# **CONTRIBUTING ZONE PLAN (CZP)**

## **CR 255 IMPROVEMENTS**

From Intersection of CR 254 to Ronald Reagan Blvd.

### **Prepared For:**



Williamson County 3151 S.E. Inner Loop, Suite B Georgetown, TX 78626

**Prepared By:** 

CLG

CLGann, LLC 3708 Norman Loop Round Rock, TX 78664-3919 512.574.5738 TBPELS Firm No.20717

**September 06, 2024** 

### **Edwards Aquifer Protection Program Roadway Checklist**

- Edwards Aquifer Application Cover Page (TCEQ-20705)
- Edwards Aquifer Protection Program Roadway Application (TCEQ-20872)

Attachment A - Road Map

Attachment B - USGS Quadrangle

Attachment C - Project Description

Attachment D - Factors Affecting Surface Water Quality

Attachment E - BMPs for Upgradient (Offsite) Stormwater

Attachment F - BMPs for On-site Stormwater

Attachment G - Construction Plans

Attachment H - Inspection, Maintenance, Repair and Retrofit Plan

Attachment I - Pilot-Scale Field Testing Plan

Attachment J - Measures for Minimizing Surface Stream Contamination

Attachment K - Volume and Character of Stormwater

#### Geologic Assessment Form (TCEQ-0585)

• Required for site over the Recharge zone

Attachment A - Geologic Assessment Table (TCEQ-0585-Table)

Attachment B - Stratigraphic Column

Attachment C - Site Geology

Attachment D - Site Geologic Map(s)

### Temporary Stormwater Section (TCEQ-0602)

Review Item 37 on Roadway Application for applicability

Attachment A - Spill Response Actions

Attachment B - Potential Sources of Contamination

Attachment C - Sequence of Major Activities

Attachment D - Temporary Best Management Practices and Measures

Attachment E - Request to Temporarily Seal a Feature (if requested)

Attachment F - Structural Practices

Attachment G - Drainage Area Map

Attachment H - Temporary Sediment Pond(s) Plans and Calculations

Attachment I - Inspection and Maintenance for BMPs

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

### Agent Authorization Form (TCEQ-0599)

Only if application is submitted by an authorized agent

### Application Fee Form (TCEQ-0574)

- Do <u>not</u> submit for TxDOT roadways
- Core Data Form (TCEQ-10400)

### **Texas Commission on Environmental Quality**

## **Edwards Aquifer Application Cover Page**

#### **Our Review of Your Application**

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

#### **Administrative Review**

- 1. <u>Edwards Aquifer applications</u> must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.
  - To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: <a href="http://www.tceq.texas.gov/field/eapp">http://www.tceq.texas.gov/field/eapp</a>.
- 2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
- 3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
- 4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.
  - An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.
- 5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
- 6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

#### **Technical Review**

- 1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
- 2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

- clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
- 3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
- 4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

#### **Mid-Review Modifications**

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity N County Road 255 External	ame: ension to Ror	nald Re	eagan	Blvd.	2. Re	egulat	ed Entity No.:	
3. Customer Name: \	Villiamson Co	ounty			4. Cu	ıstom	er No.: CN60	0897888
5. Project Type: (Please circle/check one)	New	Modification		Extension		Exception		
6. Plan Type: (Please circle/check one)	WPAP CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Residential (	Non-r	esiden	itial	>	8. Sit	te (acres):	68.48 Ac.
9. Application Fee:	\$8000	10. P	ermai	nent I	BMP(	s):	Engineered '	Vegetative Filter Strips
11. SCS (Linear Ft.):	N/A	12. A	ST/US	ST (No	o. Tar	nks):	N/A	
13. County:	Williamson	14. W	aters	hed:			North Fork San C	Gabriel - Lake Georgetown

## **Application Distribution**

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field\_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

	Austin Region					
County:	Hays	Travis	Williamson			
Original (1 req.)			<u>1</u>			
Region (1 req.)	_	_	<u>1</u>			
County(ies)		_	1			
Groundwater Conservation District(s)	Edwards Aquifer AuthorityBarton Springs/ Edwards AquiferHays Trinity Plum Creek	Barton Springs/ Edwards Aquifer	NA			
City(ies) Jurisdiction	AustinBudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorence 1 GeorgetownJerrellLeanderLiberty HillPflugervilleRound Rock			

	Sa	an Antonio Region			
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)					
Region (1 req.)					
County(ies)					
Groundwater Conservation District(s)	Edwards Aquifer Authority Trinity-Glen Rose	Edwards Aquifer Authority	Kinney	EAA Medina	EAA Uvalde
City(ies) Jurisdiction	Castle HillsFair Oaks RanchHelotesHill Country VillageHollywood ParkSan Antonio (SAWS)Shavano Park	Bulverde Fair Oaks Ranch Garden Ridge New Braunfels Schertz	NA	San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that tapplication is hereby submitted to TCEQ for additional control of the control of the control of the certification of the certif	he application is complete ministrative review and te	and accurate. This chnical review.
Clay E. Gann, PE		
Print Name of Customer/Authorized Agent		
Print Name of Customer/Authorized Agent	8/19/2024	
Signature of Customer/Authorized Agent	Date	

**FOR TCEQ INTERNAL USE ONLY**	
Date(s)Reviewed:	Date Administratively Complete:
Received From:	Correct Number of Copies:
Received By:	Distribution Date:
EAPP File Number:	Complex:
Admin. Review(s) (No.):	No. AR Rounds:
Delinquent Fees (Y/N):	Review Time Spent:
Lat./Long. Verified:	SOS Customer Verification:
Agent Authorization Complete/Notarized (Y/N):	Payable to TCEQ (Y/N):
Core Data Form Complete (Y/N):	Check: Signed (Y/N):
Core Data Form Incomplete Nos.:	Less than 90 days old (Y/N):

### **Edwards Aquifer Protection Program Roadway Application**

### **Texas Commission on Environmental Quality**

This application is intended only for projects which a major roadway is designed for construction, such as State highways, County roads, and City thoroughfares.

Designed for Regulated Activities on the Contributing Zone to the Edwards Aquifer in relation to 30 TAC §213.24, Regulated Activities on the Edwards Aquifer Recharge Zone, in relation to 30 TAC §213.5(b), Effective June 1, 1999.

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer.

The application was prepared by:

Print Name of Customer/Agent: Clay E. Gann, PE

Date: <u>09/05/2024</u>

Signature of Customer/Agent:

### **Project Information**

Clay & Gar, P.E.

1. Regulated Entity (Project) Name: County Road 255 Extension to Ronald Reagan Blvd

2. County: Williamson

3. Stream Basin(s): North Fork San Gabriel River

4. Groundwater Conservation District (if applicable): N/A

5. Customer (Applicant):

Contact Person: Adam Boatright, PE

Entity: Williamson County

Mailing Address: 3151 S.E. Inner Loop, Suite B

City, State: Georgetown, TX Zip: 78626

Telephone: <u>512-943-3330</u>

Email Address: roadadmin@wilco.org

6.	. Agent (Representative):	
	Contact Person: Clay E. Gann, PE Entity: CLGann, LLC Mailing Address: 3708 Normal Loop City, State: Round Rock, TX Zip: 78664 Telephone: 512-574-5738 Email Address: cgann@clgann.com	
7.	<ul> <li>Landowner of R.O.W. (Right of Way)</li> <li>Person or entity responsible for maintenance of water qualit (BMPs), if not applicant.</li> </ul>	y Best Management Practices
	Contact Person: Adam Boatright, PE Entity: Williamson County Mailing Address: 3151 S.E. Inner Loop, Suite B City, State: Georgetown, TX Zip: 78626 Telephone: 512-943-3330 Email Address: roadadmin@wilco.org	
8.	Sufficient survey marking is provided on the project to allow boundaries and alignment of any regulated activities and the noted in the Geologic Assessment.	TCEQ regional staff to locate the geologic or manmade features
9.	<ul> <li>Survey marking will be completed by this date: 09/0</li> <li>Attachment A - Road Map. A road map showing direction project site is attached. The map clearly shows the boundary</li> </ul>	ons to and the location of the
10.	0. Attachment B - USGS Quadrangle. A copy of the official Map (Scale: 1" = 2000') is attached. The map(s) clearly show	
	<ul><li>☑ Project site boundaries</li><li>☑ USGS Quadrangle Name(s)</li><li>☑ All drainage paths from site to surface waters</li></ul>	
11.	1. This project extends into (Check all that apply):	
	Recharge Zone (RZ)	Contributing Zone within
	Contributing Zone (CZ)	Transition Zone (CZ/TZ)
	Transition Zone (TZ)	Zone not regulated by EAPP

12. Attachment C - Project Description. A detailed na is attached. The project description is consistent through minimum, the following details:	
igtie Offsite upgradient stormwater areas to be ca	aptured
Impervious area [Acres]	
□ Permanent BMP(s)	
□ Proposed site use	
Structures to be demolished [Include demo p	phase]
Major interim phases	
13. Existing project site conditions are noted below:	
Existing paved and/or unpaved	Existing commercial site
roads	Existing industrial site
Undeveloped (Cleared)	Existing residential site
Undeveloped (Undisturbed/Not	Other: <u>N/A</u>
cleared)	<del>-</del>
14. Attachment D - Factors Affecting Surface Water factors that could affect surface water quality is attached	
15. Only inert materials as defined by 30 TAC §330.3	B will be used as fill material.
16. Type of pavement or road surface to be used:	
Concrete	
Asphaltic concrete pavement	
Permeable Friction Course (PFC)	
Other:	
17. Right of Way (R.O.W.) and Pavement Area:	
R.O.W. for project: <u>68.48</u> (ac.)	
Length: <u>15255</u> ft. Width: varies from 105 ft. to 135 ft.	
Impervious cover (IC): <u>14.84</u> (ac.)	
Total of Pavement area <u>14.84</u> (ac.) ÷ R.O.	W. area <u>68.48</u> (ac.) x 100 = <u>21.67</u> % IC.
$\boxtimes$ Number of travel lanes: proposed: $\underline{2}$ , existing	g: <u>2</u>
Typical widths of lanes: <u>12</u> (ft.)	
Are intersections also being improved? (Y/N)	Y

## Site Plan Requirements

Items 18 - 28 must be included on the Site Plan.

18. 🔀	The Site Plan must have a minimum scale of $1'' = 400'$ . Site Plan Scale: $1'' = \underline{100}'$
19. 10	0-year floodplain boundaries:  Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled. The 100-year floodplain boundaries are based on the following specific (including date of material) source(s): FIRM 48491C0275E.
	igotimes No part of the project site is located within the 100-year floodplain.
gre	A layout of the development with existing and finished contours at appropriate, but not eater than ten-foot contour intervals is shown. Sensitive features, lots, wells, buildings, ads, culverts, etc. are shown on the site plan.
21. 🔀 <u>Riv</u>	A figure (map) indicating all paths of drainage from the site to surface waters.  Name all stream crossings: Unnamed Tribs to North Fork San Gabriel  Ver  Drainage patterns and approximate slopes.  There will be no discharge to surface waters.
22. 🗵	Distinguish between areas of soil disturbance and areas which will not be disturbed.
	Show locations of major structural and nonstructural controls. These are the temporary d permanent best management practices. Include the following:
	<ul> <li>Show design and location of any hazardous materials traps.</li> <li>Show design at outfalls of major control structures and conveyances.</li> <li>A description of the BMPs and measures that prevent pollutants from entering surface streams.</li> </ul>
24. Sh	ow locations of staging areas or project specific locations (PSL). Are they:  Onsite, within project R.O.W. Offsite. Not yet determined. (Requires future authorization)
25. 🔀	Show locations where soil stabilization practices are expected to occur.
26. 🔀	Show surface waters (including wetlands).
27. Te	mporary aboveground storage tank facilities:  Temporary aboveground storage tank facilities will be located on this site. Show on site plan.  Temporary aboveground storage tank facilities will not be located on this site.
28. 🔀	Plan(s) also include:
	<ul> <li>☐ Sidewalks</li> <li>☐ Shared-use paths</li> <li>☐ Off-site improvements and staging areas</li> <li>☐ Demolition plans</li> <li>☐ Utility relocations</li> </ul>

	Uther improved areas: N/A
Pe	ermanent Best Management Practices (BMPs)
De:	scription of practices and measures that will be used after construction is completed.
29.	Permanent BMPs and measures have been designed, and will be constructed, operated, and maintained to ensure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance accepted by the executive director.
	<ul> <li>The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.</li> <li>A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used:</li> </ul>
30.	Attachment E - BMPs for Upgradient (Offsite) Stormwater.
	<ul> <li>A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.</li> <li>No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.</li> <li>Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.</li> </ul>
31.	Attachment F - BMPs for On-site Stormwater.
	<ul> <li>A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.</li> <li>Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.</li> </ul>
32.	Attachment G - Construction Plans. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are attached and include all proposed structural plans and specifications, and appropriate details.
	Major bridge cross-sections, and roadway plan and profiles
	BMP plans and details Design calculations
	Erosion control
	SW3P EPIC, as necessary

33.	Attachment H - Inspection, Maintenance, Repair and Retrofit Plan. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all the following:
	<ul> <li>☑ Prepared and certified by the engineer designing the permanent BMPs and measures.</li> <li>☑ Signed by the owner or responsible party.</li> <li>☑ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.</li> <li>☑ Contains a discussion of recordkeeping procedures.</li> </ul>
34.	Attachment I - Pilot-Scale Field Testing Plan. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
	⊠ N/A
35.	Attachment J - Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows, and in-stream effects caused by the regulated activity which increase erosion or may result in water quality degradation.
	$\boxtimes$ Include permanent spill measures used to contain hydrocarbons or hazardous substances by way of traps, or response contingencies.
36.	The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity.
	If the applicant intends to transfer responsibility, check the box below.  Yes
	A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days.

### Stormwater to be generated by the Proposed Project

Description of practices and measures that will be used during construction.

37. The site description, controls, maintenance, and inspection requirements for the Storage Water Pollution Prevention Plan (SWPPP or SW3P) developed under the Texas Pollutan

3/	Water Pollution Prevention Plan (SWPPP or SW3P) developed under the Texas Pollutant Discharge Elimination System (TPDES) general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) & §213.5(b) of the technical report.
	$\square$ The Temporary Stormwater Section (TCEQ-0602) is included with the application. $\square$ The SWPPP (SW3P) will serve as the Temporary Stormwater Section (TCEQ-0602).
38	. Attachment K - Volume and Character of Stormwater. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover.
	<ul><li>☐ Include the pre-construction runoff coefficient.</li><li>☐ Include the post-construction runoff coefficient.</li></ul>

### **Administrative Information**

- 39. Submit one (1) original and one (1) copy of the application, plus one electronic copy as needed, for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ is required to distribute the additional copies to these jurisdictions.
- 40. The fee for the plan(s) is based on:

 $\begin{tabular}{|c|c|c|c|c|c|c|} \hline \end{tabular}$  The total R.O.W. (as in Item 17).

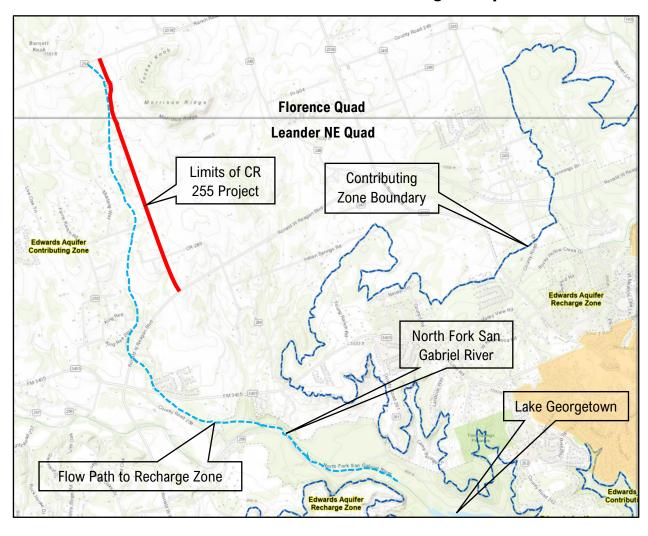
TxDOT roadway project.

### ATTACHMENT A - ROAD MAP





## ATTACHMENT B – USGS Quadrangle Map



### ATTACHMENT C - PROJECT NARRATIVE

CR 255 is an existing paved two-lane rural collector roadway located within the jurisdictional limits of Williamson County and the City of Georgetown ETJ. At its southern terminus, the roadway begins at the intersection with CR 289 and runs northwest for approximately 3.24 miles where it intersects and terminates with CR 254 just southwest of the City of Andice. The existing roadway consists of two ten-foot-wide lanes with no shoulders. Existing ditches are shallow and appear to be heavily silted up for the length of the project. There are 6 existing cross culverts along the project. There are 24" CMPs near stations 44+44, 85+00, 92+30 and 118+00. There are 18" CMPs near stations 105+50 and 143+00. The site is not located within the 100-year floodplain as per FEMA FIRM No. 48491C0275E eff. 9/26/2008.

As part of the 2019 Road Bond Program, Williamson County is improving CR 255 from the intersection with CR 254 to Ronald Reagan Blvd. The project will remove the existing roadway from CR 254 to CR 289 and construct a new 2-lane roadway along the same alignment. The new roadway will have two 12' wide lanes with 2' wide shoulders. It will also extend and construct a new roadway from CR 289 to Ronald Reagan Blvd. This project serves as the interim phase (NB lanes) of an ultimate 6-lane median divided roadway that is planned for the future. The project is meant to improve mobility around city of Georgetown and create a more direct connection to Ronald Reagan Blvd. The area of the site is 68.48 acres with 14.84 acres of total impervious cover. The project is in the North Fork San Gabriel River watershed where offsite runoff predominately runs in a Northwest to Southeast direction.

The existing right-of-way width (ROW) varies from 38 feet to 105 feet wide along the corridor. The proposed ROW will be expanded to 135 feet. The existing roadway and drainage structures from Station 11+50 to Ronald Reagan Blvd. will be obliterated and removed.

The proposed project is entirely located within the Edwards Aquifer Contributing zone. Since the proposed roadway cross slope completely slopes to one side, Engineered Vegetative Filter Strips (VFS) will be used along the northbound embankment where storm water sheet flows off the roadway and into roadside ditches. VFS will be used to treat the necessary amount of impervious cover to adhere to TCEQ's TSS removal requirements (80% of the TSS generated from the increase in impervious cover). No BMPs will treat offsite runoff.

### ATTACHMENT D – FACTORS AFFECTING SURFACE WATER QUALITY

The following factors are anticipated to adversely affect surface water and groundwater quality:

- Disturbance of vegetated areas.
- Leaking oil and fluids from parked vehicles.
- Loss of vegetative ground cover due to inadequate watering or mismanagement.
- Over fertilization of vegetated areas.
- Oil/grease/gas/fluids from the normal use of vehicles on paved roads.
- Improper use/maintenance of on-site portable restrooms.
- The accidental or improper discharge of the following:
  - o Concrete
  - Heavy Metals
  - o Debris
  - Pesticides
  - Cleaning solvents
  - Detergents
  - o Petroleum based products
  - Paints
  - Paint solvents
  - o Acids
  - Concrete additives
  - o Drilling fluids

### ATTACHMENT E – BMPS FOR UPGRADIENT STORMWATER

Upgradient stormwater that flows into this site is not expected to contain any significant amount of sediment. The upgradient stormwater will be intercepted by the parallel roadside ditches and culverts before reaching the roadway where it could carry possible sediments off the site. Offsite stormwater is directed around the site via the culverts and channels; permanent treatment by any BMP is unnecessary.

### ATTACHMENT F – BMPS FOR ON-SITE STORMWATER

The permanent measure being proposed is Engineered Vegetative Filter Strips (VFS). The vegetative filters strips will be used along the left or westbound side of the road between the edge of pavement and the conveyance channel. The calculations showing the amount of TSS reduction in the stormwater runoff from the vegetative filter strips are attached behind this sheet.

Any small differences between the TSS values shown in the TCEQ spreadsheet versus the tabular data is strictly due to rounding. The values shown in the tables represent a more accurate computation of the required and actual TSS removal.

#### TSS Removal Calculations 04-20-2009

Project Name: CR 255 - WILCO
Date Prepared: 7/9/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

#### Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

#### 1. The Required Load Reduction for the total project:

where:

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_{M} = 27.2(A_{N} \times P)$ 

L<sub>M TOTAL PROJECT</sub> = Required TSS removal resulting from the proposed development = 80% of increased load

A<sub>N</sub> = Net increase in impervious area for the project

P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County = Williamson
Total project area included in plan = 68.48 acres
Predevelopment impervious area within the limits of the plan = 8.58 acres
Total post-development impervious cover fraction = Total post-development impervious cover fraction = 0.22 inches

A TOTAL PROJECT = 5449 lbs.

Number of drainage basins / outfalls areas leaving the plan area = All VFS Areas

#### 2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = ALL

Total drainage basin/outfall area = 68.48 acres
Predevelopment impervious area within drainage basin/outfall area = 8.58 acres
Post-development impervious area within drainage basin/outfall area = 14.84 acres
Post-development impervious fraction within drainage basin/outfall area = 0.22

LM THIS BASIN = 5449 lbs.

#### 3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

CLAY E. GANN

88491

08/19/2024

Clay E. Gann

Residue 108/19/2024

Clay E. Gann

P.E.

(7.22 RR ROW)

Aqualogic Cartridge Filter Bioretention Contech StormFilter Constructed Wetland Extended Detention Grassy Swale Retention / Irrigation Sand Filter Stormceptor Vegetated Filter Strips Vortechs Wet Basin Wet Vault

#### 4. Calculate Maximum TSS Load Removed (LR) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_R$  = (BMP efficiency) x P x (A<sub>1</sub> x 34.6 + A<sub>2</sub> x 0.54)

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area

A<sub>I</sub> = Impervious area proposed in the BMP catchment area

 $\ensuremath{A_{P}}\xspace$  = Pervious area remaining in the BMP catchment area

 $L_{\text{R}}$  = TSS Load removed from this catchment area by the proposed BMP

where:

<sup>\*</sup> The values entered in these fields should be for the total project area.

#### 5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired  $L_{M THIS BASIN} = 5854$  lbs.

F = 1.00

16. Vegetated Filter Strips

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.

The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

PROJECT TSS SUMMARY									
Treatement	Annual Area Precipitation		Drainage Area	Impervious Cover		TSS Load		TSS Removal Required	TSS Removal Actual
Standard	County	P	Α	$A_N$		L		L <sub>M</sub>	L <sub>R</sub>
			Exist	Prop	Exist	Prop	" '		
		inches	acres	acres	acres	lbs	lbs	lbs	lbs
TCEQ	Williamson	32	68.48	8.58	14.84	10,533	17,351	5,449	5,854

CR 255 - TSS REMOVED BY BMPs WITHIN THE CONTRIBUTING ZONE								
BMP ID	COUNTY	AVERAGE ANNUAL PRECIPITATION	TOTAL AREA	IMPERVIOUS COVER	BMP EFFICIENCY	TSS LOAD REMOVED	TOTAL TSS LOAD REMOVED	
		Р	Α	A <sub>i</sub>		$L_R$	L <sub>R</sub>	
			ACRES	ACRES	%	LBS	LBS	
VFS-1	WILLIAMSON	32	0.61	0.61	85	574	574	
VFS-2	WILLIAMSON	32	0.20	0.20	85	188	188	
VFS-3	WILLIAMSON	32	0.24	0.24	85	226	226	
VFS-4	WILLIAMSON	32	0.36	0.36	85	339	339	
VFS-5	WILLIAMSON	32	0.03	0.03	85	28	28	
VFS-6	WILLIAMSON	32	0.37	0.37	85	348	348	
VFS-7	WILLIAMSON	32	0.15	0.15	85	141	141	
VFS-8	WILLIAMSON	32	0.15	0.15	85	141	141	
VFS-9	WILLIAMSON	32	0.12	0.12	85	113	113	
VFS-10	WILLIAMSON	32	0.19	0.19	85	179	179	
VFS-11	WILLIAMSON	32	0.61	0.61	85	574	574	
VFS-12	WILLIAMSON	32	0.12	0.12	85	113	113	
VFS-13	WILLIAMSON	32	0.04	0.04	85	38	38	
VFS-14	WILLIAMSON	32	0.13	0.13	85	122	122	
VFS-15	WILLIAMSON	32	0.06	0.06	85	56	56	
VFS-16	WILLIAMSON	32	0.20	0.20	85	188	188	
VFS-17	WILLIAMSON	32	0.18	0.18	85	169	169	
VFS-18	WILLIAMSON	32	0.28	0.28	85	264	264	
VFS-19	WILLIAMSON	32	0.13	0.13	85	122	122	
VFS-20	WILLIAMSON	32	0.07	0.07	85	66	66	
VFS-21	WILLIAMSON	32	0.12	0.12	85	113	113	
VFS-22	WILLIAMSON	32	0.32	0.32	85	301	301	
VFS-23	WILLIAMSON	32	0.41	0.41	85	386	386	
VFS-24	WILLIAMSON	32	0.43	0.43	85	405	405	
VFS-25	WILLIAMSON	32	0.20	0.20	85	188	188	
VFS-26	WILLIAMSON	32	0.50	0.50	85	471	471	
TOTAL					•		5,854	

## **ATTACHMENT G - CONSTRUCTION PLANS**

- See Erosion Control Sheets for locations of temporary BMPs.
- See Water Quality Site Plans and Typical Section Sheets for VFS locations.

## WILLIAMSON COUNTY

### INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS

## CR 255 PRECINCT NUMBER 3

#### WILLIAMSON COUNTY PROJECT NO. 24IFBXX

NET LENGTH OF ROADWAY = 15,254.49 FT (2.88 MILES) NET LENGTH OF BRIDGES = 0.00 FT (0.000 MILES) NET LENGTH OF PROJECT = 15,254.49 FT (2.88 MILES)

LIMITS: FROM CR 254 TO RONALD REAGAN BOULEVARD IN WILLIAMSON COUNTY.

FOR THE CONSTRUCTION OF THE EARTHWORK, GRADING, DRAINAGE & STRUCTURES, BASE COURSE, ASPHALTIC CONCRETE PAVEMENT AND PAVEMENT MARKINGS.

END PROJECT

EQUATIONS: NONE RAILROAD CROSSINGS: NONE
WATERSHED: NORTH FORK OF SAN GABRIEL RIVER AREA OF DISTURBANCE: 57.1 ACRES

PREPARED BY: SEILER LANKES GROUP (DESIGN CONSULTANT)

GERALD LANKES, PE PROJECT MANAGÉR

BEGIN PROJECT STA. 12+82+50

3 eiler

L ankes

g roup

STA. 165+37.88

VICINITY MAP

EXCEPTIONS: NONE

TBPE License No. 12670

DATE

PLANNING • ENGINEERING • CONSTRUCTION TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES ADOPTED ON NOVEMBER 1, 2014 AND ALL APPLICABLE SPECIAL PROVISIONS AND SPECIAL SPECIFICATIONS AS INDICATED IN THE BID DOCUMENTS SHALL GOVERN ON THIS PROJECT.

