



AMENDED AGENDA
Regular City Council Meeting
July 23, 2026, 6:00 p.m.
Bruceville-Eddy City Hall
144 Wilcox Drive, Eddy, Texas, 76524

Notice is hereby given that the Bruceville-Eddy City Council will conduct a Meeting on Thursday, July 23, 2026 beginning at 6:00 PM at the regular meeting place in Council Chamber at City Hall, 144 Wilcox Drive, Eddy, Texas, and notice of meeting giving time, place, date and subject was posted as described in V.T.C.A., Government Code §551.041 for the purpose of considering the following agenda items:

Meetings are available to watch on our YouTube Channel:
Search for “The City of Bruceville-Eddy” and click the subscribe button.

Please mute your phones and computers to avoid any interference during the meeting

1. **CALL TO ORDER**
2. **OPENING PRAYER**
3. **PLEDGE OF ALLEGIANCE**
4. **HONOR THE TEXAS FLAG**
Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.
5. **ROLL CALL**
6. **COMMUNITY ANNOUNCEMENTS**
7. **CITIZEN COMMENTS AND REPORTS**
At this time, comments will be taken from the audience on any subject matter. To address the City Council, please sign the ‘Speaker’s Card located on the table just inside the Council Chamber and deliver to the City Secretary before the meeting begins. Please limit comments to five (5) minutes. In accordance with the Open Meetings Act, Council may not discuss or take action on any item that has not been posted on the Agenda.
8. **CONSENT AGENDA**
(All consent agenda items are considered routine by City Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member requests an item be removed and considered separately.)

- A. Council to discuss, consider, and possibly take action to approve the minutes from the Regular Council Meeting, June 25, 2026.

9. ITEMS FOR CONSIDERATION

Discuss, take action or pass on any of the following:

- A. **PUBLIC HEARING:** Council to hold a PUBLIC HEARING and hear public comments pertaining to an owner/agent requesting a conditional use permit for a manufactured home on property located at 301 4th St, Eddy, Texas 76524, containing 0.474 acres; and further described as being located within the City limits of Bruceville-Eddy.
- B. Council to discuss, consider, and possibly take action to approve a request by Earl and Lisa Dumlao for a conditional use permit for a manufactured home on property located at 301 4th St, Eddy, Texas 76524, containing 0.474 acres; and further described as being located within the City limits of Bruceville-Eddy.
- C. Council to discuss, consider, and possibly take action to approve the final plat for Eagle Prairie Phase II on the property located at 901 Eagle Drive, Eddy, Tx, 76524.
- D. Council to discuss, consider, and possibly take action to purchase a 264 KW mobile generator for operation of water well sites and infrastructure.
- E. Council to discuss, consider, and possibly take action to order the November 3, 2026 general election for the full term of two (2) years for the three (3) expiring Councilmember positions.
- F. Council to discuss, consider, and possibly take action to approve the purchase of rifle-rated body armor for the Bruceville-Eddy Police Department under the Office of the Governor Rifle-Resistant Body Armor Grant Program.
- G. Council to discuss, consider, and possibly take action to approve the purchase of six (6) Panasonic FZ-55 Toughbook Mobile Data Computers for the Bruceville-Eddy Police Department utilizing Asset Forfeiture Funds.
- H. Council to discuss, consider, and possibly take action to approve the Notice of Receipt of Petition for Creation of an Agricultural Development District and Request for Information on Whether the City consents to Inclusion in District.

10. STAFF REPORTS

Council to discuss and consider staff reports from the City Administrator, Chief of Police, City Attorney, consulting engineers, and department heads.

11. EXECUTIVE SESSION

Council may meet in Executive Session to discuss any of the following:

- A. **Consultation with City Attorney**
Texas Government Code Section 551.071 – Consultation with City Attorney – and Section 1.05, Texas Disciplinary Rules of Professional Conduct. Confer with City Attorney to receive legal advice regarding USDA Rural Development Project.

12. RECONVENE INTO OPEN MEETING

- A. Consider and take action if any, on items discussed in Executive Session.

13. ADJOURNMENT

CERTIFICATION

I certify that the above notice of meeting was posted on the bulletin board at City Hall, 144 Wilcox Drive, Eddy, Texas on Friday, July 17, 2026 at 4:45 pm and on the City's website at www.bruceville-eddy.us.

Renee Flores

Renee Flores, City Secretary



I certify that the attached notice and agenda of items to be considered by the City Council was removed by me from the City Hall bulletin board on the ____ day of _____, 2026.

By: _____ Title: _____

NOTICE

This facility is wheelchair accessible and accessible parking spaces are available. Request for accommodations or interpretive services must be made 48 hours prior to this meeting. Please contact the city administrator at (254) 859-5700, via facsimile at (254) 859-5779 or email at lcutrone@bruceville-eddy.us for further information. Braille is not available.

The City Council may go into a Closed Executive Session pursuant to Texas Government Code §§551.071, 551.072, 551.074, 551.076, 551.087 and §418.183(f) of the Texas Disaster Act. Refer to list below and incorporated herein. A Closed Executive Session may be held, under these exceptions, at any time during the meeting that a need arises for the City Council to seek advice from the City Attorney as to the posted subject matter of this City Council meeting.

TEXAS GOVERNMENT CODE EXCEPTIONS

EXCEPTION	DESCRIPTION
551.071	Consultations with Attorney
551.072	Deliberations about Real Property
551.074	Personnel Matters
551.076	Deliberations Regarding Security Devices or Security Audits
551.087	Deliberation Regarding Economic Development Negotiations
418.183(f)	At any time during a state of disaster. A governmental body subject to Chapter 551 is not required to conduct an open meeting to deliberate information to which this section applies. Notwithstanding Section 551.103(a) , the governmental body must make a tape recording of the proceedings of a closed meeting to deliberate the information.

City Council Regular Meeting
AGENDA ITEM 8A



To: City Council
Subject: Council to discuss, consider, and possibly take action to approve the minutes from the Regular Council Meeting, June 25, 2026.
Meeting: City Council Regular Meeting – July 23, 2026
Department: Administration
Staff Contact: Renee Flores, City Secretary

BACKGROUND INFORMATION:

Minutes have been provided for review.

FINANCIAL IMPACT:

N/A

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Council to approve the minutes as presented.

ATTACHMENTS:

June 25, 2026 Minutes



The City of Bruceville-Eddy Rising into the Future

144 Wilcox Drive
Eddy, Texas 76524

www.bruceville-eddy.us

Phone: (254) 859-5964
Fax: (254) 859-5779

**Regular City Council Meeting
June 25, 2026, 6:00 p.m.
Minutes**

1. CALL TO ORDER

Mayor Owens called the meeting to order at 6:02 p.m.

2. OPENING PRAYER

Joyce Gan, Minister at Trinity Full Gospel in Belton, Texas led the invocation.

3. PLEDGE OF ALLEGIANCE & HONOR THE TEXAS FLAG

Mayor Owens led the pledge of allegiance.

4. ROLL CALL

Mayor Owens took the roll call.

Council Members present:

Mayor Linda Owens, Mayor Pro-Tem Graham McGruer, Councilmembers Ricky Wiggins, Melissa Futch, Richard Prater, and Justin Richardson

City Staff present:

Lawrence Cutrone, Renee Flores, Gene Sprouse, Johnny Grady, Chief Micheal Dorsey, and Ron Evans. City engineers present for meeting were Johnny Tabor, Chris Hill, with Tabor and Associates, and Gilbert Gregory with MRB. Also present was Mike Guevara, City Attorney.

5. CITIZEN COMMENTS AND REPORTS

- Cindy Edmiston thanked Lawrence Cutrone and the City Council for allowing citizens to talk and discuss the sewer project. She also shared gratitude to be able to speak during the City Council meetings.
- Cherie McGruer announced the church will not have 1st Friday Bingo due to holiday, but they will continue with 3rd Friday Bunco. She also announced the Fourth of July Lorena Fire Department Fundraiser.
- Mayor Linda Owens announced that City Hall will be closed for the 4th of July Holiday on Friday, July 3rd.
- Councilmember Melissa Futch announced openings for Bruceville Eddy sports.

6. CONSENT AGENDA



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(All consent agenda items are considered routine by City Council and will be enacted by one motion. There will be no separate discussion of these items unless a Council Member requests an item be removed and considered separately.)

- A. **Council to discuss, consider, and possibly take action to approve the minutes from the Regular Council Meeting, May 28, 2026 and Special Called Meeting, June 12, 2026.**
- B. **Council to discuss, consider, and possibly take action on the May 2026 financial reports for the general, water, and sewer fund accounts.**
- C. **Council to discuss, consider, and possibly take action to write off bad debt for specific utility accounts.**

Motion made by Ricky Wiggins to approve the consent agenda, seconded by Justin Richardson, yeas 5, nays 0, motion passed.

7. **ITEMS FOR CONSIDERATION**

- A. **Council to discuss, consider, and possibly take action on a citizen agenda item request from Al Beck related to reported flash flooding mitigation request near the corner of 3rd St. and Mackey Ranch Road.**

Al Beck, 7269 Mackie Ranch Road, addressed the City Council regarding recurring flooding at his residence. Mr. Beck explained that his home had recently flooded following a heavy rainfall event, making this the second flooding incident in two years. He expressed concerns that runoff from the adjacent field and inadequate roadside drainage contribute to water flowing directly onto his property. Mr. Beck requested that the City evaluate possible improvements, including deepening and widening the roadside ditches and reviewing the size of the culvert beneath his driveway. He also noted his concern that making improvements solely on his property could divert water onto neighboring properties.

City Administrator Lawrence discussed the City's research into the drainage issue, including communication with McLennan County, TxDOT, and the County Emergency Management Office.

Council discussed several potential approaches, including conducting an engineering study versus making immediate operational improvements. Councilmembers noted that similar ditch improvements performed in the past had successfully reduced flooding in nearby areas.

Motion made by Ricky Wiggins to approve City staff to clean, widen, and deepen the drainage ditch in front of Mr. Beck's property, and, where feasible, improve the ditch across the roadway,



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seconded by Richard Prater, yeas 5, nay 0, motion passed.

B. Council to discuss, consider, and possibly take action to approve a Renewal Notice and Benefits Verification Form through TX Health Benefits Pool.

Heather Vong, representative with the Texas Health Benefits Pool, presented the City's annual health benefits renewal. Ms. Vong reviewed the City's claims experience, renewal information, contribution history, healthcare cost trends, and value-added wellness programs available through the Pool. She reported that although the Texas Health Benefits Pool's average renewal increase for 2026-2027 is 11.5%, the City of Bruceville-Eddy received a flat renewal with no premium increase based on its favorable claims experience. She also highlighted new and existing wellness programs, including biometric screenings, telehealth enhancements, imaging benefits, and employee wellness incentives.

City Administrator Lawrence discussed the City's longstanding partnership with the Texas Health Benefits Pool, noting the value of the program and the City's ability to maintain excellent employee benefits without an increase in premiums.

Council Member Wiggins inquired whether THBP representatives would be available to provide employee education regarding the new benefits. Ms. Vong confirmed that educational meetings would be offered and coordinated with City staff.

Motion made by Ricky Wiggins to approve the Texas Health Benefits Pool Renewal Notice and Benefits Verification Form as presented, seconded by Richard Prater, yeas 5, nay 0, motion passed.

C. Council to discuss, consider, and possibly take action regarding the McLennan County Rural Transit District Ballot for Place 5 (Pct. 1).

City Administrator Lawrence presented the McLennan County Rural Transit District Board ballot for Place 5 (Precinct 1). He explained that each participating city is allocated twenty (20) votes, with no more than ten (10) votes permitted for its own nominee. Bruceville-Eddy's nominee was Justin Richardson.

Motion made by Ricky Wiggins to approve ten votes for Justin Richardson and divide the remaining ten votes equally among the remaining candidates, allocating five votes to each, seconded by Justin Richardson, yeas 5, nay 0, motion passed.

Prior to consideration of the next item, Councilmember Richardson requested a recessed. Mayor Owens recessed the meeting at 7:00 pm.

Following the recess, Mayor Owens reconvened the meeting at 7:12 pm.



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D. Council to discuss, consider, and possibly take action to approve resolution R 06-25-26-1 adopting the procedure for conducting meetings of the City Council and of Boards and Commissions of the City.

Mr. Cutrone gave Council a brief presentation and explained that the proposed procedures were developed following a public workshop held on April 30, 2026, where community members provided input regarding meeting procedures. Mr. Cutrone reviewed the proposed procedures, including opportunities for public participation throughout Council meetings, the order of business, procedures for presentations, public comments, Council deliberation, and the responsibilities of the presiding officer. He also discussed revisions submitted by Council Members following the previous meeting and explained how the proposed procedures comply with state law and existing City ordinances.

Joyce McGlothlin expressed concern that the proposed procedures would not allow members of the public to ask questions directly of presenters and requested that Council allow direct interaction during agenda item presentations to improve public understanding of issues before Council.

Dolores Compton submitted a written statement that was read by Councilmember Prater. The statement expressed opposition to limiting public participation during agenda discussions and encouraged Council to preserve opportunities for citizens to voice opinions and participate in discussions.

James Tolbert spoke regarding the public being allowed to speak during the meetings. HE asked that the city council continue to listen but with limits.

Cindy Edmiston spoke in favor of the procedures that allow the public to speak.

Diana Richardson apologized for her social media post.

Monique Moser spoke regarding how the new process would work and did a mock preview if the resolution was adopted.

Council had discussion of the proposed resolution and proposed changes.

Motion made by Graham McGruer to adopt the Resolution R 06-25-26-1 drafted from the workshop, with the following changes to remove council comments at the end and to reinsert community announcements to its original spot on agenda, seconded by Richard Prater, yeas 4, nay 1- Ricky Wiggins, motion passed.



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E. Council to discuss, consider, and possibly take action to approve ordinance O 06-25-26-1 regarding truck route.

Chief Dorsey gave a brief presentation regarding the amendments made to the ordinance after the last council meeting.

Council discussed costs within the budget and types of signs that would be purchased with the Police and Public Works Departments.

Danielle McGuer questioned the TxDot requirements for the barricades and signs.

Mayor Owens instructed Chief Dorsey to check with TxDot to make sure the signs are within the TxDot requirements.

Motion made by Ricky Wiggins to approve ordinance O 06-25-26-1 regarding truck route, seconded by Richard Prater, yeas 5, nays 0, motion passed.

8. STAFF REPORTS

Council to discuss and consider staff reports from the City Administrator, Chief of Police, City Attorney, consulting engineers, and department heads.

Mr. Cutrone gave an update on the well-site building addition, the CCTV inspection, and the purchase of the generator.

Mr. McGruer stated that he and Mr. Prater have been having town hall meetings to discuss with the public regarding the sewer project. Their hope is to have a meeting once a month.

Gil Gregory, MRB Senior Representative, gave Council an update on the grant proposal for the water well in Falls County.

Mr. Edmiston questioned if the well would be by Duty Park and Council stated yes.

Mayor Owens recessed the meeting and convened into Executive Session at 9:05 p.m.

9. EXECUTIVE SESSION

A. Consultation with City Attorney

Texas Government Code Section 551.071 - Consultation with City Attorney - and Section 1.05, Texas Disciplinary Rules of Professional Conduct. Confer with City Attorney to receive legal advice regarding USDA Rural Development Project.



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B. City Administrator

Texas Government Code Section 551.074 – Personnel Matters – Discussion regarding the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee: City Administrator. Tex. Gov't Code Ann. § 551.074.

Mayor Owens reconvened into open session at 10:06 p.m.

10. RECONVENE INTO OPEN MEETING

A. Consider and take action if any, on items discussed in Executive Session.

No action taken

11. CITY COUNCIL COMMENTS AND ITEMS FOR FUTURE AGENDAS

Expressions of thanks, congratulations or condolences; information regarding holiday schedules; honorary recognition of city officials, employees or other citizens; reminders about upcoming events sponsored by the City or other entity that are scheduled to be attended by a city official or city employee.

None.

12. ADJOURNMENT

Motion made by Richard Prater to adjourn at 10:07 pm, seconded by Melissa Futch, yeas 5, nays 0, motion passed.

Linda Owens, Mayor

Date

Renee Flores, City Secretary

Date:

City Council Regular Meeting
AGENDA ITEM 9A-B



To: City Council
Subject: Council to hold a PUBLIC HEARING and hear public comments pertaining to an owner/agent requesting a conditional use permit for a manufactured home on property located at 301 4th St, Eddy, Texas 76524, containing 0.474 acres; and further described as being located within the City limits of Bruceville-Eddy.
Meeting: City Council Regular Meeting – July 23, 2026
Department: Administration
Staff Contact: Renee Flores, City Secretary

BACKGROUND INFORMATION:

The property owner/applicant has submitted an application requesting a Conditional Use Permit (CUP) to place a manufactured home at 301 4th Street which is currently Zoned SF-1. The request is allowable by right within the City's Zoning Ordinance via the CUP process. Requests for CUP require a public hearing and notice of the public hearing must be publicized; both of these provisions have been conducted. As of Monday, July 20th (date of writing this memo) City staff has received no public comments or objections to report on per this item.

FINANCIAL IMPACT:

N/A

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Approve, do not approve, or take no action.

ATTACHMENTS:

Conditional Use Permit Application with property survey, request letter, and deed.
Two exhibits showing map views
Letter and addressed mailed too



**CITY OF BRUCEVILLE-EDDY
ZONING / PDD CHANGE APPLICATION**

Date Received by City: 7/4/2020
Received By Staff Initials: JR/RP
Paid \$500 ch# 3898

☐ Zoning / PDD Change \$300.00

☒ Conditional Use Permit \$500.00

Name(s) of Property Owner: Dumlao Earld & Lisa A LTE

Dumlao Family Legacy Tru ST
Current Address: P.O. Box 145 Eddy TX 76524-0145

City: Eddy State: TX Zip: 76706

Primary Phone: 254-229-7663 Cell Phone: 254-229-7663

Email: lisa.dumlao@gmail.com

Name of Applicant (If Different Than Above): Kimberly Dyess

Current Address: 232 W Wall St

City: Hewitt State: TX Zip: 76643

Primary Phone: _____ Cell Phone: 254.440.9857

Email: kdyesses@gmail.com

Address & Property Tax ID# of rezone request: #420275 / 301 4th St

Legal Description: Dumlao Addition Lot 1 Block 1 Acres 0.474

Is the rezone request consistent with the Comprehensive Plan? ☐ YES ☒ NO If No, need FLUM amend application

Is there a simultaneous plat application for the property? ☐ YES ☒ NO

Total Acreage: _____ Number of Lots: _____ In City Limits (Yes/No)? _____

Type of ownership (Sole, Partnership, Corporation, Other): _____

Present Zoning: 100 Present Use: Residential Vacant Land

Proposed Zoning: _____ Proposed Use: _____

Conditional Use Permit for: Manufactured Home

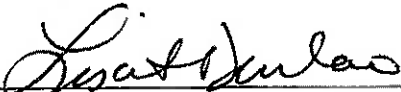
This property was conveyed to owner by deed dated _____ and recorded in Volume _____
Page _____ Instrument Number _____ of the McLennan or Falls County Deed Records.

Is this the first rezoning application on a unilaterally annexed tract?

☐ Yes ☐ No

CITY OF BRUCEVILLE-EDDY- ZONING / PDD CHANGE APPLICATION

All required items below and information requested on other pages of this application must be fully completed for an application & its submission to be considered complete. Incomplete submissions will not be accepted. By signing below I acknowledge that I have read through all pages & met the requirements of a complete submittal


Applicant Signature

6/26/2026
Date

- ☒ Completed zoning change application form (turn in the original wet ink executed copy to the City)
 - Must be signed by the property owner, or in the case of a corporation or partnership, documentation must be provided authorizing a single party to sign on behalf of the corporation or partnership
- ☒ Application fee & Billing Contact Form (cash or check; checks made payable to City of Bruceville-Eddy)
 - Zoning change application: \$300.00
 - Conditional Use Permit Application: \$500.00 ✓
- ☒ Description of property location (in one of the following forms)
 - Property address
 - Property survey
 - Legal description (subdivision name with lot and block)
 - Metes and bounds description
- ☒ Warranty deed or Tax Certificate (Proof of current ownership of this property)
- ☒ Letter of request signed by property owner or applicant, including the following information:
 - Reason for the request
 - Information about the proposed uses
 - Will the proposed change impact the surrounding properties, and how
 - Whether the request is consistent with the Future Land Use Map (FLUM)
- ☒ PDF Copies of: CONCEPT PLAN / MAPS / PLANS / BUILDING ELEVATIONS / ALL Documents
 - Digital copies of all submittal documents must be emailed or delivered on a USB flash drive
 - GIS Data to be included if applicable
 - Copy of PDD if applicable
 - File names to be labeled with the name of the plat & name of each application document

For additional Zoning PDD requirements & more information reference City of Bruceville-Eddy Code of Ordinances Chapter 14 (online)

City of Bruceville-Eddy (254) 859-5964
144 Wilcox Drive, Eddy, TX 76524

APPOINTMENT OF AGENT

As owner of the subject property, I hereby appoint the person designated below to act for me, as my agent in this request:

Name of Agent: Lisa Prater
 Mailing Address: 319 Old Moody Rd
 City: Eddy State: TX Zip: 76524
 Cell Phone: 254-744-2846 Business Phone: 254-744-2846

I acknowledge and affirm that I will be legally bound by the words and acts of my agent, and by my signature below, I fully authorize my agent to:

be the point of contact between myself and the City; make legally binding representations of fact and commitments of every kind on my behalf; grant legally binding waivers of rights and releases of liabilities of every kind on my behalf; to consent to legally binding modifications, conditions, and exceptions on my behalf; and, to execute documents on my behalf which are legally binding on me. This authorization only applies to this specific zoning change request.

I understand that the City will deal only with a fully authorized agent. At any time, it should appear that my agent has less than full authority to act, then the application may be suspended and I will have to personally participate in the disposition of the application. I understand that all communications related to this application are part of an official proceeding of City government and, that the City will rely upon statements made by my agent. Therefore, I agree to hold harmless and indemnify the City of Bruceville-Eddy, its officers, agents, employees, and third parties who act in reliance upon my agent's words and actions from all damages, attorney fees, interest and costs arising from this matter. If my property is owned by a corporation, partnership, venture, or other legal entity, then I certify that I have legal authority to make this binding appointment on behalf of the entity, and every reference herein to 'I', 'my', or 'me' is a reference to the entity.

*Signature of Agent (Wet Ink): Lisa Prater Title: Realtor
 Printed/Typed Name of Agent: Lisa Prater Date: 6/29/2026

*Signature of Property Owner (Wet Ink): Lisa A Dumlao Title: Owner
 Printed/Typed Name of Property Owner: Lisa A Dumlao Date: 6/29/2026

Signature of Property Owner (Wet Ink): Earl Dumlao Title: Owner
 Printed/Typed Name of Property Owner: Earl Dumlao Date: 6/29/2026

Signature of Property Owner (Wet Ink): _____ Title: _____

Printed/Typed Name of Property Owner: _____ Date: _____

Signature of Property Owner (Wet Ink): _____ Title: _____

Printed/Typed Name of Property Owner: _____ Date: _____

Application must be signed by property owner, individual applicant, by each partner, or by an officer of a corporation/association.

BILLING CONTACT FORM

Project Name: ~~Kimberly D. Dyess~~ ^{Kimberly D. Dyess} Kimmie's Little Corner in Eddy.

Project Address: 301 Mountain Rd 4th St.

Project Applicant Name: Kimberly D. Dyess

Billing Contact Information

Name: Kimberly D. Dyess

Mailing Address: 232 W. Wall St.

Hewitt, TX 76643

Email: kdyessesq@gmail.com Phone Number: 254.640.9857 Type of

Project/Application (check all that apply):

- ☐ Zoning
- ☐ PDD
- ☒ Conditional Use Permit
- ☐ Development Agreement
- ☐ Variance
- ☐ Street Closure

Applicants are required to pay all associated costs associated with a project's application for a permit, plan, certificate, variance, or agreement, regardless of City approval. Associated costs may include, but are not limited to, public notices and outside professional services provided to the City by engineers, attorneys, surveyors, inspectors, landscape consultants, lighting consultants, architects, historic preservation consultants, and others, as needed/required. Please see the City of Bruceville-Eddy's online Fee Schedule for more details. Fees must be paid in full in order to have your application filed with the City of Bruceville-Eddy; full payment is required before any processing can begin. By signing below, I am acknowledging that the above listed party is financially accountable for the payment and responsibility of these fees.


Signature of Applicant

06.29.2026
Date

Required info

From: Lisa Dumlao (TSTC) (lisa.dumlao@clvusa.com)
To: praterlisa@rocketmail.com
Date: Tuesday, June 30, 2026 at 10:00 PM UTC

Lisa,

Here are my best answers to the questions.

Reason for request	So a modular home can be placed on lot be new owner
Proposed Use	Single Family home
Impact	There should be no impact as the area is already residential and has modular homes in area
FLUM Consistent sure	Since the area is already residential, we believe the use is consistent. However, the city would know for

Lisa A. Dumlao
General Manager | Village Oaks TSTC
t: [254-237-9599](tel:254-237-9599) | villageoakststc.com
2010 Campus Drive, Waco TX 76705

**Confidentiality**

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**ENHANCED LIFE ESTATE DEED AND COMMUNITY PROPERTY
SURVIVORSHIP AGREEMENT**

THE STATE OF TEXAS

§
§
§

Know All Men By These Presents:

COUNTY OF MCLENNAN

This Deed is made effective on the 1st day of July, 2025, by the Grantors, **EARL D. Dumlao and LISA A. Dumlao**, husband and wife, P.O. 145, Eddy, Texas 76524. We designate the following as Grantee Beneficiary: **The then-serving Trustees of Dumlao Family Legacy Trust** dated July 1, 2025, P.O. 145, Eddy, Texas 76524.

For good and valuable consideration paid by the Grantee Beneficiary, the receipt of which is hereby acknowledged, the Grantors do transfer and convey the following described property to the Grantee Beneficiary effective on the death of the last Grantor to die:

Lot 1, Block 1, Dumlao Addition according to the plat of said addition recorded as Document 2025000354 of the Official Public Records of McLennan County, Texas; AND

That property described in Exhibit A attached hereto and incorporated herein by reference for all purposes

The Grantors reserve a life estate for themselves during their lifetime and during the lifetime of the survivor of them, coupled with an unrestricted power to convey during their lifetime, or during the lifetime of the survivor of them, which includes the power to sell, gift, mortgage, lease and otherwise dispose of the property, and to retain the proceeds from the conveyance.

The Grantors, as husband and wife, further agree and state as follows regarding their Community Property Interests, including their interests in the Property herein described:

The parties declare their interests in this Property to be Community Property of the Grantors and they do hereby wish to avail themselves of the provisions of the Texas Estates Code § 112.051 regarding it and all other Community Property of the Grantors.

WHEREAS, all the retained interests of the Grantors in the Property, and all other Community Property of the Grantors, shall become the property of the surviving spouse upon the death of either Grantor, without the need for probate proceedings. If Earl D. Dumlao predeceases Lisa A.

Dumlao, the retained interests in the Property, and all other Community Property, shall vest in and belong to Lisa A. Dumlao; and if Lisa A. Dumlao predeceases Earl D. Dumlao, the retained interests in the Property, and all other Community Property, shall vest in and belong to Earl D. Dumlao.

The parties declare this to be their homestead and primary residence. Any absence from it is deemed to be temporary and they intend to return to it in the future, if possible.

EXECUTED this 1st day of July, 2025

Signature:


Earl D. Dumlao

Signature:

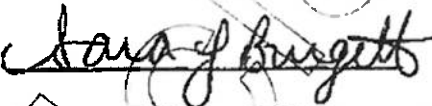

Lisa A. Dumlao

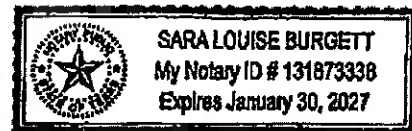
STATE OF TEXAS

COUNTY OF MCLENNAN

On this 1st day of July, 2025, personally appeared before me, Earl D. Dumlao and Lisa A. Dumlao, known to me to be the persons described in and who executed the within instrument and acknowledged that they signed the same as their voluntary act and deed for the uses and purposes therein mentioned.

Notary's Public Signature:





THIS INSTRUMENT WAS PREPARED FROM INFORMATION FURNISHED BY THE PARTIES HERETO AND NO EXAMINATION HAS BEEN MADE, NOR HAS ANY OPINION BEEN GIVEN REGARDING THE TITLE TO THE PROPERTY, DESCRIPTION OF THE PROPERTY, OR TAXES.

Mail Tax Statements to:

Earl & Lisa Dumlao
P.O. Box 145
Eddy, Texas 76524

After Recording, Please Return to:

Burgett Law Firm, PLLC
PO Box 5071
Waco, Texas 76708
(254) 218-6288

Exhibit "A"**A. SURVEY OF 13.704 ACRES OF LAND**

FIELD NOTES for a survey of 13.704 acres of land being out of and a part of the Thomas Pelk Survey, Abstract Number 703, McLennan County, Texas, being out of and a part of a 33.791 acre tract of land being the same tract of land described as 33.45 acres of land in a deed to Eddy Ray Grimsley of record in Volume 463, Page 785, Official Public Records, McLennan County, Texas. Said 13.704 acre tract of land being more particularly described as follows:

BEGINNING at a found iron pin in the north line of that certain tract of land described in a deed to Richard F. Chrisner of record in Volume 1110, Page 328, being the southwest corner of that certain 16.73 acre tract of land described in a deed to James A. Hamilton of record in Volume 296, Page 304, Official Public Records, McLennan County, Texas, the southeast corner of said 33.791 acre tract of land and the southeast corner of this;

THENCE N 71°00'12" W 374.18 feet with the north line of said Chrisner tract of land and the south line of said 33.791 acre tract of land to a found iron pin being the southeast corner of that certain 33.539 acre tract of land described in a deed to Alvin Lee Davis of record in Volume 1848, Page 45, Deed Records, McLennan County, Texas, the southwest corner of said 33.791 acre tract of land and the southwest corner of this;

THENCE N 19°52'04" E 1110.00 feet with the east line of said 33.539 acre tract of land and the west line of said 33.791 acre tract of land to a set iron pin being the southwest corner of a 20.087 acre tract of land surveyed at the same time and the westerly most northwest corner of this;

THENCE S 71°09'06" E 558.27 feet across said 33.791 acre tract of land with the south line of said 20.087 acre tract of land to a set iron pin being the southeast corner of said 20.087 acre tract of land and an ell corner of this;

THENCE N 31°47'45" E 1028.52 feet across said 33.791 acre tract of land with the east line of said 20.087 acre tract of land to a set iron pin in the northeast line of said 33.791 acre tract of land and the west margin of Tower Road being the easterly most northeast corner said 20.087 acre tract of land northerly most northwest corner of this;

THENCE S 27°18'56" E 58.52 feet with the northeast line of said 33.791 acre tract of land and the west line of said road to a set iron pin being the northwest corner of said 16.73 acre tract of land, the easterly most northeast corner of said 33.791 acre tract of land and the northeast corner of this;

THENCE S 31°47'45" W 2126.70 feet with the east line of said 33.791 acre tract of land and the west line of said 16.73 acre tract of land to the place of BEGINNING and containing 13.704 acres of land.

FILED AND RECORDED

OFFICIAL PUBLIC RECORDS

J. A. "Andy" Harwell

J. A. "Andy" Harwell, County Clerk
09/16/2025 02:01 PM
Fee: \$23.00
2025028362 DEED
McLennan County, TX







NOTICE OF PUBLIC HEARING

The Bruceville-Eddy City Council will hold a public hearing July 23, 2026, at 6:00pm in the Bruceville-Eddy City Hall, 144 Wilcox Dr., Eddy, Texas for considering a Conditional Use Permit for a Manufactured Home. Property located as follows: Property ID# 420275, 301 4th St, Eddy, Texas 76524. DUMLAO ADDITION Lot 1 Block 1 Acres 0.474. The Public hearing is open to any interested persons. Opinions, objections, and/or comments related to this matter may only be expressed in writing, via e-mail, or in person. Another person or attorney may also represent you.

July 9, 2026

COL-TX-11242



The City of Bruceville-Eddy Rising into the Future

144 Wilcox Drive
Eddy, Texas 76524

www.bruceville-eddy.us

Phone: (254) 859-5964
Fax: (254) 859-5779

NOTICE TO BE SENT TO PROPERTY OWNERS WITHIN 200 FEET OF PROPOSAL
CONDITIONAL USE PERMIT

NOTICE OF PUBLIC HEARING

July 12, 2026

Re: Conditional Use Permit
Property ID: #420275

The Bruceville-Eddy City Council will hold a public hearing on July 23, 2026 at 6:00 pm, in the City Council Chambers, Bruceville-Eddy City Hall, 144 Wilcox Drive, Eddy, Texas. This is for considering a conditional use permit for a Modular or Manufactured Home. This would be on properties described below and located as follows:

301 4th Street
Eddy, Texas 76524
Property ID# 420275
DUMLAO ADDITION Lot 1 Block 1 Acres 0.474

This Public Hearing is open to any interested persons. Opinions, objections, and/or comments relative to this matter only, may be expressed in writing or in person. You may also be represented by another person, neighbor, or attorney.

The enclosed map shows the location of the property listed above.

City of Bruceville-Eddy Council

Renee Flores, City Secretary

Eddy Masonic Lodge #797
10701 Sierra West Dr
Waco, Texas 76712

Armando & Elizabeth Dominguez
204 Franklin
Eddy, Texas 76524

Nancy Jane Bizal
304 s 4th St
Eddy, Texas 76524

Marr Jamie Thomas
306 4th St
Eddy, Texas 76524

Karen & Brandon Howard
1091 Mescalero Trl
Belton, Texas 76513

Carolyn Janek
PO Box 184
Eddy, Texas 76524

Juan S B Vera
304 4th St
Eddy, Texas 76524

Luis Angel
Elizabeth Barrientos
204 Franklin
Eddy, Texas 76524

Stephen Brown
307 4th St
Eddy, Texas 76524

Ymara Garcia
Matthew James Townsend
306 Franklin Rd
Eddy, Tx 76524

Cecil Griffin
710 W. 3rd St
Eddy, Texas 76524

Nelson Tabarez
108 Hungry Hill Rd
Eddy, Texas 76524

Virginia Ione Huber
1802 Meadowlark St
Deer Park, Tx 77536

City Council Regular Meeting

AGENDA ITEM 9C



To: City Council
Subject: Council to discuss, consider, and possibly take action to approve the final plat for Eagle Prairie Phase II on property located at 901 Eagle Dr, Eddy, TX 76524.
Meeting: City Council Regular Meeting – July 23rd, 2026
Department: Administration
Staff Contact: Lawrence Cutrone, City Administrator

BACKGROUND INFORMATION:

Final Plat and construction plans submitted for review and possible approval for Eagle Prairie Phase II located at 901 Eagle Dr, Eddy, TX 76524. MRB submitted a review comment letter requesting for more information on some items, and the letter also requests for some items to be altered within the final plat and construction plans and then be resubmitted for MRB to review again. Eagle Prairie has submitted their first response letter to MRB's first review comment letter.

FINANCIAL IMPACT:

N/A

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Conditionally Approve Eagle Prairie Phase II Final Plat and Construction Plans Contingent upon that Eagle Prairie meets all of MRB's Final Plat and Construction Plan Review Revision Comments and Requests for Alterations.

ATTACHMENTS:

Application
Final Plat and Construction Plans
MRB's Review Comment Letter
E.P.'s First Response Letter to MRB's First Review Comment Letter
Drainage Analysis Report
Lift Stations Calculations and Pump Curves Report
Water Model Report
Geotech Report

Application for: Check the appropriate box.

- ☐ Preliminary/Final Plat
☐ Preliminary Plat
☒ Final Plat or Replat
☐ Amended Plat
☐ Vacating Plat
☐ Right-of-Way Dedication

For Office Use Only

Case No. _____
 Date Submitted 4/26/2020
 Amount Paid \$ 4090.00
 By LG/PF \$3090.00
\$1000.00

The following information to be supplied by the APPLICANT:

Name Adrienne Donatucci Company WBW Development
 Address 109 W. 2nd Street, Suite 201 City Georgetown State TX Zip 78626 Telephone _____
 Fax _____ E-mail adonatucci@wbdevelopment.com
Adrienne Donatucci
 Signature of Applicant _____ Print Name _____

The following information to be supplied by the AGENT, ENGINEER, or CONTACT PERSON (if different from applicant):

Name John Hines Company Yalgo Engineering
 Address 109 W. 2nd Street, Suite 201 City Georgetown State TX Zip 78626 Telephone _____
512-534-7218 Fax _____ E-mail jhines@yalgoengineering.com
John Hines
 Signature of Agent/Engineer/Contact _____ Print Name _____

The following information to be supplied by the property OWNER(S). Attach additional sheets if necessary.

Name WBW Investment Solutions LLC Series 018 Company DBA WBW Development Bruce Whitis
 Address 109 W. 2nd Street, Suite 201 City Georgetown State TX Zip 78626 Telephone _____
 Fax _____ E-mail adonatucci@wbdevelopment.com

In lieu of representing this application myself as owner of the subject property, I hereby designate John Hines & Adrienne Donatucci to act in the capacity of my agent for submittal, processing, representation and/or presentation of this request. The designated agent shall be the principal contact person for responding to all requests for information and for resolving all issues of concern relative to this request.

I hereby certify that I am legally authorized to sign this application on behalf of the owner of the property, and to designate the applicant and the agent to represent the owner in this application.

I understand that it is necessary for me or my authorized agent to be present at both the Planning and Zoning Commission public hearing and at the City Council public hearing if council action is necessary.

Bruce Whitis
 Signature of Property Owner/Authorized Representative _____ Print Name _____

Location of Request (address if applicable) McLennan Co. #105320, 901 Eagle Dr., Eddy TX 76524
 Area of Request (acres or sq. ft.) 69.64 more or less
 Proposed Subdivision Name Eagle Prairie Phase II
 Survey Name William P. Henry & Levi Prewitt Abstract No. WPH-436, LP: 723
 Existing Zoning PDD - Residential Single Family Pending Zoning (if applicable) _____
 No. of Lots 259 Total No. of Dwelling Units 256 Single Family

Proposed Development or Reason for Request Proposed Development
 Please provide separate improvement survey if the property has existing improvements

Application Continued on Back

Planning and Community Development Department

144 Wilcox Drive • Bruceville-Eddy, TX 76524 • 254.859.5954 • 254.839.5779 fax • www.Bruceville-Eddy.us

Application version 11/21/2019

Plat Application (continued)

Case #: _____
Proposed Plat Name: Eagle Prairie Phase II

Is this a replat of an existing subdivision, lot or portions of lots? ☐ Yes ☒ No

If yes, please provide the following:

Subdivision Name _____ Lot _____ Block _____

Date Filed with McLennan County _____

Was this property restricted by either zoning or deed restrictions to single-family or two-family residential use at any time during the preceding five (5) years? ☐ Yes ☒ No

Please initial **each statement** to acknowledge you have **read and understand** the following statements:

☒ I understand that, while the City of Bruceville-Eddy agrees to receive this plat application today, the application is not considered to be filed with the City unless and until all required documents and fees have been submitted, as noted at the bottom of this page.

☒ I understand that Section 212.009 of the Texas Local Government Code requires that the City of Bruceville-Eddy shall act upon a plat within thirty (30) days after the date the plat application is filed.

☒ I also understand that the City of Bruceville-Eddy Subdivision Rules and Regulations include detailed requirements for the form and content of a plat, including compliance with current zoning, and they include a requirement that engineering plans for civil improvements necessary to serve the subdivision (if any) must be approved by the city engineer before the staff, Bruceville-Eddy or City Council can approve the plat.

☒ I understand the requirements for a complete application, the requirements of the subdivision ordinance, and the potential process as provided in HB 3167 if the plat does not meet regulations.

☒ I understand that if my plat application is not complete or if revisions do not address deficiencies, City staff will present the plat to the Planning and Zoning Commission with a recommendation of Disapproval.

X 
Signature of Owner or Authorized Representative

6/24/26
Date

For Office Use only

Submittal Documents (Required)

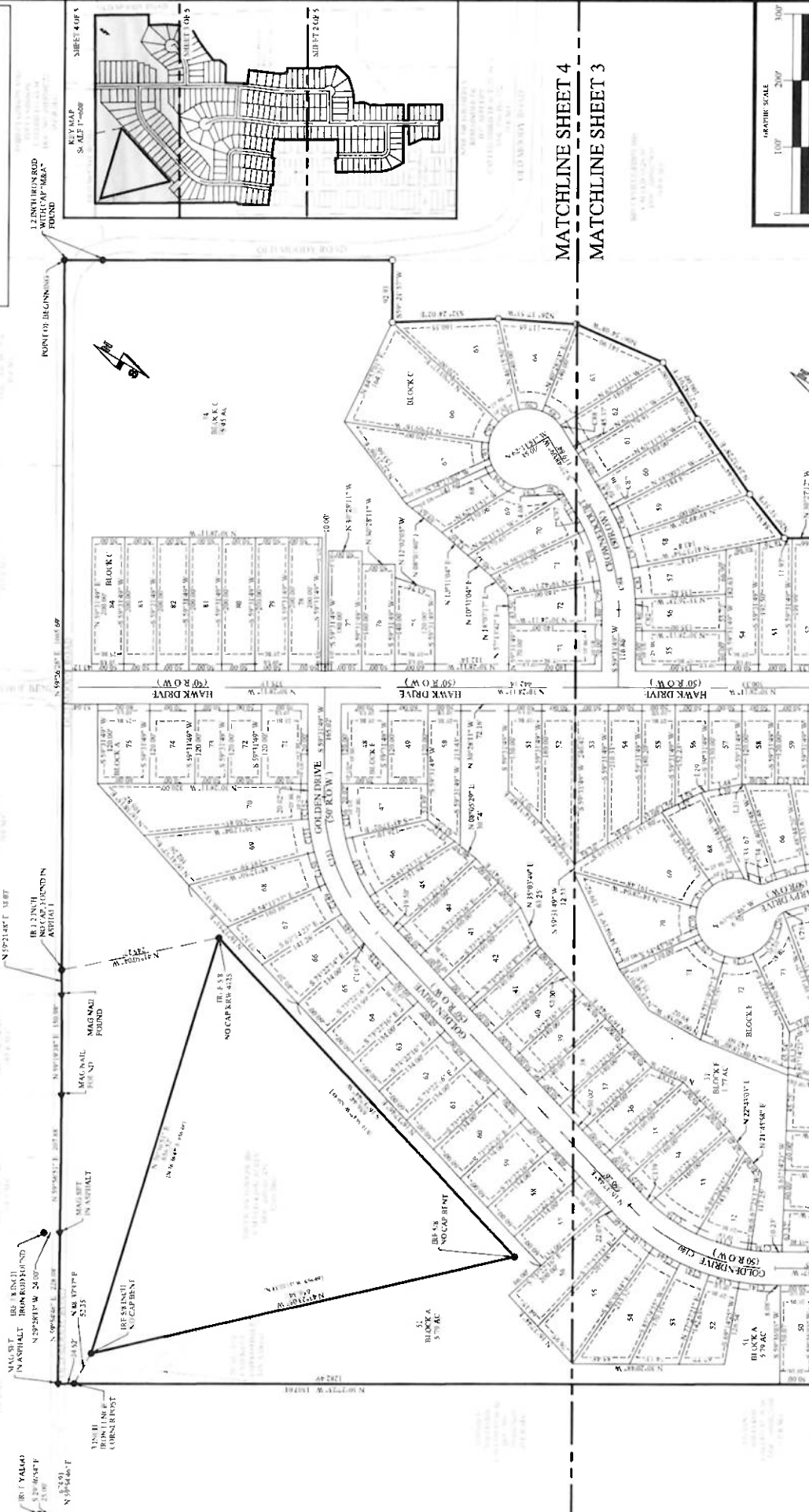
- ☐ Required plat size is 18 inches by 24 inches for 1st page and all consecutive pages, and the plat and all supporting documents must be on original mylar sepias (plastic)(rolled), and
 - ☐ Must include the original signature and stamp seal of the surveyor, and
 - ☐ Must include the field notes of the survey, and
 - ☐ Must include the dedication of the subdivision by the owners (signatures must be followed by notary acknowledgment), and
 - ☐ Must be approved by the proper city and/or county authority, and
- all stamp seals and signatures must be original, and blank areas of at least 3/4 inches high by 4-1/2 inches wide somewhere along the top of the plat, and at least 2-1/2 high by 4-1/2 inches wide somewhere along the bottom of the plat, are required for the placement of our recording information, and

Planning and Community Development Department

144 Wilcox Drive • Bruceville-Eddy, TX 76824 • 254.859.5964 • 254.859.5779 fax • www.Bruceville-Eddy.us

COUNTY CLERK'S FILE NUMBER

COUNTY CLERK'S FILE NUMBER



MATCHLINE SHEET 4
MATCHLINE SHEET 3



Valgo Engineering, LLC
109 W 2nd Street, Suite 201
Georgetown, TX 78626
PH: 254-951-5353
FX: 254-951-5357
E-mail: info@valgoeng.com
Treas: Registered Engineering Firm # F-24040
Surveyor License # 10194797

OWNER INFORMATION
BRITTA A. JONES
R.P.L.S. No. 824
VALGO ENGINEERING
109 W 2nd Street, Suite 201
Georgetown, TX 78626
PH: 254-951-5353
FX: 254-951-5357

ENGINEER INFORMATION
BRITTA A. JONES
R.P.L.S. No. 824
VALGO ENGINEERING
109 W 2nd Street, Suite 201
Georgetown, TX 78626
PH: 254-951-5353
FX: 254-951-5357

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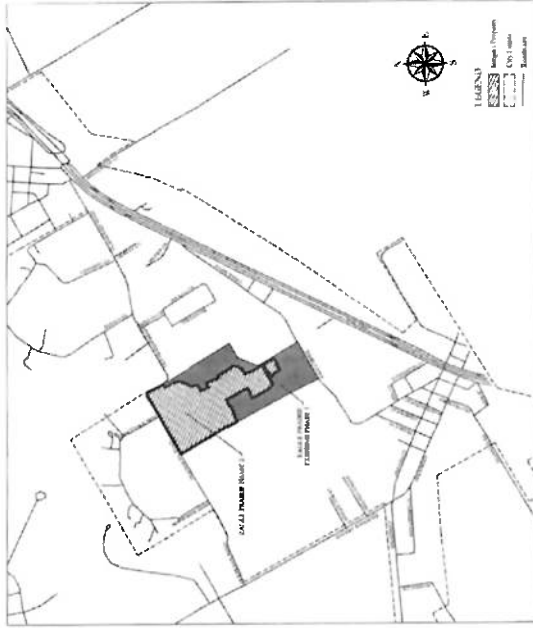
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CONSTRUCTION PLANS FOR
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS



VICINITY MAP
NTS

Sheet Number	Sheet Title
1	TITLE SHEET
2	FINAL PLAT 1
3	FINAL PLAT 2
4	FINAL PLAT 3
5	FINAL PLAT 4
6	FINAL PLAT 5
7	FINAL PLAT 6
8	WATER LAYOUT
9	SEWER LAYOUT
10	SIDEWALK LAYOUT
11	STREET LIGHT LAYOUT
12	STREET SIGN LAYOUT
13	STORMWATER POLLUTION PREVENTION PLAN
14	PRE-DRAINAGE
15	POST-DRAINAGE FOR PONDS
16	POST-DRAINAGE FOR STREETS
17	POST-DRAINAGE FOR CHANNELS
18	POST-DRAINAGE FOR CULVERTS
19	POST-DRAINAGE FOR DRAINAGE
20	CROWNED COURT DRAINAGE
21	GOLDEN DR 21+00 TO 27+00
22	GOLDEN DR 27+00 TO 31+00
23	GOLDEN DR 31+00 TO 37+00
24	GOLDEN DR 37+00 TO 43+00
25	HAPPY DRIVE 7+53.54 TO 13+00
26	HAPPY DRIVE 13+00 TO 18+00
27	HAPPY DRIVE 18+00 TO 23+00
28	HAPPY DRIVE 23+00 TO 28+00
29	HAPPY DRIVE 28+00 TO 34+00
30	HAWK DRIVE 34+00 TO 40+00
31	HAWK DRIVE 40+00 TO 46+00

32	HAWK DRIVE 46+00 TO 52+00
33	HAWK DRIVE 52+00 TO 58+00
34	STELLAR SEA DRIVE 0+00 TO 3+00
35	STELLAR SEA DRIVE 3+00 TO 7+11.54
36	STELLAR SEA DRIVE 7+11.54 TO 17+50
37	STELLAR SEA DRIVE 17+50 TO 27+00
38	STELLAR SEA DRIVE 27+00 TO 34+00
39	CHANNEL 3 1+00 TO 5+50
40	CHANNEL 3 5+50 TO 9+50
41	CHANNEL 3 9+50 TO 13+00
42	CHANNEL 3 13+00 TO 15+00
43	CHANNEL 4 1+00 TO 3+45.37
44	POND DETAILS
45	CROWNED COURT STORM DRAIN
46	GOLDEN DRIVE STORM DRAIN
47	HAPPY DRIVE STORM DRAIN
48	HAWK DRIVE STORM DRAIN
49	STELLAR SEA DRIVE STORM DRAIN (1)
50	STELLAR SEA DRIVE STORM DRAIN (2)
51	STELLAR SEA DRIVE STORM DRAIN (3)
52	TCSQ NOTES
53	SITE PLAN
54	LEFT STATION W/L WELL CONFIGURATION
55	FORCE MAIN LAYOUT
56	PUMP STATION TO HAWK DR. PLAN AND PROFILE
57	WATER DETAILS 1
58	WATER DETAILS 2
59	WATER DETAILS 3
60	SEWER DETAILS 1
61	SEWER DETAILS 2
62	STREET DETAILS 1
63	STREET DETAILS 2
64	STREET DETAILS 3
65	DRAINAGE DETAILS
66	SWPPP DETAILS

APPROVED FOR CONSTRUCTION

CITY OF BRUCEVILLE-EDDY



THESE DOCUMENTS ARE FOR THE
USE OF THE CITY OF BRUCEVILLE-EDDY
AND ARE NOT TO BE USED FOR ANY OTHER
PURPOSE WITHOUT THE WRITTEN
CONSENT OF THE CITY ENGINEER.



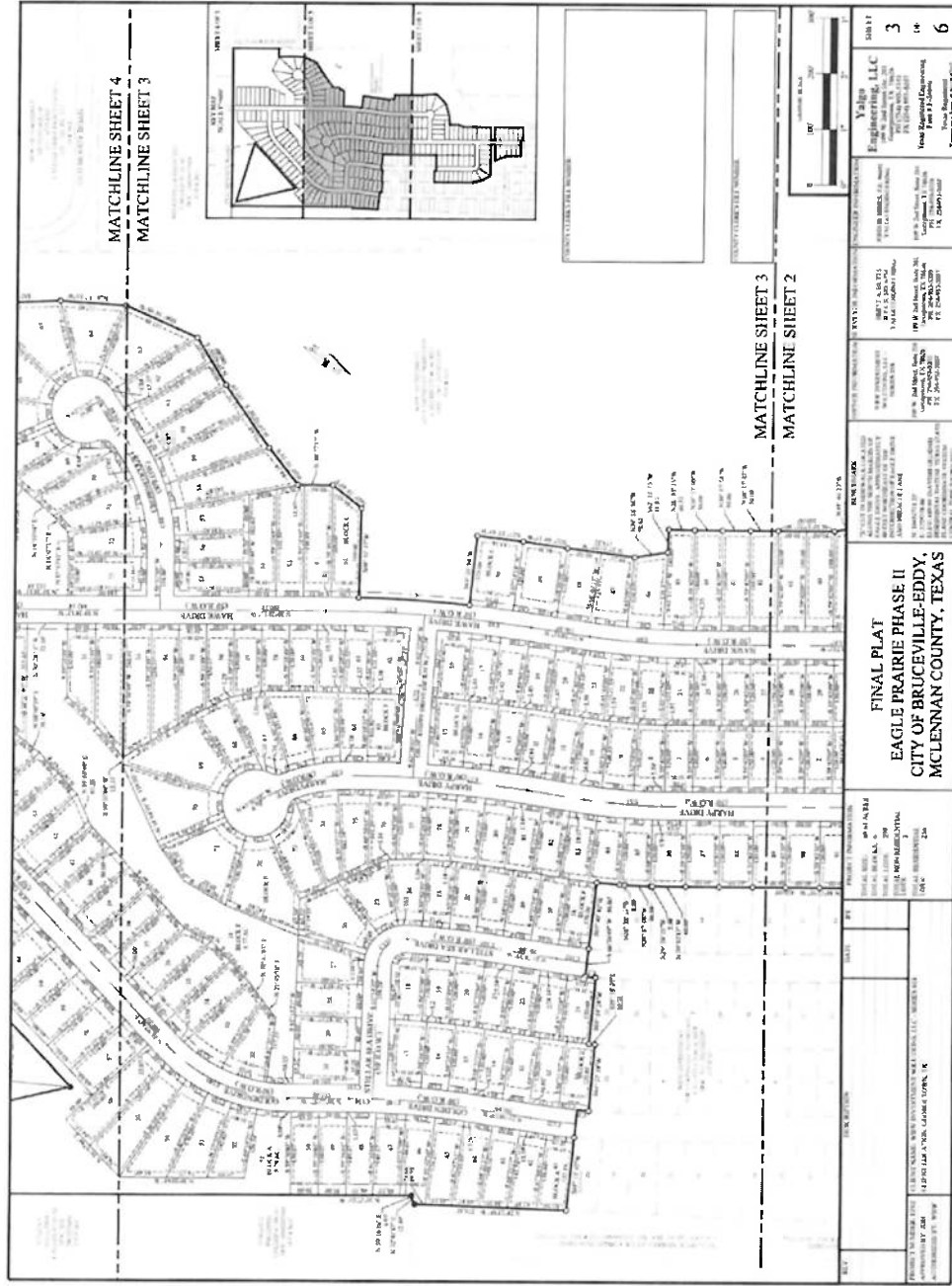
YALGO ENGINEERING, LLC
109 W. 2ND STREET, STE. 201
GEORGETOWN, TX. 78626 (254) 953-5353

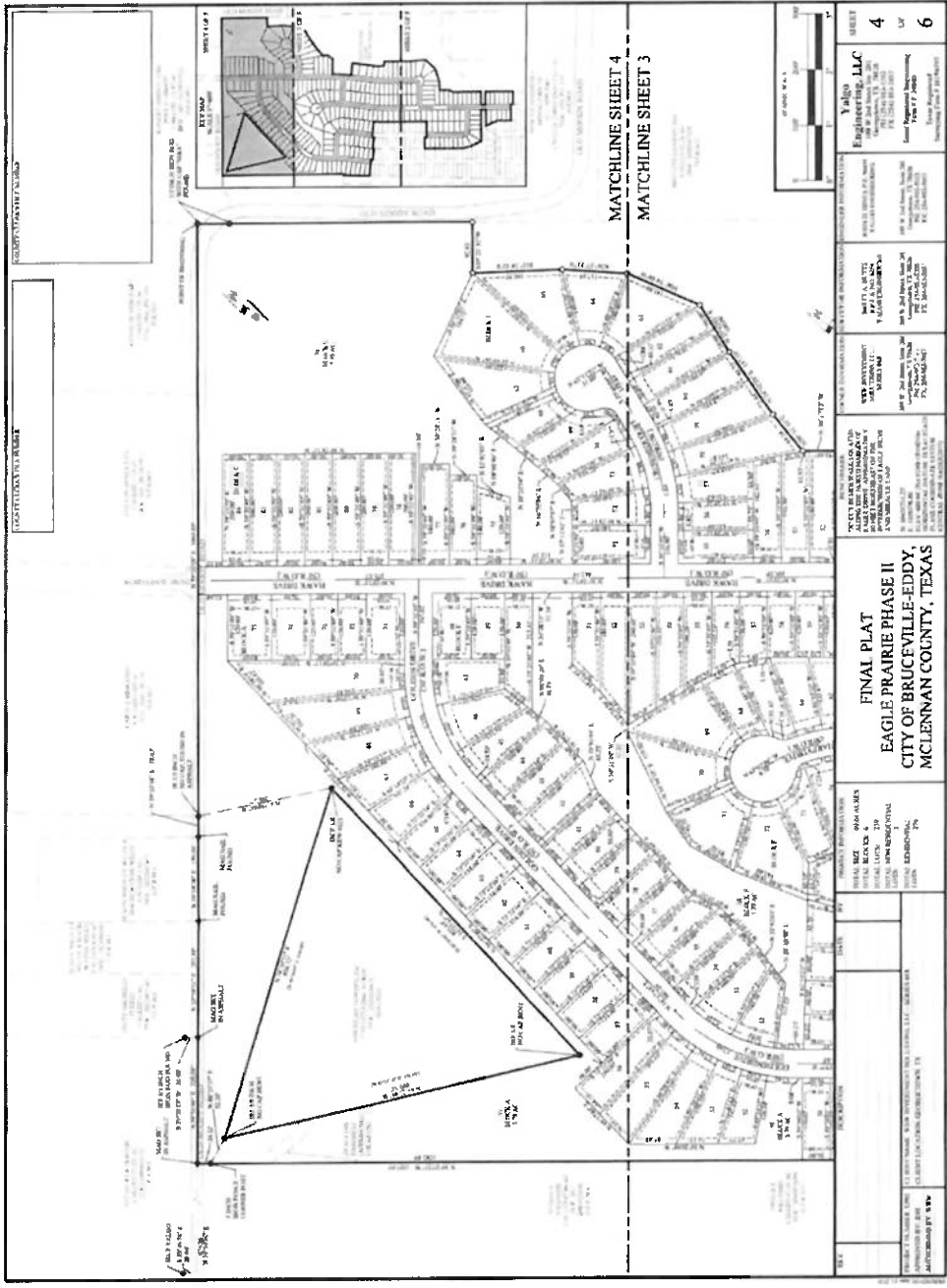
Texas Registered Engineering Firm F-24040
Texas Registered Survey Firm 10194797

REV.	DESCRIPTION	DATE	BY

June 2026

EAGLE PRAIRIE PHASE II



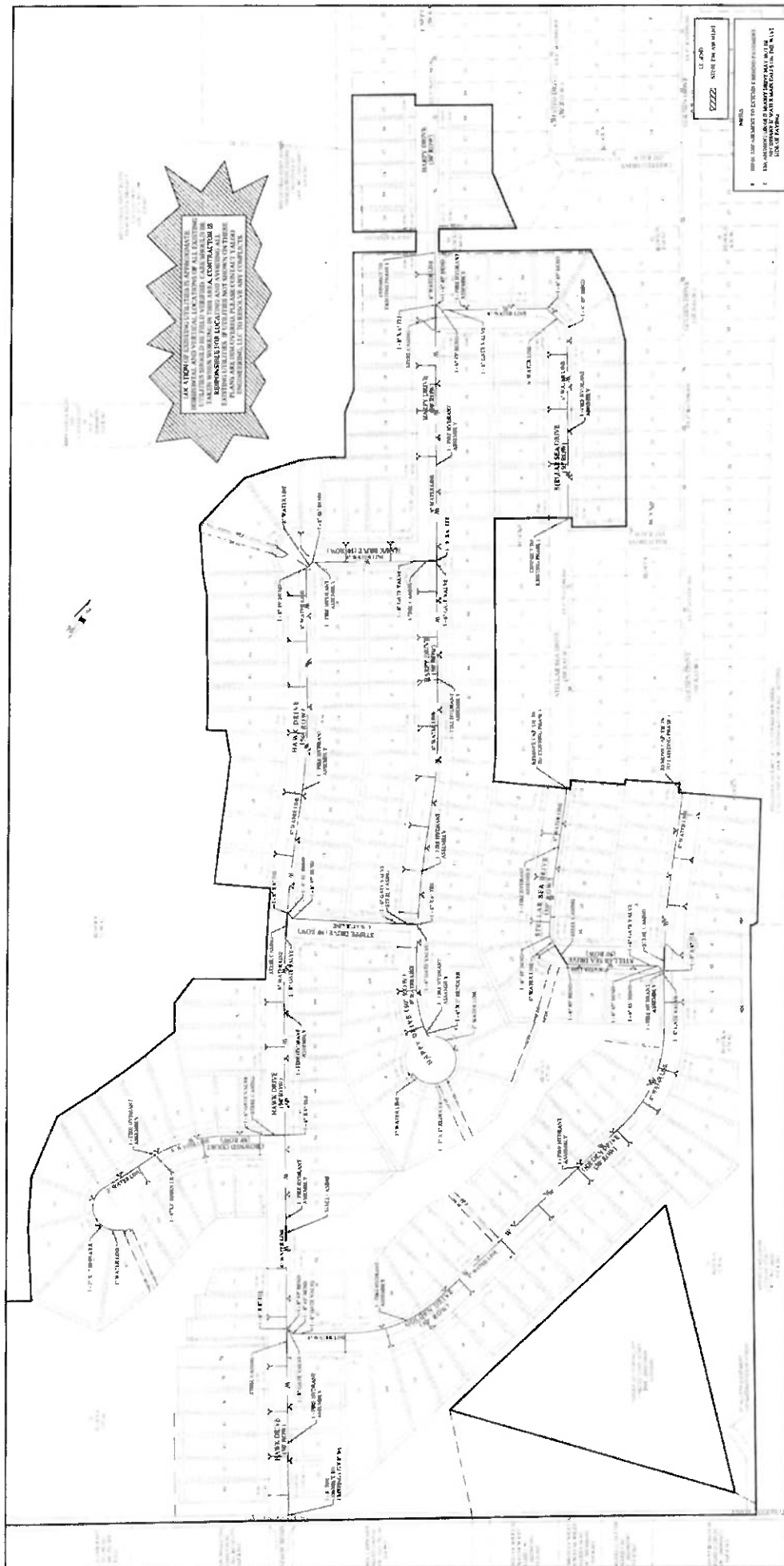


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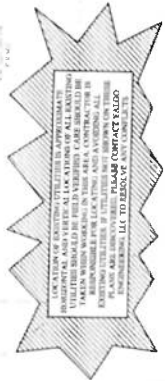
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	◦ CLOSURE: A GROUP HAS TO BE ABLE TO PLACE AN ORDER WITHIN 10 MINUTES
	◦ CLOSURE: A GROUP HAS TO BE ABLE TO PLACE AN ORDER WITHIN 10 MINUTES
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WICKS' BROAD Cotton-wool	ASBESTOS PAYMENT	COMBINATION (A) BROADWAY	SLIP-ON	CEMENTATION	CONCRETE	REPAIR	REPAIR	REPAIR	REPAIR	REPAIR	REPAIR

[illegible]



WATER LAYOUT EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		ENGINEER'S APPROVAL Yield Engineer, LLC 1000 N. 10th Street, Suite 100 Austin, Texas 78701 Phone: 512.444.1111 Email: info@yieldengr.com	DATE 02/22/2022 BY [Signature]
REVISIONS 1. 02/22/2022: Initial design and layout. 2. 02/22/2022: Revised layout to include additional water mains and hydrants.		SCALE 1" = 40'	PROJECT NUMBER 2022-001
NOTES 1. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 2. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 3. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 4. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 5. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 6. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 7. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 8. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 9. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications. 10. All water mains shall be installed in accordance with the City of Bruceville-Eddy, Texas, Water Main Specifications.		PROJECT LOCATION 1000 N. 10th Street, Suite 100 Austin, Texas 78701	PROJECT DATE 02/22/2022

[illegible][illegible]

THIS DOCUMENT IS RELEASED FOR THE
PURPOSE OF REVIEW UNDER THE
AUTHORITY OF E.O. 11652, P. 2, 6601
AND 11706. IT IS NOT TO BE USED FOR
CONSTRUCTIVE PURPOSES.

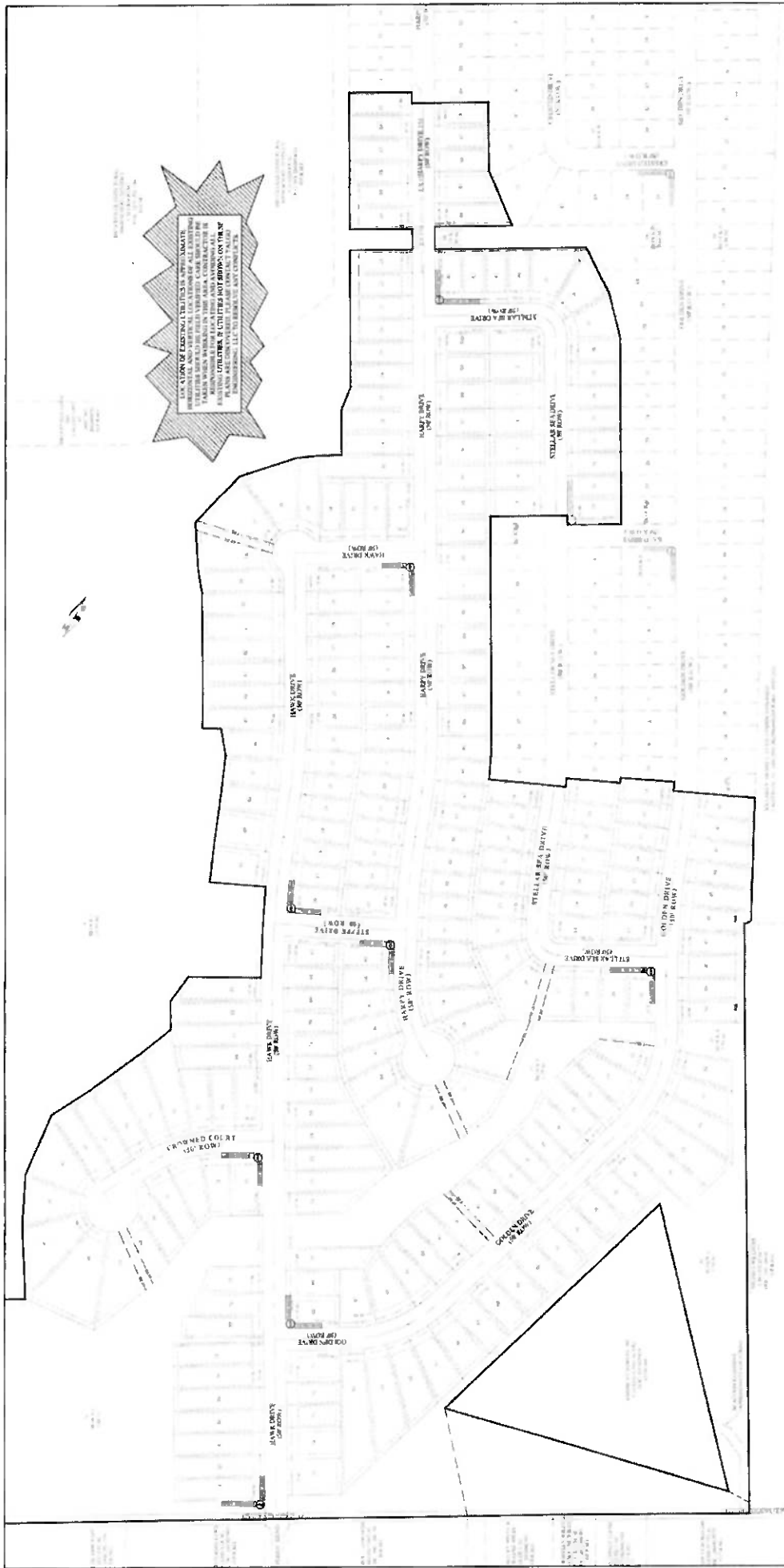
Valgo
Engineering, LLC
100 W. 2nd Street, Ste. 302
Columbus, IN 47201
PH (317) 905-3018
FX (317) 905-3007

Valgo Registered Engineering
(#021197-2004)

Valgo Registered
Professional Engineer
No. 021197-2004

9
LSE
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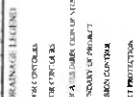
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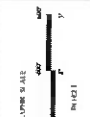
CANYON DRIVE
 STEELE RD
 STOP
 STOP

PROJECT NUMBER: 2024 APPROVED BY: [Signature] DATE: 11/11/2024	CITY OF BRUCEVILLE, TEXAS ENGINEER'S APPROVAL [Signature] DATE: 11/11/2024	YATES ENGINEERING, LLC 1000 N. 10TH STREET, SUITE 100 BRUCEVILLE, TEXAS 77813 PHONE: (409) 835-1234 FAX: (409) 835-1235 EMAIL: info@yateseng.com WWW.YATESENG.COM	SHEET 12 OF 66
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STORMWATER POLLUTION PREVENTION PLAN
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

THE NEW YORK PUBLIC LIBRARY

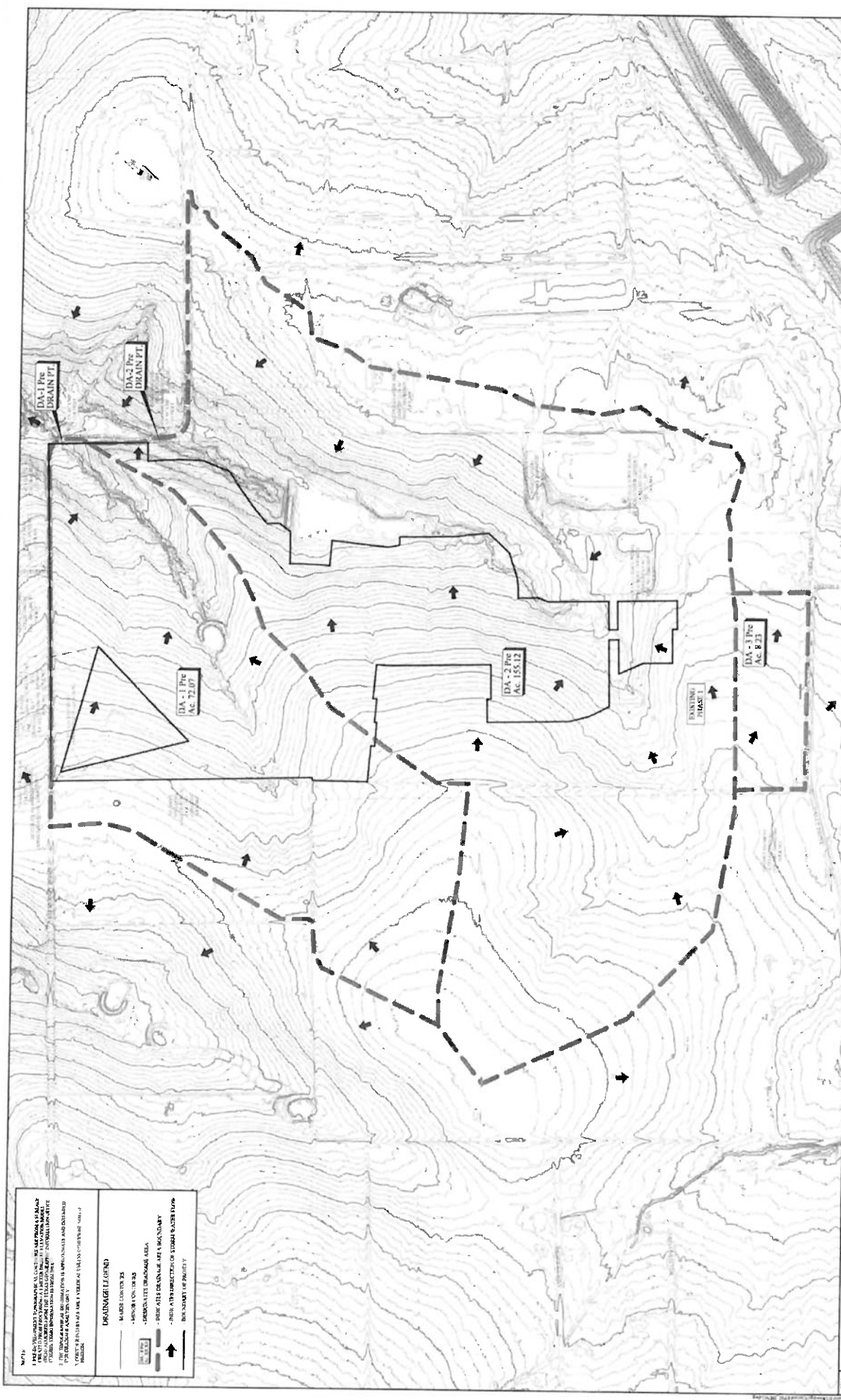
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INDEX: 100	DATE: 10/10/10
NO. 10	DATE: 10/10/10

Yoko Engineering LLC
100 W 2nd Street, Ste. 201
Camden, NJ 08102
Tel: (201) 933-0331
Fax: (201) 933-0077

Yoko Engineering LLC
Yoko Engineering
Yoko Engineering
Yoko Engineering

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NOTES

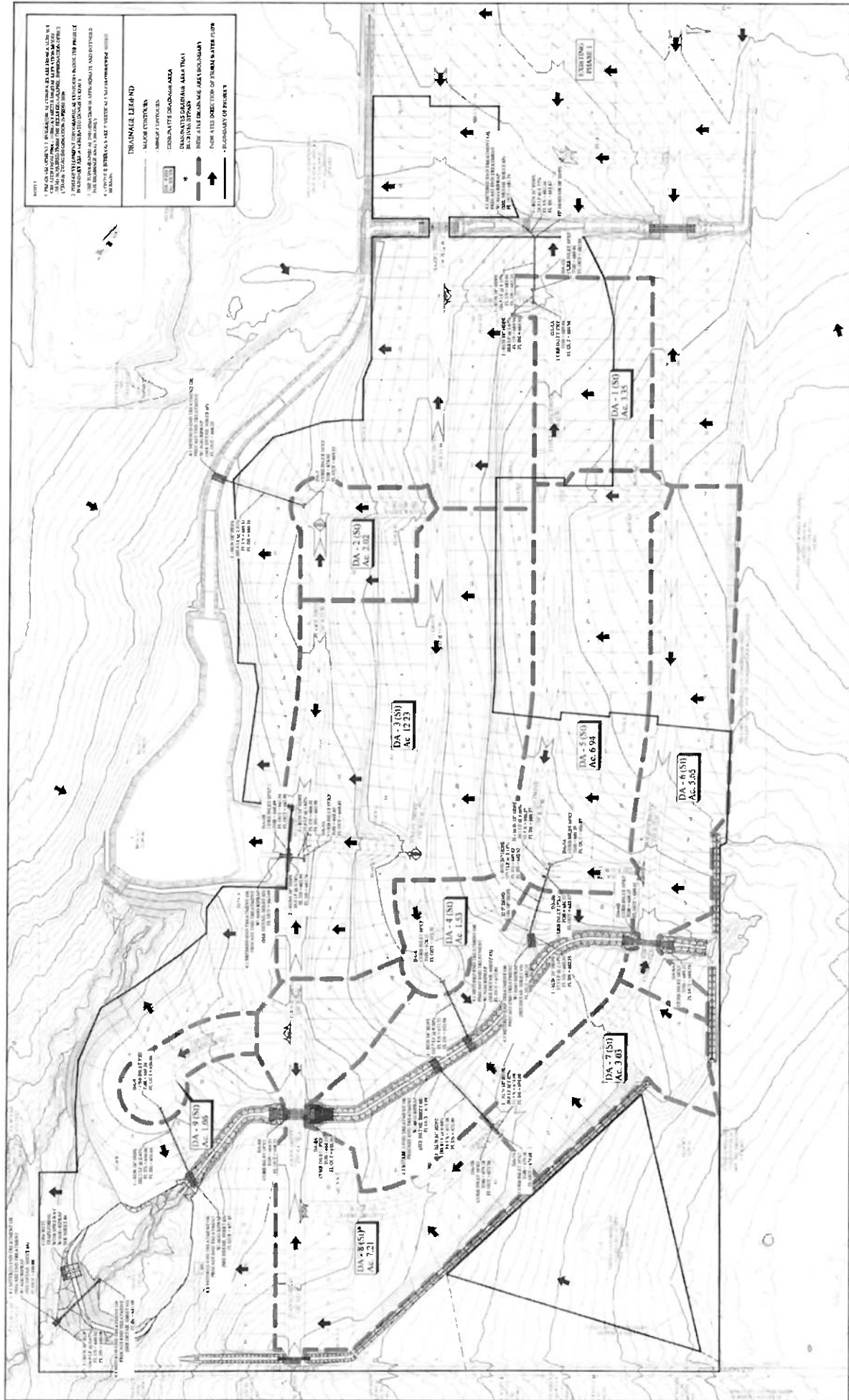
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2. THE DRAINAGE AREA IS BASED ON THE PRELIMINARY DRAINAGE PLAN AND IS NOT TO BE USED FOR CONSTRUCTION. IT IS SUBJECT TO CHANGE WITHOUT NOTICE.
3. THE DRAINAGE AREA IS BASED ON THE PRELIMINARY DRAINAGE PLAN AND IS NOT TO BE USED FOR CONSTRUCTION. IT IS SUBJECT TO CHANGE WITHOUT NOTICE.

