM WATER.
2. THE CONSTRUCTION ACTIVITY INCLUDED IN THIS PLAN WILL INCLUDE:
   A. ROCK CONSTRUCTION ENTRANCE
   B. INLET PROTECTIONS
   C. ORGANIC FILTER TUBES FOR SILT FENCING
3. THE TOTAL ESTIMATED LAND AREA TO BE DISTURBED IS 7.7 ACRES.
4. THE ESTIMATED RUNOFF COEFFICIENT UPON COMPLETION OF THE PROJECT IS 0.6.
5. THE STORM WATER EXITING THE SITE IS COLLECTED IN AN EXISTING DRAINAGE SYSTEM MAINTAINED BY THE CITY OF ATHENS, TEXAS.
6. THE SOILS ON THE SITE ARE GENERALLY EXPANSIVE CLAYS.
7. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION PROTECTION AROUND THE WORK AREA PERIMETER AND AT ALL INLET MOUTHS PRIOR TO COMMENCING WORK AND UNTIL THE WORK AREA HAS BEEN STABILIZED.
8. THE CONTRACTOR WILL REMOVE ALL EXCESS SOIL FROM CONSTRUCTION VEHICLES PRIOR TO EXITING THE SITE.
9. ALL DISTURBED AREAS WHICH WILL NOT BE RE-DISTURBED FOR A MINIMUM OF 21 DAYS MUST BE STABILIZED BY THE CONTRACTOR TO CONTROL EROSION.
10. THE CONTRACTOR SHALL UNDERTAKE PROPER METHODS TO REDUCE DUST GENERATION FROM THE SITE.
11. THE CONTRACTOR MUST COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS REGARDING SEDIMENT AND EROSION CONTROL.
12. A COPY OF THIS PLAN MUST BE KEPT AT THE CONSTRUCTION FACILITY DURING THE ENTIRE CONSTRUCTION PERIOD.
13. CONSTRUCTION SEQUENCING MUST PROVIDE FOR THE EXCAVATION OF AN ON-SITE BASIN AS A SEDIMENT COLLECTION BASIN PRIOR TO THE DISTURBANCE OF GREATER THAN 10 ACRES OF LAND.
14. ALL FINISHED GRADES ARE TO BE SODDED ("TYPE 1 - FULL SOD" OR APPROVED EQUAL) AND WATERED UNTIL GROWTH IS ESTABLISHED ON AND OFF-SITE.
15. A PIT OR WASH OUT BASIN SHALL BE CONSTRUCTED ON-SITE BY THE CONTRACTOR FOR THE "WASH OUT" OF CONCRETE TRUCKS.
16. A BERM OR OTHER SPILL PROTECTION MEASURE SHALL BE USED FOR ANY TEMPORARY FUEL STORAGE TANK ON SITE.
17. IF "TRASH" PUMPS ARE USED TO REMOVE WATER FROM EXCAVATED AREAS, FILTER THE DISCHARGE TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER LEAVES THE SITE.
18. TO PREVENT DAMAGE TO VEGETATION IN DOWNSTREAM WATER COURSES, LIMIT ANY PROPOSED LAKE STABILIZATION OPERATIONS TO THAT WHICH CAN BE MIXED AND COMPACTED BY THE END OF EACH WORK DAY. GEOTEXTILE FABRIC IS NOT EFFECTIVE IN FILTERING LIME SINCE THE GRAIN SIZE IS SMALLER THAN THE OPENING IN THE FABRIC.
19. VEHICLE PARKING AREAS, STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. OTHERWISE, COVERING OR ENCIRCLING THE AREAS WITH PROTECTIVE MEASURES SHALL BE NECESSARY.
20. STORE ALL TRASH AND BUILDING MATERIALS WASTE IN AN ENCLOSURE UNTIL PROPER DISPOSAL AT OFF-SITE FACILITIES.
21. TRACKING OF SEDIMENT OFF SITE BY TRUCK TRAFFIC SHALL BE HANDLED THROUGH REGULAR CLEANING.
22. INSPECTIONS SHALL BE CONDUCTED BY THE PERMITEE ONCE EVERY 2 WEEKS AND WITHIN 24 HOURS AFTER A STORM EVENT OF 0.5 INCHES OR MORE. THE INSPECTIONS WILL INCLUDE:
   A. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN STABILIZED
   B. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION
   C. STRUCTURAL CONTROL MEASURES
   D. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE
   E. IDENTIFICATION OF MEASURES THAT NEED TO BE MAINTAINED, MODIFIED OR ADDED TO CORRECT PROBLEMS
23. CONTRACTOR SHALL PREVENT THE DISCHARGE OF BUILDING MATERIALS, LIME, CEMENT, CONCRETE, ASPHALT, AND MORTAR TO THE AREA OR TO THE WATERS OF THE UNITED STATES.
24. PERMANENTLY STABILIZE EXPOSED SOIL, WITHIN AND ADJACENT TO THE SITE, THAT IS DISTURBED BY VEHICLES, GRADING AND OTHER CONSTRUCTION ACTIVITIES.
25. MATERIAL STOCKPILES SHALL BE COVERED BY PLASTIC OR SURROUNDED BY EROSION CONTROL STRUCTURES TO CONTROL SEDIMENT RELEASES.