WILLIAMSON COUNTY

REQUIRED SIGNS SHALL BE PLACED IN ACCORDANCE WITH STANDARD SHEETS BC(1)-21 THRU BC(12)-21 AND THE "TEXAS MANUAL ON UNIFORM

> PROJECT LOCATION

TRAFFIC CONTROL DEVICES.:

DATE

= 45 MPH = 1800 = 180

= MINOR COLLECTOR

ADT (2035) = 3600 DHV (2035) = 360

255 DESIGN SPEED = 30 MPH

FUNCTIONAL CLASSIFICATION

DESIGN SPEED

ADT (2015)

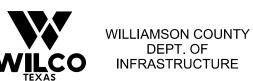
DHV (2015)

CR 289 & BIG VALLEY SPUR DESIGN SPEED = 30 MPH POWDER HORN DESIGN SPEED = 25 MPH

RONALD REAGAN BLVD DESIGN SPEED = 60 MPH



GERALD A. LANKES



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APPROVED AND RECOMMENDED FOR CONSTRUCTION:

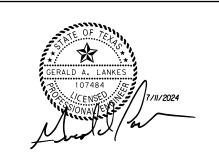
DATE J. TERRON EVERTSON, P.E. DIRECTOR OF ROAD AND BRIDGE DIVISION WILLIAMSON COUNTY

APPROVED BY: HNTB CORPORATION

CHRISTEN ESCHBERGER, PE ROAD BOND MANAGEMENT TEAM

SHEET NUMBER	DESCRIPTION	SHEET NUMBER	DESCRIPTION	SHEET NUMBER	DESCRIPTION
	GENERAL		ROADWAY STANDARDS *		DRAINAGE STANDARDS * (CONTINUED)
1	TITLE SHEET	140	GF (31)-19	267	PSET-RC
2	INDEX OF SHEETS	141	GF (31)-MS-19	268	PSET-RP
3 - 6	PROJECT LAYOUT SHEETS	142	SGT (10S) 31-16	269	PSET-RR
7	EXISTING TYPICAL SECTIONS	143	SGT (11S) 31-18	270	PB
8 <b>-</b> 9	PROPOSED TYPICAL SECTIONS	144	SGT (12S) 31-18	271	PBGC
10 - 10K	GENERAL NOTES	145	SGT (15) 31-20	272	PDD
11 - 14	SURVEY DATA	146 - 149	MB-21 (1)-(4)	273 - 274	PSL
15 - 21	QUANTITY SUMMARIES	150	CCCG-21 (MOD)		
22	ESTIMATE AND QUANTITIES				TRAFFIC
			DRAINAGE	275 - 278	SOSS
	TRAFFIC CONTROL PLAN	151 - 152	OFFSITE DRAINAGE AREA MAP	279 - 286	SIGNING AND PAVEMENT MARKING LAYOUT
23 - 26	TRAFFIC CONTROL PLAN SEQUENCE OF CONSTRUCTION	153 - 168	CR 255 DRAINAGE AREA MAP	287	SIGNING AND PAVEMENT MARKING LAYOUT 255/CR 289/BIG VALLEY
27 - 29	TCP HORIZONTAL ALIGNMENT DATA	169 - 170	RONALD REAGAN BLVD DRAINAGE AREA MAP	288	SIGNING AND PAVEMENT MARKING LAYOUT RONALD REAGAN
30 <b>-</b> 35	TRAFFIC CONTROL PLAN TYPICAL SECTIONS	171 - 172	HYDRAULIC DATA SHEET - BRIDGE-CLASS CULVERT 1	289	SIGN DETAILS
36 - 43	TRAFFIC CONTROL PLAN PHASE 1	173 - 175	HYDRAULIC DATA SHEET - BRIDGE-CLASS CULVERTS 2 & 2B		
44	RONALD REAGAN TRAFFIC CONTROL PLAN PHASE 1	176 - 177	HYDRAULIC DATA SHEET - BRIDGE-CLASS CULVERT 5		
45	TRAFFIC CONTROL PLAN AND PROFILE	178	DRAINAGE COMPUTATIONS - CULVERTS 3 & 4		
46	TRAFFIC CONTROL PLAN PHASE 1 CULV 4 DETAILS	179	DRAINAGE COMPUTATIONS - CULVERTS 6A & 6B		TRAFFIC STANDARDS *
47 <b>-</b> 53	TRAFFIC CONTROL PLAN PHASE 2A	180	DRAINAGE COMPUTATIONS - CULVERTS 7 & 8	290	D&OM(1)-20
54	TRAFFIC CONTROL PLAN PHASE 2A CULV 2A DETAILS	181	DRAINAGE COMPUTATIONS - RUNOFF SUMMARY - 5 YEAR	291	D&OM(2)-20
55	TRAFFIC CONTROL PLAN PHASE 2A-STEP 2	182	DRAINAGE COMPUTATIONS - INLETS & LINKS - 5 YEAR	292	D&OM(4)-20
56 <b>-</b> 57	TRAFFIC CONTROL PLAN PHASE 2A-STEP 3	183	DRAINAGE COMPUTATIONS - DITCHES - 5 YEAR	293 <b>-</b> 295	PM(1)-22 THRU PM(3)-22
58 - 64	TRAFFIC CONTROL PLAN PHASE 2B	184	BRIDGE-CLASS CULVERT LAYOUT - CULVERT 1	296	PM(4)-22A
65	RONALD REAGAN TRAFFIC CONTROL PLAN PHASE 2B	185	BRIDGE-CLASS CULVERT LAYOUT - CULVERT 2	297	BLPM-10
66	CR 255 /CR 289 INTERSECTION TRAFFIC CONTROL PLAN PHASE 20	186	BRIDGE-CLASS CULVERT LAYOUT - CULVERT 2B	298	SMD(GEN)-08
67 - 74	TRAFFIC CONTROL PLAN PHASE 3	187	BRIDGE-CLASS CULVERT LAYOUT - CULVERT 5	299	SMD(SLIP-1)-08
75	PHASE 3 AT CR 255 /CR 289 INTERSECTION LAYOUT	188	CULVERT PROFILES - CULVERTS 3 & 4	300	SMD(SLIP-2)-08
76	TRAFFIC CONTROL PLAN DETOUR PLANS	189	CULVERT PROFILES - CULVERTS 6A, 6B & 7	301	SMD(SLIP-3)-08
		190	CULVERT PROFILES - CULVERT 8		
	TRAFFIC CONTROL PLAN STANDARDS *	191	CHANNEL LAYOUT - CHANNEL 2A		ENVIRONMENTAL ISSUES
77 - 88	BC(1)-21 THRU BC(12)-21	192	DRIVEWAY CULVERT SUMMARY	302 <b>-</b> 309	CR 255 SWP3
89	WZ(RCD)-13	193 - 207	CR 255 DITCH PLAN & PROFILE	310	255/CR 289 SWP3
90	WZ(STPM)-23	208 - 209	RONALD REAGAN BLVD DITCH PLAN & PROFILE	311	RONALD REAGAN SWP3
91	TCP(1-2)-18	210 - 213	DRAINAGE DETAILS		
92	TCP(2-1)-18	214	WATER QUALITY COMPUTATIONS		EROSION CONTROL STANDARDS *
93	TCP(2-2)-18	215 - 232	WATER QUALITY SITE PLAN	312 - 314	EC(1)-16 THRU EC(3)-16
94	TCP(2-8)-23			315 - 317	EC(9)-16
95	TCP(3-1)-13		DRAINAGE STANDARDS *		
96 - 97	LPCB-13	233 - 234			CROSS SECTIONS
		235	SCC-MD	318 - 419	CR 255
	ROADWAY		SCC-3 & 4	420 - 421	CR 289
	HORIZONTAL ALIGNMENT DATA	238 - 239	SCC-5 & 6	422 - 432	RONALD REAGAN BLVD
	PLAN AND PROFILE	240	SCP-MD		
118	PLAN AND PROFILE BON WINDE	241	SCP-3		CITY OF GEORGETOWN WATERLINE PLANS
119	PLAN AND PROFILE HILL TOP SPRINGS	242	SCP-4		
120	PLAN AND PROFILE DANIEL MOUNTAIN RD	243	SCP-5		
121	PLAN AND PROFILE BIG OAKS	244	SCP-7		
122	PLAN AND PROFILE LOST SPRING LAKE RD/TIMBER RANCH DR	245	SCP-10		
123	PLAN AND PROFILE POWDER HORN RD	246	MC-MD		
124	PLAN AND PROFILE 255	247 - 248			
125	PLAN AND PROFILE BIG VALLEY SPUR / CR 289	249 - 250			
126	INTERSECTION DETAIL OR 255 AT CR 254	251 - 252			
127	INTERSECTION DETAIL OR 255 AT BON WINDE	253	ECD		

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED BY \* HAVE BEEN SELECTED Y ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



PLANNING . ENGINEERING . CONSTRUCTION

CR 255

INDEX OF SHEETS

SHEET 1 OF 1

IGNED:	FED. RD DIV. No.	STATE	FEDERAL	AID	PROJECT	No.	HIG	HWAY No.
CKED:		TEXAS					CR	255
WN:	COUNTY				JOB No.	SHEET No.		
CKED:	WILLIAMSON					2		

132

133

134

135

136

INTERSECTION DETAIL CR 255 AT HILL TOP SPRINGS

INTERSECTION DETAIL CR 255 AT POWDER HORN RD

INTERSECTION DETAIL CR 255 AT 255

DRIVEWAY DETAILS

137 - 139 CR 255 REMOVAL PLAN

INTERSECTION DETAIL BIG VALLEY/CR 289

INTERSECTION DETAIL RONALD REAGAN

RONALD REAGAN ROADWAY DETAILS

INTERSECTION DETAIL CR 255 AT BIG OAKS/DANIEL MOUNTAIN RD 255

INTERSECTION DETAIL AT LOST SPRING LAKE RD/TIMBER RANCH DR 256

PW 258 - 259 SETB-CD

SETP-PD

PSET-SC

PSET-SP

260 - 261 SETB-PD

262 - 263 SETP-CD

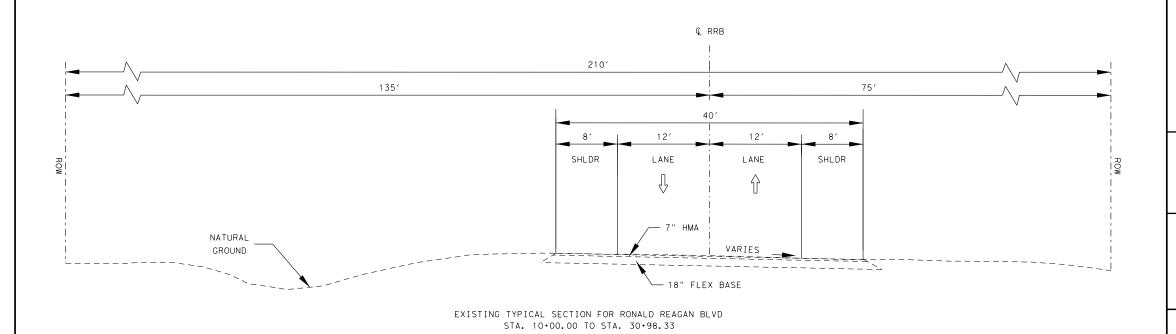
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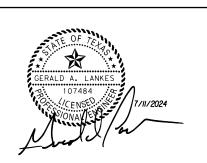
265

266

EXISTING Q CR 255/CR 289 VARIES 32' - 100' VARIES 16' - 50' VARIES 16' - 50' 20′ LANE LANE NATURAL GROUND VARIES | VARIES

EXISTING TYPICAL SECTION FOR CR 255 STA. 12+83.39 TO STA. 116+00.00 CR 289 STA. 116+00.00 TO STA. 141+00.00 BON WINDE STA. 10+00.00 TO 11+12.61 HILL TOP SPRINGS STA. 10+40.00 TO 11+41.73 DANIEL MOUNTAIN STA. 10+34.00 TO 11+28.90 BIG OAKS STA. 10+00.00 TO 10+84.77 TIMBER RANCH/LOST SPRING LAKE STA. 11+26.00 TO 12+00.00 AND STA. 12+28.00 TO 12+70.81 POWDER HORN STA. 10+00.00 TO 12+40.00 255 STA. 11+84.25 TO STA. 13+63.56 BIG VALLEY SPUR / CR 289 STA. 11+02.58 TO STA. 13+24.76 AND STA. 13+43.89 TO STA 16+28.00







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE

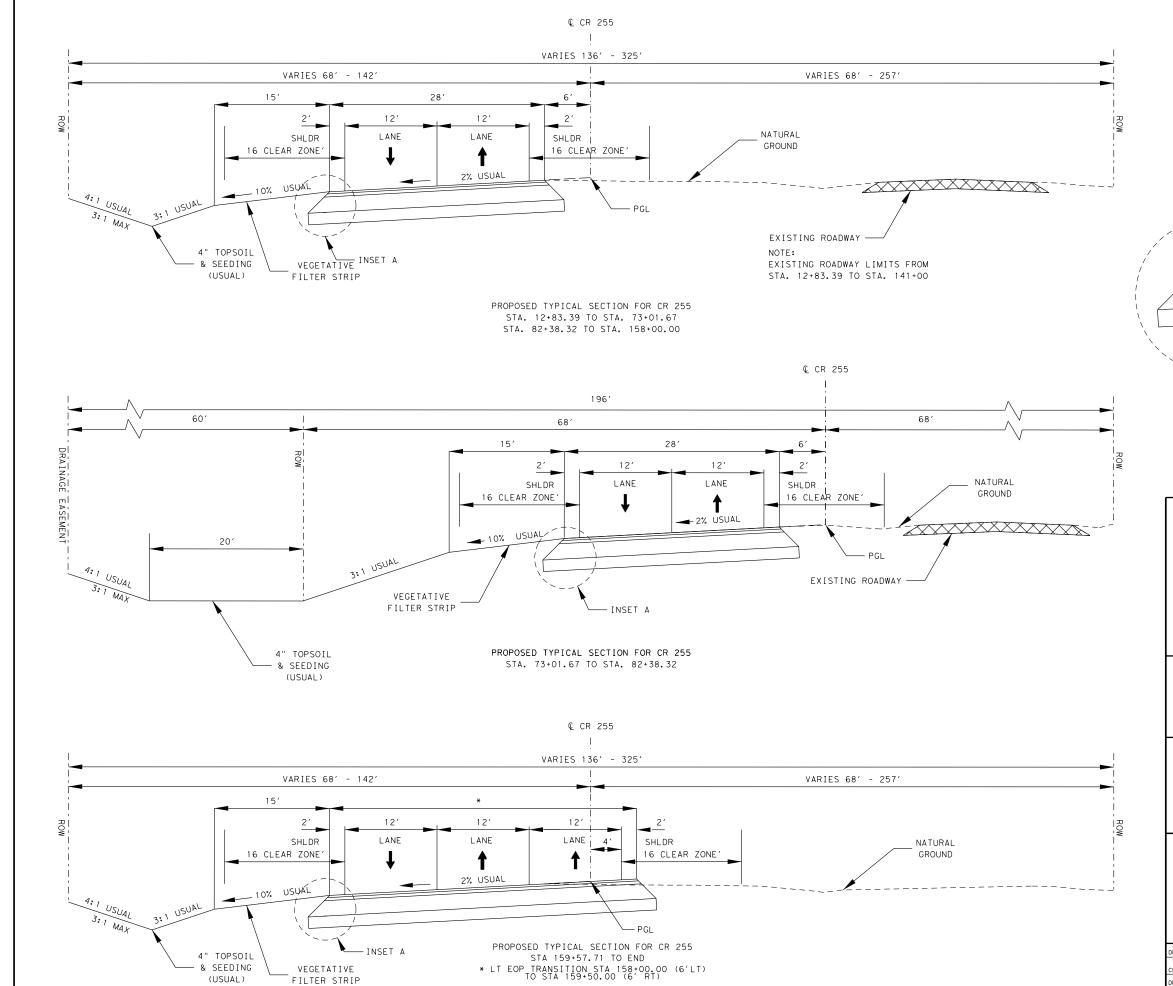


PLANNING . ENGINEERING . CONSTRUCTION

CR 255 EXISTING
TYPICAL SECTIONS

SHEET 1 OF 1

	FED. RD			117.0	LINEAN AL-
DESIGNED:	DIV. No.	STATE	FEDERAL AID PROJECT No.	HIG	HWAY No.
CHECKED:		TEXAS		CR	255
RAWN:	COUNTY				SHEET No.
CHECKED:	WILLIAMSON				7



2" HMA (TY D) - 3" HMA (TY B) UNDERSEAL & PRIME COAT -17" FLEX BASE (TY A GR 4) PLACE FLEX BASE IN 3 LIFTS (6",6" AND 5") 8" LIME STABILIZED SUBGRADE (6% BY WEIGHT) INSET A





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



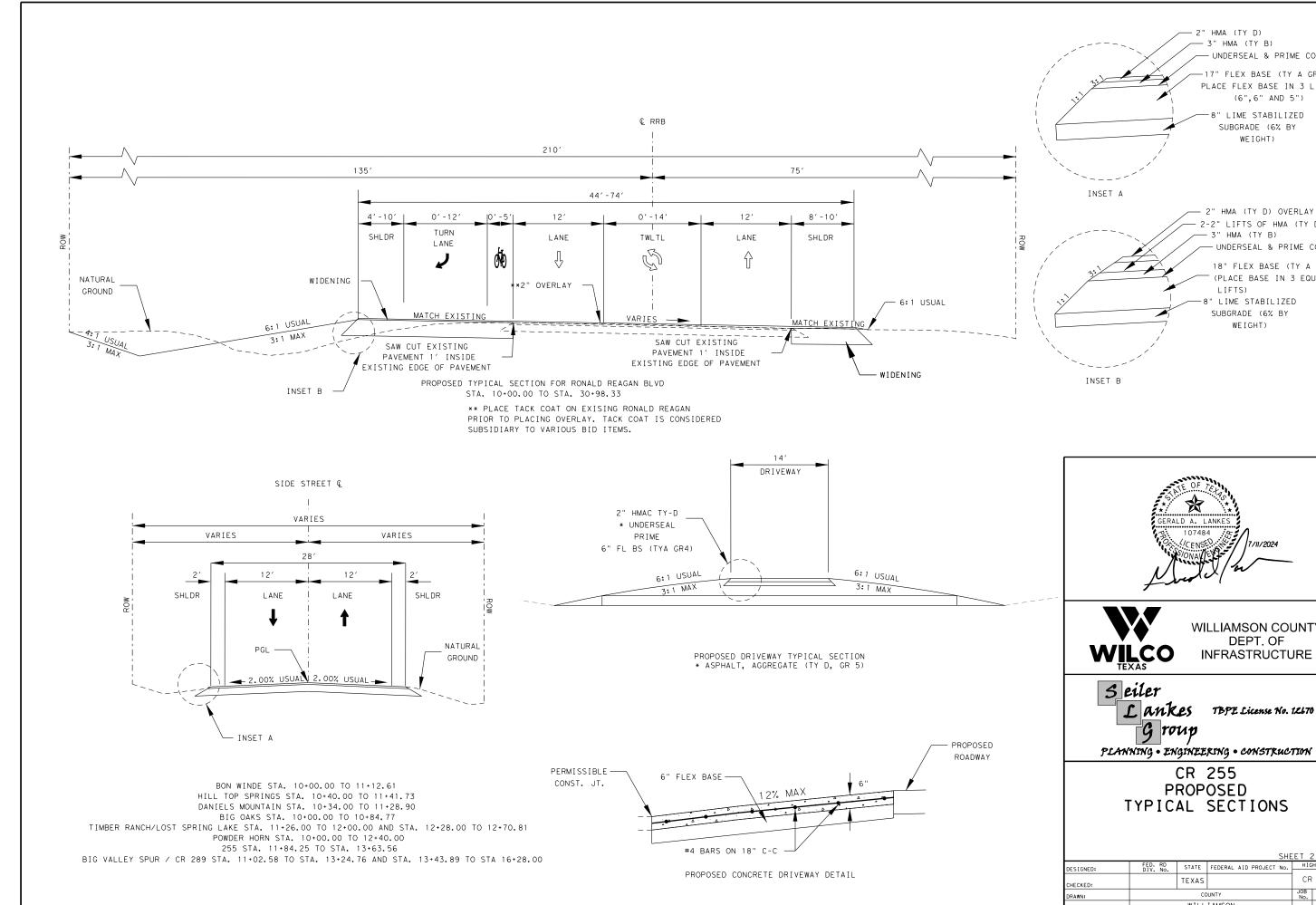
PLANNING . ENGINEERING . CONSTRUCTION

CR 255 PROPOSED
TYPICAL SECTIONS

	SHE	EΤ	1	OF	2
DJECT	No.	H.	ΙGΗ	WAY N	ю.

FED. RD DIV. No. STATE FEDERAL AID PRO DESIGNED: CR 255 TEXAS CHECKED: COUNTY WILLIAMSON

cStg-dis Documents WILCO 302-CR255\_CR289/Design\_Data14 - Design/Miscelaneous/CR255\_tiot.pen cStg-dis Documents WILCO 302-CR255\_CR289/Design\_Data14 - Design/Plan\_Set/01. General/CR255\_TYP\_02.dgn



- 3" HMA (TY B)

- UNDERSEAL & PRIME COAT -17" FLEX BASE (TY A GR 4) PLACE FLEX BASE IN 3 LIFTS (6",6" AND 5") B" LIME STABILIZED

> SUBGRADE (6% BY WEIGHT)

2" HMA (TY D) OVERLAY

- 2-2" LIFTS OF HMA (TY D)

UNDERSEAL & PRIME COAT 18" FLEX BASE (TY A GR 4 (PLACE BASE IN 3 EQUAL

3" HMA (TY B)

SUBGRADE (6% BY

WEIGHT)

WILLIAMSON COUNTY DEPT. OF

INFRASTRUCTURE

STATE FEDERAL AID PROJECT No. HIGHWAY NO.