DRAINAGE LEGEND

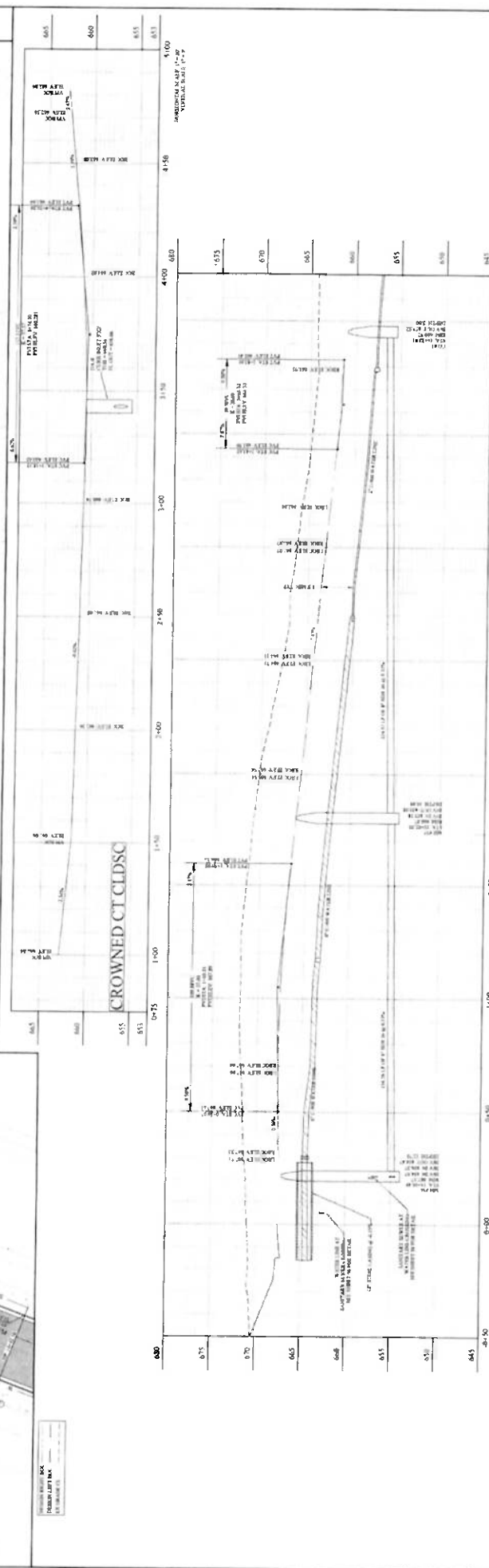
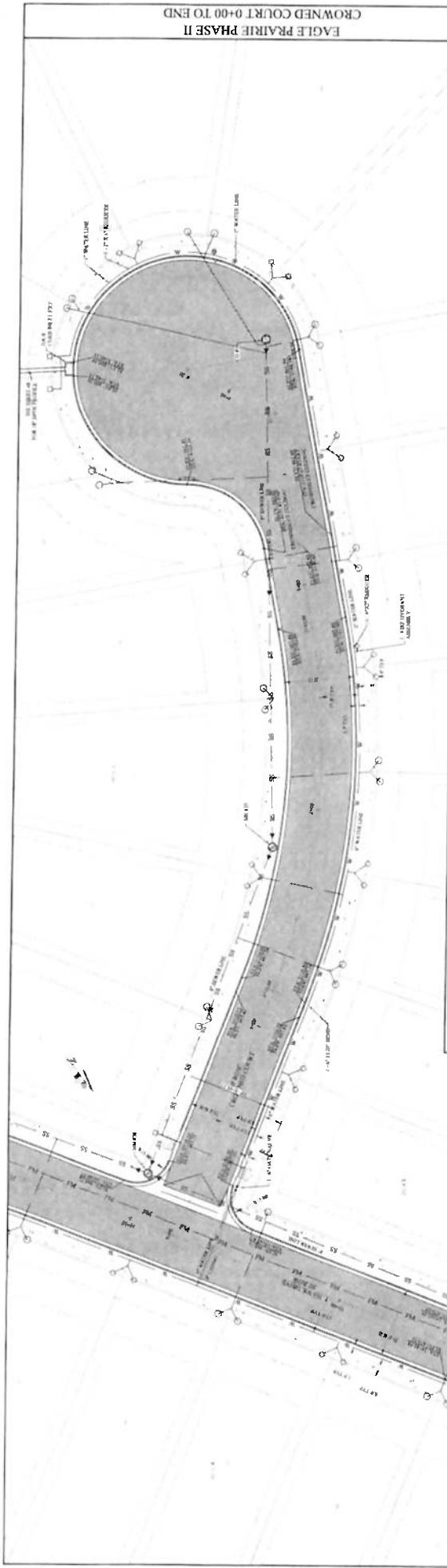
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- MINOR DRAINAGE
- INDICATES DRAINAGE AREA
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- INDICATES DRAINAGE AREA
- INDICATES DRAINAGE AREA

BOUNDARY OF PHASE II

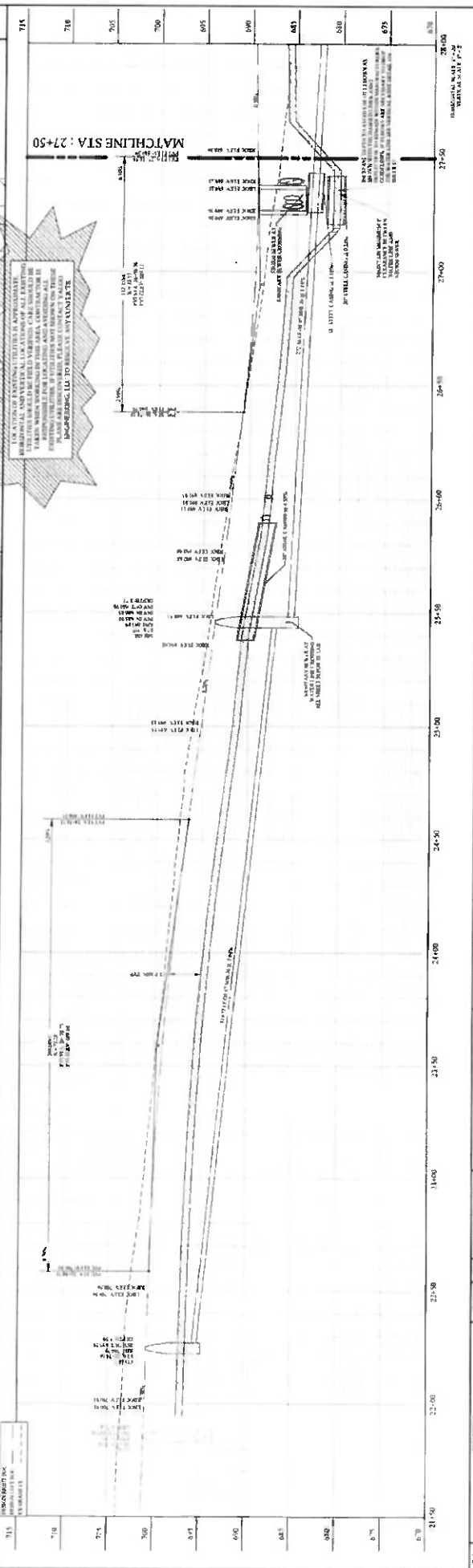
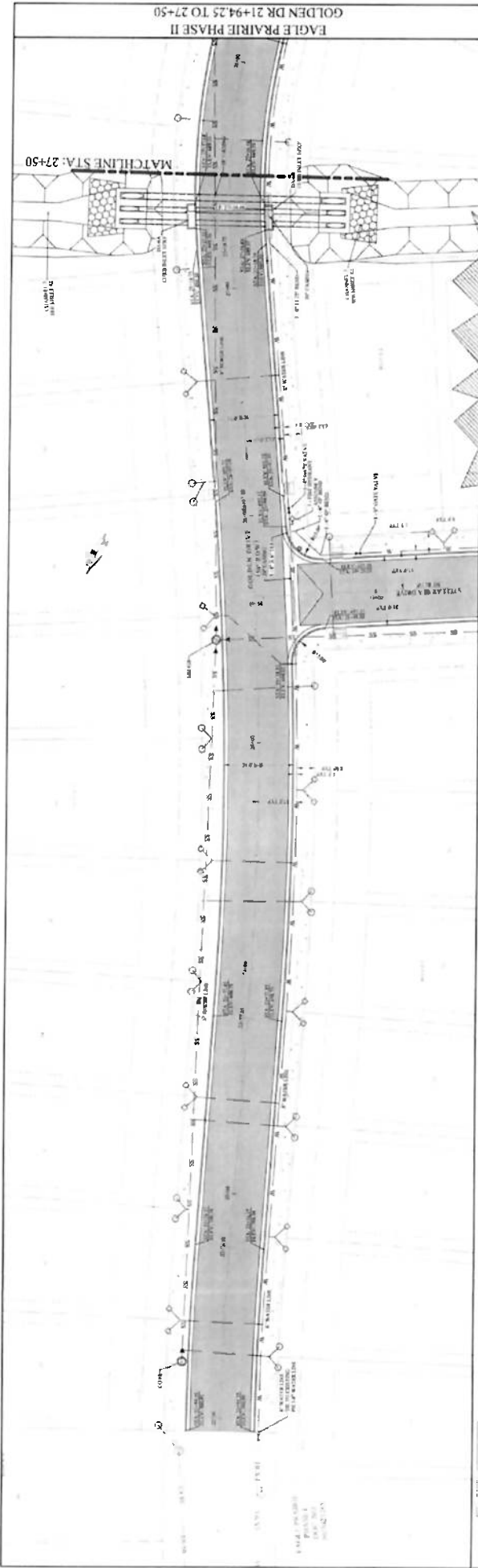
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SCALE 0 100 200 300 400 500 600 700 800 900 1000 0 100 200 300 400 500 600 700 800 900 1000 0 100 200 300 400 500 600 700 800 900 1000		
DATE 01/11/2011		
PROJECT PRELIMINARY DRAINAGE PLAN FOR EAGLE PRAIRIE PHASE II, CITY OF BRUCEVILLE-EDDY, TEXAS		
APPROVED BY 01/11/2011		



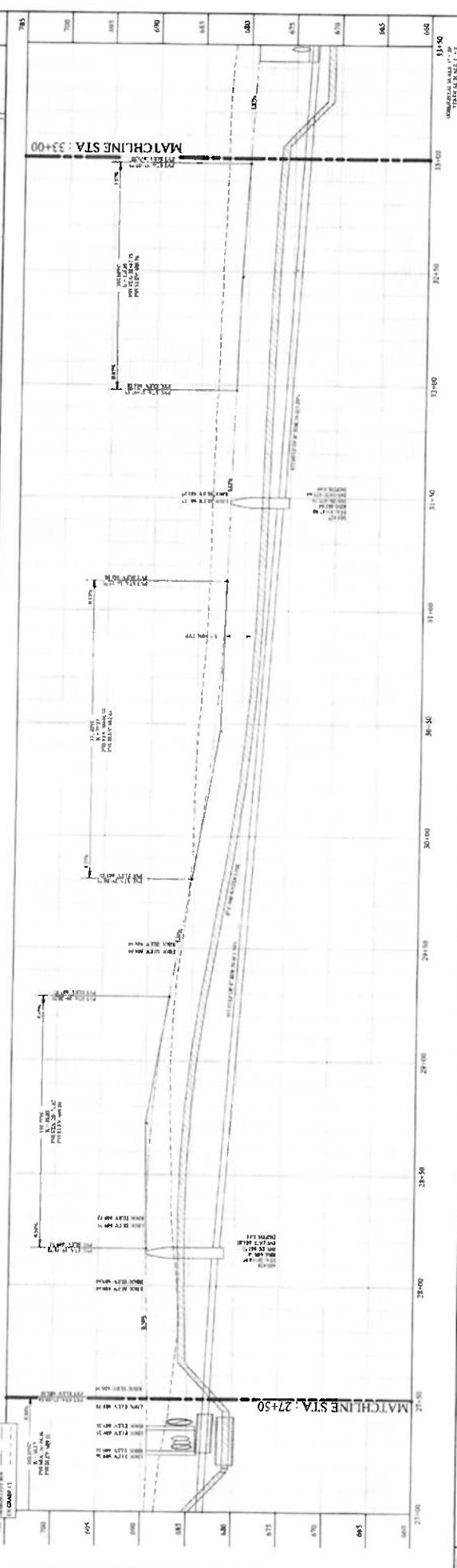
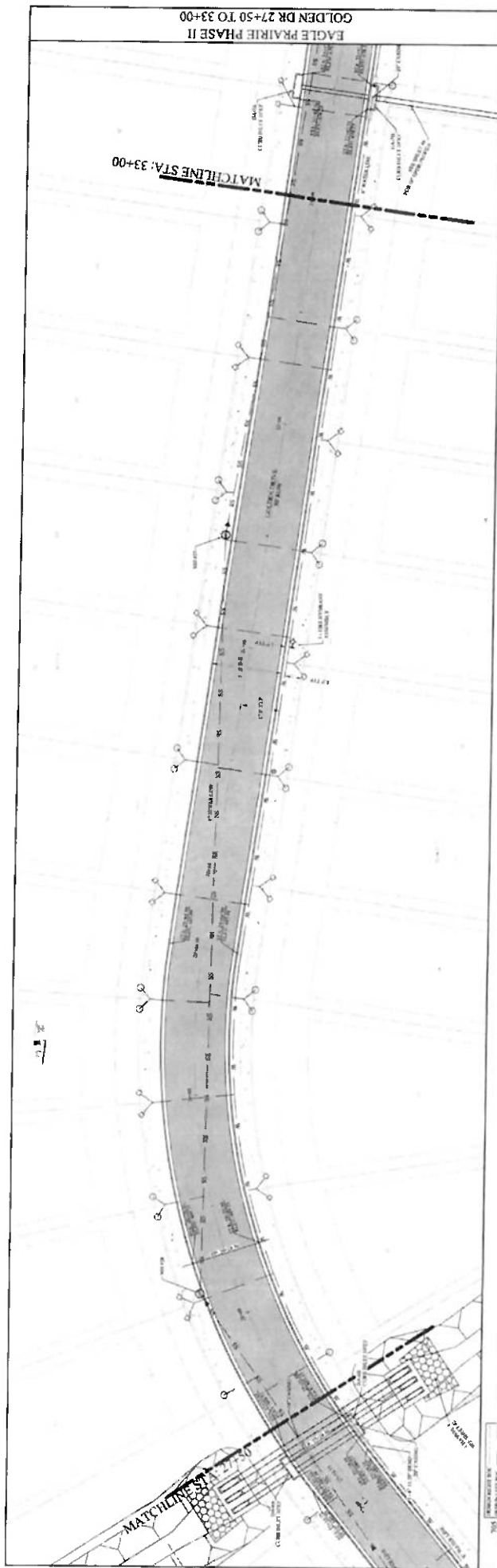
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PROJECT NAME: POST-DRAINAGE FOR STRUCTURES PROJECT LOCATION: EAGLE PRAIRIE PHASE II DATE: 08/11/2011 APPROVED BY: JIM VAIL DATE: 08/11/2011		Yalco Engineering, LLC 10000 West Loop South, Suite 100 Houston, Texas 77042 Phone: 281.444.4444 Fax: 281.444.4444		17 OF 66	
CITY OF BRUCEVILLE, TEXAS		THESE PLANS HAVE BEEN PREPARED FOR THE CITY OF BRUCEVILLE, TEXAS, AND ARE NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.		OF 66	
PROJECT INFORMATION		ENGINEER'S APPROVAL		SHEET	
PROJECT NAME: POST-DRAINAGE FOR STRUCTURES PROJECT LOCATION: EAGLE PRAIRIE PHASE II DATE: 08/11/2011 APPROVED BY: JIM VAIL DATE: 08/11/2011		Yalco Engineering, LLC 10000 West Loop South, Suite 100 Houston, Texas 77042 Phone: 281.444.4444 Fax: 281.444.4444		17 OF 66	
CITY OF BRUCEVILLE, TEXAS		THESE PLANS HAVE BEEN PREPARED FOR THE CITY OF BRUCEVILLE, TEXAS, AND ARE NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.		OF 66	



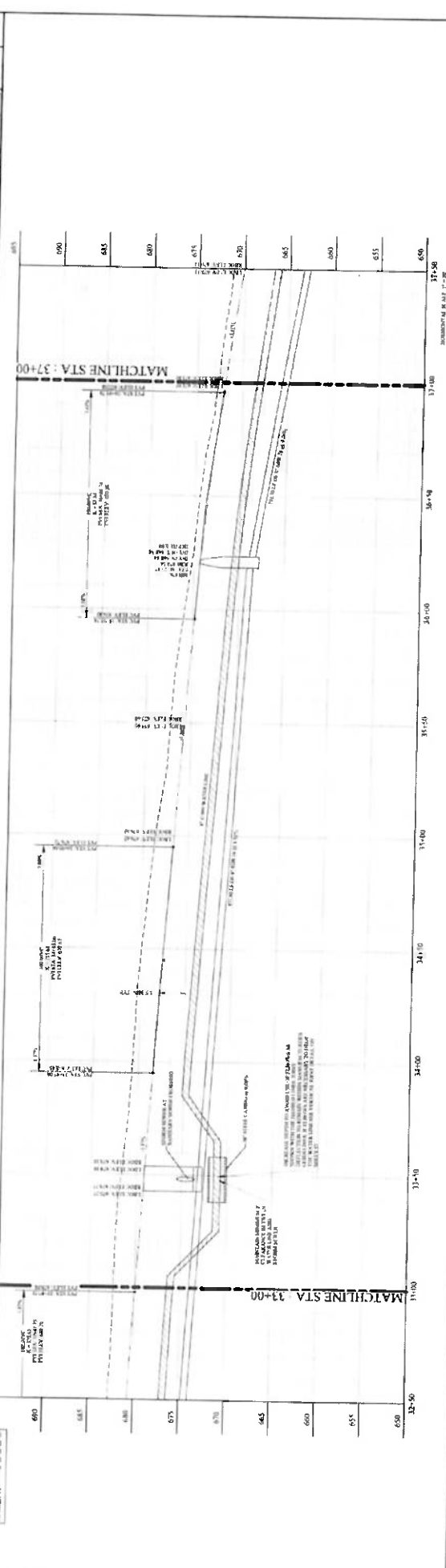
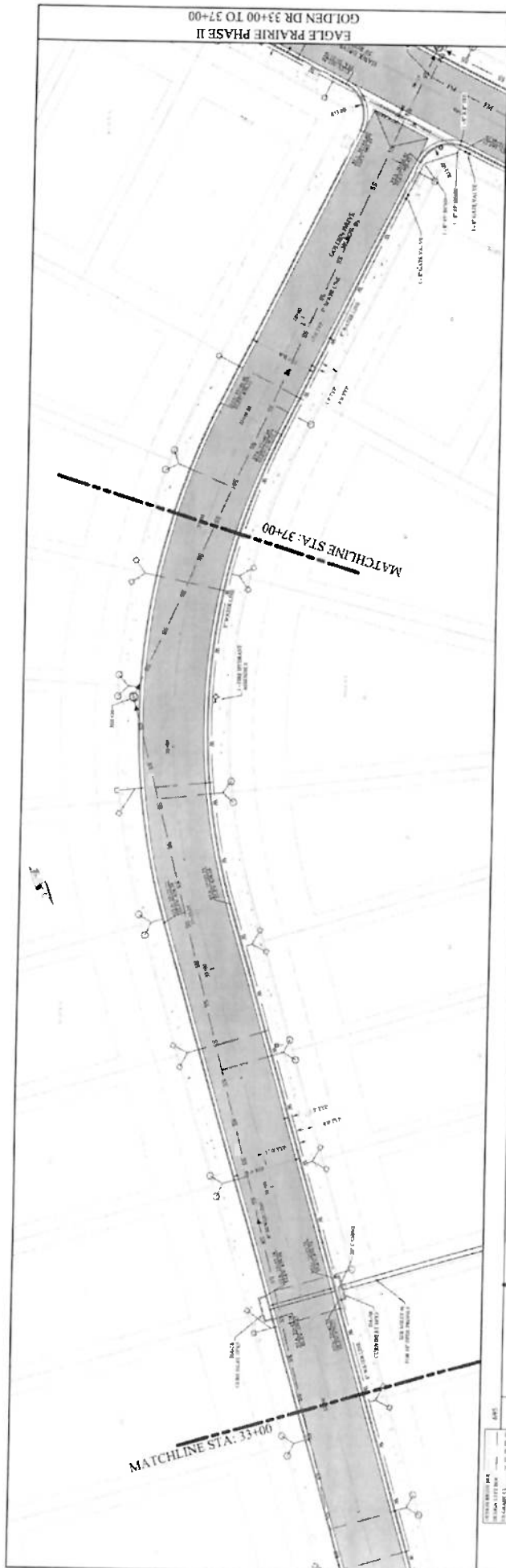
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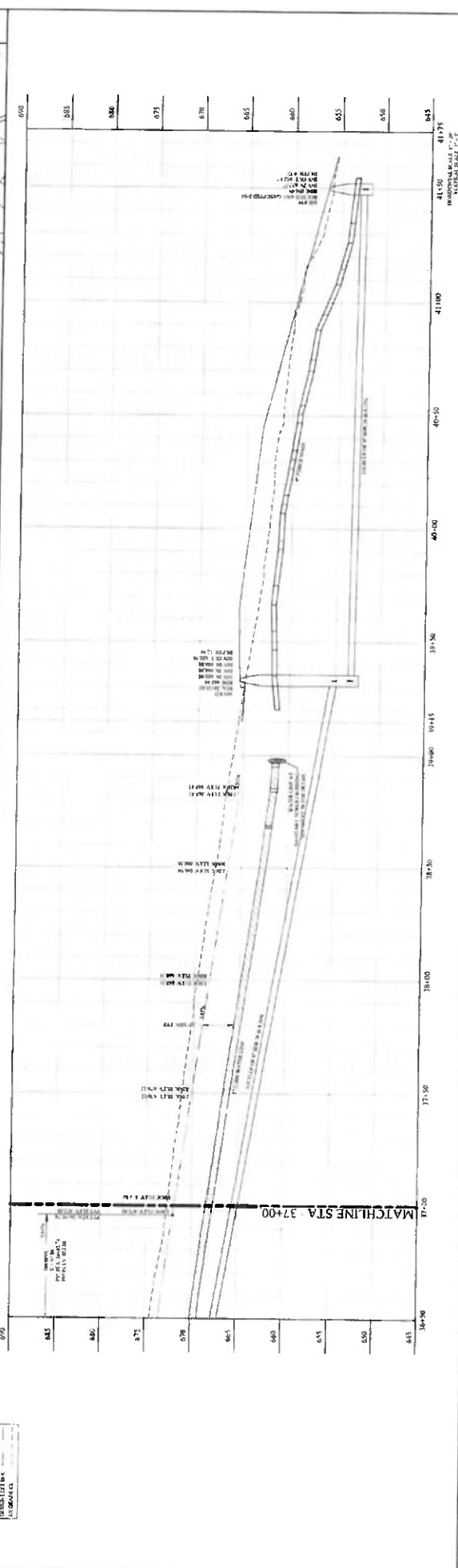
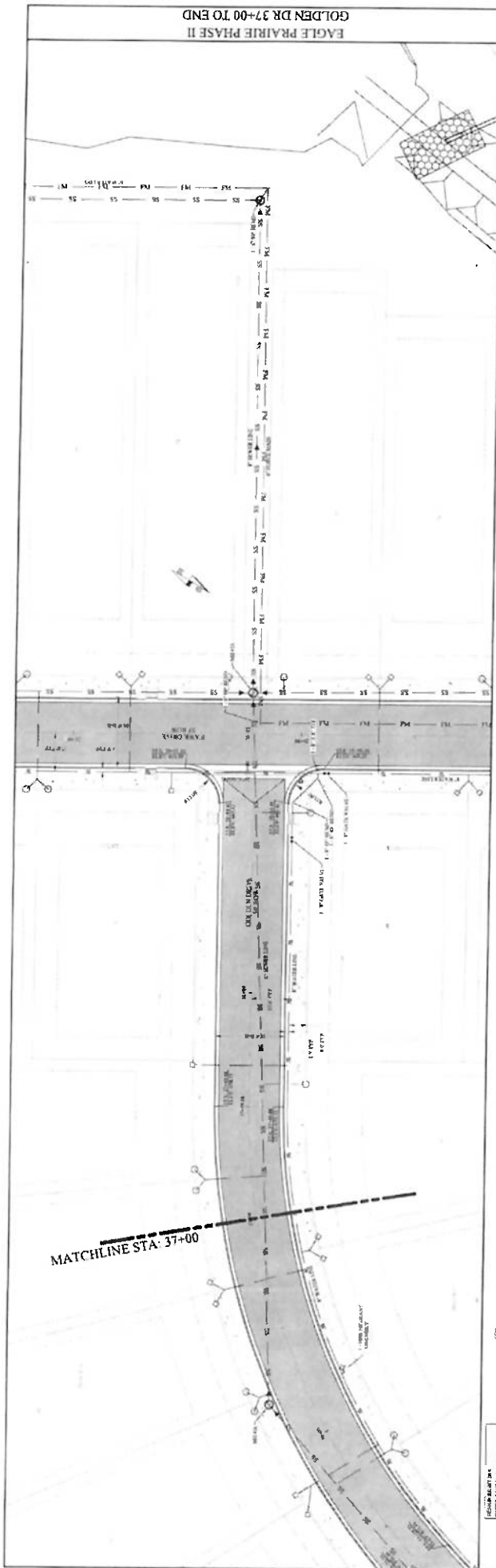
GOLDEN DR 21+94.25 TO 27+50 EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		ENGINEER'S APPROVAL JOHN D. SMITH 14431	Yelpo Engineering, LLC 1100 N. W. 11th St. Suite 100 Ft. Worth, TX 76107 Phone: 817.343.1100 Fax: 817.343.1101 Email: info@yelpoeng.com	SHEET 21 OF 66
APPROVED BY: [Signature] DATE: 10/1/2014		REVISIONS: 1. 10/1/2014: Initial Design 2. 10/1/2014: Final Design		



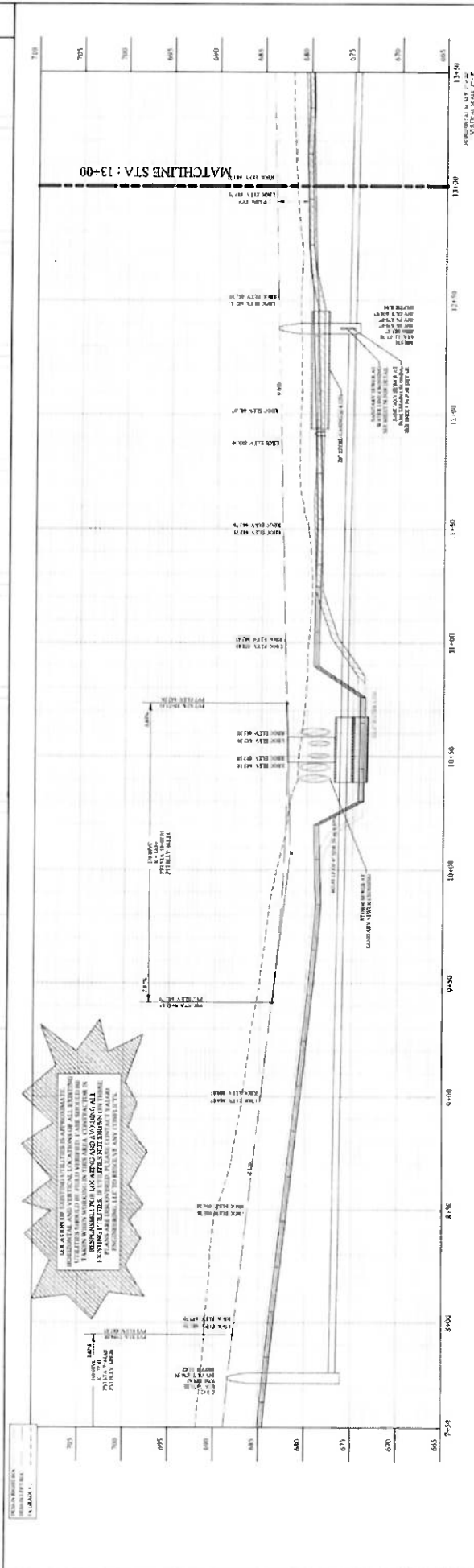
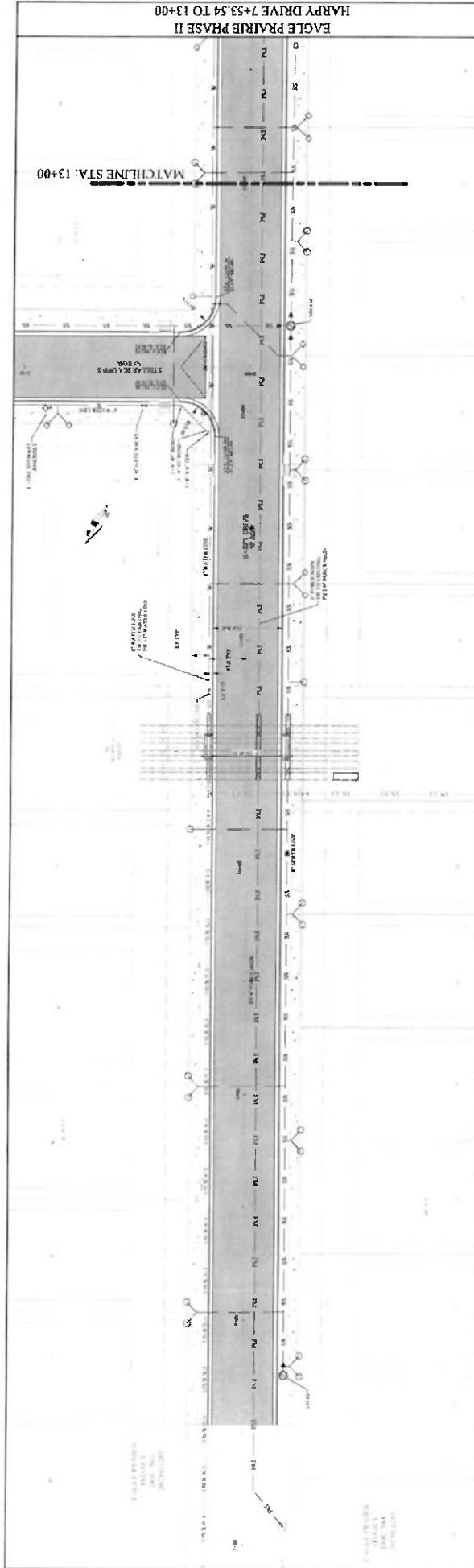
Yelpo Engineering LLC 2200 E. 12th Street, Suite 200 Tulsa, Oklahoma 74103 Phone: (918) 438-1111 Fax: (918) 438-1112 Email: info@yelpoeng.com License: Professional Engineer License No. 10000		ENGINEER'S APPROVAL JOHN G. HARRIS Professional Engineer License No. 10000	PROJECT INFORMATION PROJECT NAME: EAGLE PRAIRIE PHASE II PROJECT LOCATION: GOLDEN DR 27+50 TO 33+00 PROJECT OWNER: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 2019-001
SCALE PLAN: 1" = 40' PROFILE: 1" = 10'		DATE 10/15/2019	PROJECT NUMBER 2019-001
REVISIONS 1. 10/15/2019: Initial Design 2. 10/15/2019: Final Design		PROJECT LOCATION GOLDEN DR 27+50 TO 33+00	PROJECT OWNER CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS



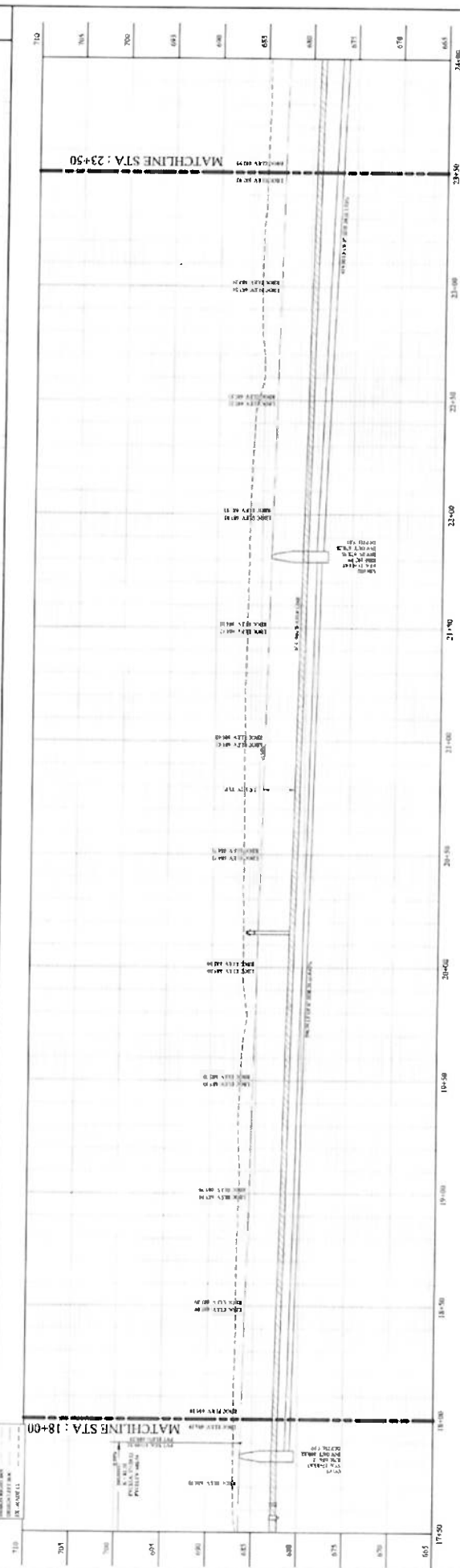
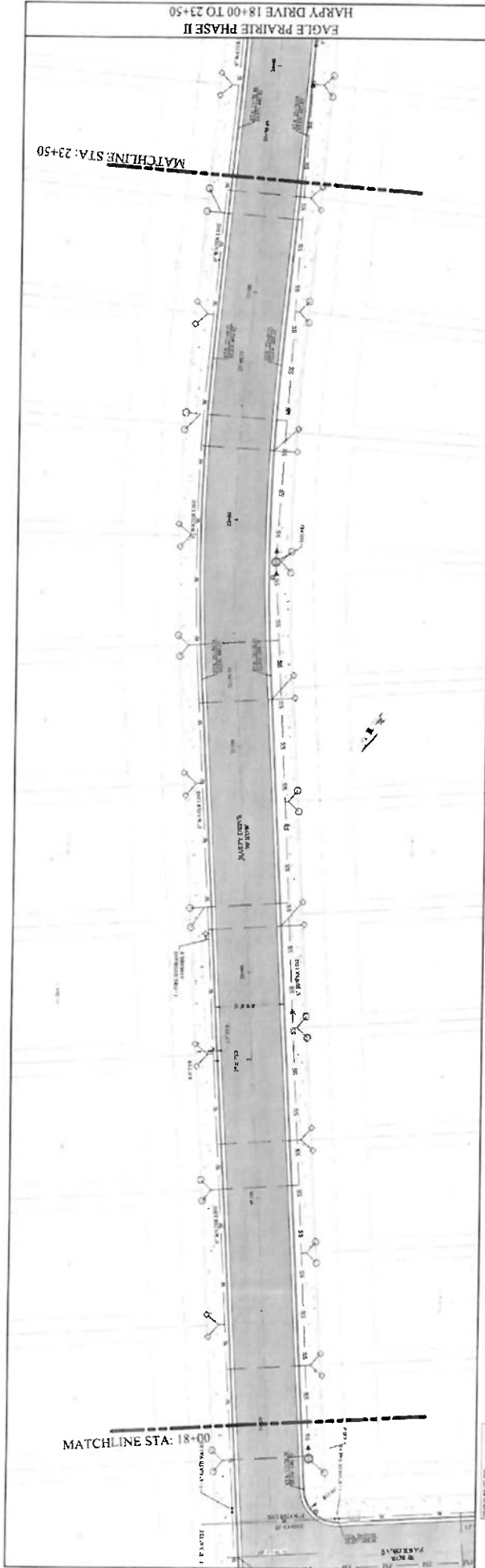
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GOLDEN DR 33+00 TO 37+00 EAGLE PRAIRIE, PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS					
LEGEND 1" = 20' HORIZONTAL SCALE 1" = 10' VERTICAL SCALE		NOTES 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE TEXAS STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE TEXAS STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION. 2. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.			



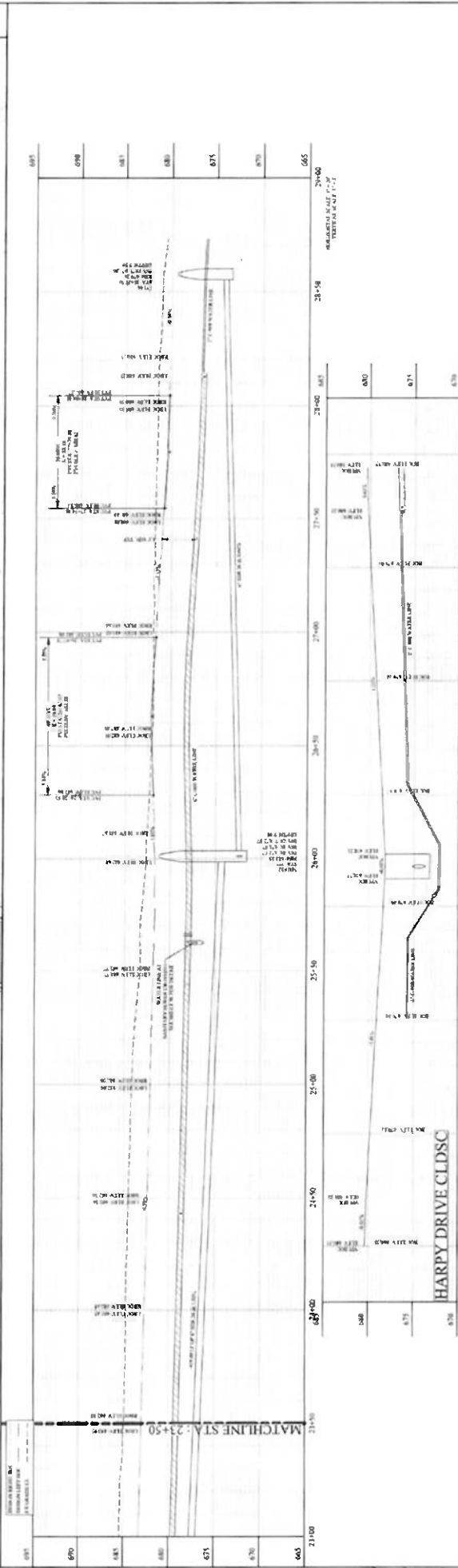
ENGINEER'S APPROVAL THIS DOCUMENT IS NOT VALID FOR THE AUTHORITY OF THE ENGINEER UNLESS IT IS SIGNED AND SEALED FOR CONSTRUCTION PURPOSES.		ENGINEERING, LLC 10000 N. DALLAS STREET SUITE 100 DALLAS, TEXAS 75243 TEL: 214-343-1000 FAX: 214-343-1001 www.yates-engineering.com	24 1 of 66
GOLDEN DR 37+00 TO END EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		24 1 of 66	66



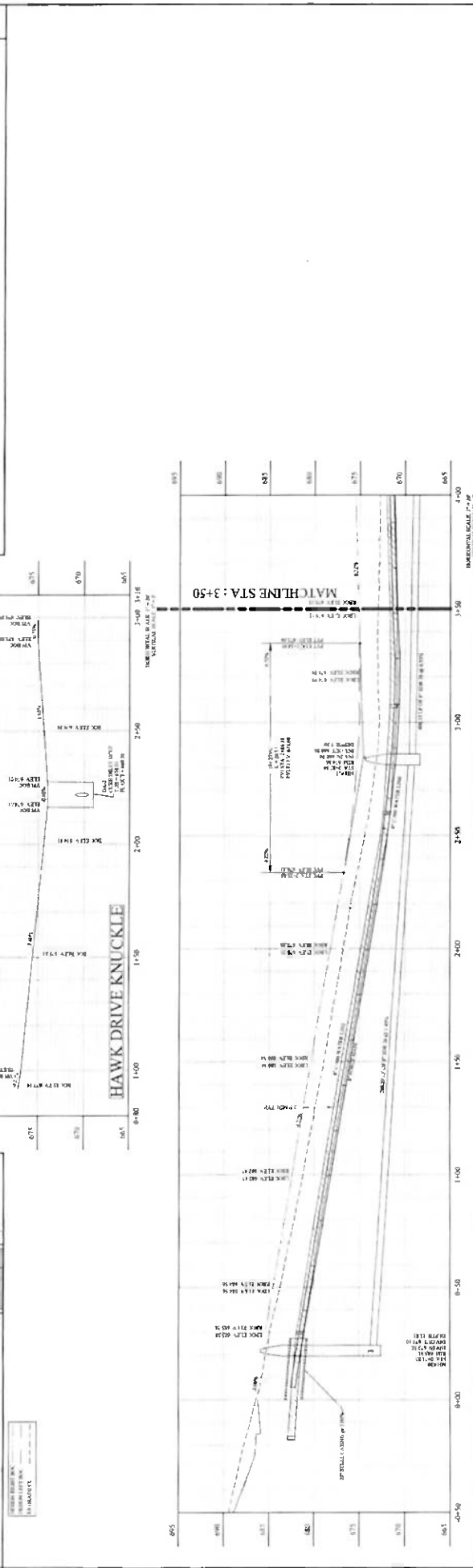
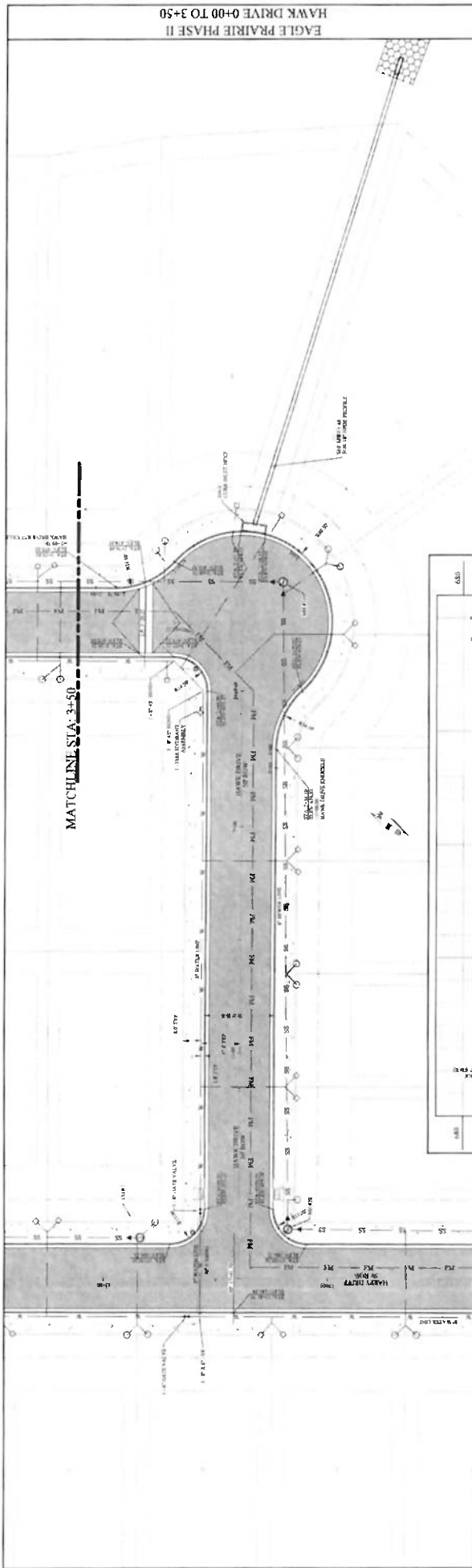
ENGINEER'S APPROVAL THE ENGINEER HAS REVIEWED THE DESIGN AND CONSTRUCTION OF THE PROJECT AND FINDS IT TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION.		ENGINEER'S APPROVAL THE ENGINEER HAS REVIEWED THE DESIGN AND CONSTRUCTION OF THE PROJECT AND FINDS IT TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION.	
YALGO ENGINEERING, LLC 10000 N. MCKINNEY SUITE 100 DALLAS, TEXAS 75244 TEL: 972.460.1000 FAX: 972.460.1001 WWW.YALGOENGINEERING.COM		YALGO ENGINEERING, LLC 10000 N. MCKINNEY SUITE 100 DALLAS, TEXAS 75244 TEL: 972.460.1000 FAX: 972.460.1001 WWW.YALGOENGINEERING.COM	
PROJECT INFORMATION PROJECT NAME: HARRY DRIVE 7+53.54 TO 13+00 PROJECT LOCATION: EAGLE PRAIRIE PHASE II PROJECT NUMBER: 13+00		PROJECT INFORMATION PROJECT NAME: HARRY DRIVE 7+53.54 TO 13+00 PROJECT LOCATION: EAGLE PRAIRIE PHASE II PROJECT NUMBER: 13+00	
DESIGNER'S INFORMATION DESIGNER: YALGO ENGINEERING, LLC DESIGNER'S PROJECT NUMBER: 13+00 DESIGNER'S PROJECT LOCATION: EAGLE PRAIRIE PHASE II		DESIGNER'S INFORMATION DESIGNER: YALGO ENGINEERING, LLC DESIGNER'S PROJECT NUMBER: 13+00 DESIGNER'S PROJECT LOCATION: EAGLE PRAIRIE PHASE II	
CLIENT'S INFORMATION CLIENT NAME: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS CLIENT PROJECT NUMBER: 13+00		CLIENT'S INFORMATION CLIENT NAME: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS CLIENT PROJECT NUMBER: 13+00	
SCALE HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 10'		SCALE HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 10'	
DATE 10/10/2013		DATE 10/10/2013	



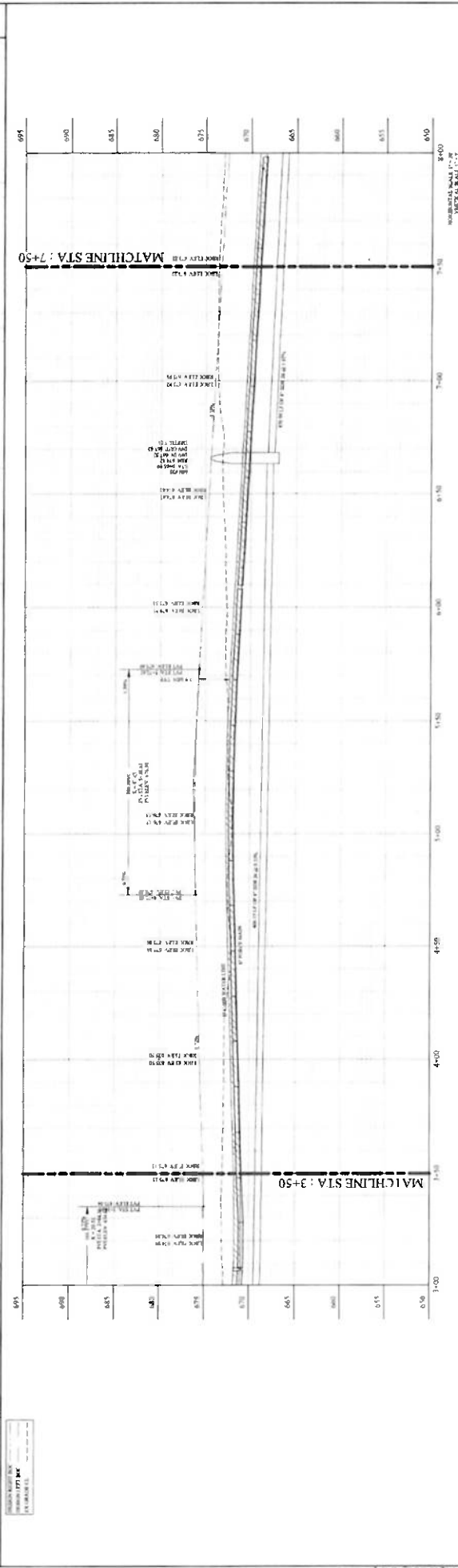
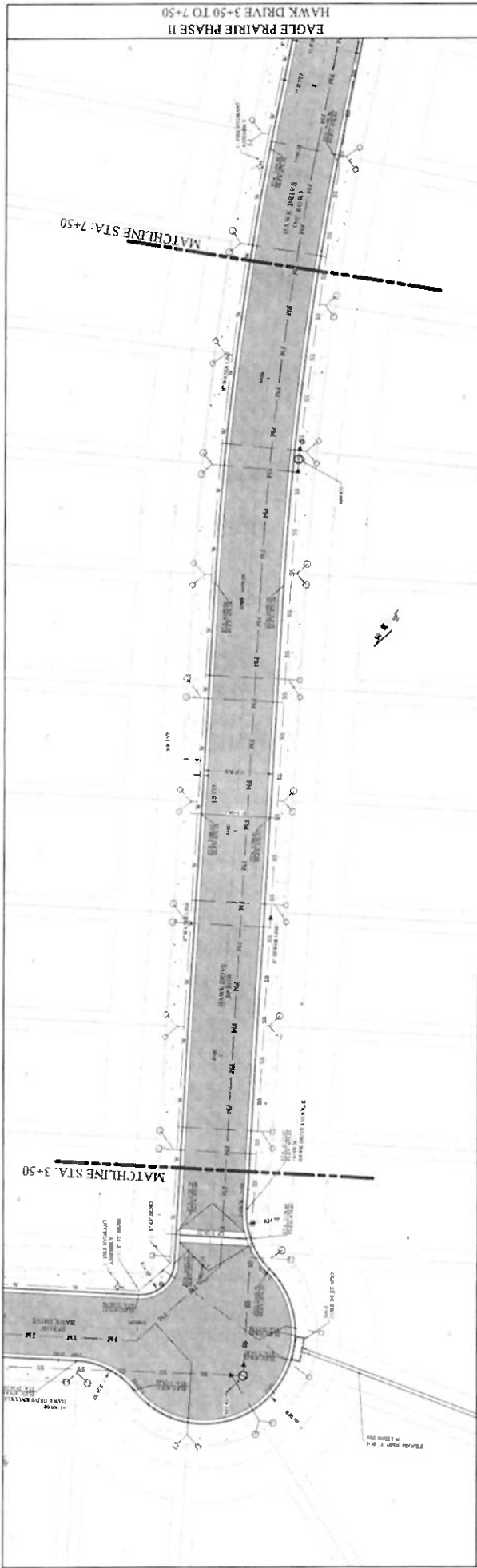
ENGINEER'S APPROVAL THIS DOCUMENT IS NOT VALID FOR THE CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS YALGO ENGINEERS, LLC 1000 N. W. 10th St., Suite 200 Ft. Worth, TX 76102 Tel: (817) 336-1000 Fax: (817) 336-1001 Email: info@yalgo.com From: June 12, 2009		27 66
GRAPHIC SCALE 0 10 20 30 40 50 60 70 80 90 100 1" = 40'		27 66
PROJECT INFORMATION PROJECT: EAGLE PRAIRIE PHASE II LOCATION: HARRY DRIVE, BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS DRAWN BY: J. W. WILSON CHECKED BY: J. W. WILSON DATE: 06/12/09		27 66



PROJECT NO. 21100 DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NAME: EAGLE PRAIRIE PHASE II LOCATION: HARRY DRIVE 23+50 TO END SCALE: 1" = 40'	DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NO. 21100 DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NAME: EAGLE PRAIRIE PHASE II LOCATION: HARRY DRIVE 23+50 TO END SCALE: 1" = 40'	DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NO. 21100 DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NAME: EAGLE PRAIRIE PHASE II LOCATION: HARRY DRIVE 23+50 TO END SCALE: 1" = 40'	DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS	PROJECT NO. 21100 DATE: 04-25-20 DESIGNER: J. L. HARRIS CHECKED: J. L. HARRIS APPROVED: J. L. HARRIS
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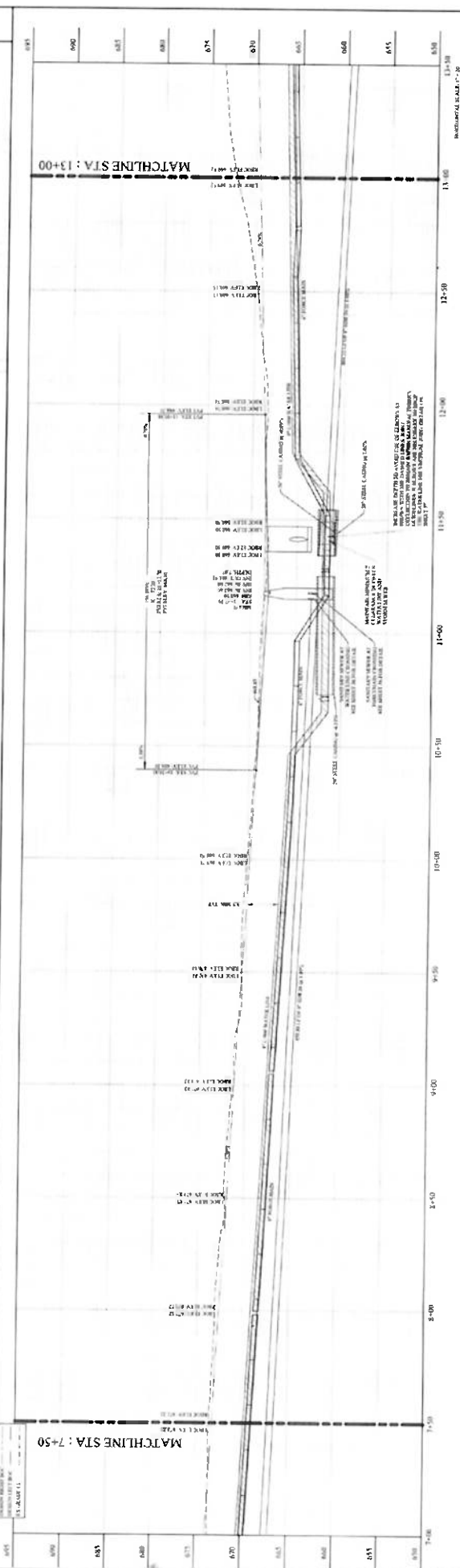
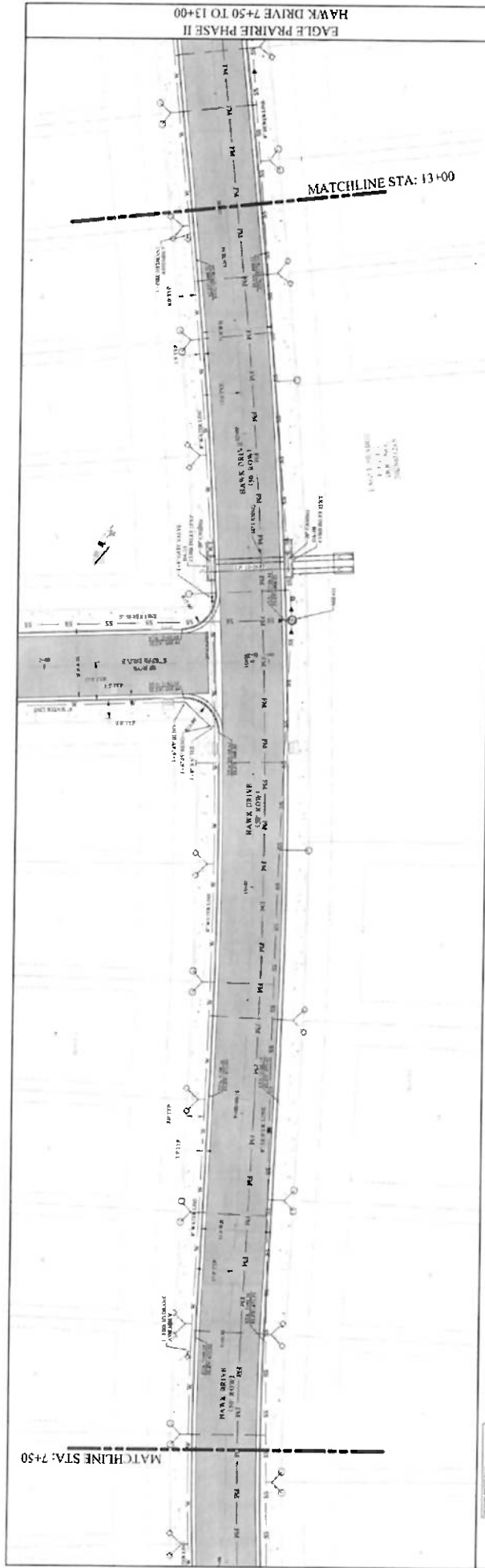


DATE: 10/1/2019 DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN APPROVED BY: J. B. BROWN	PROJECT: HAWK DRIVE KNUCKLE SHEET: 29 OF 66	ENGINEER'S APPROVAL JAMES D. JONES, P.E. AUTHORITY OF JAMES D. JONES, P.E. 00001 CIVIL ENGINEER CONSTRUCTION DIVISION	VALUING, LLC 1000 N. W. 10th St. Ft. Lauderdale, FL 33304 (954) 571-1000 www.valuingllc.com	PROJECT: HAWK DRIVE KNUCKLE SHEET: 29 OF 66	DATE: 10/1/2019 DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN APPROVED BY: J. B. BROWN	PROJECT: HAWK DRIVE KNUCKLE SHEET: 29 OF 66	DATE: 10/1/2019 DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN APPROVED BY: J. B. BROWN	PROJECT: HAWK DRIVE KNUCKLE SHEET: 29 OF 66
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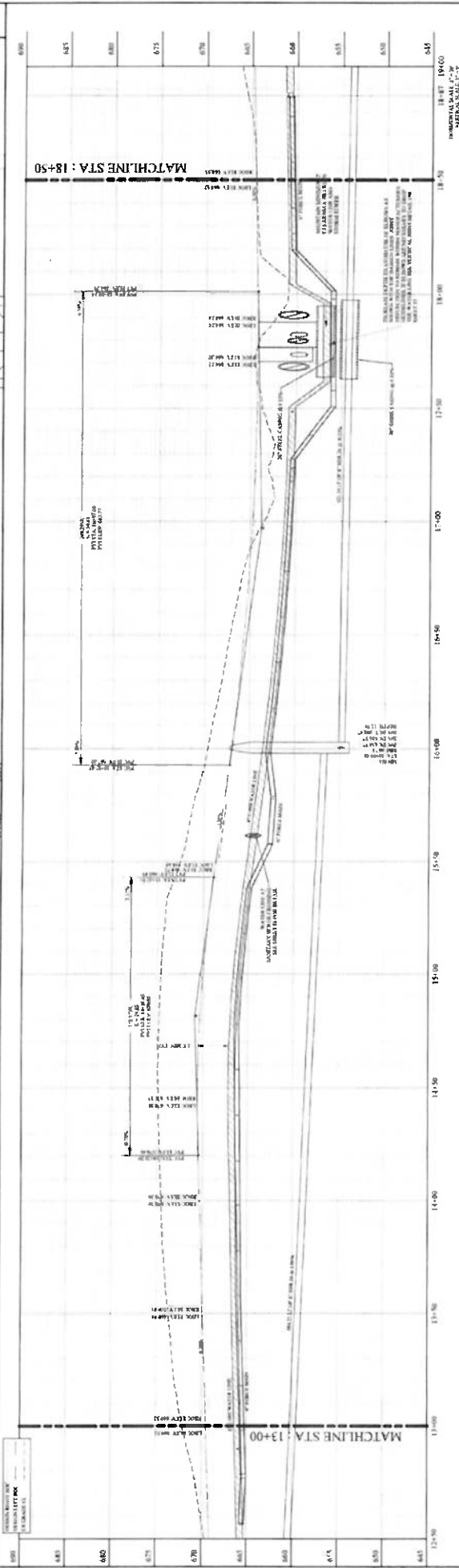
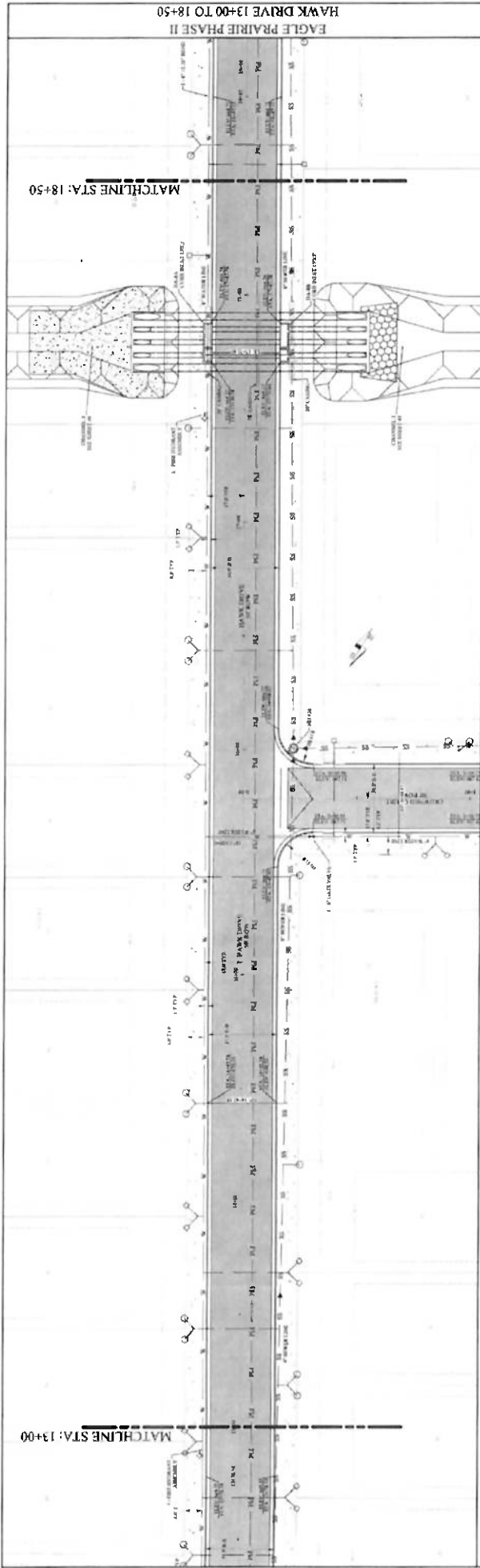


PROJECT INFORMATION PROJECT: HAWK DRIVE 3+50 TO 7+50 CLIENT: CITY OF BRUCEVILLE, TEXAS DESIGNER: YALGO ENGINEERING, LLC DATE: 10/15/2023		GRAPHIC SCALE 0 25 50 75 FEET		REVISIONS NO. 1: 10/15/2023 - INITIAL DESIGN NO. 2: 10/20/2023 - REVISIONS NO. 3: 11/01/2023 - FINAL DESIGN	
DESIGNER'S APPROVAL THIS DOCUMENT IS NOT VALID FOR THE PURPOSES OF A PUBLIC WORKS PROJECT UNLESS IT IS USED IN CONJUNCTION WITH THE CITY OF BRUCEVILLE, TEXAS PUBLIC WORKS DEPARTMENT.		ENGINEER'S APPROVAL THIS DOCUMENT IS NOT VALID FOR THE PURPOSES OF A PUBLIC WORKS PROJECT UNLESS IT IS USED IN CONJUNCTION WITH THE CITY OF BRUCEVILLE, TEXAS PUBLIC WORKS DEPARTMENT.		YALGO ENGINEERING, LLC 10000 YALGO DRIVE SUITE 100 HOUSTON, TEXAS 77055 PHONE: (281) 415-1234 FAX: (281) 415-1235 WWW.YALGOENGINEERING.COM	
PROJECT NUMBER 2023-001		PROJECT LOCATION BRUCEVILLE, TEXAS		PROJECT DATE 10/15/2023	
PROJECT TITLE HAWK DRIVE 3+50 TO 7+50		PROJECT TYPE ROADWAY		PROJECT STATUS DESIGN	