NOTE

EROSION CONTROLS SHALL BE INSTALLED AND MAINTAINED PER THE ISWM ONLINE TECHNICAL MANUAL CONTAINING ISWM TECHNICAL GUIDANCE DOCUMENTS AS IS FOUND AND MAINTAINED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) WEBSITE. THE LINK TO THIS WEBSITE IS: HTTP://SWLIMCTCOG.ORG/TECHNICAL-MANUAL.HTML.

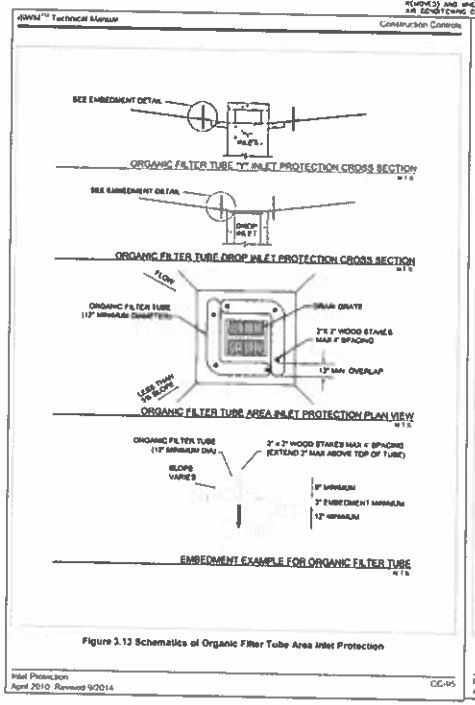


Figure 3.13 Schematics of Organic Filter Tube Area Inlet Protection

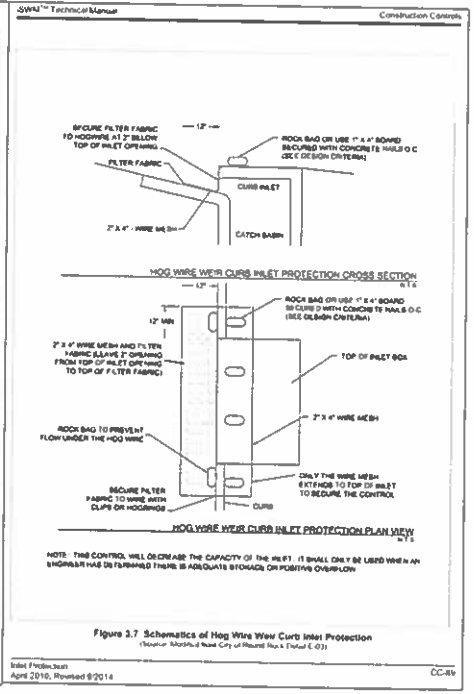


Figure 3.7 Schematics of Hog Wire Weir Curb Inlet Protection



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NO.	DATE	REVISION

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EROSION CONTROL DETAILS

CARDINAL ESTATES

LOTS 1-33

CITY OF ATHENS, TEXAS

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