CR 255

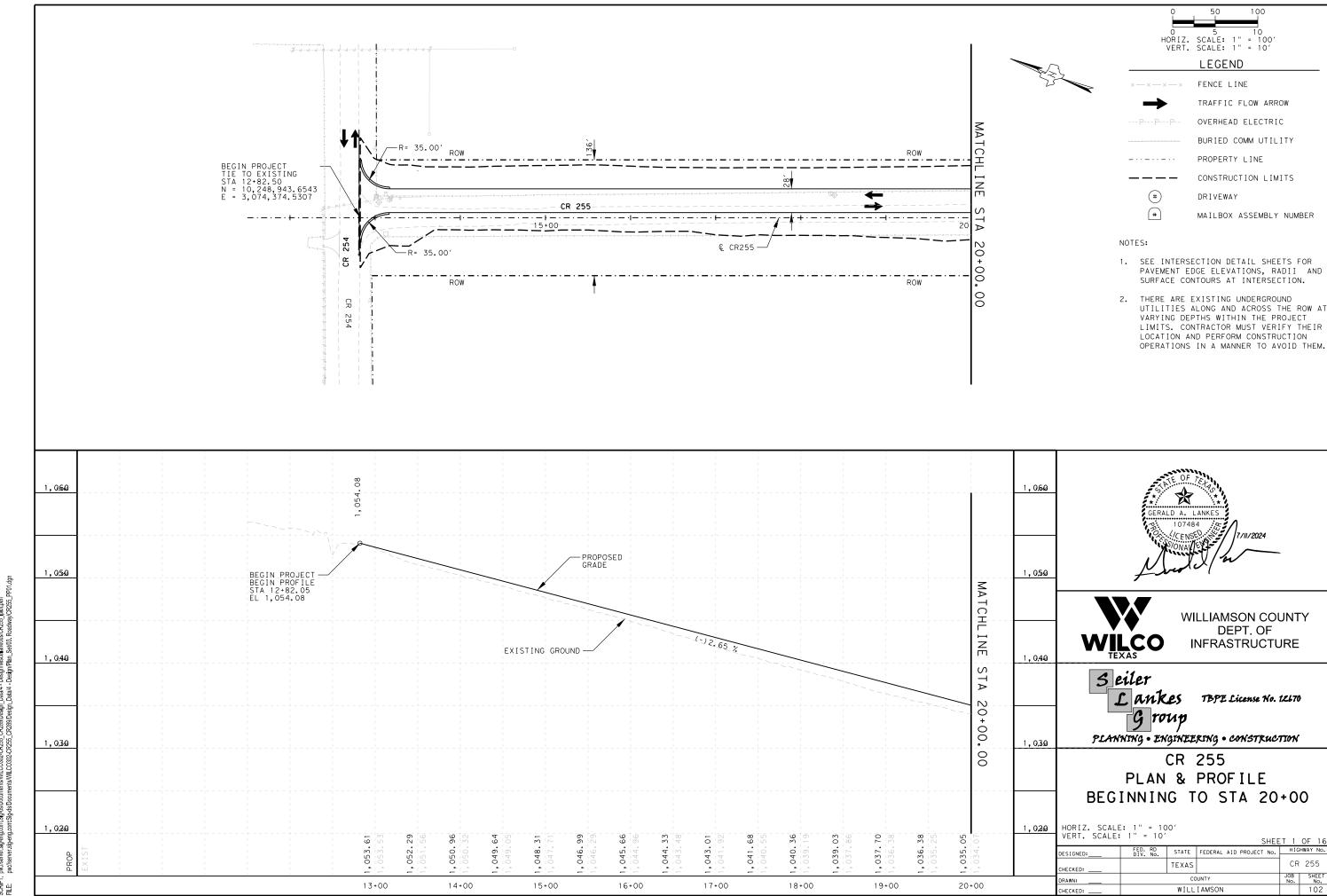
CR 255

PROPOSED

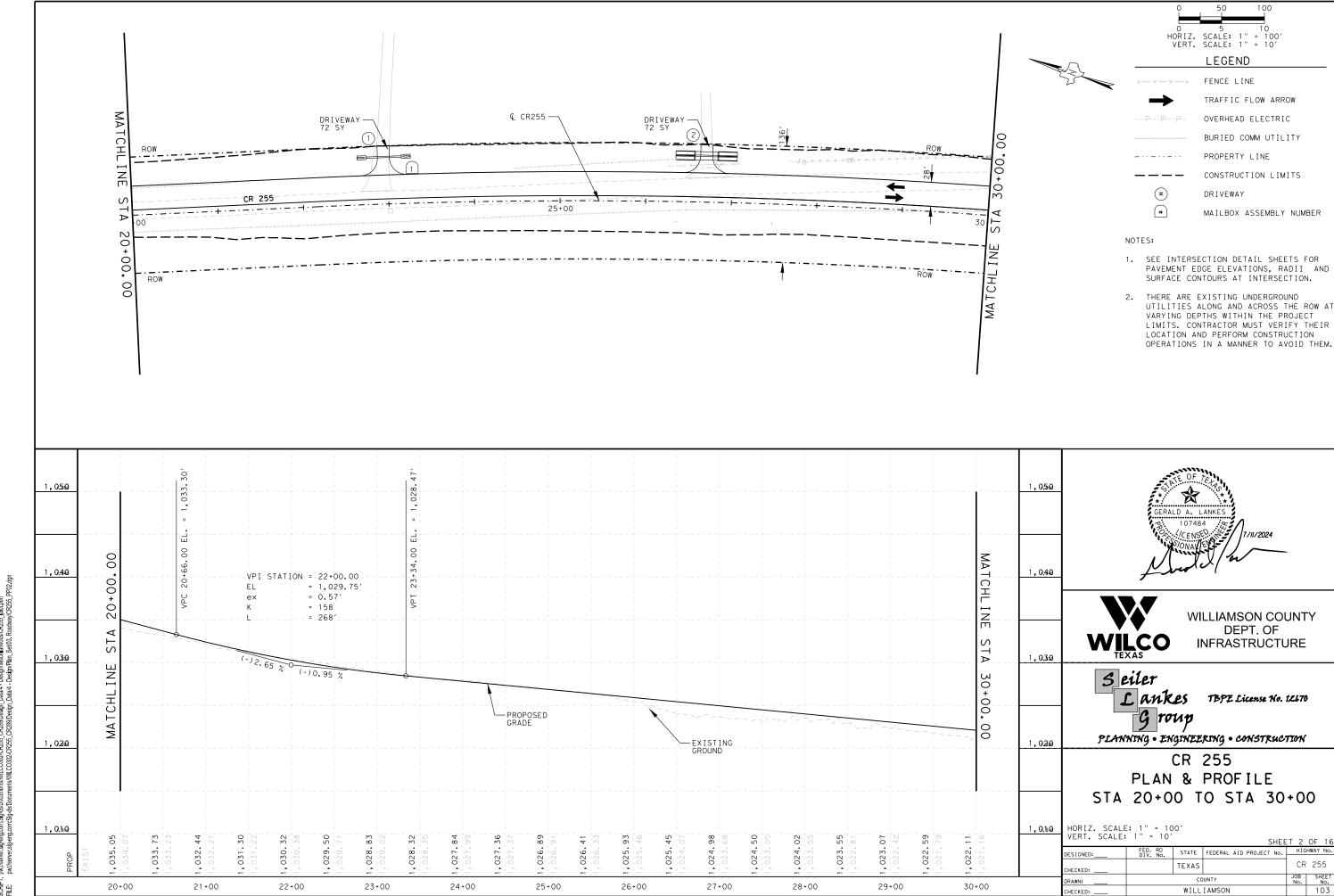
TEXAS

COUNTY WILLIAMSON

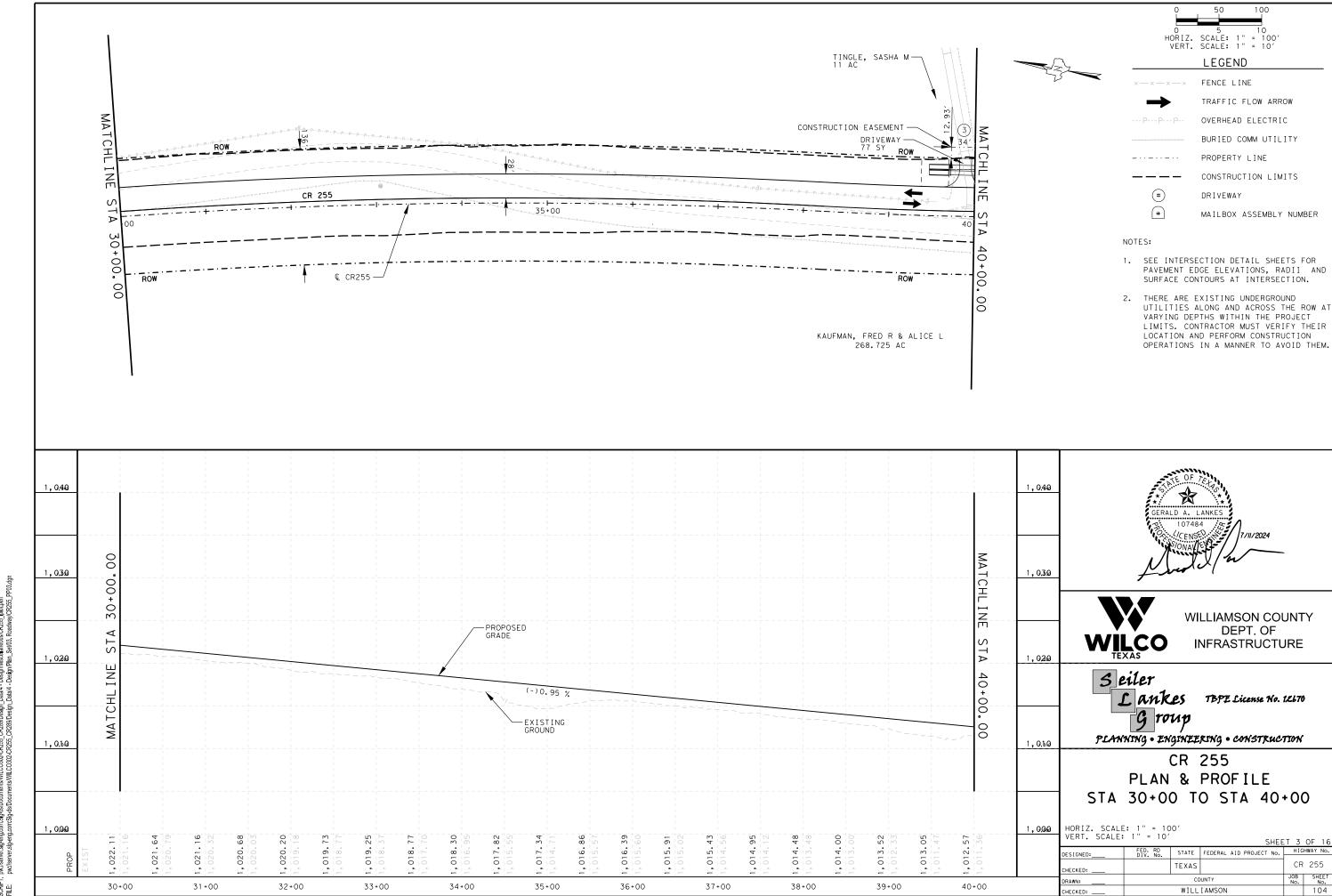
LIFTS) 8" LIME STABILIZED



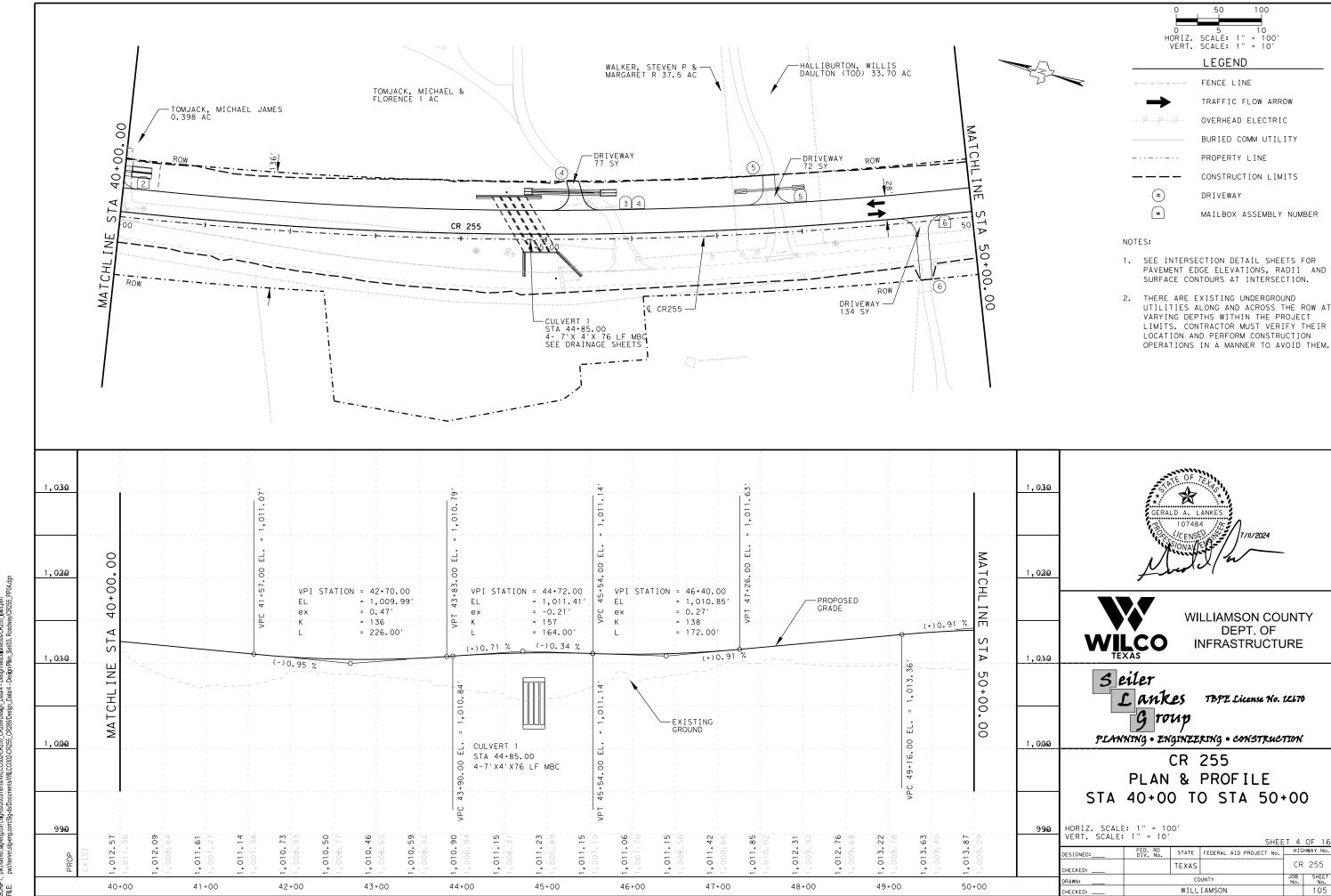
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vouments/WILC0302-CR255, CR289/Design\_Data/4 - Design/Miscellaneous/CR255\_tipt.pen vouments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Plan\_Set/03. Roadway/CR255\_PP02.dgn

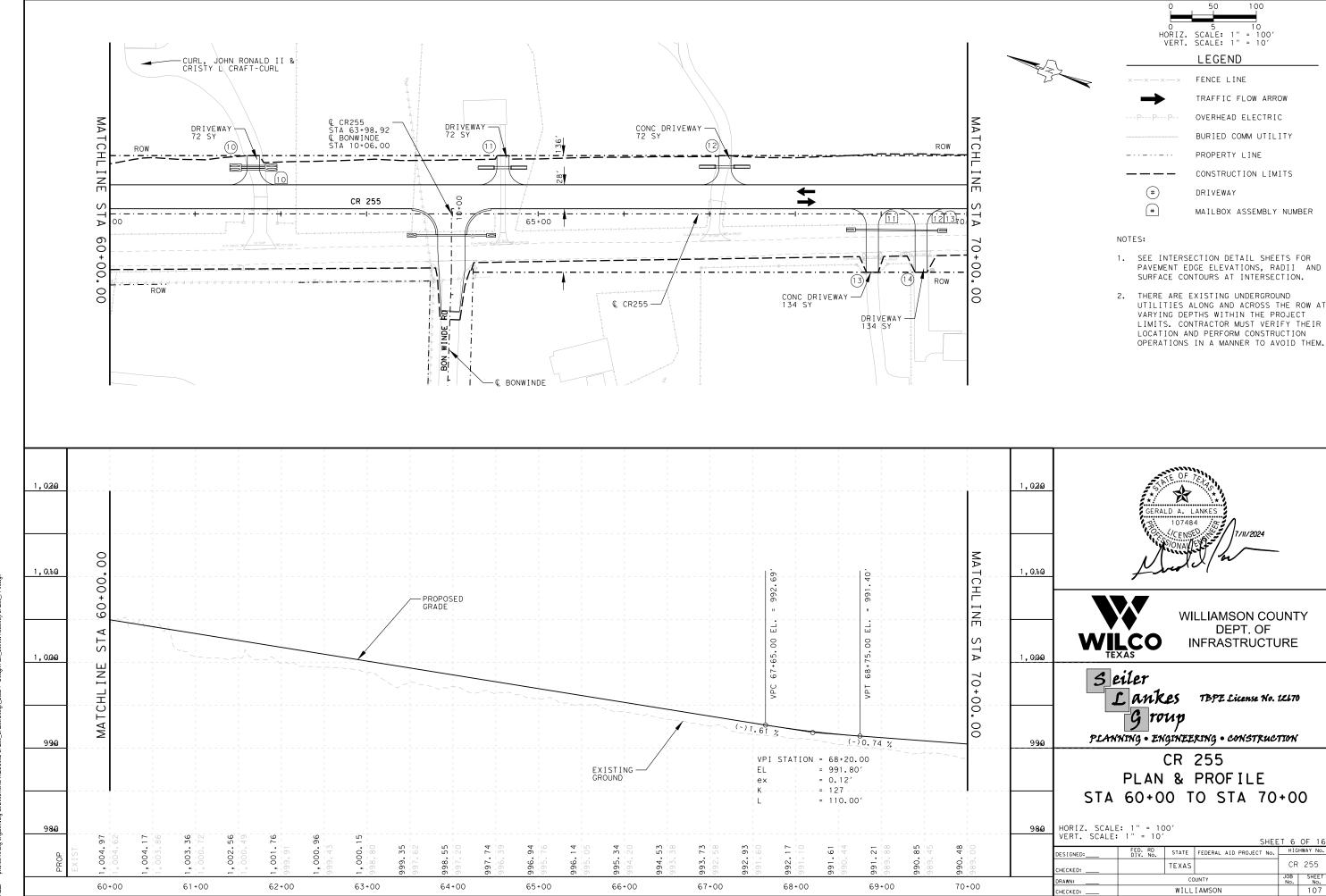


vouments/WILC0302-CR255, CR289/Design\_Data/4 - Design/Miscellaneous/CR255\_tipt.pen vouments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Plan\_Set/03. Roadway/CR255\_PP03.dgn



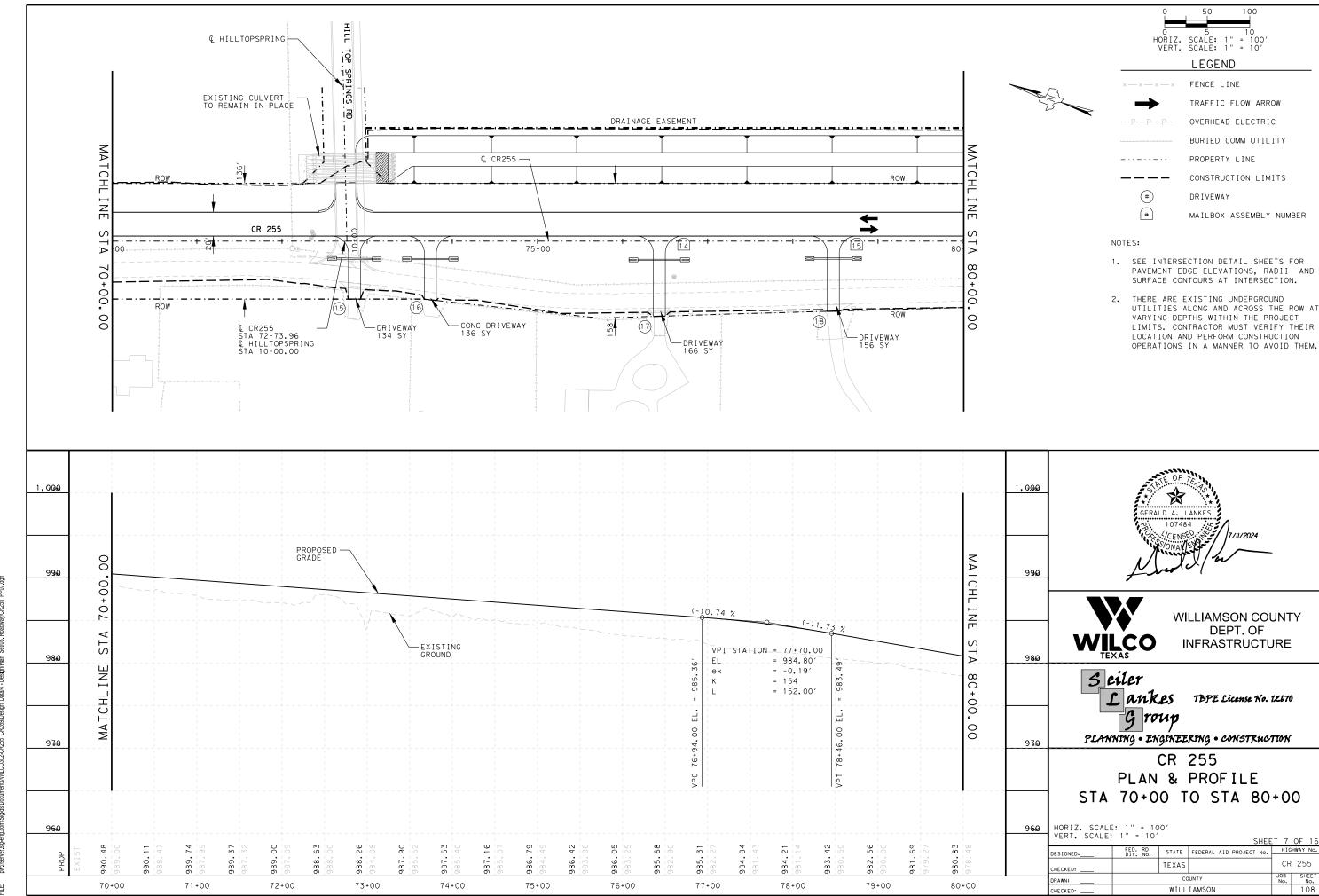
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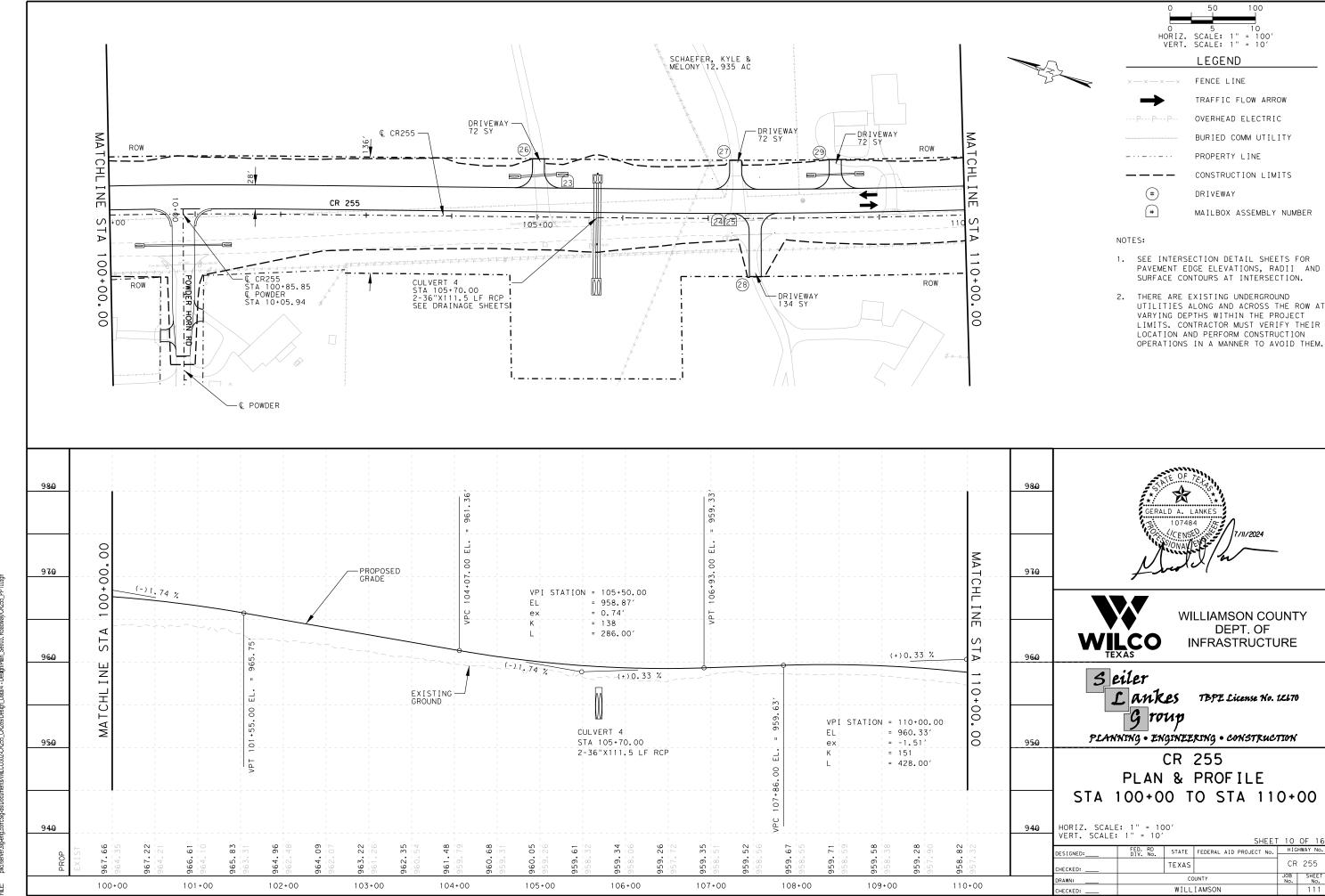
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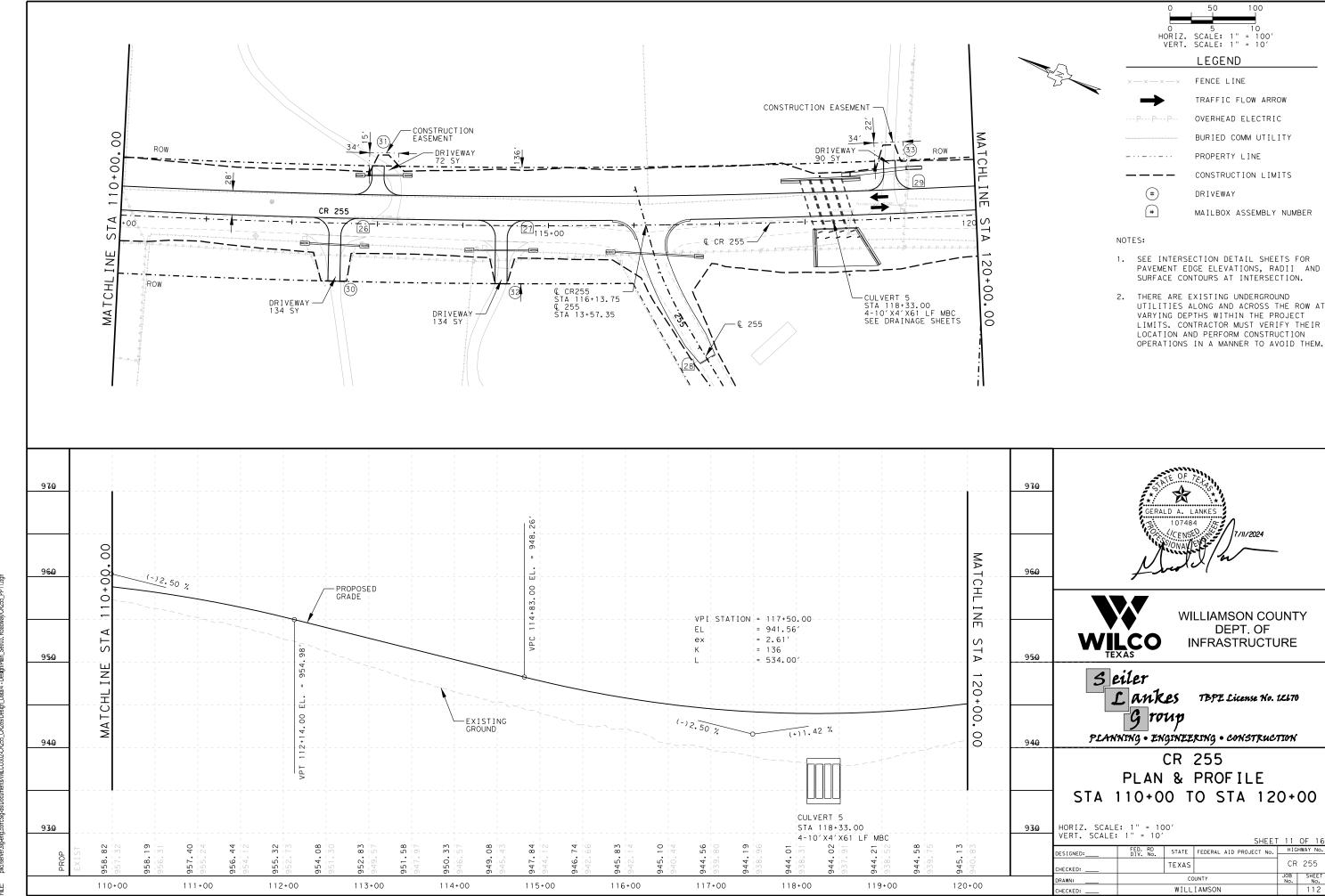
cuments/WILC0302-CR255\_CR289/Design\_Datal4 - Design/Miscellaneous/CR255\_tjot.pen cuments/WILC0302-CR255\_CR289/Design\_Datal4 - Design/Plan\_Set/03. Roadway/CR255\_PP07.dgn

r:Sig-dis/Documents/WILC0302-CR255\_CR289/Design\_Data/d - Design/Miscellaneous/CR255\_tip/tpen r:Sig-dis/Documents/WILC0302-CR255\_CR289/Design\_Data/d - Design/Plan\_Set/03. Roadway/CR255\_PP08.dgn