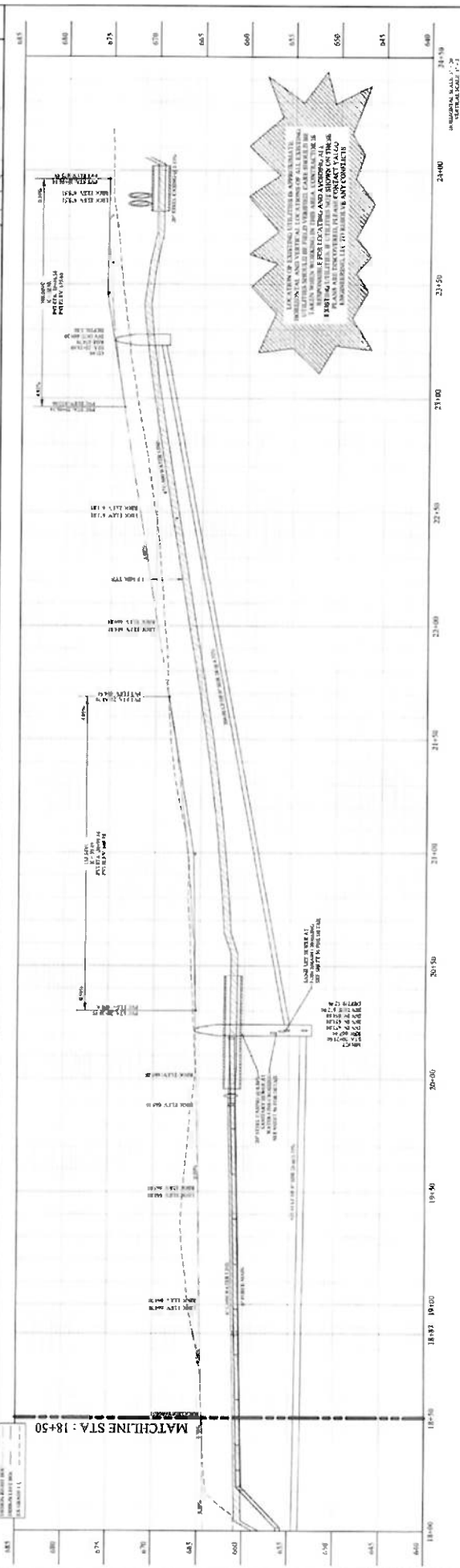
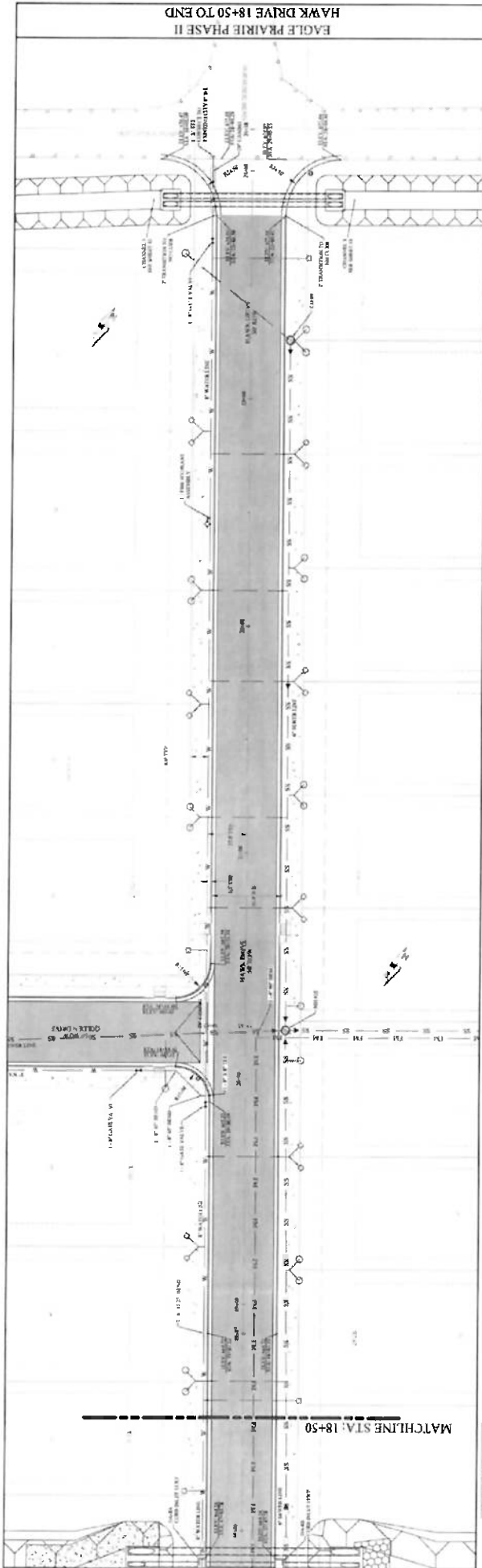
HAWK DRIVE 3+50 TO 7+50
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE, TEXAS



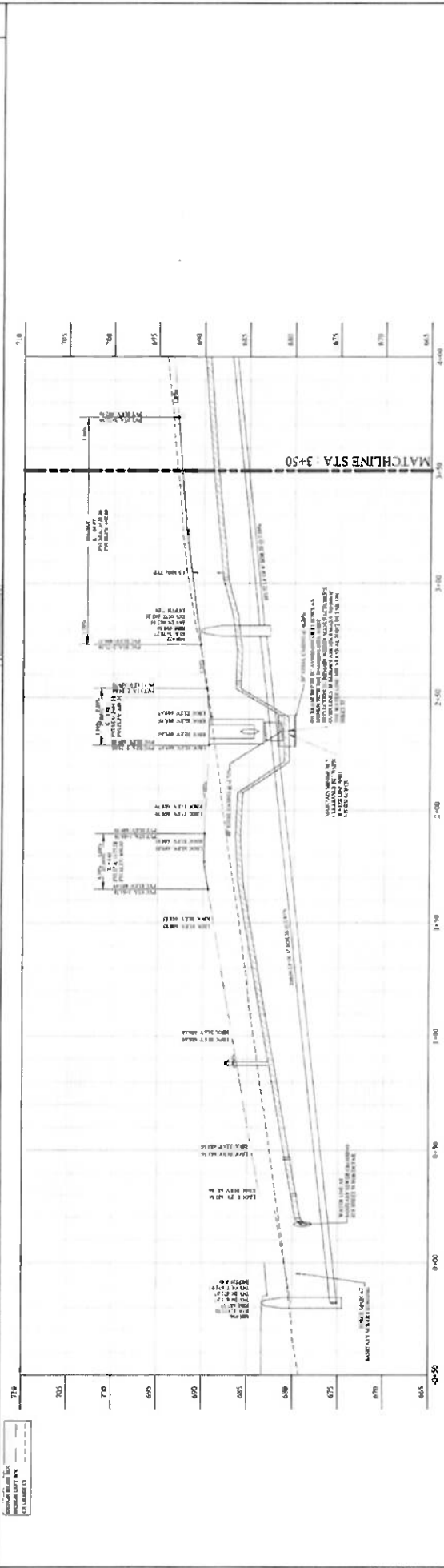
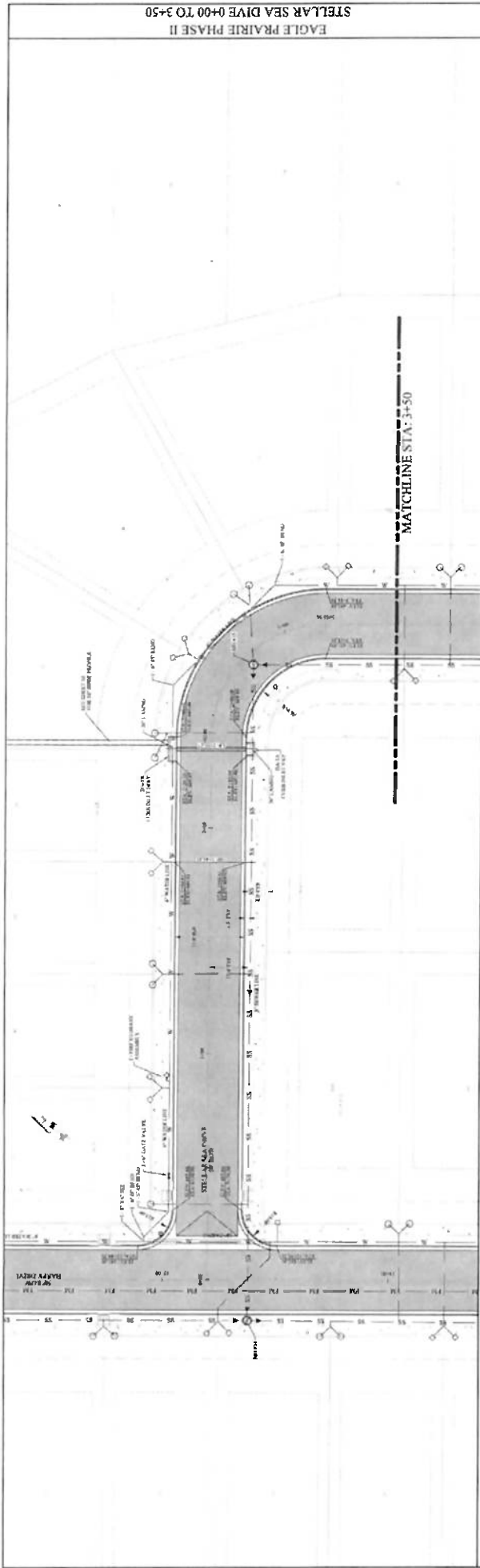
PROJECT INFORMATION PROJECT NAME: HAWK DRIVE 7+50 TO 13+00 PROJECT LOCATION: EAGLE PRAIRIE PHASE II, CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 11-0001 PROJECT DATE: 11/11/2011		SCALE HORIZONTAL: 1" = 40' VERTICAL: 1" = 10' GRADE: 1" = 10'	DESIGNER'S SEAL 	ENGINEER'S APPROVAL THIS DOCUMENT IS THE PROPERTY OF YELTON ENGINEERING, LLC. IT IS TO BE USED ONLY FOR THE PROJECT AND LOCATION SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF YELTON ENGINEERING, LLC.	Yelton Engineering, LLC 111111 31 66
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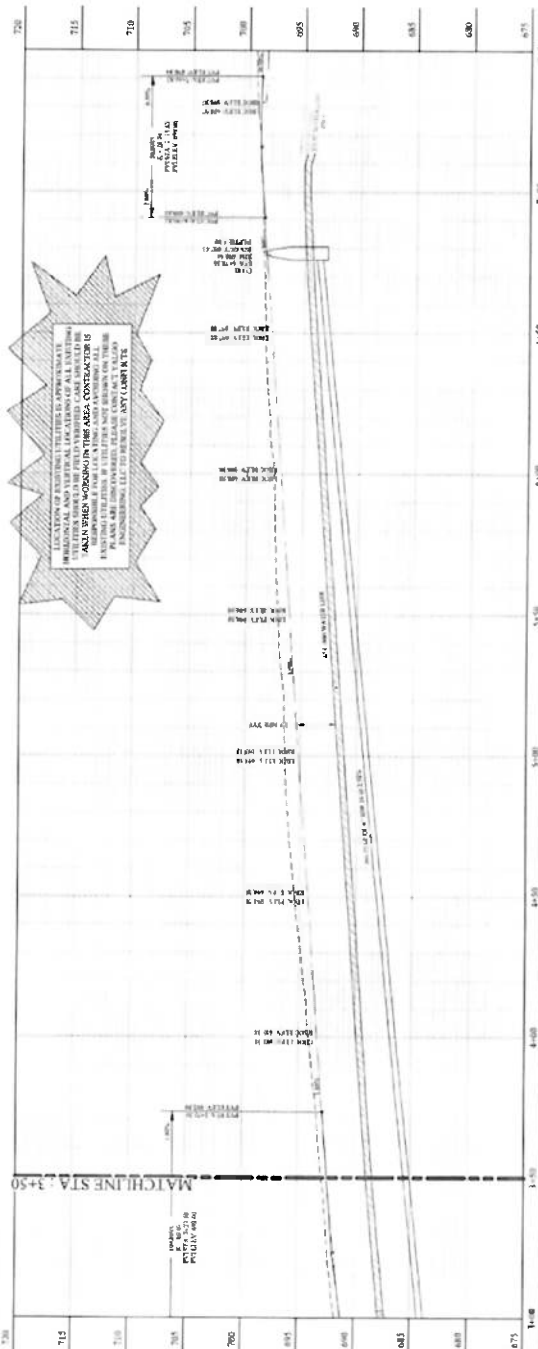
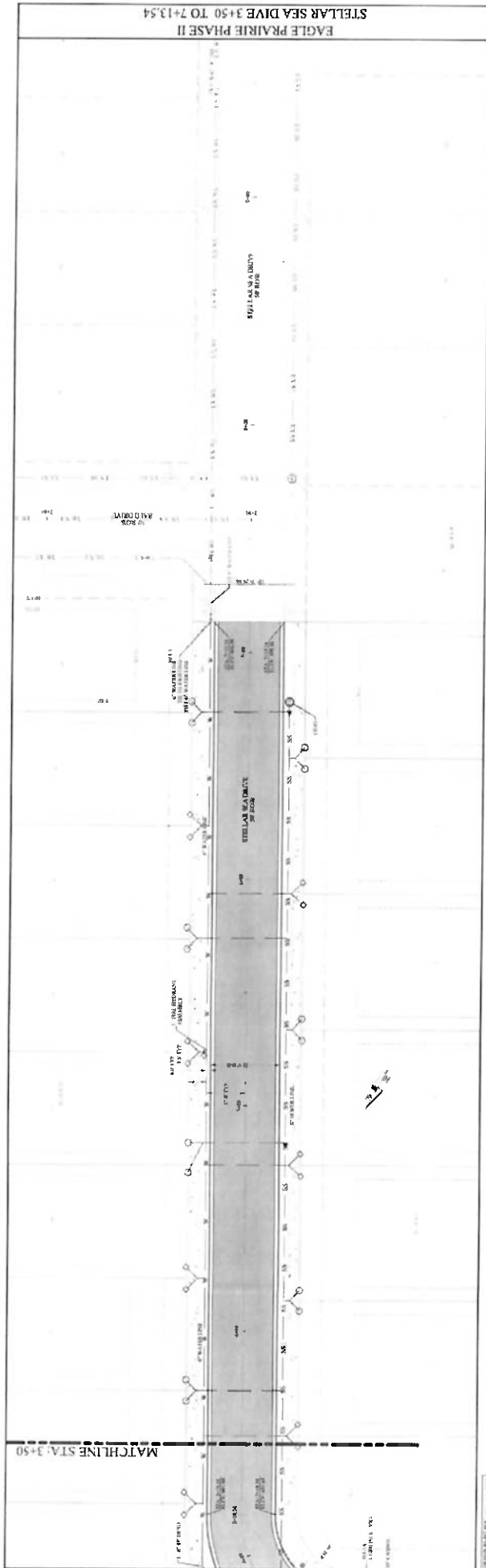
PROJECT INFORMATION PROJECT NO. 13+00 TO 18+50 SHEET NO. 32 OF 66 DATE: 08/14/2014 DRAWN BY: J. L. LEE CHECKED BY: J. L. LEE APPROVED BY: J. L. LEE		ENGINEER'S APPROVAL THIS DOCUMENT IS ISSUED FOR THE PURPOSE OF SUBMITTING THE DESIGN TO THE CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS. THE ENGINEER'S FEE IS \$10,000.00. THE ENGINEER'S FEE IS \$10,000.00.	
SCALE 1" = 10' HORIZONTAL 1" = 10' VERTICAL		NOTES 1. THE DESIGN IS BASED ON THE ASSUMPTIONS AND CONDITIONS LISTED IN THE NOTES. 2. THE DESIGN IS BASED ON THE ASSUMPTIONS AND CONDITIONS LISTED IN THE NOTES.	



ENGINEER'S APPROVAL  John D. Jones State of Texas No. 14481		Valco Engineering, LLC 3333 Highway 100, Suite 100 P.O. Box 100 Fort Worth, Texas 76101 Phone: 817-440-1000 Fax: 817-440-1001	SHEET 33 OF 66
HAWK DRIVE 18+50 TO END EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS			
REVISIONS NO. 1: AS SHOWN NO. 2: AS SHOWN NO. 3: AS SHOWN NO. 4: AS SHOWN NO. 5: AS SHOWN NO. 6: AS SHOWN NO. 7: AS SHOWN NO. 8: AS SHOWN NO. 9: AS SHOWN NO. 10: AS SHOWN NO. 11: AS SHOWN NO. 12: AS SHOWN NO. 13: AS SHOWN NO. 14: AS SHOWN NO. 15: AS SHOWN NO. 16: AS SHOWN NO. 17: AS SHOWN NO. 18: AS SHOWN NO. 19: AS SHOWN NO. 20: AS SHOWN NO. 21: AS SHOWN NO. 22: AS SHOWN NO. 23: AS SHOWN NO. 24: AS SHOWN NO. 25: AS SHOWN NO. 26: AS SHOWN NO. 27: AS SHOWN NO. 28: AS SHOWN NO. 29: AS SHOWN NO. 30: AS SHOWN NO. 31: AS SHOWN NO. 32: AS SHOWN NO. 33: AS SHOWN NO. 34: AS SHOWN NO. 35: AS SHOWN NO. 36: AS SHOWN NO. 37: AS SHOWN NO. 38: AS SHOWN NO. 39: AS SHOWN NO. 40: AS SHOWN NO. 41: AS SHOWN NO. 42: AS SHOWN NO. 43: AS SHOWN NO. 44: AS SHOWN NO. 45: AS SHOWN NO. 46: AS SHOWN NO. 47: AS SHOWN NO. 48: AS SHOWN NO. 49: AS SHOWN NO. 50: AS SHOWN NO. 51: AS SHOWN NO. 52: AS SHOWN NO. 53: AS SHOWN NO. 54: AS SHOWN NO. 55: AS SHOWN NO. 56: AS SHOWN NO. 57: AS SHOWN NO. 58: AS SHOWN NO. 59: AS SHOWN NO. 60: AS SHOWN NO. 61: AS SHOWN NO. 62: AS SHOWN NO. 63: AS SHOWN NO. 64: AS SHOWN NO. 65: AS SHOWN NO. 66: AS SHOWN NO. 67: AS SHOWN NO. 68: AS SHOWN NO. 69: AS SHOWN NO. 70: AS SHOWN NO. 71: AS SHOWN NO. 72: AS SHOWN NO. 73: AS SHOWN NO. 74: AS SHOWN NO. 75: AS SHOWN NO. 76: AS SHOWN NO. 77: AS SHOWN NO. 78: AS SHOWN NO. 79: AS SHOWN NO. 80: AS SHOWN NO. 81: AS SHOWN NO. 82: AS SHOWN NO. 83: AS SHOWN NO. 84: AS SHOWN NO. 85: AS SHOWN NO. 86: AS SHOWN NO. 87: AS SHOWN NO. 88: AS SHOWN NO. 89: AS SHOWN NO. 90: AS SHOWN NO. 91: AS SHOWN NO. 92: AS SHOWN NO. 93: AS SHOWN NO. 94: AS SHOWN NO. 95: AS SHOWN NO. 96: AS SHOWN NO. 97: AS SHOWN NO. 98: AS SHOWN NO. 99: AS SHOWN NO. 100: AS SHOWN		SCALE 1" = 40'	
APPROVED BY: [Signature] DATE: 10/1/2011		PROJECT NO.: 11-001	

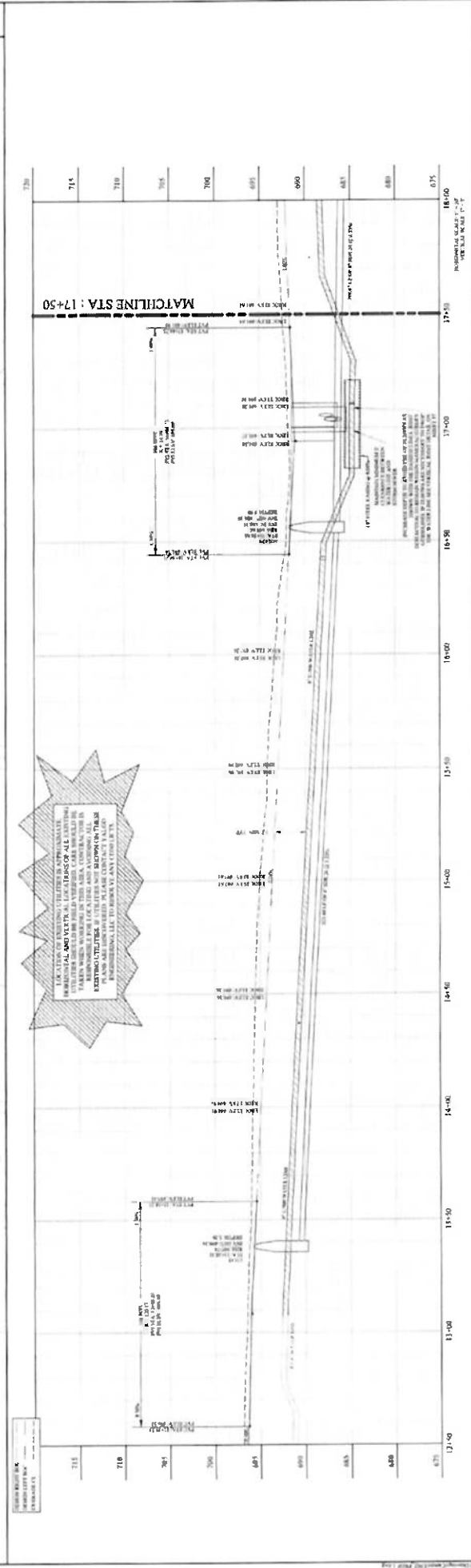
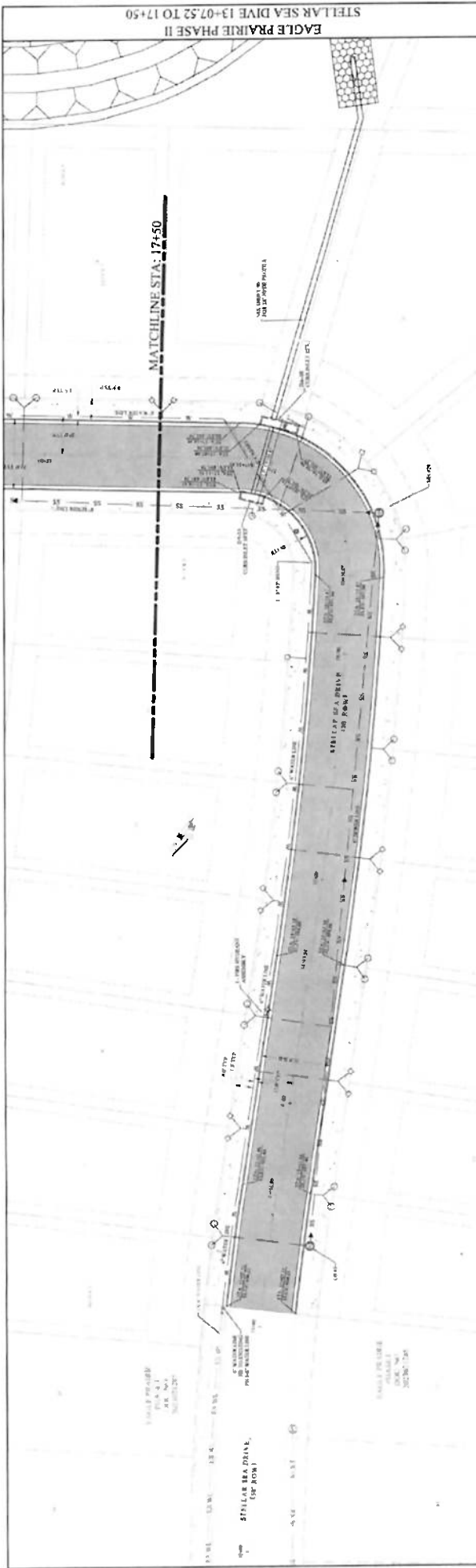


STELLAR SEA DIVE 0+00 TO 3+50 EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		ENGINEER'S APPROVAL  THESE DOCUMENTS ARE BASED ON THE INFORMATION PROVIDED BY THE CLIENT. THE ENGINEER ASSUMES NO LIABILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED OR FOR THE RESULTS OF THE DESIGN. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN OF THE STRUCTURE AND THE PREPARATION OF THE DOCUMENTS. THE ENGINEER DOES NOT GUARANTEE THE PERFORMANCE OF THE STRUCTURE OR THE RESULTS OF THE DESIGN. THE ENGINEER'S LIABILITY IS LIMITED TO THE DESIGN OF THE STRUCTURE AND THE PREPARATION OF THE DOCUMENTS.	Valgo Engineering, LLC 1400 N. DALLAS STREET SUITE 100 DALLAS, TEXAS 75201 TEL: 214-635-1000 FAX: 214-635-1001 E-MAIL: INFO@VALGOENGINEERING.COM WWW.VALGOENGINEERING.COM	SHEET 34 OF 66
REVISIONS NO. 1: AS SHOWN NO. 2: AS SHOWN NO. 3: AS SHOWN NO. 4: AS SHOWN NO. 5: AS SHOWN NO. 6: AS SHOWN NO. 7: AS SHOWN NO. 8: AS SHOWN NO. 9: AS SHOWN NO. 10: AS SHOWN NO. 11: AS SHOWN NO. 12: AS SHOWN NO. 13: AS SHOWN NO. 14: AS SHOWN NO. 15: AS SHOWN NO. 16: AS SHOWN NO. 17: AS SHOWN NO. 18: AS SHOWN NO. 19: AS SHOWN NO. 20: AS SHOWN NO. 21: AS SHOWN NO. 22: AS SHOWN NO. 23: AS SHOWN NO. 24: AS SHOWN NO. 25: AS SHOWN NO. 26: AS SHOWN NO. 27: AS SHOWN NO. 28: AS SHOWN NO. 29: AS SHOWN NO. 30: AS SHOWN NO. 31: AS SHOWN NO. 32: AS SHOWN NO. 33: AS SHOWN NO. 34: AS SHOWN NO. 35: AS SHOWN NO. 36: AS SHOWN NO. 37: AS SHOWN NO. 38: AS SHOWN NO. 39: AS SHOWN NO. 40: AS SHOWN NO. 41: AS SHOWN NO. 42: AS SHOWN NO. 43: AS SHOWN NO. 44: AS SHOWN NO. 45: AS SHOWN NO. 46: AS SHOWN NO. 47: AS SHOWN NO. 48: AS SHOWN NO. 49: AS SHOWN NO. 50: AS SHOWN NO. 51: AS SHOWN NO. 52: AS SHOWN NO. 53: AS SHOWN NO. 54: AS SHOWN NO. 55: AS SHOWN NO. 56: AS SHOWN NO. 57: AS SHOWN NO. 58: AS SHOWN NO. 59: AS SHOWN NO. 60: AS SHOWN NO. 61: AS SHOWN NO. 62: AS SHOWN NO. 63: AS SHOWN NO. 64: AS SHOWN NO. 65: AS SHOWN NO. 66: AS SHOWN		DATE 10/10/2018		



ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE TEXAS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC WORKS, LATEST EDITION, AND THE LATEST EDITIONS OF THE TEXAS STANDARD SPECIFICATIONS FOR MATERIALS, LATEST EDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

PROJECT: STELLAR SEA DIVE 3+50 TO 7+13.54 EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	ENGINEER'S APPROVAL Yale Engineering, LLC 1000 S. 10th Street, Suite 100 Waco, TX 76798 Tel: 817.798.1234 Fax: 817.798.1235	35	66
PROJECT: STELLAR SEA DIVE 3+50 TO 7+13.54 EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	ENGINEER'S APPROVAL Yale Engineering, LLC 1000 S. 10th Street, Suite 100 Waco, TX 76798 Tel: 817.798.1234 Fax: 817.798.1235	35	66
PROJECT: STELLAR SEA DIVE 3+50 TO 7+13.54 EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	ENGINEER'S APPROVAL Yale Engineering, LLC 1000 S. 10th Street, Suite 100 Waco, TX 76798 Tel: 817.798.1234 Fax: 817.798.1235	35	66



PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50 DATE: 10/10/2018 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES
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STELLAR SEA DIVE 13+07.52 TO 17+50

EAGLE PRAIRIE PHASE II

CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

ENGINEER'S APPROVAL

THIS DOCUMENT IS BELIEVED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF THE ENGINEER'S APPROVAL. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

STELLAR SEA DIVE 13+07.52 TO 17+50

EAGLE PRAIRIE PHASE II

CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50

DATE: 10/10/2018

BY: J. D. JONES

CHECKED: J. D. JONES

APPROVED: J. D. JONES

PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50

DATE: 10/10/2018

BY: J. D. JONES

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PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50

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PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50

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BY: J. D. JONES

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PROJECT: STELLAR SEA DIVE 13+07.52 TO 17+50

DATE: 10/10/2018

BY: J. D. JONES

CHECKED: J. D. JONES

APPROVED: J. D. JONES

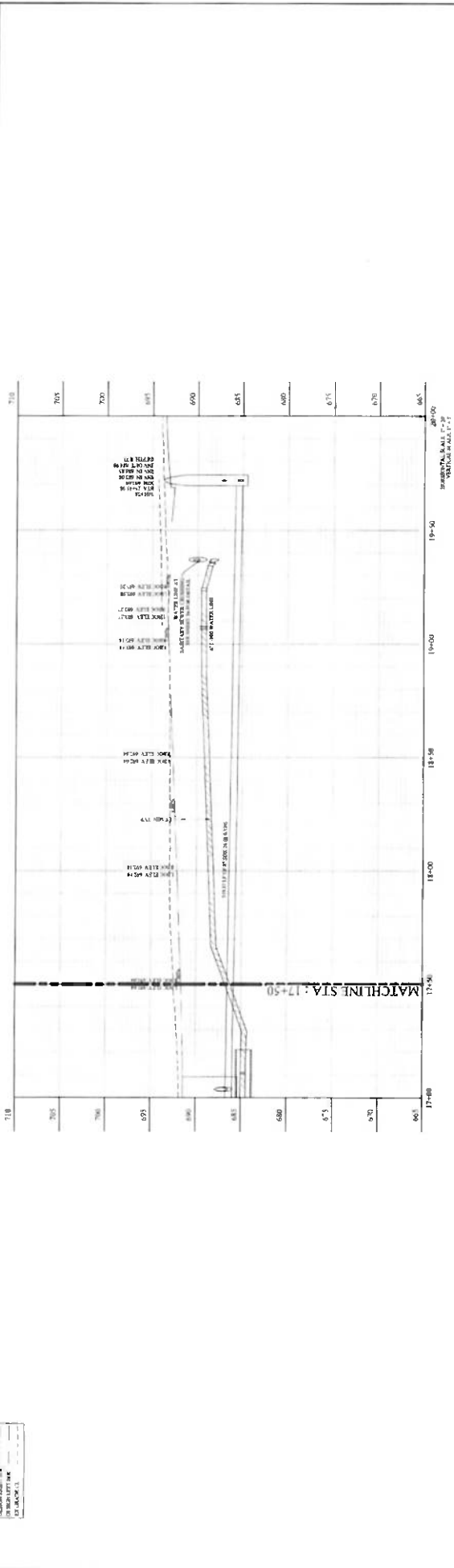
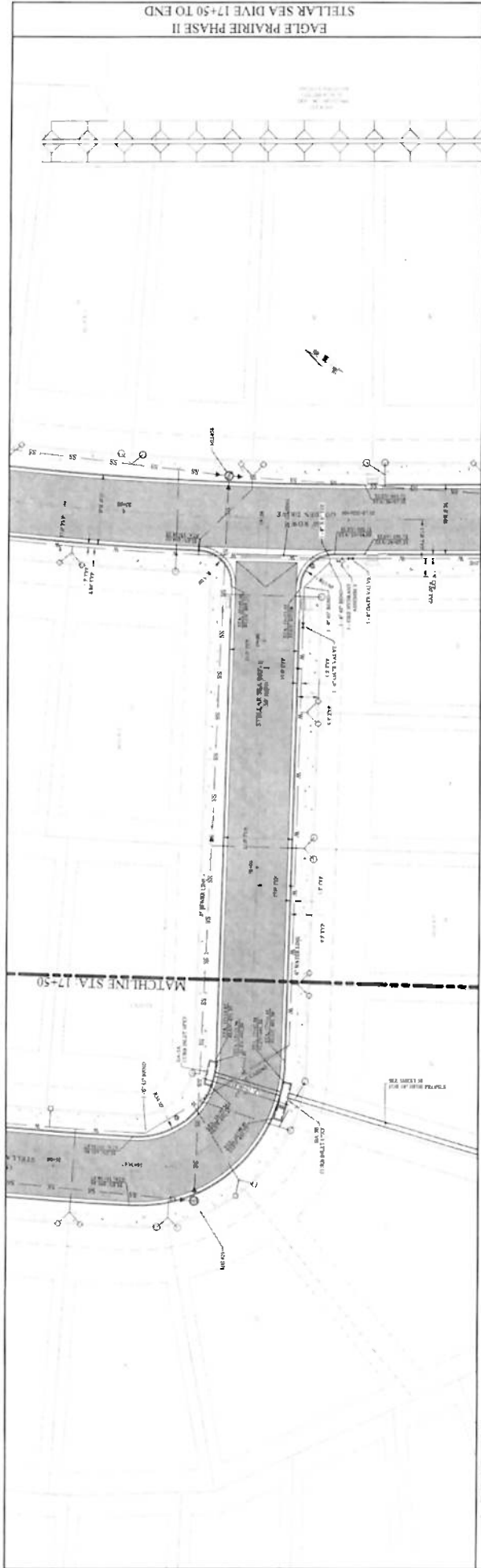
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DATE: 10/10/2018

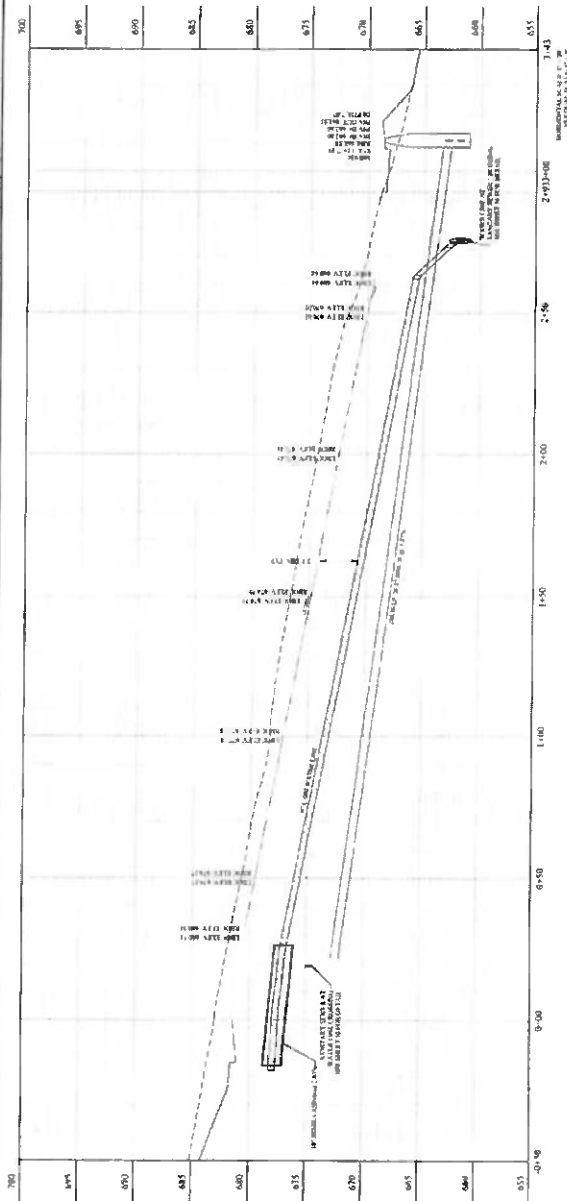
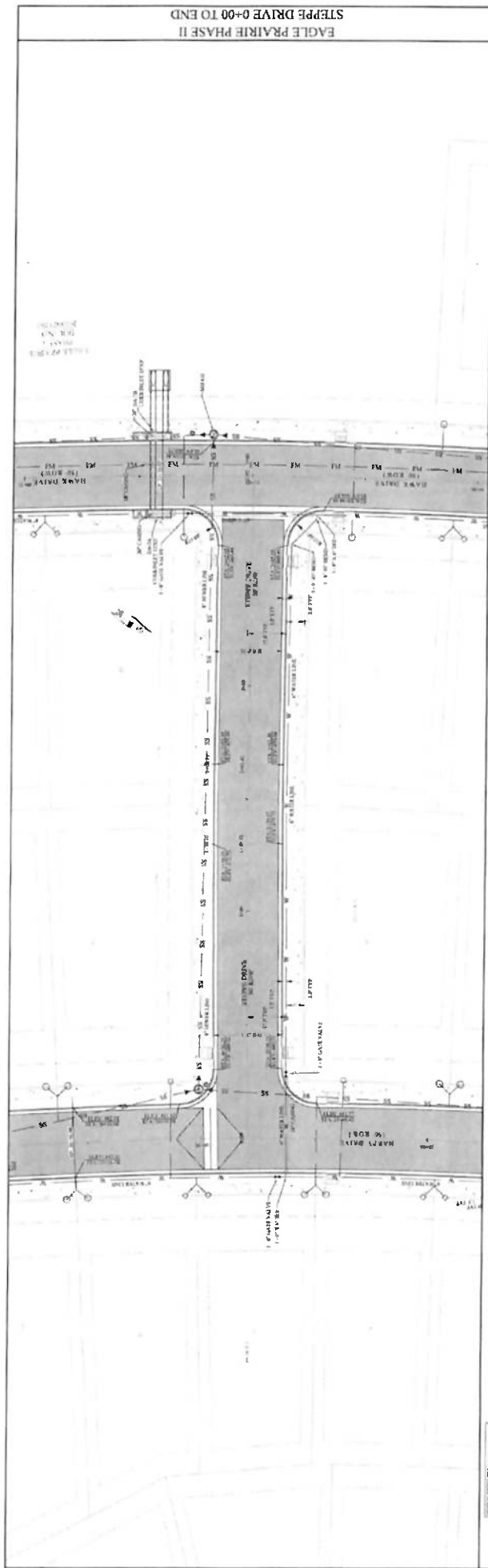
BY: J. D. JONES

CHECKED: J. D. JONES

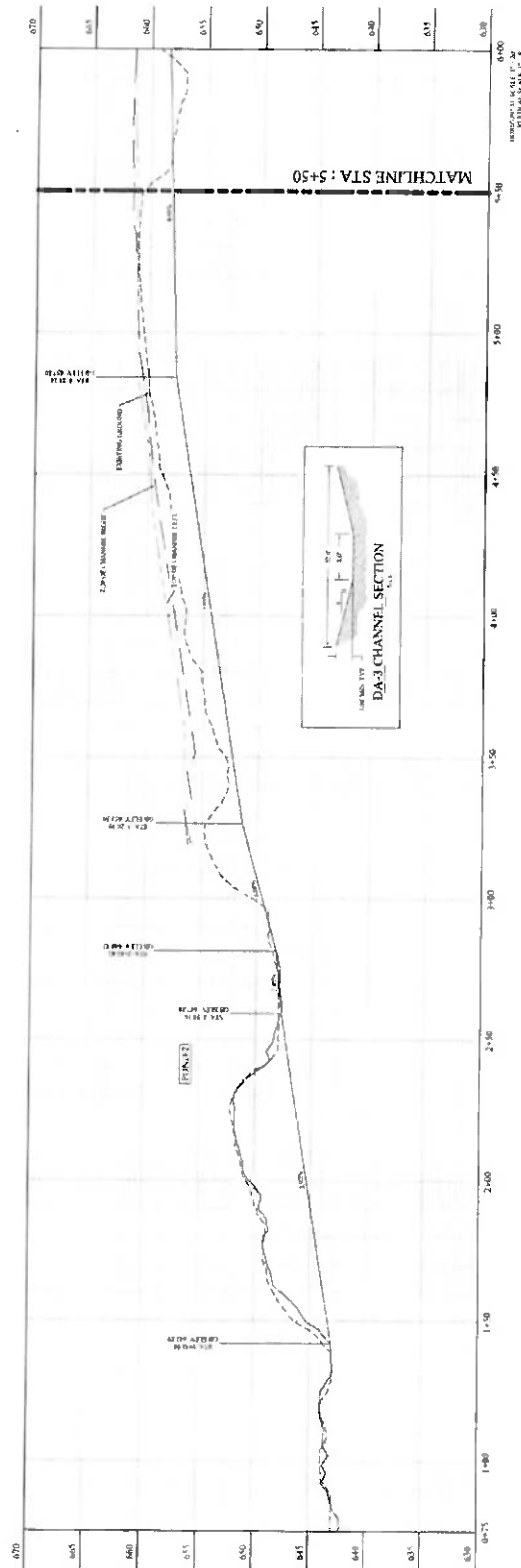
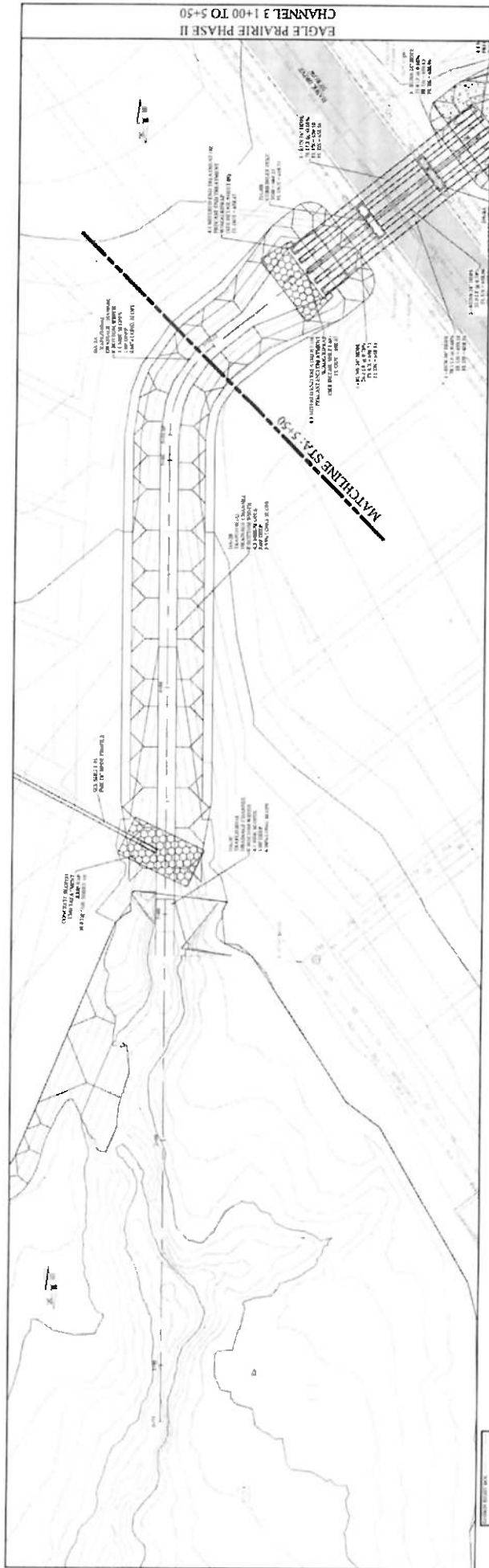
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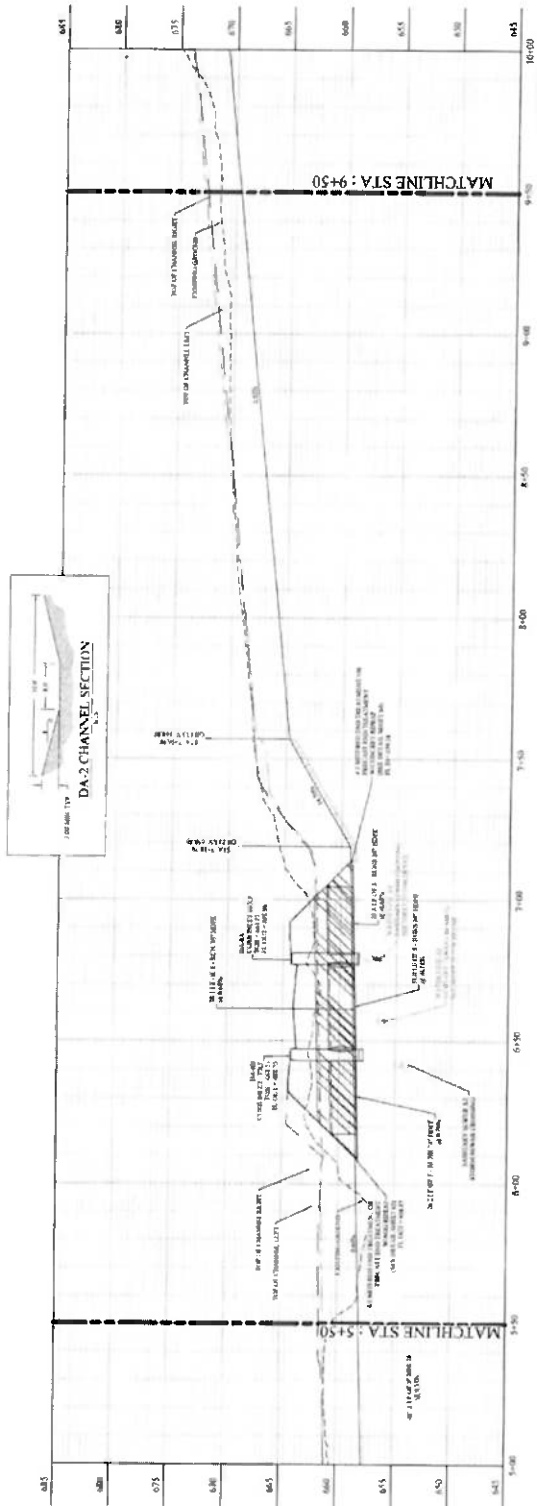
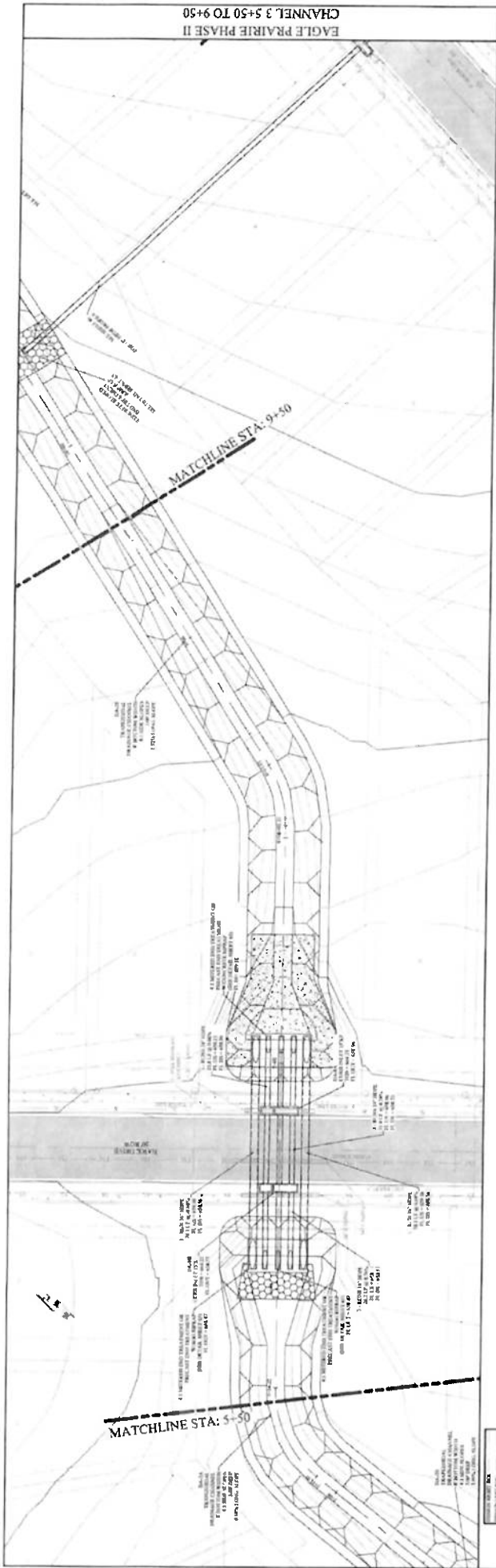
PROJECT INFORMATION PROJECT NAME: STELLAR SEA DIVE 17+50 TO END PROJECT LOCATION: EAGLE PRAIRIE PHASE II PROJECT NUMBER: 17+50 PROJECT DATE: 11/15/2011 PROJECT DRAWN BY: J. L. LARSON PROJECT CHECKED BY: J. L. LARSON PROJECT APPROVED BY: J. L. LARSON		DESIGNER'S INFORMATION DESIGNER: YALGO ENGINEERS, LLC DESIGNER ADDRESS: 11111 N. L. LARSON DESIGNER PHONE: 1111111111 DESIGNER FAX: 1111111111 DESIGNER E-MAIL: J. L. LARSON@YALGOENGINEERS.COM DESIGNER WEBSITE: WWW.YALGOENGINEERS.COM	ENGINEER'S APPROVAL THIS DOCUMENT IS NOT TO BE USED FOR THE AT THE CITY OF EAGLE PRAIRIE, TEXAS ON 11/15/2011 1111111111	PROJECT NUMBER 37
PROJECT INFORMATION PROJECT NAME: STELLAR SEA DIVE 17+50 TO END PROJECT LOCATION: EAGLE PRAIRIE PHASE II PROJECT NUMBER: 17+50 PROJECT DATE: 11/15/2011 PROJECT DRAWN BY: J. L. LARSON PROJECT CHECKED BY: J. L. LARSON PROJECT APPROVED BY: J. L. LARSON		DESIGNER'S INFORMATION DESIGNER: YALGO ENGINEERS, LLC DESIGNER ADDRESS: 11111 N. L. LARSON DESIGNER PHONE: 1111111111 DESIGNER FAX: 1111111111 DESIGNER E-MAIL: J. L. LARSON@YALGOENGINEERS.COM DESIGNER WEBSITE: WWW.YALGOENGINEERS.COM	ENGINEER'S APPROVAL THIS DOCUMENT IS NOT TO BE USED FOR THE AT THE CITY OF EAGLE PRAIRIE, TEXAS ON 11/15/2011 1111111111	PROJECT NUMBER 66



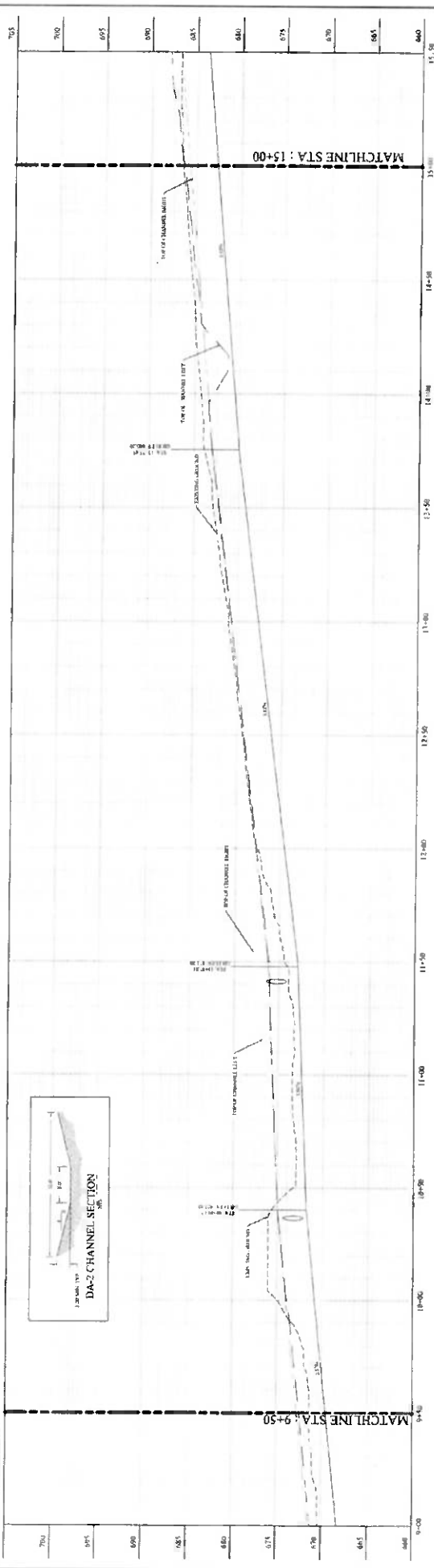
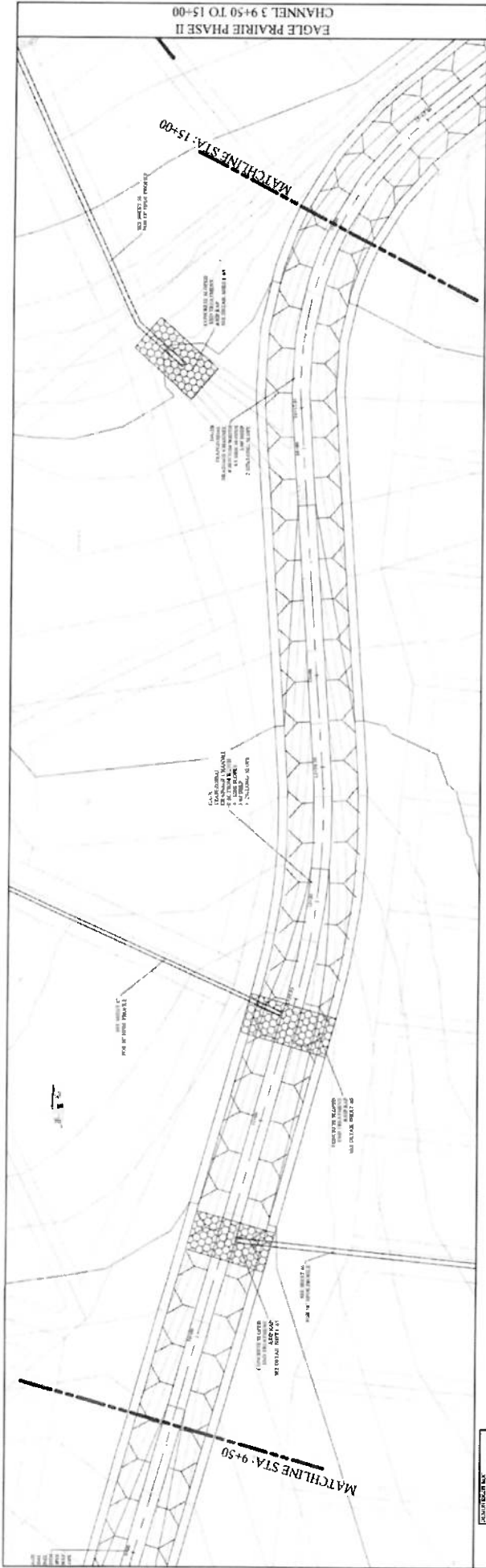
ENGINEER'S APPROVAL THE ENGINEER'S SIGNATURE AND SEAL ARE REQUIRED FOR THE AUTHORITY OF THIS DOCUMENT. THE SEAL OF THE ENGINEER MUST BE PLACED IN THE SPACE PROVIDED FOR THE ENGINEER'S SIGNATURE.		ENGINEER'S APPROVAL THE ENGINEER'S SIGNATURE AND SEAL ARE REQUIRED FOR THE AUTHORITY OF THIS DOCUMENT. THE SEAL OF THE ENGINEER MUST BE PLACED IN THE SPACE PROVIDED FOR THE ENGINEER'S SIGNATURE.	
PROJECT INFORMATION PROJECT NAME: STEPPE DRIVE 0+00 TO END CLIENT: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 2007-001 DATE: 08/15/2007		PROJECT INFORMATION PROJECT NAME: STEPPE DRIVE 0+00 TO END CLIENT: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 2007-001 DATE: 08/15/2007	
DESIGNER INFORMATION DESIGNER: EAGLE PRAIRIE PHASE II DESIGNER: EAGLE PRAIRIE PHASE II DESIGNER: EAGLE PRAIRIE PHASE II		DESIGNER INFORMATION DESIGNER: EAGLE PRAIRIE PHASE II DESIGNER: EAGLE PRAIRIE PHASE II DESIGNER: EAGLE PRAIRIE PHASE II	
SCALE 1" = 40'		SCALE 1" = 40'	
DATE 08/15/2007		DATE 08/15/2007	
PROJECT NUMBER 2007-001		PROJECT NUMBER 2007-001	
CLIENT NAME CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		CLIENT NAME CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	
PROJECT LOCATION STEPPE DRIVE 0+00 TO END		PROJECT LOCATION STEPPE DRIVE 0+00 TO END	
PROJECT NUMBER 2007-001		PROJECT NUMBER 2007-001	
DATE 08/15/2007		DATE 08/15/2007	
DESIGNER EAGLE PRAIRIE PHASE II		DESIGNER EAGLE PRAIRIE PHASE II	
PROJECT NUMBER 2007-001		PROJECT NUMBER 2007-001	
CLIENT NAME CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		CLIENT NAME CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	
PROJECT LOCATION STEPPE DRIVE 0+00 TO END		PROJECT LOCATION STEPPE DRIVE 0+00 TO END	
PROJECT NUMBER 2007-001		PROJECT NUMBER 2007-001	
DATE 08/15/2007		DATE 08/15/2007	
DESIGNER EAGLE PRAIRIE PHASE II		DESIGNER EAGLE PRAIRIE PHASE II	



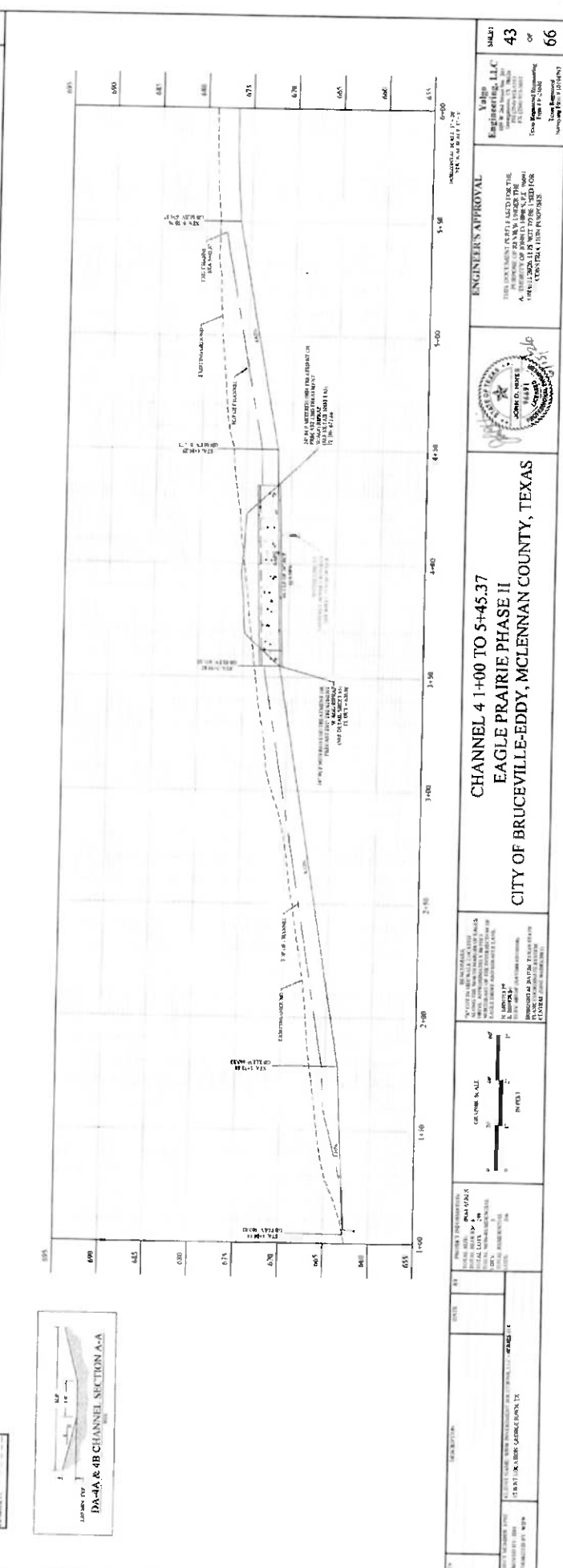
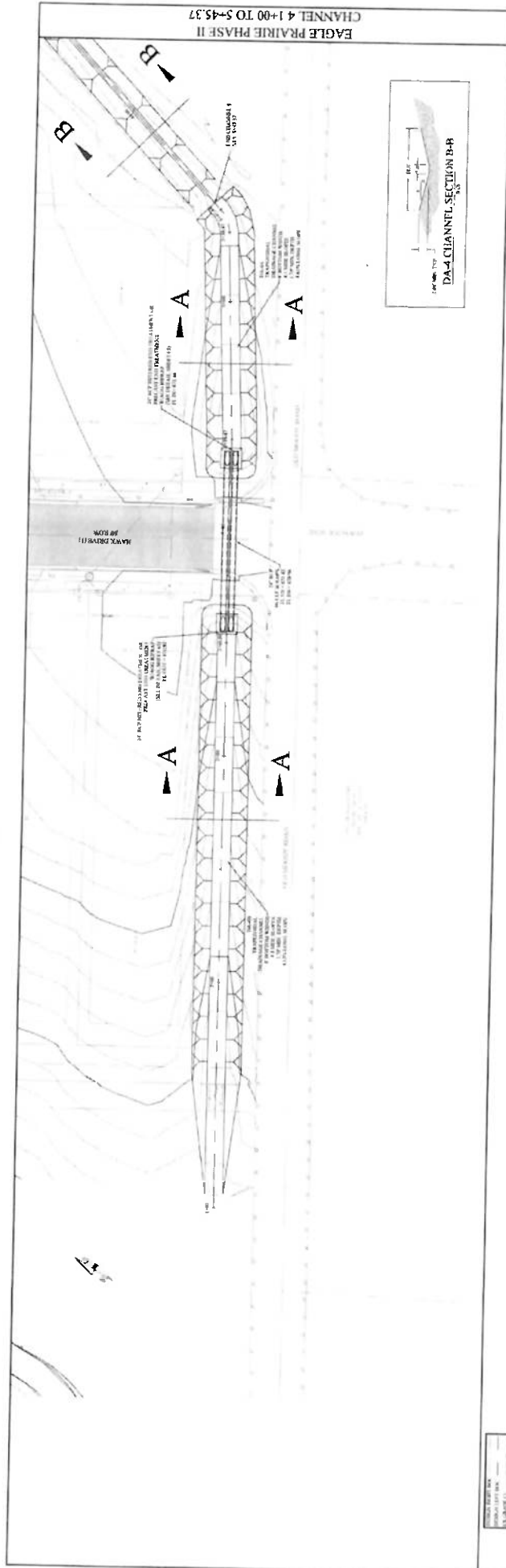
PROJECT NUMBER: 130001 PROJECT NAME: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS	DATE: 10/1/2013 BY: J. D. JONES CHECKED: J. D. JONES APPROVED: J. D. JONES	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001	PROJECT DESCRIPTION: EAGLE PRAIRIE PHASE II PROJECT LOCATION: EAGLE PRAIRIE, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 130001
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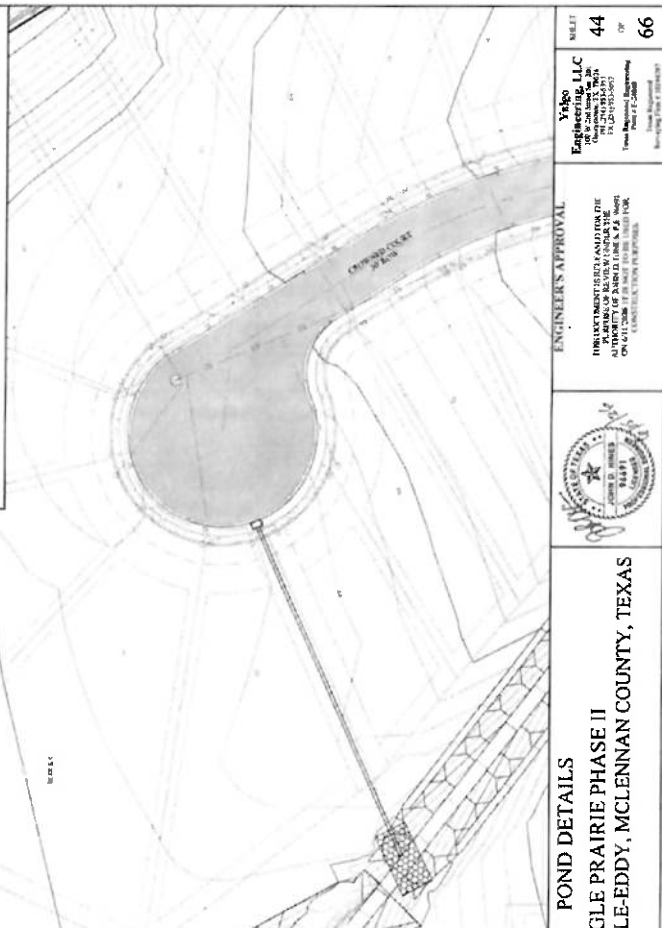
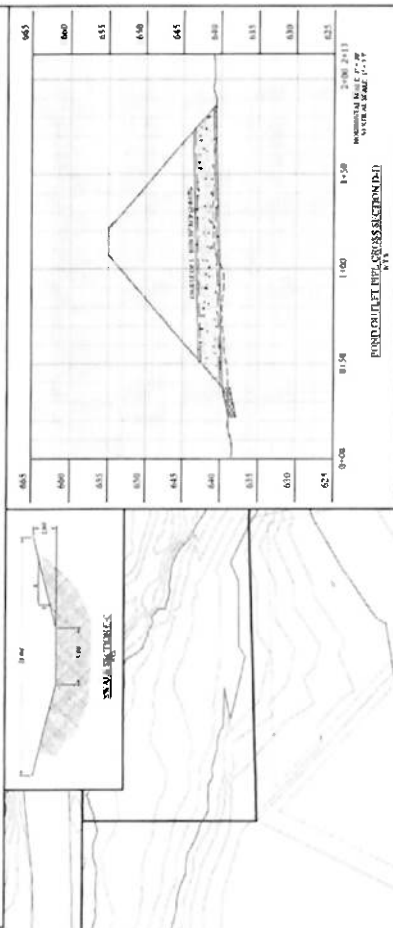
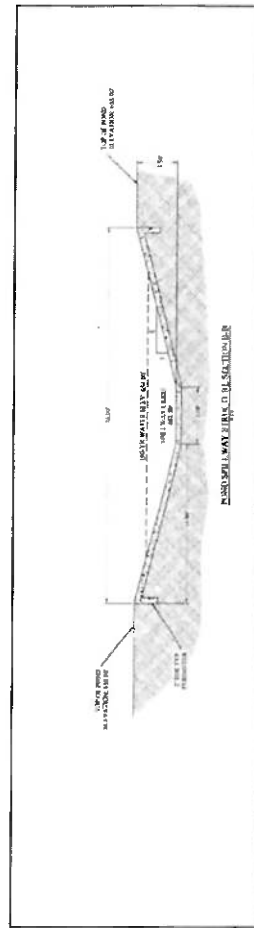
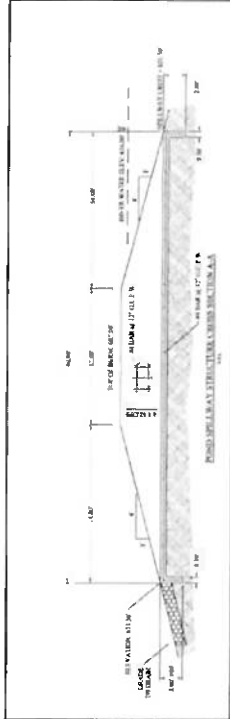
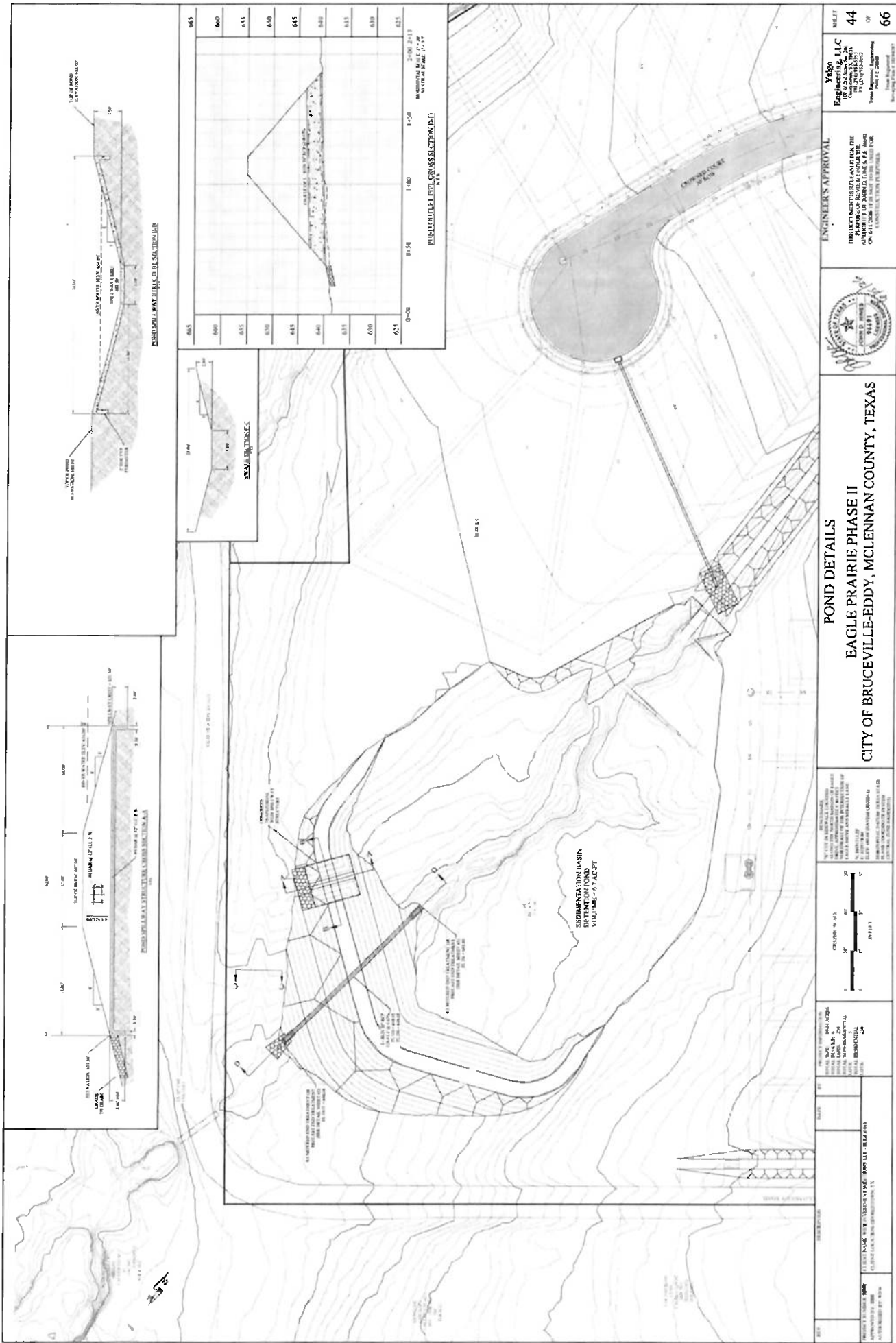


PROJECT NO. 132001144-0000 SHEET NO. 40 DATE 11/11/2014	DESIGNATION EAGLE PRAIRIE PHASE II CHANNEL 3+50 TO 9+50	SCALE 1" = 40'	NORTH ARROW 	CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS EAGLE PRAIRIE PHASE II CHANNEL 3+50 TO 9+50	ENGINEER'S APPROVAL Valpe Engineering, LLC 132001144-0000	SHEET 40 OF 66
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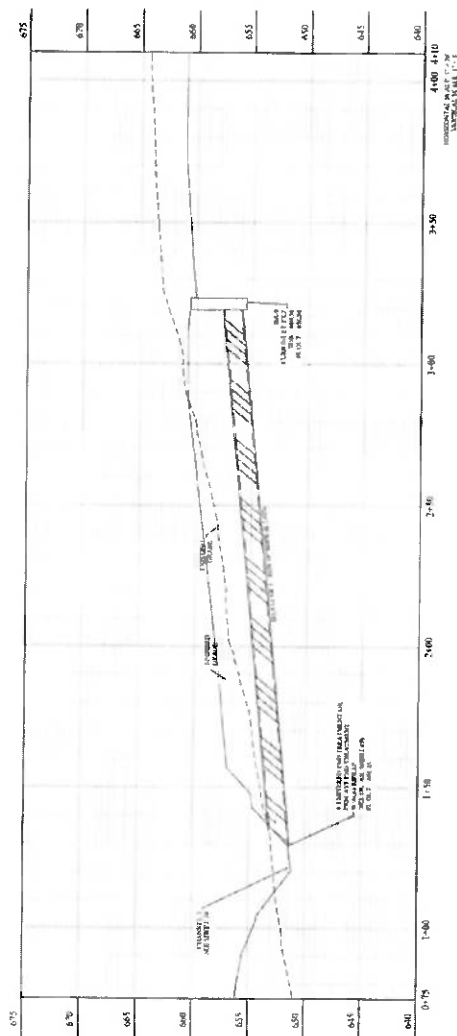
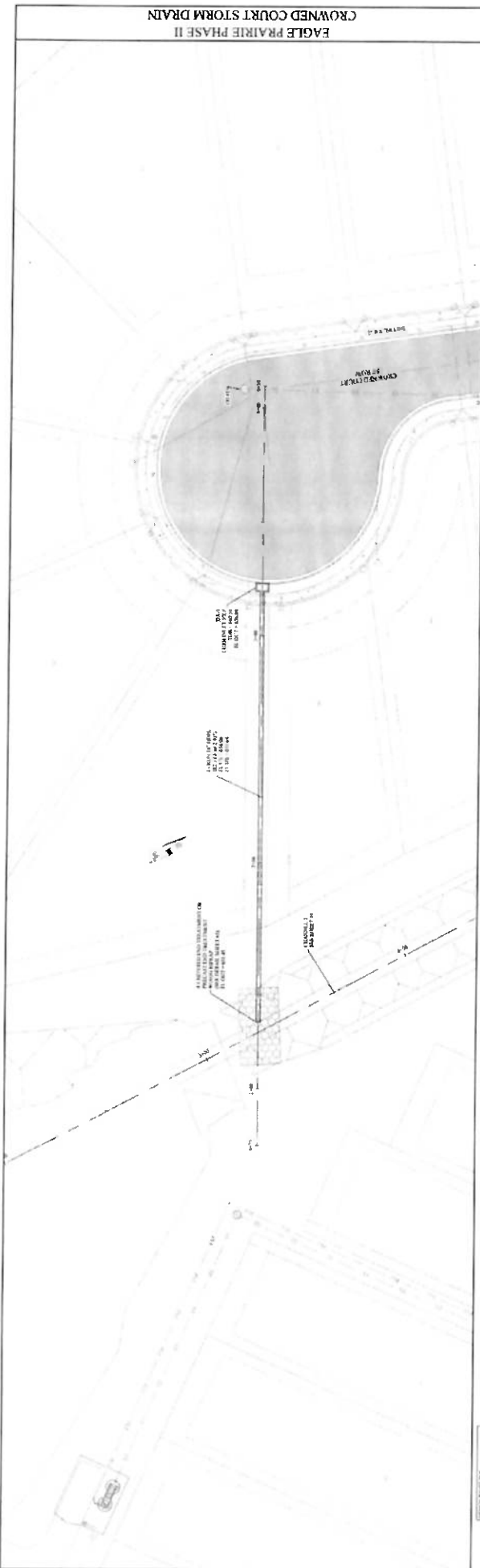


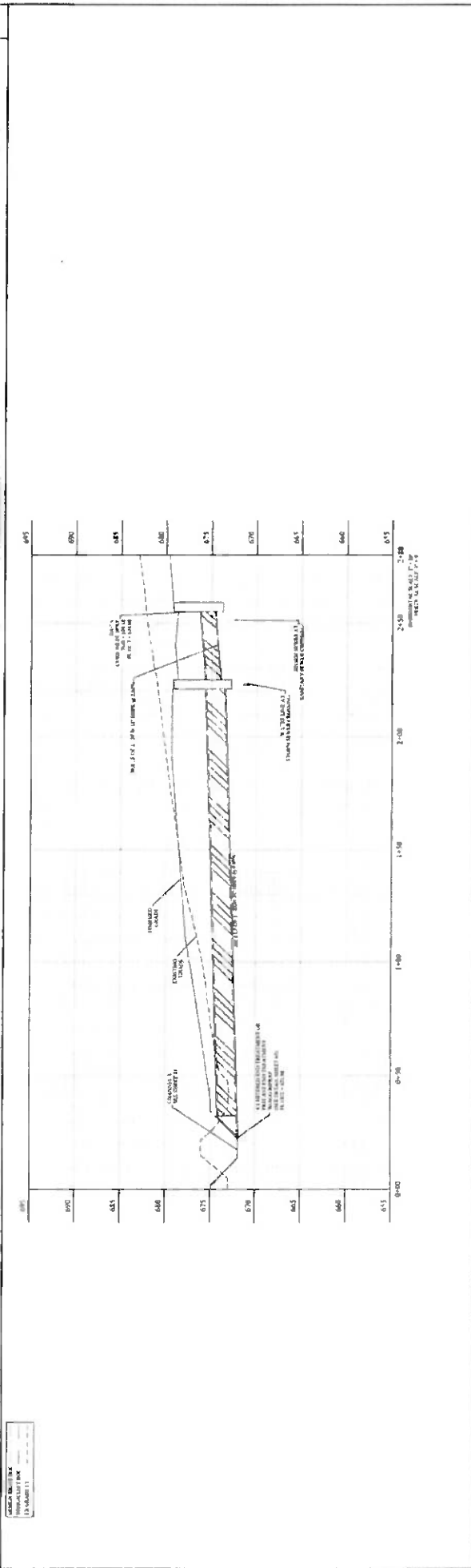
PROJECT NUMBER: 1502 PREPARED BY: J. D. JAMES DATE: 10/15/2015 SCALE: 1" = 40' (PLAN), 1" = 10' (PROFILE)	PROJECT INFORMATION PROJECT NAME: EAGLE PRAIRIE PHASE II PROJECT LOCATION: BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 1502 PREPARED BY: J. D. JAMES DATE: 10/15/2015 SCALE: 1" = 40' (PLAN), 1" = 10' (PROFILE)	DESIGNER'S SEAL J. D. JAMES PROFESSIONAL ENGINEER STATE OF TEXAS NO. 15020 EXPIRATION DATE: 10/15/2018	ENGINEER'S APPROVAL THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF THE ENGINEER'S LICENSE. IT IS NOT TO BE USED FOR ANY OTHER PROJECTS.	Valgo Engineering, LLC 15020 E. 15th St. Suite 100 Irving, TX 75039 Tel: 972.250.1500 Fax: 972.250.1501 Email: info@valgoeng.com Website: www.valgoeng.com	SHEET 41 OF 66
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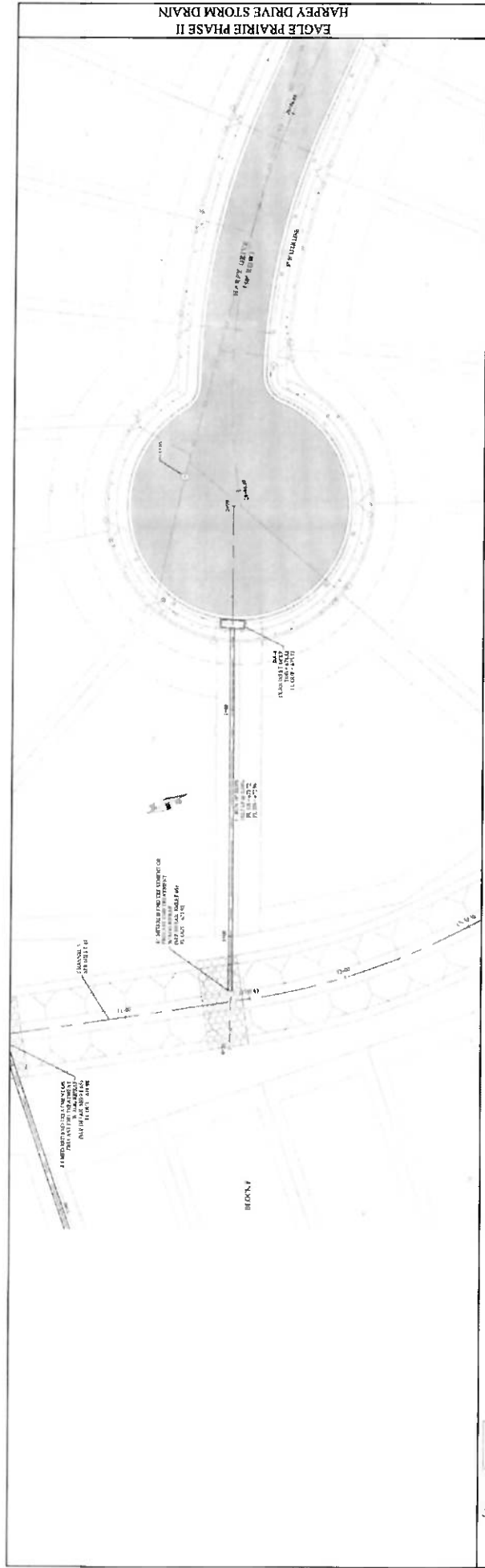


POND DETAILS EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS			ENGINEER'S APPROVAL I HEREBY CERTIFY AND ATTEST THE ACCURACY OF THESE PLANS AND SPECIFICATIONS. Yabo Engineering, LLC 1700 W. 15th Street, Suite 100 Austin, Texas 78701 Tel: (512) 453-1505 Fax: (512) 453-1507	SHEET 44 OF 66
PROJECT NAME: EAGLE PRAIRIE PHASE II PROJECT LOCATION: BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS PROJECT NUMBER: 2020-001 PROJECT DATE: 10/2020 PROJECT STATUS: IN PROGRESS	DESIGNER: YABO ENGINEERING, LLC CHECKED: J. YABO DATE: 10/2020	SCALE: 1" = 40'	NORTH ARROW:	DRAWN BY: J. YABO DATE: 10/2020

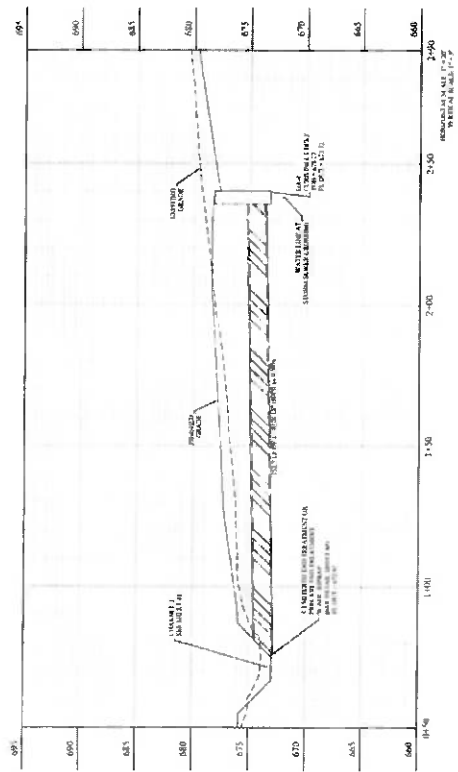
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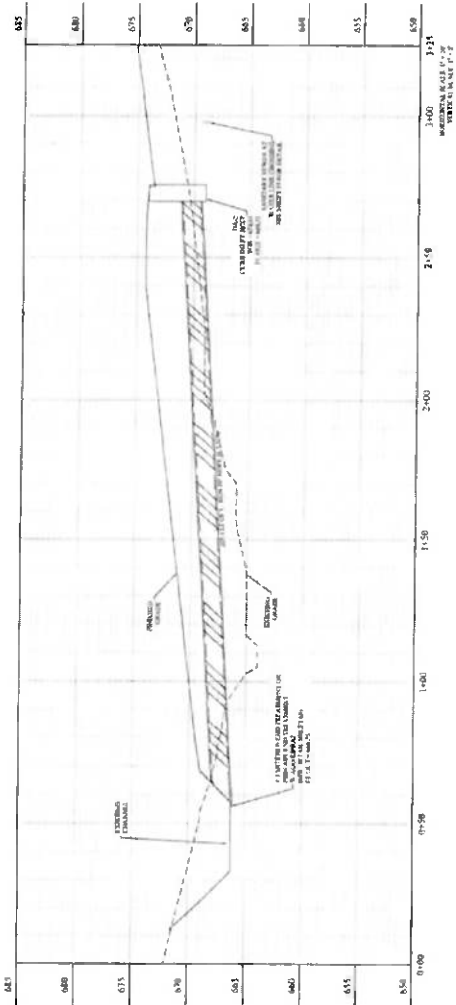
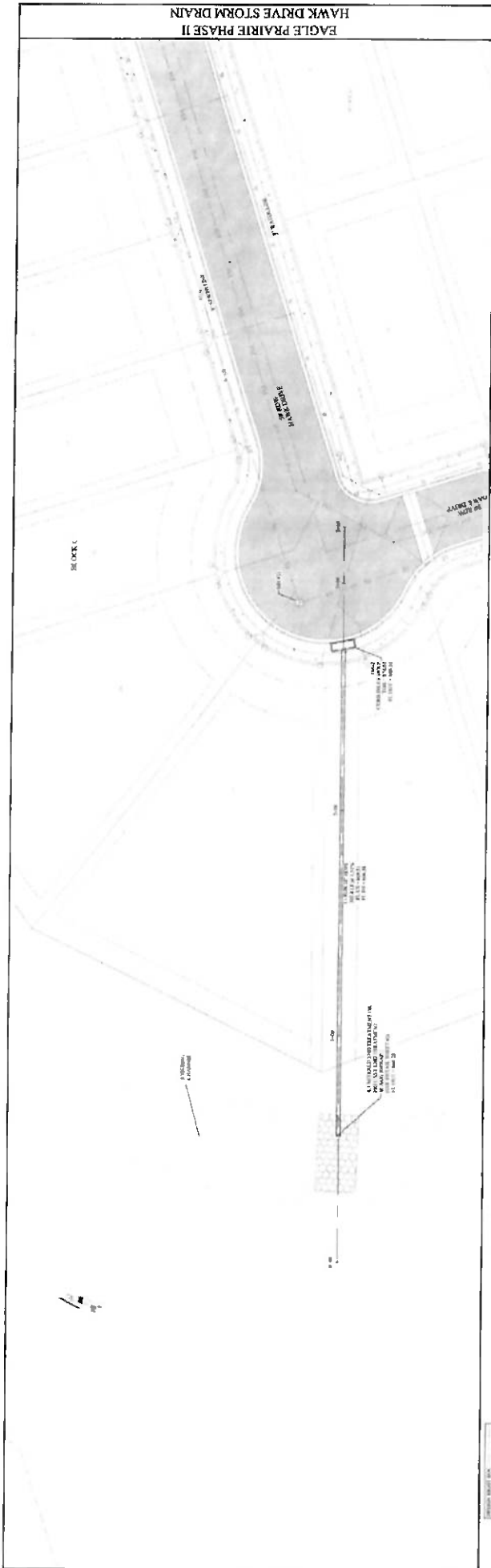
PROJECT INFORMATION PROJECT NO. 15-00000-01 SHEET NO. 15-00000-01-01 DATE: 10/15/2015		ENGINEER'S APPROVAL THE ENGINEER HAS REVIEWED THE DESIGN AND CONSTRUCTION OF THIS PROJECT AND HAS FOUND IT TO BE IN ACCORDANCE WITH THE CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS, STANDARDS AND SPECIFICATIONS.		Yates Engineering, LLC 1500 N. 15th St. Suite 100 Waco, TX 76787 Phone: 817-791-1111 Fax: 817-791-1112 Email: jsmith@yateseng.com	SHEET 46 OF 66
DESIGNED BY JASON B. SMITH CHECKED BY JASON B. SMITH DATE 10/15/2015					



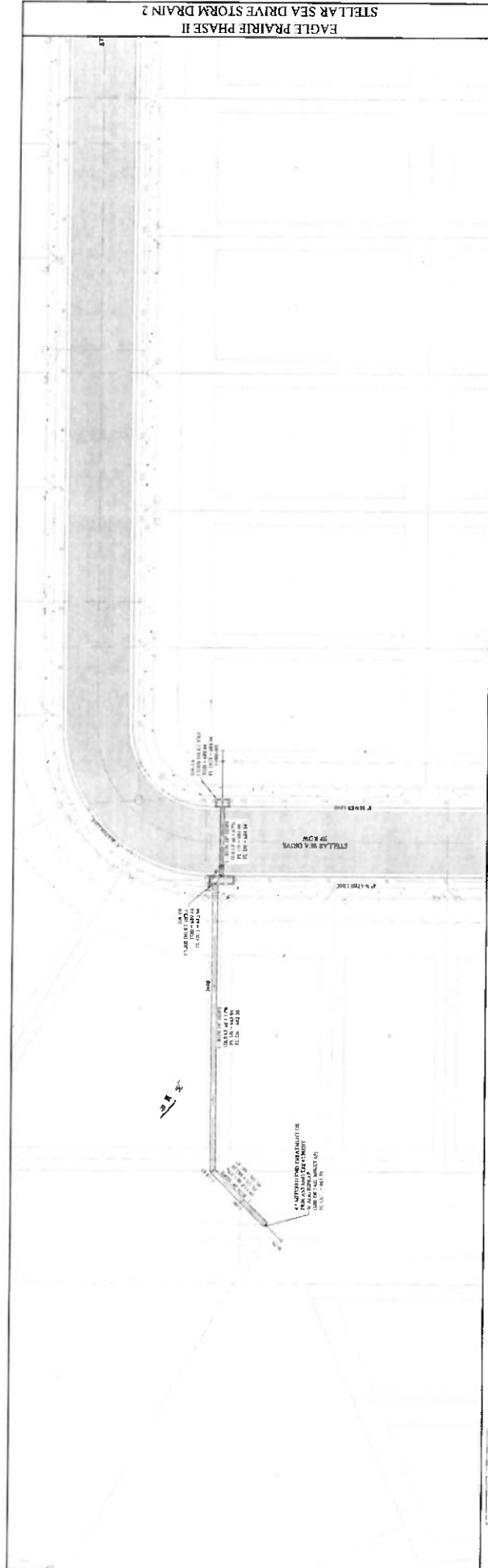
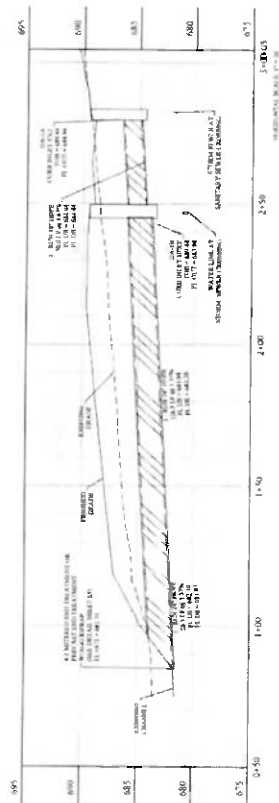
1/2" = 1' SCALE
 1/4" = 1' SCALE
 1/8" = 1' SCALE

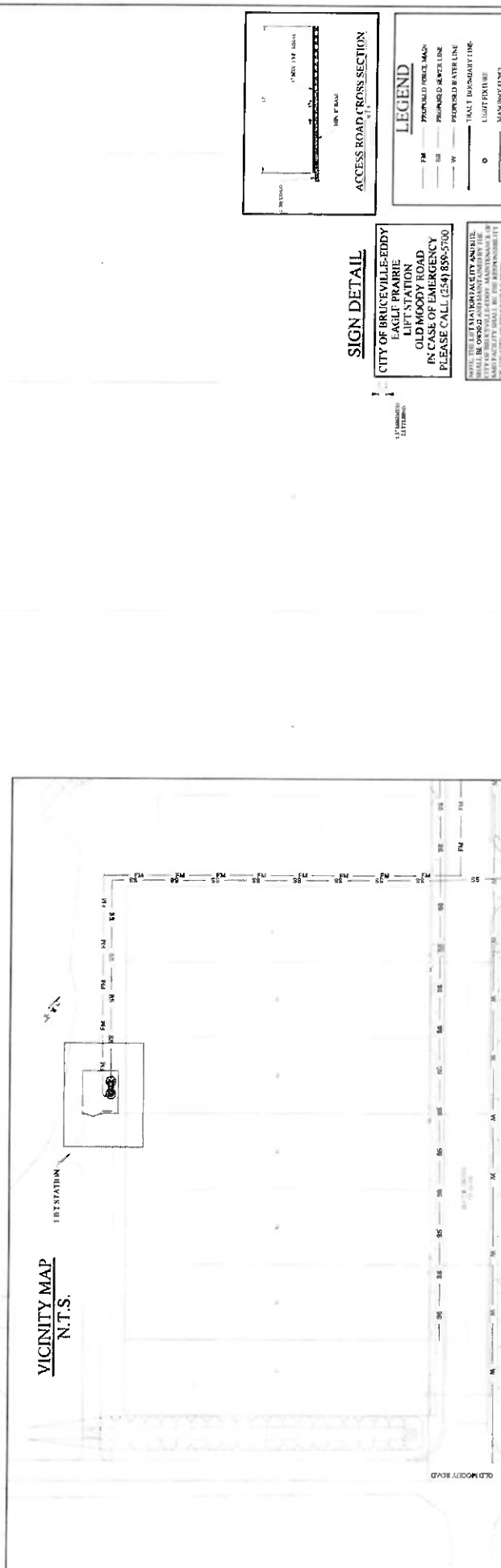
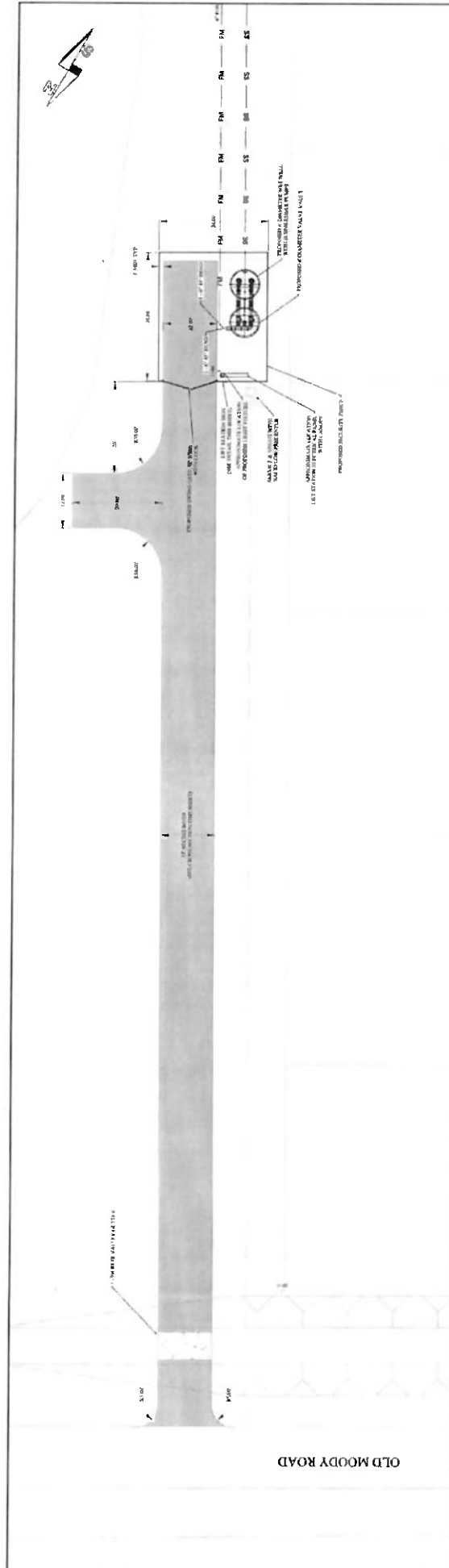


PROJECT INFORMATION PROJECT NO. 202-001-001-001 PROJECT NAME: HARPEY DRIVE STORM DRAIN PROJECT LOCATION: EAGLE PRAIRIE PHASE II PROJECT OWNER: CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		SHEET NO. 47 OF 66
DESIGNER INFORMATION DESIGNER: Yoko Engineering, LLC DESIGNER ADDRESS: 1000 N. GULF AVENUE, SUITE 100, FORT WORTH, TEXAS 76102 DESIGNER PHONE: (817) 335-1000 DESIGNER FAX: (817) 335-1001 DESIGNER EMAIL: info@yokoeng.com		ENGINEER'S APPROVAL THE DESIGN IS RELEASED FOR THE CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS, AND THE CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS, IS NOT RESPONSIBLE FOR THE DESIGN OR CONSTRUCTION OF THE PROJECT.
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS HARPEY DRIVE STORM DRAIN EAGLE PRAIRIE PHASE II		Yoko Engineering, LLC ENGINEERING, L.L.C. 1000 N. GULF AVENUE, SUITE 100 FORT WORTH, TEXAS 76102 (817) 335-1000 info@yokoeng.com



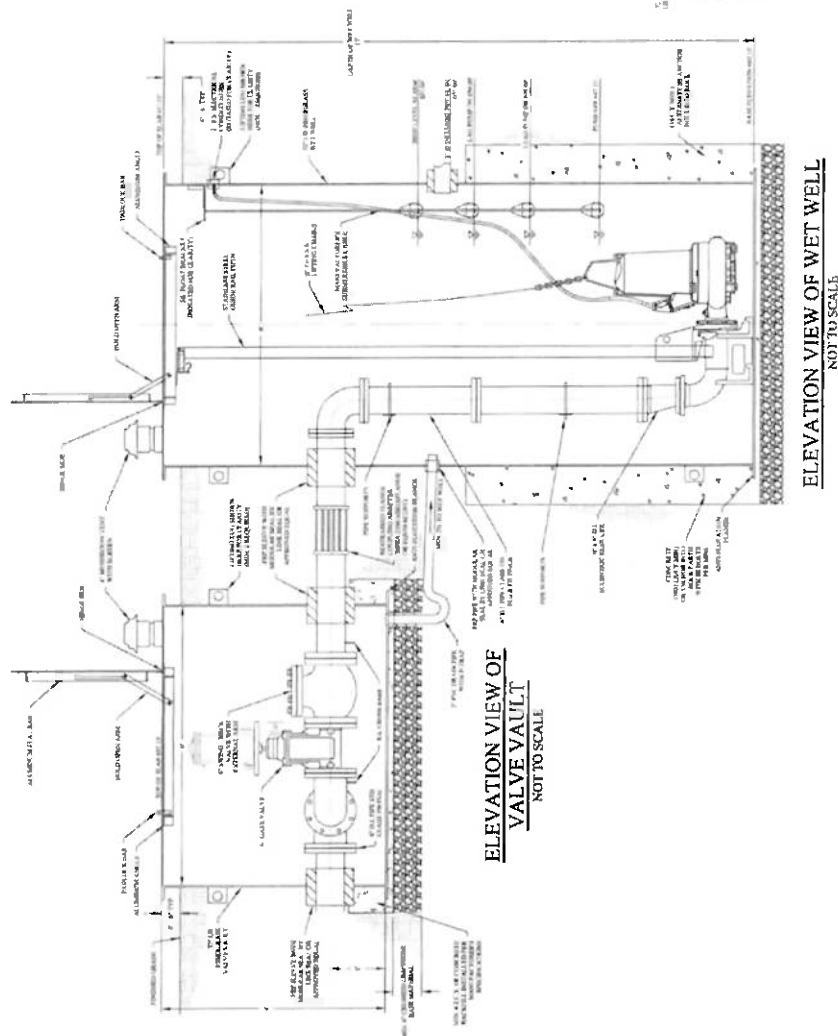
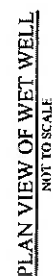
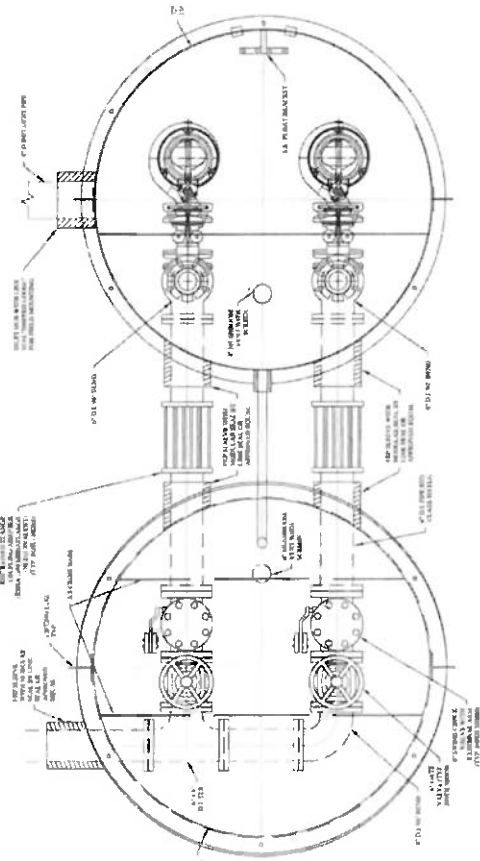
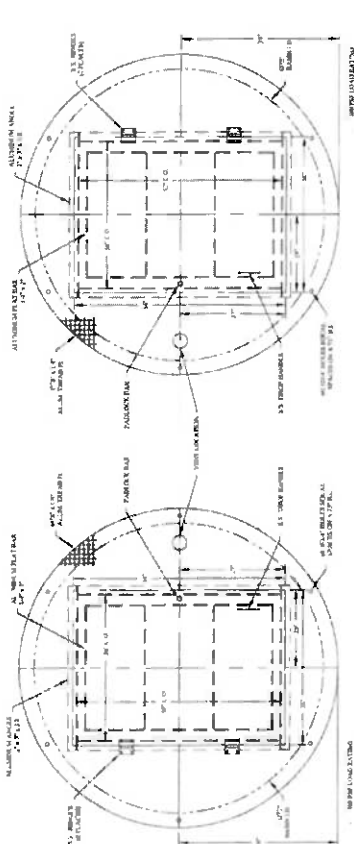
ENGINEER'S APPROVAL THE ENGINEER'S PROFESSIONAL SEAL AND SIGNATURE ARE REQUIRED FOR THE AUTHORITY OF THESE PLANS. THE SEAL AND SIGNATURE OF THE ENGINEER MUST BE PLACED ON THESE PLANS.		Valgo Engineering, LLC 48 66	
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS HAWK DRIVE STORM DRAIN EAGLE PRAIRIE PHASE II		Valgo Engineering, LLC 48 66	
PROJECT NO. 19-001 SHEET NO. 1 OF 1		SHEET NO. 1 OF 1	

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PROJECT LOCATION CITY OF BRUCEVILLE-EDDY EAGLE PRAIRIE 1ST STREET OLD MOODY ROAD IN CASE OF EMERGENCY PLEASE CALL (254) 899-5700		LEGEND PM PROPOSED POLICE MAJOR SS PROPOSED STREET LIGHT W PROPOSED WATER LINE T PROPOSED TRAIL LINE L LIGHT FIXTURE M MAGNETIC FENCE	
ACCESS ROAD CROSS SECTION 		ENGINEER'S APPROVAL 	
SIGN DETAIL CITY OF BRUCEVILLE-EDDY EAGLE PRAIRIE 1ST STREET OLD MOODY ROAD IN CASE OF EMERGENCY PLEASE CALL (254) 899-5700		VALUO Engineering, LLC 1000 N. W. 10th St. Suite 100 Fort Worth, TX 76102 (817) 336-1337 (Fax) 817-336-1338	
THE ENGINEER'S DESIGN IS BASED UPON THE INFORMATION PROVIDED BY THE CLIENT. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED.		THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.	
THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.		THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.	

SITE PLAN EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		APPENDIX B CITY OF BRUCEVILLE-EDDY, TEXAS 1ST STREET OLD MOODY ROAD IN CASE OF EMERGENCY PLEASE CALL (254) 899-5700	
PROJECT LOCATION CITY OF BRUCEVILLE-EDDY EAGLE PRAIRIE 1ST STREET OLD MOODY ROAD IN CASE OF EMERGENCY PLEASE CALL (254) 899-5700		LEGEND PM PROPOSED POLICE MAJOR SS PROPOSED STREET LIGHT W PROPOSED WATER LINE T PROPOSED TRAIL LINE L LIGHT FIXTURE M MAGNETIC FENCE	
ACCESS ROAD CROSS SECTION 		ENGINEER'S APPROVAL 	
SIGN DETAIL CITY OF BRUCEVILLE-EDDY EAGLE PRAIRIE 1ST STREET OLD MOODY ROAD IN CASE OF EMERGENCY PLEASE CALL (254) 899-5700		VALUO Engineering, LLC 1000 N. W. 10th St. Suite 100 Fort Worth, TX 76102 (817) 336-1337 (Fax) 817-336-1338	
THE ENGINEER'S DESIGN IS BASED UPON THE INFORMATION PROVIDED BY THE CLIENT. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED.		THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.	
THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.		THE ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURES OR EQUIPMENT NOT SHOWN ON THIS PLAN.	

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ENGINEER'S APPROVAL



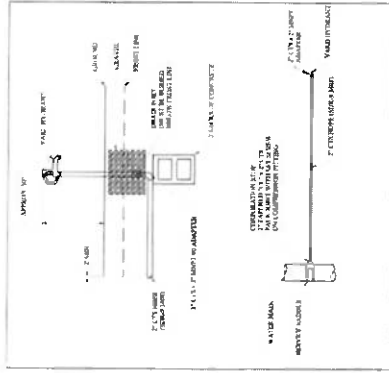
WATER DETAILS 1
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

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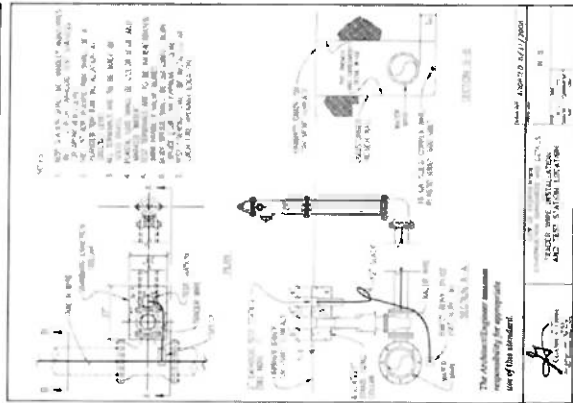


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NOTES

*ALL WATER MAIN CONSTRUCTION SHALL BE DETAIL AND WAD FOR THE DRAINAGE



WATER DETAILS 3
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

ENGINEER'S APPROVAL
This document is prepared for the
AT LUTHER OF ANDERSON & SONS
CONSULTING ENGINEERS

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CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS



SEWER DETAILS 2
EAGLE PRAIRIE PHASE II
CEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

CITY OF BRU

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THE CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STREET LIGHTING DIVISION		CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS STREET LIGHTING DIVISION	PROJECT NO. _____ SHEET NO. _____
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 2007 AL 54226 2340
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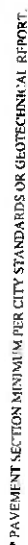
NAME: _____

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附錄 A-1
附錄 A-2
附錄 A-3

NO. 1	PRODUCT NAME
	SUPPLIER'S NAME

1000



"PAVEMENT SECTION MINIMUM PER CITY STANDARDS OR GEOTECHNICAL REPORT."



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TRICAL CURETAGE 2017

SECTION A-A



NOTE
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE BY A DATE AND BY AN AGENCY OR AGENCY USE ONLY
DATE 05-11-2011 BY 60322 UCBAW

[illegible]

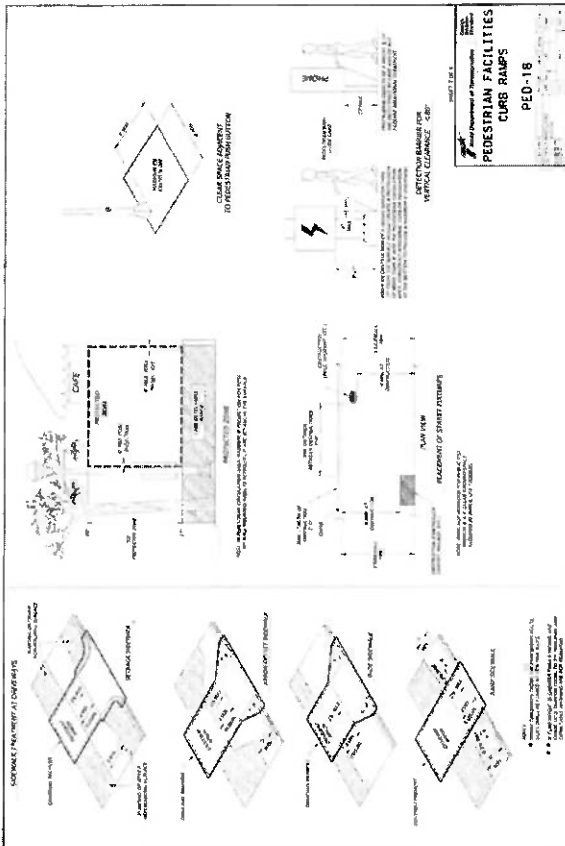
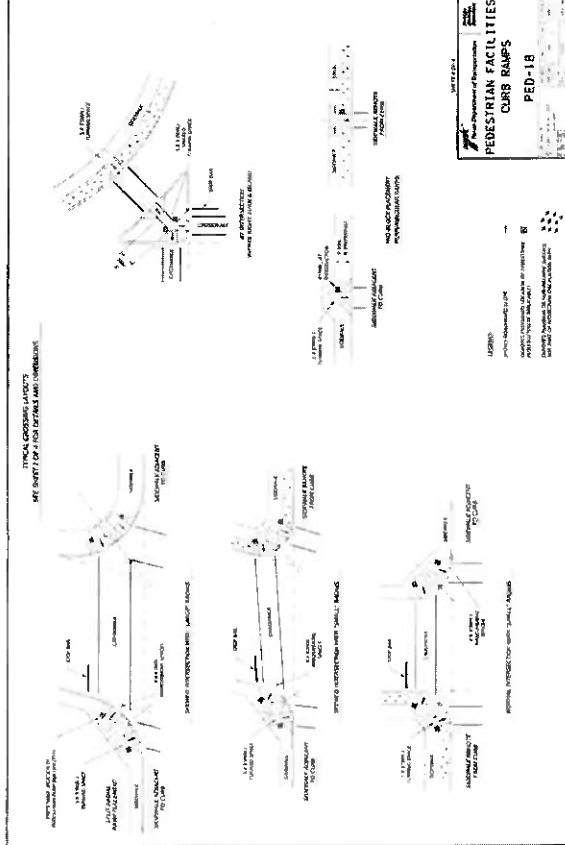
ENGINEER'S APPROVAL.



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF JOHN D. TONKAS, P.L. 90-634/0524-2006. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

Valpo Engineering, LLC 1000 W. 2nd Street, Suite 201 Green Bay, WI 54303 920/833-1333 FAX (920) 833-1057	63	OF	66
Trinity Engineering P.O. Box 12040			Texas 512/445-0000 Succession Line # (512) 445-0000

99



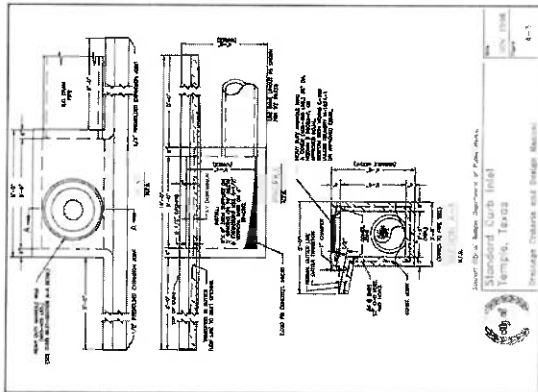
STREET DETAILS 3
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

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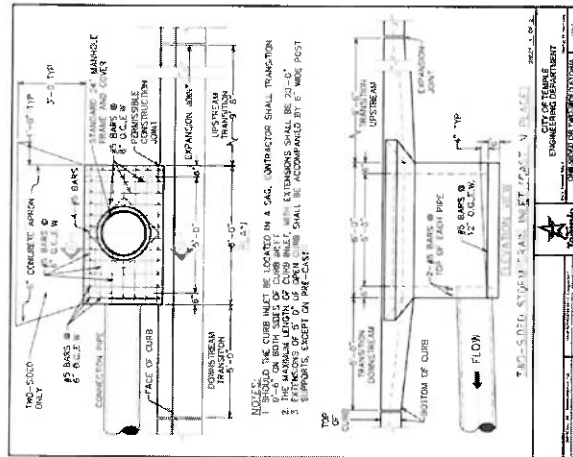
DATE	BY	PROPERTY INFORMATION
		TOTAL SALES 6644 TOTAL REPAIRS 6 TOTAL LOTS 280 TOTAL NON-RESIDENTIAL LOTS 1 TOTAL RESIDENTIAL LOTS 176

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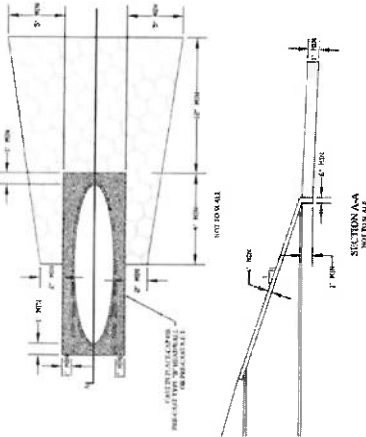
NOTE:
INLET SIZES MAY VARY FROM 6" TO 36" IN 6" STEPS
ON THE DRAWING SHEETS.



* REINFORCED CONCRETE 1/4" REPRESENTATION



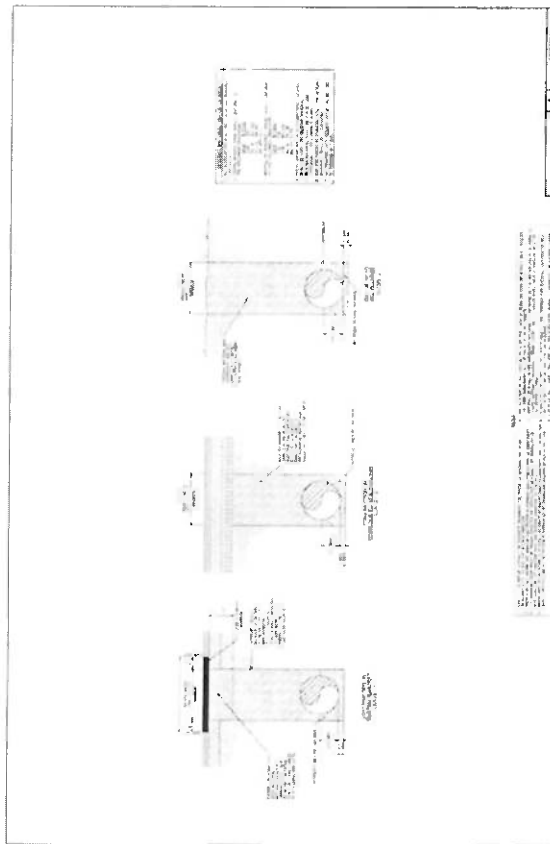
TECHNICAL DRAWING (SEE NOTE BELOW)



NOTES:

1. CONCRETE END TREATMENT TO BE CONSTRUCTED WITH 3000 PSI CONCRETE REINFORCED WITH #4 BARS @ 12" O.C. IN ALL DIRECTIONS.
2. EXPOSED CONCRETE SHALL BE FINISHED WITH A 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
3. FOR 18" INLET, THE 1/4" RADIUS SHALL BE AT LEAST 12" IN THE LEAST DIRECTION OF THE INLET.
4. ALL EXPOSED REINFORCING BARS ARE TO BE CUT ALONG PRIOR TO PLACEMENT OF THE CURB.
5. THE CURB SHALL BE FINISHED WITH A 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.

* ROCK RIP-RAP CURB WITH 1/4" RADIUS UNLESS OTHERWISE SPECIFIED

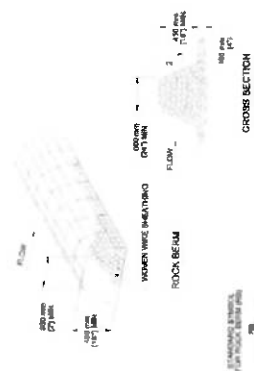
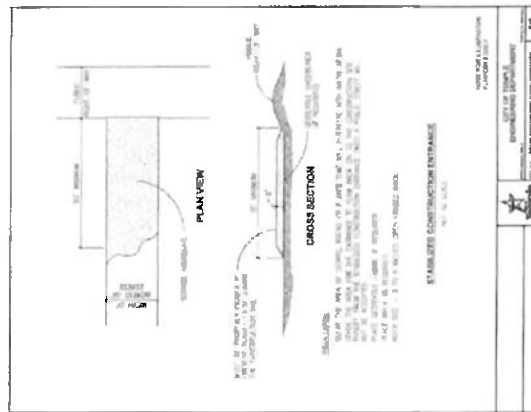


APPROVED BY [Signature]	DATE [Date]	PROJECT INFORMATION [Project Name] [Location] [Drawn By] [Checked By] [Title] [Scale] [Notes]	CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS	ENGINEER'S APPROVAL [Signature] [Title] [Date]	SHEET 65 OF 66

DRAINAGE DETAILS
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS

ENGINEER'S APPROVAL
THIS DOCUMENT IS RELEASED FOR THE
PURPOSES OF THE CITY OF BRUCEVILLE-EDDY,
MCLENNAN COUNTY, TEXAS. IT IS NOT TO BE
USED FOR ANY OTHER PURPOSES.

Yates
Engineering, LLC
100 W. 10th Street, Suite 200
P.O. Box 1000
Austin, Texas 78768
Phone: 512.476.1000
Fax: 512.476.1001
Email: info@yateseng.com
Website: www.yateseng.com

[illegible]

ROCK BEAM

SWPPP DETAILS
EAGLE PRAIRIE PHASE II
CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY,
TEXAS

ENGINEER'S APPROVAL

Valgo Engineering, Inc.
1400 46th Street, Suite 100
San Diego, CA 92123
Tel: 619/591-1100
Fax: 619/591-1101
E-mail: info@valgo.com
Web: www.valgo.com

Yates Strategic Management
Phone 800-355-5555

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July 16, 2026

Mrs. Renee Flores
City of Bruceville-Eddy
143 Wilcox Drive
Eddy, TX 76524

Re: **MRB Group Project No. 0218.23000.000 Phase 10 Development Review**
Task 10 Eagle Prairie Phase 2 – Final Plat and Construction Plans
Review Comments Letter

Dear Mrs. Flores,

MRB Group has completed our review of the referenced project and offers the following comments.
Please contact me if you have any concerns or questions.

Final Plat

1. Please ensure that the PDD Design Standards are followed with regard to the lot dimensions and acreage.
2. Please provide a receipt that all taxes have been paid.
3. Please add the document number that the deed was recorded in.
4. Please include an accurate metes and bounds description of the tract of land subdivided. Also, a description of the limits of each owner's land and the lots, plots, and building sites of the subdivision included within the boundary of each owner's land.

Construction Plans

1. Sheet 8 of 66: The plan shows dead-end water lines in the cul-de-sacs on Harpy Drive and Crowned Court. These water lines should be looped, or a flush point must be provided at the end of the water line.
2. Sheet 13 of 66: Please provide silt fence between all construction activities and all drainage channels.

3. Sheet 20 of 66: For the water line at sanitary sewer line crossing, there is no detail on sheet 56. Is this referencing the detail on sheet 58? Please correct this at all locations that this note appears throughout the plans.
4. Sheet 44 of 66: The proposed grading does not appear to match the grading on sheet 15 (Post-Drainage For Ponds). Sheet 15 shows half of Block C Lot 66 and all of Block C Lot 67-73 grading to the detention pond. Sheet 44 shows a portion of the lots grading to the detention pond, but much also drains directly to Old Moody Road. Please correct this discrepancy and update any calculations accordingly.
5. Sheet 44 of 66: Please provide Swale Section C-C capacity calculations in the drainage analysis report.
6. Sheet 44 of 66: Please armor the pond spillway to a minimum of 10 feet beyond the toe of the embankment.
7. Sheet 53-54 of 66: The lift station calculations show that odor control is required. Please include odor control with the lift stations plans.

Water

8. The water system currently has capacity to serve approximately 325 total connections from Eagle Prairie Phases I and II. The ability to serve additional connections is limited by firm pumping capacity requirements in 30 Texas Admin. Code §290.45(b)(1)(D), relating to minimum capacity requirements for community water systems. Service for additional connections could be considered after construction of the proposed well site and booster pump station.

Sanitary Sewer (External to the Subdivision)

9. MRB does not currently have sufficient information to perform an accurate review of the sanitary sewer. A full review of the sanitary sewer can be done upon request. Additional information may be required from the city.

Drainage Analysis

10. Please explain why DA -1b Post's area is shown to be 80.42 acres (a sum of 1a Post and 1b Post's area) in the Post-Development Drainage Areas and Times of Concentration Table. It should be a separate area and hydrograph when determining the Post conditions outfall flowrate from site. Please ensure the proper area was used in the HEC-HMS calculations.



Sincerely,

Logan S. Proctor
Logan Proctor, PE

N:\0218 23000.000\Phase 10 Subdivision Review\10 Eagle Prairie\2026-06-25 Construction Plans and Final Plat Phase II\2026-07-15 Eagle Prairie Final Plat and Construction Plans Phase II Review Comments.docx



109 W 2nd Street, Ste. 201
Georgetown, TX 78626

PH 254.953.5353
FX 254.953.5057

July 17, 2026

Mr. Lawrence Cutrone

City Administrator
City of Bruceville-Eddy
144 Wilcox Drive
Eddy, Texas 76524

Re: Response to Comments for Eagle Prairie Phase 2 Final Plat and Construction Plan Review #1

Dear Mr. Cutrone:

Below is our response to the comments received from City staff dated July 16, 2026 for the Eagle Prairie Phase 2 Final Plat and Construction Plans. For convenience and clarity, this letter will first restate the comments received and our responses will be in **green**.

MRB Group Project No. 0218.23000.000 Phase 10 Task 10

FINAL PLAT COMMENTS:

1. Please ensure that the PDD Design Standards are followed with regard to the lot dimensions and acreage. **Lot summary attached. The project lot standards comply with the PDD.**
2. Please provide a receipt that all taxes have been paid. **Noted. At time of recording (after construction) in 2027 we will provide a current tax receipt. 2025 taxes were paid and cleared on 2/3/2026 (see attached).**
3. Please add the document number that the deed was recorded in. **The updated plat is attached with revised preamble.**
4. Please include an accurate metes and bounds description of the tract of land subdivided. Also, a description of the limits of each owner's land and the lots, plots, and building sites of the subdivision included within the boundary of each owner's land. **The updated plat with metes and bounds on plat sheet 6 is attached.**

CONSTRUCTION PLANS COMMENTS:

1. Sheet 8 of 66: The plan shows dead-end water lines in the cul-de-sacs on Harpy Drive and Crowned Court. These water lines should be looped, or a flush point must be provided at the

end of the water line. Gate valves have been added at both cul-de-sac locations in order to isolate the larger main and conduct flushing at the fire hydrant. The remaining small diameter portion of the distribution system will have constant flows directly thru services connected to the water line – there are no dead end portions of the distribution system as a result. The City will own all portions of this system upon acceptance and be able to flush all portions of the distribution system, including through any undeveloped lot by means of corp stop service box locations for interim conditions.

2. Sheet 13 of 66: Please provide silt fence between all construction activities and all drainage channels. Additional silt fence/vegetative erosion control measures have been added along channels and drainage areas.
3. Sheet 20 of 66: For the water line at sanitary sewer line crossing, there is no detail on sheet 56. Is this referencing the detail on sheet 58? Please correct this at all locations that this note appears throughout the plans. The profile sheet references have been updated from 56 to the correct detail on plan sheet 58.
4. Sheet 44 of 66: The proposed grading does not appear to match the grading on sheet 15 (Post Drainage For Ponds). Sheet 15 shows half of Block C Lot 66 and all of Block C Lot 67-73 grading to the detention pond. Sheet 44 shows a portion of the lots grading to the detention pond, but much also drains directly to Old Moody Road. Please correct the discrepancy and update any calculations accordingly. Sheet 15 and 44 are correct. DA-1b Post has approximately 12.42 acres that slopes into Channel 4 that then conveys flows along and parallel with Old Moody, inside of Lots 74/C and 51/A (City owned parkland) and then conveyed to the culverts leaving the property at Old Moody Rd.
5. Sheet 44 of 66: Please provide Swale Section C-C capacity calculations in the drainage analysis report. Please see attached supplemental support calculations.
6. Sheet 44 of 66: Please armor the pond spillway to a minimum of 10 feet beyond the toe of the embankment. Additional spillway armor added beyond the toe and through the first bend.
7. Sheet 53-54 of 66: The lift station calculations show that odor control is required. Please provide odor control with the lift stations plans. Odor control has been added to sheet 53.

WATER:

8. The water system currently has capacity to serve approximately 325 total connections from Eagle Prairie Phases I and II. The ability to serve additional connections is limited by firm pumping capacity requirements in 30 Texas Admin. Code 290.45(b)(1)(D), relating to minimum capacity requirements for community water systems. Service for additional connections could be considered after construction of the proposed well site and booster pump station. Noted. The 325th building permit that would be the anticipated issued by the City might occur in 2030, thereby giving the City 3+ years to complete the necessary improvements to the City's utility systems in order to provide service to the full development.

SANITARY SEWER (CITY INFRASTRUCTURE – EXTERNAL SUBDIVISION):

9. MRB does not currently have sufficient information to perform an accurate review of the sanitary sewer. A full review of the sanitary sewer can be done upon request. Additional information may be required from the city. **Noted. A full external sewer system analysis was performed and provided with Phase 1. There are no known deficiencies in the City's new sewer system from a design standpoint that would not allow for the full development to discharge to the 8-inch sewer main located in Eagle Drive.**

DRAINAGE ANALYSIS:

10. Please explain why DA-1b Post's area is shown to be 80.42 acres (a sum of 1a Post and 1b Post's area) in the Post-Development Drainage Areas and Times of Concentration Table. It should be a separate area and hydrograph when determining the Post conditions outfall flowrate from site. Please ensure the proper area was used in the HEC-HMS calculations. **The post drainage calculations were correct, however an updated table is being provided for clarity of the two separate sub-basins [areas].**

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Hines", with a stylized flourish at the end.

John D. Hines, P.E.

Attachments:

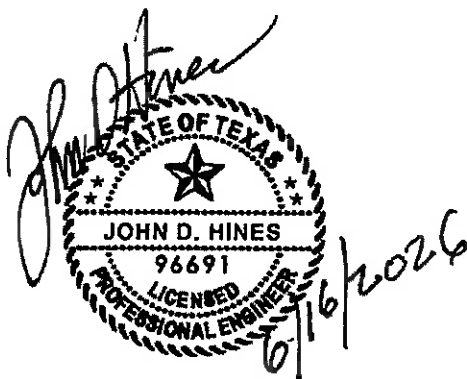
- Revised Final Plat and Construction Plans of Eagle Prairie Phase 1 (pdf format)
- Revised Drainage Analysis_dated 07.17.2026



Drainage Analysis

Eagle Prairie Phase 2

Property Name: **Eagle Prairie**
Prepared For: **WBW Investment Solutions, LLC - Series 018**
Site Location: **Northwest of Intersection of Eagle Drive and Miracle Lane**
Site City and State: **City of Bruceville-Eddy, Texas**
Report Date: **June 17, 2026**
Prepared By: **John D. Hines, P.E. 96691**
Yalgo Engineering, LLC, Texas
Registered Engineering Firm
F-24040; Georgetown, Texas



THIS DOCUMENT IS RELEASED FOR THE
PURPOSE OF REVIEW UNDER THE
AUTHORITY OF JOHN D. HINES, P.E. 96691
ON 06/17/2026. IT IS NOT TO BE USED
FOR CONSTRUCTION PURPOSES.

The engineering means and methods used in this analysis are proprietary and are considered a trade secret. Release of this report to the public would expose this trade secret, causing competitive harm to Yalgo Engineering, LLC. We ask that this report not be released to any third party, besides the governmental oversight team, without our written permission.

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1. PHASE II DETENTION POND ANALYSIS

1.1 Summary

The southeastern half of Eagle Prairie Phase II was previously analyzed for pre/post-development drainage with Eagle Prairie Phase I. The drainage areas associated with the Phase I Pond (DA-2 Pre, DA-3 Pre, DA-2a Post, and DA-2b Post) have not been changed, thus the overall design and analysis for those areas defers to the approved Phase I drainage analysis. See report "Drainage Analysis Eagle Prairie Phase 1" dated February 11, 2026.

The remaining pre/post-development drainage areas (DA-1 Pre, DA-1a Post, and DA-1b Post) are associated with this Phase II detention analysis, which has been updated from the preliminary analysis with Phase I due to modifications of the post-development drainage areas. The existing DA-1 was split into 2 post-development sub-drainage areas, DA-1a Post and DA-1b Post. The DA-1 Pond, located at the north corner of the property, will receive flows from DA-1a only. The discharge from DA-1b will discharge directly to the DA-1 outlet un-detained. DA-1 Post is the combination of DA-1a Post and DA-1b Post at the discharge point of area DA-1.

The detention pond for DA-1 was designed to restrict the rate of drainage from the platted area to the rate of drainage of the land in its undeveloped condition. Stormwater management controls were designed to match or reduce flows in the 2-yr, 10-yr, 25-yr and 100-yr storm events. The detention pond was designed with sufficient capacity to contain the 100-yr event plus 1 foot of freeboard.

The pre-development and post-development flow rates are summarized in the table below.

Table 1: Pre- vs Post-Development Flow Rates

Storm Event	2-year		10-year		25-year		100-year	
Drainage Area	Pre-dev flow (cfs)	Post-dev flow (cfs)	Pre-dev flow (cfs)	Post-dev flow (cfs)	Pre-dev flow (cfs)	Post-dev flow (cfs)	Pre-dev flow (cfs)	Post-dev flow (cfs)
DA-1	88.7	70.7	164.1	115.7	213.5	181.4	291.0	288.9

The following pages show the updated drainage areas, times of concentration and flow rate calculations, and the HEC-HMS model inputs and outputs.

1.2 Methodology

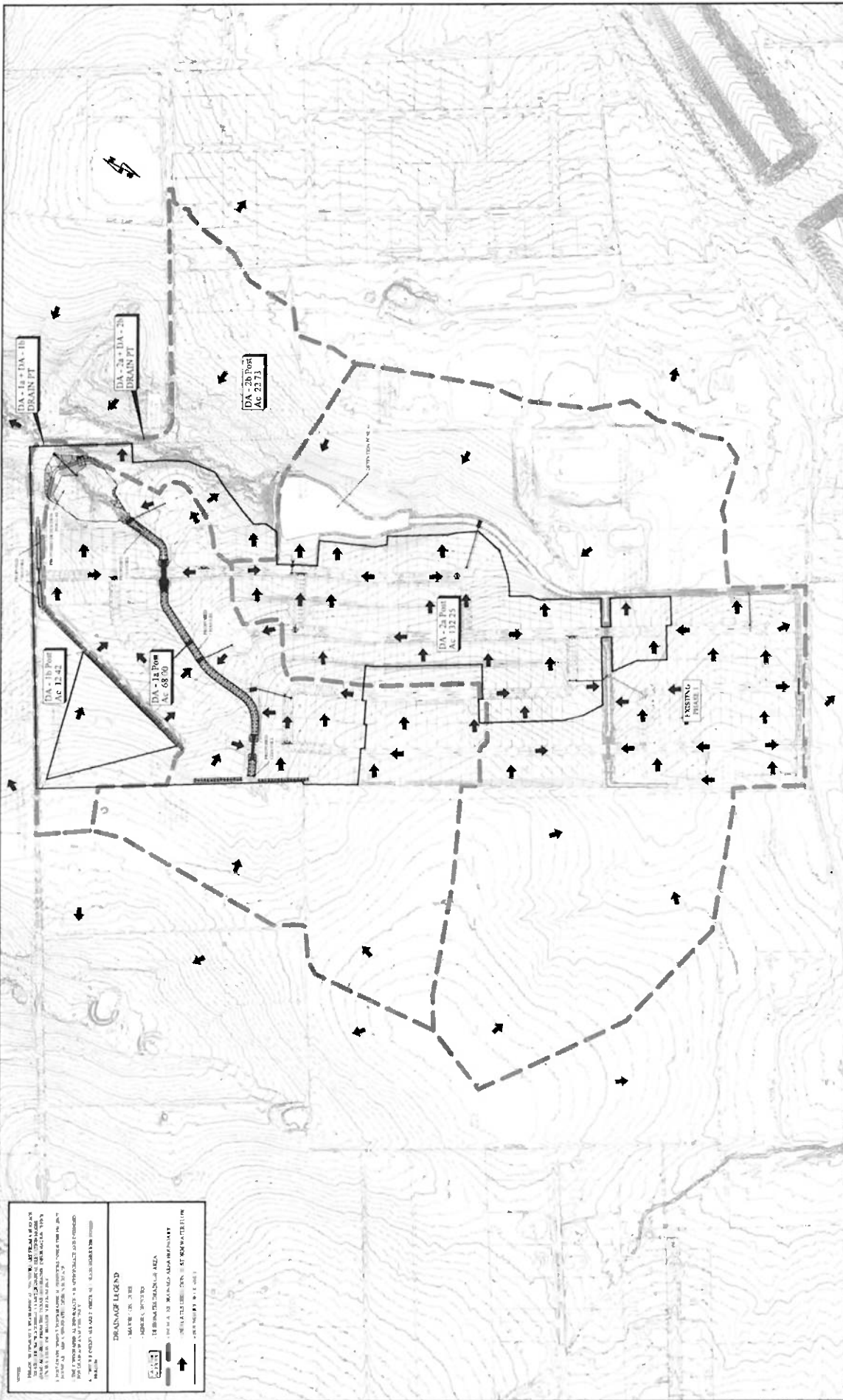
To mitigate post-development flows leaving the property, a hydrologic model using the SCS method was created in HEC-HMS 4.13. The model was used to compare pre-development and post-development flow rates at the site discharge point for DA-1. The Phase II detention pond, along with its outfall structure, was sized using the modeling software.

1.3 Drainage Basins

Since this analysis was performed as a revision of the overall pre/post-development, only the subbasins associated with the DA-1 discharge point are included. For the existing conditions model, DA-1 Pre contains the northwestern portion of the site that flows towards an existing culvert under Old Moody Road at the northern most corner of the project. DA-1 Pre contains offsite areas.

The post-development model for the DA-1 discharge point includes subbasins DA-1a Post and DA-1b Post. DA-1a Post is routed through the pond, while DA-1b Post bypasses the pond directly to the outlet. The total flow is reduced through the proposed detention pond built upstream of the existing culvert.

Pre-development and post-development drainage areas can be seen on the following pages.



NOTES:

1. THIS PLAN IS A PRELIMINARY DESIGN AND IS NOT TO BE USED FOR CONSTRUCTION.
2. THE DESIGN IS BASED ON THE ASSUMPTION THAT THE DRAINAGE AREA IS 100% IMPERVIOUS.
3. THE DESIGN IS BASED ON THE ASSUMPTION THAT THE DRAINAGE AREA IS 100% IMPERVIOUS.
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10. THE DESIGN IS BASED ON THE ASSUMPTION THAT THE DRAINAGE AREA IS 100% IMPERVIOUS.

DRAINAGE LEGEND

- MAJOR DRAINAGE
- MINOR DRAINAGE
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA
- 100% IMPERVIOUS AREA

POST-DRAINAGE FOR PONDS EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE EDDY, MCLENNAN COUNTY, TEXAS										ENGINEER'S APPROVAL THIS DOCUMENT IS NOT A PART OF THE PROJECT CONTRACT. IT IS THE PROPERTY OF YAGO ENGINEERING, LLC. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF YAGO ENGINEERING, LLC. Yago Engineering, LLC 1500 N. W. 10th St. Suite 100 Ft. Worth, TX 76102 Phone: 817.335.1111 Fax: 817.335.1112 Email: info@yago.com 15									
SCALE 1" = 100'										DATE 11/11/2011 66									

1.4 Times of Concentration

For the pre-development and post-development drainage areas, sheet flow was calculated using the Kerby method with a maximum length of 300 ft for overland flow in undeveloped areas and 30 ft in developed areas, or until the topography forms a natural channel. Shallow concentrated flow was calculated using the NRCS TR-55 method and was used throughout the remainder of the drainage areas, until channelization occurred. The flow time for channelized areas was calculated based on channel velocities. These velocities were determined by looking at the geometry and average long slope of the channels.

A factor of 0.6 was applied to the Time of Concentration to calculate Lag Time. Calculations for times of concentration and lag times can be found on the following pages.

Pre-Development Drainage Areas and Times of Concentration

Pre-Development Drainage Areas and Times of Concentration																										
Drainage Area	Total Area, acres	Aspect of Type					Overland Flow (Feet)										1st Subline Concentrated Flow (NGC-Sub. 1)					Channelized Flow				
		Residential Lots	U2 Auto Lots	Pastures	Commercial - School	Commercial - Office	Concrete	Asphalt	Water-Paved	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Return Coefficient, N	Flow Time, T1 (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Steps (ft/ft)	Flow Type	Velocity (ft/sec)	Flow Time, T2 (min)	Length of Flow (ft)	Velocity (ft/sec)	Flow Time, T3 (min)	
DA-1 Piv	72.07	0.00	0.00	70.04	0.00	0.00	0.15	0.00	0.00	300	719.7	717.7	0.04%	0.4	28.04	1214	717.7	700.6	1.00%	3	0.002	148.07	24.75	6.00	8.73	50.00
DA-2 Piv	155.11	0.00	0.95	145.84	0.00	0.00	0.32	1.91	0.00	300	719.7	717.6	0.01%	0.4	24.52	341	717.6	710.7	1.00%	3	0.002	5.88	4.77	6.00	42.00	
DA-3 Piv	8.23	0.00	0.49	7.74	0.00	0.00	0.00	0.00	0.00	300	700	697.2	0.93%	0.4	23.16	52	697.2	699.4	1.00%	5	0.002	10.23	4.77	6.00	25.00	
															20						NO T3 USED				N/A	
																									5	

Kutter Equation Adaptation Coefficient		Return Coefficient	
Generalized length description		Return Coefficient	
Permeable		0.02	
Smooth, bare, packed soil		0.10	
Plow, grass, cultivated new crops, or moderately rough packed soil		0.20	
Pasture, average grass		0.40	
Cultivated rough crop		0.60	
Overgrown forest		0.80	
Open grass, cultivated forest, or disturbed forest with deep litter		0.90	

Shallow Concentrated Flow Types	
1	Permeable and small stream gullies
2	Grassed ditches
3	Grassed ditches
4	Grassed ditches with rough bottom, or rough bottom in western mountain regions
5	Cultivated rough crop crops
6	Plow grass pasture
7	Minimum slope cultivation, surface or riprapped, and woodlands
8	Grassed with heavy ground litter and big rocks

Post-Development Drainage Areas and Times of Concentration

[illegible]

1.5 Runoff Curve Numbers

Area weighted runoff "Curve Numbers" were calculated for each pre and post development drainage area. For the SCS method, the Curve Numbers were obtained from *Table 2-4 SCS Runoff Curve Numbers for Urban Areas and Other Agricultural Lands* in the City of Temple Drainage Criteria and Design Manual dated 2020, hereon referred to as "CTDCDM". The land uses with their respective curve numbers, the NRCS Type soil survey map, and drainage areas were overlayed using QGIS to calculate the composite curve number for each drainage area.

Table 2: Curve Numbers

Drainage Area	Runoff Composite Curve Number
DA-1 Pre	80
DA-1a Post	84
DA-1b Post	80

1.6 Rainfall Intensities

The SCS Method calculations in HEC-HMS used the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 point precipitation frequency estimates for rainfall intensity values. See NOAA Precipitation Frequency data below.



NOAA Atlas 14, Volume 11, Version 2
Location name: Eddy, Texas, USA*
Latitude: 31.3101°, Longitude: -97.2538°
Elevation: 680 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.423 (0.320-0.559)	0.498 (0.380-0.650)	0.618 (0.471-0.812)	0.719 (0.540-0.958)	0.859 (0.624-1.18)	0.968 (0.685-1.36)	1.08 (0.744-1.56)	1.20 (0.804-1.77)	1.36 (0.881-2.08)	1.48 (0.938-2.32)
10-min	0.675 (0.511-0.892)	0.795 (0.607-1.04)	0.989 (0.753-1.30)	1.15 (0.864-1.53)	1.38 (1.00-1.89)	1.55 (1.10-2.19)	1.73 (1.19-2.50)	1.91 (1.28-2.83)	2.15 (1.40-3.30)	2.34 (1.48-3.67)
15-min	0.858 (0.650-1.13)	1.00 (0.765-1.31)	1.24 (0.943-1.63)	1.44 (1.08-1.91)	1.71 (1.24-2.34)	1.92 (1.36-2.71)	2.14 (1.48-3.09)	2.37 (1.59-3.51)	2.68 (1.74-4.11)	2.93 (1.86-4.60)
30-min	1.20 (0.906-1.58)	1.40 (1.07-1.83)	1.72 (1.31-2.27)	2.00 (1.50-2.66)	2.38 (1.72-3.25)	2.66 (1.88-3.74)	2.96 (2.04-4.28)	3.28 (2.21-4.86)	3.73 (2.42-5.71)	4.08 (2.58-6.40)
60-min	1.54 (1.17-2.04)	1.81 (1.38-2.37)	2.25 (1.71-2.96)	2.62 (1.97-3.49)	3.13 (2.27-4.28)	3.52 (2.49-4.95)	3.93 (2.71-5.67)	4.38 (2.94-6.48)	5.01 (3.25-7.67)	5.52 (3.49-8.65)
2-hr	1.87 (1.43-2.44)	2.23 (1.71-2.87)	2.81 (2.15-3.64)	3.30 (2.50-4.35)	4.00 (2.93-5.42)	4.56 (3.25-6.35)	5.16 (3.58-7.36)	5.82 (3.93-8.51)	6.76 (4.41-10.2)	7.54 (4.79-11.7)
3-hr	2.06 (1.58-2.67)	2.48 (1.91-3.15)	3.14 (2.42-4.05)	3.72 (2.84-4.88)	4.56 (3.36-6.15)	5.24 (3.76-7.25)	5.98 (4.16-8.47)	6.80 (4.61-9.87)	7.98 (5.22-12.0)	8.95 (5.70-13.7)
6-hr	2.38 (1.84-3.05)	2.92 (2.25-3.64)	3.73 (2.90-4.75)	4.46 (3.43-5.78)	5.54 (4.11-7.38)	6.42 (4.63-8.78)	7.39 (5.18-10.3)	8.49 (5.78-12.2)	10.1 (6.62-15.0)	11.4 (7.30-17.3)
12-hr	2.70 (2.11-3.43)	3.34 (2.60-4.12)	4.31 (3.38-5.42)	5.19 (4.02-6.64)	6.49 (4.86-8.54)	7.56 (5.50-10.2)	8.77 (6.18-12.1)	10.1 (6.94-14.4)	12.2 (8.03-17.8)	13.9 (8.91-20.8)
24-hr	3.05 (2.41-3.83)	3.81 (2.99-4.64)	4.94 (3.91-6.14)	5.96 (4.67-7.55)	7.48 (5.64-9.73)	8.73 (6.39-11.7)	10.1 (7.20-13.8)	11.8 (8.10-16.4)	14.2 (9.41-20.5)	16.3 (10.5-24.0)
2-day	3.46 (2.76-4.30)	4.33 (3.45-5.25)	5.67 (4.54-6.98)	6.85 (5.41-8.58)	8.56 (6.50-11.0)	9.93 (7.30-13.1)	11.5 (8.19-15.4)	13.3 (9.19-18.3)	16.0 (10.7-22.8)	18.3 (11.8-26.6)
3-day	3.77 (3.02-4.65)	4.70 (3.78-5.68)	6.16 (4.97-7.54)	7.43 (5.90-9.24)	9.25 (7.04-11.8)	10.7 (7.88-13.9)	12.3 (8.79-16.4)	14.1 (9.83-19.4)	17.0 (11.3-24.0)	19.4 (12.6-27.9)
4-day	4.03 (3.25-4.95)	5.00 (4.05-6.02)	6.53 (5.29-7.96)	7.85 (6.26-9.72)	9.73 (7.44-12.3)	11.2 (8.30-14.6)	12.8 (9.23-17.1)	14.8 (10.3-20.1)	17.6 (11.8-24.7)	20.0 (13.0-28.7)
7-day	4.67 (3.80-5.69)	5.71 (4.66-6.82)	7.33 (5.99-8.86)	8.73 (7.02-10.7)	10.7 (8.27-13.5)	12.3 (9.18-15.8)	14.0 (10.1-18.5)	15.9 (11.2-21.5)	18.8 (12.6-26.0)	21.1 (13.7-29.9)
10-day	5.21 (4.25-6.30)	6.29 (5.16-7.49)	7.99 (6.57-9.61)	9.46 (7.64-11.5)	11.5 (8.94-14.4)	13.2 (9.88-16.9)	14.9 (10.8-19.5)	16.9 (11.8-22.6)	19.6 (13.2-27.1)	21.9 (14.3-30.8)
20-day	6.79 (5.60-8.12)	8.01 (6.68-9.50)	9.99 (8.31-11.9)	11.6 (9.49-14.0)	13.9 (10.9-17.2)	15.7 (11.8-19.8)	17.5 (12.8-22.6)	19.4 (13.7-25.6)	22.0 (14.9-29.9)	24.1 (15.8-33.4)
30-day	8.10 (6.72-9.63)	9.42 (7.94-11.1)	11.6 (9.73-13.8)	13.4 (11.0-16.1)	15.8 (12.4-19.4)	17.7 (13.4-22.1)	19.5 (14.3-24.9)	21.4 (15.1-27.9)	23.9 (16.2-32.1)	25.8 (16.9-35.4)
45-day	9.99 (8.34-11.8)	11.4 (9.72-13.5)	13.9 (11.7-16.4)	15.9 (13.1-18.8)	18.4 (14.5-22.4)	20.3 (15.5-25.2)	22.1 (16.3-28.1)	24.0 (17.0-31.1)	26.4 (17.9-35.2)	28.1 (18.5-38.3)
60-day	11.7 (9.80-13.7)	13.2 (11.3-15.6)	15.9 (13.5-18.7)	18.0 (14.9-21.3)	20.7 (16.4-25.0)	22.6 (17.3-27.9)	24.4 (18.0-30.9)	26.2 (18.7-33.8)	28.5 (19.4-37.8)	30.2 (19.8-40.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

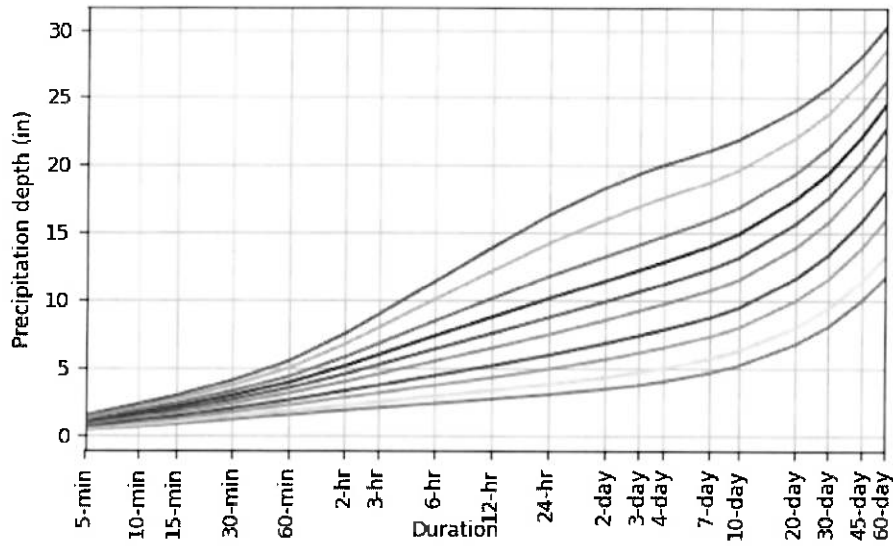
Please refer to NOAA Atlas 14 document for more information.