0 5 10 HORIZ. SCALE: 1" = 100' VERT. SCALE: 1" = 10' € LOSTSPRING — LEGEND FENCE LINE RING LAKE RD TRAFFIC FLOW ARROW OVERHEAD ELECTRIC BURIED COMM UTILITY € CR255 -TC ROW PROPERTY LINE CONSTRUCTION LIMITS # DRIVEWAY CR 255 # MAILBOX ASSEMBLY NUMBER ΤA NOTES: 90 1. SEE INTERSECTION DETAIL SHEETS FOR PAVEMENT EDGE ELEVATIONS, RADII AND .00 ROW-SURFACE CONTOURS AT INTERSECTION. DRIVEWAY ROW IMBER RANCH - © CR255 STA 97+48.05 © LOSTSPRING STA 11+94.00 -DRIVEWAY 128 SY -CULVERT 3 STA 92+50.00 2-5' X 3' X 61' LF MBC SEE DRAINAGE SHEETS 2. THERE ARE EXISTING UNDERGROUND UTILITIES ALONG AND ACROSS THE ROW AT VARYING DEPTHS WITHIN THE PROJECT LIMITS. CONTRACTOR MUST VERIFY THEIR 00 -DRIVEWAY 150 SY LOCATION AND PERFORM CONSTRUCTION OPERATIONS IN A MANNER TO AVOID THEM. DRIVEWAY 990 990 ERALD A. LANKES 980 980 00 zuments/WILC0302-CR255\_CR289/Design\_Datal4 - Design/Miscoelaneous/CR255\_tjelctpen zuments/WILC0302-CR255\_CR289/Design\_Datal4 - Design/Plan\_Set/03. Roadway/CR255\_PP0/ 90 INE WILLIAMSON COUNTY DEPT. OF VPI STATION = 92+94.00 INFRASTRUCTURE -PROPOSED GRADE ST = 965.53' EL ΤA = 0.29' 970 970 ex = 139 (+)0.45 % 5 eiler = 180.00' 00 Lankes TBPE License No. 12670 (-)0.84 % (+)0.45 % g roup VPI STATION = 99+87.00 = 968.68' EL 00 = -0,92' PLANNING . ENGINEERING . CONSTRUCTION 96େ -= -1.53-= 336.00' CR 255 PLAN & PROFILE CULVERT 3 STA 90+00 TO STA 100+00 STA 92+50.00 2-5'X3'X61 LF MBC HORIZ. SCALE: 1" = 100' VERT. SCALE: 1" = 10' 95₽ 950 STATE FEDERAL AID PROJECT No. HIGHWAY No. ESIGNED: CR 255 TEXAS HECKED: JOB SHEET NO. 110 COUNTY 90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00 WILLIAMSON

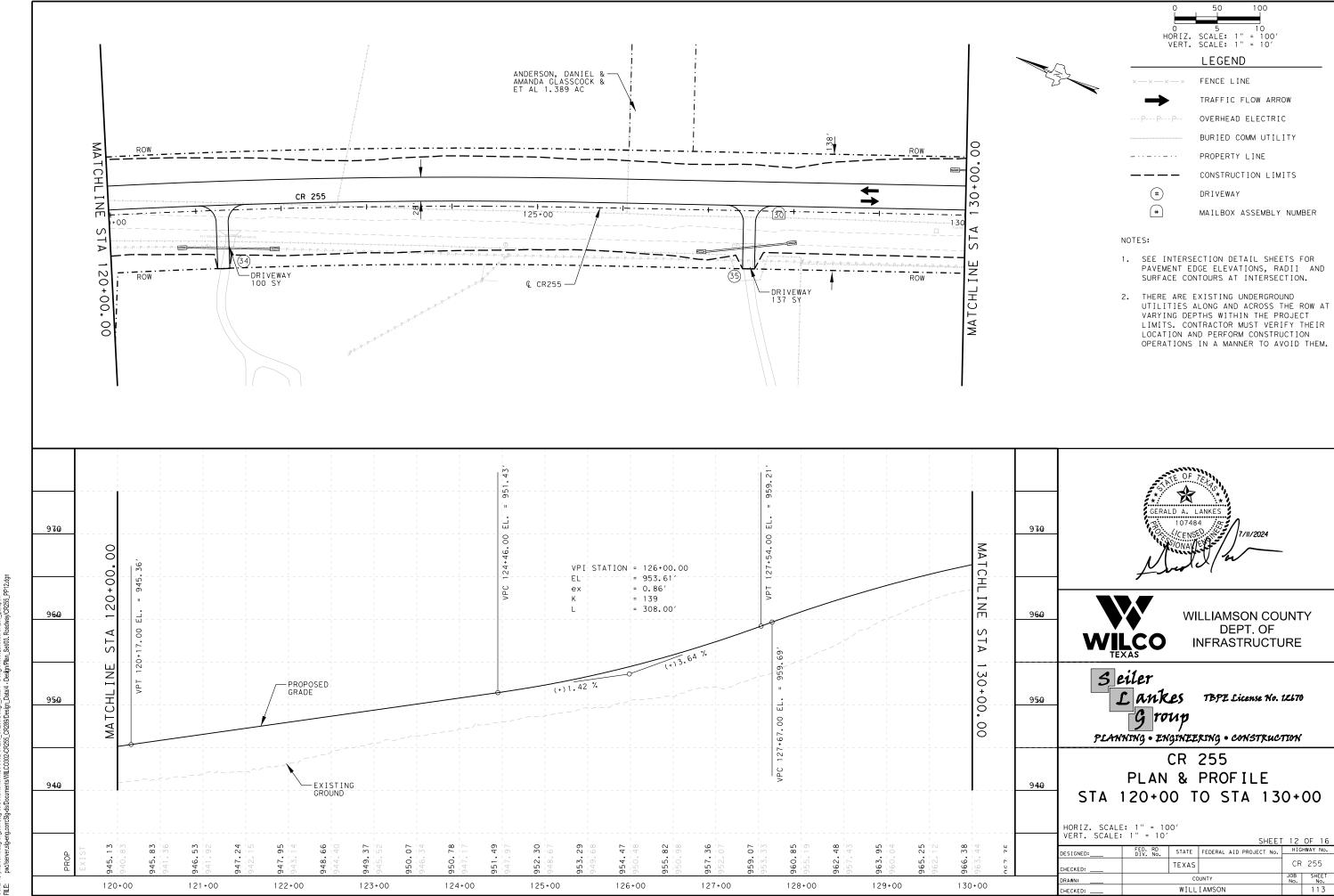


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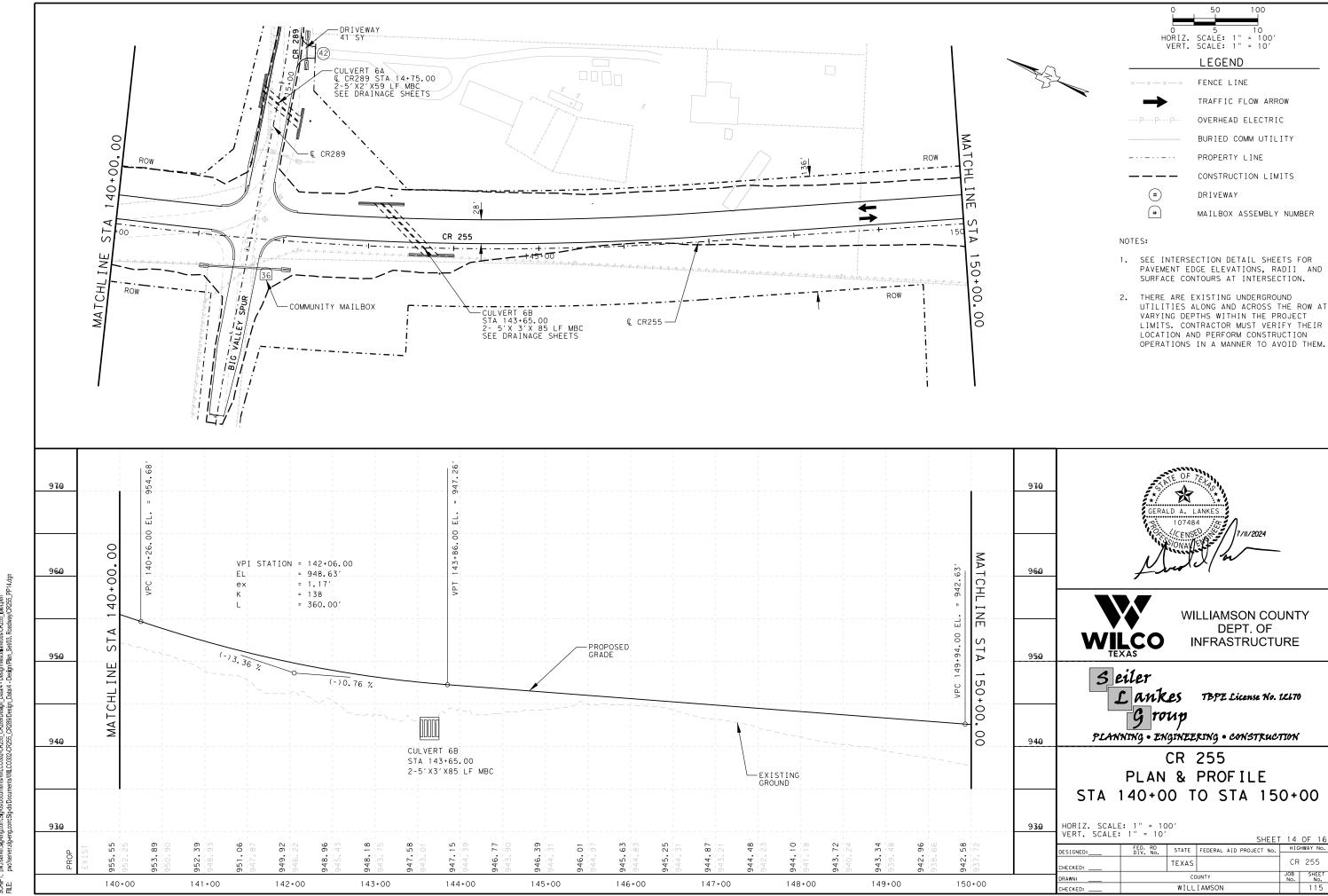
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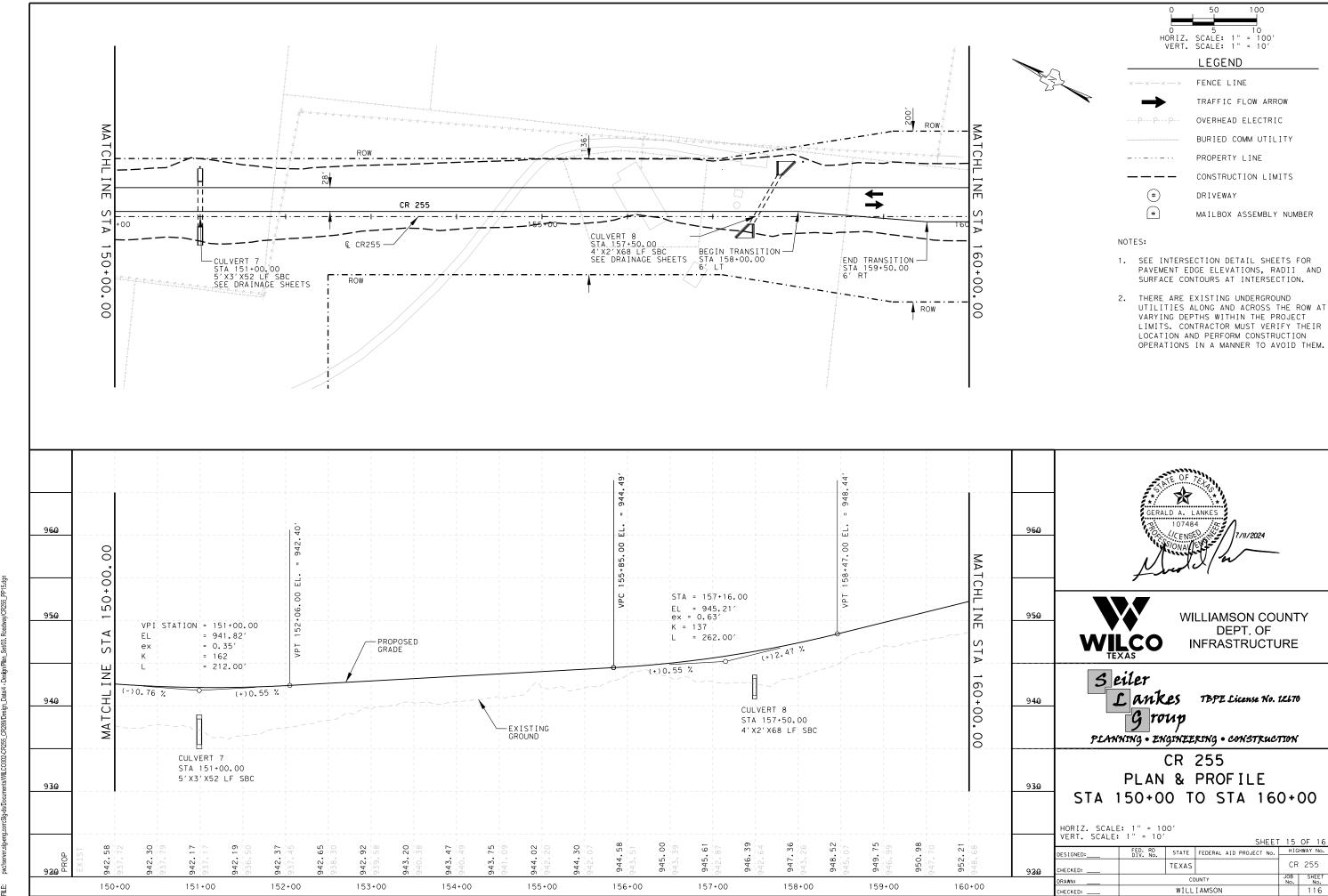
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0 5 10 HORIZ. SCALE: 1" = 100' VERT. SCALE: 1" = 10' LEGEND FENCE LINE TRAFFIC FLOW ARROW OVERHEAD ELECTRIC -DRIVEWAY 72 SY -DRIVEWAY 72 SY BURIED COMM UTILITY PROPERTY LINE CONSTRUCTION LIMITS # DRIVEWAY CR 255 # MAILBOX ASSEMBLY NUMBER 135+ NOTES: 1. SEE INTERSECTION DETAIL SHEETS FOR PAVEMENT EDGE ELEVATIONS, RADII AND € CR255-SURFACE CONTOURS AT INTERSECTION. MATCHL DRIVEWAY -DRIVEWAY DRIVEWAY THERE ARE EXISTING UNDERGROUND UTILITIES ALONG AND ACROSS THE ROW AT VARYING DEPTHS WITHIN THE PROJECT LIMITS. CONTRACTOR MUST VERIFY THEIR DRIVEWAY 00 LOCATION AND PERFORM CONSTRUCTION OPERATIONS IN A MANNER TO AVOID THEM. 980 980 (\*)3.64 % (-)3.36 % ERALD A. LANKES MATCHL 00 970 970 00 -PROPOSED GRADE INE WILLIAMSON COUNTY DEPT. OF S INFRASTRUCTURE EXISTING -ΔŢΑ 96ଯ 5 eiler VPI STATION = 133+00.00 = 979.08' EL Lankes TBPE License No. 12670 00 = -9.33' ex group = 152 = 1066.00' 00 PLANNING • ENGINEERING • CONSTRUCTION 95₽ CR 255 PLAN & PROFILE STA 130+00 TO STA 140+00 HORIZ. SCALE: 1" = 100' VERT. SCALE: 1" = 10' 940 940 STATE FEDERAL AID PROJECT No. HIGHWAY No. ESIGNED: CR 255 TEXAS HECKED: JOB SHEET No. 114 COUNTY 130+00 133+00 134+00 137+00 131+00 132+00 135+00 136+00 138+00 139+00 140+00 WILLIAMSON

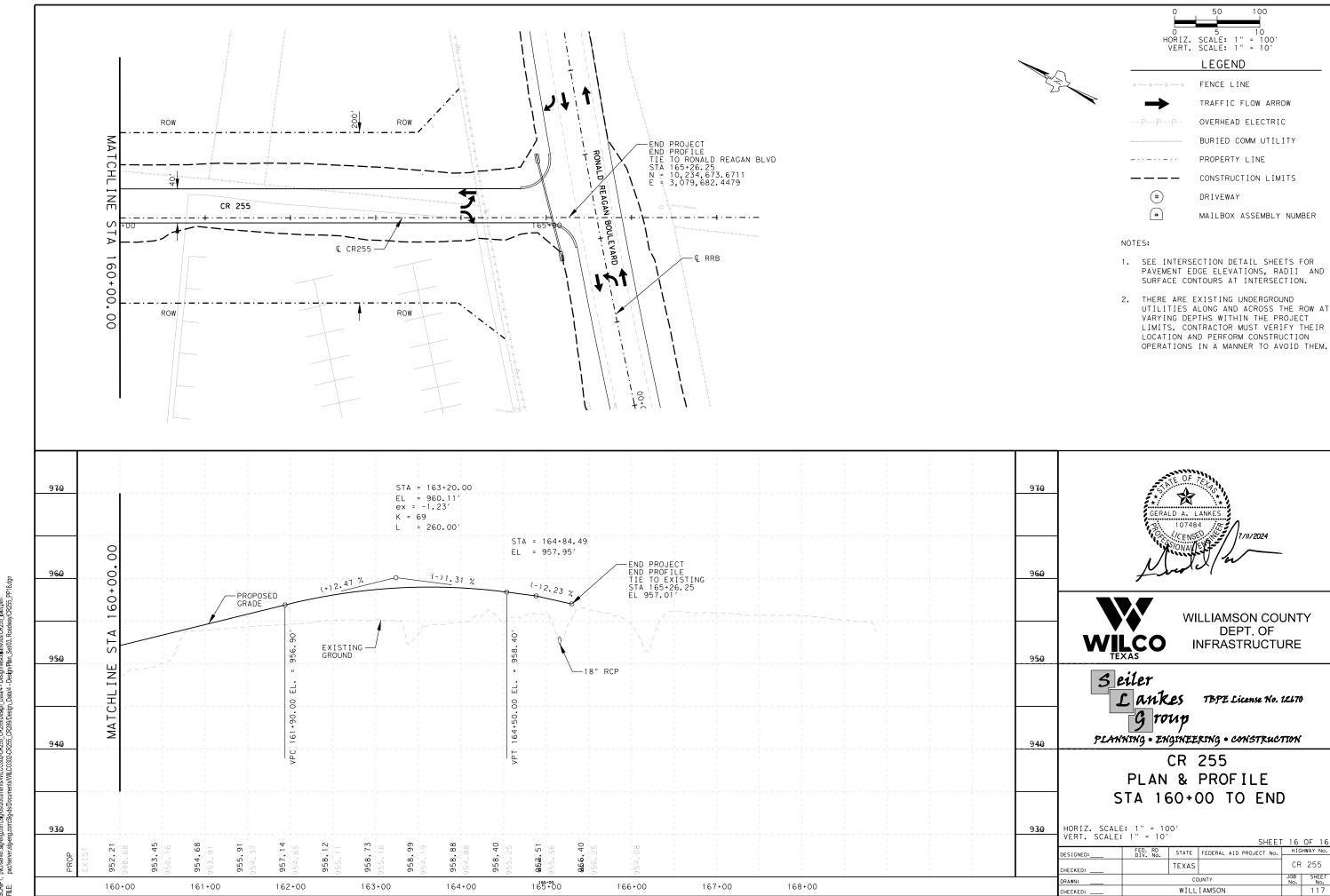
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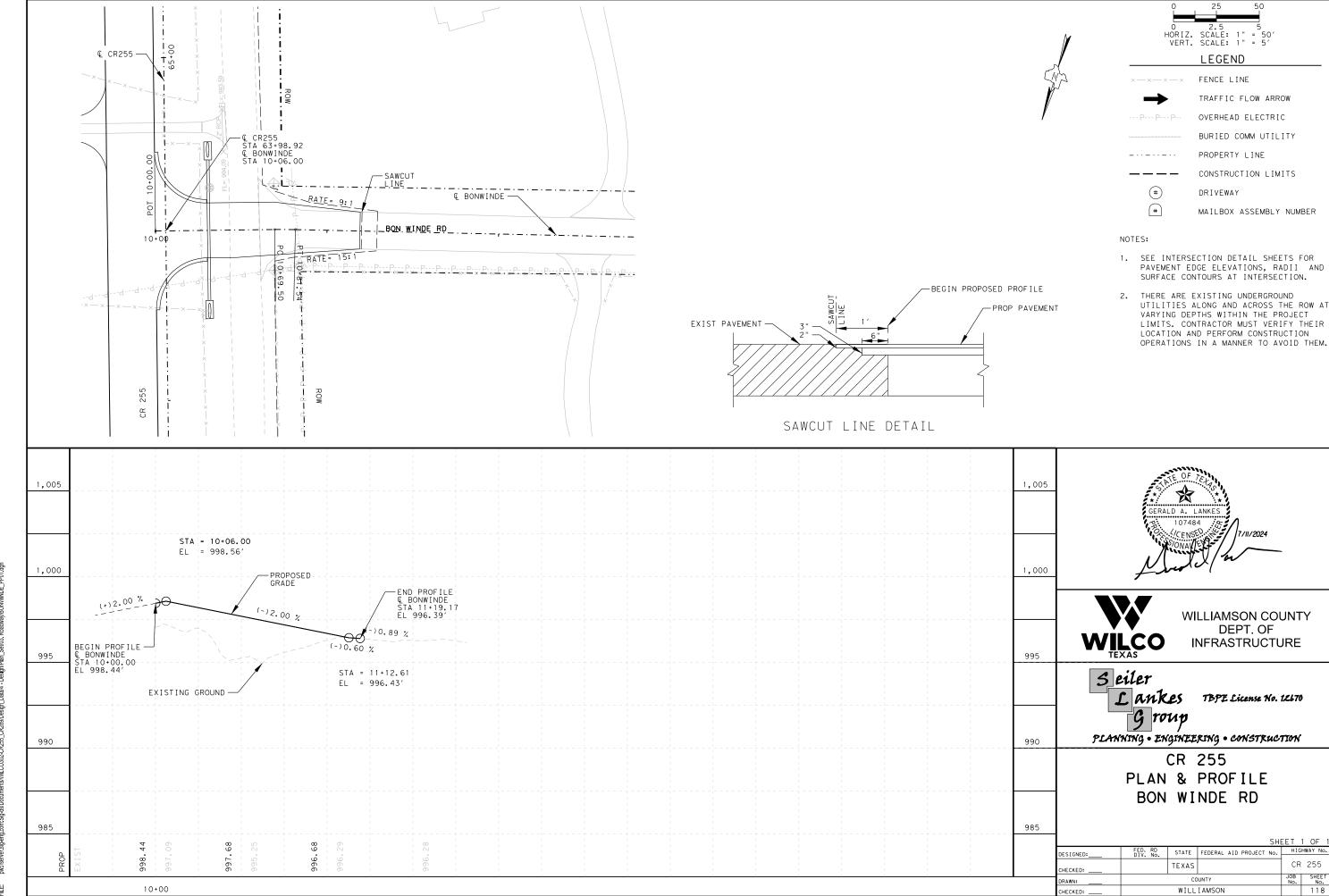
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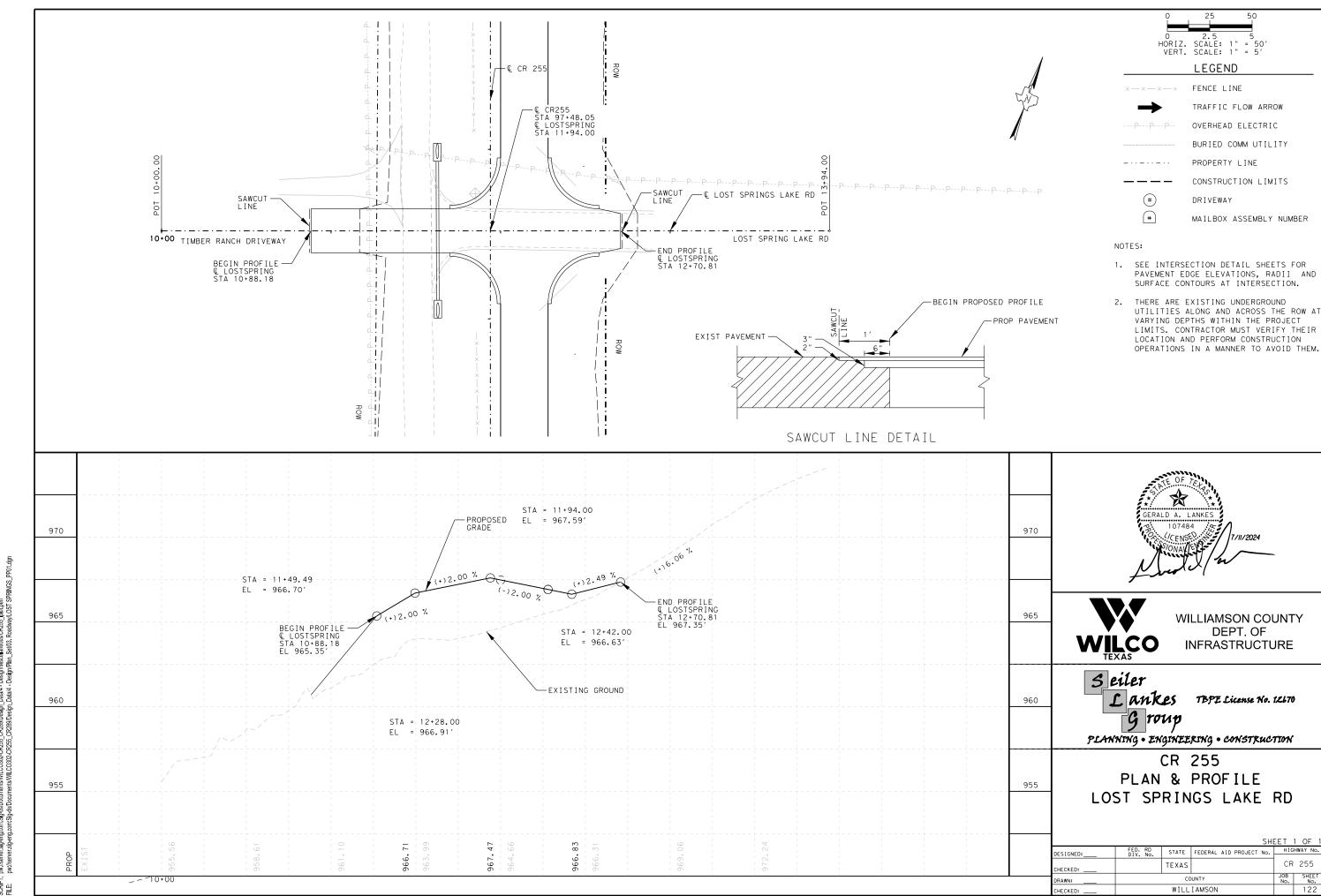
0 2.5 5 HORIZ. SCALE: 1" = 50' VERT. SCALE: 1" = 5' CR LEGEND FENCE LINE TRAFFIC FLOW ARROW OVERHEAD ELECTRIC BURIED COMM UTILITY 8|18 PROPERTY LINE © CR255 STA 72+30.55 © HILLTOPSPRING STA 10+00.00 CONSTRUCTION LIMITS - Q HILLTOPSPRING (#) DRIVEWAY # MAILBOX ASSEMBLY NUMBER 10+0¢ HILL TOP SPRINGS RD NOTES: 1. SEE INTERSECTION DETAIL SHEETS FOR PAVEMENT EDGE ELEVATIONS, RADII AND ROW SURFACE CONTOURS AT INTERSECTION. BEGIN PROPOSED PROFILE PROP PAVEMENT 2. THERE ARE EXISTING UNDERGROUND
UTILITIES ALONG AND ACROSS THE ROW AT
VARYING DEPTHS WITHIN THE PROJECT € CR255-EXIST PAVEMENT LIMITS. CONTRACTOR MUST VERIFY THEIR LOCATION AND PERFORM CONSTRUCTION OPERATIONS IN A MANNER TO AVOID THEM. SAWCUT LINE DETAIL 995 995 GERALD A. LANKES -END PROFILE © HILLTOPSPRING STA 10+67.98 EL 987.13' 990 990 (-)1.88% WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE -EXISTING GROUND 985 985 PROPOSED BEGIN PROFILE © HILLTOPSPRING STA 10+00.00 EL 987.77' 5 eiler Lankes TBPE License No. 12670 g roup PLANNING • ENGINEERING • CONSTRUCTION 980 980 CR 255 PLAN & PROFILE HILL TOP SPRINGS RD 975 975 STATE FEDERAL AID PROJECT No. HIGHWAY NO. FED. RD DIV. No. DESIGNED: CR 255 TEXAS HECKED: JOB SHEET No. 119 COUNTY 10+00 WILLIAMSON