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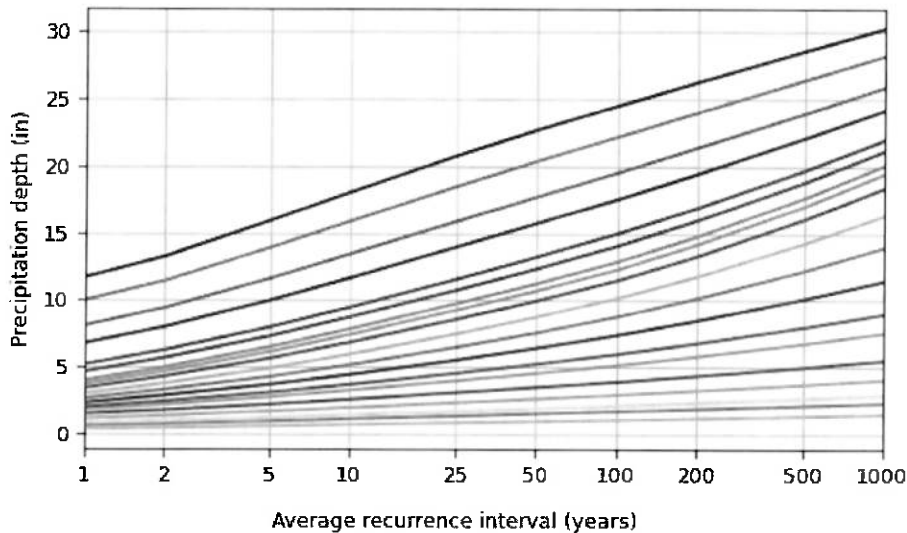
PF graphical

PDS-based depth-duration-frequency (DDF) curves

Latitude: 31.3101°, Longitude: -97.2538°



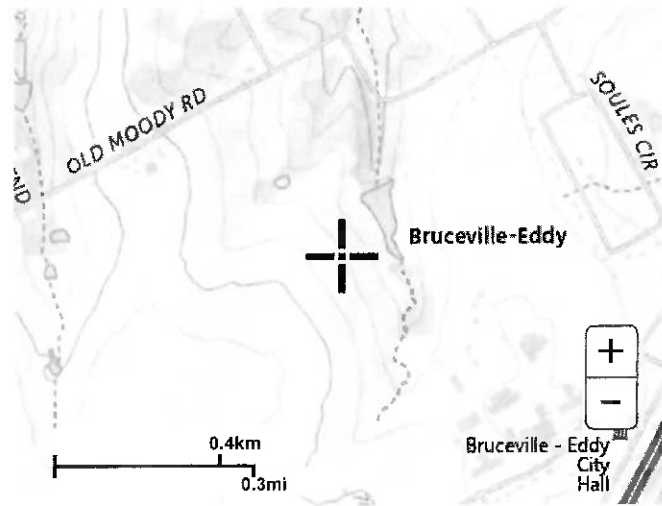
Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



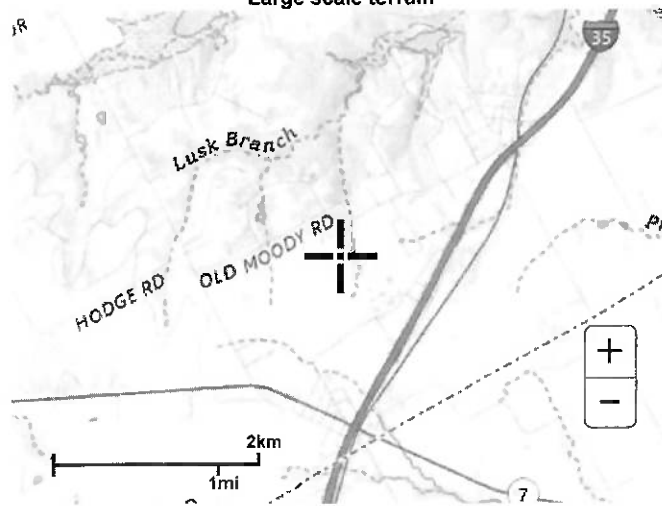
Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

Maps & aerals

Small scale terrain



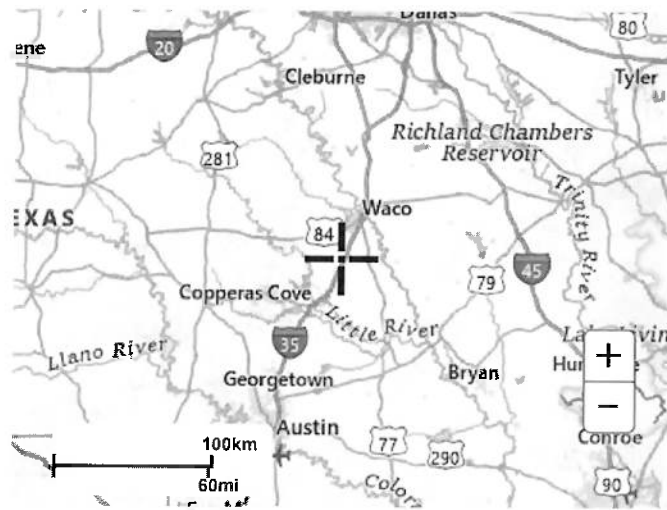
Large scale terrain



Large scale map



Large scale aerial



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Questions?: HDSC.Questions@noaa.gov

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1.7 HEC-HMS Basin Models

The SCS flow rates used in this report were calculated using HEC-HMS 4.13. In HEC-HMS, the SCS Curve Number method was used to estimate losses due to infiltration, and the SCS Unit Hydrograph method was applied as the transform method for each subbasin. The standard dimensionless unit hydrograph (PRF 484), based on the computed lag time, was used to generate runoff hydrographs.

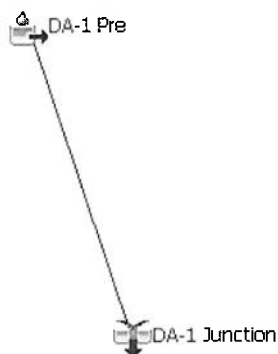


Figure 1: HEC-HMS Pre-Development DA-1 Model

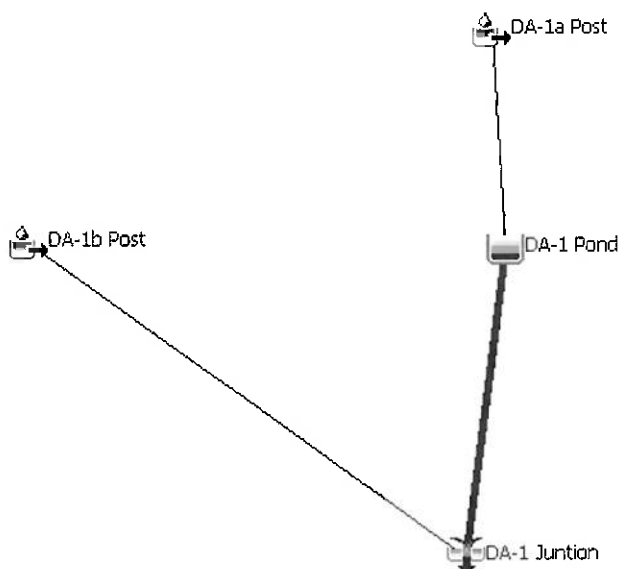
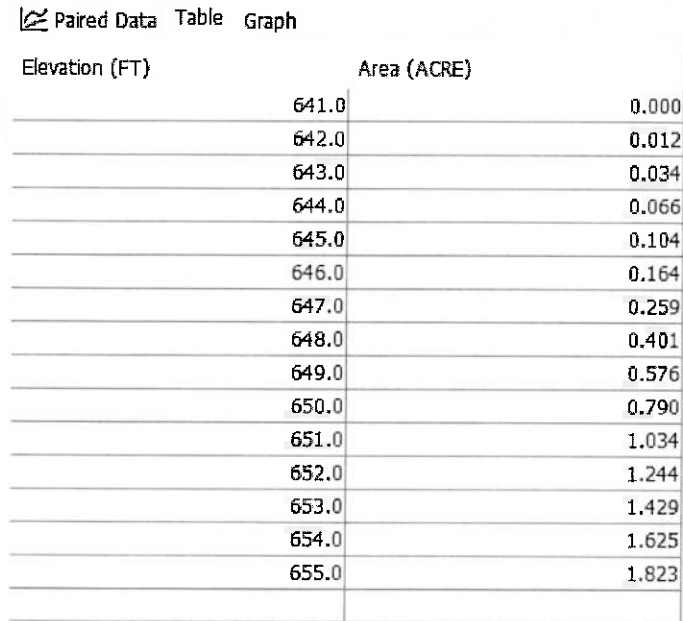


Figure 2: HEC-HMS Post-Development DA-1 Model

1.8 HEC-HMS Detention Ponds Inputs

The DA-1 detention pond was designed using HEC-HMS, with a multi-staged outlet sized to release the storm water at rates matching the pre-development flows in the 2-year, 10-year, 25-year, and 100-year storm events. For the DA-1 Pond, a lower stage outlet pipe and an upper stage trapezoidal spillway are used to match flow rates downstream. The inputs and outputs for the design are below.



Paired Data		Table	Graph
Elevation (FT)	Area (ACRE)		
641.0	0.000		
642.0	0.012		
643.0	0.034		
644.0	0.066		
645.0	0.104		
646.0	0.164		
647.0	0.259		
648.0	0.401		
649.0	0.576		
650.0	0.790		
651.0	1.034		
652.0	1.244		
653.0	1.429		
654.0	1.625		
655.0	1.823		

Figure 3: HEC-HMS Detention Pond DA-1 Elevation Area Table

Reservoir Outlet 1 Options

Basin Name: Post 1

Element Name: DA-1 Pond

Method: Culvert Outlet

Direction: Main

Number Barrels:

Solution Method: Automatic

Shape: Circular

Chart: 1: Concrete Pipe Culvert

Scale: 3: Groove end entrance, pipe projecting from

*Length (FT) 126

*Diameter (FT) 2.5

*Inlet Elevation (FT) 641

*Entrance Coefficient: 0.7

*Outlet Elevation (FT) 640

*Exit Coefficient: 1

*Mannings n: 0.013

Figure 4: HEC-HMS Detention Pond DA-1 Culvert Outlet

Paired Data Table Graph

Elevation (FT)	Discharge (CFS)
651.5	0.0000000
651.6	0.5249381
651.7	1.6278575
651.8	3.2534720
651.9	5.4138194
652.0	8.1317280
652.1	11.4330468
652.2	15.3443449
652.3	19.8920607
652.4	25.1021601
652.5	31.0000000
652.6	37.6102853
652.7	44.9570675
652.8	53.0637643
652.9	61.9531875
653.0	71.6475750
653.1	82.1686227
653.2	93.5375161
653.3	105.7749596
653.4	118.9012045
653.5	132.9360749
653.6	147.8989911
653.7	163.8089922
653.8	180.6847561
653.9	198.5446183
654.0	217.4065891
654.1	237.2883700
654.2	258.2073681
654.3	280.1807097
654.4	303.2252536
654.5	327.3576026
654.6	352.5941145
654.7	378.9509123
654.8	406.4438941
654.9	435.0887420
655.0	464.9009303

Figure 5: HEC-HMS Detention Pond DA-1 Spillway Elevation Discharge Table

1.9 HEC-HMS Model Outputs

Project: EP02 Ponds Update Trap Spill

Simulation Run: 2 Yr Pre 1

Start of Run: 19Aug2025, 00:00

Basin Model: Pre 1

End of Run: 20Aug2025, 01:00

Meteorologic Model: 2 Year

Compute Time: DATA CHANGED, RECOMPUTE

Control Specifications: Control Specs

Show Elements: All Elements

Volume Units: ☒ IN ☐ ACRE-FT

Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1 Pre	0.1	88.7	19 August 2025, 12:34	1.88
DA-1 Junction	0.1	88.7	19 August 2025, 12:34	1.88

Figure 6: Output Summary for Pre-Development DA-1 2yr Storm

Project: EP02 Ponds Update Trap Spill

Simulation Run: 2 Yr Post 1

Start of Run: 19Aug2025, 00:00

Basin Model: Post 1

End of Run: 20Aug2025, 01:00

Meteorologic Model: 2 Year

Compute Time: DATA CHANGED, RECOMPUTE

Control Specifications: Control Specs

Show Elements: All Elements

Volume Units: ☒ IN ☐ ACRE-FT

Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1a Post	0.1	100.7	19 August 2025, 12:32	2.20
DA-1 Pond	0.1	63.2	19 August 2025, 12:55	2.20
Pond 1 Reach	0.1	63.2	19 August 2025, 12:55	2.20
DA-1b Post	0.0	23.4	19 August 2025, 12:16	1.89
DA-1 Junction	0.1	70.7	19 August 2025, 12:24	2.15

Figure 7: Output Summary for Post-Development DA-1 2yr Storm

Project: EP02 Ponds Update Trap Spill

Simulation Run: 10 Yr Pre 1

Start of Run: 19Aug2025, 00:00

Basin Model: Pre 1

End of Run: 20Aug2025, 01:00

Meteorologic Model: 10 Year

Compute Time: DATA CHANGED, RECOMPUTE

Control Specifications: Control Specs

Show Elements: All Elements

Volume Units: ☒ IN ☐ ACRE-FT

Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1 Pre	0.1	164.1	19 August 2025, 12:33	3.74
DA-1 Junction	0.1	164.1	19 August 2025, 12:33	3.74

Figure 8: Output Summary for Pre-Development DA-1 10yr Storm

Project: EP02 Ponds Update Trap Spill Simulation Run: 10 Yr Post 1

Start of Run: 19Aug2025, 00:00 Basin Model: Post 1
 End of Run: 20Aug2025, 01:00 Meteorologic Model: 10 Year
 Compute Time: DATA CHANGED, RECOMPUTE Control Specifications: Control Specs

Show Elements: All Elements Volume Units: ☒ IN ☐ ACRE-FT Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1a Post	0.1	174.4	19 August 2025, 12:32	4.16
DA-1 Pond	0.1	106.3	19 August 2025, 12:56	4.16
Pond 1 Reach	0.1	106.3	19 August 2025, 12:56	4.16
DA-1b Post	0.0	43.0	19 August 2025, 12:16	3.75
DA-1 Junction	0.1	115.7	19 August 2025, 12:54	4.09

Figure 9: Output Summary for Post-Development DA-1 10yr Storm

Project: EP02 Ponds Update Trap Spill Simulation Run: 25 Yr Pre 1

Start of Run: 19Aug2025, 00:00 Basin Model: Pre 1
 End of Run: 20Aug2025, 01:00 Meteorologic Model: 25 Year
 Compute Time: DATA CHANGED, RECOMPUTE Control Specifications: Control Specs

Show Elements: All Elements Volume Units: ☒ IN ☐ ACRE-FT Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1 Pre	0.1	213.5	19 August 2025, 12:33	5.14
DA-1 Junction	0.1	213.5	19 August 2025, 12:33	5.14

Figure 10: Output Summary for Pre-Development DA-1 25yr Storm

Project: EP02 Ponds Update Trap Spill Simulation Run: 25 Yr Post 1

Start of Run: 19Aug2025, 00:00 Basin Model: Post 1
 End of Run: 20Aug2025, 01:00 Meteorologic Model: 25 Year
 Compute Time: DATA CHANGED, RECOMPUTE Control Specifications: Control Specs

Show Elements: All Elements Volume Units: ☒ IN ☐ ACRE-FT Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1a Post	0.1	221.6	19 August 2025, 12:31	5.60
DA-1 Pond	0.1	166.2	19 August 2025, 12:48	5.59
Pond 1 Reach	0.1	166.2	19 August 2025, 12:48	5.59
DA-1b Post	0.0	55.7	19 August 2025, 12:16	5.14
DA-1 Junction	0.1	181.4	19 August 2025, 12:47	5.52

Figure 11: Output Summary for Post-Development DA-1 25yr Storm

Project: EP02 Ponds Update Trap Spill

Simulation Run: 100 Yr Pre 1

Start of Run: 19Aug2025, 00:00

Basin Model: Pre 1

End of Run: 20Aug2025, 01:00

Meteorologic Model: 100 Year

Compute Time: DATA CHANGED, RECOMPUTE

Control Specifications: Control Specs

Show Elements: All Elements

Volume Units: ☒ IN ☐ ACRE-FT

Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1 Pre	0.1	291.0	19 August 2025, 12:32	7.61
DA-1 Junction	0.1	291.0	19 August 2025, 12:32	7.61

Figure 12: Output Summary for Pre-Development DA-1 100yr Storm

Project: EP02 Ponds Update Trap Spill Simulation Run: 100 Yr Post 1

Start of Run: 19Aug2025, 00:00 Basin Model: Post 1

End of Run: 20Aug2025, 01:00 Meteorologic Model: 100 Year

Compute Time: DATA CHANGED, RECOMPUTE Control Specifications: Control Specs

Show Elements: All Elements Volume Units: ☒ IN ☐ ACRE-FT Sorting: Watershed Explorer ▾

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
DA-1a Post	0.1	294.6	19 August 2025, 12:31	8.12
DA-1 Pond	0.1	259.1	19 August 2025, 12:42	8.12
Pond 1 Reach	0.1	259.1	19 August 2025, 12:42	8.12
DA-1b Post	0.0	75.5	19 August 2025, 12:15	7.62
DA-1 Junction	0.1	285.3	19 August 2025, 12:41	8.05

Figure 13: Output Summary for Post-Development DA-1 100yr Storm

Project:EP02 Ponds Update Trap Spill		Simulation Run:100 Yr Post 1	
Reservoir:DA-1 Pond			
Start of Run:	19Aug2025, 00:00	Basin Model:	Post 1
End of Run:	20Aug2025, 01:00	Meteorologic Model:	100 Year
Compute Time:	DATA CHANGED, RECOMPUTE	Control Specifications:	Control Specs
Volume Units: ☒ IN ☐ ACRE-FT			
Computed Results			
Peak Inflow:	294.6 (CFS)	Date/Time of Peak Inflow:	19Aug2025, 12:31
Peak Discharge:	259.1 (CFS)	Date/Time of Peak Discharge:	19Aug2025, 12:42
Inflow Volume:	8.12 (IN)	Peak Storage:	6.6 (ACRE-FT)
Discharge Volume:	8.12 (IN)	Peak Elevation:	653.8 (FT)

Figure 14: Detention Pond DA-1 100yr Summary Table

2. STREET FLOW ANALYSIS (10yr Design/100yr Analysis)

The Rational Method was used in calculating the flow rates for the street flow analysis. Times of Concentration (T_c) were calculated with the Kerby equation for overland flow and NRCS, Part 630 Hydrology, National Engineering Handbook, Chapter 15 for shallow concentrated flow. Rational Method C values for drainage areas were determined based on an examination of the land use to utilize the values listed in the CTDCDM Section 2.2.1 and the times of concentration.

All streets were designed to convey the runoff from the 10yr storm event at the top-of-curb elevation or below. All drainage infrastructure was designed to convey those flows from greater than the 25-year frequency storm up to and including the 100-year frequency storm within the defined public right-of-way or drainage easements.

The following pages show the drainage areas, the times of concentration and flow rate calculations, and the street capacity calculations.

Street Flow Hydrology

Post-Development Drainage Areas and Times of Concentration for Streets

Drainage Area	Total Area, acres		Area of Type			Overland Flow (Kerby)					1st Shallow Concentrated Flow (NRCS-Ch. 15)						2nd Shallow Concentrated Flow (NRCS-Ch. 15)						Time of Conc'n, Tc (min)
	Residential Lots	Part and Open Spaces	1/2 Acre Lots	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Resistance coefficient, N	Flow Time, Tt (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Flow Type	Velocity Multiplier	Flow Time, Tt (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Flow Type	Velocity Multiplier	
DA-1 (Rd)	3.45		0.00	30	697.2	697.2	2.67%	0.4	6.17	196	697.2	693.1	2.04%	2	16.135	1.40	581	692.6	681.7	1.88%	1	20.328	3.48
DA-2 (Rd)	3.85		0.00	30	698.8	697.9	3.00%	0.4	6.01	195	697.9	696.4	5.90%	2	16.135	0.83	669	695.9	681.7	0.61%	1	20.328	7.24
DA-3 (Rd)	3.35		0.00	30	704.9	704.0	3.00%	0.4	6.01	195	704.0	698.7	2.72%	2	16.135	1.22	484	698.2	689.4	1.82%	1	20.328	2.94
DA-4 (Rd)	5.20		0.00	30	706.5	706.1	1.33%	0.4	7.26	94	706.1	704.9	1.28%	2	16.135	0.96	1111	704.4	698.9	1.40%	1	20.328	7.71
DA-5 (Rd)	9.47		0.00	30	693.2	692.6	2.00%	0.4	6.60	147	692.6	689.6	2.94%	2	16.135	1.06	123	689.1	688.8	0.16%	1	20.328	2.50
DA-6 (Rd)	6.54		0.00	30	704.8	704.3	1.67%	0.4	6.89	195	704.3	698.4	3.03%	2	16.135	1.16	842	697.9	690.9	0.83%	1	20.328	7.57
DA-7 (Rd)	6.65		0.00	30	698.8	697.9	3.00%	0.4	6.01	195	697.9	688.4	5.90%	2	16.135	0.83	1116	695.9	688.3	1.58%	1	20.328	7.29
DA-8 (Rd)	1.53		0.00	30	691.7	690.8	3.00%	0.4	6.01	235	690.8	681.4	4.03%	2	16.135	1.21	83	680.9	675.7	1.20%	1	20.328	0.62
DA-9 (Rd)	2.02		0.00	30	695.4	694.6	2.87%	0.4	6.17	195	694.6	676.2	4.31%	2	16.135	0.97	188	675.7	674.8	0.59%	1	20.328	1.98
DA-10 (Rd)	3.70		0.00	30	695.4	694.6	2.87%	0.4	6.17	195	694.6	676.2	4.31%	2	16.135	0.97	188	675.7	674.8	0.59%	1	20.328	4.63
DA-11 (Rd)	1.87		0.00	30	679.8	679.0	2.67%	0.4	6.17	227	679.0	670.6	3.70%	2	16.135	1.22	320	670.1	668.3	1.20%	1	20.328	3.50
DA-12 (Rd)	1.99		0.00	30	679.8	679.0	2.67%	0.4	6.17	227	679.0	670.6	3.70%	2	16.135	1.22	348	670.1	663.7	1.85%	1	20.328	2.09
DA-13 (Rd)	3.01	0.20	0.00	198	699.3	697.3	6.35%	0.4	9.86	211	691.3	687.0	2.04%	2	16.135	1.53	407	686.5	678.7	1.92%	1	20.328	2.41
DA-14 (Rd)*	5.22		0.00	30	691.7	690.8	3.00%	0.4	6.01	82	690.8	678.1	2.07%	2	16.135	0.98	818	678.6	663.7	1.82%	1	20.328	4.97
DA-15 (Rd)	1.06		0.00	30	667.7	667.6	0.33%	0.4	10.03	5	667.6	667.5	2.00%	2	16.135	0.04	212	667.0	662.2	2.26%	1	20.328	1.16

Post-Development Drainage Area Runoff Flows for Streets

Drainage Area	2 YR EVENT		6 YR EVENT		10 YR EVENT		25 YR EVENT		50 YR EVENT		100 YR EVENT	
	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs
DA-1 (Rd)	0.540	4.29	8	0.560	5.60	11	0.610	8.60	14	0.650	7.93	18
DA-2 (Rd)	0.540	3.88	8	0.560	5.06	11	0.610	5.97	14	0.650	7.18	18
DA-3 (Rd)	0.540	4.45	8	0.560	5.81	11	0.610	6.84	14	0.650	8.22	18
DA-4 (Rd)	0.540	3.65	10	0.560	4.76	14	0.610	5.62	18	0.650	6.77	23
DA-5 (Rd)	0.540	4.45	1	0.580	3.81	2	0.610	8.84	2	0.650	8.22	3
DA-6 (Rd)	0.540	3.65	14	0.560	4.76	19	0.610	5.62	24	0.650	6.77	31
DA-7 (Rd)	0.540	3.88	14	0.560	5.06	20	0.610	5.97	24	0.650	7.18	31
DA-8 (Rd)	0.540	4.81	4	0.560	0.28	6	0.610	7.40	9	0.650	8.88	9
DA-9 (Rd)	0.540	4.62	5	0.560	6.03	7	0.610	6.83	11	0.650	8.61	13
DA-10 (Rd)	0.540	4.14	8	0.560	5.41	12	0.610	6.37	14	0.650	7.66	18
DA-11 (Rd)	0.540	4.29	4	0.560	6.03	6	0.610	6.60	8	0.650	7.93	10
DA-12 (Rd)	0.540	4.62	5	0.560	5.06	7	0.610	5.53	9	0.650	6.84	12
DA-13 (Rd)	0.526	3.88	6	0.565	5.06	9	0.595	5.97	11	0.635	7.18	14
DA-14 (Rd)*	0.540	4.14	12	0.560	5.41	16	0.610	6.37	20	0.650	7.66	26
DA-15 (Rd)	0.540	4.29	3	0.560	5.60	3	0.610	6.60	4	0.650	7.93	6

Street Flow Design

Drainage Area	Total Area, acres	Time of Conc'n, Tc (min)	2 YR EVENT			5 YR EVENT			10 YR EVENT			25 YR EVENT			50 YR EVENT			100 YR EVENT		
			C	L_inlet	Q_cfs	C	L_inlet	Q_cfs	C	L_inlet	Q_cfs	C	L_inlet	Q_cfs	C	L_inlet	Q_cfs	C	L_inlet	Q_cfs
DA-1 (Rd)	3.45	11.00	0.540	4.29	8.0	0.540	5.60	13.2	0.610	6.60	7.37	0.650	7.37	17.8	0.650	8.94	21.3	0.740	9.98	26.5
DA-2 (Rd)	3.95	14.00	0.540	3.88	8.1	0.540	5.08	11.3	0.610	5.97	7.16	0.650	7.16	18.0	0.650	9.84	21.5	0.740	9.97	26.8
DA-3 (Rd)	3.35	10.00	0.540	4.45	8.1	0.540	5.91	11.3	0.610	6.84	14.0	0.650	8.22	17.9	0.650	9.28	21.4	0.740	10.33	26.8
DA-4 (Rd)	5.20	16.00	0.540	3.65	10.2	0.500	4.76	14.4	0.610	5.62	17.8	0.650	6.77	22.9	0.650	9.28	27.4	0.740	8.56	32.9
DA-5 (Rd)	0.47	10.00	0.540	3.45	3.1	0.580	3.81	1.6	0.610	3.64	2.3	0.650	3.22	2.5	0.650	9.28	3.0	0.740	10.33	3.6
DA-6 (Rd)	6.84	16.00	0.540	3.88	13.7	0.580	4.78	19.2	0.610	5.62	23.8	0.650	6.77	30.5	0.650	9.28	36.8	0.740	8.56	44.0
DA-7 (Rd)	6.85	14.00	0.540	3.88	12.9	0.580	5.08	19.5	0.610	5.97	24.2	0.650	7.16	31.0	0.650	9.99	37.2	0.740	9.07	44.6
DA-8 (Rd)	1.53	8.00	0.540	4.81	4.0	0.580	6.28	5.6	0.610	7.40	8.9	0.650	8.88	8.8	0.650	8.11	10.3	0.740	11.13	12.6
DA-9 (Rd)	2.62	9.00	0.540	4.62	5.0	0.580	6.03	7.1	0.610	7.11	8.8	0.650	8.53	11.2	0.650	9.91	13.4	0.740	10.71	16.0
DA-10 (Rd)	3.70	12.00	0.540	4.14	8.3	0.580	5.41	11.6	0.610	6.37	14.4	0.650	7.86	18.4	0.650	8.64	22.1	0.740	9.65	28.4
DA-11 (Rd)	1.97	11.00	0.540	4.29	4.3	0.580	6.03	7.0	0.610	6.60	7.5	0.650	7.93	9.6	0.650	8.94	11.5	0.740	10.71	15.8
DA-12 (Rd)	1.99	8.00	0.540	4.62	5.0	0.580	5.08	8.6	0.596	5.97	10.7	0.650	7.16	13.7	0.650	8.11	16.5	0.740	9.07	19.7
DA-13 (Rd)	3.51	14.00	0.526	3.88	6.1	0.560	5.41	16.4	0.610	6.37	20.3	0.650	7.66	26.0	0.650	8.64	31.1	0.740	9.65	37.3
DA-14 (Rd*)	5.22	12.00	0.540	4.14	11.7	0.580	5.41	16.4	0.610	6.37	20.3	0.650	7.66	26.0	0.650	8.64	31.1	0.740	9.65	37.3
DA-15 (Rd)	1.06	11.00	0.540	4.29	2.5	0.580	5.60	3.4	0.610	6.60	4.3	0.650	7.93	5.5	0.650	8.94	6.5	0.740	9.98	7.8

Residential Street Capacities at 10-yr Design Storm

Drainage Area	Street Name	Location Note	Station	Scenario	Street Type	Water Level	Street Long. Slope	Roughness Coefficient at Capacity (ft)	Flow Area at Capacity, sq ft	Hydraulic Radius at Capacity, ft	Velocity at Capacity, fps	Capacity, cfs	Bypass Flow, cfs	Bypass Retained, cfs	Excess Capacity (100yr), cfs
DA-1 (Rd)	Harry Drive	Intersecting Street		1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	13.90	15.56
DA-2 (Rd)	Harry Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	14.00	19.46
DA-3 (Rd)	Shollar Sea Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	14.00	19.46
DA-4 (Rd)	Golden Drive			1	318Bx50RCW	When TOC	0.70%	0.014	9.67	0.31	4.09	39.59	0.00	17.80	21.79
DA-5 (Rd)	Golden Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	2.00	31.46
DA-6 (Rd)	Shollar Sea Drive	Bird Drive		1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	23.60	9.66
DA-7 (Rd)	Harry Drive	Stopped Drive		1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	24.20	9.25
DA-8 (Rd)	Harry Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	8.90	26.56
DA-9 (Rd)	Hawk Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	8.60	24.68
DA-10 (Rd)	Hawk Drive	Stopped Drive		1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	14.40	19.06
DA-11 (Rd)	Hawk Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	7.50	25.96
DA-12 (Rd)	Hawk Drive	Cornered Court		1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	0.00	8.60	24.86
DA-13 (Rd)	Golden Drive			1	318Bx50RCW	When TOC	0.83%	0.014	9.67	0.31	4.46	43.11	0.00	10.70	32.41
DA-14 (Rd*)	Golden Drive			1	318Bx50RCW	When TOC	0.50%	0.014	9.67	0.31	3.46	33.46	2.90	23.20	10.28
DA-15 (Rd)	Cornered Court			1	318Bx50RCW	When TOC	0.51%	0.014	9.67	0.31	3.46	33.78	0.00	4.30	29.49

Residential Street Capacities at 100-yr Major Storm

Drainage Area	Street Name	Location Note	Station	Scenario	Street Type	Water Level	Street Long. Slope	Roughness Coefficient at Capacity (ft)	Flow Area at Capacity, sq ft	Hydraulic Radius at Capacity, ft	Velocity at Capacity, fps	Capacity, cfs	Bypass Flow, cfs	Bypass Retained, cfs	Excess Capacity (100yr), cfs
DA-1 (Rd)	Harry Drive	Intersecting Street		2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	29.50	24.13
DA-2 (Rd)	Harry Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	29.60	21.83
DA-3 (Rd)	Shollar Sea Drive			2	318Bx50RCW	When ROW	1.80%	0.018	17.37	0.34	5.42	94.17	0.00	20.70	73.47
DA-4 (Rd)	Golden Drive			2	318Bx50RCW	When ROW	0.70%	0.018	17.37	0.34	3.38	58.73	0.00	32.90	25.83
DA-5 (Rd)	Golden Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	3.60	46.03
DA-6 (Rd)	Shollar Sea Drive	Bird Drive		2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	44.00	5.63
DA-7 (Rd)	Harry Drive	Stopped Drive		2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	44.60	5.08
DA-8 (Rd)	Harry Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	12.60	37.03
DA-9 (Rd)	Hawk Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	16.00	33.63
DA-10 (Rd)	Hawk Drive	Stopped Drive		2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	26.40	23.23
DA-11 (Rd)	Hawk Drive	Cornered Court		2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	13.80	35.83
DA-12 (Rd)	Hawk Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	15.80	33.83
DA-13 (Rd)	Golden Drive			2	318Bx50RCW	When ROW	0.83%	0.018	17.37	0.34	3.68	63.96	0.00	19.70	44.25
DA-14 (Rd*)	Golden Drive			2	318Bx50RCW	When ROW	0.50%	0.018	17.37	0.34	2.86	49.63	0.00	37.50	12.13
DA-15 (Rd)	Cornered Court			2	318Bx50RCW	When ROW	0.51%	0.018	17.37	0.34	2.86	50.13	0.00	7.80	42.33

3. STRUCTURE FLOW ANALYSIS (25yr Design/100yr Analysis)

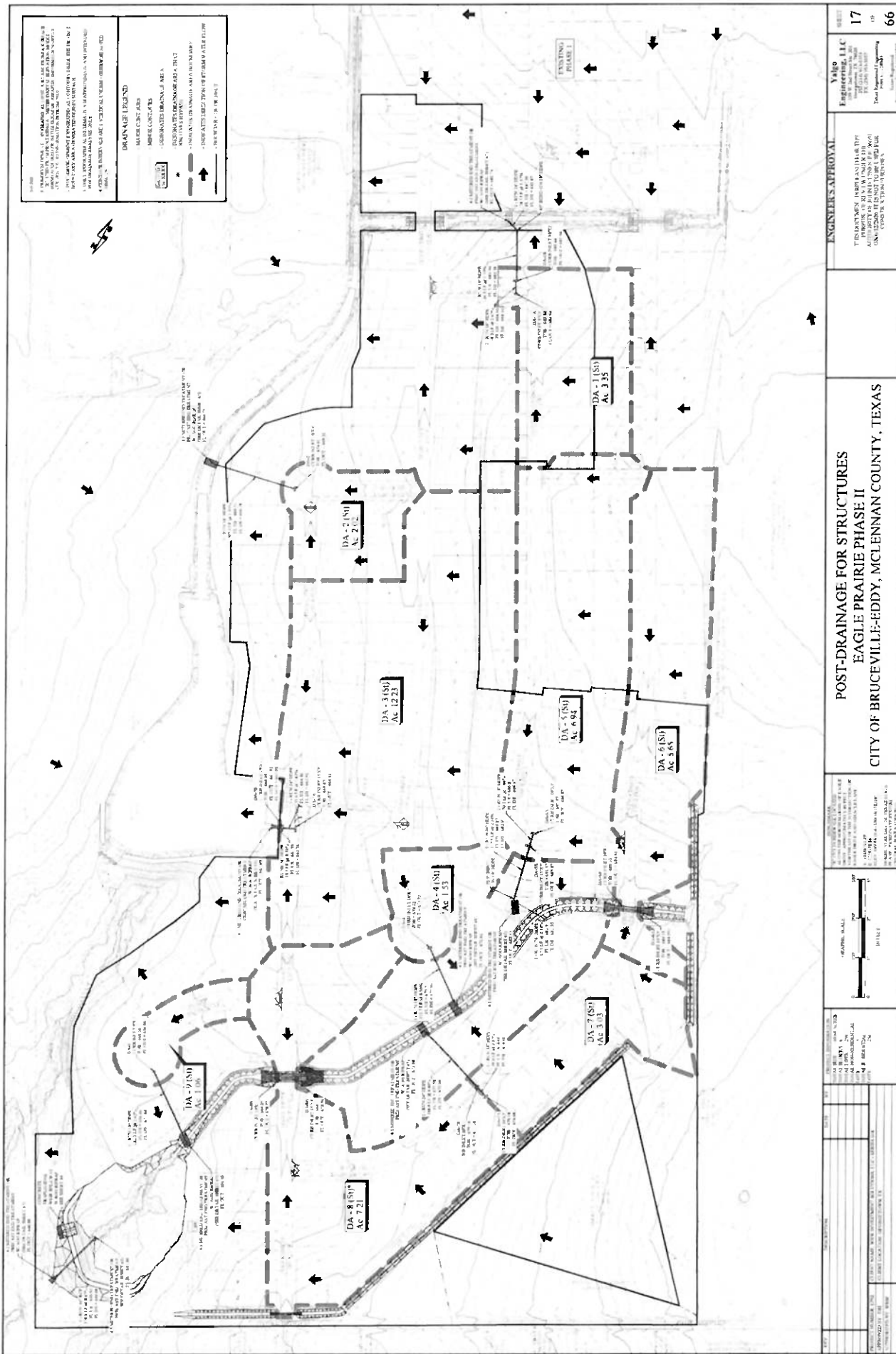
The Rational Method was used in calculating the flow rates for the structure flow analysis. Times of Concentration (T_c) were calculated with the Kerby equation for overland flow and NRCS, Part 630 Hydrology, National Engineering Handbook, Chapter 15 for shallow concentrated flow. Rational Method C values for drainage areas were determined based on an examination of the land use to utilize the values listed in the CTDCDM Section 2.2.1 and the times of concentration. HouStorm was used to analyze the street storm sewer systems, for both inlet sizing and pipe sizing.

Storm structures for the streets were designed to convey a 25yr storm event while limiting ponding to the top of curb. All storm structures were designed to contain all runoff within all rights-of-way and drainage easements in the 100yr storm.

In the 25-yr storm event, DA-7 (St) bypasses 3.6 cfs that is carried over to DA-8 (St).

In the 100-yr storm event, DA-7 (St) bypasses 7.1 cfs that is carried over to DA-8 (St).

The following pages show the drainage areas, times of concentration and flow rate calculations, flume calculations, and HouStorm outputs for the storm drain model calculations.



Structure Flow Hydrology

Post-Development Drainage Areas and Times of Concentration for Structures

Drainage Area	Total Area, acres	Acres of Type		Overland Flow (Kerby)					1st Shallow Concentrated Flow (NRCS-Ch. 15)							2nd Shallow Concentrated Flow (NRCS-Ch. 15)					Time of Conc'n, Tc (min)			
		Residential Lots	Park and Open Spaces	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/mi)	Retardance coefficient, N	Flow Time, Tt (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/mi)	Flow Type	Velocity Multiplier	Flow Time, Tt (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/mi)		Flow Type	Velocity Multiplier	Flow Time, Tt (min)
DA-1 (SI)	3.35	3.35	0.00	30	704.9	704.0	3.00%	0.4	6.01	195	704.0	688.7	2.72%	2	16.135	1.22	484	688.2	689.4	1.92%	1	20.328	2.48	10
DA-2 (SI)	2.02	2.02	0.00	30	686.4	684.6	2.61%	0.4	6.17	195	684.6	676.2	4.31%	2	16.135	0.97	272	675.7	673.5	0.81%	1	20.328	2.48	10
DA-3 (SI)	12.23	12.23	0.00	30	698.8	697.9	3.00%	0.4	6.01	195	697.9	686.4	5.90%	2	16.135	0.83	1177	685.9	688.0	1.52%	1	20.328	7.83	15
DA-4 (SI)	1.53	1.53	0.00	30	691.7	690.8	3.00%	0.4	6.01	235	690.8	681.4	4.00%	2	16.135	1.21	245	680.9	677.7	1.31%	1	20.328	1.76	9
DA-5 (SI)	6.94	6.94	0.00	30	704.8	704.3	1.67%	0.4	6.89	195	704.3	698.4	3.00%	2	16.135	1.16	842	697.9	690.9	0.93%	1	20.328	7.57	16
DA-6 (SI)	5.05	5.05	0.00	30	706.5	706.1	1.33%	0.4	7.26	94	706.1	704.9	1.26%	2	16.135	0.86	1111	704.4	698.9	1.40%	1	20.328	7.71	16
DA-7 (SI)	3.01	2.81	0.20	126	699.3	691.3	6.35%	0.4	9.86	211	691.3	687.0	2.04%	2	16.135	1.53	407	686.5	678.7	1.09%	1	20.328	2.41	14
DA-8 (SI)*	7.21	7.21	0.00	30	681.7	680.8	3.00%	0.4	6.01	82	680.8	679.1	2.07%	2	16.135	0.59	818	678.8	653.7	3.82%	1	20.328	4.97	12
DA-9 (SI)	1.06	1.06	0.00	30	687.7	687.6	0.33%	0.4	10.03	5	687.6	687.5	2.00%	2	16.135	0.04	340	687.0	660.1	2.03%	1	20.328	1.98	12

Post-Development Drainage Area Runoff Flows for Inlets and Flumes

Drainage Area	2 YR EVENT			5 YR EVENT			10 YR EVENT			25 YR EVENT			50 YR EVENT			100 YR EVENT		
	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs
DA-1 (SI)	0.540	4.45	8	0.580	5.81	11	0.610	6.84	14	0.650	8.22	18	0.690	9.26	21	0.740	10.33	26
DA-2 (SI)	0.540	4.45	5	0.580	5.81	7	0.610	6.84	8	0.650	8.22	11	0.690	9.26	13	0.740	10.33	15
DA-3 (SI)	0.540	3.76	25	0.580	4.91	35	0.610	5.79	43	0.650	6.97	55	0.690	7.87	66	0.740	8.81	80
DA-4 (SI)	0.540	4.62	4	0.580	6.03	5	0.610	7.11	7	0.650	8.53	9	0.690	9.61	10	0.740	10.71	12
DA-5 (SI)	0.540	3.65	14	0.580	4.76	19	0.610	5.62	24	0.650	6.77	31	0.690	7.65	37	0.740	8.56	44
DA-6 (SI)	0.540	3.65	11	0.580	4.76	16	0.610	5.62	19	0.650	6.77	25	0.690	7.65	30	0.740	8.56	36
DA-7 (SI)	0.526	3.88	6	0.565	5.06	9	0.585	5.97	11	0.635	7.16	14	0.674	8.11	17	0.723	9.07	20
DA-8 (SI)*	0.540	4.14	16	0.580	5.41	23	0.610	6.37	26	0.650	7.66	36	0.690	8.64	43	0.740	9.65	52
DA-9 (SI)	0.540	4.14	2	0.580	5.41	3	0.610	6.37	4	0.650	7.66	5	0.690	8.64	6	0.740	9.65	8

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-1 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years
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Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-1a	0.0	0.00	10.00	0.00	0.00	6.000	6.000
DA-1b	0.0	0.00	10.00	0.00	0.00	12.000	12.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)		
DA-1a	Curb	5.00	0.00	3.25	2.08	1.08	2.08	0.014	1.50	0.79
DA-1b	Curb	10.00	0.00	1.08	2.08	3.25	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-1a	Curb	5.00	n/a	n/a	6.000	9.240	0.466	8.07	9.94
DA-1b	Curb	10.00	n/a	n/a	12.000	18.479	0.466	12.91	10.47

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-1a	Curb	0.000	0.00	0.00	0.00		0.00	6.000
DA-1b	Curb	0.000	0.00	10.00	7.90		0.00	18.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	18.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-1a	DA-1b	684.94	683.94	Cir 1	0.00	1.50	30.0	3.335	0.012
2	DA-1b	OUT	683.94	681.74	Cir 1	0.00	2.00	160.0	1.375	0.012

Conveyance Hydraulic Computations. Tailwater = 682.89 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Loss (ft)
1*	685.89	685.09	689.44	0.276	0.55	1.15	10.17	4.14	6.0	20.9	0.000
2*	685.09	682.89	689.44	0.535	1.15	1.15	9.66	9.66	18.0	28.9	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	30.0
Circular	Plastic	2.0	0.0	1	160.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		5.0	0.0	0.0	0.0	0.0	1
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-1 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

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Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-1a	0.0	0.00	10.00	0.00	0.00	8.670	8.670
DA-1b	0.0	0.00	10.00	0.00	0.00	17.330	17.330

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head Allowed (ft)
DA-1a	Curb	5.00	0.00	3.25	2.08	0.014	0.98
DA-1b	Curb	10.00	0.00	1.08	2.08	0.014	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-1a	Curb	5.00	n/a n/a	8.670	10.686	0.725	9.27	11.43
DA-1b	Curb	10.00	n/a n/a	17.330	21.372	0.724	14.79	12.05

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-1a	Curb	0.000	0.00	0.00	0.00		0.00	8.670
DA-1b	Curb	0.000	0.00	10.00	9.36		0.00	26.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	26.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-1a	DA-1b	684.94	683.94	Cir 1	0.00	1.50	30.0	3.335	0.012
2	DA-1b	OUT	683.94	681.74	Cir 1	0.00	2.00	160.0	1.375	0.012

Conveyance Hydraulic Computations. Tailwater = 683.23 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	686.08	685.43	689.63	0.576	0.68	1.49	11.23	4.91	8.7	20.9	0.000
2*	685.43	683.23	689.63	1.116	1.49	1.49	10.36	10.36	26.0	28.9	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	30.0
Circular	Plastic	2.0	0.0	1	160.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		5.0	0.0	0.0	0.0	0.0	1
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

==END==

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Untitled

JOB NUMBER :

PROJECT DESCRIPTION : DA-2 (St) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-2	0.0	0.00	10.00	0.00	0.00	11.000	11.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)		
DA-2	Curb	10.00	0.00	0.72	2.08	4.22	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-2	Curb	10.00	n/a n/a	11.000	18.479	0.429	13.49	9.65

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-2	Curb	0.000	0.00	0.00	0.00		0.00	11.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	11.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-2	OUT	669.51	666.25	Cir 1	0.00	1.50	215.0	1.516	0.012

Conveyance Hydraulic Computations. Tailwater = 667.25 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	670.51	667.25	674.01	0.926	1.00	1.00	8.78	8.78	11.0	14.1	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	215.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag Outlet		10.0	0.0	0.0	0.0	0.0	1
		0.0	0.0	0.0	0.0	0.0	1

=====END=====

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Untitled

JOB NUMBER :

PROJECT DESCRIPTION : DA-2 (St) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-2	0.0	0.00	10.00	0.00	0.00	15.000	15.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)		
DA-2	Curb	10.00	0.00	0.72	2.08	4.22	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-2	Curb	10.00	n/a n/a	15.000	21.372	0.600	15.12	10.85

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-2	Curb	0.000	0.00	0.00	0.00		0.00	15.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	15.000

Conveyance Configuration Data

Run #	Node US	Node DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-2	OUT	669.51	666.25	Cir 1	0.00	1.50	215.0	1.516	0.012

Conveyance Hydraulic Computations. Tailwater = 667.62 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	670.88	667.62	674.20	1.723	1.37	1.37	8.88	8.88	15.0	14.1	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	215.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-3 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years
=====Runoff Computation for Design Frequency.
=====

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-3a	0.0	0.00	10.00	0.00	0.00	27.500	27.500
DA-3b	0.0	0.00	10.00	0.00	0.00	27.500	27.500

Sag Inlets Configuration Data.
=====

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-3a	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.79
DA-3b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.
=====

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-3a	Curb	15.00	n/a	n/a	27.500	27.719	0.783	20.36	20.36
DA-3b	Curb	15.00	n/a	n/a	27.500	27.719	0.783	20.36	20.36

Cumulative Junction Discharge Computations
=====

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-3a	Curb	0.000	0.00	0.00	0.00		0.00	27.500
DA-3b	Curb	0.000	0.00	10.00	7.90		0.00	55.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	55.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-3a	DA-3b	664.41	663.91	Cir 1	0.00	2.00	31.0	1.613	0.012
2	DA-3b	OUT	663.91	663.69	Cir 2	0.00	2.00	28.0	0.786	0.012

Conveyance Hydraulic Computations. Tailwater = 665.69 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	666.43	666.04	668.49	1.248	1.46	2.00	11.18	8.75	27.5	31.3	0.000
2	666.04	665.69	668.49	1.248	2.00	2.00	8.75	8.75	55.0	43.6	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	87.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		15.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-3 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-3a	0.0	0.00	10.00	0.00	0.00	40.000	40.000
DA-3b	0.0	0.00	10.00	0.00	0.00	40.000	40.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-3a	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.98
DA-3b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-3a	Curb	15.00	n/a	n/a	40.000	32.058	1.401	23.43	23.43
DA-3b	Curb	15.00	n/a	n/a	40.000	32.058	1.401	23.43	23.43

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-3a	Curb	0.000	0.00	0.00	0.00		0.00	40.000
DA-3b	Curb	0.000	0.00	10.00	9.36		0.00	80.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	80.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev.		Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
			US (ft)	DS (ft)						
1	DA-3a	DA-3b	664.41	663.91	Cir 1	0.00	2.00	31.0	1.613	0.012
2	DA-3b	OUT	663.91	663.69	Cir 2	0.00	2.00	28.0	0.786	0.012

Conveyance Hydraulic Computations. Tailwater = 665.69 (ft)

Run #	Hyd. Gr.line		Crit.Elev		Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US (ft)	DS (ft)	US (ft)	Fr.Slope (%)	Unif. (ft)	Actual (ft)	Unif. (f/s)	Actual (f/s)			
1	667.25	666.43	668.69	2.641	2.00	2.00	12.73	12.73	40.0	31.3	0.000
2	666.43	665.69	668.69	2.641	2.00	2.00	12.73	12.73	80.0	43.6	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.
This length may also be used as Pay Item.
Using hydraulic length, from node center to node center, may result in profile error,
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	87.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		15.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Untitled

JOB NUMBER :

PROJECT DESCRIPTION : DA-4 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-4	0.0	0.00	10.00	0.00	0.00	9.000	9.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-4	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-4	Curb	10.00	n/a n/a	9.000	18.479	0.363	13.39	13.39

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-4	Curb	0.000	0.00	0.00	0.00		0.00	9.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	9.000

Conveyance Configuration Data

Run #	Node US	Node DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-4	OUT	673.72	672.92	Cir 1	0.00	1.50	160.0	0.500	0.012

Conveyance Hydraulic Computations. Tailwater = 674.42 (ft)

Run #	Hyd. Gr.line		Crit.Elev		Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US (ft)	DS (ft)	US (ft)	Fr.Slope (%)	Unif. (ft)	Actual (ft)	Unif. (f/s)	Actual (f/s)			
1	675.41	674.42	678.22	0.620	1.50	1.50	5.09	5.09	9.0	8.1	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	160.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Untitled

JOB NUMBER :

PROJECT DESCRIPTION : DA-4 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years
=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-4	0.0	0.00	10.00	0.00	0.00	12.000	12.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeptrW (ft)	Head Allowed (ft)
DA-4	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-4	Curb	10.00	n/a n/a	12.000	21.372	0.466	14.88	14.88

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-4	Curb	0.000	0.00	0.00	0.00		0.00	12.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	12.000

Conveyance Configuration Data

Run #	Node US	Node DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-4	OUT	673.72	672.92	Cir 1	0.00	1.50	160.0	0.500	0.012

Conveyance Hydraulic Computations. Tailwater = 674.42 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	676.18	674.42	678.41	1.103	1.50	1.50	6.79	6.79	12.0	8.1	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	160.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-5 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-5a	0.0	0.00	10.00	0.00	0.00	12.400	12.400
DA-5b	0.0	0.00	10.00	0.00	0.00	18.600	18.600

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-5a	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.79
DA-5b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-5a	Curb	10.00	n/a n/a	12.400	18.479	0.483	15.07	15.07
DA-5b	Curb	15.00	n/a n/a	18.600	27.719	0.483	17.57	17.57

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-5a	Curb	0.000	0.00	0.00	0.00		0.00	12.400
DA-5b	Curb	0.000	0.00	10.00	7.90		0.00	31.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	31.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-5a	DA-5b	686.87	685.87	Cir 1	0.00	1.50	30.1	3.324	0.012
2	DA-5b	OUT	685.87	682.33	Cir 1	0.00	2.00	165.0	2.146	0.012

Conveyance Hydraulic Computations. Tailwater = 683.76 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Loss (ft)
1*	688.20	687.30	691.37	1.177	0.84	1.43	12.26	7.13	12.4	20.8	0.000
2*	687.30	683.76	691.37	1.586	1.43	1.43	12.86	12.86	31.0	36.1	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	30.1
Circular	Plastic	2.0	0.0	1	165.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Curb In Sag		15.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-5 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-5a	0.0	0.00	10.00	0.00	0.00	17.600	17.600
DA-5b	0.0	0.00	10.00	0.00	0.00	26.400	26.400

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-5a	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.98
DA-5b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-5a	Curb	10.00	n/a	n/a	17.600	21.372	0.740	17.19	17.19
DA-5b	Curb	15.00	n/a	n/a	26.400	32.058	0.740	20.02	20.02

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-5a	Curb	0.000	0.00	0.00	0.00		0.00	17.600
DA-5b	Curb	0.000	0.00	10.00	9.36		0.00	44.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	44.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-5a	DA-5b	686.87	685.87	Cir 1	0.00	1.50	30.1	3.324	0.012
2	DA-5b	OUT	685.87	682.33	Cir 1	0.00	2.00	165.0	2.146	0.012

Conveyance Hydraulic Computations. Tailwater = 684.33 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	690.32	689.60	691.56	2.372	1.06	1.50	13.18	10.07	17.6	20.8	0.000
2	689.60	684.33	691.56	3.196	2.00	2.00	14.01	14.01	44.0	36.1	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	30.1
Circular	Plastic	2.0	0.0	1	165.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	1
Curb In Sag		15.0	0.0	0.0	0.0	0.0	1
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-6 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years
=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-6a	0.0	0.00	10.00	0.00	0.00	12.500	12.500
DA-6b	0.0	0.00	10.00	0.00	0.00	12.500	12.500

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-6a	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.79
DA-6b	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-6a	Curb	10.00	n/a n/a	12.500	18.479	0.487	15.12	15.12
DA-6b	Curb	10.00	n/a n/a	12.500	18.479	0.487	15.12	15.12

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-6a	Curb	0.000	0.00	0.00	0.00		0.00	12.500
DA-6b	Curb	0.000	0.00	10.00	7.90		0.00	25.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	25.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-6a	DA-6b	684.59	684.41	Cir 2	0.00	2.00	31.0	0.581	0.012
2	DA-6b	OUT	684.41	684.24	Cir 2	0.00	2.00	35.0	0.486	0.012

Conveyance Hydraulic Computations. Tailwater = 685.51 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Loss (ft)
1*	685.70	685.68	689.35	0.064	0.80	1.27	5.35	4.66	12.5	37.5	0.000
2	685.68	685.51	689.35	0.258	1.27	1.27	5.93	5.93	25.0	34.3	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	132.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-6 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-6a	0.0	0.00	10.00	0.00	0.00	18.000	18.000
DA-6b	0.0	0.00	10.00	0.00	0.00	18.000	18.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-6a	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.98
DA-6b	Curb	10.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-6a	Curb	10.00	n/a n/a	18.000	21.372	0.763	17.33	17.33
DA-6b	Curb	10.00	n/a n/a	18.000	21.372	0.763	17.33	17.33

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-6a	Curb	0.000	0.00	0.00	0.00		0.00	18.000
DA-6b	Curb	0.000	0.00	10.00	9.36		0.00	36.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	36.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-6a	DA-6b	684.59	684.41	Cir 2	0.00	2.00	31.0	0.581	0.012
2	DA-6b	OUT	684.41	684.24	Cir 2	0.00	2.00	35.0	0.486	0.012

Conveyance Hydraulic Computations. Tailwater = 686.00 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	686.21	686.17	689.54	0.134	0.98	1.76	5.89	5.26	18.0	37.5	0.000
2	686.17	686.00	689.54	0.535	1.76	1.76	6.15	6.15	36.0	34.3	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	132.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		10.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-7 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years
=====Runoff Computation for Design Frequency.
=====

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-7a	0.0	0.00	10.00	0.00	0.00	8.900	8.900
DA-7b	0.0	0.00	10.00	0.00	0.00	5.100	5.100

On Grade Inlet Configuration Data
=====

Inlet ID	Inlet Type	Inlet Length (ft)	Slopes Long (%)	Trans (%)	Gutter n	Depr. (ft)	Grate Width (ft)	Type	Pond Width Allowed (ft)
DA-7a	Curb	10.00	1.57	2.08	0.014	0.29	n/a	n/a	15.00
DA-7b	Curb	10.00	1.57	2.08	0.014	0.29	n/a	n/a	15.00

On Grade Inlets Computation Data.
=====

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
DA-7a	Curb	8.900	6.047	0.000	2.853		21.35	10.00	13.92
DA-7b	Curb	5.100	4.336	0.000	0.764		15.34	10.00	11.33

Cumulative Junction Discharge Computations
=====

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-7a	Curb	0.000	0.00	0.00	0.00		0.00	8.900
DA-7b	Curb	0.000	0.00	10.00	7.90		0.00	14.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	14.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-7a	DA-7b	674.68	673.58	Cir 1	0.00	1.50	31.0	3.551	0.012
2	DA-7b	OUT	673.58	671.98	Cir 1	0.00	2.00	199.0	0.804	0.012

Conveyance Hydraulic Computations. Tailwater = 673.14 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	675.83	674.74	679.18	0.606	0.67	1.16	11.57	6.07	8.9	21.5	0.000
2*	674.74	673.14	679.18	0.324	1.16	1.16	7.42	7.42	14.0	22.1	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	31.0
Circular	Plastic	2.0	0.0	1	199.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb On Grade		10.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-7 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years
=====Runoff Computation for Design Frequency.
=====

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-7a	0.0	0.00	10.00	0.00	0.00	10.000	10.000
DA-7b	0.0	0.00	10.00	0.00	0.00	10.000	10.000

On Grade Inlet Configuration Data
=====

Inlet ID	Inlet Type	Inlet Length (ft)	Slopes Long (%)	Trans (%)	Gutter n	Depr. (ft)	Grate Width (ft)	Type	Pond Width Allowed (ft)
DA-7a	Curb	10.00	1.57	2.08	0.014	0.29	n/a	n/a	15.00
DA-7b	Curb	10.00	1.57	2.08	0.014	0.29	n/a	n/a	15.00

On Grade Inlets Computation Data.
=====

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
DA-7a	Curb	10.000	6.441	0.000	3.559		22.90	10.00	14.55
DA-7b	Curb	10.000	6.441	0.000	3.559		22.90	10.00	14.55

Cumulative Junction Discharge Computations
=====

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-7a	Curb	0.000	0.00	0.00	0.00		0.00	10.000
DA-7b	Curb	0.000	0.00	10.00	9.36		0.00	20.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	20.000

Conveyance Configuration Data

Run #	Node		FlowLine Elev.		Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
	US	DS	US (ft)	DS (ft)						
1	DA-7a	DA-7b	674.68	673.58	Cir 1	0.00	1.50	31.0	3.551	0.012
2	DA-7b	OUT	673.58	671.98	Cir 1	0.00	2.00	200.0	0.800	0.012

Conveyance Hydraulic Computations. Tailwater = 673.48 (ft)

Run #	Hyd. Gr.line		Crit.Elev US (ft)	Fr.Slope (%)	Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US (ft)	DS (ft)			Unif. (ft)	Actual (ft)	Unif. (f/s)	Actual (f/s)			
1*	675.90	675.08	679.37	0.766	0.72	1.50	11.92	5.66	10.0	21.5	0.000
2*	675.08	673.48	679.37	0.660	1.50	1.50	7.91	7.91	20.0	22.0	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	1.5	0.0	1	31.0
Circular	Plastic	2.0	0.0	1	200.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb On Grade		10.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-8 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-8a	0.0	0.00	10.00	0.00	0.00	18.000	18.000
DA-8b	0.0	0.00	10.00	0.00	0.00	18.000	18.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-8a	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.79
DA-8b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-8a	Curb	15.00	n/a n/a	18.000	27.719	0.466	17.33	17.33
DA-8b	Curb	15.00	n/a n/a	18.000	27.719	0.466	17.33	17.33

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-8a	Curb	0.000	0.00	0.00	0.00		0.00	18.000
DA-8b	Curb	0.000	0.00	10.00	7.90		0.00	36.000
OUT	Outlt	0.000	0.00	10.00	7.90		0.00	36.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine Elev.		Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
			US (ft)	DS (ft)						
1	DA-8a	DA-8b	658.96	658.73	Cir 3	0.00	2.00	31.0	0.742	0.012
2	DA-8b	OUT	658.73	658.47	Cir 3	0.00	2.00	35.0	0.743	0.012

Conveyance Hydraulic Computations. Tailwater = 659.55 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
					Unif. (ft)	Actual (ft)	Unif. (f/s)	Actual (f/s)			
1*	659.87	659.81	664.23	0.059	0.73	1.08	5.79	3.47	18.0	63.6	0.000
2*	659.81	659.55	664.23	0.238	1.08	1.08	6.94	6.94	36.0	63.6	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	198.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		15.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-8 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-8a	0.0	0.00	10.00	0.00	0.00	26.000	26.000
DA-8b	0.0	0.00	10.00	0.00	0.00	26.000	26.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeptrW (ft)	Head Allowed (ft)
DA-8a	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.98
DA-8b	Curb	15.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-8a	Curb	15.00	n/a n/a	26.000	32.058	0.724	19.92	19.92
DA-8b	Curb	15.00	n/a n/a	26.000	32.058	0.724	19.92	19.92

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-8a	Curb	0.000	0.00	0.00	0.00		0.00	26.000
DA-8b	Curb	0.000	0.00	10.00	9.36		0.00	52.000
OUT	Outlt	0.000	0.00	10.00	9.36		0.00	52.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-8a	DA-8b	658.96	658.73	Cir 3	0.00	2.00	31.0	0.742	0.012
2	DA-8b	OUT	658.73	658.47	Cir 3	0.00	2.00	35.0	0.743	0.012

Conveyance Hydraulic Computations. Tailwater = 659.85 (ft)

Run #	Hyd. US (ft)	Gr.line DS (ft)	Crit.Elev US (ft)	Fr.Slope (%)	Depth Unif. (ft)	Actual (ft)	Velocity Unif. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	660.15	660.11	664.41	0.124	0.89	1.38	6.39	5.19	26.0	63.6	0.000
2*	660.11	659.85	664.41	0.496	1.38	1.38	7.50	7.50	52.0	63.6	0.000

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Plastic	2.0	0.0	2	198.0

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Curb In Sag		15.0	0.0	0.0	0.0	0.0	2
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-9 (St.) 25-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 25 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 25 Years
=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-9	0.0	0.00	10.00	0.00	0.00	5.000	5.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-9	Curb	5.00	0.00	0.50	2.08	0.014	1.50	0.79

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-9	Curb	5.00	n/a n/a	5.000	9.240	0.394	10.75	10.75

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-9	Curb	0.000	0.00	0.00	0.00		0.00	5.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	5.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-9	OUT	656.06	651.45	Cir 1	0.00	1.50	160.0	2.882	0.012

Conveyance Hydraulic Computations. Tailwater = 651.97 (ft)

```
=====
Run  Hyd. Gr.line  Crit.Elev      Depth      Velocity      Junc
#    US    DS      US      Fr.Slope Unif. Actual Unif. Actual  Q      Cap  Loss
    (ft)  (ft)  (ft)      (%)    (ft)  (ft)    (f/s) (f/s)  (cfs)  (cfs) (ft)
-----
1*   656.58 651.97 660.56  0.191   0.52  0.52   9.18  9.18   5.0    19.4 0.000
=====
```

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

```
=====
Type of Convey  Material  Rise  Span  Number of Links  Quantity
Structure              (ft)  (ft)  of this type    (ft)
-----
Circular        Plastic  1.5   0.0      1             160.0
=====
```

NODES:

```
=====
Type of Inlet      Type of Grate Inlet  Grate Grate  Grate  Grate  Quantity
Structure              Length Width Length Area  Perimeter  (each)
              (ft)  (ft)  (ft)  (ft)  (ft)
-----
Curb In Sag              5.0   0.0   0.0   0.0   0.0      1
Outlet              0.0   0.0   0.0   0.0   0.0      1
=====END=====
```

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

PROJECT NAME : Eagle Prairie Phase 2

JOB NUMBER : EP02

PROJECT DESCRIPTION : DA-9 (St.) 100-YR

PROJECT File: W:\Residential\Eagle Prairie II\Engineering Software Files\WinSt

DESIGN FREQUENCY : 100 Years

MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years

=====

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
DA-9	0.0	0.00	10.00	0.00	0.00	8.000	8.000

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim (ft)	Grate Area (sf)	Left-Slope Longi Transv (%)	Right-Slope Longi Transv (%)	Gutter n	Head DeprW (ft)	Head Allowed (ft)
DA-9	Curb	5.00	0.00	0.50	2.08	0.014	1.50	0.98

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (ft) (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Actual Head (ft)	Ponded Left (ft)	Width Right (ft)
DA-9	Curb	5.00	n/a n/a	8.000	10.686	0.651	12.82	12.82

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
DA-9	Curb	0.000	0.00	0.00	0.00		0.00	8.000
OUT	Outlt	0.000	0.00	0.00	0.00		0.00	8.000

Conveyance Configuration Data

Run #	Node US	I.D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	DA-9	OUT	656.06	651.45	Cir 1	0.00	1.50	160.0	2.882	0.012

Conveyance Hydraulic Computations. Tailwater = 652.12 (ft)

```
=====
Run  Hyd. Gr.line  Crit.Elev      Depth      Velocity      Junc
#    US    DS      US      Fr.Slope Unif. Actual Unif. Actual    Q      Cap  Loss
    (ft)  (ft)  (ft)      (%)    (ft)  (ft)    (f/s) (f/s)  (cfs)  (cfs) (ft)
-----
1*   656.73 652.12 660.56   0.490   0.67   0.67  10.42 10.42    8.0   19.4 0.000
=====
```

* Supercritical flow.

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

This length may also be used as Pay Item.

Using hydraulic length, from node center to node center, may result in profile error, and this length should not be used as Pay Item.

LINKS:

```
=====
Type of Convey  Material  Rise  Span  Number of Links  Quantity
Structure                               (ft)  (ft)  of this type    (ft)
-----
Circular        Plastic   1.5   0.0      1              160.0
=====
```

NODES:

```
=====
Type of Inlet  Type of Grate Inlet  Grate Grate  Grate  Grate  Quantity
Structure                               Length Width Length Area  Perimeter  (each)
                               (ft)  (ft)  (ft)  (ft)  (ft)
-----
Curb In Sag                               5.0    0.0    0.0    0.0    0.0    1
Outlet                               0.0    0.0    0.0    0.0    0.0    1
=====END=====
```

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

4. CHANNEL FLOW ANALYSIS (100yr Analysis)

The Rational Method was used in calculating the flow rates for the channel flow analysis. Times of Concentration (T_c) were calculated with the Kerby equation for overland flow and NRCS, Part 630 Hydrology, National Engineering Handbook, Chapter 15 for shallow concentrated and channelized flow.

The channels were designed to convey the runoff from the 100yr storm event, with freeboard equal to the velocity head, within the channel banks and within all drainage easements.

The following pages show the drainage areas, times of concentration and flow rate calculations, and channel geometries.

LEGEND

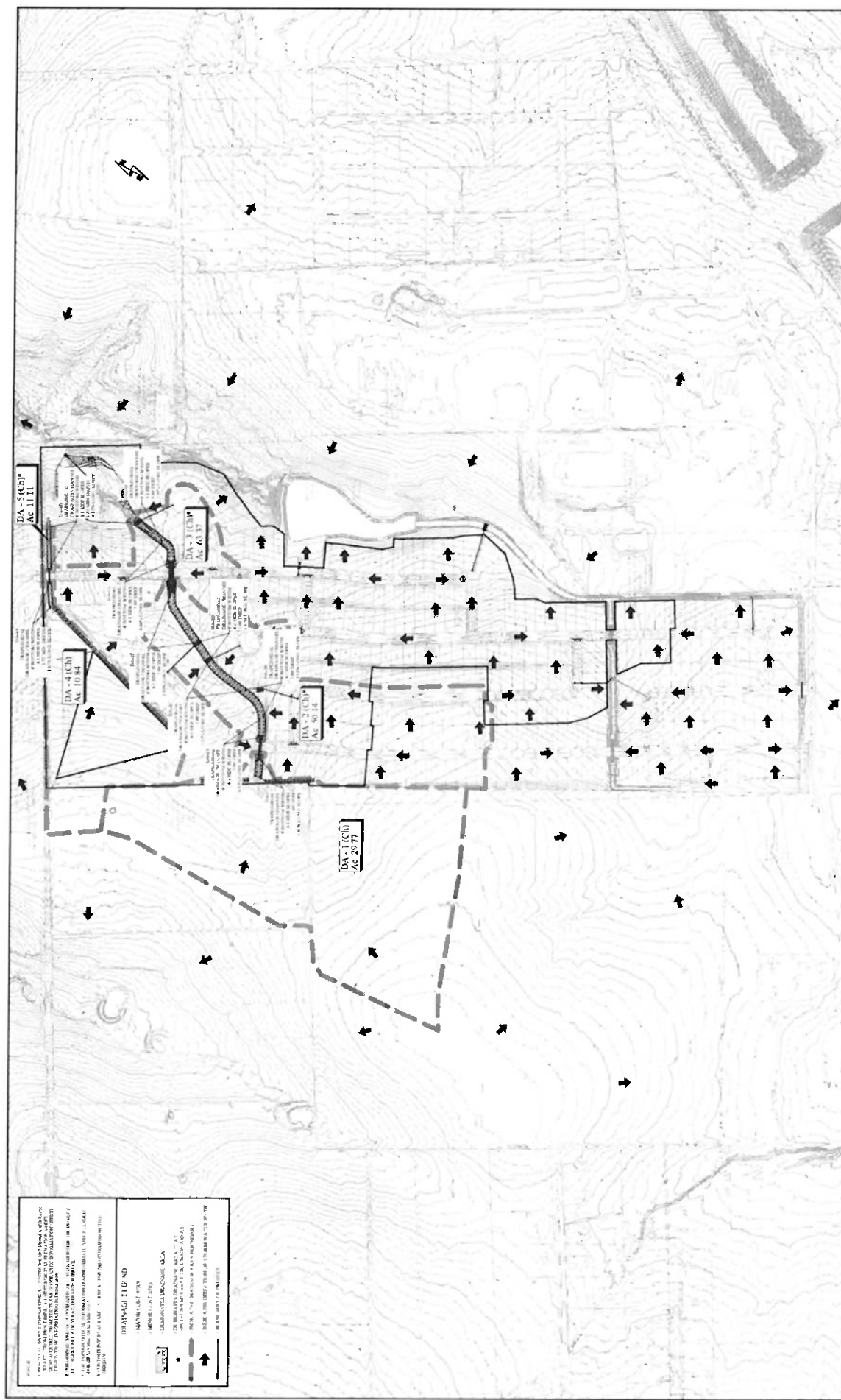
1. **POST-DRAINAGE FOR CHANNELS**
 2. **EAGLE PRAIRIE PHASE II**
 3. **CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS**

POST-DRAINAGE FOR CHANNELS

1. **POST-DRAINAGE FOR CHANNELS**
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POST-DRAINAGE FOR CHANNELS

1. **POST-DRAINAGE FOR CHANNELS**
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POST-DRAINAGE FOR CHANNELS EAGLE PRAIRIE PHASE II CITY OF BRUCEVILLE-EDDY, MCLENNAN COUNTY, TEXAS		ENGINEER'S APPROVAL THIS DRAWING IS THE PROPERTY OF THE ENGINEER AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.	Yargo Engineering, LLC 1800 N. Highway 101 Suite 100 P.O. Box 254007 Fort Worth, Texas 76125-4007 Phone: 817-335-1000 Fax: 817-335-1001 Email: info@yargoeng.com Website: www.yargoeng.com	Sheet 18 of 66
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Channel Flow Hydrology

Post-Development Drainage Areas and Times of Concentration for Channels

[illegible]

	Valley Equation Retention Coefficient	Retention coefficient
Generalized forest (any forest)		
Deciduous forest		0.92
Conifer forest		0.92
Forest with polished soil		0.19
Forest with rough, polished surface		0.20
Forest with rough, rough polished surface		0.42
Forest with rough, rough polished surface		0.42
Deciduous forest		0.63
Conifer forest		0.63
Forest with rough, rough polished surface with dense litter		0.82

Shallow Groundwater Flow Types	
1	Fractured and fault related systems
2	Channelized channels
3	Vegetation Bank and Turfing (overland flow) and alluvial fans in western "recharge" regions
4	Shallowized in light row crops
5	Shallowized in heavy row crops
6	Mountain slopes cultivation: 250000 of 4000-cropped, and woodlands
7	Forest with high water table and low flow

Post-Development Drainage Area Runoff Flows for Channels

Post-Development Drainage Area Runoff Flows for Channels																		
Drainage Area	2 YR EVENT			5 YR EVENT			10 YR EVENT			25 YR EVENT			50 YR EVENT			100 YR EVENT		
	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs
D&E-1 (Ch)	0.33	2.04	20	0.36	2.67	29	0.37	3.16	35	0.47	3.84	43	0.43	4.36	59	0.49	4.92	72
D&E-2 (Ch)	0.41	1.98	41	0.44	2.60	58	0.47	3.03	72	0.51	3.73	95	0.54	4.25	115	0.58	4.79	140
D&E-3 (Ch)	0.43	2.05	54	0.47	2.66	77	0.49	3.08	96	0.53	3.73	126	0.57	4.26	153	0.61	4.79	186
D&E-4 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-5 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-6 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-7 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-8 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-9 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-10 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-11 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-12 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-13 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-14 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-15 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-16 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-17 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-18 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-19 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-20 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28

Post-Development Drainage Area Runoff Flows for Channels

Post-Development Drainage Area Runoff Flows for Channels																		
Drainage Area	2 YR EVENT			5 YR EVENT			10 YR EVENT			25 YR EVENT			50 YR EVENT			100 YR EVENT		
	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs	C	L, in/hr	Q, cfs
D&E-1 (Ch)	0.33	2.04	20	0.36	2.67	29	0.37	3.16	35	0.47	3.84	43	0.43	4.36	59	0.49	4.92	72
D&E-2 (Ch)	0.41	1.98	41	0.44	2.60	58	0.47	3.03	72	0.51	3.73	95	0.54	4.25	115	0.58	4.79	140
D&E-3 (Ch)	0.43	2.05	54	0.47	2.66	77	0.49	3.08	96	0.53	3.73	126	0.57	4.26	153	0.61	4.79	186
D&E-4 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-5 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-6 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-7 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-8 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-9 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-10 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-11 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-12 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-13 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-14 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-15 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-16 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-17 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-18 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-19 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28
D&E-20 (Ch)	0.35	2.04	11	0.36	2.67	13	0.37	3.16	15	0.47	3.84	17	0.43	4.36	24	0.49	4.92	28

DA-1 Channel

Eagle Prairie Channel DA-1		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.57	ft
Water Depth (100yr) =	0.71	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.37	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0346	ft/ft
Supplied Discharge (25yr) =	48.2	cfs
Supplied Discharge (100yr) =	72.1	cfs

Total Width Required =	23.51	ft
Front Side Slope Horiz. Dist. (25yr) =	2.28	ft
Back Side Slope Horiz. Dist. (25yr) =	2.28	ft
Front Side Slope Horiz. Dist. (100yr) =	2.84	ft
Back Side Slope Horiz. Dist. (100yr) =	2.84	ft
Flow Area (25yr) =	5.90	sq ft
Flow Area (100yr) =	7.70	sq ft
Wetted Perimeter (25yr) =	12.70	ft
Wetted Perimeter (100yr) =	13.85	ft
Hydraulic Radius (25yr) =	0.46	ft
Hydraulic Radius (100yr) =	0.56	ft
Mean Velocity (25yr) =	8.23	fps
Mean Velocity (100yr) =	9.39	fps
Flow Capacity (25yr) =	48.6	cfs
Flow Capacity (100yr) =	72.3	cfs

DA-2a Channel

Eagle Prairie Channel DA-2A		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	1.36	ft
Water Depth (100yr) =	1.66	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	0.52	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0052	ft/ft
Supplied Discharge (25yr) =	94.8	cfs
Supplied Discharge (100yr) =	140.3	cfs

Total Width Required =	23.03	ft
Front Side Slope Horiz. Dist. (25yr) =	5.44	ft
Back Side Slope Horiz. Dist. (25yr) =	5.44	ft
Front Side Slope Horiz. Dist. (100yr) =	6.64	ft
Back Side Slope Horiz. Dist. (100yr) =	6.64	ft
Flow Area (25yr) =	18.30	sq ft
Flow Area (100yr) =	24.30	sq ft
Wetted Perimeter (25yr) =	19.21	ft
Wetted Perimeter (100yr) =	21.69	ft
Hydraulic Radius (25yr) =	0.95	ft
Hydraulic Radius (100yr) =	1.12	ft
Mean Velocity (25yr) =	5.18	fps
Mean Velocity (100yr) =	5.78	fps
Flow Capacity (25yr) =	94.8	cfs
Flow Capacity (100yr) =	140.5	cfs

DA-2b Channel

Eagle Prairie Channel DA-2B		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.95	ft
Water Depth (100yr) =	1.16	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.44	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0212	ft/ft
Supplied Discharge (25yr) =	94.8	cfs
Supplied Discharge (100yr) =	140.3	cfs

Total Width Required =	27.12	ft
Front Side Slope Horiz. Dist. (25yr) =	3.80	ft
Back Side Slope Horiz. Dist. (25yr) =	3.80	ft
Front Side Slope Horiz. Dist. (100yr) =	4.64	ft
Back Side Slope Horiz. Dist. (100yr) =	4.64	ft
Flow Area (25yr) =	11.20	sq ft
Flow Area (100yr) =	14.70	sq ft
Wetted Perimeter (25yr) =	15.83	ft
Wetted Perimeter (100yr) =	17.57	ft
Hydraulic Radius (25yr) =	0.71	ft
Hydraulic Radius (100yr) =	0.84	ft
Mean Velocity (25yr) =	8.61	fps
Mean Velocity (100yr) =	9.63	fps
Flow Capacity (25yr) =	96.4	cfs
Flow Capacity (100yr) =	141.6	cfs

DA-2c Channel

Eagle Prairie Channel DA-2C		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.85	ft
Water Depth (100yr) =	1.05	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.89	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0312	ft/ft
Supplied Discharge (25yr) =	94.8	cfs
Supplied Discharge (100yr) =	140.3	cfs

Total Width Required =	29.89	ft
Front Side Slope Horiz. Dist. (25yr) =	3.40	ft
Back Side Slope Horiz. Dist. (25yr) =	3.40	ft
Front Side Slope Horiz. Dist. (100yr) =	4.20	ft
Back Side Slope Horiz. Dist. (100yr) =	4.20	ft
Flow Area (25yr) =	9.70	sq ft
Flow Area (100yr) =	12.80	sq ft
Wetted Perimeter (25yr) =	15.01	ft
Wetted Perimeter (100yr) =	16.66	ft
Hydraulic Radius (25yr) =	0.65	ft
Hydraulic Radius (100yr) =	0.77	ft
Mean Velocity (25yr) =	9.84	fps
Mean Velocity (100yr) =	11.02	fps
Flow Capacity (25yr) =	95.4	cfs
Flow Capacity (100yr) =	141.1	cfs

DA-2d Channel

Eagle Prairie Channel DA-2D		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	1.15	ft
Water Depth (100yr) =	1.41	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	0.84	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0101	ft/ft
Supplied Discharge (25yr) =	94.8	cfs
Supplied Discharge (100yr) =	140.3	cfs

Total Width Required =	23.93	ft
Front Side Slope Horiz. Dist. (25yr) =	4.60	ft
Back Side Slope Horiz. Dist. (25yr) =	4.60	ft
Front Side Slope Horiz. Dist. (100yr) =	5.64	ft
Back Side Slope Horiz. Dist. (100yr) =	5.64	ft
Flow Area (25yr) =	14.50	sq ft
Flow Area (100yr) =	19.20	sq ft
Wetted Perimeter (25yr) =	17.48	ft
Wetted Perimeter (100yr) =	19.63	ft
Hydraulic Radius (25yr) =	0.83	ft
Hydraulic Radius (100yr) =	0.98	ft
Mean Velocity (25yr) =	6.59	fps
Mean Velocity (100yr) =	7.36	fps
Flow Capacity (25yr) =	95.6	cfs
Flow Capacity (100yr) =	141.3	cfs

DA-2e Channel

Eagle Prairie Channel DA-2E		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.91	ft
Water Depth (100yr) =	1.12	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.63	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0252	ft/ft
Supplied Discharge (25yr) =	94.8	cfs
Supplied Discharge (100yr) =	140.3	cfs

Total Width Required =	28.33	ft
Front Side Slope Horiz. Dist. (25yr) =	3.64	ft
Back Side Slope Horiz. Dist. (25yr) =	3.64	ft
Front Side Slope Horiz. Dist. (100yr) =	4.48	ft
Back Side Slope Horiz. Dist. (100yr) =	4.48	ft
Flow Area (25yr) =	10.60	sq ft
Flow Area (100yr) =	14.00	sq ft
Wetted Perimeter (25yr) =	15.50	ft
Wetted Perimeter (100yr) =	17.24	ft
Hydraulic Radius (25yr) =	0.68	ft
Hydraulic Radius (100yr) =	0.81	ft
Mean Velocity (25yr) =	9.12	fps
Mean Velocity (100yr) =	10.25	fps
Flow Capacity (25yr) =	96.7	cfs
Flow Capacity (100yr) =	143.5	cfs

DA-3a Channel

Eagle Prairie Channel DA-3A		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	1.48	ft
Water Depth (100yr) =	1.79	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	0.74	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0068	ft/ft
Supplied Discharge (25yr) =	126.0	cfs
Supplied Discharge (100yr) =	186.1	cfs

Total Width Required =	25.72	ft
Front Side Slope Horiz. Dist. (25yr) =	5.92	ft
Back Side Slope Horiz. Dist. (25yr) =	5.92	ft
Front Side Slope Horiz. Dist. (100yr) =	7.16	ft
Back Side Slope Horiz. Dist. (100yr) =	7.16	ft
Flow Area (25yr) =	20.60	sq ft
Flow Area (100yr) =	27.10	sq ft
Wetted Perimeter (25yr) =	20.20	ft
Wetted Perimeter (100yr) =	22.76	ft
Hydraulic Radius (25yr) =	1.02	ft
Hydraulic Radius (100yr) =	1.19	ft
Mean Velocity (25yr) =	6.21	fps
Mean Velocity (100yr) =	6.88	fps
Flow Capacity (25yr) =	127.9	cfs
Flow Capacity (100yr) =	186.4	cfs

DA-3b Channel

Eagle Prairie Channel DA-3B		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.93	ft
Water Depth (100yr) =	1.14	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	2.64	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0395	ft/ft
Supplied Discharge (25yr) =	126.0	cfs
Supplied Discharge (100yr) =	186.1	cfs

Total Width Required =	36.56	ft
Front Side Slope Horiz. Dist. (25yr) =	3.72	ft
Back Side Slope Horiz. Dist. (25yr) =	3.72	ft
Front Side Slope Horiz. Dist. (100yr) =	4.57	ft
Back Side Slope Horiz. Dist. (100yr) =	4.57	ft
Flow Area (25yr) =	10.90	sq ft
Flow Area (100yr) =	14.40	sq ft
Wetted Perimeter (25yr) =	15.67	ft
Wetted Perimeter (100yr) =	17.42	ft
Hydraulic Radius (25yr) =	0.70	ft
Hydraulic Radius (100yr) =	0.83	ft
Mean Velocity (25yr) =	11.64	fps
Mean Velocity (100yr) =	13.04	fps
Flow Capacity (25yr) =	126.9	cfs
Flow Capacity (100yr) =	187.8	cfs

DA-4 Channel

Eagle Prairie Channel DA-4		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.38	ft
Water Depth (100yr) =	0.47	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.13	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0463	ft/ft
Supplied Discharge (25yr) =	26.2	cfs
Supplied Discharge (100yr) =	38.8	cfs

Total Width Required =	20.08	ft
Front Side Slope Horiz. Dist. (25yr) =	1.52	ft
Back Side Slope Horiz. Dist. (25yr) =	1.52	ft
Front Side Slope Horiz. Dist. (100yr) =	1.88	ft
Back Side Slope Horiz. Dist. (100yr) =	1.88	ft
Flow Area (25yr) =	3.60	sq ft
Flow Area (100yr) =	4.60	sq ft
Wetted Perimeter (25yr) =	11.13	ft
Wetted Perimeter (100yr) =	11.88	ft
Hydraulic Radius (25yr) =	0.32	ft
Hydraulic Radius (100yr) =	0.39	ft
Mean Velocity (25yr) =	7.48	fps
Mean Velocity (100yr) =	8.53	fps
Flow Capacity (25yr) =	26.9	cfs
Flow Capacity (100yr) =	39.2	cfs

DA-5 Channel

Eagle Prairie Channel DA-5		
Channel Shape =	Trapezoidal	
Water Depth (25yr) =	0.39	ft
Water Depth (100yr) =	0.48	ft
Front Side Slope Ratio (H/V) =	4.00	
Back Side Slope Ratio (H/V) =	4.00	
Freeboard (FB) =	1.04	ft
Bottom Width =	8.00	ft
Maint. Access Width =	0.00	ft
Roughness Coeff. (n) =	0.020	
Flowline Slope =	0.0412	ft/ft
Supplied Discharge (25yr) =	26.3	cfs
Supplied Discharge (100yr) =	38.8	cfs

Total Width Required =	19.43	ft
Front Side Slope Horiz. Dist. (25yr) =	1.56	ft
Back Side Slope Horiz. Dist. (25yr) =	1.56	ft
Front Side Slope Horiz. Dist. (100yr) =	1.92	ft
Back Side Slope Horiz. Dist. (100yr) =	1.92	ft
Flow Area (25yr) =	3.70	sq ft
Flow Area (100yr) =	4.80	sq ft
Wetted Perimeter (25yr) =	11.22	ft
Wetted Perimeter (100yr) =	11.96	ft
Hydraulic Radius (25yr) =	0.33	ft
Hydraulic Radius (100yr) =	0.40	ft
Mean Velocity (25yr) =	7.20	fps
Mean Velocity (100yr) =	8.18	fps
Flow Capacity (25yr) =	26.6	cfs
Flow Capacity (100yr) =	39.3	cfs

5. CULVERT FLOW ANALYSIS (100yr Analysis)

The Rational Method was used in calculating the flow rates for the culvert flow analysis. Times of Concentration (T_c) were calculated with the Kerby equation for overland flow and NRCS, Part 630 Hydrology, National Engineering Handbook, Chapter 15 for shallow concentrated and channelized flow.

All culverts were designed using HY-8 software to convey the 100yr storm event without overtopping.

The following sheets show the drainage areas, times of concentration and flow rate calculations, and HY-8 model results.

Culvert Flow Hydrology

Post-Development Drainage Areas and Times of Concentration for Streets

Post-Development Drainage Areas and Times of Concentration for Streets																						
Drainage Area	Total Area, acres	Areas of Type				Overland Flow (Kerby)					1st Shallow Concentrated Flow (NRCS-Ch. 15)							Channelized flow		Time of Conc'n, Tc (min)		
		Residential Lots	Park and Open Spaces	Concrete	Commercial - Ltd-General Office	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Retardance coefficient, N	Flow Time, Tt (min)	Length of Flow (ft)	High Elevation (ft)	Low Elevation (ft)	Slope (ft/ft)	Flow Type	Velocity Multiplier	Flow Time, Tt (min)	Length of Flow (ft)		Velocity (ft/s)	Flow Time, Tt (min)
DA-1 (Culv)	34.14	4.66	29.48	0.00	0.00	300	719.7	717.7	0.67%	0.4	25.01	1014	717.7	700.6	1.59%	5	6.962	18.69	502	9.4	0.9	45
DA-2 (Culv)*	59.15	27.67	31.48	0.00	0.00	300	719.7	717.7	0.67%	0.4	25.01	1014	717.7	700.6	1.69%	5	6.962	18.69	1537	8.6	2.9	47
DA-3 (Culv)	10.87	0.03	10.00	0.15	0.69	300	701.7	693.1	2.97%	0.4	17.79	462	693.1	678.1	3.25%	2	16.135	2.65	328	5.6	0.6	21

Kerby Equation Retardance Coefficient	
Generalized terrain description	Retardance coefficient
Pavement	0.02
Smooth, bare, packed soil	0.10
Poor grass, cultivated row crops, or moderately rough packed surfaces	0.20
Pasture, average grass	0.40
Deciduous forest	0.60
Dense grass, coniferous forest, or deciduous forest with deep litter	0.80

Shallow Concentrated Flow Types	
1	Pavement and small upland gullies
2	Grassed Waterways
3	Nearly bare and uncultivated (upland flow); and alluvial fans in western mountain regions
4	Cultivated straight row crops
5	Short-grass pasture
6	Minimum tillage cultivation, contour or strip-cropped, and woodlands
7	Forest with heavy ground litter and hay meadows

Post-Development Drainage Area Runoff Flows for Streets

Drainage Area	2 YR EVENT			5 YR EVENT			10 YR EVENT			25 YR EVENT			50 YR EVENT			100 YR EVENT		
	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs	C	I, in/hr	Q, cfs
DA-1 (Culv)	0.359	2.04	25	0.390	2.67	36	0.411	3.16	44	0.451	3.94	59	0.483	4.36	72	0.524	4.92	88
DA-2 (Culv)*	0.428	1.96	50	0.463	2.60	71	0.488	3.08	89	0.528	3.73	117	0.562	4.25	141	0.607	4.79	172
DA-3 (Culv)	0.345	3.19	12	0.375	4.16	17	0.396	4.91	21	0.436	5.93	28	0.466	6.71	34	0.506	7.53	41

HY-8 Culvert Analysis Report: DA-1 Culv

Table 1 - Summary of Culvert Flows at crossing: DA-1 Culv

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Culvert 1 (Inlets) Discharge (cfs)	Culvert 2 (Outside) Discharge (cfs)	Roadway Discharge (cfs)	Iterations
686.90	10-yr	44.00	26.71	17.29	0.00	5
687.53	25-yr	59.00	34.70	24.31	0.00	5
689.26	100-yr	88.00	50.49	37.51	0.00	5
689.54	Overtopping	91.84	52.64	39.21	0.00	Overtopping

Rating Curve Plot for crossing: DA-1 Culv

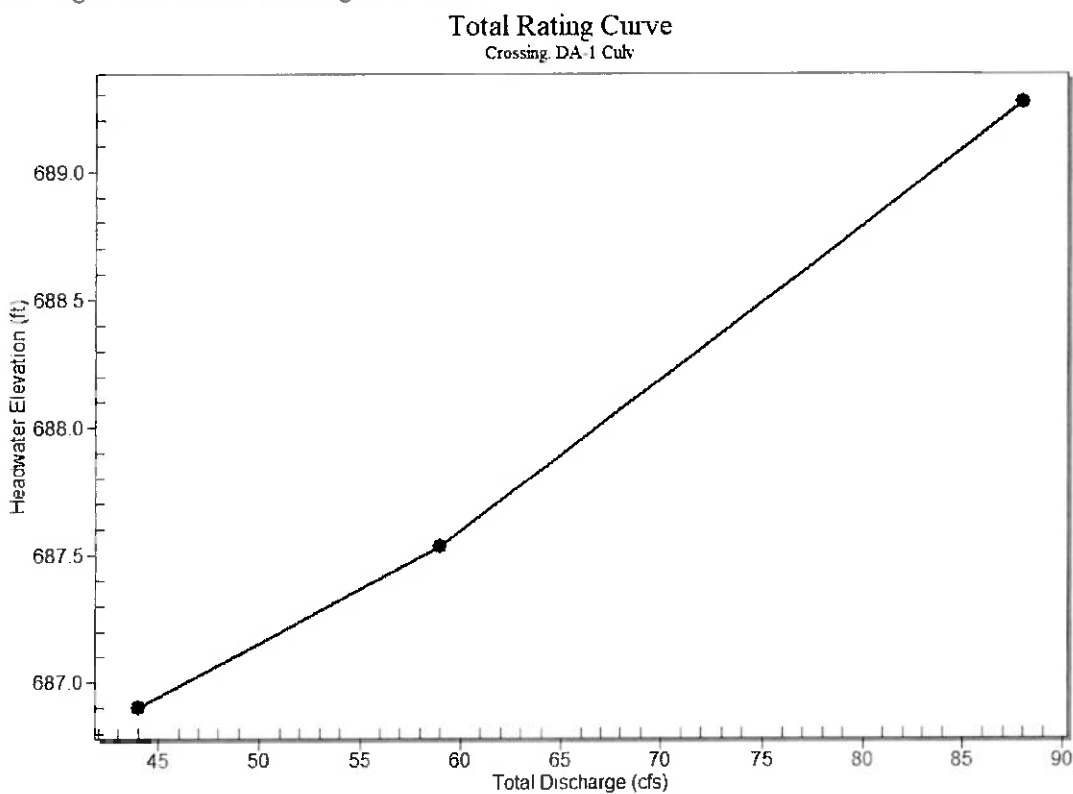


Table 2 - Culvert Summary Table: Culvert 1 (Inlets)

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Norm. Depth (ft)	Crit. Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
10-yr	44.00	26.71	686.90	2.13	1.558	5-S2n	1.29	1.32	1.29	0.78	6.24	5.11
25-yr	59.00	34.70	687.53	2.76	2.699	7-M2c	1.59	1.50	1.50	0.91	6.86	5.58
100-yr	88.00	50.49	689.26	4.49	4.117	7-M2c	2.00	1.77	1.77	1.12	8.59	6.27

Culvert Barrel Data

Culvert Barrel Type: Straight Culvert

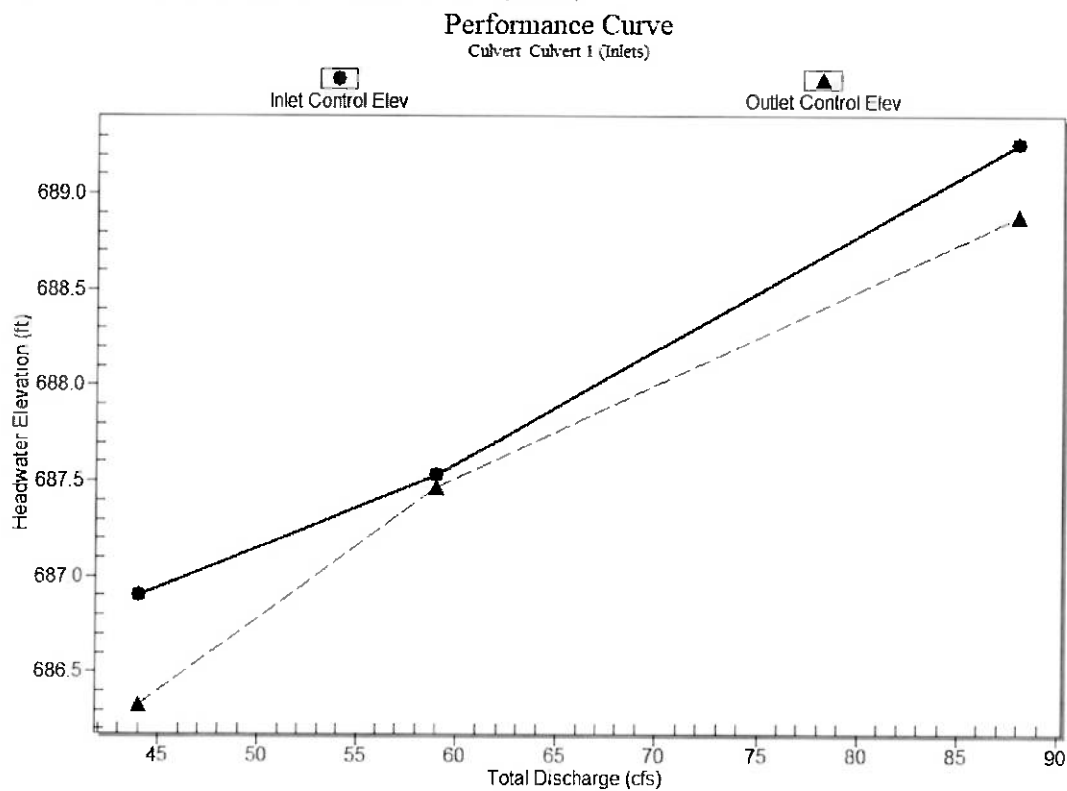
Inlet Elevation(invert): 684.77 ft

Outlet Elevation (invert): 684.24 ft

Culvert Length: 100.00 ft

Culvert Slope: 0.0053 ft/ft

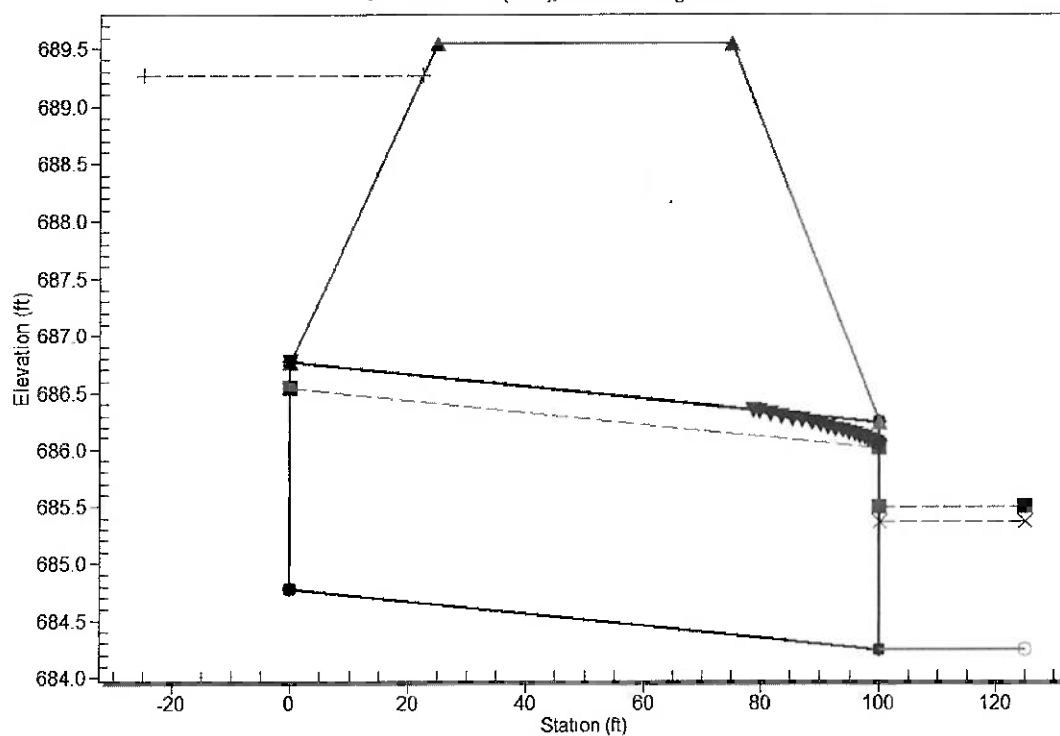
Culvert Performance Curve Plot: Culvert 1 (Inlets)



Water Surface Profile Plot for Culvert: Culvert 1 (Inlets)

Crossing - DA-1 Culv, Design Discharge - 88.0 cfs

Culvert - Culvert 1 (Inlets), Culvert Discharge - 50.5 cfs



Site Data - Culvert 1 (Inlets)

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 684.77 ft

Outlet Station: 100.00 ft

Outlet Elevation: 684.24 ft

Number of Barrels: 2

Culvert Data Summary - Culvert 1 (Inlets)

Barrel Shape: Circular

Barrel Diameter: 2.00 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Table 2 - Culvert Summary Table: Culvert 1 (Outside)

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Norm. Depth (ft)	Crit. Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
10-yr	44.00	17.29	686.90	2.13	1.355	1-S2n	1.30	1.41	1.30	0.78	6.71	5.11
25-yr	59.00	24.31	687.53	2.76	2.094	5-S2n	1.62	1.68	1.62	0.91	7.25	5.58
100-yr	88.00	37.51	689.26	4.49	3.980	7-M2c	2.50	2.07	2.07	1.12	8.62	6.27

Culvert Barrel Data

Culvert Barrel Type: Straight Culvert

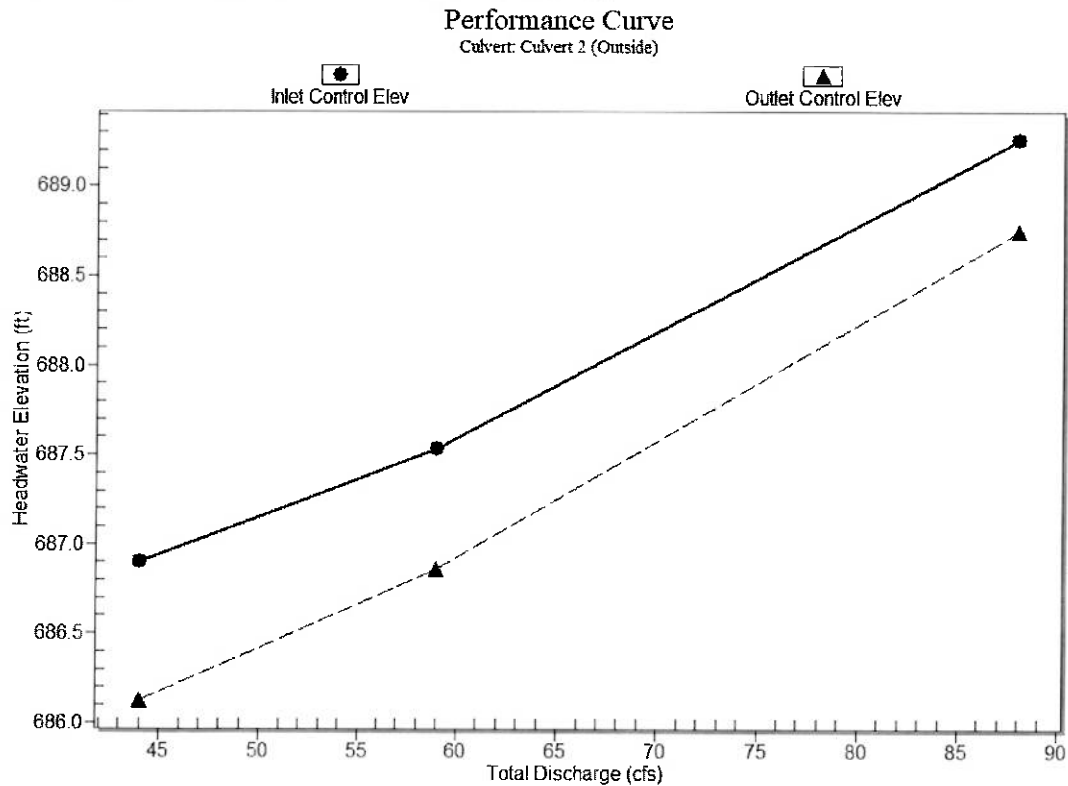
Inlet Elevation(invert): 684.77 ft

Outlet Elevation (invert): 684.24 ft

Culvert Length: 100.00 ft

Culvert Slope: 0.0053 ft/ft

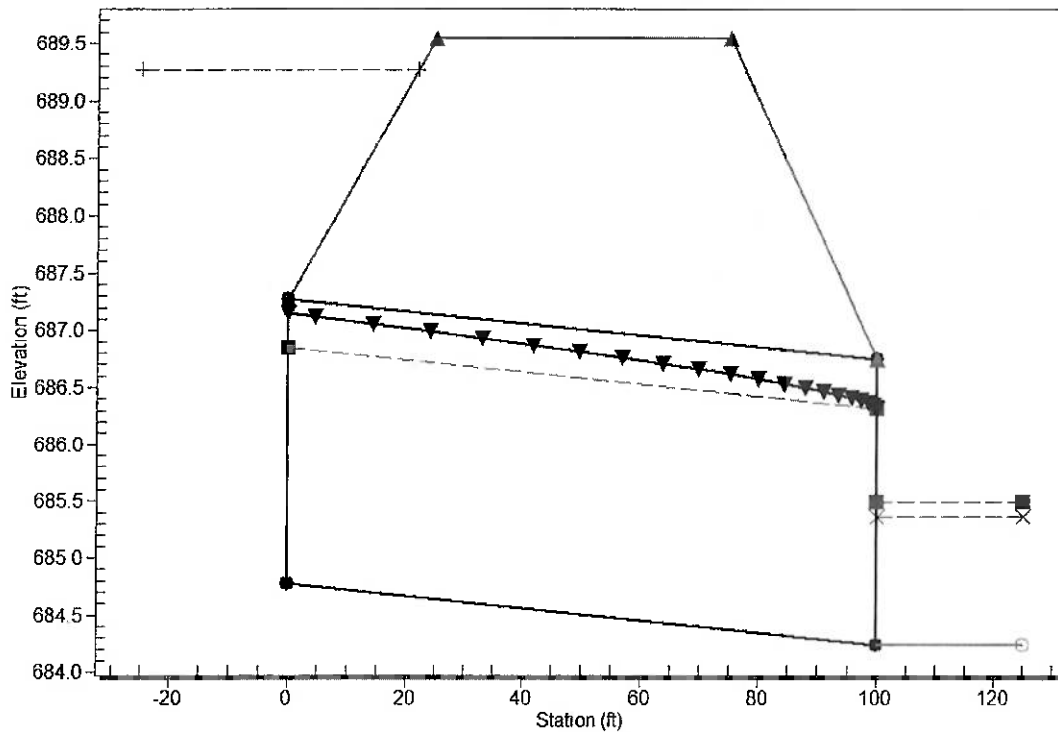
Culvert Performance Curve Plot: Culvert 2 (Outside)



Water Surface Profile Plot for Culvert: Culvert 2 (Outside)

Crossing - DA-1 Culv, Design Discharge - 88.0 cfs

Culvert - Culvert 2 (Outside), Culvert Discharge - 37.5 cfs



Site Data - Culvert 2 (Outside)

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 684.77 ft

Outlet Station: 100.00 ft

Outlet Elevation: 684.24 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 2 (Outside)

Barrel Shape: Circular

Barrel Diameter: 2.50 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Tailwater Channel Data for Crossing: DA-1 Culv
 Tailwater Channel Option: Trapezoidal Channel
 Bottom Width: 8.00 ft
 a_side Slope (H:V): 4.00 (:1)
 Channel Slope: 0.0094 ft/ft
 Channel Manning's n: 0.0200
 Channel Invert Elevation: 684.24 ft

Table 5 - Downstream Channel Rating Curve (crossing: DA-1 Culv)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
44.00	685.02	0.78
59.00	685.15	0.91
88.00	685.36	1.12

Roadway Data for crossing: DA-1 Culv
 Roadway Profile Shape: Constant Roadway Elevation
 Crest Length: 50.00 ft
 Crest Elevation: 689.54 ft
 Roadway Surface: Paved
 Roadway Top Width: 50.00 ft

HY-8 Culvert Analysis Report: DA-2 Culv

Table 1 - Summary of Culvert Flows at crossing: DA-2 Culv

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Culvert 1 (Inlets) Discharge (cfs)	Culvert 2 (Outside) Discharge (cfs)	Roadway Discharge (cfs)	Iterations
661.47	10-yr	89.00	43.40	45.60	0.00	5
662.03	25-yr	117.00	53.43	63.57	0.00	5
663.48	100-yr	172.00	73.35	98.65	0.00	5
664.41	Overtopping	199.73	84.15	115.58	0.00	Overtopping

Rating Curve Plot for crossing: DA-2 Culv

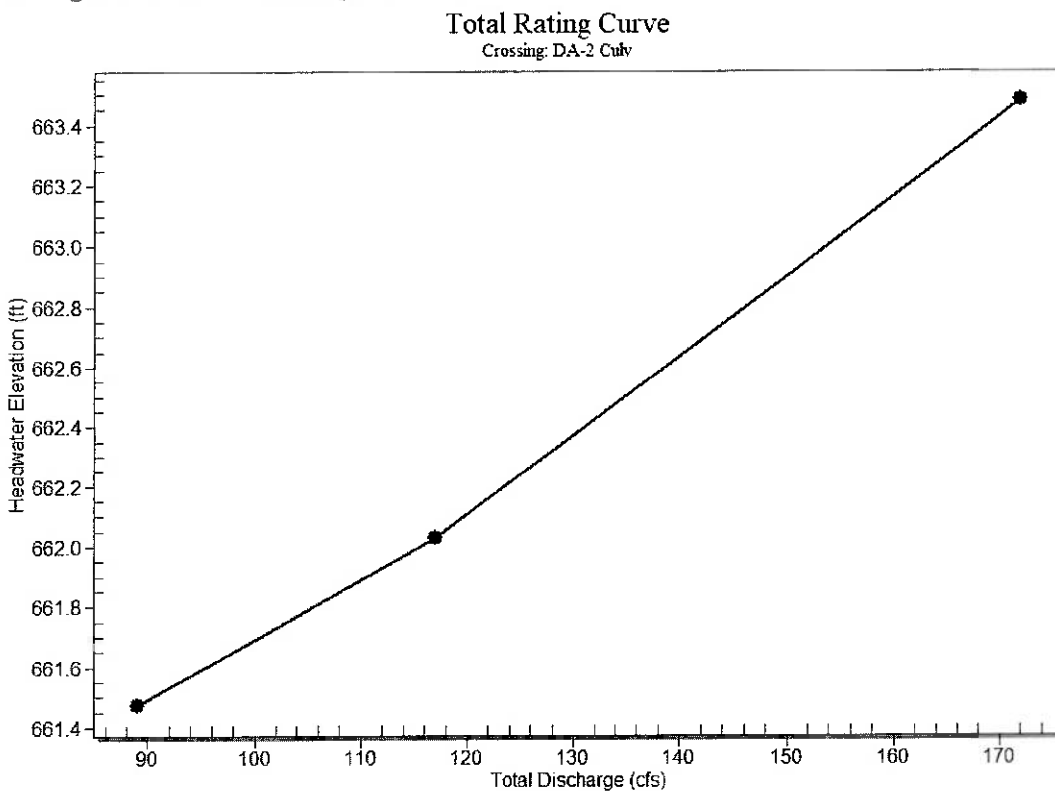


Table 2 - Culvert Summary Table: Culvert 1 (Inlets)

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Norm. Depth (ft)	Crit. Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
10-yr	89.00	43.40	661.47	2.29	1.584	5-S2n	1.25	1.37	1.25	1.26	6.99	5.42
25-yr	117.00	53.43	662.03	2.85	2.450	5-S2n	1.46	1.52	1.46	1.45	7.25	5.86
100-yr	172.00	73.35	663.48	4.30	3.781	7-M2t	2.00	1.75	1.76	1.76	8.36	6.51

Culvert Barrel Data

Culvert Barrel Type: Straight Culvert

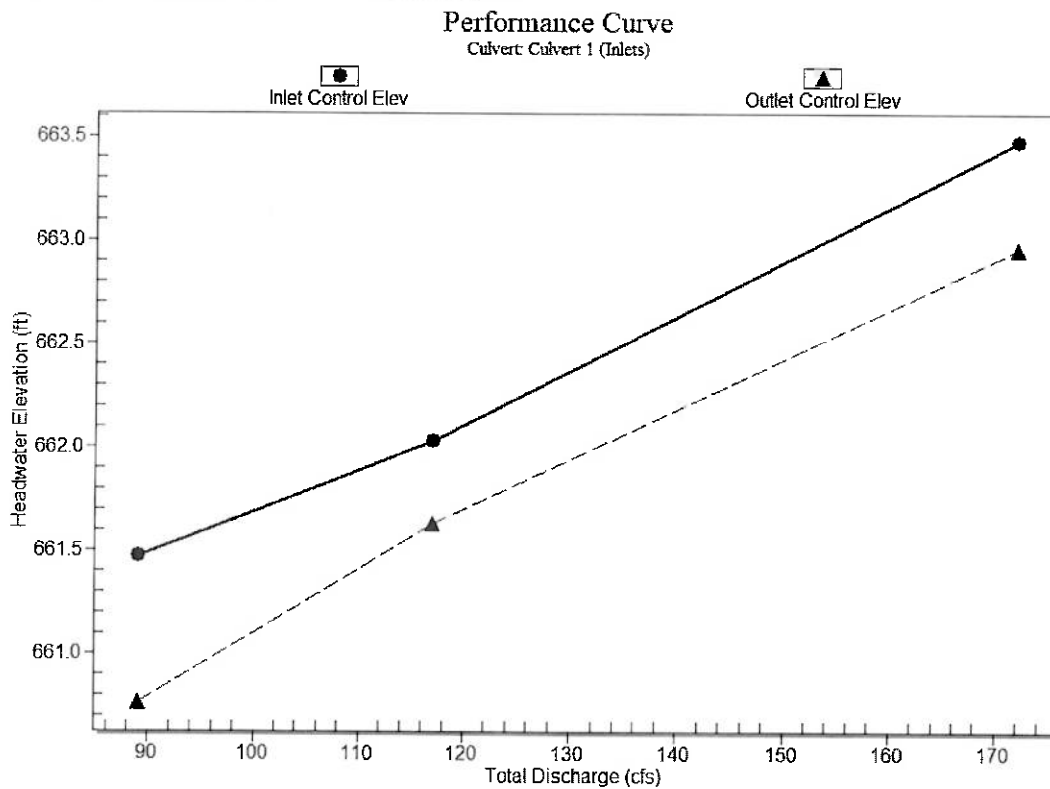
Inlet Elevation(invert): 659.18 ft

Outlet Elevation (invert): 658.47 ft

Culvert Length: 105.00 ft

Culvert Slope: 0.0068 ft/ft

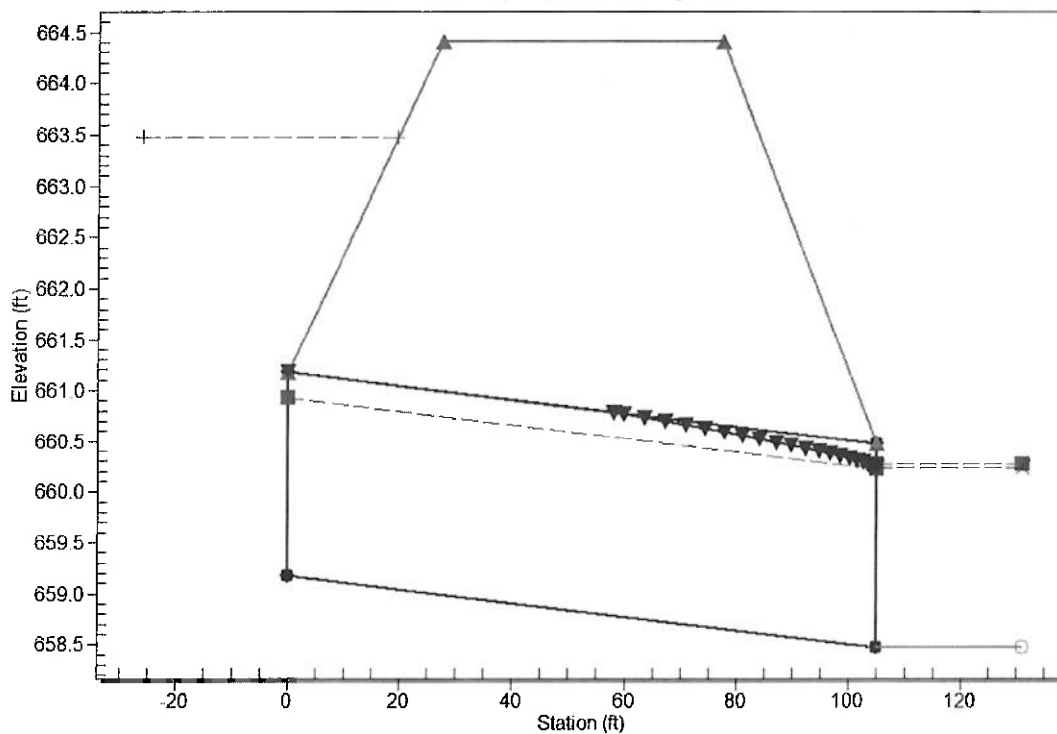
Culvert Performance Curve Plot: Culvert 1 (Inlets)



Water Surface Profile Plot for Culvert: Culvert 1 (Inlets)

Crossing - DA-2 Culv, Design Discharge - 172.0 cfs

Culvert - Culvert 1 (Inlets), Culvert Discharge - 73.4 cfs



Site Data - Culvert 1 (Inlets)

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 659.18 ft

Outlet Station: 105.00 ft

Outlet Elevation: 658.47 ft

Number of Barrels: 3

Culvert Data Summary - Culvert 1 (Inlets)

Barrel Shape: Circular

Barrel Diameter: 2.00 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Table 2 - Culvert Summary Table: Culvert 1 (Outside)

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Norm. Depth (ft)	Crit. Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
10-yr	89.00	45.60	661.47	2.29	1.205	1-S2n	1.29	1.54	1.30	1.26	7.76	5.42
25-yr	117.00	63.57	662.03	2.85	1.854	1-S2n	1.56	1.83	1.58	1.45	8.43	5.86
100-yr	172.00	98.65	663.48	4.30	3.705	5-S2n	2.08	2.29	2.10	1.76	9.35	6.51

Culvert Barrel Data

Culvert Barrel Type: Straight Culvert

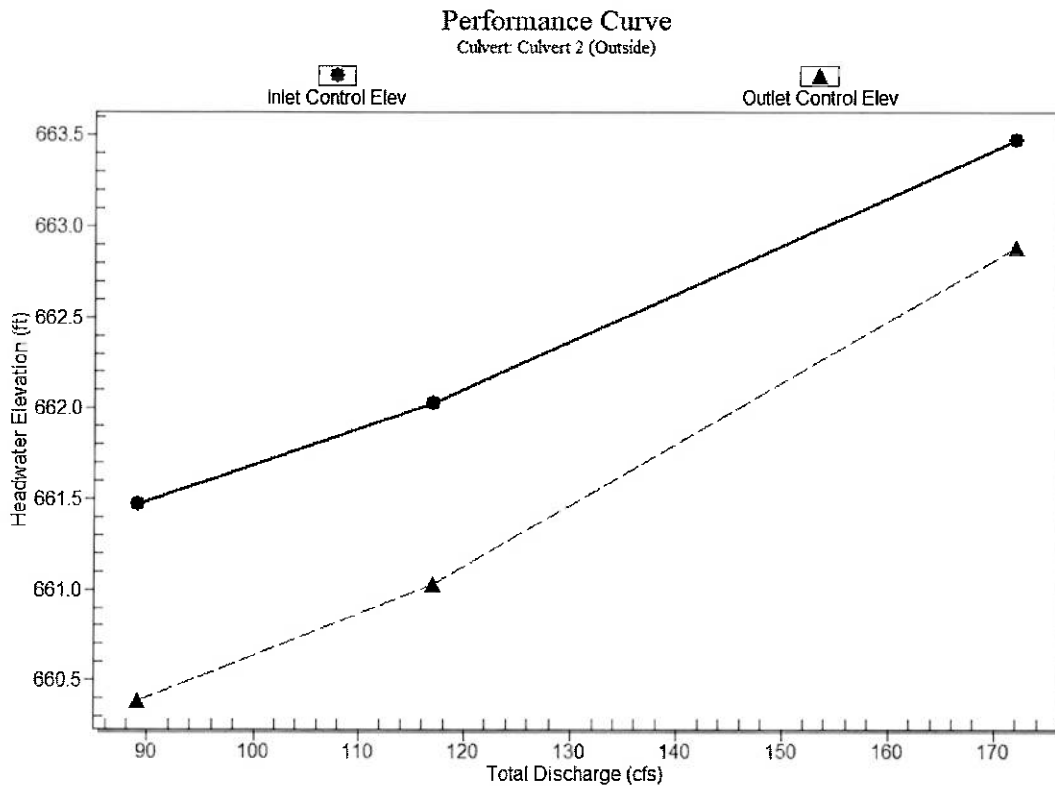
Inlet Elevation(invert): 659.18 ft

Outlet Elevation (invert): 658.47 ft

Culvert Length: 105.00 ft

Culvert Slope: 0.0068 ft/ft

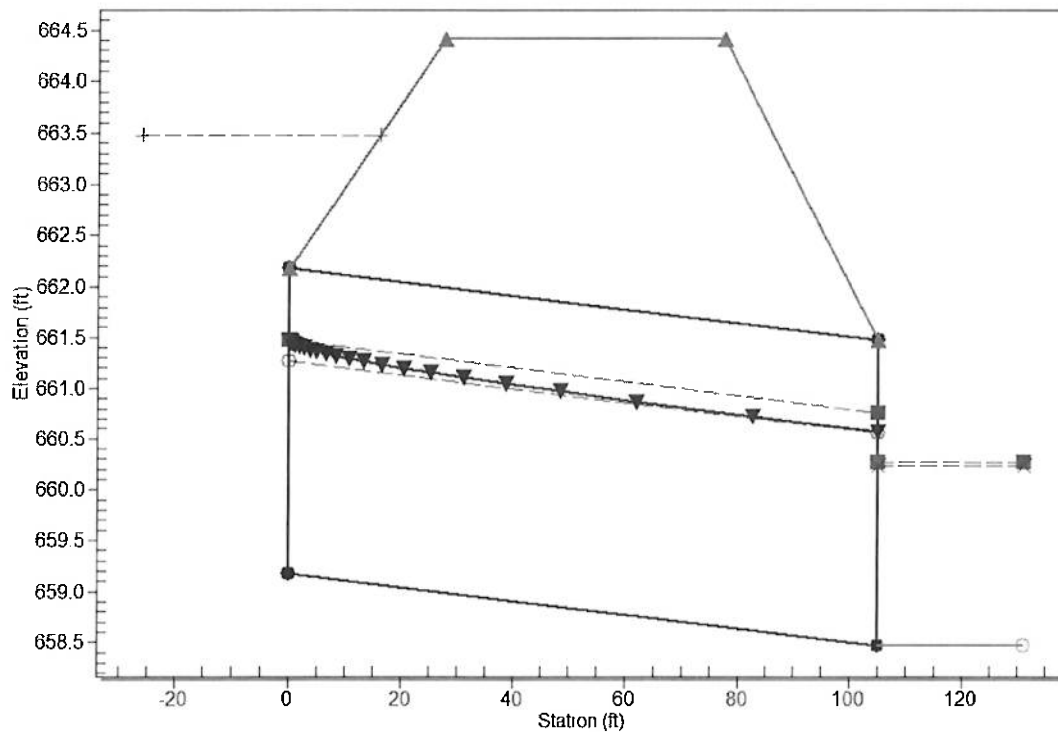
Culvert Performance Curve Plot: Culvert 2 (Outside)



Water Surface Profile Plot for Culvert: Culvert 2 (Outside)

Crossing - DA-2 Culv, Design Discharge - 172.0 cfs

Culvert - Culvert 2 (Outside), Culvert Discharge - 98.6 cfs



Site Data - Culvert 2 (Outside)

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 659.18 ft

Outlet Station: 105.00 ft

Outlet Elevation: 658.47 ft

Number of Barrels: 2

Culvert Data Summary - Culvert 2 (Outside)

Barrel Shape: Circular

Barrel Diameter: 3.0 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Tailwater Channel Data for Crossing: DA-1 Culv
 Tailwater Channel Option: Trapezoidal Channel
 Bottom Width: 8.00 ft
 a_side Slope (H:V): 4.00 (1:1)
 Channel Slope: 0.0062 ft/ft
 Channel Manning's n: 0.0200
 Channel Invert Elevation: 658.47 ft

Table 5 - Downstream Channel Rating Curve (crossing: DA-1 Culv)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
89.00	659.73	1.26
117.00	659.92	1.45
172.00	660.23	1.76

Roadway Data for crossing: DA-1 Culv
 Roadway Profile Shape: Constant Roadway Elevation
 Crest Length: 50.00 ft
 Crest Elevation: 664.41 ft
 Roadway Surface: Paved
 Roadway Top Width: 50.00 ft

HY-8 Culvert Analysis Report: DA-3 Culv

Table 1 - Summary of Culvert Flows at crossing: DA-3 Culv

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
673.20	10-yr	21.00	21.00	0.00	1
673.64	25-yr	28.00	28.00	0.00	1
674.81	100-yr	41.00	41.00	0.00	1
675.20	Overtopping	44.55	44.55	0.00	Overtopping

Rating Curve Plot for crossing: DA-3 Culv

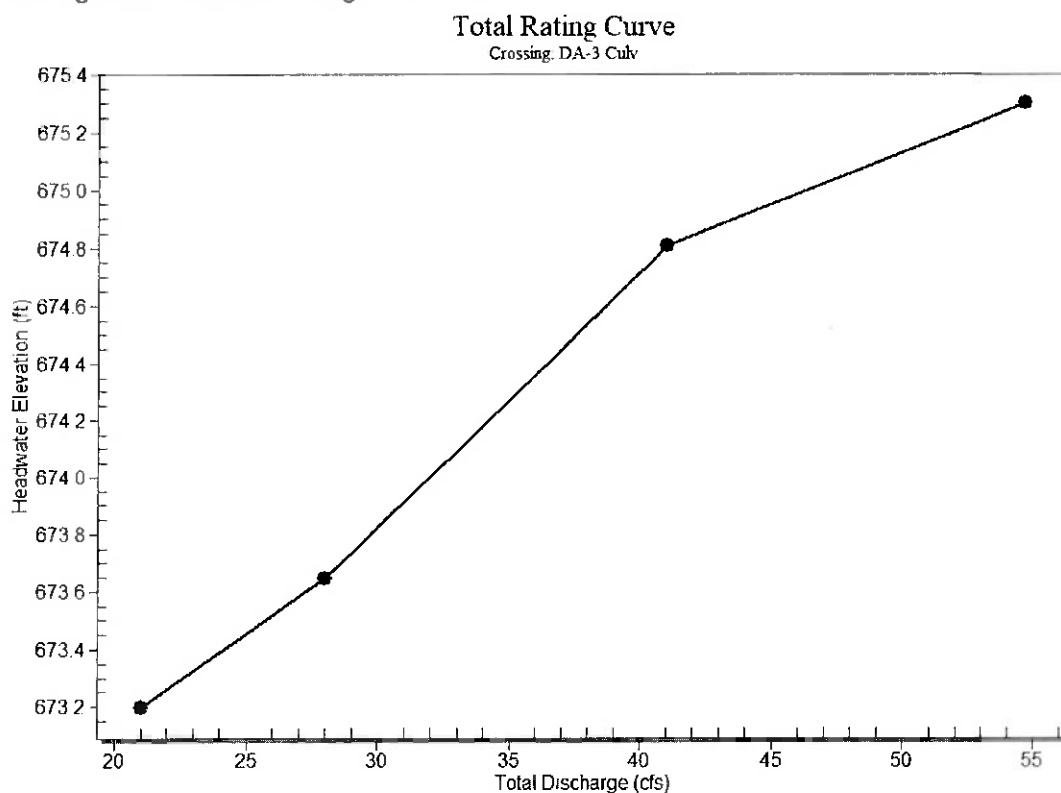


Table 2 - Culvert Summary Table: Culvert 1

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
10-yr	21.00	21.00	673.20	1.78	1.119	1-S2n	1.02	1.16	1.03	0.36	6.46	6.26
25-yr	28.00	28.00	673.64	2.22	1.631	5-S2n	1.22	1.35	1.23	0.42	6.92	6.89
100-yr	41.00	41.00	674.81	3.39	3.088	7-M2c	1.66	1.62	1.62	0.52	7.50	7.80

Culvert Barrel Data

Culvert Barrel Type: Straight Culvert

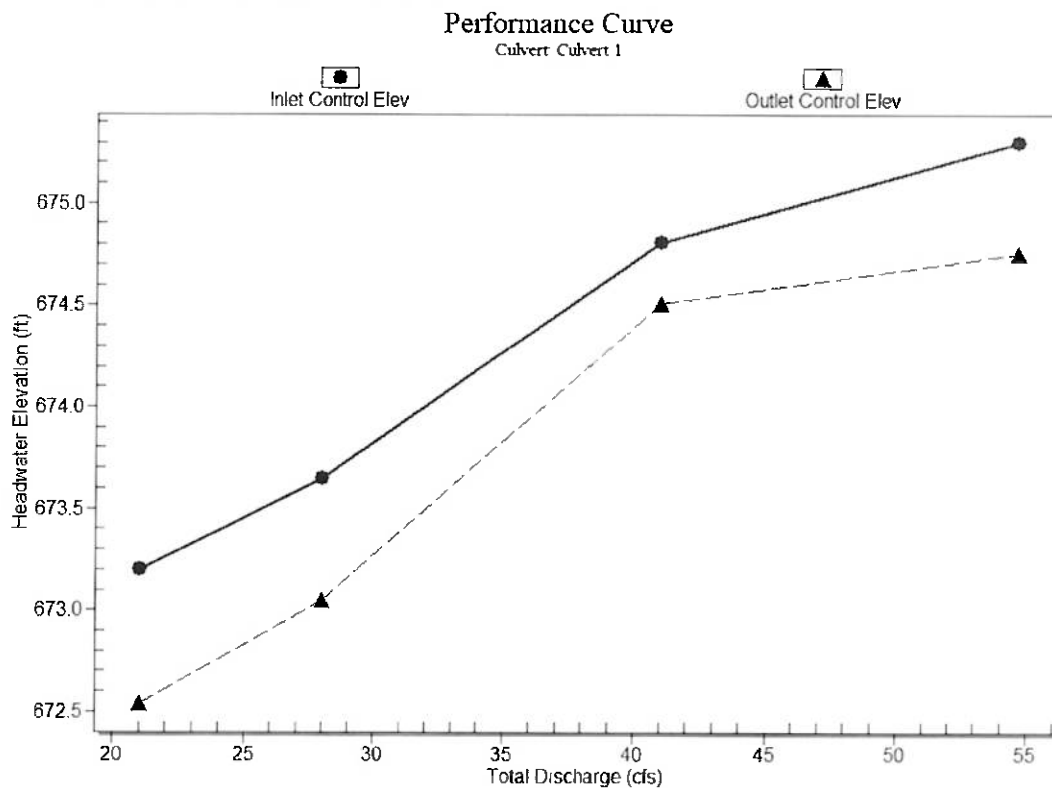
Inlet Elevation(invert): 671.42 ft

Outlet Elevation (invert): 670.96 ft

Culvert Length: 67.50 ft

Culvert Slope: 0.0068 ft/ft

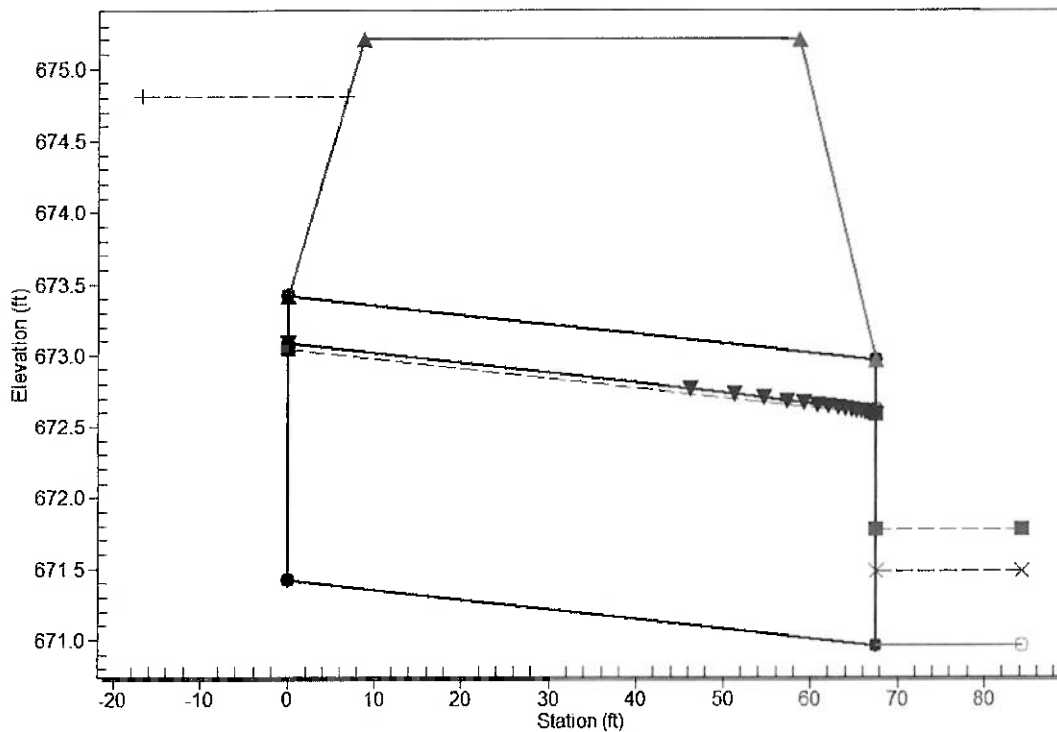
Culvert Performance Curve Plot: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1

Crossing - DA-3 Culv, Design Discharge - 41.0 cfs

Culvert - Culvert 1, Culvert Discharge - 41.0 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 671.42 ft

Outlet Station: 67.50 ft

Outlet Elevation: 670.96 ft

Number of Barrels: 2

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 2.00 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope

Inlet Depression: None

Tailwater Channel Data for Crossing: DA-3 Culv

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 8.00 ft

a_side Slope (H:V): 4.00 (:1)

Channel Slope: 0.04 ft/ft

Channel Manning's n: 0.0200

Channel Invert Elevation: 670.96 ft

Table 3 - Downstream Channel Rating Curve (crossing: DA-3 Culv)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
21.00	671.32	0.36
28.00	671.38	0.42
41.00	671.48	0.52

Roadway Data for crossing: DA-3 Culv

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 100.00 ft

Crest Elevation: 675.20 ft

Roadway Surface: Paved

Roadway Top Width: 50.00 ft

Flow Determination

1. Average Dry Weather Flow

LUE's = 382
 Population = 1337
Average Flow (F) = 65 gpm

Total LUE's
 (# LUE's x 3.5 people/LUE)
 (70 gallons/person/day)

2. Maximum Dry Weather Flow

Peaking Factor = 3.71

$$PF = \frac{18 + (0.0206 \times F)^{0.5}}{4 + (0.0206 \times F)^{0.5}}$$

Max Dry Weather Flow (F_{maxdw}) = 241 gpm

$$F_{max} = F \times PF$$

3. Minimum Dry Weather Flow

Min Flow Factor = 0.197

$$MF = 0.2 \times (0.0144 \times F)^{0.198}$$

Min Flow (F_{min}) = 13 gpm

$$F_{min} = F \times MF$$

4. Maximum Wet Weather Flow

Max Wet Weather Flow (F_{maxww}) = F_{maxdw} + Infiltration

Infiltration = 250 gpd/acre

LUEs/acre = 3.340

Infiltration = 0.05 gpm/LUE

Infiltration = 20 gpm

Max Wet Weather Flow (F_{maxww}) = 261 gpm

Flow for Design (F_{design}) = 261 gpm

##LUEs## ac

Wet Well Required Capacity

Cycle Time = 6 min

Pump HP < 50

Design Flow (F_{design}) = 261 gpm

Volume = 392 gal

$$Vol = \frac{CT \times \text{pump capacity}}{4}$$

Wet Well Data

Wet Well Diameter = 6.00 ft

Wet Well Area = 28.27 sf

1 ft Volume = 211.49 gal/ft

Storage height required = 1.85 ft

$$Ht = \frac{\text{Wet Well Required Capacity}}{\text{Volume per foot}}$$

Wet Well Detention Time

Td = (Time to fill WW) + (Time to empty wet well)

Tf = 30.5 min

Te = 1.6 min

Td = 32.1 min

Force Main Length = 4,719.5 ft

Tfm = 26.2 min

T(d+fm) = 58.3

$$Tf = \text{WW Capacity} / F_{min}$$

$$Te = \text{WW Capacity} / (\text{pump capacity} - F_{min})$$

3fps minimum velocity (maximum travel time allowed)

If <180 min, No odor control required

Control Stack

Top of Wet Well = 657.15 ft

Influent Flowline = 651.00 ft

High Level Alarm On = 651.00 ft

Lag Pump On = 650.00 ft

Lead Pump On = 649.00 ft

Pump Off = 647.15 ft

Low Level Alarm On = 646.15 ft

Pump Suction = 642.65 ft

Bottom Wet Well = 642.15 ft

1/2 foot above existing ground

Design of Internal WWL

(Influent FL)

(HLA on - 1.0 ft)

(Lag Pump On - 1.0 ft)

(Pump On - Storage Height)

(Pump Off - 1.0 feet)

(Pump Off - 4.5 feet)

(Pump Suction - 0.50 feet)

Static Head

Max. Elevation of Forcemain = 690.00 ft

Pump On Elevation = 649.00 ft

Pumps Off Elevation = 647.15 ft

Pump On Static Head = 41.00 ft

Pump Off Static Head = 42.85 ft

Net Positive Suction Head

$$\begin{aligned} NPSH &= P_B + H_S - P_V - H_{fs} \\ &= 33.4 + (c53-c54) - 1.4 - 0 \\ &= 36.50 \text{ ft} \end{aligned}$$

PB = Barometric pressure = 33.4 feet

HS = Static Suction Head Elev.

= Pump Off Elev - Pump Suction Elev.

PV = Vapor Pressure = 1.4 feet
Hfs = friction loss in suction pipe = 0 feet

Lift Station Piping & Fittings

Design Flow =	261	gpm
Pipe Type =	Flanged DI CL 350	
Nominal Pipe Size =	4.00	inches
Inside Diameter =	4.30	inches
Velocity =	5.77	fps
Length =	20.00	ft (Estimated)
(4)-4" x 90 deg Ell =	40.00	ft (Eq. Len.)
(1)-3"x4" Eccentric Reducer =	6.70	ft (Eq. Len.)
(1)-4" Flex Coupling =	1.00	ft (Eq. Len.)
(1)-4" Swing Check =	23.00	ft (Eq. Len.)
(2)-4" Eccentric Plug Valve =	230.00	ft (Eq. Len.)
(1)-4" 22.5 deg bend =	4.00	ft (Eq. Len.)
(1)-4" In Line Wye =	10.00	ft (Eq. Len.)
Total =	334.70	ft

Du-plex: one pump to obtain full flow.