8:19 g.com:Sg-ss/Documents/WILCO302-CR255\_CR2280Design\_Data4 - Design/Miscelaneous/CR255\_Ipfutpen or.com:Sta-ds/Documents/WILCO302-CR255\_CR289Design\_Data4 - Design/Plan\_Set/03. Roadway/HILTOPS

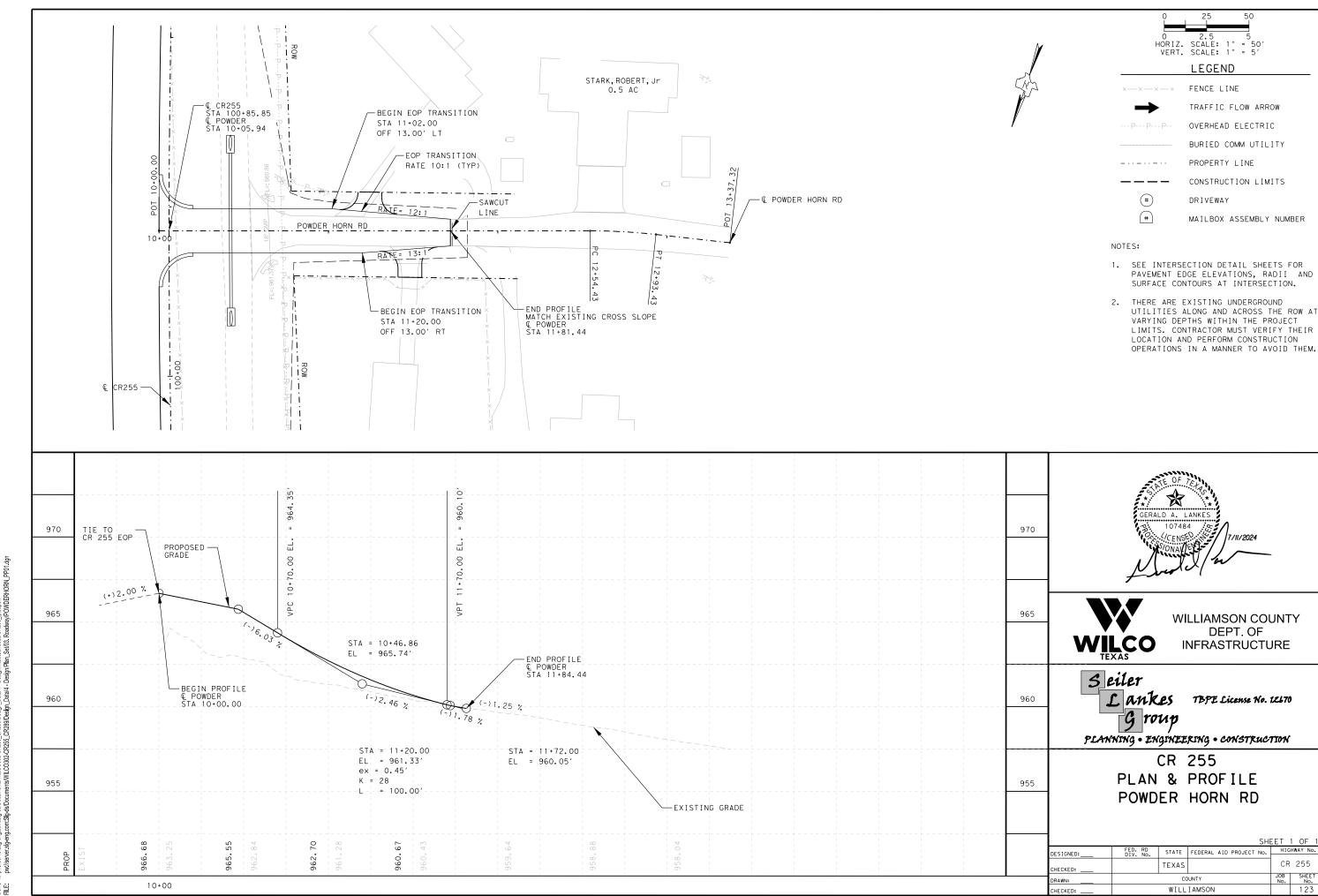
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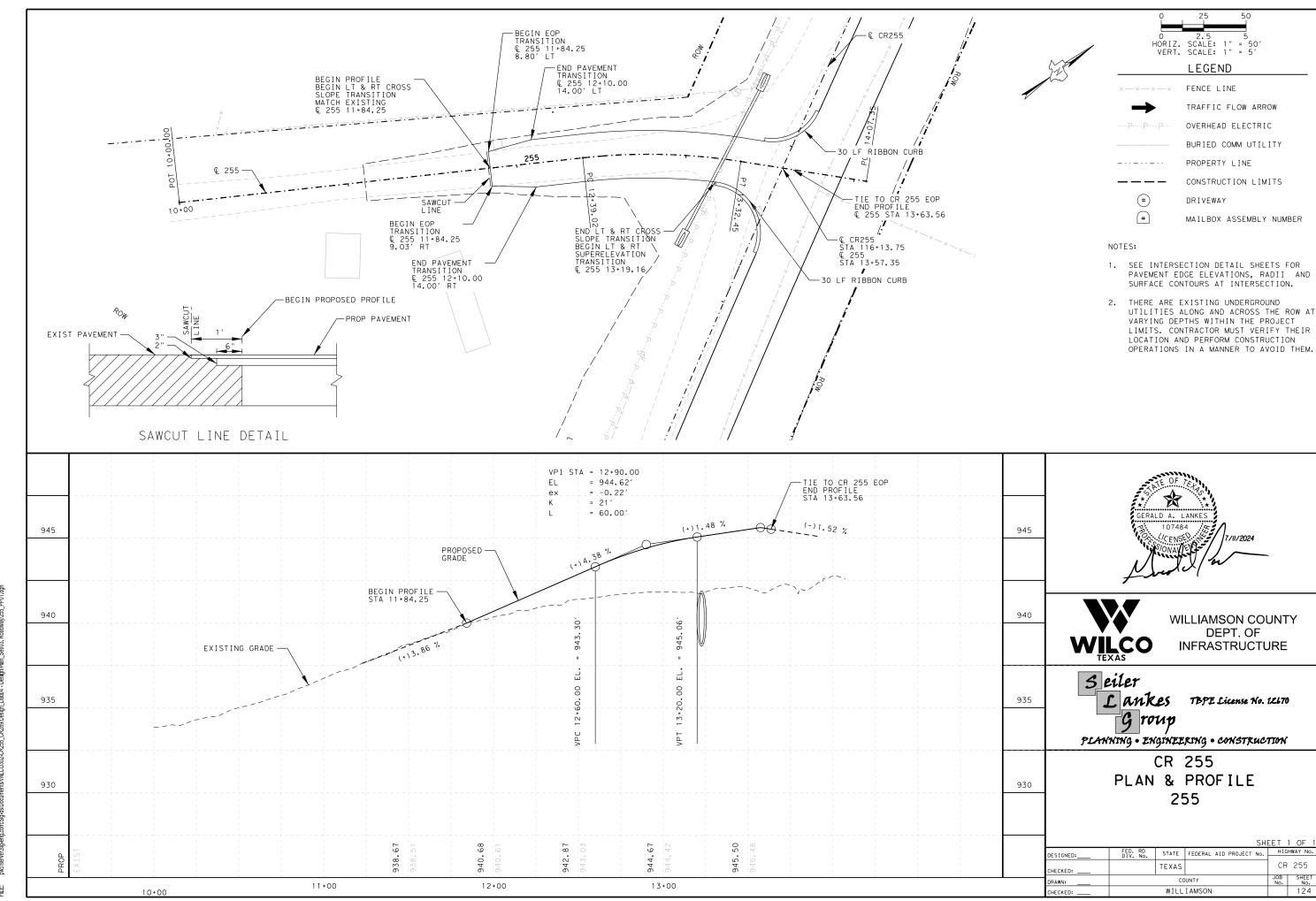
0 2.5 5 HORIZ. SCALE: 1" = 50' VERT. SCALE: 1" = 5' LEGEND € CR255 -FENCE LINE TRAFFIC FLOW ARROW OVERHEAD ELECTRIC BURIED COMM UTILITY PROPERTY LINE CONSTRUCTION LIMITS — SAWCUT LINE # DRIVEWAY © CR255 STA 84+04.06 © BIGOAKS STA 10+06.00 -€ BIGOAKS # MAILBOX ASSEMBLY NUMBER BIG OAKS DR NOTES: 10+00 1. SEE INTERSECTION DETAIL SHEETS FOR PAVEMENT EDGE ELEVATIONS, RADII AND SURFACE CONTOURS AT INTERSECTION. THERE ARE EXISTING UNDERGROUND UTILITIES ALONG AND ACROSS THE ROW AT VARYING DEPTHS WITHIN THE PROJECT LIMITS. CONTRACTOR MUST VERIFY THEIR LOCATION AND PERFORM CONSTRUCTION OPERATIONS IN A MANNER TO AVOID THEM. 00+0l 980 980 STA = 10+06.00 EL = 973.86' BEGIN PROFILE © BIGOAKS STA 10+00.00 EL-973.74' END PROFILE 975 975 © BIGOAKS STA 10+89.12 EL 972.33' -EXISTING GROUND WILLIAMSON COUNTY DEPT. OF (+)1.03 % INFRASTRUCTURE 970 970 Seiler STA = 10+84.77 Lankes TBPE License No. 12670 EL = 972.29' group PLANNING • ENGINEERING • CONSTRUCTION CR 255 PLAN & PROFILE BIG OAKS DR 960 960 STATE FEDERAL AID PROJECT No. HIGHWAY No. DESIGNED: CR 255 TEXAS HECKED: JOB SHEET NO. 121 COUNTY 10+00 12+00 13+00 WILLIAMSON

cuments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Miscellaneous/CR255\_tiplot.pen cuments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Plan\_Sel/03. Roadway/BIG-OAKS\_PP01.dgn



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-BEGIN PROPOSED PROFILE PROP PAVEMENT 0 2.5 5 HORIZ. SCALE: 1" = 50' VERT. SCALE: 1" = 5' EXIST PAVEMENT LEGEND C CR 255 FENCE LINE RELOCATE COMMUNITY MAILBOX. PER USPS DIRECTION TRAFFIC FLOW ARROW OVERHEAD ELECTRIC END LT EOP TRANSITION © CR289 10+93.15 13.67' LT - © CR255 STA 141+61.50 © CR289 STA 13+14.01 BURIED COMM UTILITY SAWCUT LINE DETAIL PROPERTY LINE -BEGIN EOP TRANSITION & CR289 11+02.58 8.79' LT -END EOP TRANSITION & CR289 16+01.15 9.66' LT CONSTRUCTION LIMITS -INSTALL SGT -BEGIN EOP TRANSITION & CR289 15+26.83 13.28′ LT -BEGIN MBGF & CR289 14+50.55 (#) DRIVEWAY RATE = 140: 1 # SAWCUT MAILBOX ASSEMBLY NUMBER BIG VALLEY SPUR € CR289 -END PROFILE NOTES:
END LT & RT CROSS SLOPE TRANSITION
MATCH EXISTING 1. SEE INTERSECTION DETAIL SHEETS FOR
Q CR289 PAVEMENT EDGE ELEVATIONS, RADII AND
STA 16+28.00 SURFACE CONTOURS AT INTERSECTION. NOTES: R=498 SURFACE CONTOURS AT INTERSECTION. ROW 2. THERE ARE EXISTING UNDERGROUND UTILITIES ALONG AND ACROSS THE ROW AT VARYING DEPTHS WITHIN THE PROJECT LIMITS. CONTRACTOR MUST VERIFY THEIR TRANSITION
- C CR289 11+82.58 SAWCUT R=523' -BEGIN PROFILE

MATCH EXISTING CROSS SLOPE

© CR289

STA 11+02.58 CULVERT 6A LOCATION AND PERFORM CONSTRUCTION OPERATIONS IN A MANNER TO AVOID THEM. •BEGIN EOP TRANSITION Q CR289 15+24.73 14.61' RT -BEGIN EOP TRANSITION & CR289 11+02.58 8.05' RT DRIVEWAY -39 SY END EOP TRANSITION © CR289 16+01.89 10.97' RT 960 960 GERALD A. LANKES STA = 13+14.01 EL = 950.78' 955 955 BEGIN PROFILE WILLIAMSON COUNTY © CR289 STA 11+02.58 EL 950.64' -,3.00 -1 DEPT. OF **INFRASTRUCTURE** 950 950 (+)0.12 % -END PROFILE © CR289 STA 16+28.00 EL 951.59' 5 eiler (-)1.76 % PROPOSED Lankes TBPE License No. 12670 group EXISTING GROUND -PLANNING . ENGINEERING . CONSTRUCTION 945 945 STA = 14+84.00 CR 255 STA = 13+62.31EL = 947.27' CULVERT 6A STA: 14+75,00 2 - 5' X 2' X 59 LF MBC EL = 949.41' ex = 1.39' PLAN & PROFILE K = 49 BIG VALLEY SPUR / CR 289 L = 234.00' 940 940 75 STATE FEDERAL AID PROJECT No. HIGHWAY NO. FED. RD DIV. No. ESIGNED: 950. CR 255 TEXAS HECKED: JOB SHEET No. 125 COUNTY RAWN: 15+00 WILLIAMSON

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SCALE: 1" = 20'

FENCE LINE

TRAFFIC FLOW ARROW

OVERHEAD ELECTRIC

PROPERTY LINE

CONTOUR LINE

- 1. ALL STATION AND OFFSET REFERENCES IN SHEET ARE TO ALIGNMENT CR255 EXCEPT
- 2. SEE ROADWAY PLAN & PROFILE SHEETS FOR ROADWAY GEOMETRY.
- 3. SEE APPLICABLE ROADWAY STANDARD SHEETS FOR ADDITIONAL INFORMATION.





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE

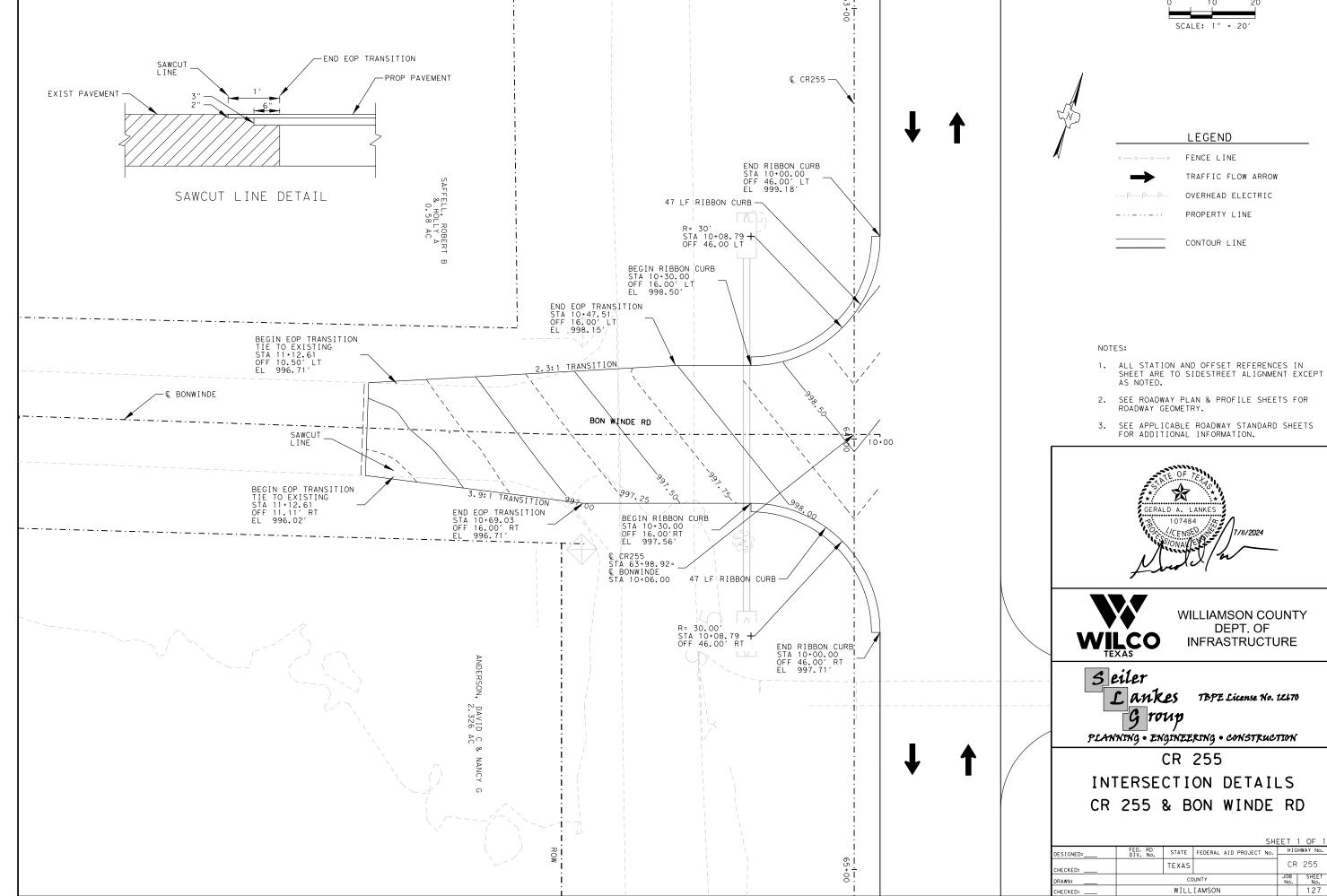


Lankes TBPE License No. 12670

PLANNING • ENGINEERING • CONSTRUCTION

CR 255 INTERSECTION DETAILS CR 255 & CR 254

FED. RD DIV. No. STATE FEDERAL AID PROJECT No. HIGHWAY No. CR 255 TEXAS JOB SHEET NO. 126 COUNTY WILLIAMSON



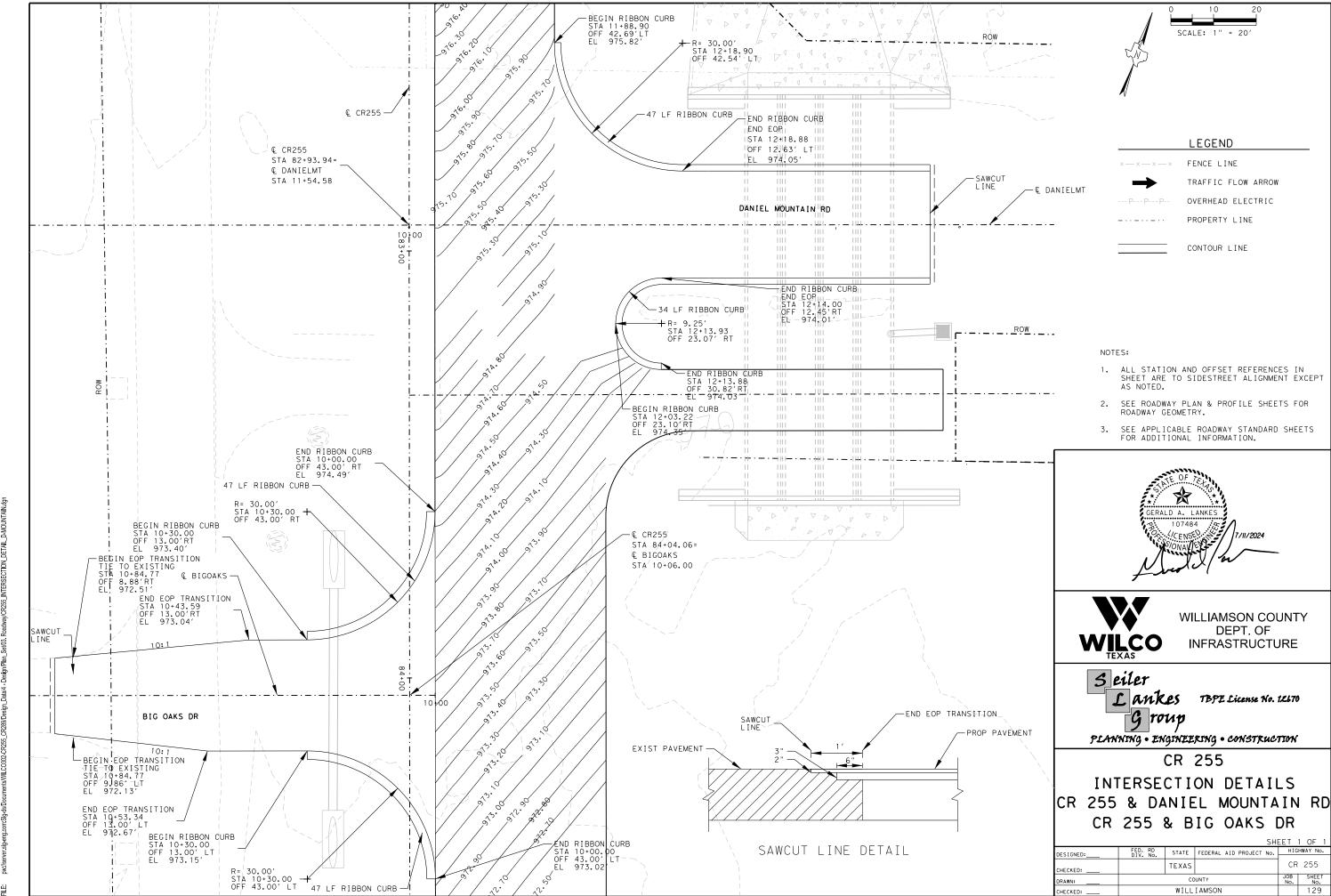
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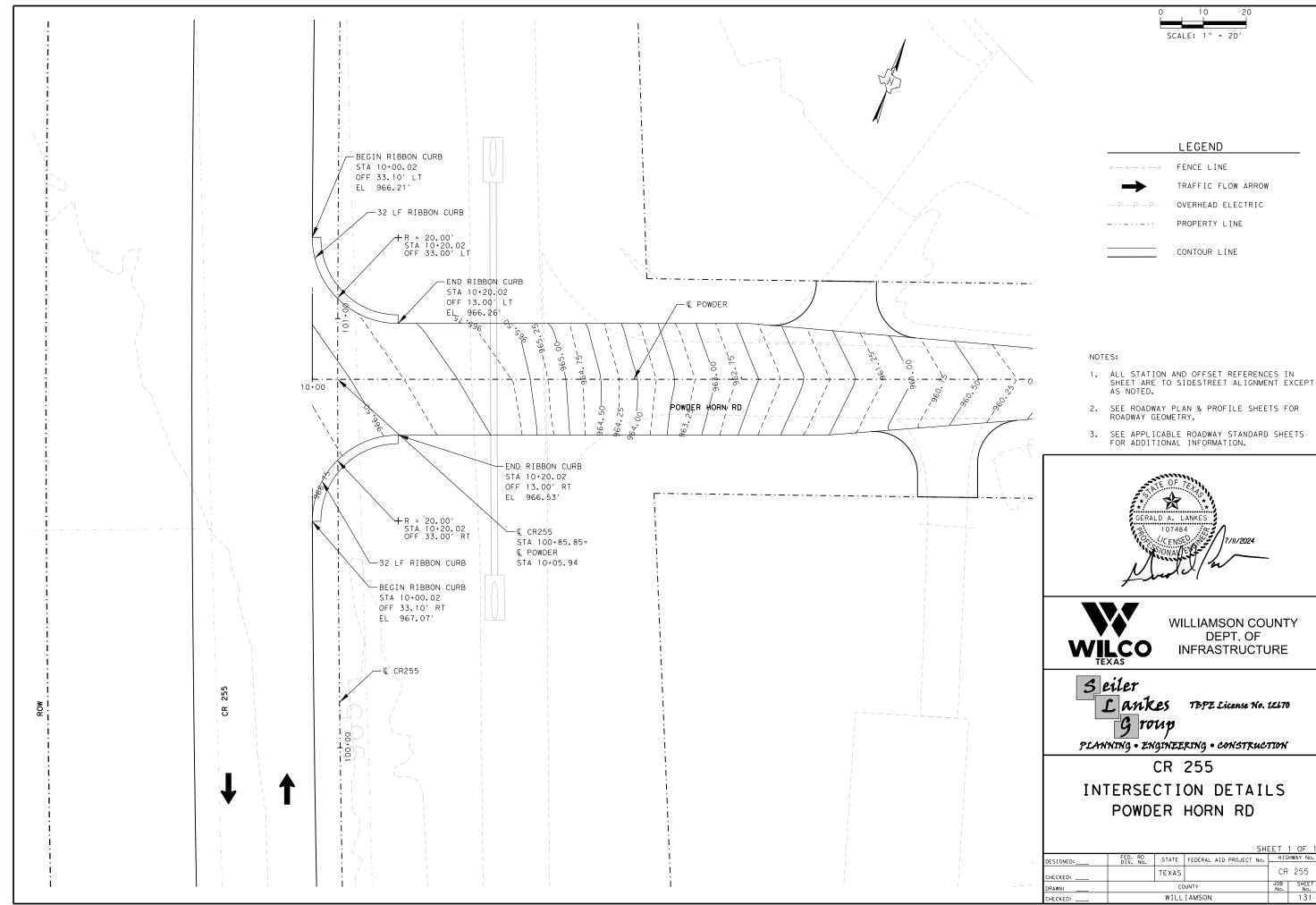
CR 255

JOB SHEET No. 128



CR 255

JOB SHEET No. 130



DEPT. OF

CR 255

CR 255

WILLIAMSON

FENCE LINE

SCALE: 1" = 20'

TRAFFIC FLOW ARROW

OVERHEAD ELECTRIC

CONTOUR LINE

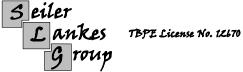
PROPERTY LINE

- 1. ALL STATION AND OFFSET REFERENCES IN SHEET ARE TO ALIGNMENT CR255 EXCEPT
- 2. SEE ROADWAY PLAN & PROFILE SHEETS FOR ROADWAY GEOMETRY.
- 3. SEE APPLICABLE ROADWAY STANDARD SHEETS FOR ADDITIONAL INFORMATION.





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



PLANNING • ENGINEERING • CONSTRUCTION

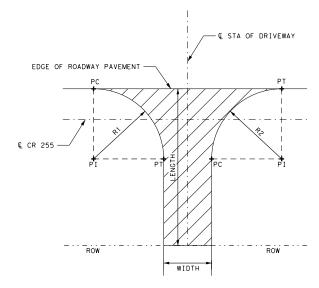
CR 255 INTERSECTION DETAILS CR 255 & CR 289

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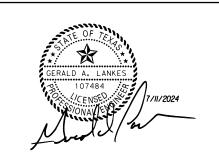
WILLIAMSON

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PLAN AND PROFILE SHEET	NO.	STA	LT/RT	WIDTH	LENGTH L1	GRADE G1					R1	R2
				FT	FT	%					FT	FT
Sheet 2 OF 16	1	22+95.25	LT	14.00	34.00	2.12					20	20
Sheet 2 OF 16	2	26+70.14	LT	14.00	34.00	0.96	9.667	0	8.7931	5.32	20	20
Sheet 3 OF 16	3	39+89.01	LT	14.00	34.00	0.90	11.67	0	7.7726	8	20	20
Sheet 4 OF 16	4	45+32.80	LT	23.00	34.00	0.06					25	25 20
Sheet 4 OF 16 Sheet 4 OF 16	5 6	47+64.64 49+39.53	LT RT	14.00 14.00	34.00 74.00	2.76 6.77					20 20	20
Sheet 5 OF 16	7	52+00.52	LT	14.00	34.00	4.61					20	20
Sheet 5 OF 16	7A	54+94.16	RT	14.00	69.80	4.01					20	20
Sheet 5 OF 16	8	56+95.75	RT	14.00	79.46	2.82					20	20
Sheet 5 OF 16	9	58+65.44	LT	14.00	34.00	1.23					20	20
Sheet 6 OF 16	10	61+67.94	LT	14.00	19.85	0.67	3	0	12.05	2.69	20	20
Sheet 6 OF 16	11	64+59.03	LT	14.00	34.00	1.05	3	0	12.65	7.81	20	20
Sheet 6 OF 16	12	67+17.92	LT	14.00	19.60	2.09	7.67	0	9.66	3.49	20	20
Sheet 6 OF 16	13	68+89.71	RT	14.00	74.00	0.63					20	20
Sheet 6 OF 16	14	69+46.58	RT	14.00	74.00	1.03					20	20
Sheet 7 OF 16	15	72+85.10	RT	14.00	74.00	0.49					20	20
Sheet 7 OF 16	16	73+74.23	RT	14.00	74.90	0.84					20	20
Sheet 7 OF 16	17	76+43.14	RT	14.00	94.19	0.93					20	20
Sheet 7 OF 16	18	78+47.53	RT	14.00	88.22	0.96					20	20
Sheet 8 OF 16	19	83+35.01	LT	14.00	79.00	1.42					9.25	20
Sheet 8 OF 16	20	88+33.17	LT	14.00	34.00	2.21					20	20
Sheet 8 OF 16	21	88+74.95	RT	14.00	72.26	4.27					20	20 20
Sheet 8 OF 16 Sheet 9 OF 16	22	89+56.14 90+85.87	LT RT	14.00 14.00	34.00 69.74	1.59 5.51					20 20	20
Sheet 9 OF 16	23	94+88.84	RT	14.00	71.42	7.10					20	20
Sheet 9 OF 16	25	99+06.38	RT	14.00	83.87	6.36					20	20
Sheet 10 OF 16	26	105+00.72	LT	14.00	34.00	4.43					20	20
Sheet 10 OF 16	27	107+32.09	LT	14.00	34.00	4.90					20	20
Sheet 10 OF 16	28	107+54.70	RT	14.00	74.00	4.74					20	20
Sheet 10 OF 16	29	108+49.27	LT	14.00	34.00	3.26					20	20
Sheet 11 OF 16	30	112+50.66	RT	14.00	74.00	3.51					20	20
Sheet 11 OF 16	31	113+06.39	LT	14.00	34.00	8.36					20	20
Sheet 11 OF 16	32	114+44.89	RT	14.00	74.00	4.44	10.99	12.94			20	20
Sheet 11 OF 16	33	119+01.21	LT	14.00	20.73	3.45					20	20
Sheet 12 OF 16	34	121+37.16	RT	14.00	50.21	8.00	3	0	21.32	8	20	20
Sheet 12 OF 16	35	127+48.22	RT	14.00	49.33	8.00	23.9997	8.97			20	20
Sheet 13 OF 16	36	130+25.68	LT	14.00	34.00	2.92	24	8.28			20	20
Sheet 13 OF 16	37	132+45.35	RT	14.00	74.00	3.90					20	20
Sheet 13 OF 16	38	132+93.99	LT	14.00	34.00	2.72					20	20
Sheet 13 OF 16	39	133+09.14	RT	14.00	74.00	4.12					20	20
Sheet 13 OF 16	40	135+17.74	RT	14.00	74.00	5.82					20	20
Sheet 13 OF 16	41	136+53.25	RT	14.00	74.00	7.03					20	20
CROSS STREET	44.	40.67.55		4.	40						40	
POWDER HORN	41A	13+37.32	LT	14	16						10	10
OD 000	41B	11+24.48	RT	14	12	0.00					10	10
CR 289	42	15+42.58	RT	14.00	18.83	0.30					15	15

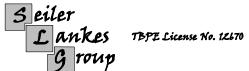


TYPICAL DRIVEWAY





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



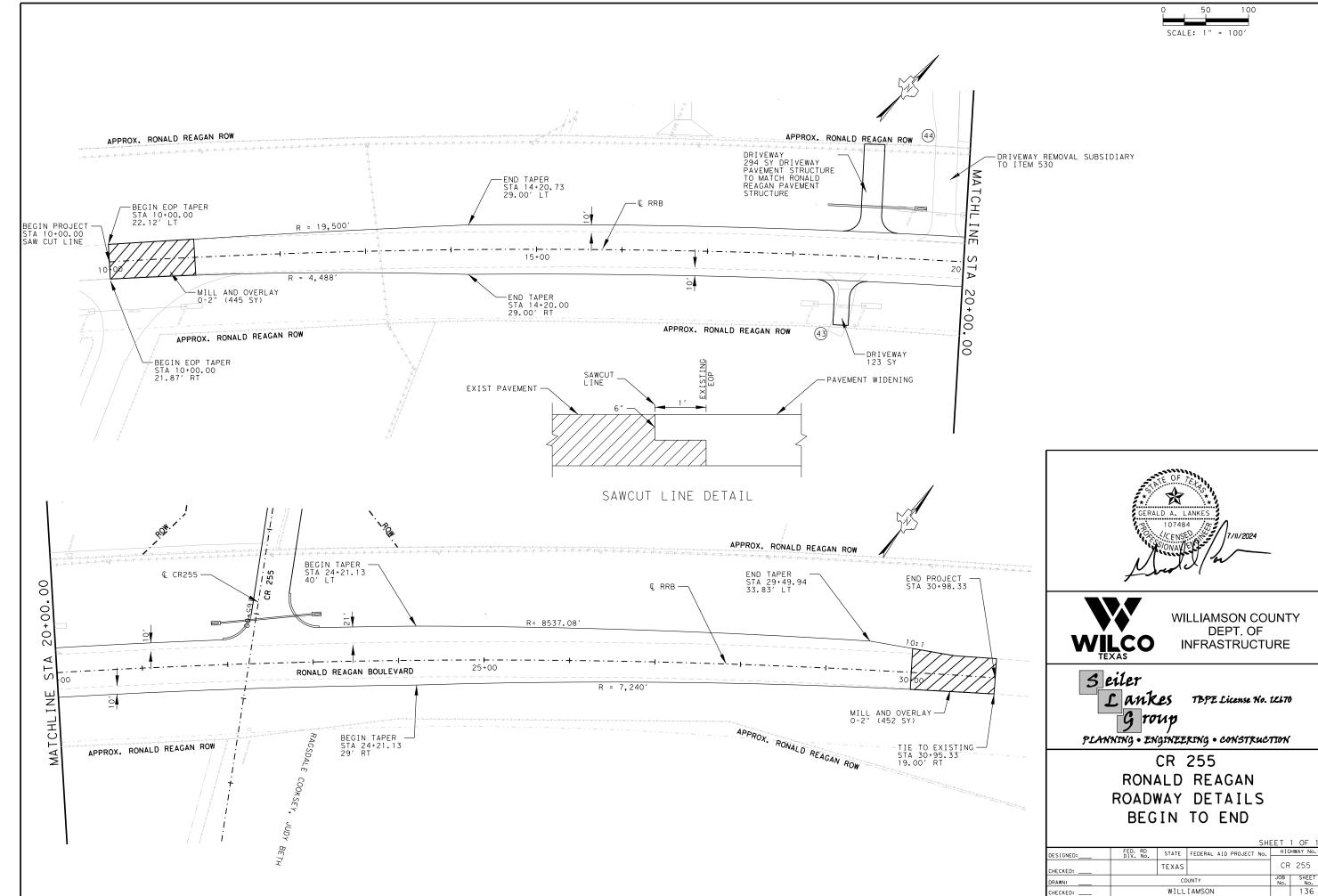
G roup

PLANNING • ENGINEERING • CONSTRUCTION

CR 255 DRIVEWAY DETAILS

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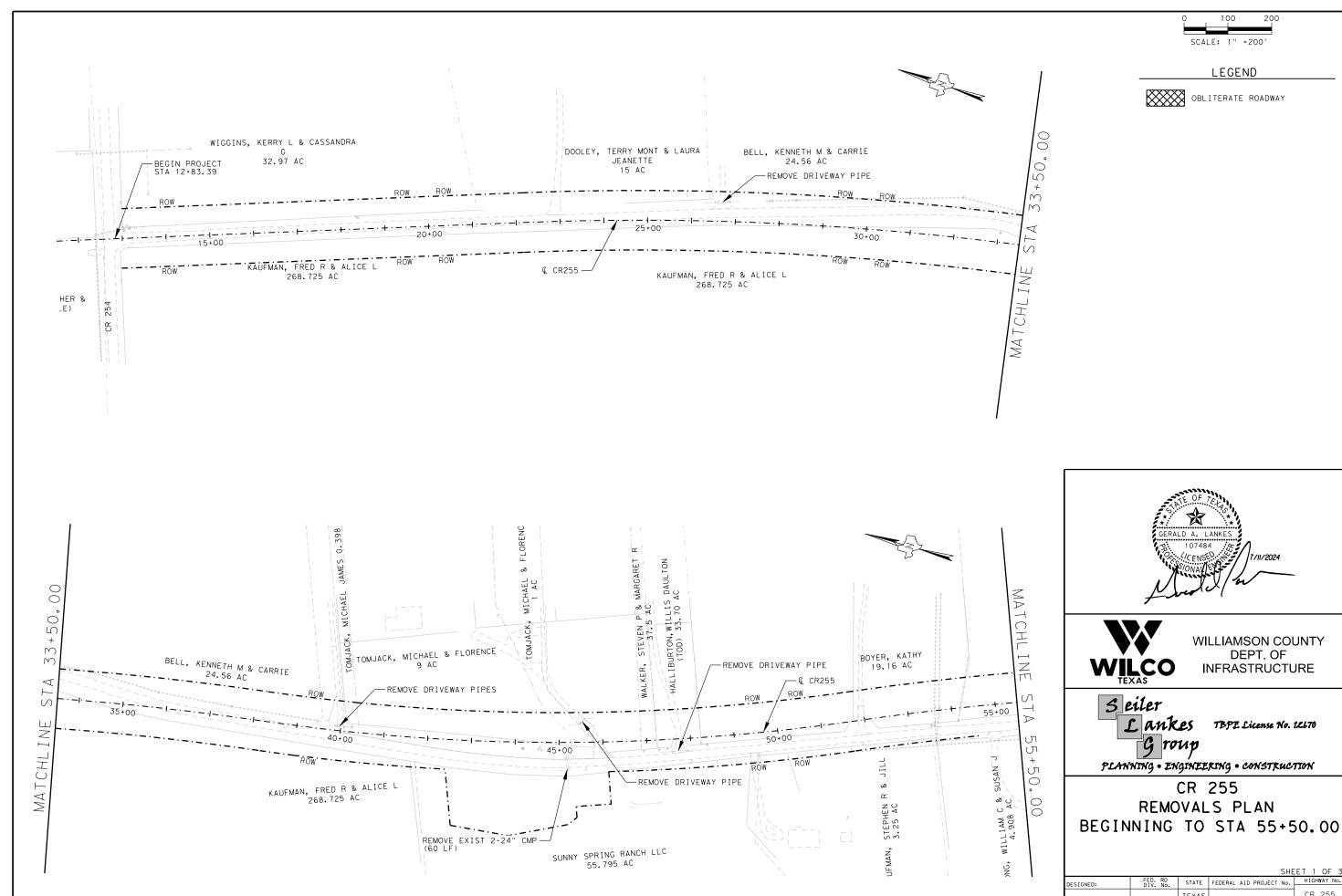
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CKED:		WILL	IAMSON		135	



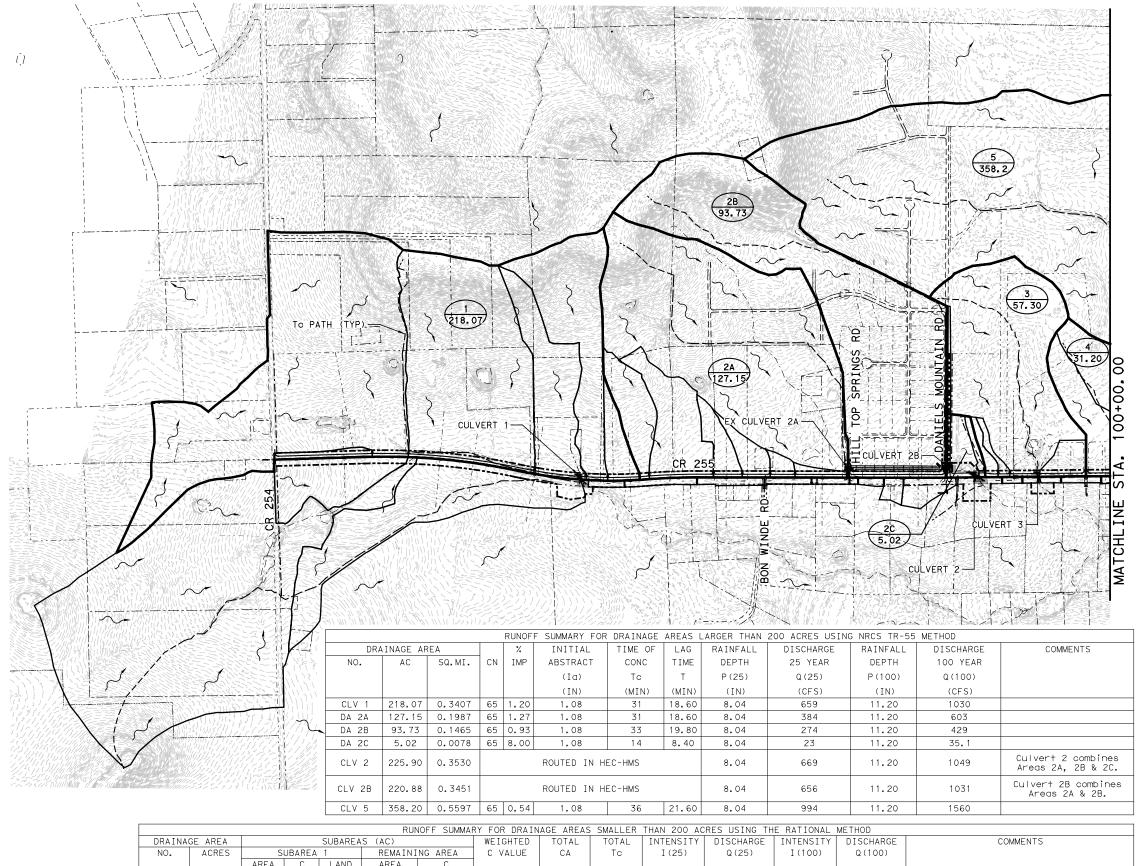
CR 255

JOB SHEET NO. 136

r.Sig-dis/Documents/MILCO302-CR255, CR289/Design\_Data4 - Design/Miscelaneous/CR255, plot.pen r.Sig-dis/Documents/MILCO302-CR255\_CR289/Design\_Data4 - Design/Plan\_Set/03 -Roadway/RRB\_RDWY\_01.dgn



Octor. ydintos DATE. Tyl112024 SCRIPT: pw//server.sig-eng.com:Sig-ds/Documents/WILCO302-CR255\_CR299/Design\_Data/4 - Design/M FILE. pw//server.sig-eng.com:Sig-ds/Documents/WILCO302-CR255\_CR299/Design\_Data/4 - Design/PI



AREA AREA LAND (AC) USE (MIN) (IN/HR) (CFS) (IN/HR) (CFS) (AC) CLV 3 57.30 1.00 0.90 IMP 56.30 0.37 0.38 21.73 33.00 5.11 111 6.75 147 1.20 0.90 IMP 30.00 0.37 20.00 105 CLV 4 31.20 0.39 6.63 80.7 8.65 12.18 51.10 CLV 6A 52.10 1.00 0.90 TMP 0.34 0.35 18.27 24.00 6.06 111 7.94 145 DA 6B 6.14 0.50 0.90 IMP 5.64 0.34 0.39 2.37 17.00 7.14 16.9 9.27 22 Culvert 6B combines Areas 6A & 6B CLV 6B 58.24 128 167 34.90 0.90 34.22 92.4 120 CLV 8 10.20 0.74 0.90 IMP 9.46 0.37 0.41 4.17 11.00 8.49 35.4 10.89 45.4



0 500 1000 SCALE: 1" = 1000'

### LEGEND



AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY
DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

----- CREEK THALWEG

PROP ROW

#### NOTES:

- 1. DRAINAGE AREAS LABELED ON THIS MAP APPLY TO CROSS CULVERT OUTFALLS ONLY, REFER TO THE DRAINAGE AREA MAPS FOR DITCH & DRIVEWAY PIPE DESIGN AREAS. DUE TO THE SMALLER SCALE, SUB-AREA BOUNDARIES ARE SHOWN ON THIS MAP TO PROVIDE THE FULL LIMITS OF ALL INTERNAL DRAINAGE AREAS.
- 2. CONTOURS ARE SHOWN AT 1' INTERVALS & TERRAIN DATA WAS GATHERED FROM WILCO GIS WEBSITE AND TNRIS.
- HEC HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS FOR THE NRCS METHOD.
- 4. WHILE AREAS 2A, 2B, & 2C ARE SMALLER THAN 200 AC, THEY COMBINE FOR THE DESIGN OF CULVERT 2 WHICH EXCEEDS 200 AC. THE NRCS METHOD IS USED TO COMPUTE PEAK FLOWS FOR CULVERT 2.
- RATIONAL METHOD FLOWS WERE COMPUTED USING TXDOT'S ATLAS 14 SPREADSHEET TOOL (EBDLKUP-2019-VC6.2.10) PARTIAL DURATION, SAN GABRIEL RIVER ZONE, WILCO.

NO. REVISION BY DATE





# DEPARTMENT OF INFRASTRUCTURE



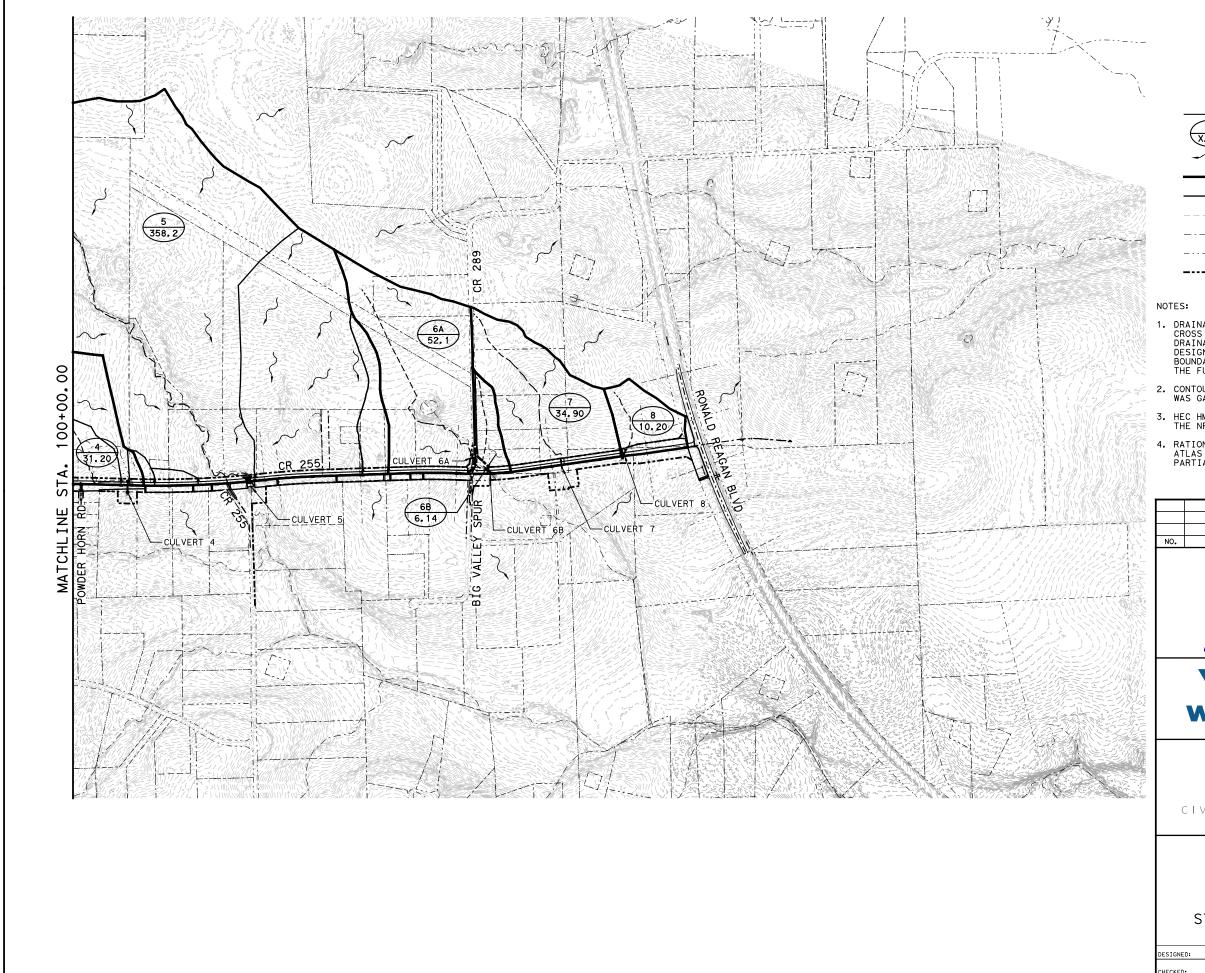
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

# CR 255 OFFSITE DRAINAGE AREA MAP

BEGIN PROJECT TO STA 100+00

SHEET 1 OF 2							
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.	
CHECKED:	Х	TEXAS			CF	₹ 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	XX	XX	XX	XX	XX	151	

r. - Cudyosiiii 7.10/2024 - 4:51:33 PM PT: S:08 Projects/S22/011, GR25599 - Project Standards/CR255\_jplo clstglictay.gamldms01862/CR255\_OD401.dgn





SCALE: 1" = 1000'

### LEGEND



AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG

EXIST ROW

PROP ROW

- 1. DRAINAGE AREAS LABELED ON THIS MAP APPLY TO CROSS CULVERT OUTFALLS ONLY. REFER TO THE DRAINAGE AREA MAPS FOR DITCH & DRIVEWAY PIPE DESIGN AREAS. DUE TO THE SMALLER SCALE, SUB-AREA BOUNDARIES ARE SHOWN ON THIS MAP TO PROVIDE THE FULL LIMITS OF ALL INTERNAL DRAINAGE AREAS.
- 2. CONTOURS ARE SHOWN AT 1' INTERVALS & TERRAIN DATA WAS GATHERED FROM WILCO GIS WEBSITE AND TNRIS.
- 3. HEC HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS FOR THE NRCS METHOD.
- 4. RATIONAL METHOD FLOWS WERE COMPUTED USING TXDOT'S ATLAS 14 SPREADSHEET TOOL (EBDLKUP-2019-VC6.2.10) PARTIAL DURATION, SAN GABRIEL RIVER ZONE, WILCO.