Head Loss for Lift Station Pipe & Fittings

Head Loss (ft) =	9.2	Using C= 140
Head Loss (ft) =	17.1	Using C= 100

15*4

(18 x D') = 6.45

Force Main Piping & Fittings

Design Flow =	261	gpm
Pipe Type =	Bell DI Class 350	
Nominal Pipe Size =	4.00	inches
Inside Diameter =	4.30	inches
Velocity =	5.77	fps
Length =	10.00	ft
(1)-4" Flex Coupling =	1.00	ft (Eq. Len.)
Total =	11.00	ft

Head Loss for Force Main Pipe & Fittings

Head Loss (ft) =	0.3	Using C= 140
Head Loss (ft) =	0.6	Using C= 100

10.60

Force Main Piping & Fittings

Design Flow =	261	gpm
Pipe Type =	SDR21 (200psi)	
Nominal Pipe Size =	6.00	inches
Inside Diameter =	5.96	inches
Velocity =	3.00	fps
Length =	4,300.00	ft
(215)-6" Bell Joints =	408.50	ft (Eq. Len.)
Total =	4,708.50	ft

Head Loss for Force Main Pipe & Fittings

Head Loss (ft) =	26.4	Using C= 140
Head Loss (ft) =	49.1	Using C= 100

Subtract 1' for each fitting.
(Total FM length / 20' joints) * 1.90'

Total Dynamic Head (TDH)

Min. TDH =	76.90	ft	Pump On SH + LS HL + FM HL (C=140)
Max. TDH =	109.65	ft	Pump Off SH + LS HL + FM HL (C=100)
Pump Design TDH =	93.28	ft	(average of min & max TDH)

Force Main Flush Time

$$T_{\text{flush}} = (t_f + t_e) \times (\text{FM length}) / (\text{CT}/2)(V_{\text{fm}})(60\text{sec/min})$$

$$T_{\text{flush}} (8" \text{ FM}) = 33.3 \text{ min.}$$

$$\text{Total} = 33.3 \text{ min.}$$

(t_f + t_e) = time to fill and empty wet well
V_{fm} = flow velocity in FM (fps)

Odor Control required if T_{flush} > 30 minutes

Water Horsepower

$$P = (Q)(h)(8.34 \text{ lb/gal}) / 33,000 \text{ ft-lb min/hp}$$

$$P = 6.16$$

Q = flow of ONE PUMP
h = Total Dynamic Head (pump design)

Brake Horsepower

$$\text{Bhp} = 9.4$$

$$\text{Bhp} = \frac{P}{\text{pump efficiency}}$$

P = water horsepower (hp)
pump efficiency = 65.2% (Flygt Selection)

Buoyancy Calculations

LS Wall Thickness =	0.00	ft	(Worst case: Fiberglass wet well)
LS Bottom Thickness =	1.00	ft	(12 inch thick slab)
Width of Base Slab Outside Wall =	2.00	ft	Projection of bottom slab beyond wet well diameter
Weight of wet well wall =	0	lbs	Area of Annulus x height x 150 pcf; AA=Pi(r1+r2)(r2-r1)
Precast Conc. Bottom =	11,781	lbs	Bottom area x thickness x 150 pcf
Soil Overburden =	49,281	lbs	Surface area exposed slab x height x buoyant soil wt (130-62.4)

Total Downward Force= 61,062 lbs
 Total Upward Force = 30,489 lbs
 Summation of Forces = 30,573 lbs
 Safety Factor = 2.00

R1= outside wet well radius; R2= base slab radius
 AA = surface area of exposed slab = $\pi(R1+R2)(R2-R1)$
 Outside diameter area x height x 62.4pcf+
 Bottom slab displacement x 62.4

Water Hammer

$$P_{wh} = \frac{(a)(V)}{(2.31)(g)} + \text{Operating Pressure}$$

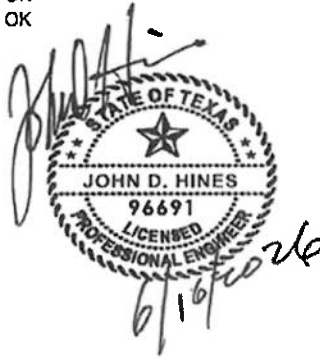
$$a = \frac{12.00}{[(w/g) \times ((1/k) + (d/Et))]^{0.5}}$$

$$a = 1,628.91$$

$$P_{wh} = 171.0 \text{ psi}$$

a = Pressure Wave Velocity (fps)
 V = flow velocity in pipe (fps)
 w = specific wt. of water (62.4 pcf)
 g = acceleration of gravity (32.2 fps)
 k = bulk modulus of water (300k psi)
 d = inside diameter of pipe (in.)
 E = Young's modulus (490,000 psi)
 t = pipe wall thickness (0.493 in)
 Operating Pressure = TDH (ft) x 0.4335 (psi)
 = 40.44 psi

Pipe rated at 200 psi - OK
 (long term 1000 hour burst rating) Pipe rated at 420 psi - OK
 (short term 60 second burst rating) Pipe rated at 630 psi - OK





Water Model

Eagle Prairie Phase 1&2

Property Name: **Eagle Prairie**
Prepared For: **WBW Investment Solutions, LLC - Series 018**
Site Location: **Northwest of Intersection of Eagle Drive and Miracle Lane**
Site City and State: **City of Bruceville-Eddy, Texas**
Report Date: **February 09, 2026**
Prepared By: **John D. Hines, P.E. 96691**
Yalgo Engineering, LLC, Texas
Registered Engineering Firm
F-24040; Georgetown, Texas

THIS DOCUMENT IS RELEASED FOR THE
PURPOSE OF REVIEW UNDER THE
AUTHORITY OF JOHN D. HINES, P.E. 96691
ON 02/09/2026. IT IS NOT TO BE USED
FOR CONSTRUCTION PURPOSES.

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TECHNICAL MEMORANDUM

TO: City of Bruceville-Eddy

FROM: John D. Hines, P.E.

DATE: February 9, 2026

SUBJECT: Eagle Prairie – Water Model Analysis

Hydraulic Modeling Results and Evaluation

A hydraulic analysis of the proposed Eagle Prairie water distribution system was performed using KYPIPE to evaluate system performance under domestic demand and fire flow conditions. Boundary conditions were established using static pressures provided by MRB at the three proposed connection points: Old Moody Road (72 psi), Melissa Cut-Through (62 psi), and Eagle Drive (66 psi). Domestic demands were based on 0.6 gpm per connection, consistent with MRB's peak demand criteria and TCEQ (30 TAC §290) guidance. Fire flow conditions were evaluated assuming each tie-in provided a rated pressure supply with an assumed available flow of 500 gpm, representing a conservative and reasonable contribution from the existing public water system in the absence of system-wide flow testing data. The model contains both 6-inch and 8-inch pipes within the development, such that the City's Subdivision Ordinance is met.

Model results indicate that the proposed subdivision maintains adequate pressures throughout the system under peak domestic demand and fire flow conditions. During fire flow scenarios, modeled residual pressures generally range from approximately 60 to 75 psi, with fire flow delivery ranging from approximately 890 to 915 gpm at evaluated locations. No modeled nodes experienced pressures below the TCEQ minimum requirement of 35 psi under normal operating conditions, and a residual pressure of 20 psi was maintained for fire flow analysis. These results demonstrate that the existing public water system is capable of hydraulically serving the proposed development without the need for upsizing off-site distribution mains.

Evaluation of Prior Findings

The initial analysis from MRB identified a potential deficiency related to pressure reductions and increased velocities in the existing 6-inch water main along Eagle Drive, concluding that an 8-inch water main extension and pressure-regulating valve (PRV) would be required to serve the proposed development. Based on the results of the KYPIPE hydraulic model, no pressure deficiencies were identified that would necessitate an offsite water main upsizing. Modeled pressures remained well above TCEQ minimum criteria under all evaluated conditions, and increased velocities did not result in unacceptable pressure losses within the proposed service area.

The analysis also references TAC Title 30, §290.45, which establishes minimum system-wide pumping capacity requirements when limited elevated storage is available. However, this requirement applies to the

overall pressure plane and City utility system, not the subdivision's distribution system. The hydraulic model prepared for this analysis evaluates distribution-level hydraulic performance and does not assess firm pumping capacity or elevated storage compliance for the Ford/Tolbert Pressure Plane. Any deficiencies related to the City's system-wide pumping capacity are therefore unrelated to the proposed subdivision layout and would need to be addressed at the utility system level through pumping, storage, or operational improvements, if required, and covered as part of the City's impact fee or capital improvement projects.

Conclusion

Based on the hydraulic modeling performed, the Eagle Prairie subdivision can be adequately served by the existing public water system with respect to pressure and fire flow performance, and the analysis does not support the need for upsizing any offsite existing 6-inch water mains. The proposed development does not introduce hydraulic conditions that would result in noncompliance with applicable TCEQ distribution system pressure requirements.

Sincerely,

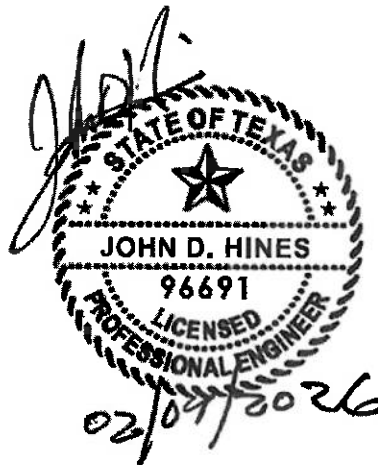


John D. Hines, P.E.

Project Manager

jhines@yalgoengineering.com

Phone: (512) 534-7218



John Hines

From: Halfmann, Marshall <Marshall.Halfmann@mrbgroup.com>
Sent: Wednesday, January 28, 2026 8:34 AM
To: Hunt, Armand; John Hines
Subject: Re: [EXTERNAL] Re: Eagle Prairie

Caution: This email originated outside of our organization. Please do not click links or attachments unless you recognize the sender or

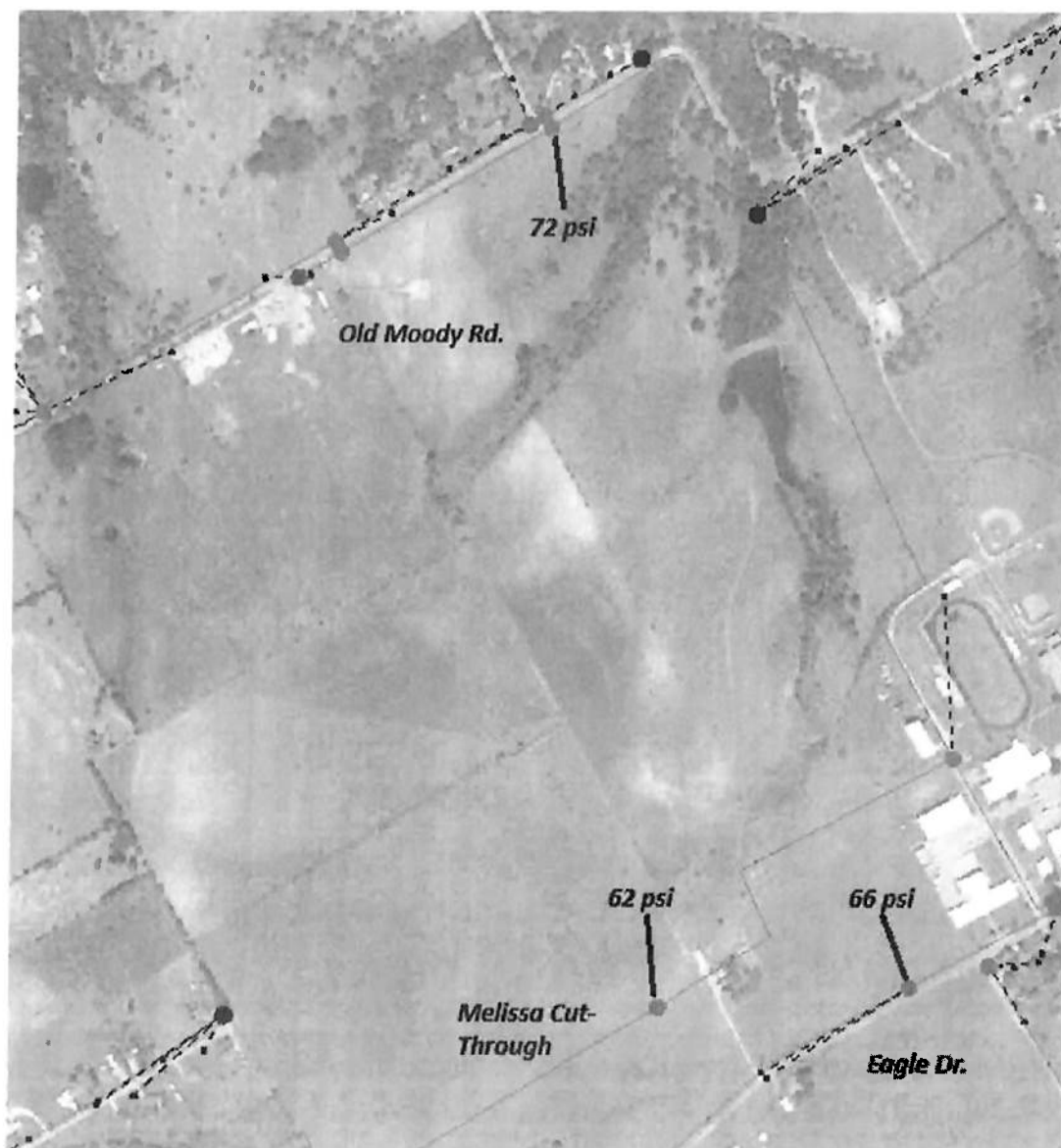
Hello,

Sorry for the delay, here are the pressures at the locations specified.

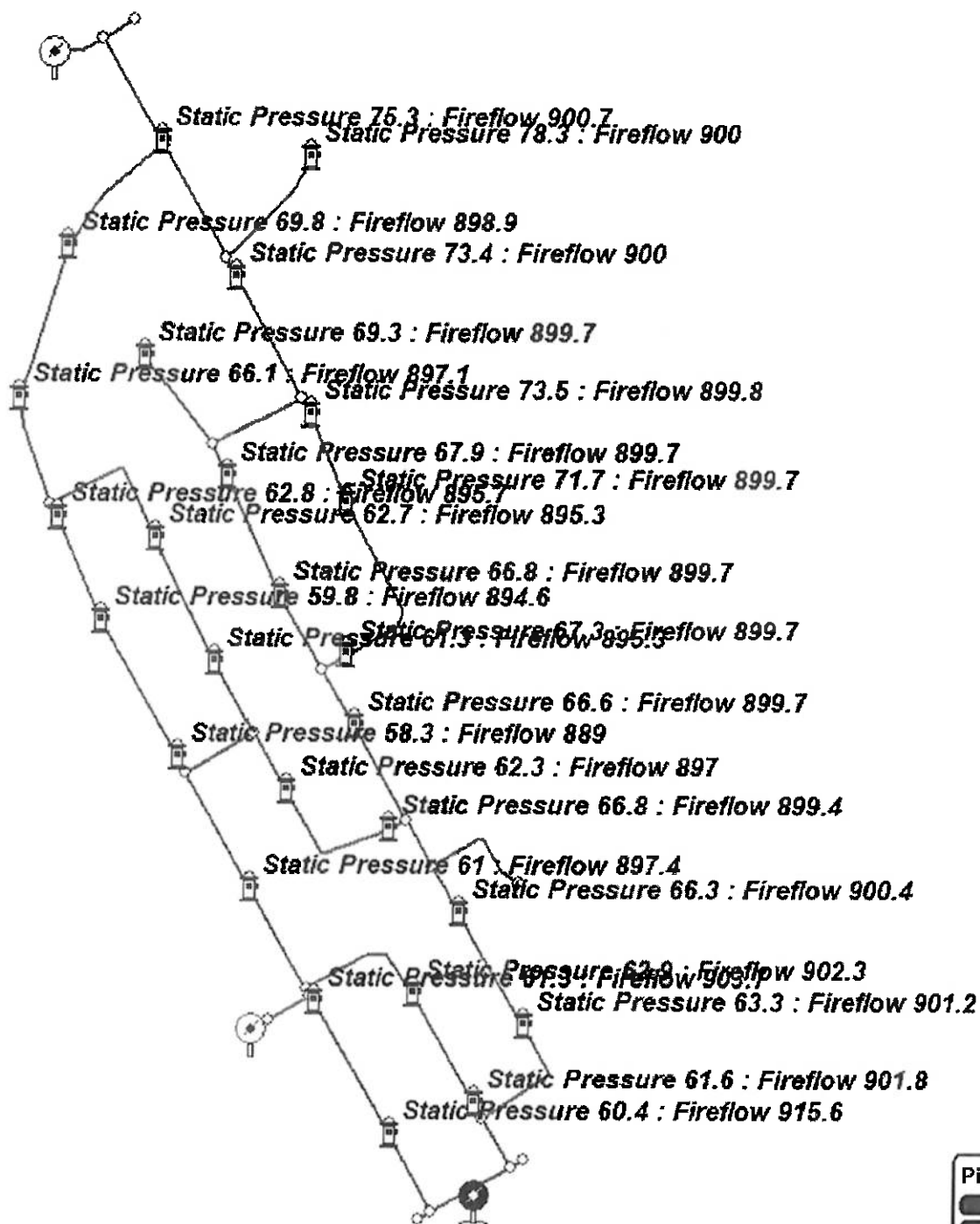
Old Moody Rd. - 72 psi

Melissa Cut-Through - 62 psi

Eagle Dr. - 66 psi



500 gpm
FLOW MODEL



```

* * * * * K Y P I P E * * * * *
*
*   Pipe Network Modeling Software
*
*   CopyRighted by KYPIPE LLC (www.kypipe.com)
*   Version: 12.009b 03-25-2024
*   Company: YALGO      Serial #: 580339
*   Interface: KYnetic
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*
* * * * *

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Date & Time: Fri Jan 30 15:35:27 2026

Master File : w:\residential\eagle prairie\engineering software
files\kypipe\ep01 less 8 more 6 500 gpm.KYP\ep01 less 8 more 6 500
gpm.P2K

```

*****
SUMMARY OF ORIGINAL DATA
*****

```

U N I T S S P E C I F I E D

```

FLOWRATE ..... = gallons/minute
HEAD (HGL) ..... = feet
PRESSURE ..... = psig

```

P I P E L I N E D A T A

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E	N O D E N A M E S		L E N G T H	D I A M E T E R	R O U G H N E S S
M I N O R	#1	#2	(ft)	(in)	C O E F F . L O S S
N A M E					
C O E F F .					

1	1	2	279.41	8.00	150.0000
0.00					
2	4	2	604.56	8.00	150.0000
0.00					
5	6	2	85.88	8.00	150.0000
0.00					
6	6	8	279.49	8.00	150.0000
0.00					

0.00	8	8	11	366.08	6.00	150.0000
0.00	11	11	12	291.18	6.00	150.0000
0.00	12	13	14	221.04	6.00	150.0000
0.00	13	16	4	576.09	8.00	150.0000
0.00	16	18	4	92.06	6.00	150.0000
0.00	17	20	14	665.70	6.00	150.0000
0.00	20	14	6	497.59	6.00	150.0000
0.00	21	8	12	595.78	8.00	150.0000
0.00	25	26	27	206.96	8.00	150.0000
0.00	26	26	29	199.43	8.00	150.0000
0.00	28	31	33	398.03	6.00	150.0000
0.00	31	16	33	14.59	8.00	150.0000
0.00	32	16	13	401.35	8.00	150.0000
0.00	34	13	20	444.67	8.00	150.0000
0.00	38	20	26	548.70	8.00	150.0000
0.00	41	27	12	253.83	8.00	150.0000
0.00	43	41	27	272.02	8.00	150.0000
0.00	45	43	11	221.06	8.00	150.0000
0.00	47	33	45	132.42	8.00	150.0000
0.00	48	45	VP-3	54.73	6.00	150.0000
0.00	51	48	31	68.76	6.00	150.0000
0.00	52	VP-2	49	13.69	6.00	150.0000
0.00	53	49	51	171.46	6.00	150.0000
0.00	54	VP-1	29	125.36	6.00	150.0000
0.00	P-55	29	53	70.77	6.00	150.0000
0.00	P-56	31	49	102.70	6.00	150.0000

P U M P / L O S S E L E M E N T D A T A

THERE IS A DEVICE AT NODE VP-1 DESCRIBED BY THE FOLLOWING
DATA: (ID= 1)

HEAD	FLOWRATE	EFFICIENCY
(ft)	(gpm)	(%)
166.15	0.00	75.00
0.00	500.00	75.00
-433.66	1000.00	75.00

THERE IS A DEVICE AT NODE VP-2 DESCRIBED BY THE FOLLOWING
DATA: (ID= 2)

HEAD	FLOWRATE	EFFICIENCY
(ft)	(gpm)	(%)
152.31	0.00	75.00
0.00	500.00	75.00
-397.52	1000.00	75.00

THERE IS A DEVICE AT NODE VP-3 DESCRIBED BY THE FOLLOWING
DATA: (ID= 3)

HEAD	FLOWRATE	EFFICIENCY
(ft)	(gpm)	(%)
143.08	0.00	75.00
0.00	500.00	75.00
-373.43	1000.00	75.00

N O D E D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
1		0.00	687.44	
2		8.70	682.25	
4		15.90	696.11	
6		12.30	682.73	
8		24.30	686.40	
11		13.50	681.72	
12		14.40	668.84	
13		19.20	704.26	
14		18.60	698.29	
16		15.60	696.77	
18		0.30	695.61	
20		33.90	691.97	

26	17.40	665.33	
27	12.00	666.91	
29	3.90	674.48	
31	6.90	697.98	
33	6.90	697.00	
41	5.70	658.40	
43	4.50	679.23	
45	0.00	699.23	
48	0.00	698.39	
49	0.00	696.79	
51	0.00	695.20	
53	0.00	669.63	
VP-1	----	677.92	677.92
VP-2	----	696.79	696.79
VP-3	----	697.99	697.99

OUTPUT OPTION DATA

OUTPUT SELECTION: ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

SYSTEM CONFIGURATION

NUMBER OF PIPES	(P) =	30
NUMBER OF END NODES	(J) =	24
NUMBER OF PRIMARY LOOPS	(L) =	4
NUMBER OF SUPPLY NODES	(F) =	3
NUMBER OF SUPPLY ZONES	(Z) =	1

=====

Case: 0

RESULTS OBTAINED AFTER 8 TRIALS: ACCURACY = 0.12219E-05

SIMULATION DESCRIPTION (LABEL)

PIPELINE RESULTS

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE	NODE NUMBERS	FLOWRATE	HEAD	MINOR	LINE
HL+ML/ HL/					

N A M E		#1	#2		LOSS	LOSS	VELO.
1000	1000						
ft/f	ft/f			gpm	ft	ft	ft/s

	1	1	2	0.00	0.00	0.00	0.00
0.00	0.00						
	2	4	2	40.06	0.02	0.00	0.26
0.04	0.04						
	5	6	2	-31.36	0.00	0.00	0.20
0.02	0.02						
	6	6	8	29.08	0.01	0.00	0.19
0.02	0.02						
	8	8	11	8.26	0.00	0.00	0.09
0.01	0.01						
	11	11	12	-9.74	0.00	0.00	0.11
0.01	0.01						
	12	13	14	23.59	0.01	0.00	0.27
0.06	0.06						
	13	16	4	56.26	0.04	0.00	0.36
0.07	0.07						
	16	18	4	-0.30	0.00	0.00	0.00
0.00	0.00						
	17	20	14	5.03	0.00	0.00	0.06
0.00	0.00						
	20	14	6	10.02	0.01	0.00	0.11
0.01	0.01						
	21	8	12	-3.48	0.00	0.00	0.02
0.00	0.00						
	25	26	27	45.32	0.01	0.00	0.29
0.05	0.05						
	26	26	29	-70.52	0.02	0.00	0.45
0.10	0.10						
	28	31	33	104.62	0.35	0.00	1.19
0.87	0.87						
	31	16	33	-145.78	0.01	0.00	0.93
0.40	0.40						
	32	16	13	73.92	0.05	0.00	0.47
0.11	0.11						
	34	13	20	31.13	0.01	0.00	0.20
0.02	0.02						
	38	20	26	-7.80	0.00	0.00	0.05
0.00	0.00						
	41	27	12	27.62	0.00	0.00	0.18
0.02	0.02						
	43	41	27	-5.70	0.00	0.00	0.04
0.00	0.00						
	45	43	11	-4.50	0.00	0.00	0.03
0.00	0.00						
	47	33	45	-48.06	0.01	0.00	0.31
0.05	0.05						
	48	45	VP-3	-48.06	0.01	0.00	0.55
0.21	0.21						

0.00	51	48	31	0.00	0.00	0.00	0.00
	0.00						
0.98	52	VP-2	49	111.52	0.01	0.00	1.27
	0.98						
0.00	53	49	51	0.00	0.00	0.00	0.00
	0.00						
0.46	54	VP-1	29	74.42	0.06	0.00	0.84
	0.46						
0.00	P-55	29	53	0.00	0.00	0.00	0.00
	0.00						
0.98	P-56	31	49	-111.52	0.10	0.00	1.27
	0.98						

P U M P / L O S S E L E M E N T R E S U L T S

INCREMTL	TOTAL	#PUMPS	INLET #PUMPS	OUTLET NPSH	PUMP Case	EFFIC- ENCY	USEFUL POWER	COST
NAME	FLOWRATE		HEAD	HEAD	HEAD		Hp	\$
COST	PARALLEL	SERIES	Avail.					
	gpm		ft	ft	ft	%		\$
\$			ft					
-----	-----	-----	-----	-----	-----	-----	-----	-----
22.6	VP-1	74.42	0.00	161.27	161.3	75.00	3.	0.2
	**	**	33.2	0.0000				
16.5	VP-2	111.52	0.00	142.85	142.8	75.00	4.	0.1
	**	**	33.2	0.0000				
12.9	VP-3	48.06	0.00	141.21	141.2	75.00	2.	0.1
	**	**	33.2	0.0000				

N O D E R E S U L T S

NODE	NODE	NODE	EXTERNAL	HYDRAULIC	NODE	PRESSURE
	NAME	TITLE	DEMAND	GRADE	ELEVATION	HEAD
			gpm	ft	ft	ft
psi						
-----	-----	-----	-----	-----	-----	-----
65.73	1		0.00	839.11	687.44	151.67
67.97	2		8.70	839.11	682.25	156.86
61.98	4		15.90	839.13	696.11	143.03
67.76	6		12.30	839.11	682.73	156.38

66.17	8	24.30	839.10	686.40	152.71
68.20	11	13.50	839.10	681.72	157.38
73.78	12	14.40	839.11	668.84	170.26
58.44	13	19.20	839.13	704.26	134.87
61.02	14	18.60	839.12	698.29	140.82
61.71	16	15.60	839.17	696.77	142.41
62.20	18	0.30	839.13	695.61	143.53
63.76	20	33.90	839.12	691.97	147.15
75.31	26	17.40	839.12	665.33	173.79
74.62	27	12.00	839.11	666.91	172.20
71.35	29	3.90	839.14	674.48	164.66
61.34	31	6.90	839.53	697.98	141.55
61.61	33	6.90	839.18	697.00	142.18
78.31	41	5.70	839.11	658.40	180.71
69.28	43	4.50	839.10	679.23	159.87
60.65	45	0.00	839.19	699.23	139.95
61.16	48	0.00	839.53	698.39	141.14
61.89	49	0.00	839.63	696.79	142.83
62.58	51	0.00	839.63	695.20	144.43
73.45	53	0.00	839.14	669.63	169.51
69.89	VP-1	----	839.20	677.92	161.27
61.90	VP-2	----	839.64	696.79	142.85
61.19	VP-3	----	839.20	697.99	141.21

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE gpm	NODE TITLE
VP-1	74.42	
VP-2	111.52	
VP-3	48.06	

NET SYSTEM INFLOW = 234.00
 NET SYSTEM OUTFLOW = 0.00
 NET SYSTEM DEMAND = 234.00

=====

FireFlow/Hydrant Report

Fireflow/Hydrant Report:

Scenario: No Title

Global Demand Factor for this Scenario: 1.000

Specified Minimum Pressure(psi): 20.0

Minimum Static Pressure(psi) : 20.0

Flow-1: Flowrate to maintain the specified
pressure at (hydrant) node

Node-2: Node that has a lower pressure than
specified value at Flow-1

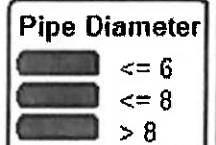
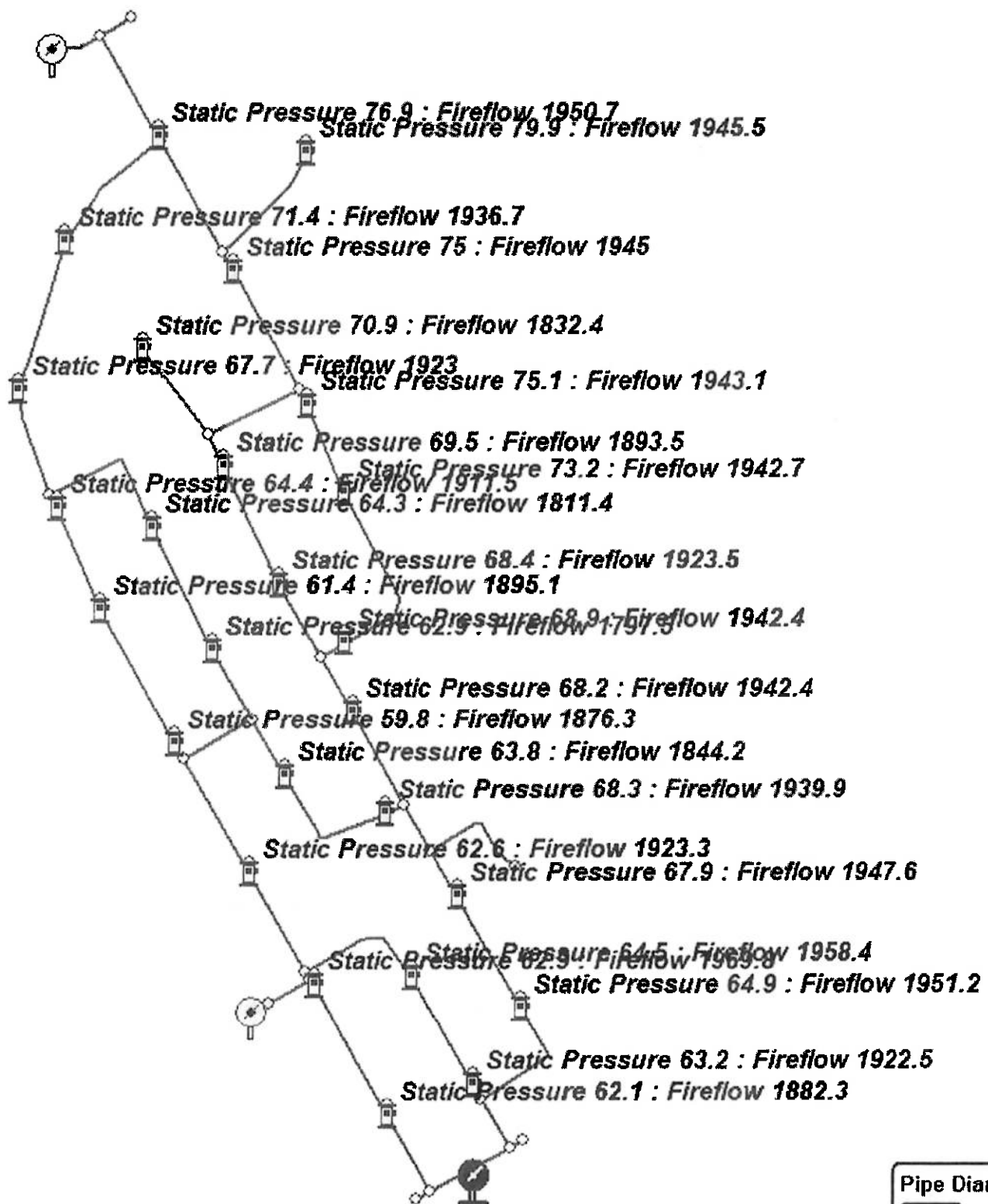
Flow-2: Flowrate to maintain the specified
pressure at Node-2

Hose Constant = 0.00

Hydrant Flow Node Capacity	Hydrant NFPA Constant Color	Elevation	Static Pressure	Flow-1 gpm	Flow-2 gpm	Node-2 gpm
901.2	H-16 ORANGE	0.0	693.1	63.3	952.8	901.2
900.4	H-17 ORANGE	0.0	686.1	66.3	994.8	900.4
899.7	H-18 ORANGE	0.0	685.3	66.6	998.5	899.7
899.7	H-6 ORANGE	0.0	684.9	66.8	982.5	899.7
899.7	H-7 ORANGE	0.0	682.4	67.9	987.0	899.7
902.3	H-19 ORANGE	0.0	694.0	62.9	955.5	902.3

	H-20	0.0	697.0	61.6	931.4	901.8	13
901.8	ORANGE						
	H-8	0.0	694.5	62.7	925.2	895.3	13
895.3	ORANGE						
	H-9	0.0	697.7	61.3	909.1	895.3	13
895.3	ORANGE						
	H-21	0.0	695.5	62.3	926.1	897.0	13
897.0	ORANGE						
	H-26	0.0	685.1	66.8	996.9	899.4	13
899.4	ORANGE						
	H-10	0.0	683.8	67.3	1005.3	899.7	13
899.7	ORANGE						
	H-11	0.0	673.7	71.7	1060.3	899.7	13
899.7	ORANGE						
	H-12	0.0	669.5	73.5	1086.6	899.8	13
899.8	ORANGE						
	H-1	0.0	665.4	75.3	1119.7	900.7	13
900.7	ORANGE						
	H-22	0.0	700.0	60.4	915.6		
915.6	ORANGE						
	H-23	0.0	697.7	61.3	943.8	903.7	13
903.7	ORANGE						
	H-24	0.0	698.4	61.0	933.1	897.4	13
897.4	ORANGE						
	H-25	0.0	704.7	58.3	889.0		
889.0	ORANGE						
	H-13	0.0	701.2	59.8	908.1	894.6	13
894.6	ORANGE						
	H-14	0.0	694.2	62.8	951.1	895.7	13
895.7	ORANGE						
	H-3	0.0	686.6	66.1	996.5	897.1	13
897.1	ORANGE						
	H-4	0.0	678.0	69.8	1046.7	898.9	13
898.9	ORANGE						
	H-5	0.0	669.6	73.4	1089.7	900.0	13
900.0	ORANGE						
	H-2	0.0	658.4	78.3	1125.9	900.0	13
900.0	ORANGE						
	H-15	0.0	679.2	69.3	988.1	899.7	13
899.7	ORANGE						

1,000 gpm
FLOW MODEL



```

* * * * * K Y P I P E * * * * *
*
*   Pipe Network Modeling Software
*
*   CopyRighted by KYPIPE LLC (www.kypipe.com)
*   Version: 12.009b 03-25-2024
*   Company: YALGO      Serial #: 580339
*   Interface: KYnetic
*   Licensed for Pipe2024
*
* * * * *

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Date & Time: Fri Jan 30 15:40:02 2026

Master File : w:\residential\eagle prairie\engineering software
files\kypipe\ep01 less 8 more 6 1000 gpm.KYP\ep01 less 8 more 6 1000
gpm.P2K

```

*****
S U M M A R Y   O F   O R I G I N A L   D A T A
*****

```

U N I T S S P E C I F I E D

FLOWRATE = gallons/minute
HEAD (HGL) = feet
PRESSURE = psig

P I P E L I N E D A T A

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E MINOR	N O D E N A M E	#1	#2	LENGTH (ft)	DIAMETER (in)	ROUGHNESS COEFF. LOSS
0.00	1	1	2	279.41	8.00	150.0000
0.00	2	4	2	604.56	8.00	150.0000
0.00	5	6	2	85.88	8.00	150.0000
0.00	6	6	8	279.49	8.00	150.0000

	8	8	11	366.08	6.00	150.0000
0.00	11	11	12	291.18	6.00	150.0000
0.00	12	13	14	221.04	6.00	150.0000
0.00	13	16	4	576.09	8.00	150.0000
0.00	16	18	4	92.06	6.00	150.0000
0.00	17	20	14	665.70	6.00	150.0000
0.00	20	14	6	497.59	6.00	150.0000
0.00	21	8	12	595.78	8.00	150.0000
0.00	25	26	27	206.96	8.00	150.0000
0.00	26	26	29	199.43	8.00	150.0000
0.00	28	31	33	398.03	6.00	150.0000
0.00	31	16	33	14.59	8.00	150.0000
0.00	32	16	13	401.35	8.00	150.0000
0.00	34	13	20	444.67	8.00	150.0000
0.00	38	20	26	548.70	8.00	150.0000
0.00	41	27	12	253.83	8.00	150.0000
0.00	43	41	27	272.02	8.00	150.0000
0.00	45	43	11	221.06	8.00	150.0000
0.00	47	33	45	132.42	8.00	150.0000
0.00	48	45	VP-3	54.73	6.00	150.0000
0.00	51	48	31	68.76	6.00	150.0000
0.00	52	VP-2	49	13.69	6.00	150.0000
0.00	53	49	51	171.46	6.00	150.0000
0.00	54	VP-1	29	125.36	6.00	150.0000
0.00	P-55	29	53	70.77	6.00	150.0000
0.00	P-56	31	49	102.70	6.00	150.0000
0.00						

P U M P / L O S S E L E M E N T D A T A

THERE IS A DEVICE AT NODE VP-1 DESCRIBED BY THE FOLLOWING
DATA: (ID= 1)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
166.15	0.00	75.00
0.00	1000.00	75.00
-433.66	2000.00	75.00

THERE IS A DEVICE AT NODE VP-2 DESCRIBED BY THE FOLLOWING
DATA: (ID= 2)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
152.31	0.00	75.00
0.00	1000.00	75.00
-397.52	2000.00	75.00

THERE IS A DEVICE AT NODE VP-3 DESCRIBED BY THE FOLLOWING
DATA: (ID= 3)

HEAD (ft)	FLOWRATE (gpm)	EFFICIENCY (%)
143.08	0.00	75.00
0.00	1000.00	75.00
-373.43	2000.00	75.00

N O D E D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
1		0.00	687.44	
2		8.70	682.25	
4		15.90	696.11	
6		12.30	682.73	
8		24.30	686.40	
11		13.50	681.72	
12		14.40	668.84	
13		19.20	704.26	
14		18.60	698.29	
16		15.60	696.77	
18		0.30	695.61	
20		33.90	691.97	

26	17.40	665.33	
27	12.00	666.91	
29	3.90	674.48	
31	6.90	697.98	
33	6.90	697.00	
41	5.70	658.40	
43	4.50	679.23	
45	0.00	699.23	
48	0.00	698.39	
49	0.00	696.79	
51	0.00	695.20	
53	0.00	669.63	
VP-1	----	677.92	677.92
VP-2	----	696.79	696.79
VP-3	----	697.99	697.99

OUTPUT OPTION DATA

OUTPUT SELECTION: ALL RESULTS ARE INCLUDED IN THE TABULATED OUTPUT

SYSTEM CONFIGURATION

NUMBER OF PIPES	(P) =	30
NUMBER OF END NODES	(J) =	24
NUMBER OF PRIMARY LOOPS	(L) =	4
NUMBER OF SUPPLY NODES	(F) =	3
NUMBER OF SUPPLY ZONES	(Z) =	1

=====
Case: 0

RESULTS OBTAINED AFTER 21 TRIALS: ACCURACY = 0.28869E-05

SIMULATION DESCRIPTION (LABEL)

PIPELINE RESULTS

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE	NODE NUMBERS	FLOWRATE	HEAD	MINOR	LINE
HL+ML/ HL/					

N A M E		#1	#2		LOSS	LOSS	VELO.
1000	1000						
ft/f	ft/f			gpm	ft	ft	ft/s
	1	1	2	0.00	0.00	0.00	0.00
0.00	0.00						
	2	4	2	41.32	0.02	0.00	0.26
0.04	0.04						
	5	6	2	-32.62	0.00	0.00	0.21
0.02	0.02						
	6	6	8	30.15	0.01	0.00	0.19
0.02	0.02						
	8	8	11	8.34	0.00	0.00	0.09
0.01	0.01						
	11	11	12	-9.66	0.00	0.00	0.11
0.01	0.01						
	12	13	14	24.16	0.01	0.00	0.27
0.06	0.06						
	13	16	4	57.52	0.04	0.00	0.37
0.07	0.07						
	16	18	4	-0.30	0.00	0.00	0.00
0.00	0.00						
	17	20	14	4.27	0.00	0.00	0.05
0.00	0.00						
	20	14	6	9.84	0.01	0.00	0.11
0.01	0.01						
	21	8	12	-2.49	0.00	0.00	0.02
0.00	0.00						
	25	26	27	44.25	0.01	0.00	0.28
0.04	0.04						
	26	26	29	-66.91	0.02	0.00	0.43
0.09	0.09						
	28	31	33	156.29	0.73	0.00	1.77
1.83	1.83						
	31	16	33	-149.39	0.01	0.00	0.95
0.41	0.41						
	32	16	13	76.27	0.05	0.00	0.49
0.12	0.12						
	34	13	20	32.91	0.01	0.00	0.21
0.03	0.03						
	38	20	26	-5.26	0.00	0.00	0.03
0.00	0.00						
	41	27	12	26.55	0.00	0.00	0.17
0.02	0.02						
	43	41	27	-5.70	0.00	0.00	0.04
0.00	0.00						
	45	43	11	-4.50	0.00	0.00	0.03
0.00	0.00						
	47	33	45	0.00	0.00	0.00	0.00
0.00	0.00						
	48	45	VP-3	0.00	0.00	0.00	0.00
0.00	0.00						

	51	48	31	0.00	0.00	0.00	0.00
0.00	0.00						
	52	VP-2	49	163.19	0.03	0.00	1.85
1.98	1.98						
	53	49	51	0.00	0.00	0.00	0.00
0.00	0.00						
	54	VP-1	29	70.81	0.05	0.00	0.80
0.42	0.42						
	P-55	29	53	0.00	0.00	0.00	0.00
0.00	0.00						
	P-56	31	49	-163.19	0.20	0.00	1.85
1.98	1.98						

P U M P / L O S S E L E M E N T R E S U L T S

INCREM	TOTAL	#PUMPS	INLET #PUMPS	OUTLET NPSH	PUMP Case	EFFIC- ENCY	USEFUL POWER	COST
NAME	FLOWRATE		HEAD	HEAD	HEAD		Hp	\$
COST	PARALLEL	SERIES	Avail.					
	gpm		ft	ft	ft	%		
\$			ft					
	VP-1	70.81	0.00	164.92	164.9	75.00	3.	0.5
47.6	**	**	33.2	0.0000				
	VP-2	163.19	0.00	147.00	147.0	75.00	6.	0.5
46.0	**	**	33.2	0.0000				
	Device "VP-3" is closed							
	VP-3	0.00	0.00	144.85	0.0	75.00	0.	0.4
33.2	**	**	33.2	0.0000				

N O D E R E S U L T S

NODE	NODE	EXTERNAL	HYDRAULIC	NODE	PRESSURE
NAME	TITLE	DEMAND	GRADE	ELEVATION	HEAD
		gpm	ft	ft	ft
psi					
	1	0.00	842.77	687.44	155.33
67.31					
	2	8.70	842.77	682.25	160.52
69.56					
	4	15.90	842.79	696.11	146.68
63.56					

69.35	6	12.30	842.77	682.73	160.03
67.76	8	24.30	842.76	686.40	156.36
69.78	11	13.50	842.76	681.72	161.03
75.36	12	14.40	842.76	668.84	173.92
60.03	13	19.20	842.78	704.26	138.52
62.61	14	18.60	842.77	698.29	144.48
63.29	16	15.60	842.83	696.77	146.06
63.78	18	0.30	842.79	695.61	147.18
65.35	20	33.90	842.77	691.97	150.80
76.89	26	17.40	842.77	665.33	177.44
76.20	27	12.00	842.76	666.91	175.85
72.93	29	3.90	842.79	674.48	168.31
63.09	31	6.90	843.57	697.98	145.59
63.20	33	6.90	842.84	697.00	145.84
79.89	41	5.70	842.76	658.40	184.37
70.86	43	4.50	842.76	679.23	163.52
62.23	45	0.00	842.84	699.23	143.61
62.91	48	0.00	843.57	698.39	145.18
63.69	49	0.00	843.77	696.79	146.98
64.38	51	0.00	843.77	695.20	148.57
75.04	53	0.00	842.79	669.63	173.16
71.47	VP-1	----	842.84	677.92	164.92
63.70	VP-2	----	843.80	696.79	147.00
62.77	VP-3	----	842.84	697.99	144.85

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES

(-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE gpm	NODE TITLE
VP-1	70.81	
VP-2	163.19	

NET SYSTEM INFLOW = 234.00
NET SYSTEM OUTFLOW = 0.00
NET SYSTEM DEMAND = 234.00

=====

FireFlow/Hydrant Report

Fireflow/Hydrant Report:

Scenario: No Title
Global Demand Factor for this Scenario: 1.000

Specified Minimum Pressure(psi): 20.0
Minimum Static Pressure(psi) : 20.0

Flow-1: Flowrate to maintain the specified
pressure at (hydrant) node
Node-2: Node that has a lower pressure than
specified value at Flow-1
Flow-2: Flowrate to maintain the specified
pressure at Node-2

Hose Constant = 0.00

Hydrant Flow Node Capacity	Hydrant NFPA Constant Color	Elevation	Static Pressure	Flow-1 gpm	Flow-2 gpm	Node-2 gpm
H-16	0.0	693.1	64.9	1951.2		
1951.2	BLUE					
H-17	0.0	686.1	67.9	2031.3	1947.6	13
1947.6	BLUE					
H-18	0.0	685.3	68.2	2036.7	1942.4	13
1942.4	BLUE					
H-6	0.0	684.9	68.4	1923.5		
1923.5	BLUE					
H-7	0.0	682.4	69.5	1893.5		
1893.5	BLUE					

1958.4	H-19 BLUE	0.0	694.0	64.5	1993.2	1958.4	13
1922.5	H-20 BLUE	0.0	697.0	63.2	1922.5		
1811.4	H-8 BLUE	0.0	694.5	64.3	1811.4		
1797.5	H-9 BLUE	0.0	697.7	62.9	1797.5		
1844.2	H-21 BLUE	0.0	695.5	63.8	1844.2		
1939.9	H-26 BLUE	0.0	685.1	68.3	2016.7	1939.9	13
1942.4	H-10 BLUE	0.0	683.8	68.9	2039.8	1942.4	13
1942.7	H-11 BLUE	0.0	673.7	73.2	2129.7	1942.7	13
1943.1	H-12 BLUE	0.0	669.5	75.1	2191.5	1943.1	13
1950.7	H-1 BLUE	0.0	665.4	76.9	2303.6	1950.7	13
1882.3	H-22 BLUE	0.0	700.0	62.1	1882.3		
1969.8	H-23 BLUE	0.0	697.7	62.9	2028.8	1969.8	13
1923.3	H-24 BLUE	0.0	698.4	62.6	1978.5	1923.3	13
1876.3	H-25 BLUE	0.0	704.7	59.8	1876.3		
1895.1	H-13 BLUE	0.0	701.2	61.4	1895.1		
1911.5	H-14 BLUE	0.0	694.2	64.4	1976.5	1911.5	13
1923.0	H-3 BLUE	0.0	686.6	67.7	2057.3	1923.0	13
1936.7	H-4 BLUE	0.0	678.0	71.4	2153.6	1936.7	13
1945.0	H-5 BLUE	0.0	669.6	75.0	2215.9	1945.0	13
1945.5	H-2 BLUE	0.0	658.4	79.9	2171.5	1945.5	13
1832.4	H-15 BLUE	0.0	679.2	70.9	1832.4		



**Subsurface Exploration, and
Pavement Recommendations
Off Old McCody Road
Bruceville-Eddy, McClennan County, Texas**

Terradyne Project No.: A251147

**Mr. John D. Hines, P.E.
Yalgo Engineering
109 W. 2nd Street
Suite 201
Georgetown, Texas 78626**

August 15, 2025

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August 15, 2025

Yalgo Engineering
109 W. 2nd Street, Suite 201
Georgetown, Texas 78626

Attn: Mr. John D. Hines, P.E.

Re: **Subsurface Exploration, and Pavement Recommendations**
Proposed Pavement and Lift Station
Off Old McCody Road
Bruceville-Eddy, McClennan County, Texas
Terradyne Project No.: A251147

Dear Mr. Hines:

Terradyne Engineering, Inc. Terradyne has completed a soil and foundation engineering report at the above referenced project site. The results of the exploration are presented in this report.

We appreciate and wish to thank you for the opportunity to service you on this project. Please do not hesitate to contact us if we can be of additional assistance during the Construction Materials Testing and Quality Control phases of construction.

Respectfully Submitted,

Terradyne Engineering, Inc.
Texas Firm Registration No. F-6799



John A. Gunter, M.S., P.E.
Chief Engineer

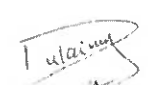

Lana AL Dufourmy, E.I.T.
Geotechnical Project Engineer

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EXECUTIVE SUMMARY

The soil conditions at the site of the proposed residential structures and roadways located off Old McCody Road in Bruceville-Eddy, McClennan County, Texas were explored by drilling seven (7) borings to a maximum depth of approximately ten (10) feet below the existing ground surface elevation. Boring B-7 was terminated prior to its proposed depth due to limestone. Laboratory tests were performed on selected soil samples to evaluate the engineering characteristics of the soil strata encountered in the borings. This investigation is preliminary in nature and based on a very limited number of borings.

The results of the exploration, laboratory testing, and engineering evaluation indicate the soils underlying this site have moderate expansive characteristics and the pavement design is provided herein based on these parameters.

Groundwater was not encountered in the borings during drilling operations. Detailed descriptions of subsurface conditions, engineering analysis and design recommendations are included in this report.

This summary does not contain all the information that is included in the full report. The report should be read in its entirety to obtain a more complete understanding of the information provided. Any amendment and/or revisions per request **must** be issued in writing by Terradyne.

1.0 INTRODUCTION

This report presents the results of the preliminary subsurface exploration and proposed residential local streets at Old McCody Road in Bruceville-Eddy, McClennan County, Texas. The services of Terradyne, were authorized on July 9, 2025 by Mr. Doug Reinke, COO of WB Development by approving Terradyne proposal No: AP251146 dated June 30, 2025.

2.0 PURPOSE AND SCOPE OF SERVICES

The purpose of the preliminary geotechnical investigation was to evaluate the subsurface materials and groundwater conditions of the site and provide geotechnical-engineering recommendations for the design and construction of new residential structures and roadways. The scope of services includes the following:

- 1) Drilling and sampling of seven (7) borings to a maximum depth of approximately 20 feet below the existing ground surface elevation;
- 2) Observation of the groundwater conditions during drilling operations;
- 3) Performing laboratory tests such as Atterberg limits and moisture content tests;
- 4) Review and evaluation of the field and laboratory test programs during their execution with modifications of these programs, when necessary, to adjust to subsurface conditions revealed by them;
- 5) Compilation, generalization and analysis of the field and laboratory data in relation to the project requirements;
- 6) Development of recommendations for the design, construction, and earthwork phases of project; and
- 7) Consultations with the Prime Professional and members of the design team on findings and recommendations; and preparation of a written geotechnical engineering report for use by the members of the design team in their preparation of design, contract documents, and specifications.

The Scope of Services did not include any environmental assessment for the presence or absence of wetlands and/or hazardous or toxic materials in the soil, surface water, groundwater, or air, in the proximity of this site. Any statements in this report or on the bore hole logs regarding odors, colors or unusual or suspicious items or conditions are strictly for the information of the client.

2.1 Site Description

The subject property is located on the north side of 3rd street and I-35 N Frontage Road in Bruceville, McLennan County, Texas. The subject site slopes moderately down towards the north with small trees and grass-covered ground. Borings B-1 through B-7 were drilled at/near the following GPS location (Lat. 31.308058°, Long. -97.253626°). An aerial map of the GPS location is included in Figure I-A.

3.0 GEOTECHNICAL INVESTIGATION

The field exploration to determine the engineering characteristics of the subsurface materials included a reconnaissance of the project site, drilling the borings, and recovering samples. A total of seven (7) borings were drilled to a maximum depth of ten (10) feet at the project site. Boring B-7 was terminated early due to shallow limestone encountered.

The soil borings were performed with a drilling rig equipped with a rotary head. Conventional solid stem continuous augers were used to advance the hole and samples of the subsurface materials were sampled using a two-inch O.D. split barrel sampler (ASTM D 1586) TEX 132-E Texas Cone Penetration Test (THD), and Hand Auger. The samples were identified according to depth, encased in polyethylene plastic wrapping to protect against moisture loss, and transported to the laboratory in special containers.

3.1 Field Tests and Measurements

Penetration Tests: During the sampling procedures, standard penetration tests were performed in the borings in conjunction with the split-barrel sampling. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty inches, required to advance the split-spoon sampler one-foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three successive increments of six inches penetration. The "N" value is obtained by adding the second and third incremental numbers. The results of the standard penetration test indicate the relative density and comparative consistency of the soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. The results of the penetration tests indicate the relative density and comparative consistency of the soils. TEX 132-E Texas Cone Penetration Test (THD) was also used on selected borings. The THD values are either the total number of blows necessary to drive the cone 12 inches or the distance the cone advances, in inches, in 100 blows. The results of the tests indicate the relative density and comparative consistency of the soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. The sampling type and results of each test are indicated on the boring logs in the Illustration Section.

Water Level Measurements: Water level observations were made during the excavation operations and the results are noted on the boring logs. In relatively pervious soils, such as sandy soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious soils, an accurate determination of the groundwater elevation may not be possible even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the level of the groundwater table and the volume of water encountered will depend on the permeability of the soils.

3.2 Boring Logs

A field log was prepared for each boring. The logs include information concerning the samples attempted and recovered, indications of the presence of material (such as calcareous clays, sandy clay, etc.) and groundwater observations. It also includes an interpretation of the subsurface conditions between samples. Therefore, these logs include both factual and interpretive information.

The final logs represent the interpretation of the contents of the field logs for the purpose delineated by the client. The final logs are included on Figures 2 through 8 in the Illustration Section. A key to classification terms and symbols used on the logs is presented on Figure 9.

3.3 Laboratory Testing Program

In addition to field exploration, a supplemental laboratory-testing program was conducted to determine additional pertinent engineering characteristics of the subsurface materials necessary in evaluating the design parameters of the soil. All phases of the laboratory testing program were conducted in general accordance with the indicated applicable ASTM Specifications as presented in Table No. 1.

Table No. 1 – Laboratory Testing Summary

Laboratory Test	Applicable Test Standard
Liquid Limit, Plastic Limit, & Plasticity Index of Soil	ASTM D-4318
Moisture Content	ASTM D-2216
Material Finer than No. 200	ASTM D-1140

In the laboratory, each sample was examined and classified by a geotechnical engineer. As a part of this classification procedure, the natural water content of the soil samples was determined. Atterberg limit tests were performed on representative soil samples to determine the plasticity characteristics of the soil strata encountered. The results of these tests are presented on the appropriate boring logs and in the Illustrations.

3.4 General Subsurface Conditions

A review of the *Geologic Atlas of Texas, Waco Sheet*¹, indicates that this site is naturally underlain with the soils/rock of the Austin Chalk (Kau) formation at or near the surface. Austin Chalk (Kau) formation generally consists of chalk and marl. Chalk is mostly microgranular calcite with minor

¹ Source: United States Geological Survey, *Geologic Atlas of Texas [Waco Sheet]*, Bureau of Economic Geology, Texas Natural Resource Information System; <http://txpub.usgs.gov/DSS/texasgeology/> (2007).\\

Foraminifera test and Inoceramus prisms. It alternates with medium gray marl a thickness of 325 to 420 feet.

The soils underlying this site may be grouped into four (4) generalized strata. The soil stratigraphy information and the engineering properties of the underlying soils based Terradyne's professional engineering experience are presented on the Boring Logs, Figures 2 through 9.

During the field investigation, subsurface water was not encountered in the borings during drilling. In addition, the soil samples were considered moist. Based upon this information and past projects in the surrounding areas of the site, groundwater is not anticipated to be major concern during construction activities. However, groundwater condition can fluctuate due to seasonal and climatic variations and may be encountered at shallow depths during high precipitation seasons.

3.5 Lift Station Recommendations

Terradyne understands that proposed lift station is planned to be installed 20 feet below the existing ground surface at the location of borings B-7.

Bearing Pressure: Based on the subsurface condition, the base of the lift station may be placed to bear in the native rock/soils encountered in borings B-7. The foundation of lift station placed 20 feet below the existing ground surface in the limestone can be designed with an average net allowable bearing pressure of 15,000 psf bearing on the limestone encountered in the boring.

Uplift Forces: Moisture variation in the expansive soils at this site can cause vertical movements of the subsurface soils. This potential vertical movement can mobilize uplift force along the shaft of a drilled well. The uplift force acting on the shaft may be estimated by using the Equation No. 1.

Equation No. 1: $F_u = 5D$

Where: F_u = Uplift force in kips
 D = Diameter of the shaft in feet

The lift station may be installed via caisson method, in this case the soil contact will be very low due to annulus created during construction. Uplift forces can also be resisted by restoring the contact by grouting the annulus between wall and the soils. If the annulus is properly grouted, a nominal allowable skin friction of 1,200 pounds per square foot may be used for computing uplift resistance. We recommend that the upper five (5) feet of uplift resistance contributed from grouting be neglected due to potential construction disturbances.

Lateral Earth Pressure: The equivalent fluid density values were evaluated for various backfill materials. The lateral earth pressures can be calculated by multiplying the equivalent fluid density

for the backfill type by the depth below the ground surface. These values are presented in Table No. 2 below.

Table No. 2 - Lateral Pressure Parameters

Backfill Material	Equivalent Fluid Density PCF		
	Active Condition	At Rest Condition	Passive Condition
a. Crushed Limestone	40	60	530
b. Clean Sand	40	60	360
c. Select Fill ($PI \leq 15$)	65	85	265

These equivalent fluid densities do not include the effect of seepage pressures, surcharge loads such as construction equipment, vehicular loads or future storage near the below-grade walls. The lateral pressure produced by surcharge may be computed as 50 percent of the vertical surcharge pressure applied as a constant pressure over the full depth of the buried structure. If sand backfill is used, a 1-foot-thick compacted clay seal should be placed at the top of the sand backfill to reduce the amount of infiltration of surface water.

If the lift station walls are not fixed at the top and can tilt forward to generate "active earth pressure" condition, the values under active condition shall be used. For rigid non-yielding walls which are part of the building, the values "at rest condition" shall be used. The compactive effort shall be controlled during backfill operations. Over compaction can produce lateral earth pressures in excess of at rest magnitudes. Compaction levels adjacent to below-grade walls shall be maintained between 95 and 98 percent of standard Proctor (ASTM D698) maximum dry density.

Groundwater was encountered in boring B-9 at the time of the field investigation. However, a proper drainage system should be established. It is suggested to design for hydrostatic water pressure on the outside of the walls. The backfill behind the wall shall be drained properly, if applicable. The simplest drainage system consists of a drain located near the bottom of the wall. The drain collects the water that enters the backfill and this may be disposed of through outlets along the base of the wall.

To ensure that the drains are not clogged by fine particles, they shall be surrounded by a granular filter. Despite a well-constructed toe drain, substantial water pressure may develop behind the wall if the backfill consists of clays or silts. A more satisfactory drainage system, consisting of a back drain of 12 inches to 24 inches width gravel may be provided behind the wall to facilitate drainage.

4.0 PAVEMENT GUIDELINES

4.1 General

Terradyne understand current plans are that the roadways will likely consist of flexible pavements. Therefore, we have prepared the following recommendations for the design and construction of flexible pavement systems. Terradyne understand the proposed pavements for these subdivision units will be designed and constructed in general accordance with the County of McLennan design standards. These guidelines require that streets be designed using the American Association of State Highway and Transportation Officials (AASHTO) "Guide for Design of Pavement Structures".

4.2 Subgrade Design Considerations

Based on the subsurface information obtained at the soil borings drilled along the alignment of the proposed streets, the pavement subgrade soil profile generally consists of a sandy fat clay, fat clay with sand (CH), poorly graded gravel (GP), clayey gravel with sand (GC) and limestone. As a part of any pavement design, the strength of the underlying subgrade must be taken into consideration. This is often accomplished by performing a laboratory California Bearing Ratio (CBR) test to approximate a soil resilient modulus which is utilized in the design. Based upon the findings of the exploratory borings and results of laboratory testing, Terradyne's experience with similar soils in nearby subdivision units, Terradyne have used a design CBR of approximately 2.0 for the pavements within this development. Per the FPDC, Local Streets are designed for a minimum traffic application of 30,000 18-kip ESALs. Collector Streets are designed for a minimum traffic application of 100,000 18-kip ESALs. The following pavement design parameters are required by the FPDC:

Table No. 3- Pavement Design Parameters

Flexible Pavement Design Parameters	
Reliability, Local Streets, percent	70
Reliability, Collector Streets, percent	90
Initial Serviceability Index	4.2
Terminal Serviceability Index, Local	2.0
Terminal Serviceability Index, Collector	2.5
Standard Deviation	0.45

The Plasticity Index (PI) of the soils underlying the proposed street alignment were tested up to a value of 29. The above referenced County document states that roadbed soil having a PI greater than twenty (20) shall be chemically stabilized with lime.

4.3 Pavement Sections

Based on the data provided to Terradyne, the results of the field and laboratory testing, and the McLennan County guidelines, Terradyne have developed the following minimum structural numbers and structural design values for the pavement sections planned for this project.

Required Structural Number (SN) - Local Streets	= 2.39
Required Structural Number (SN) - Collector Streets	= 3.38
Design CBR Value	= 2.0
Item 340, Asphaltic Concrete Layer Coefficient	= 0.44
Item 247, Type A, Grade 1 or 2 Base Layer Coefficient	= 0.14
Item 260, Lime Stabilized Subgrade Layer Coefficient	= 0.08

Using the above information, the AASHTO design method, and Terradyne's understanding of the McLennan County Flexible Pavement Design Criteria, the following engineered flexible pavement sections are recommended. Options with and without geogrid subgrade reinforcement are presented.

Table No. 4 – Design ESALs: 30,000
Recommended Flexible Pavement Sections- Local Streets

Flexible Pavement Section	Thickness in Inches	
	Alt 1	Alt 2
Hot Mix Asphaltic Concrete, Type D	2.0	2.0
Aggregate Base	8.0	8.0
Lime Stabilized Subgrade	6.0	---
Tensor HX5.5 Geogrid	---	Yes

Table No. 5- Design ESALs: 100,000
Recommended Flexible Pavement Sections- Collector Streets

Flexible Pavement Section	Thickness in Inches	
	Alt 1	Alt 2
Hot Mix Asphaltic Concrete, Type D	3.0	3.0
Aggregate Base	12.0	12.0
Lime Stabilized Subgrade	8.0	---
Tensor HX5.5 Geogrid	--	Yes

The pavement sections containing geogrid are considered to meet the indicated structural capacity. However, if these options will be considered, the County should first be consulted to determine their acceptance of the structural contribution of the geogrid in the pavement sections.

In any areas where pavements are to be constructed, vegetation and all loose or organic material should be stripped and removed from the site. After stripping operations, the subgrade should be proof-rolled with heavy sheep's-foot roller compactor a minimum of **three (3)-passes** to identify soft zones. Any soft zone detected should be removed to a firm subgrade soils and replaced with compacted suitable soils to reach subgrade level. Upon the acceptance of proof-rolling operations the subgrade should be scarified to a depth of six (6) inches, moisture conditioned and compacted to a 95 percent of maximum dry density as determined by ASTM D 698, between optimum and three (3) percentage points above of optimum moisture content. The exposed subgrade should not be allowed to dry out prior to placing structural fill.

4.4 Base Course

Based on the survey of available materials in the area, a base course of crushed limestone aggregate or gravel appears to be the most practical material for asphalt pavement project. The base course should conform to Texas State Department of Highways and Public Transportation Standard Specification, Item 247, Type A, Grade 1 – 2. The overbuild of the base should be extended three (3) feet beyond the curb.

The base course should be moisture conditioned within ± 2 percentage points of optimum moisture content placed in lifts not exceeding 8-inches loose measure and compacted to at least 95 percent of maximum dry density as determined by test method TXDOT-113-E.

4.5 Asphaltic Concrete

The asphaltic concrete surface course should conform to Texas Department of Transportation (TxDOT) Standard Specifications, Item 340, Type D the secondary asphalt course should consist of TxDOT Item 340, Type C. The asphaltic concrete should be compacted to between 92 and 97 percent of the theoretical density as determined by ASTM D 2041.

4.6 Lime Stabilized Subgrade

The lime stabilization of the subgrade should meet the performance standards found in TxDOT Item 260. In addition, graduation requirements outlined in Item 260, the lime stabilized clay should also have a minimum of 60 percent, on a weight basis, of the stabilized soil passing the No. 4 sieve at moisture content at or above optimum. The lime stabilized clay soil should have a **plasticity index equal to or less than 20** based on a dry method of sample preparation, ASTM D 421. The lime stabilized subgrade should be compacted to at least 95 percent of the standard Proctor maximum dry density ASTM D 698 between optimum and two (2) percentage points of optimum moisture content. Lime content of **six (6) percent** of the dry unit weight of the clays to be stabilized may be used for

planning purposes (it should be verified by performing a lime series test at the time of construction). Using a value of 98 pcf for dry unit weight of clays, **35 lbs per square yard for eight (8) inches** depth stabilization is required. **Prior to the use of lime, the exposed subgrade should be tested for sulfate contents to determine the levels of sulfates are low enough for the use of lime.**

4.7 Perimeter Drainage

Perimeter protection must be provided so that water will not infiltrate into the pavement's flexible base or immediate subgrade. If this protection is not provided, Terradyne does not assume responsibility for the pavement integrity. Terradyne recommends one (1) of the following options for accomplishing this:

- Option 1 – Extended curb bearing a minimum of six (6) inches into the subgrade
- Option 2 – Minimum 10 mil polyurethane plastic placed over the subgrade prior to base placement that allows for the plastic to be placed in a manner to protect the base layer after curb has been placed.
- Option 3 – Moisture barrier that extends a minimum of six (6) inches into the subgrade that consists of a minimum six (6) inch wide trench filled with flowable fill.

Failure to provide this protection may cause pavement issues including cracking and potholing. This risk should be discussed with the owner and Civil Engineer for final decision.

5.0 DRAINAGE AND MAINTENANCE

Final drainage is very important for the performance of the pavement. It is vital that the Civil Engineer of record provide adequate drainage along the entire pavement surface so that water is not allowed to pond or enter the base material and eventually pond on the pavement subgrade.

Trenches backfill for utilities should be properly placed and compacted as outlined in this report and in accordance with requirements of local City Standards. Since granular bedding backfill is used for most utility lines, the backfilled trench should be prevented from becoming a conduit and allowing an access for surface or subsurface water to travel toward the new structure. Concrete cut-off collars or clay plugs should be provided where utility lines cross building lines to prevent water traveling in the trench backfill and entering beneath the structure.

6.0 SHORING

Shoring of excavations and design of shoring systems are governed by federal, state, and local regulations. The design of shoring systems on this project is beyond the scope of Terradyne's services. The owner or the contractor should retain a shoring design professional to design shoring systems for excavations on this site.

7.0 LIMITATIONS

The analysis and recommendations submitted in this report are based upon the data obtained from the seven (7) borings drilled at the site. This report is preliminary, and the values presented are for

planning purposes only and should not be used for design. This report may not reflect the exact variations of the soil conditions across the site. The nature and extent of variations across the site may not become evident until construction commences. If variations appear evident, it will be necessary to re-evaluate Terradyne's recommendations after performing on-site observations and tests to establish the engineering significance of any variations. The project geotechnical engineer should review the final plan for the proposed building so that he may determine if changes in the foundation recommendations are required. The project geotechnical engineer declares that the findings, recommendations, or professional advice contained herein have been made and this report prepared in accordance with generally accepted professional engineering practice in the fields of geotechnical engineering and engineering geology. No other warranties are implied or expressed.

This report is valid until site conditions change due to disturbance (cut and fill grading) or changes to nearby drainage conditions or for three (3) years from the date of this report, whichever occurs first. Beyond this expiration date, Terradyne shall not accept any liability associated with the engineering recommendations in the report, particularly if the site conditions have changed. If this report is desired for use for design purposes beyond this expiration date, Terradyne highly recommend drilling additional borings so that Terradyne can verify the subsurface conditions and validate the recommendations in this report.

This report has been prepared for the exclusive use of Yalgo Engineering for the specific application of the proposed residential structures and roadways at Old McCody Road in Bruceville-Eddy, McClennan County, Texas.