REVISION BY DATE







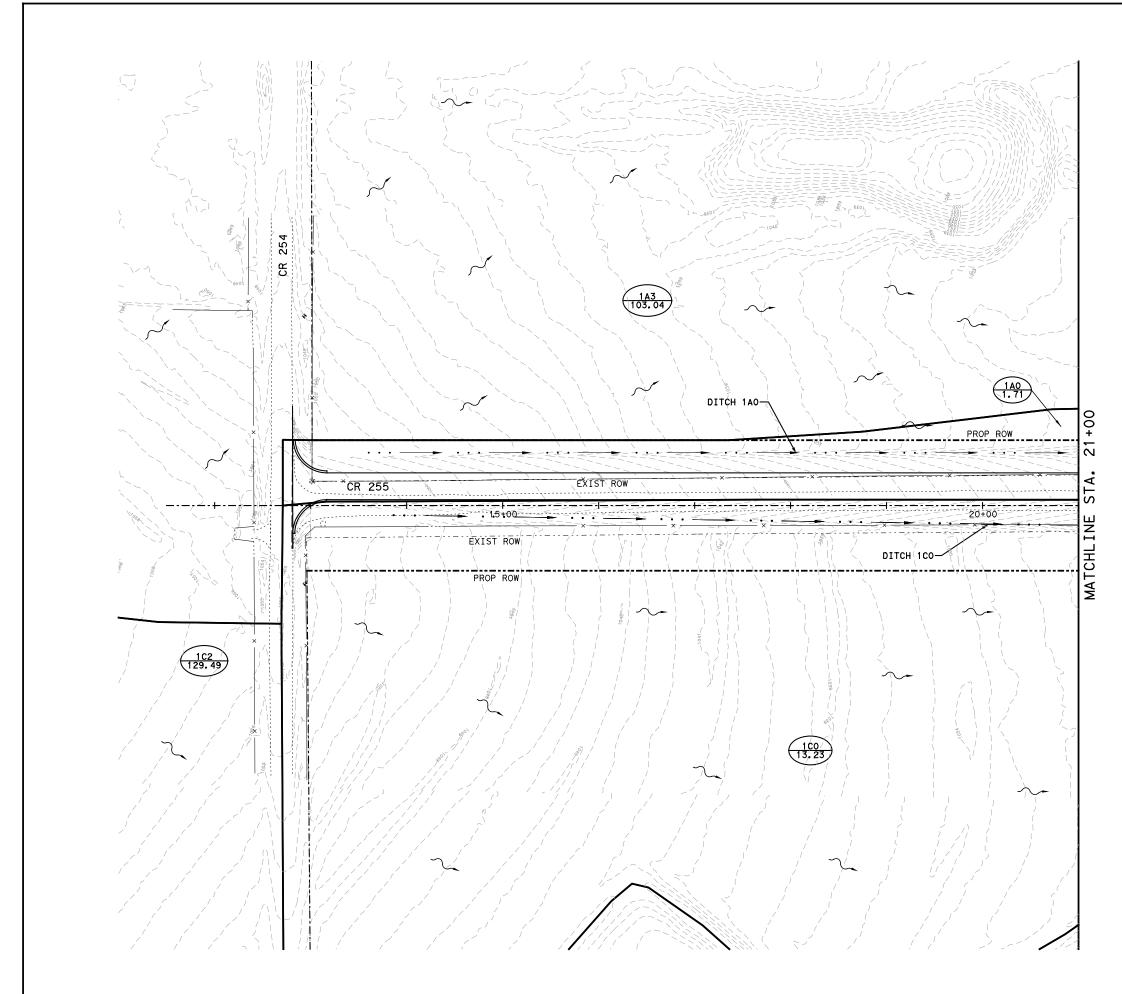
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

# CR 255 OFFSITE DRAINAGE AREA MAP

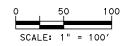
STA 100+00 TO END PROJECT

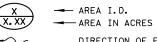
SHEET 2 OF 2

IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
CKED:	X	TEXAS			CR 255	
VN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	152









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

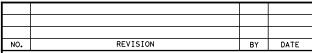
CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

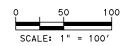
CR 255

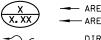
DRAINAGE AREA MAP BEGIN PROJECT TO STA 21+00

HIGHWAY No.

STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX







AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

----- CREEK THALWEG

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP

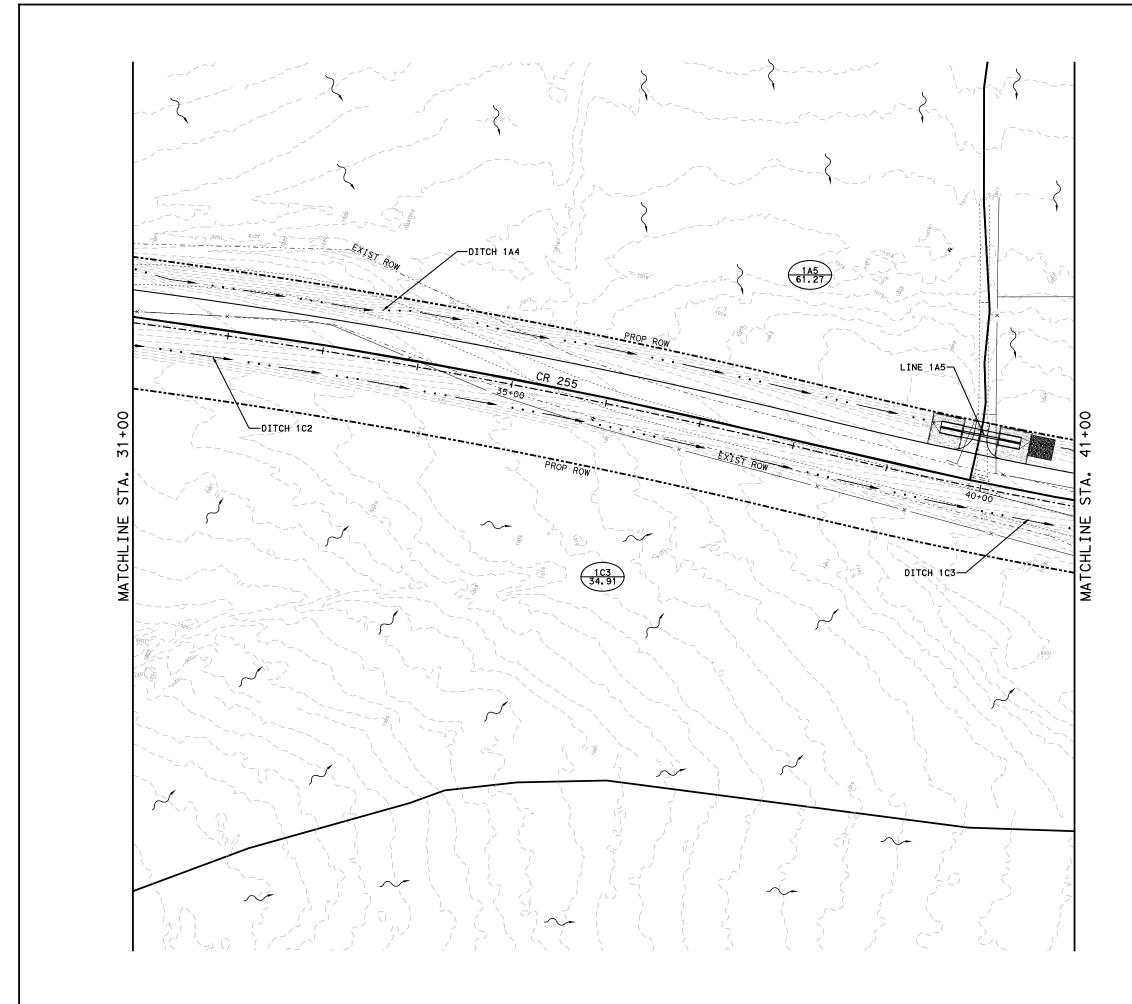
STA 21+00 TO 31+00

SHEET 2 OF 16

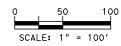
DESIGNED: DEV. NO. STATE FEDERAL AID PROJECT NO. HIGHWAY NO.

CHECKED: X TEXAS

CHECKED: STATE COUNTY CONTROL SECTION NO. NO. NO. NO. NO. CHECKED: XX XX XX XX XX XX 154









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

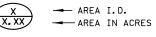
CR 255 DRAINAGE AREA MAP STA 31+00 TO 41+00

SHEET 3 OF 16 STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS SECTION JOB SHEET No. No. No. No. STATE DISTRICT XX COUNTY XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

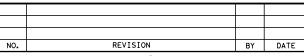
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.





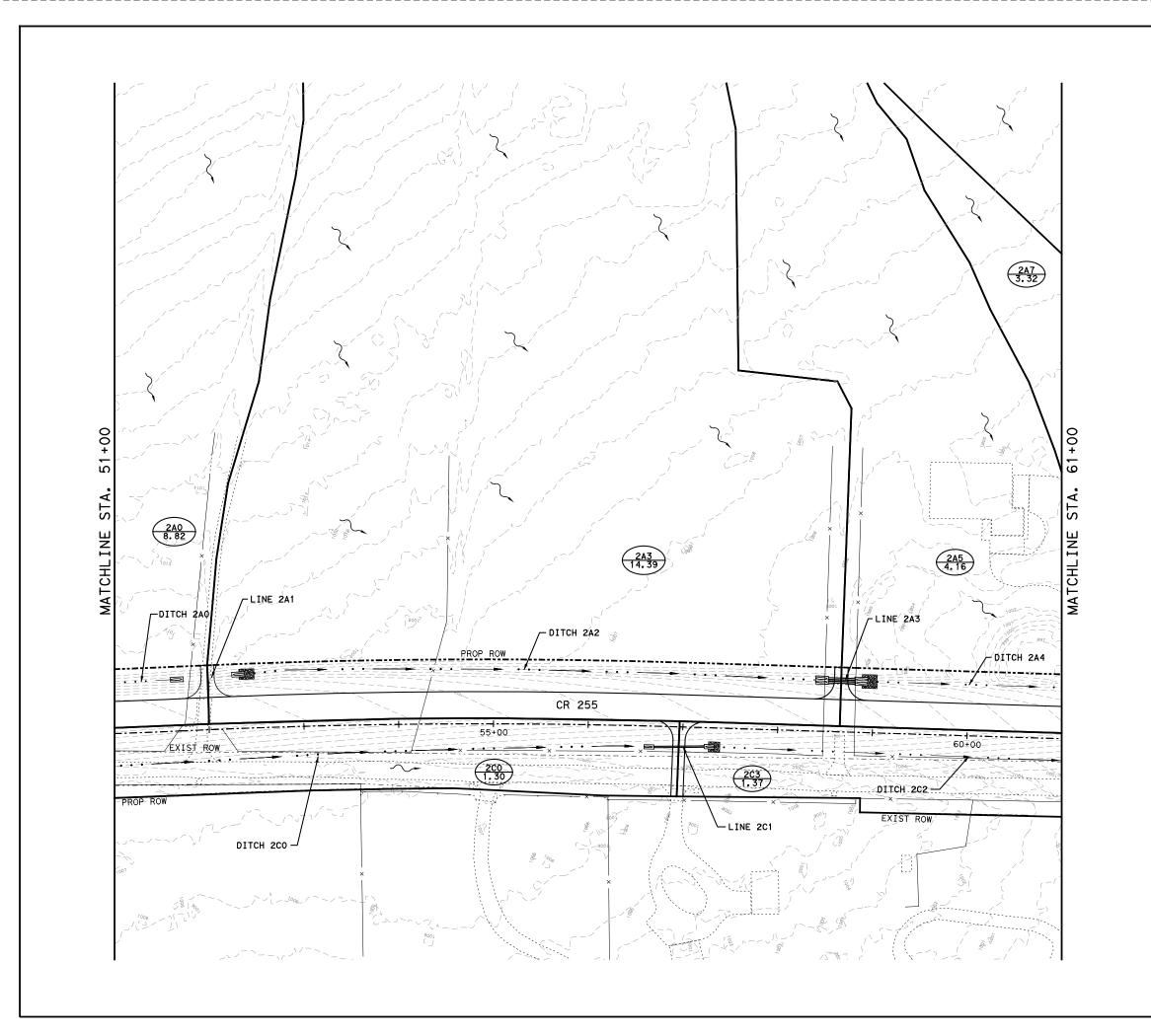




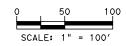
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

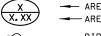
CR 255 DRAINAGE AREA MAP STA 41+00 TO 51+00

SHEET 4 OF 16 STATE FEDERAL AID PROJECT No. HIGHWAY No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. STATE DISTRICT XX COUNTY XX









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

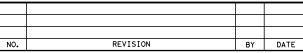
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

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- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.





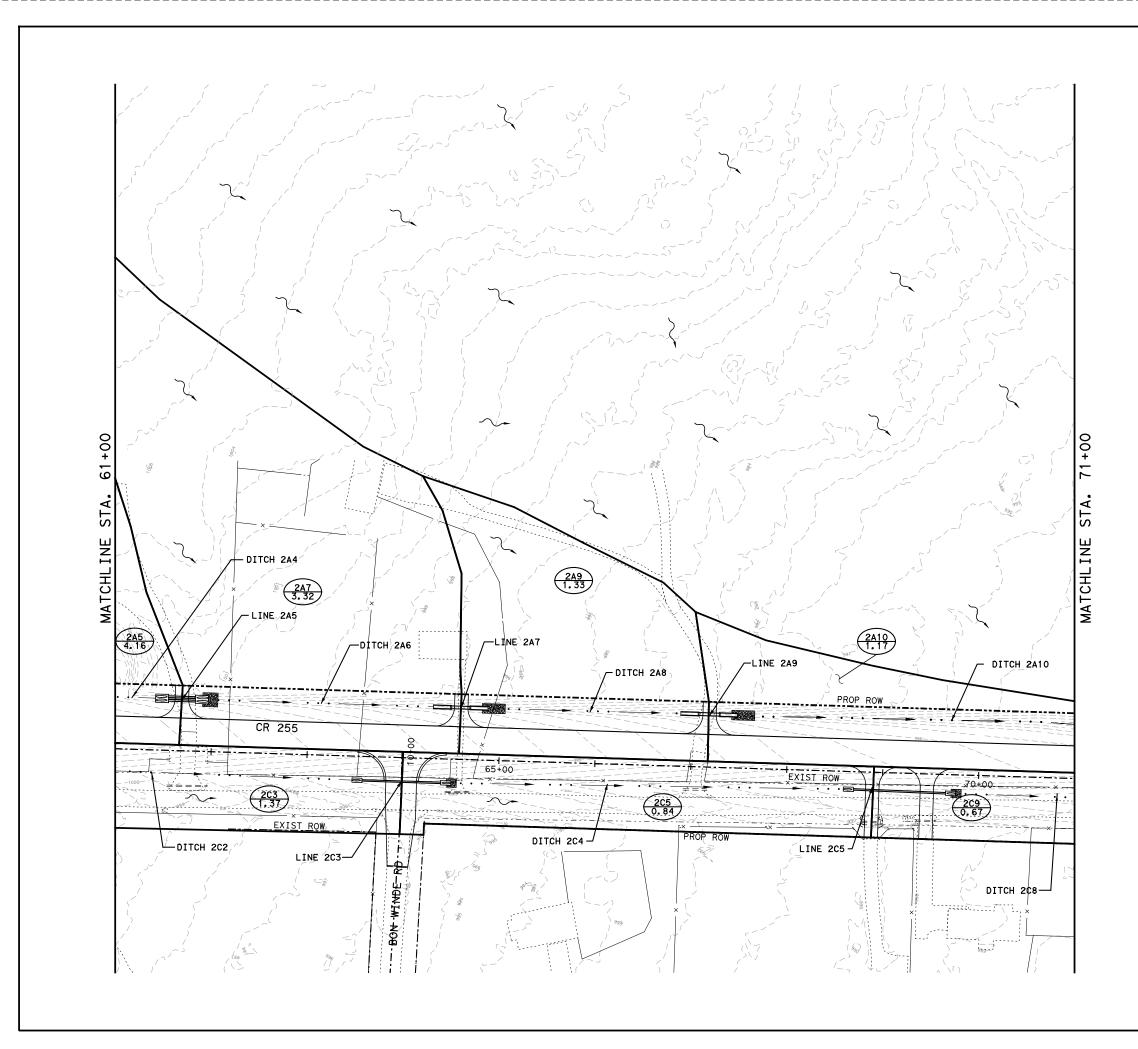




CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 51+00 TO 61+00

SHEET 5 OF								
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.		
CHECKED:	Х	TEXAS			CF	₹ 255		
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.		
CHECKED:	XX	XX	XX	XX	XX	157		









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG

EXIST ROW

------ PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
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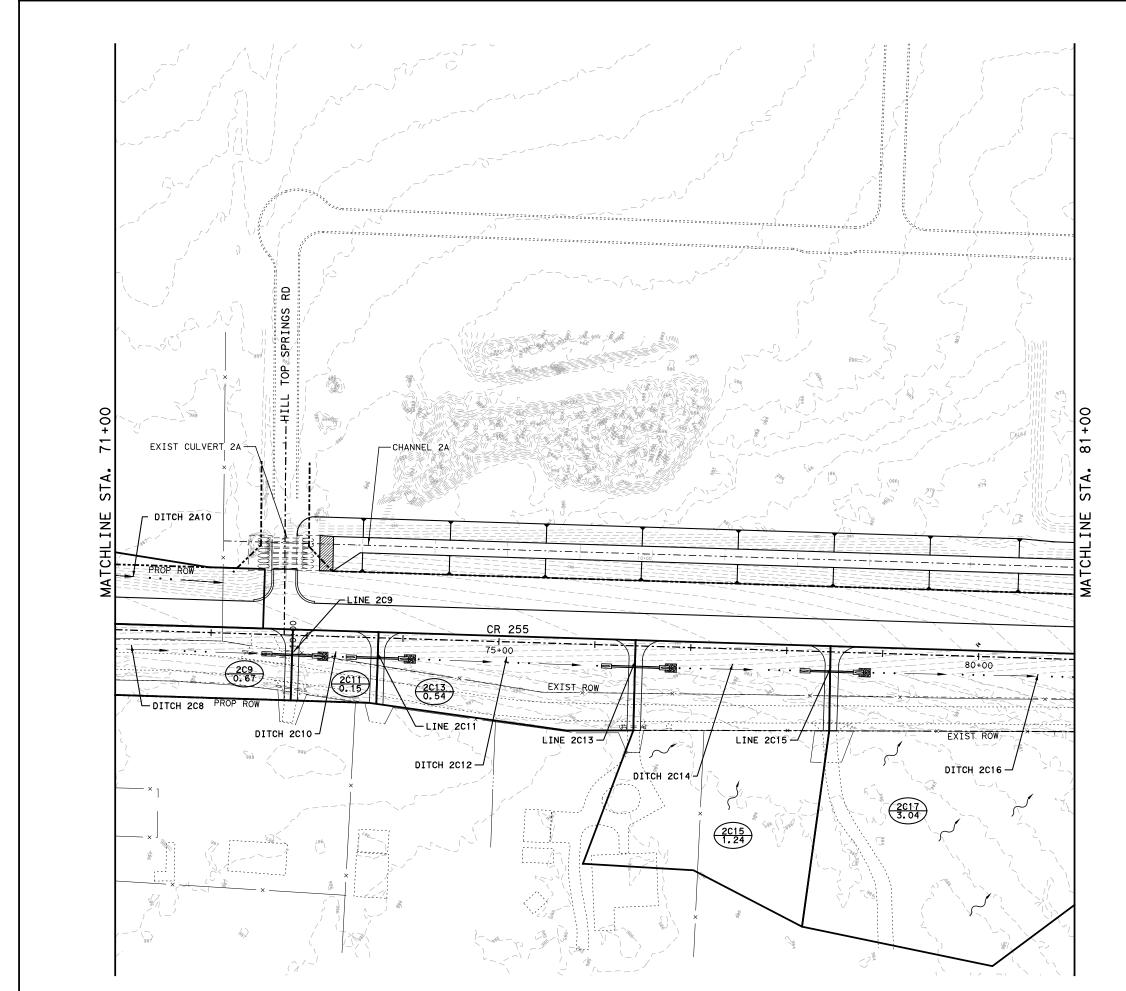






CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP
STA 61+00 TO 71+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

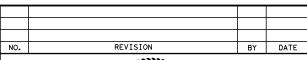
EXIST CONTOUR

CREEK THALWEG

EXIST ROW PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
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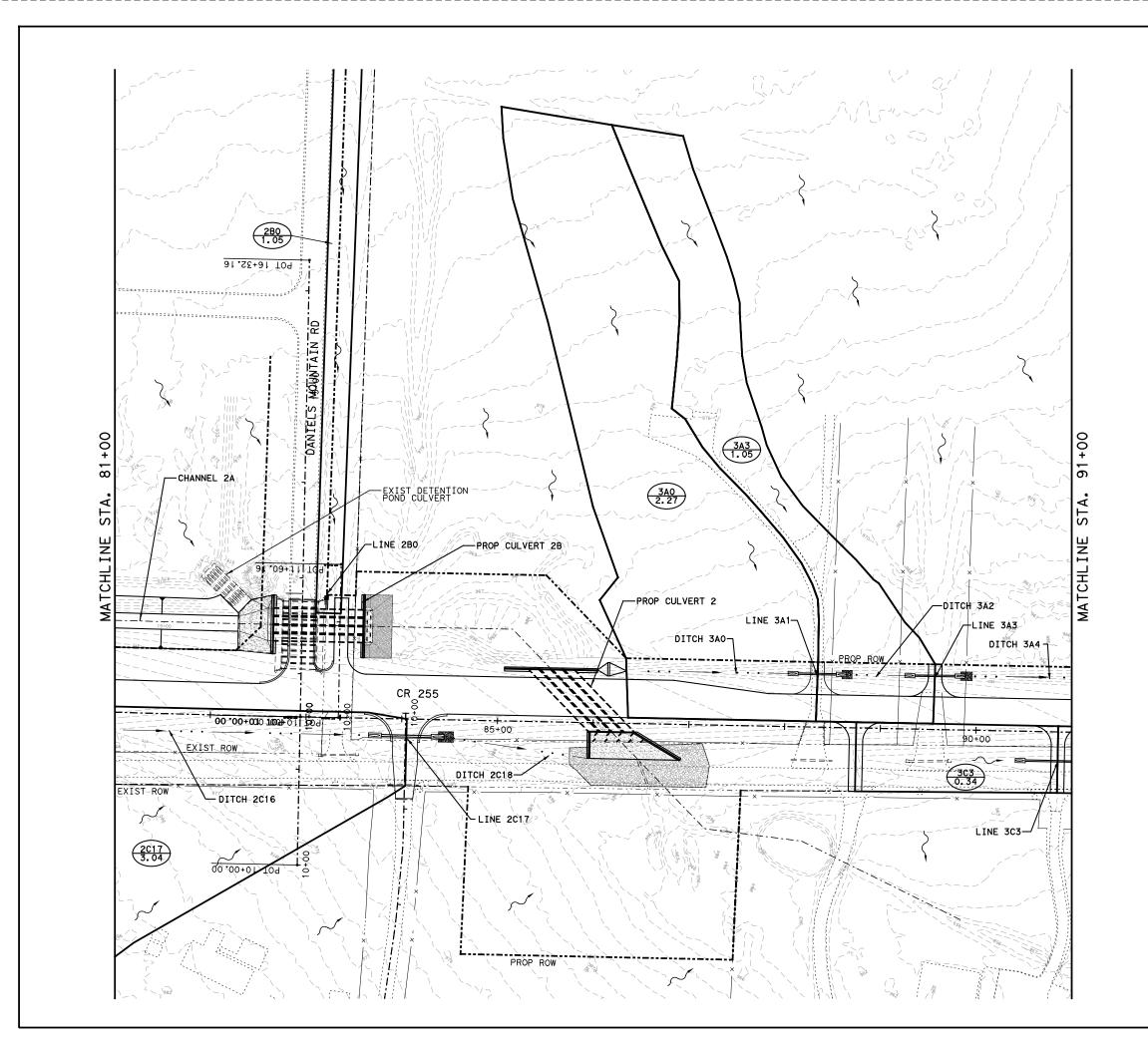




CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 71+00 TO 81+00

				SHE	ET 7	OF 16	
DESIGNED:	E FED. RD STATE FEDERAL AID PROJECT No.						
CHECKED:	Х	TEXAS			CF	R 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	XX	XX	XX	XX	XX	159	









→ AREA I.D. → AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

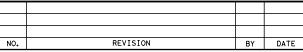
CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
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CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 81+00 TO 91+00

				SHE	ET 8	OF 16	
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIGHWAY No.		
CHECKED:	Х	TEXAS			CF	₹ 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	XX	XX	XX	XX	XX	160	









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG
----- EXIST ROW

------ PROP ROW

#### NOTES:

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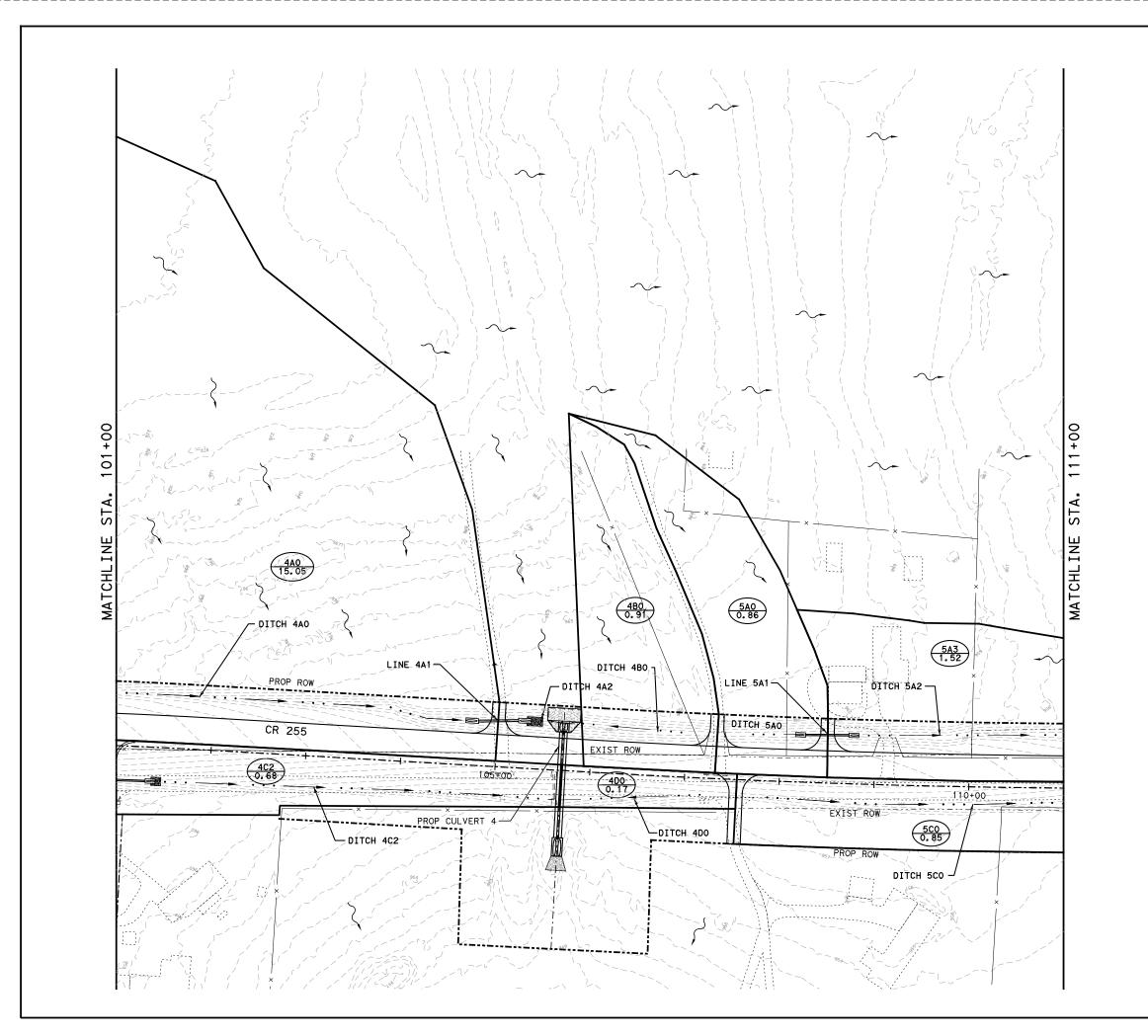