APPENDIX



Site Latitude and Longitude

Proposed Pavement and Lift Station
Off Old McCody Road
Bruceville-Eddy, McLennan County,
Texas



TERRADYNE
AUSTIN, TEXAS

Prepared By:
LD

Scale:
Not to Scale

Project #
A251147

Verified By:
JAG

Date:
August 2025

Figure #
1-A



**Approximate Location of
Exploratory Borings**

Proposed Pavement and Lift Station
Off Old McCody Road
Bruceville-Eddy, McLennan County,
Texas

TERRADYNE
Engineers, Geologists & Environmental Scientists

TERRADYNE
AUSTIN, TEXAS

Prepared By:
LD

Scale:
Not to Scale

Project #
A251147

Base Plan By:
Other

Date:
August 2025

Figure #
1-B



EN 3.02/EN 3.03 THE FUTURE IS NOW

1608 Royston Lane,
Building 2

Designation: B-1

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

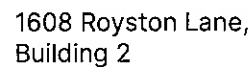
Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type N=blows/ft (SPT) T=inches/100 blows (TCP)	PPV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (PCF)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm ²)	REMARKS
0	X	21		Sandy Fat Clay , brown, very stiff	17.00		54.00	55	28	27		
5	T=2"			Limestone	12.00							
5					12.00							
10	T=0.5"				9.00							

End of boring at 10'



SHEET 1 OF 1

Date Water Level Measured: -

Backfill: -

Sample Method: -

Total Boring Depth: -

Surface Elevation: N/A

Location: -

End of boring at 10'

Designation: B-3

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type N=blows/ft (SPT) T=inches/100 blows (TCP)	PPV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (PCF)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm ²)	REMARKS
0	40, 50/3"			Poorly Graded Gravel , brown, dense	7.00							
1	T=1"			Limestone	6.00							
5					8.00							
10	T=0"				9.00							

End of boring at 10'

Designation: B-4

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type	N=blows/ft (SPT) T=inches/100 blows (TCP)	PPV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (PCF)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm ²)	REMARKS
45, 50/4"					Poorly Graded Gravel, brown, dense	9.00		4.00	34	23	11		
T=0.5"					Limestone	10.00							
5						8.00							
T=0"						9.00							
10					End of boring at 10'								

Designation: B-5

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type N=blows/ft (SPT) T=inches/100 blows (TCP)	PPV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm ²)	REMARKS
0	52			Clayey Gravel with Sand, brown, very dense	11.00		24.00	45	28	17		
5	T=1"			Limestone	10.00							
9					9.00							
10	T=0.5"				9.00							

End of boring at 10'

Designation: B-6

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type N=blows/ft (SPT) T=inches/100 blows (TCP)	PPV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (PCF)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm ²)	REMARKS
0	X	13, 50/5"		Clayey Gravel with Sand , brown, very dense	7.00							
2	T=2"			Limestone	9.00							
5					15.00							
10	T=3"				13.00							

End of boring at 10'



ENGINEERING THE FUTURE SINCE 1965

1608 Royston Lane,
Building 2

Designation: B-7

Soil Boring

SHEET 1 OF 1

Project Name: Proposed Pavement and Lift Station

Date Water Level Measured: -

Project Number: A251147

Backfill: -

Date Drilled: -

Sample Method: -

Drilling Method: -

Total Boring Depth: -

Drill Rig: -

Surface Elevation: N/A

Groundwater Level: N/A

Location: -

Depth (feet)	Sample Type N=blows/ft (SPT) T=inches/100 blows (TCP)	ppV (kg/cm ²)	Graphic Log	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pCF)	Fines Content #200 (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	TX-UU (kg/cm^2)	REMARKS
0	17, 50/2"			Clayey Gravel with Sand , brown, medium dense	8.00							
1	T=1"			Limestone								
5					10.00							
					11.00							
10	T=0.5"				11.00							
												
15												
20												
25												
												
												
												
												
												
												
												
												
												
												
												
												
												
												
												

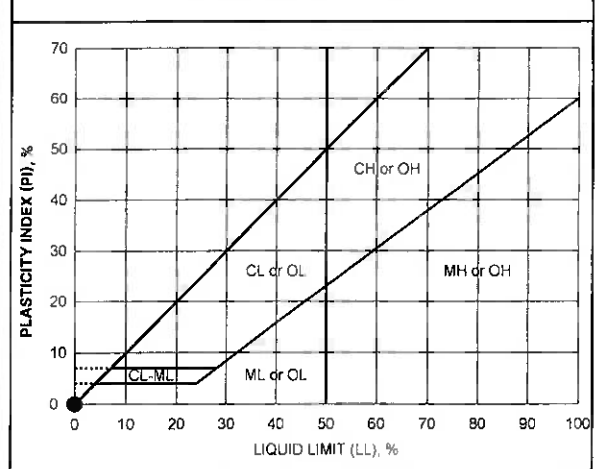
SOIL CLASSIFICATION CHART PER ASTM D 2488

PRIMARY DIVISIONS			SECONDARY DIVISIONS		
			GROUP SYMBOL		GROUP NAME
COARSE- GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVEL more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fines		GW	well-graded GRAVEL
				GP	poorly-graded GRAVEL
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fines		GW-GM	well-graded GRAVEL with silt
				GP-GM	poorly-graded GRAVEL with silt
				GW-GC	well-graded GRAVEL with clay
				GP-GC	poorly-graded GRAVEL with clay
			GRAVEL with FINES more than 12% fines		GM
				GC	clayey GRAVEL
				GC-GM	silty, clayey GRAVEL
	SAND 50% or more of coarse fraction retained on No. 4 sieve	CLEAN SAND less than 5% fines		SW	well-graded SAND
				SP	poorly-graded SAND
		SAND with DUAL CLASSIFICATIONS 5% to 12% fines		SW-SM	well-graded SAND with silt
				SP-SM	poorly-graded SAND with silt
				SW-SC	well-graded SAND with clay
				SP-SC	poorly-graded SAND with clay
		SAND with FINES more than 12% fines		SM	silty SAND
				SC	clayey SAND
				SC-SM	silty, clayey SAND
FINE- GRAINED SOILS 50% or more passes No. 200 sieve	SILT and CLAY liquid limit less than 50%	INORGANIC		CL	lean CLAY
				ML	SILT
				CL-ML	silty CLAY
		ORGANIC		OL (PI > 4)	organic CLAY
				OL (PI < 4)	organic CLAY
	SILT and CLAY liquid limit 50% or more	INORGANIC		CH	fat CLAY
				MH	elastic SILT
		ORGANIC		OH (plots on or above 'A'-line)	organic CLAY
				OH (plots below 'A'-line)	organic SILT
		Highly Organic Soils			PT

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		> 12"	> 12"	Larger than basketball-sized
Cobbles		3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	3/4 - 3"	Thumb-sized to fist-sized
	Fine	#4 - 3/4"	0.19 - 0.75"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	0.075 - 0.19"	Rock-salt-sized to pea-sized
	Medium	#40 - #10	0.017 - 0.075"	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	0.0029 - 0.017"	Flour-sized to sugar-sized
Fines		Passing #200	< 0.0029"	Flour-sized and smaller

PLASTICITY CHART



APPARENT DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

City Council Regular Meeting

AGENDA ITEM 9D



To: City Council
Subject: Council to discuss, consider, and possibly take action to purchase a mobile generator for operation of water well sites and infrastructure.
Meeting: City Council Regular Meeting – July 23rd, 2026
Department: Administration
Staff Contact: Lawrence Cutrone, City Administrator

BACKGROUND INFORMATION:

The City has received notice from Clint Hardy (President of Turnkey Industries) that after testing of the mobile generator unit previously approved for purchase by City Council that the purchased unit is not going to be sent over for possession by the City. After 100% max output loading for one hour with monitoring and multiple times of changing out different parts, Clint has finally advised the City that the unit will not be passable to be delivered to the City. He has given the City options on what the next steps can be per the City's choosing. The City could spend another \$14,000 for another unit that Turnkey Industries has access too listed at \$73,500, or the City could spend another \$10,000 to have the same already purchased unit's engine rebuilt making it a 0 hour engine (he said that his company's cost share would be \$10,782 for doing this option, it would take a few weeks for the service to be complete, and it would come with a 6 month 800 hour warranty), or lastly we can get a Full Refund. Per the other mobile generator unit that he has for the additional \$14,000 (listed at \$73,500) it has 4,333 hours, and it is still the next cheapest option comparably on the spreadsheet of what's available on the online market.

Also, the City Administrator has talked with the factory (Multiquip) and our electrician about this other generator being offered for the additional \$14,000 and they both have confirmed that it will work for our needs if this option is chosen by City Council. I have also updated TCEQ on this information and they are in agreeance that the City can proceed with any of the above options being presented as stated above with our latest alleged violation response/remedy deadline being extended to October 4th, 2026. Clint Hardy has advised that he has pre-test ran this other mobile generator unit and it tests fine.

FINANCIAL IMPACT:

\$10,782, or \$14,000, or \$0, or another amount all depending upon what City Council determines for action.

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

City Council to take action to approve the purchase of a new generator or rebuild of the previously approved purchased generator.

ATTACHMENTS:

Spreadsheet
Email from Clint Hardy
Spec sheet
Proposed Invoice for rebuild
Proposed Invoice for purchase of other unit

COMPANY/WEBSITE	MANUFACTURER	DATE	VOLTAGE	COST	USED/NEW	HOURS	LOCATION
CI Group	MQPower	2006	264kw	\$55,500 (possibly \$50K)	Used	24, 487	Sparks, NV
CI Group	MQPower	2006	264kw	\$55,500 (possibly \$50K)	Used	24, 487	Sparks, NV
CI Group	MQPower	2006	264kw	\$55,500 (possibly \$50K)	Used	24, 487	Sparks, NV
CI Group	MQPower	2006	264kw	\$55,500 (possibly \$50K)	Used	24, 487	Sparks, NV
Turnkey Industries	Multiquip-	2014	264kw	\$69,500	Used	6348	Dickinson, TX
Turnkey Industries	MQPower	2012	240kw	\$73,500	Used	4,333	
McKain Power Systems	Multiquip	2014	264kw	\$79,900	Used	3,615	Katy, TX
Surplus Record	Multiquip	2014	264kw	\$83,900	Used	3,615	Katy, TX
Worldwide Power Products	HIPOWER 1	2024	260kw	\$155,000	New	0	Olathe, KS
https://www.machinerytrader.com				\$182,000-\$204,000	New		Out of State
https://www.powersystemstoday.com				\$182,000-\$204,001	New		Out of State
https://www.powersystemstoday.com				\$182,000-\$204,002	New		Out of State
Global Power	JCB	2022	320KW	\$187,347	New	0	Santa Barbara, CA
Worldwide Power Products	HIPOWER	2026	320KW	\$194,433	New	0	Olathe, KS
Worldwide Power Products	HIPOWER 1	2024	260kw	\$204,273.36	New	0	Olathe, KS
HOLT industrial Rentals	CAT	2025	250kw	\$225,000	Used	300	Sunnyvale, TX
HOLT industrial Rentals	CAT	2026	250kw	\$257,100	New	0	Sunnyvale, TX
https://catused.cat.com				Unknown Price	New		

MQP240

Clint Hardy <clint.hardy@turnkey-industries.com>
To: Lawrence Cutrone

Reply Reply all Forward
Tue 6/23/2026 1:40 PM

MQP240-Generator-Spec-Sht...
34 KB

CAUTION: This email originated from outside of the organization! Do not click links, open attachments or reply, unless you recognize the sender's email address and know the content is safe!

2012 MQP240 Tier 3 NO DEF/DPF
240KW Continuous
264KW Standby
Hours: 4,333
Price: \$73,500.00

This is a model MQ rolled out in 2012 that was meant for Prime power use... so they rated it as 240kW prime. By all means, it is the same as a DCA300 set up. So the standby output is 264kW.



Clint Hardy
Pres. Gen.
Turnkey Industries
713-825-0250
<https://turnkey-industries.com/>
clint.hardy@turnkey-industries.com

Reply Forward



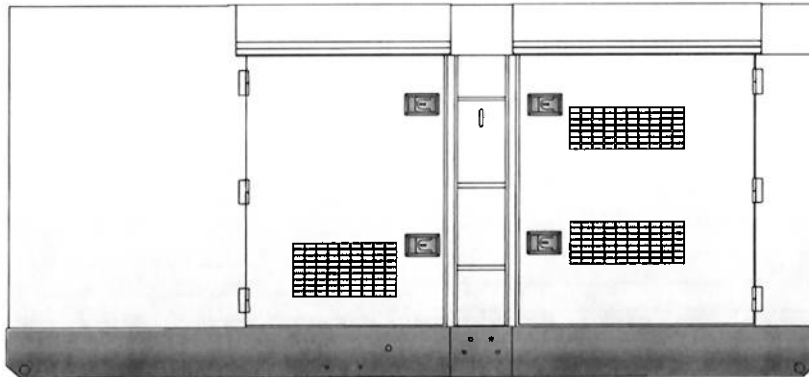
MQP240

Diesel Generator

Prime Rating — 240 kW (300 kVA)

Standby Rating — 260 kW (330 kVA)

3-Phase, 60 Hertz, 0.8 PF



STANDARD FEATURES

- **Heavy duty, turbocharged, direct injection diesel engine** provides maximum reliability.
- **Brushless alternator** reduces service and maintenance requirements and meets temperature rise standards for Class F insulation systems.
- **Open delta alternator** design provides virtually unlimited excitation for maximum motor starting capability.
- **Automatic voltage regulator (AVR)** provides precise regulation.
- **Electronic governor system with idle switch** maintains frequency to $\pm 0.25\%$.
- **Full load acceptance** of standby nameplate rating in one step (NFPA 110, para 5-13.2.6).
- **Sound attenuated, weather resistant, steel housing** provides operation at 73 dB(A) at 23 feet. Fully lockable enclosure allows safe unattended operation.
- **Fuel/water separator** removes condensation from fuel for extended engine life.
- **E-Coat primer** with polyurethane enamel finish coat.
- **Low coolant level shutdown system** provides protection from critically low coolant levels. Includes control panel warning light.
- **Complete engine analog instrumentation** includes DC ammeter, oil pressure gauge, fuel gauge, water temp. gauge, tachometer/hour meter, preheat indicator, manual engine speed control, emergency shutdown monitors, and emergency stop button.
- **Complete generator analog instrumentation** includes voltage regulator control, ammeter phase selector switch, voltmeter phase selector switch, AC voltmeter, AC ammeter, frequency meter, panel light, and circuit breaker.
- **Automatic safety shutdown system** monitors the water temperature, engine oil pressure, overspeed, and overcrank. Warning lights indicate abnormal conditions.
- **Auto start/stop control** allows generator to start automatically in the event of a commercial power failure.
- **Complete power panel.** Fully covered; three-phase terminals and single phase receptacles allow fast and convenient hookup for most applications including temporary power boxes, tools and lighting equipment. All are NEMA standard.
- **Two stage air filter**
- **Simultaneous single and three phase power**
- **Emergency stop switch**
- **Battery switch**
- **Documentation box**
- **EPA emissions certified** - Tier 3 emissions compliant
- **CSA listed**



MQP240

Diesel Generator

SPECIFICATIONS

Generator Specifications

Design	Revolving field, self-ventilated Drip-proof, single bearing
No. of Poles	4
Excitation	Brushless with AVR
Phase	3
Standby Output	260 KW (330 KVA)
Prime Output	240 KW (300 KVA)
Generator RPM	1800
Voltage - 3Ø	208, 220, 240, 416, 440, 480V Reconnectable
Voltage - 1Ø	120, 127, 139, 240, 254, 277V Adjustable
Armature Connection	Star with Neutral
Voltage Regulation (No load to full load)	±0.5%
Power Factor	0.8
Frequency	60 Hz
Frequency Regulation: No Load to Full Load	Isochronous under varying loads from no load to 100% rated load
Frequency Regulation: Steady State	±0.25% of mean value for constant loads from no load to full load.
Insulation	Class F
Sound Level dB(A) Full load at 23 feet	73

Engine Specifications

Make / Model	Cummins / QSL9-G3
Emissions	EPA Tier 3 Certified
Starting System	Electric
Design	4-cycle, water cooled, direct injection, turbocharged. Charged Air Cooled.
Displacement	543 in ³ (8900 cc)
No. cylinders	6
Bore x Stroke	4.49 x 5.71 in. (114 x 145 mm)
Gross Engine Power Output	399 hp (297 kW)
BMEP	287 psi (1979 kPa)
Piston Speed	1707 ft/min (8.7 m/s)
Compression Ratio	17.8:1
Engine Speed	1800 rpm
Overspeed Limit	2040 rpm
Oil Capacity	7.0 gallons (26.5 liters)
Battery	150Ah x 2 (24 V Systems)

Fuel System*

Recommended Fuel	ASTM-D975-No.1 & No.2-D**	
Maximum Fuel Flow (per hour)	22 gallons (83 liters)	
Maximum Inlet Restriction (Hg)	6.0 in (152 mm)	
Fuel Consumption	gph	lph
At full load	19.0	72.0
At 3/4 load	15.5	58.6
At 1/2 load	11.1	41.9
At 1/4 load	5.9	22.4

* - External fuel tank. No fuel tank installed on generator.

** - Use ultra-low sulfur diesel fuel.

Cooling System

Fan Load	12 hp (9 kW)
Coolant Capacity (with radiator)	11.3 gallons (43 liters)
Coolant Flow Rate (per minute)	60.5 gallons (229 liters)
Heat Rejection to Coolant (per minute)	6310 Btu (6.6 MJ)
Maximum Coolant Friction Head	5.0 psi (35 kPa)
Maximum Coolant Static Head	60 feet (18 meters)
Ambient Temperature Rating	104°F (40°C)

Air

Combustion Air	770 cfm (21.8 m ³ /min)
Maximum Air Cleaner Restriction	25 in. H ₂ O (6.25 kPa)
Alternator Cooling Air	2797 cfm (79.0 m ³ /min)
Radiator Cooling Air	7946 cfm (225 m ³ /min)

Exhaust System

Gas Flow (full load)	2040 cfm (57.9 m ³ /min)
Gas Temperature	1035°F (560°C)
Maximum Back Pressure	40.8 in. H ₂ O (10.2 kPa)

Amperage

Rated Voltage	Maximum Amps
1Ø 120 Volt	666.7 Amps (4 wire)
1Ø 240 Volt	333.3 Amps (4 wire)
3Ø 240 Volt	722 Amps
3Ø 480 Volt	361 Amps
Main Line Circuit Breaker Rating	800 Amps
Over Current Relay Trip Set Point	361 Amps

WARRANTY*

Cummins Engine

12 months from date of purchase with unlimited hours.

Generator

24 months from date of purchase or 2000 hours (whichever occurs first).

Trailer

12 months excluding normal wear items.

*Refer to the express written, one-year limited warranty sheet for additional information.

NOTICE

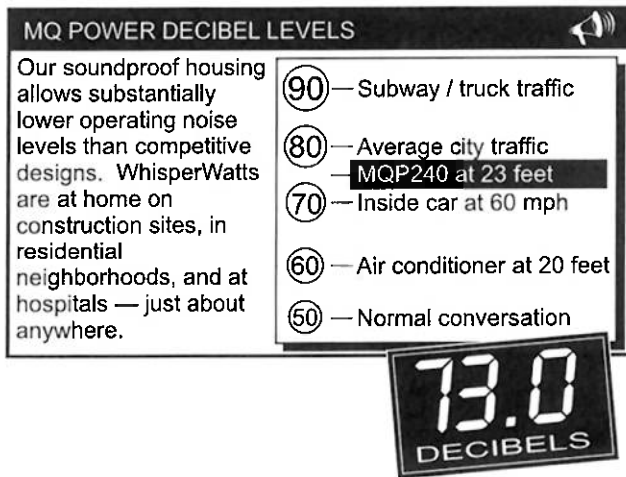
Generator is not intended for use in enclosed areas or where free flow of air is restricted.

Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device.

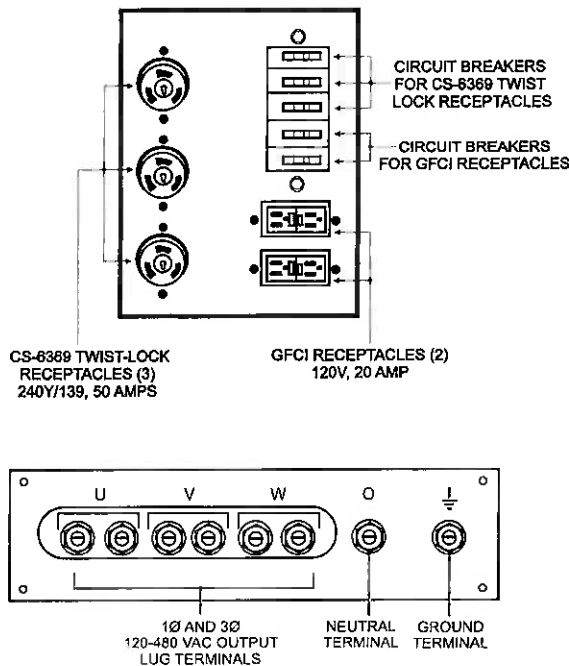
Specifications are subject to change without notice.



MQP240 Diesel Generator



GENERATOR OUTPUT PANEL



OPTIONAL GENERATOR FEATURES

- **Battery charger** — provides fully automatic and self-adjusting charging to the generator's battery system.
- **Jacket water heater** — for easy starting in cold weather climates.
- **Special batteries** — long life batteries provide extra engine cranking power.
- **Spring isolators** — provides extra vibration protection for standby applications.
- **Trailer mounted package** — highway legal trailer with electric or surge brakes with triple axle configuration. Extra capacity fuel tanks are also available.

OPTIONAL CONTROL FEATURES

- **Audible Alarm** — alerts operator of abnormal conditions.

OPTIONAL FUEL CELL FEATURES

- **Trailer fuel tank** — fuel cell located in the trailer.
- **Subbase fuel cell (double wall)** — contains a leak sensor, low fuel level switch, and a secondary containment tank. UL142 listed.
- 12 hours of minimum run time.
- 24 hours of minimum run time.

OPTIONAL OUTPUT CONNECTIONS

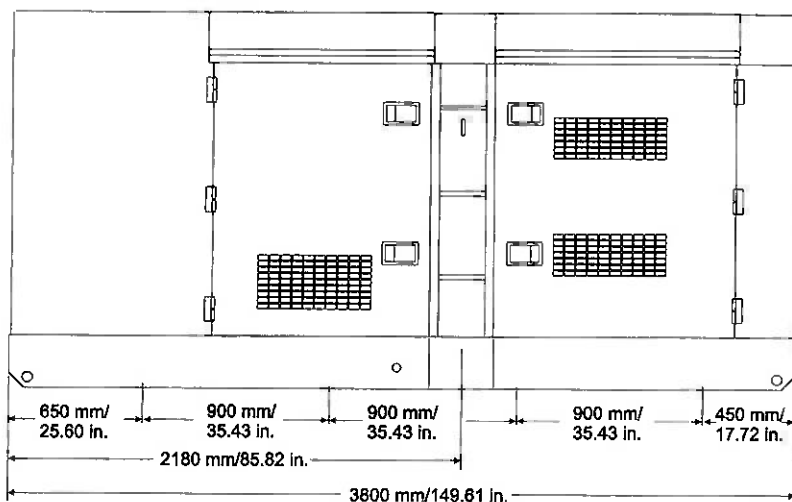
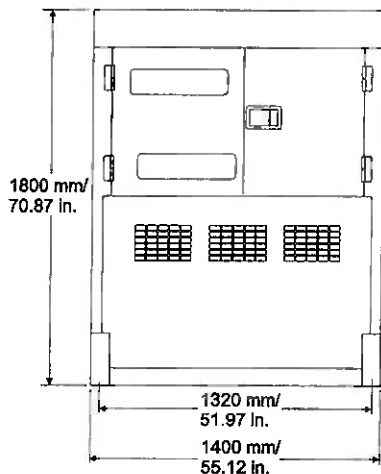
- **Cam-Loks** — provides quick disconnect alternative to bolt-on connectors.
- **Pin and Sleeve Connectors** — provides industry standard connectors for all voltage requirements.
- **Output Cable** — available in any custom length and size configuration.



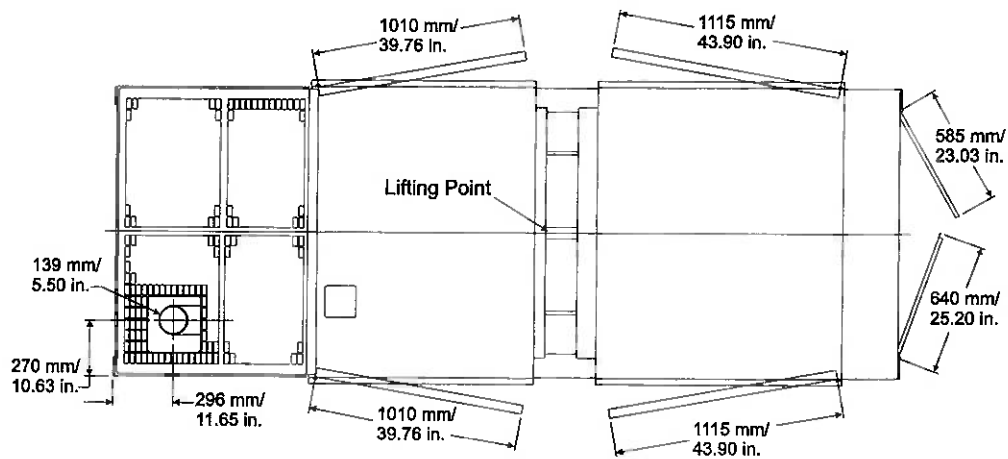
MQP240

Diesel Generator

DIMENSIONS



Weight	
Dry Weight	8,645 lbs. (3,920 kg)
Wet Weight	8,865 lbs. (4,020 kg)
Max. Lifting Point Capacity	16,500 lbs. (7,484 kg)



Your MultiQuip dealer is:

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MQP240 Rev. #1 (03/20/14)



MULTIQUIP
POST OFFICE BOX 6254
CARSON, CA 90749
310-537-3700 • 800-883-2551
FAX: 310-604-3831
E-MAIL: sales@multiquip.com
WEBSITE: www.multiquip.com

City Council Regular Meeting
AGENDA ITEM 9E



To: City Council
Subject: Council to discuss, consider, and possibly take action to order the November 3, 2026 general election for the full term of two (2) years for the three (3) expiring Councilmember positions.
Meeting: City Council Regular Meeting – July 23, 2026
Department: Administration
Staff Contact: Renee Flores, City Secretary

BACKGROUND INFORMATION:

In accordance with the Texas Election Code and the City's governing documents, the City Council must adopt an order calling the General Election to elect qualified candidates to fill these positions. The terms of three (3) City Councilmember positions are scheduled to expire this year.

The election is scheduled for November 3, 2026, with elected Councilmembers serving full two-year terms.

FINANCIAL IMPACT:

The City contracts with the McLennan County Elections Office for elections and cost can vary but estimated cost is \$2000.

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Staff recommends approval of the order calling the November 3, 2026 General Election for the purpose of electing three (3) Councilmembers to serve full two-year terms.

ATTACHMENTS:

Order of Election

**ORDER OF GENERAL ELECTION
(ORDEN DE ELECCIÓN GENERAL)**

An election is hereby ordered to be held on November 3, 2026, for voting in a General Election to elect one (1) person for each position to serve the full term of two (2) years for three (3) city council members for the City of Bruceville-Eddy.

(Por la presente se ordena que se llevará a cabo una elección el 3 de noviembre de 2026, para para elegir una (1) persona para que sirvan los termino completos de dos (2) años para los tres (3) miembros del ayuntamiento para la ciudad de Bruceville-Eddy.)

The execution of a Joint Election Agreement with Bellmead, Bruceville-Eddy, Hallsburg, Leroy, Moody, Riesel, Robinson, Ross, West, Axtell ISD, Bruceville-Eddy ISD, Hallsburg ISD, Moody ISD, Oglesby ISD, Riesel ISD, Robinson ISD, West ISD, and the McLennan Central Appraisal District is hereby authorized and approved.

(La ejecución de un acuerdo de elección conjunta Bellmead, Bruceville-Eddy, Hallsburg, Leroy, Moody, Riesel, Robinson, Ross, West, Axtell ISD, Bruceville-Eddy ISD, Hallsburg ISD, Moody ISD, Oglesby ISD, Riesel ISD, Robinson ISD, West ISD, y los McLennan Central Appraisal District se autoriza y aprueba.)

**LOCATION(S) OF POLLING PLACES
(DIRECCIÓN(ES) DE LAS CASILLAS ELECTORALES)**

**See attached List
(Véase la lista adjunta)**

Early Voting by personal appearance will be conducted at:
(La votación adelantada en persona se llevará a cabo todos los días en:)

**Early Voting Sites:
(Lugares de votación adelantada)**

McLennan County Elections Administration Office (Main Early Voting Site)
Records Building (Basement)
214 North 4th Street, Suite 300
Waco, TX 76701

Robinson Community Center
106 W. Lyndale Avenue
Robinson, TX 76706

Waco Multi-Purpose Community Center
1020 Elm Avenue
Waco, TX 76704

Waco First Assembly of God Church
6701 Bosque Boulevard
Waco, TX 76710

Hewitt City Hall/Library
200 Patriot Court
Hewitt, TX 76643

The dates and times of Early Voting are:
(Los días y horas de votación adelantada son:)

Monday (lunes)	October 19, 2026 (19 de octubre de 2026)	8:00 AM - 5:00 PM
Tuesday (martes)	October 20, 2026 (20 de octubre de 2026)	8:00 AM - 5:00 PM
Wednesday (miércoles)	October 21, 2026 (21 de octubre de 2026)	8:00 AM - 5:00 PM
Thursday (jueves)	October 22, 2026 (22 de octubre de 2026)	8:00 AM - 5:00 PM
Friday (viernes)	October 23, 2026 (23 de octubre de 2026)	8:00 AM - 5:00 PM
Saturday (sábado)	October 24, 2026 (24 de octubre de 2026)	7:00 AM – 7:00 PM
Sunday (domingo)	October 25, 2026 (25 de octubre de 2026)	12:00 PM – 6:00 PM
Monday (lunes)	October 26, 2026 (26 de octubre de 2026)	7:00 AM - 7:00 PM
Tuesday (martes)	October 27, 2026 (27 de octubre de 2026)	7:00 AM - 7:00 PM
Wednesday (miércoles)	October 28, 2026 (28 de octubre de 2026)	7:00 AM - 7:00 PM
Thursday (jueves)	October 29, 2026 (29 de octubre de 2026)	7:00 AM - 7:00 PM
Friday (viernes)	October 30, 2026 (30 de octubre de 2026)	7:00 AM - 7:00 PM

Applications to vote by mail should be mailed to:
(Las solicitudes para poder votar por deben ser enviadas a:)

McLennan County Elections Administration
Mailing Address: P.O. Box 2450 Waco, Texas 76703-2450
Physical Address: 214 N. 4th Street, Suite 300 Waco, Texas 76701
Fax: (254) 757-5041
Phone: (254) 757-5043
ballotbymail@mclennan.gov
www.mclennanvotes.com

Applications for ballot by mail must be received no later than the close of business on October 23, 2026.
(Las solicitudes para votar por correo tendrán que ser recibidas antes del fin del día laboral el 23 de octubre 2026.)

Issued this the _____ day of _____, 2026.
(Emitada el día _____ de _____ 2026.)

Mayor, City of Bruceville-Eddy
(alcalde, ciudad de Bruceville-Eddy)

Signature of Councilperson
(Firma del Concejal)

Signature of Councilperson
(Firma del Concejal)

Signature of Councilperson
(Firma del Concejal)

Signature of Councilperson
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(Firma del Concejal)

Signature of Councilperson
(Firma del Concejal)

Signature of Councilperson
(Firma del Concejal)

NOVEMBER 3, 2026 ELECTION DAY VOTE CENTERS

(3 de noviembre de 2026 Centros de Voto Para el Día de las Elecciones)

Axtell ISD Administration Building	1100 Longhorn Parkway, Axtell
Baylor Hurd Welcome Center	901 S University Parks Dr, Waco
Bellmead Civic Center	3900 Parrish Street, Bellmead
Beverly Hills City Hall	3418 Memorial Drive, Beverly Hills
Bruceville-Eddy ISD Special Events Center	1 Eagle Drive, Eddy
Carver Park Baptist Church	1020 E. Herring Avenue, Waco
Cesar Chavez Middle School	700 S. 15 th Street, Waco
Chalk Bluff Baptist Church	5993 Gholson Road, Waco
China Spring ISD Administration Bldg.	12166 Yankie Road, China Spring
Crawford Methodist Church	375 W 6 th Street, Crawford
Dewey Community Center	925 N. 9 th Street, Waco
Fellowship Bible Church	5200 Speegleville Road, McGregor
Gholson First Baptist Church	228 Wildcat Drive, Gholson
H. G. Isbill Junior High	305 S. Van Buren Street, McGregor
Heart of Texas Council of Governments	1514 S. New Road, Waco
Hewitt City Hall/Library	200 Patriot Court, Hewitt
Hewitt First Baptist Church	301 S. 1 st Street, Hewitt
Journey Christian Community	10424 China Spring Road, Waco
Lacy Lakeview Civic Center	505 E. Craven Avenue, Waco
Lorena First Baptist Church	307 E. Center Street, Lorena
Mart ISD Administration Building	1100 JL Davis Avenue, Mart
MCC Conference Center	4601 N. 19 th Street, Waco
Midway ISD ITC Building	109 Panther Way, Hewitt
Moody First United Methodist Church	500 6 th Street, Moody
Riesel ISD Urbantke Gymnasium	702 E. Frederick Street, Riesel
Robinson Community Center	106 W. Lyndale Avenue, Robinson
South Waco Community Center	2815 Speight Avenue, Waco
South Waco Library	2737 S. 18 th Street, Waco
Speegleville Baptist Church	469 Speegle Road, Waco
St. Alban's Episcopal Church	305 N. 30 th Street, Waco
St. Louis Activity Center (Windsor Ave. Parking)	2415 Cumberland Avenue, Waco
Texas A&M AgriLife Extension	4224 Cobbs Drive, Waco
University High School	3201 S. New Road, Waco
Waco 25 th Street Fire Station (No.6)	1006 N. 25 th Street, Waco
Waco First Assembly of God Church	6701 Bosque Boulevard, Waco
Waco Multi-Purpose Community Center	1020 Elm Avenue, Waco
West Community Center	200 Tokio Road, West
Woodway City Hall	922 Estates Drive, Woodway
Woodway First Baptist Church (The Venue)	110 Ritchie Road, Woodway

City Council Regular Meeting

AGENDA ITEM 9F



To: City Council
Subject: Council to discuss, consider, and possibly take action to approve the purchase of rifle-rated body armor for the Bruceville-Eddy Police Department under the Office of the Governor Rifle-Resistant Body Armor Grant Program.
Meeting: City Council Regular Meeting – July 23, 2026
Department: Police Department
Staff Contact: Michael Dorsey, Chief of Police

BACKGROUND INFORMATION:

The Bruceville-Eddy Police Department was awarded funding through the Office of the Governor, Criminal Justice Division (CJD), Rifle-Resistant Body Armor Grant Program to purchase rifle-rated body armor for department personnel. The grant provides funding for eligible rifle-resistant ballistic plates, plate carriers, and associated equipment meeting National Institute of Justice (NIJ) standards.

The City Council previously approved Resolution No. R 1-23-2025-2, authorizing submission of the grant application and acceptance of grant funding on behalf of the Bruceville-Eddy Police Department.

The City has since been awarded the grant. To implement the project, the Police Department has obtained a quotation from Dana Safety Supply for the purchase of five (5) rifle-rated plate carrier systems consisting of AFC Valedor plate carriers and ten (10) NIJ Level III+ multi-curve ballistic rifle plates (front and rear plates for each carrier). The carriers include front and rear "POLICE" identification placards at no additional cost. The total quoted purchase price is \$6,212.50, including freight.

FINANCIAL IMPACT:

The total purchase cost is \$6,212.50, including freight, as reflected in the attached Dana Safety Supply quotation.

The City will initially fund the purchase and submit the expenditure for reimbursement through the Office of the Governor, Criminal Justice Division Rifle-Resistant Body Armor Grant Program. The grant provides 100% reimbursement of eligible project costs, resulting in no net cost to the City upon successful reimbursement.

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Staff recommends approval of the purchase of rifle-rated body armor from Dana Safety Supply in the amount of \$6,212.50. Approval of this purchase will allow the Bruceville-Eddy Police Department to proceed with the grant-funded project, after which the City will submit the expenditure for 100% reimbursement through the Office of the Governor's Rifle-Resistant Body Armor Grant Program.

ATTACHMENTS:

Quote # Q-574813 DANA Safety Supply Quote.
Resolution # R 1-23-2025-2.

Sales Quote

DANA SAFETY SUPPLY, INC
500 S EDWARDIA DR
GREENSBORO, NC 27409

Telephone: 800-845-0045

Sales Quote No.	574813-D
Customer No.	B-E PD

Bill To
BRUCEVILLE-EDDY POLICE DEPT. 143 WILCOX DRIVE EDDY, TX 76524 United States

Ship To
BRUCEVILLE-EDDY POLICE DEPT. 143 WILCOX DRIVE EDDY, TX 76524 United States

Contact: MICHAEL DORSEY
Telephone: 254-859-5072

E-mail: MDORSEY@BRUCEVILLE-EDDY.US

Contact: MICHAEL DORSEY
Telephone: 254-859-5072

E-mail: MDORSEY@BRUCEVILLE-EDDY.US

Quote Date		Ship Via		F.O.B.	Customer PO Number	Payment Method	
04/21/25		UPS GROUND FREIGHT		QUOTED FREIGHT		NET30	
Entered By			Salesperson		Ordered By		Resale Number
Braydon Joslin			BRAYDON JOSLIN ROUND		CHIEF MICHAEL DORSEY		on file
Order Quantity	Approve Quantity	Tax	Item Number / Description			Unit Price	Extended Price
1	1	N	INFO PLATE CARRIER AND ARMOR PLATES QUOTE Warehouse: DROP			0.0000	0.00
5	5	Y	MISC AFC V-VALEDOR-BK-OS PLATE CARRIER - BLACK Warehouse: DROP V-VALEDOR-BK-OS, Valedor Plate Carrier (Scalable), w/o soft armor, CARRIER OUTER SHELL ONLY, Black (armor NOT included) Molle ON BACK, TACTYX BUCKLES			571.0000	2,855.00
5	5	Y	MISC ID PLACARD 1x5 "POLICE" WHITE LERRERING BLACK BCKGRND Warehouse: DROP *INCLUDED WITH CARRIER AT NO COST*			0.0000	0.00
5	5	Y	MISC ID PLACARD 3x9 "POLICE WHITE LETTERING BLACK BCKGRND Warehouse: DROP *INCLUDED WITH CARRIER AT NO COST*			0.0000	0.00
10	10	Y	BP-AFC3TE-1012-MC AFC LVL III+ BALLISTIC PLATE, 10x12, MULTI-CURVE Warehouse: DROP Ballistic Plate, Level III+, NIJ 0101.06 Certified Plate, Stand-Alone, 10x12, SAPI Cut, Multi-Curve, Model AFC-RF2-TE3			328.7500	3,287.50

Print Date	06/22/26
Print Time	05:56:09 PM
Page No.	1

By accepting this quote/order, the customer expressly acknowledges and agrees that to the extent not expressly prohibited by law, and except to the extent arising from or relating to the gross negligence or willful misconduct of DSS, its agents or its employees, DSS shall not be liable to the customer, or any third party for any damage to the vehicle/products resulting from or arising out of any ACTS OF GOD, including, but not limited to, hurricanes, floods, earthquakes, tornadoes, hail or similar weather events.

Continued on Next Page

DANA SAFETY SUPPLY, INC
500 S EDWARDIA DR
GREENSBORO, NC 27409

Sales Quote

Telephone: 800-845-0045

Sales Quote No.	574813-D
Customer No.	B-E PD

Bill To
BRUCEVILLE-EDDY POLICE DEPT. 143 WILCOX DRIVE EDDY, TX 76524 United States

Ship To
BRUCEVILLE-EDDY POLICE DEPT. 143 WILCOX DRIVE EDDY, TX 76524 United States

Contact: MICHAEL DORSEY

Telephone: 254-859-5072

E-mail: MDORSEY@BRUCEVILLE-EDDY.US

Contact: MICHAEL DORSEY

Telephone: 254-859-5072

E-mail: MDORSEY@BRUCEVILLE-EDDY.US

Quote Date	Ship Via		F.O.B.	Customer PO Number	Payment Method	
04/21/25	UPS GROUND FREIGHT		QUOTED FREIGHT		NET30	
Entered By		Salesperson		Ordered By	Resale Number	
Braydon Joslin		BRAYDON JOSLIN ROUND		CHIEF MICHAEL DORSEY	on file	
Order Quantity	Approve Quantity	Tax	Item Number / Description		Unit Price	Extended Price
			Approved By: _____ ☐ Approve All Items & Quantities Quote Good for 30 Days			

Print Date	06/22/26
Print Time	05:56:09 PM
Page No.	1

Subtotal	6,142.50
Freight	70.00
Order Total	6,212.50

By accepting this quote/order, the customer expressly acknowledges and agrees that to the extent not expressly prohibited by law, and except to the extent arising from or relating to the gross negligence or willful misconduct of DSS, its agents or its employees, DSS shall not be liable to the customer, or any third party for any damage to the vehicle/products resulting from or arising out of any ACTS OF GOD, including without limitation, any fires, floods, earthquakes, tornados, hail or similar weather events.

Agenda Item #13E

RESOLUTION R 1-23-2025-2

WHEREAS, The City of Bruceville-Eddy finds it in the best interest of the citizens of Bruceville-Eddy, that the Bruceville-Eddy Police Department Rifle Vest Program be operated for the 2025 / 2026 year(s); and

WHEREAS, The City of Bruceville-Eddy agrees to provide applicable matching funds for the said Project as required by the CJD grant application, and

WHEREAS, The City of Bruceville-Eddy agrees that in the event of loss or misuse of the Office of the Governor funds, the City of Bruceville-Eddy assures that the funds will be returned to the Office of the Governor in full.

WHEREAS, The City of Bruceville-Eddy designates Kent Manton, City Administrator, as the grantee's authorized official. The authorized official is given the power to apply for, accept, reject, alter or terminate the grant on behalf of the applicant agency.

NOW THEREFORE, BE IT RESOLVED that The City of Bruceville-Eddy approves submission of the grant application for the Bruceville-Eddy Police Department Rifle Vest Program to the Office of the Governor, Criminal Justice Division.

Passed and approved this 23rd day of January, 2025

Signed by:

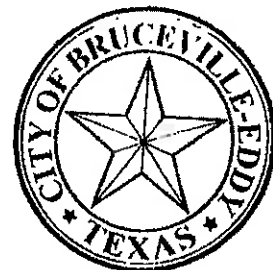


Linda Owens, Mayor

Attest:



Pam Combs, City Secretary



Name:

Rifle-Resistant Body Armor Grant Program, FY2026

Available
12/16/2024

Due Date
02/13/2025

Purpose:

The purpose of this announcement is to solicit applications from law enforcement agencies to equip peace officers with rifle-resistant body armor.

Available Funding:

State funds for these projects are authorized under the Texas General Appropriations Act, Article I, Rider 26 for Trusteed Programs within the Office of the Governor.

All awards are subject to the availability of appropriated funds and any modifications or additional requirements that may be imposed by law. The Public Safety Office (PSO) expects to make available \$10M for FY2026.

Eligible Organizations:

Applications may be submitted by the Texas Department of Public Safety, units of local government and educational institutions that operate law enforcement agencies employing peace officers under Article 2.12, Texas Code of Criminal Procedure; including municipalities, counties, independent school districts, universities, federally recognized Native American tribes, community colleges, and hospital districts.

All applications submitted by local law enforcement agencies/offices must be submitted by a unit of government affiliated with the agency, including an authorizing resolution from that unit of government. For example, police departments must apply under their municipal government, and community supervision and corrections departments, district attorneys, and judicial districts must apply through their affiliated county government (or one of the counties, in the case of agencies that serve more than one county).

Application Process:

Applicants must access the PSO's eGrants grant management website at <https://eGrants.gov.texas.gov> to register and apply for funding.

Key Dates:

Action	Date
Funding Announcement Release	12/16/2024
Online System Opening Date	12/16/2024
Final Date to Submit and Certify an Application	02/13/2025 at 5:00PM CST
Earliest Project Start Date	09/01/2025

Project Period:

Projects must begin on or after 09/01/2025 and may not exceed a 12 month project period.

Funding Levels

Minimum: None

Maximum: None

Match Requirement: None

Standards

Grantees must comply with standards applicable to this fund source cited in the Texas Grant Management Standards (TxGMS), Federal Uniform Grant Guidance, and all statutes, requirements, and guidelines applicable to this funding.

Eligible Activities and Costs

Funds may be used for obtaining body armor compliant with the National Institute of Justice (NIJ) standard (Ballistic Resistance of Body Armor NIJ Standard-0101.06) type III (rifles) or type IV (armor piercing rifle) body armor; including bullet-resistant vests, ballistic plates, and plate carriers.

Due to the limited availability of funds, applicants are encouraged to consider the reasonable cost of their request. PSO will evaluate applications based on number of frontline peace officers and the average cost per vest.

Program-Specific Requirements

Eligible officers to equip. Grant funds may only be used to equip peace officers (as defined by Article 2.12, Texas Code of Criminal Procedure) directly employed by a law enforcement agency operated by the applicant. Funds may not be used to equip officers employed by other agencies that are not eligible to apply. PSO may prioritize the equipping of certain types of officers or applicants if the total requested funds exceed the funds appropriated by the Legislature.

Required Agency Policies. As required by Chapter 772.0075, Texas Government Code, an eligible organization may apply for grant funds only after its law enforcement agency adopts a policy addressing the:

- 1) Deployment and allocation of vests or plates to its officers; and
- 2) Usage of vests or plates by its officers.

PSO requires that the policy on usage of vests or plates include mandatory training on the proper care, fitting, inspection, use, storage, and maintenance of the armor. PSO also requires that the policy specify that body armor may not be left in patrol vehicles when an officer is not on duty to minimize the heat damage to the armor.

In crafting these policies, applicants should be aware that the inspection, storage, and replacement of body armor were identified as potential points of failure in body armor use by the Police Executive Research Forum. See *"A Practitioner's Guide To the 2011 National Body Armor Survey of Law Enforcement Officers"* for more information.

Personally Fitted Vest Requirement. All body armor vests purchased with grant funds must be personally fitted for individual officers, including vests specifically fitted to individual female law enforcement officers. "Personally fitted" does not require armor be individually manufactured based on the measurements of a specific wearer, but rather that it provide the best possible fit and coverage, through a combination of:

- 1) Correctly-sized panels and carrier, determined through appropriate measurement; and
- 2) Properly adjusted straps, harnesses, fasteners, flaps, or other adjustable features.

The American Society for Testing and Materials (ASTM) International has made available the Standard Practice for Body Armor Wearer Measurement and Fitting of Armor (*Active Standard ASTM E3003*). The *Personal Armor Fit Assessment checklist*, is excerpted from ASTM E3003.

Eligibility Requirements

1. Local units of governments must comply with the Cybersecurity Training requirements described in Section 772.012 and Section 2054.5191 of the Texas Government Code. Local governments determined to not be in compliance with the cybersecurity requirements required by Section 2054.5191 of the Texas Government Code are ineligible for OOG grant funds until the second anniversary of the date the local government is determined ineligible. Government entities must annually certify their compliance with the training requirements using the *Cybersecurity Training Certification for State and Local Governments*. A copy of the Training Certification must be uploaded to your eGrants application. For more information or to access available training programs, visit the Texas Department of Information Resources *Statewide Cybersecurity Awareness Training* page.

2. Entities receiving funds from PSO must be located in a county that has an average of 90% or above on both adult and juvenile dispositions entered into the computerized criminal history database maintained by the Texas Department of Public Safety (DPS) as directed in the Texas Code of Criminal Procedure, Chapter 66. This disposition completeness percentage is defined as the percentage of arrest charges a county reports to DPS for which a disposition has been subsequently reported and entered into the computerized criminal history system.

Counties applying for grant awards from the Office of the Governor must commit that the county will report at least 90% of convictions within five business days to the Criminal Justice Information System at the Department of Public Safety.

3. Eligible applicants operating a law enforcement agency must be current on reporting complete UCR data and the Texas specific reporting mandated by 411.042 TGC, to the Texas Department of Public Safety (DPS) for inclusion in the annual Crime in Texas (CIT) publication. To be considered eligible for funding, applicants must have submitted a full twelve months of accurate data to DPS for the most recent calendar year by the deadline(s) established by DPS. Due to the importance of timely reporting, applicants are required to submit complete and accurate UCR data, as well as the Texas-mandated reporting, on a no less than monthly basis and respond promptly to requests from DPS related to the data submitted.

4. In accordance with Texas Government Code, Section 420.034, any facility or entity that collects evidence for sexual assault or other sex offenses or investigates or prosecutes a sexual assault or other sex offense for which evidence has been collected, must participate in the statewide electronic tracking system developed and implemented by the Texas Department of Public Safety. Visit DPS's Sexual Assault Evidence Tracking Program website for more information or to set up an account to begin participating. Additionally, per Section 420.042 "A law enforcement agency that receives evidence of a sexual assault or other sex offense...shall submit that evidence to a public accredited crime laboratory for analysis no later than the 30th day after the date on which that evidence was received." A law enforcement agency in possession of a significant number of Sexual Assault Evidence Kits (SAEK) where the 30-day window has passed may be considered noncompliant.

5. Local units of government, including cities, counties and other general purpose political subdivisions, as appropriate, and institutions of higher education that operate a law enforcement agency, must comply with all aspects of the programs and procedures utilized by the U.S. Department of Homeland Security ("DHS") to: (1) notify DHS of all information requested by DHS related to illegal aliens in Agency's custody; and (2) detain such illegal aliens in accordance with requests by DHS. Additionally, counties and municipalities may NOT have in effect, purport to have in effect, or make themselves subject to or bound by, any law, rule, policy, or practice (written or unwritten) that would: (1) require or authorize the public disclosure of federal law

enforcement information in order to conceal, harbor, or shield from detection fugitives from justice or aliens illegally in the United States; or (2) impede federal officers from exercising authority under 8 U.S.C. § 1226(a), § 1226(c), § 1231(a), § 1357(a), § 1366(1), or § 1366(3). Lastly, eligible applicants must comply with all provisions, policies, and penalties found in Chapter 752, Subchapter C of the Texas Government Code.

Each local unit of government, and institution of higher education that operates a law enforcement agency, must download, complete and then upload into eGrants the CEO/Law Enforcement Certifications and Assurances Form certifying compliance with federal and state immigration enforcement requirements. This Form is required for each application submitted to OOG and is active until August 31, 2026 or the end of the grant period, whichever is later.

6. Eligible applicants must be registered in the federal System for Award Management (SAM) database and have an UEI (Unique Entity ID) number assigned to its agency (to get registered in the SAM database and request an UEI number, go to <https://sam.gov/>).

Failure to comply with program or eligibility requirements may cause funds to be withheld and/or suspension or termination of grant funds.

Prohibitions

Grant funds may not be used to support the unallowable costs listed in the **Guide to Grants** or any of the following unallowable costs:

1. Any costs ancillary to the purchase of eligible body armor, such as policy development, training costs, and staff; and
2. Any other prohibition imposed by federal, state or local law or regulation.

Selection Process

Application Screening: The Office of the Governor will screen all applications to ensure that they meet the requirements included in the funding announcement.

Peer/Merit Review: The Office of the Governor will review applications to understand the overall demand for the program and for significant variations in costs per item. After this review, the Office of the Governor will determine if all eligible applications can be funded based on funds available, if there are cost-effectiveness benefits to normalizing or setting limits on the range of costs, and if other fair-share cuts may allow for broader distribution and a higher number of projects while still remaining effective.

Final Decisions: The Office of the Governor will consider rankings along with other factors and make all final funding decisions. Other factors may include cost effectiveness, overall funds availability, or state government priorities and strategies, legislative directives, need, geographic distribution, balance of focuses and approaches, or other relevant factors.

The Office of the Governor may not fund all applications or may only award part of the amount requested. In the event that funding requests exceed available funds, the Office of the Governor may revise projects to address a more limited focus.

Contact Information

For more information, contact the eGrants help desk at eGrants@gov.texas.gov or (512) 463-1919.

Total Funds

\$10 Million

City Council Regular Meeting

AGENDA ITEM 9G



To: City Council
Subject: Council to discuss, consider, and possibly take action to approve the purchase of six (6) Panasonic FZ-55 Toughbook Mobile Data Computers for the Bruceville-Eddy Police Department utilizing Asset Forfeiture Funds.
Meeting: City Council Regular Meeting – July 23, 2026
Department: Police Department
Staff Contact: Michael Dorsey, Chief of Police

BACKGROUND INFORMATION:

The Bruceville-Eddy Police Department currently utilizes six (6) Panasonic Toughbook Mobile Data Terminals (MDT's) installed in patrol vehicles for daily law enforcement operations.

The current Toughbooks have been in service for approximately six (6) years and are reaching the end of their operational life cycle. Due to their age, the computers are experiencing decreased performance, limited manufacturer support, and aging hardware that no longer meets current technology standards. Continued reliance on these devices increases the likelihood of equipment failures that could negatively impact public safety operations.

To ensure continued reliability and operational readiness, the Police Department has obtained a quotation from Rugged Depot for the purchase of six (6) new Panasonic FZ-55 Toughbooks. These Toughbooks are fully compatible with the department's existing vehicle docking stations and mobile technology infrastructure, minimizing additional installation costs and reducing downtime. The quote totals **\$19,534.74**, including freight.

FINANCIAL IMPACT:

The total purchase cost is **\$19,534.74**, including freight, as reflected in the attached quotation.

Funding for this purchase will be made entirely from the Police Department's **Asset Forfeiture Fund**. No General Fund revenues or additional appropriations are required.

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

Staff recommends approval of the purchase of six (6) Panasonic FZ-55 Toughbook Mobile Data Terminals (MDT's) from Rugged Depot in the amount of **\$19,534.74**, utilizing available Asset Forfeiture Funds, to replace the department's existing six-year-old mobile computers that have reached the end of their operational life and to ensure continued reliable mobile computing capabilities for law enforcement operations.

ATTACHMENTS:

Quote # Q-32077 – Rugged Depot Sales Quote.



WE DON'T DO FRAGILE!

Sales Quote

Bruceville - Eddy Police Department (TX) (#C33432)

Quote #	Date	Quote Valid Until	Terms	Ref	State Contract	Contract Number
Q-32077	6/12/2026, 12:43 PM	7/27/2026	Net 30	"while supplies last" pricing on retiring model FZ-55 Mk3		

Account Specialist

Dan Rzeppa
dan.rzeppa@ruggeddepot.com
p: 888-337-3007
f: 281-259-6615

Billing

Bruceville - Eddy Police Department (TX)
US
254-859-5072

Shipping

Bruceville - Eddy Police Department (TX)
143 Wilcox Dr.
Eddy, TX 76524
US

FZ-55

Item Code	Details	Qty	Unit Price	Extended
FZ-55JV400BM	Win11 Pro, Intel Core i5-1345U vPro (up to 4.7GHz), AMT, 14.0" FHD 1000 nit Gloved Multi Touch, 16GB, Intel UHD, 512GB OPAL SSD, Intel Wi-Fi 6E, Bluetooth, 4G EM7595, COM Splitter, Dual Pass (Ch1:WWAN-GPS/Ch2:WWAN), Mic and Infrared 2MP Webcam, Standard Battery, TPM 2.0, Emissive Backlit Keyboard, Flat	6.00	\$3,238.00	\$19,428.00
FZ-55 TOTAL:				\$19,428.00

Freight	\$106.74
Freight Type	
Estimated Sales Tax	
Total	\$19,534.74

This document is not an Order unless signed. Please read this sales quote thoroughly and verify that it fits your specifications. If this sales quote fulfills your requirements, please submit a signed copy of this sales quote. No sales order can be generated without a written, detailed purchase order or a signed copy of this sales quote in place of a purchase order. This document, when signed, is an official Purchase Order.

Account Bruceville - Eddy Police Department (TX)

Quote # Q-32077

Quote Total \$19,534.74

Quote Valid Until 7/27/2026

Signature _____

Date _____

Printed Name _____

Title _____

Purchase Order # _____

Terms _____

Billing Contact Name _____

Email _____

Phone _____

Terms & Conditions

- Any refunds, for any reason (including cancellations), if payment was made with American Express, refund will be less 4% American Express merchant processing charge
- All shipments are FOB Destination, Freight Prepaid & Add, unless using customer shipping account, if freight not shown on quote, it will be added to invoice
- Payment must be made in U.S. dollars
- Pricing and quantities are subject to change
- Rugged Solutions America LLC reserves the right to substitute products of equal or greater specifications
- Invoices are subject to late payment charges of 18% per year computed monthly after due date
- All products are sold "AS IS"
- No credit allowed for goods returned without prior approval
- ALL RETURNS MUST BE ACCOMPANIED BY A RETURN MATERIAL AUTHORIZATION NUMBER AND ARE SUBJECT TO A 20% RESTOCKING/HANDLING FEE; IF A SPECIAL ORDER PART, ADDITIONAL VENDOR RESTOCKING/HANDLING FEES MAY APPLY
- Claims for loss or damage in shipment must be made to the carrier by the Customer. All others must be made to Rugged Solutions America LLC within 2 days of receipt of goods. All goods shipped at the buyer's risk
- All product and services on this invoice will remain the property of Rugged Solutions America LLC and will be fully encumbered until full payment has been remitted
- Terms orders are based on payment being made via Check, ACH, or Wire. If a Credit Card is presented as payment for a Net Terms Invoice, an administrative fee of 3.5% plus \$25 will be added to the corrected invoice.

City Council Regular Meeting

AGENDA ITEM 10



To: City Council
Subject: Staff Reports
Council to discuss and consider staff reports from the City Administrator, Chief of Police, City Attorney, consulting engineers, and department heads.
Meeting: City Council Regular Meeting – July 23, 2026
Department: ALL
Staff Contact:

BACKGROUND INFORMATION:

Staff reports have been provided for review.

FINANCIAL IMPACT:

N/A

POLICY IMPLICATIONS:

N/A

RECOMMENDATION:

N/A

ATTACHMENTS:

City Administrator Report
MRB Engineers Report
Public Works Reports
Police Department Reports

Well-site building completed by Mike Strickland at Friendly Oaks.

Coordination with CCTV inspectors for wastewater collection system assessment and data collection.

Attended Hometown Fest planning meeting.

Routine inspection of the City's wastewater collection system project, job sites, designs/plans, and specification manual. Regular implementation of contract administration and project management.

Routine customer support with zoning, plating, and building questions/needs addressed together with City Secretary.

Calls to TCEQ, USDA, Falls County, and McLennan County on various reporting and budgeting items.

I worked diligently to complete the budget worksheet and Power Point Presentation as quickly as possible while still performing my day-to-day work duties and various work demands. I worked 7 'off work days' including:

Friday, June 19th

Saturday, June 27th

Sunday, June 28th

Friday, July 3rd

Saturday, July 4th

Saturday, July 11th

Sunday, July 12th

July 16, 2026

City of Bruceville-Eddy
Mr. Lawrence Cutrone
144 Wilcox Drive
Eddy, Texas 76524

Re: City of Bruceville-Eddy Engineering and Services Update

Mr. Cutrone,

MRB Group is pleased to provide to the city the following Items regarding the Monthly Engineering Report. This report includes Engineering Tasks from June 12th, 2026, through July 16th, 2026.

DEVELOPMENT REVIEW (0218.23000.010) –

1. **CEFCO** – Casey's General Stores has announced the purchase of nearly 200 CEFCO stores. The Bruceville-Eddy CEFCO Store has been put on hold until new direction is established by the new owners. **No Change**
2. **Eagle Prairie PH I** – Final Plat and Construction Plans have been approved. **No Change**
3. **Eagle Prairie PH II** – Development review near completion. Questions on Sanitary Sewer sizing to develop standards to which capacity and design will refer to.

CONSTRUCTION OBSERVATION

1. **Eagle Prairie – Schedule No Change**
 - Start: 3/30/2026
 - Rough Cut: 3/30/26 – 5/5/26 **Now ending 5/28/26**
 - Sewer: 5/4/26-6/11/26 **Now 6/1/26-7/7/26**
 - Water: 6/15/26 – 7/21/26 **Now 7/16/26-8/19/26**
 - Storm: 7/20/26 – 9/8/26 **Now 8/19/26-10/7/26**
 - Road Prep & Pave: 6/10/26 – 10/29/26
 - HMAC 10/26/26 – 10/27/26 **Now 11/16/26-11/17/26**
 - Initial City Walk: 11/5/26 **Now 11/24/26**
 - Final City Walk/Acceptance: 11/17/26 **Now 12/3/26**

WATER METER FEASIBILITY (0218.23000.021)

- **Eddy Estates** – (Ford-Tolbert Pressure Plane) requesting 275 new meters. Review has been completed and returned to the City and Developer.
- **Ryan Shellberg/Crossley Commercial** – Requesting extension for previous meter study of 13 meters at Winchester Dr – Howard Dr. Granted through December 31st 2026.

GENERAL DISCUSSION ITEMS

1. New Water Well (0218.26001.000): MRB has begun design on the new water well, ground storage tank, and pump station project. We will be meeting with City manager and operators soon to go over our proposed site plan and discharge piping connection into the distribution system. Items completed to date:

- Drone flight and ground survey - **Completed**
- Drawing sheet set up and preliminary design – **To be submitted to the TCEQ 7/17/26**
- Geotech bores completed and awaiting results – **Langermann is complete.**
- Boundary Survey ordered – **Completed**

3. Hungry Hill Roadway Rehabilitation (0218.25002.000): MRB was awarded this project at the March council meeting. Surveying and Geotech have been completed. MRB updated the drawings to indicate the recommended pavement design from the Geotech report for a 20+ year design life. The completed plans, bid manual (will need revisions before bidding), and OPC were submitted to the city. It is anticipated the City will work on funding for this project with an adjacent business that has potentially impacted the existing condition of this roadway over their years of operation. MRB is ready to provide an updated proposal to move forward with TxDOT permitting, bidding, and construction phase services at the direction of the City. **No Change**

4. I-35 Water Main Crossing (Foodies) (0218.25001.000): MRB has completed design and obtained the TxDOT permit. This project was bid on May 13th. Southern Contractors Group was the low bidder on both the Base Bid and Base bid with Additive Alternate (upsizing to a 10" main under the interstate for future growth). The developer has accepted this bid and the contractor has been awarded the 10" additive alternate option. No work will begin until the developer has provided payment to the city. **No change**



5. GIS updates (0218.23000.005): No GIS updates since previous monthly report.

If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Gil Gregory", with a stylized flourish at the end.

Gil Gregory
Senior Project Manager

END OF THE MONTH WATER LOSS	
Jun-26	
WELLS: (5/23/26 – 6/23/26)	
#2721 TOLBERT	9,682,000
#2723 BLUEBONNET	6,099,000
#2722 WESTRIDGE	3,152,000
#2724 FRIENDLY OAKS	6,014,000
TOTAL GALLONS PUMPED:	24,947,000
WATER LOSS:	
#39 DUTY PARK	3,800
#335 B-E MAIN. BLDG	1,200
#1115 MUNICIPAL	3,400
#1112 NEW CITY HALL	1,200
#1114 EMS/FIRE	800
WATER LOSS WORK ORDERS	1,610,000
FIRE DEPT	200,000
FLUSHING	1,065,000
#02-1956-01 SEWER PLANT	0
TOTAL WATER LOSS:	2,885,400

6/2026	USAGE	METERS	USAGE BREAKDOWN	ACCOUNTS	AVERAGE
PUMPED	24,947,000		0-0	257	0
FLUSHED	2,885,400		1-9,999,999,999	1,849	7,089
USED	13,095,500	2.106	TOTAL	2,106	6,224
UNBILLED	12,800	2			
LOSS	8,966,100				
LOSS PERCENTAGE	35.94 %				

1 MONTH TOTALS	
TOTAL PUMPED	24,947,000
TOTAL SOLD	13,095,500
TOTAL FLUSHED	2,885,400
TOTAL LOSS	8,966,100
LOSS PERCENTAGE	35.94 %
TOTAL UNBILLED	12,800

SERVICE CATEGORY: WA - WATER
MONTH RANGE: 6/2025 THRU 6/2026
BOOKS: All

6/2026	USAGE	METERS	USAGE BREAKDOWN	ACCOUNTS	AVERAGE
PUMPED	24,947,000		0-0	257	0
FLUSHED	2,885,400		1-9,999,999,999	1,849	7,089
USED	13,095,500	2,106	TOTAL	2,106	6,224
UNBILLED	12,800	2			

LOSS	8,966,100				
LOSS PERCENTAGE	35.94 %				

13 MONTH TOTALS					
TOTAL PUMPED	321,753,000		AVERAGE PUMPED	24,750,231	
TOTAL SOLD	163,813,900		AVERAGE SOLD	12,601,069	
TOTAL FLUSHED	54,693,400		AVERAGE FLUSHED	4,207,185	
TOTAL LOSS	103,245,700		AVERAGE LOSS	7,941,977	
LOSS PERCENTAGE	32.09 %		AVERAGE LOSS PERCENTAGE	32.09 %	
TOTAL UNBILLED	18,100		AVERAGE UNBILLED	1,392	

**** TOTALS BY JOB CODE ****

JOB CODE	TOTAL COMPLETED	TOTAL OUTSTANDING	TOTAL NEW	TOTAL PENDING	TOTAL VOID
REPL - REPLACE METER BOX	1	0	0	0	0
STREE - STREETS	6	3	0	0	0
LEAK - FIXED LEAK	15	1	0	0	1
MISC - MISCELLANEOUS	3	0	0	0	1
LOCA - LINE LOCATE	4	6	0	0	0
OCC - OCCUPANT CHANGE	12	0	0	0	0
TURN - TURN OFF WATER	0	0	0	0	1
REIN - REINSTATE	8	0	0	0	0
INSTA - INSTALL NEW METER	0	1	0	0	0
CUST - CSI	0	1	0	0	0
CON - CONNECT	2	0	0	0	0
NON - NON-PAYMENT TURN OFF	12	0	0	0	102
TRASH - TRASH CANS	4	1	0	0	0
BES - BEES	1	0	0	0	0
REREA - REREAD	1	0	0	0	0
CLEAN - CLEAN UP	1	0	0	0	0
SWAP - METER CHANGE	0	2	0	0	0
GRAPH - GRAPH	1	0	0	0	0
TOTAL ALL CODES	71	15	0	0	105

Definitions |

Total Pumped: This is the culmination of our daily meter readings from the past month on ALL groundwater well sites as well as the Intake from Bluebonnet WSC.

Total Sold: This is the amount of water that was billed to customers and will be collected as water sales revenue.

Total Flushed: This number is comprised of staff estimates on water loss from known leaks, flushing activities, an allocation for the volunteer fire departments operations, and our unbilled accounts' actual meter readings (City facilities).

Total Loss: This is the remaining water that is currently unaccounted for in our water system from the previous month. This water is going out the door via leaks, flushing, faulty meters, and any possibly illegal connections.



Police Department

143 Wilcox Dr.
Eddy, TX 76524

www.bruceville-eddy.us

Phone: 254-859-5072
Fax: 254-859-5258

Police Department Activity Report: June 1, 2026 – June 30, 2026

Calls for Service: Total 187

890 Dorsey	894 Martinez	896 Childress	898 Cade
35	42	70	40

Arrest, Offense, Incident

Reports:

Total 22

890 Dorsey	894 Martinez	896 Childress	898 Cade
5	9	7	1

Criminal Offense Arrests:

Total 8

890 Dorsey	894 Martinez	896 Childress	898 Cade
4	2	1	1

Crash Reports: Total 5

890 Dorsey	894 Martinez	896 Childress	898 Cade
1	1	3	0

Citations & Warnings: Total 123

890 Dorsey	894 Martinez	896 Childress	898 Cade
11 citations 0 warnings	18 citations 8 warnings	17 citations 29 warnings	15 citations 25 warnings

Citations Total: 61

Warnings Total: 62



Police Department

143 Wilcox Dr.
Eddy, TX 76524

www.bruceville-eddy.us

Phone: 254-859-5072
Fax: 254-859-5258

Police Department Activity Report: June 1, 2026 – June 30, 2026

Security Checks: 53

School Zone Enforcement: 0

Neighborhood Patrol: 38

Directed Traffic Enforcement: 30

Call Type Report

BRUCEVILLE-EDDY POLICE DEPARTMENT

From June 1 2026
To June 30 2026

Call Type Description	Number of Calls
911 HANGUP	1
ABANDONED VEHICLE	5
AGENCY ASSIST BRUCEVILLE-EDDY FIRE	3
AGENCY ASSIST BRUCEVILLE-EDDY PD	3
AGENCY ASSIST FALLS COUNTY SHERIFFS OFFICE	1
AGENCY ASSIST LORENA PD	1
AGENCY ASSIST MCLENNAN COUNTY SHERIFFS OFFICE	2
AGENCY ASSIST MOODY PD	5
AGENCY ASSIST OTHER OUTSIDE AGENCY	2
ANIMAL VIOLATION	5
ATTEMPT TO LOCATE	1
BURGLARY	1
CHECK	1
CHILD CUSTODY	1
CITIZEN CONTACT	1
CITY ORDINANCE ENFORCEMENT	5
CIVIL DISTURBANCE	1
CIVIL STANDBY	4
CRIMINAL MISCHIEF	2
DISTURBANCE	3
DOMESTIC DISTURBANCE	1
FIRE	2
FOLLOW UP INVESTIGATION	27
HARASSMENT	1
IDENTITY THEFT	1
INFORMATION	2
MOTOR VEHICLE COLLISION	5
MOTORIST ASSIST	10
PUBLIC SERVICE	5
RECKLESS DRIVING	1

STRANDED MOTORIST	3
SUICIDAL SUBJECT	1
SUSPICIOUS CIRCUMSTANCE	2
SUSPICIOUS CIRCUMSTANCES	1
SUSPICIOUS PERSON	2
SUSPICIOUS VEHICLE	3
THEFT	7
TOWED VEHICLE	1
TRAFFIC CONTROL	3
TRAFFIC HAZARD	18
UNAUTHORIZED USE OF M/VEH	2
VIOLATION CITY ORDINANCE	1
WARRANT SERVICE	8
WELFARE CONCERN	10

MCAD PROJ ID # 106204 (OLD MOODY RD)

June 2026 Warning Data

Description

Defective Stop Lamp(s) (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Operate Vehicle Without License Plate (or with one plate) (Verbal Warning)
 Operate Vehicle Without License Plate (or with one plate) (Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 No License Plate Light (Verbal Warning)
 Expired Registration (Warning)
 Speeding (Warning)
 Expired Registration (Warning)
 Expired Registration (Verbal Warning)
 Expired Registration (Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Operate Vehicle Without License Plate (or with one plate) (Warning)
 Operation of Vehicle Without Registration Insignia (Verbal Warning)
 Disregard Stop Sign (Verbal Warning)
 Failed to Stop at Designated Point at Stop Sign (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Defective Head Lamp(s) (Verbal Warning)
 No Drivers License (when unlicensed) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Warning)
 Operate Vehicle Without License Plate (or with one plate) (Verbal Warning)
 Failed to Signal Lane Change (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Disregarded Official Traffic Control Device (Verbal Warning)
 Drove Without Lights-When Required (Verbal Warning)
 Expired Registration (Verbal Warning)
 Changed Lane When Unsafe (Verbal Warning)
 Expired Registration (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Disregard Stop Sign (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Failed to Signal Lane Change (Verbal Warning)
 Expired Registration (Warning)
 Defective Head Lamp(s) (Verbal Warning)
 No License Plate Light (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Following Too Closely (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Defective Head Lamp(s) (Verbal Warning)
 Defective Head Lamp(s) (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Verbal Warning)
 Failed to Signal Lane Change (Warning)
 Speeding (exceed Prima Facie limit at time and place for that type vehicle) (Warning)
 (Verbal Warning)
 (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 No License Plate Light (Verbal Warning)
 Defective Head Lamp(s) (Verbal Warning)
 Defective Tail Lamp(s) (Verbal Warning)
 No License Plate Light (Verbal Warning)

Location

[illegible]



Bruceville-Eddy ISD School Resource Officer

143 Wilcox Dr.
Eddy, TX 76524

www.bruceville-eddy.us

Phone: 254-859-5072
Fax: 254-859-5258

SCHOOL RESOURCE OFFICER ACTIVITY REPORT YTD: August 2025 – May 2026

Calls for Service: 36

Security Checks: 510

School Zone Enforcement: 175

Citations & Warnings: 0 Citations / 0 Warnings

Arrests: 3

BEISD SRO Monthly Activity Report 2025 - 2026 YTD:

Admin Assist	14
Staff Assist	2
Student Assist	3
Agency Assist	0
Citizen Contact	2
Calls for Service	36
Incident Report	0
Criminal Activity/Offense	4
Suspicious Activity/Person/Circumstances	2
Traffic Complaint	0
Traffic Stops	0
Warnings	0
Citations	0
Juvenile Complaint	3
Adult Arrest	0
Juvenile Arrest	1
Warrant Arrest	2
Parent Conference	2
Welfare Check	5
Classes Given	1
Total:	77

JUNE 17 2026 JULY 15 2026
CITY ORDINANCE ENFORCEMENT REPORT

COMPLIANT / CLOSED	12
NON-COMPLIANT	15
MORE TIME REQUESTED	5
CITATIONS	2
TOTAL CASES	34

TYPES OF VIOLATIONS

ANIMAL VIOLATION	4
HIGH GRASS	9
RUBBISH	5
JUNK VEHICLES	3
DANGEROUS BLDG	6
ACC / STORAGE BLDG	0
ZONING VIOLATION	0
OPEN BURNING VIOLATION	0
LIVESTOCK VIOLATIONS	0
NOISE COMPLAINT / LOUD MUSIC	0
RV TRAVEL TRAILER	3
CITY PERMIT VIOLATION	0
SEX OFFENDER RESIDENCY VIOLATION	0
TOTAL VIOLATIONS	30

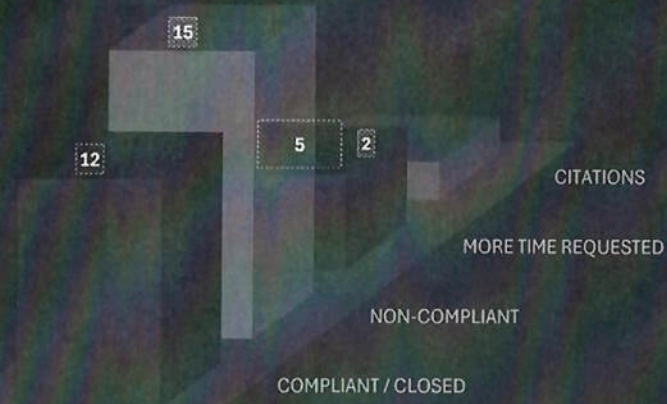
CITY ORDINANCE VIOLATION CASE STATUS

COMPLIANT / CLOSED

■ NON-COMPLIANT

■ MORE TIME REQUESTED

■ CITATIONS



TYPES OF VIOLATIONS