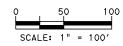
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP
STA 91+00 TO 101+00

				SHE	ET 9	OF 16
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	161









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY EXIST CONTOUR

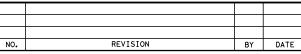
EXIST ROW

CREEK THALWEG

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







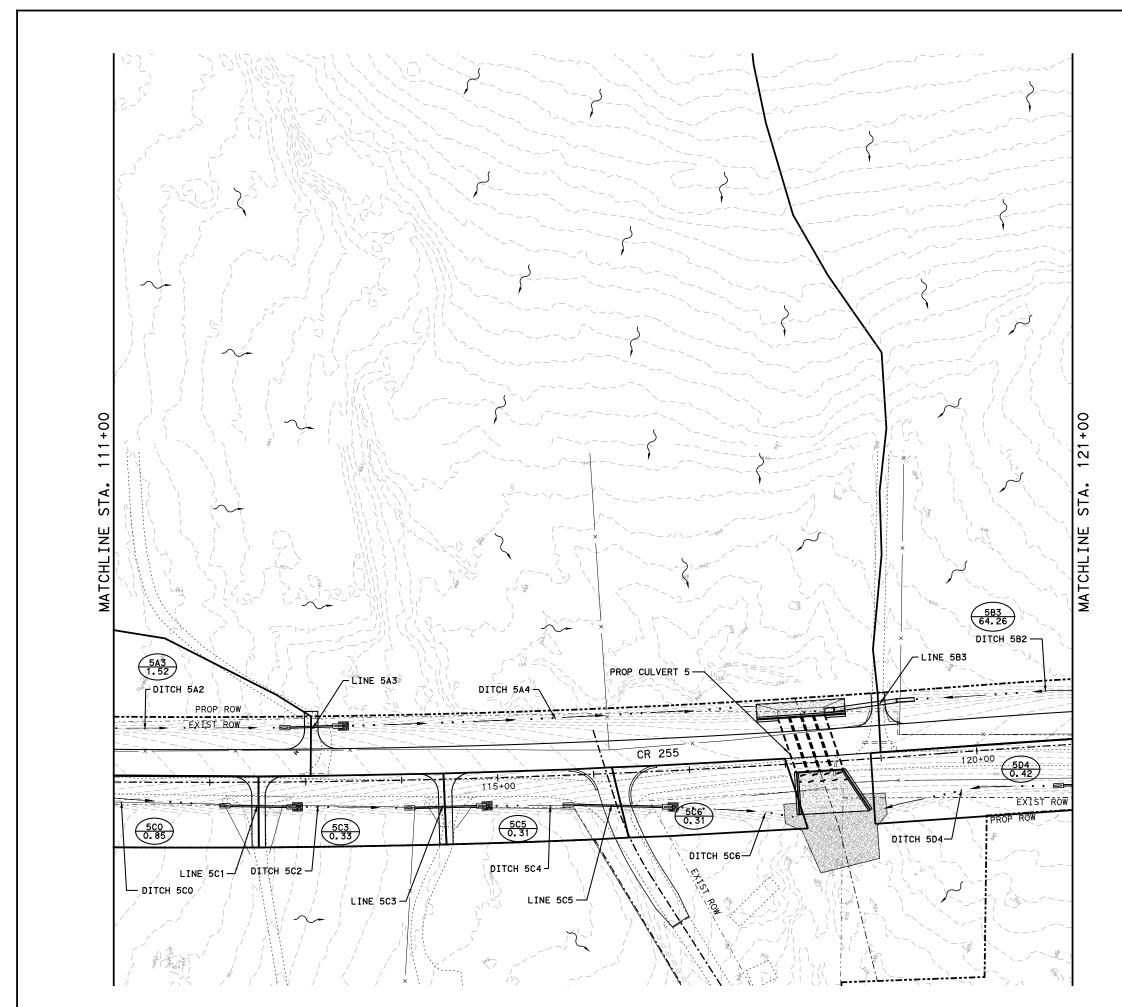


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

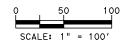
CR 255 DRAINAGE AREA MAP

STA 101+00 TO 111+00

SHEET 10 OF 16 STATE FEDERAL AID PROJECT No. HIGHWAY No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

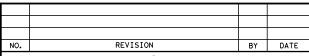
EXIST CONTOUR

CREEK THALWEG

EXIST ROW PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







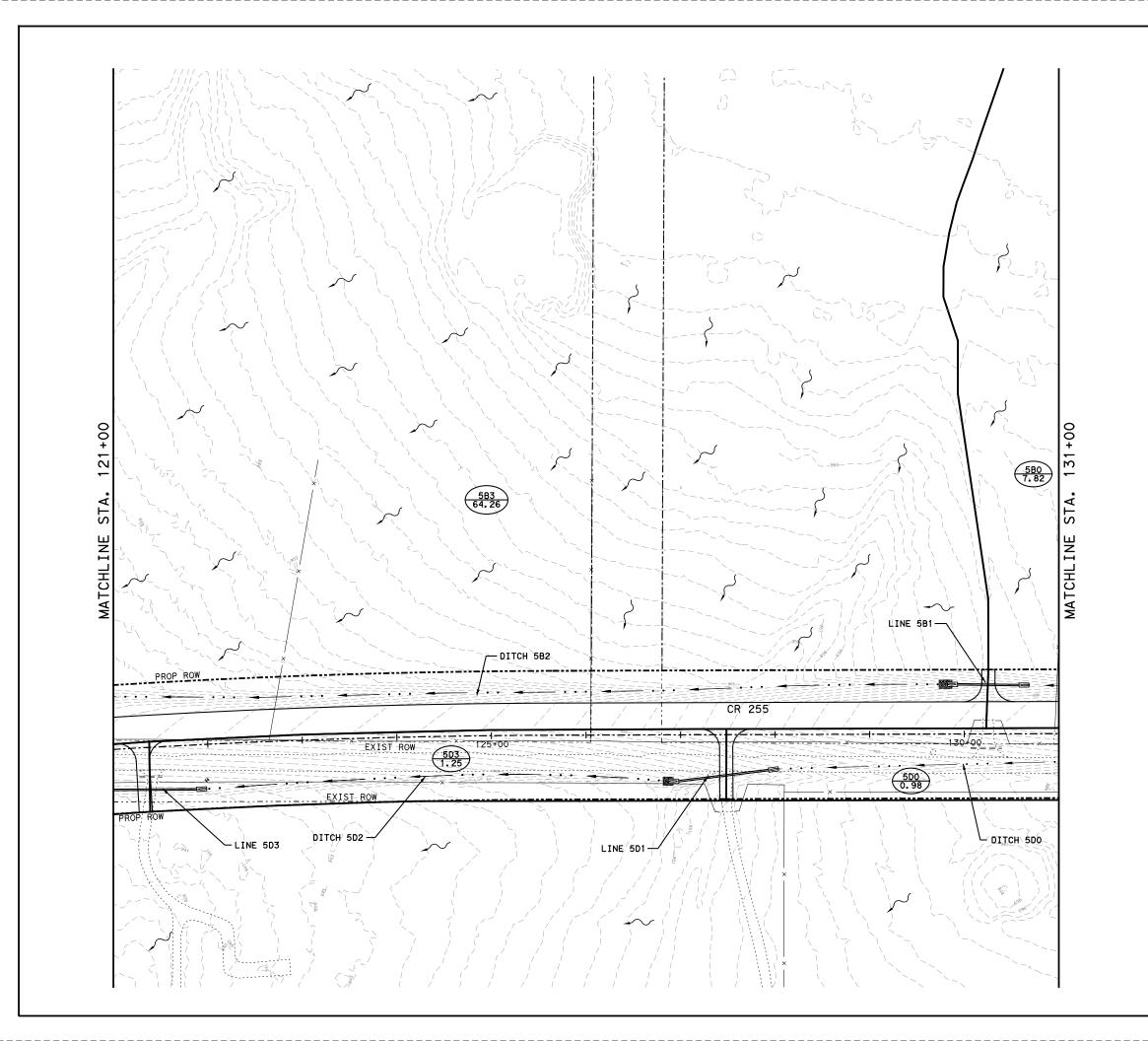


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP

STA 111+00 TO 121+00

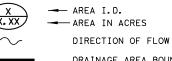
SHEET 11 OF 16 HIGHWAY No. STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX











DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

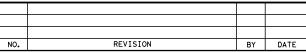
CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







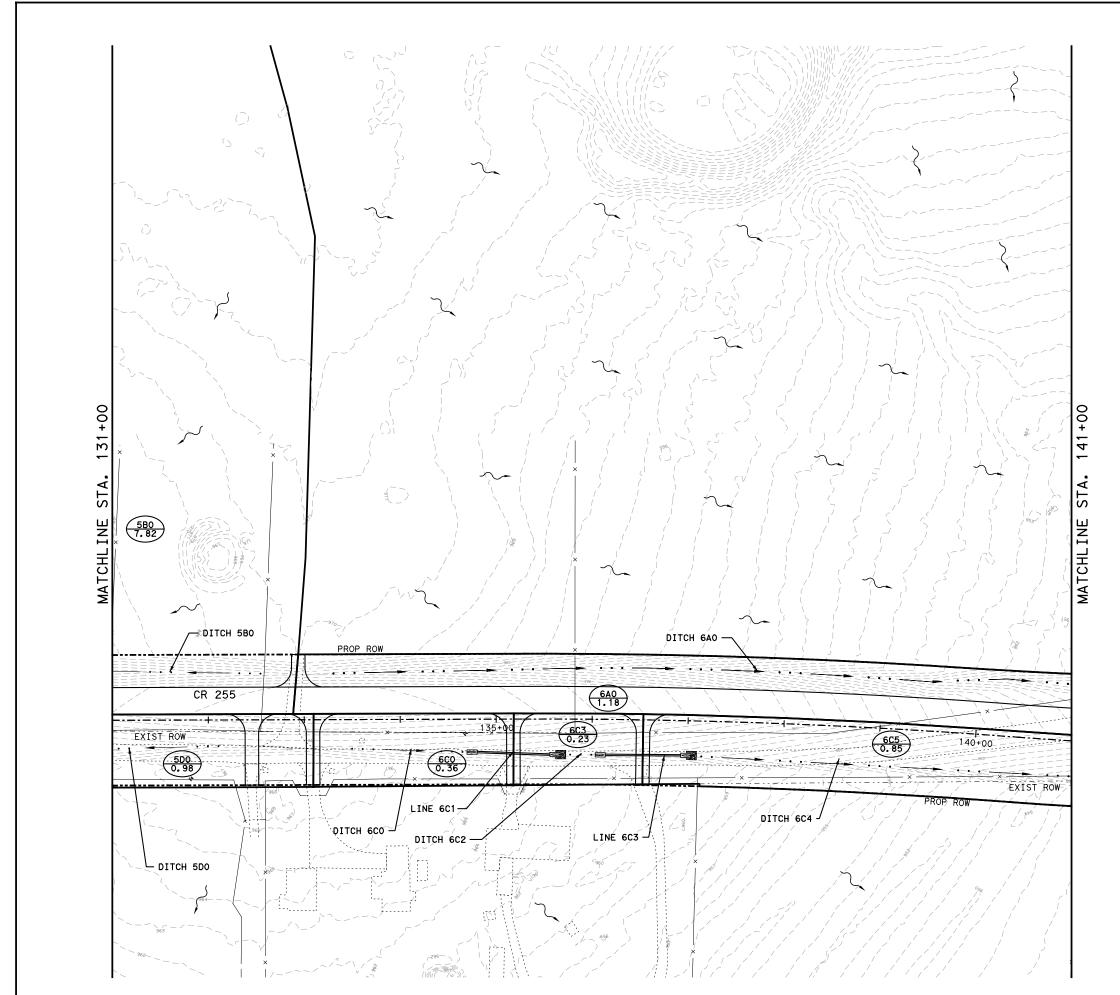


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

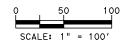
CR 255 DRAINAGE AREA MAP

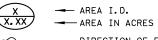
STA 121+00 TO 131+00

SHEET 12 OF 16 HIGHWAY No. STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DIATINACE AREA BOOKBART

DRAINAGE SUB-AREA BOUNDARY

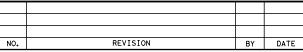
EXIST CONTOUR

CREEK THALWEG
EXIST ROW

PROP ROW

#### NOTES:

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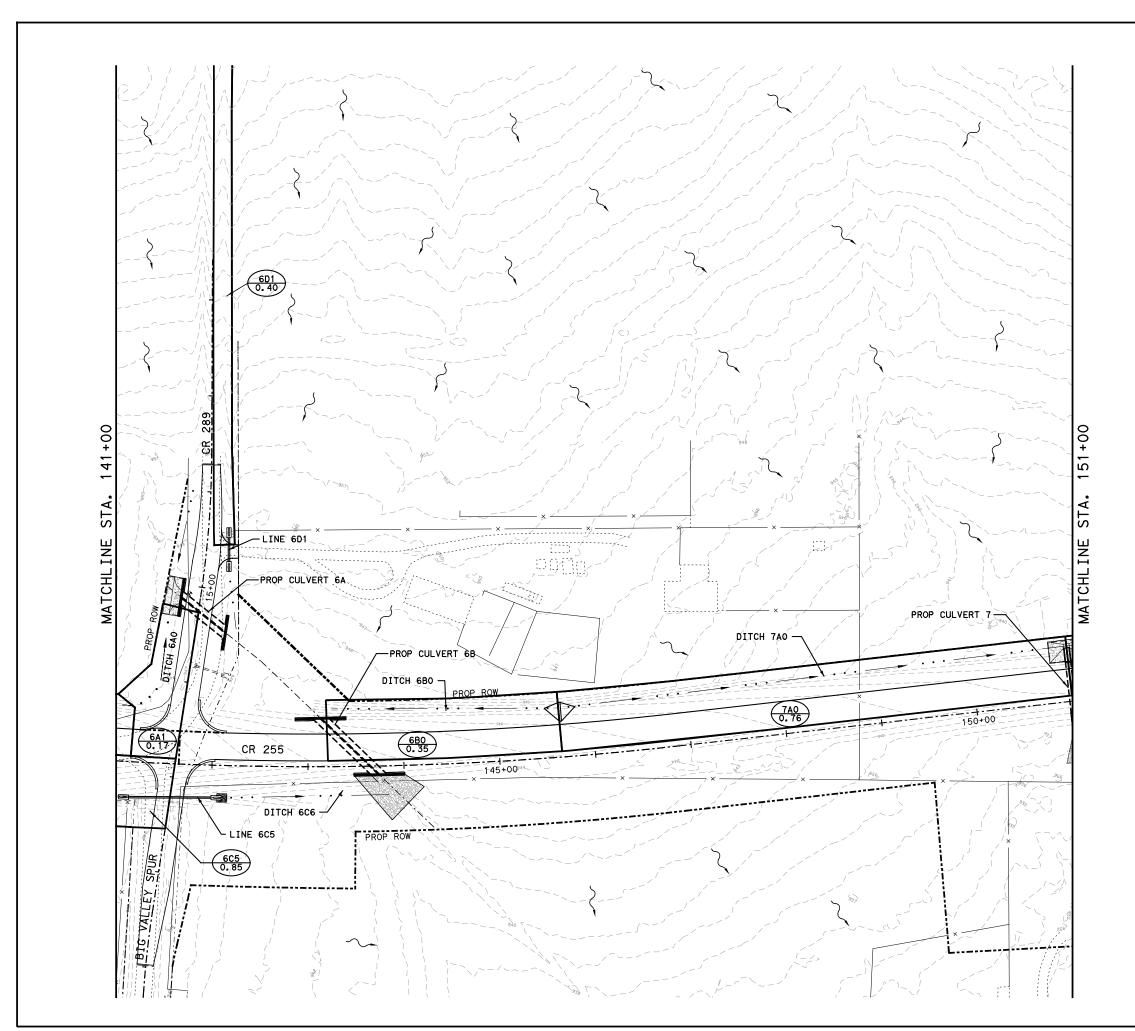






CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP
STA 131+00 TO 141+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

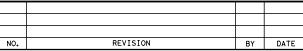
EXIST CONTOUR

----- CREEK THALWEG

----- PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







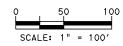


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP
STA 141+00 TO 151+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

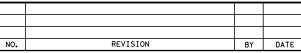
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







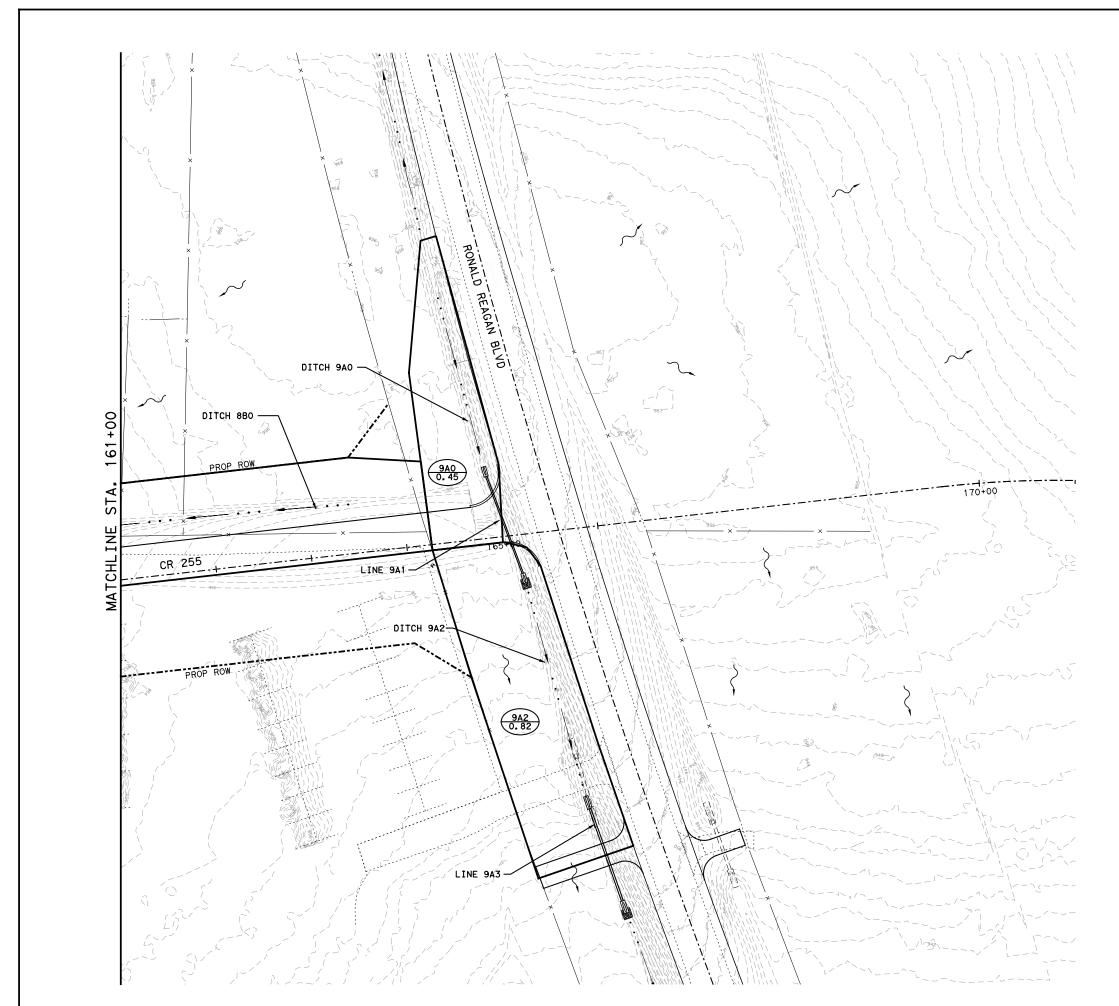


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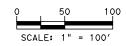
CR 255 DRAINAGE AREA MAP STA 151+00 TO 161+00

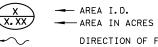
SHEET 15 OF 16

STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS SECTION JOB SHEET No. No. No. No. COUNTY XX XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

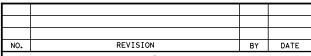
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









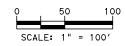
DESIGNED: CHECKED:

CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 161+00 TO END PROJECT

			SHEE	1 16	OF 16
FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
Х	TEXAS		CF	R 255	
STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
XX	XX	XX	XX	XX	168









DIRECTION OF FLOW

DRAINAGE SUB-AREA BOUNDARY

DRAINAGE AREA BOUNDARY

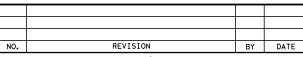
CREEK THALWEG

EXIST CONTOUR

EXIST ROW PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









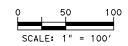
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP RONALD REAGAN BLVD BEGIN PROJECT TO STA 20+00

SHEET 1 OF 2

ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
HECKED:	Х	TEXAS		CF	₹ 255	
RAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
HECKED:	XX	XX	XX	XX	XX	169









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

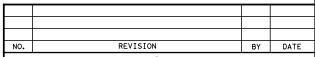
EXIST ROW

CREEK THALWEG

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.







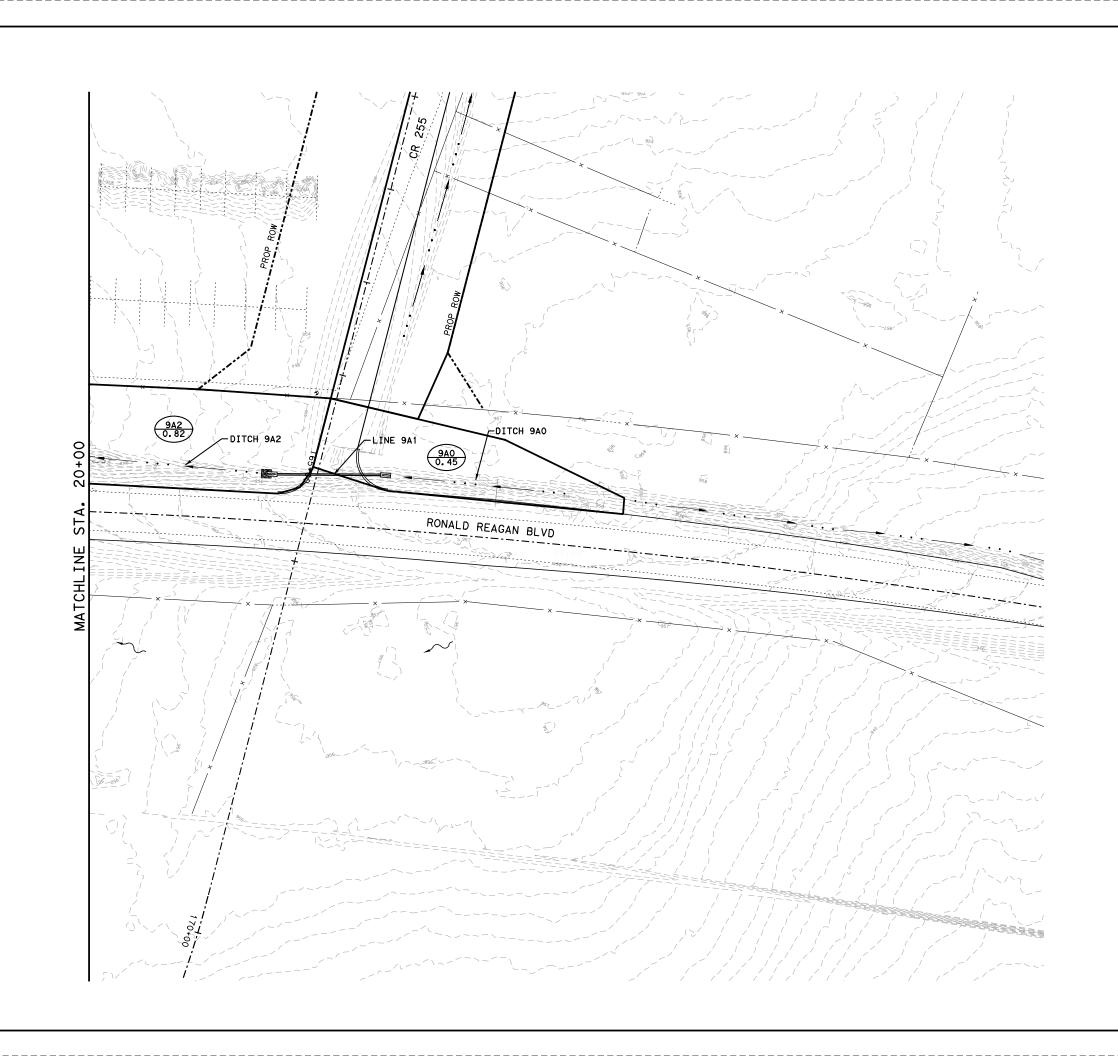


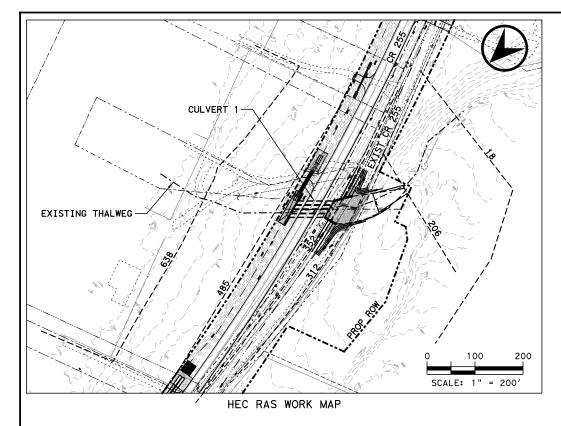
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP RONALD REAGAN BLVD STA 20+00 TO END PROJECT

SHEET 2 OF 2

IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID PROJECT No.		HIGHWAY No.	
CKED:	Х	TEXAS		CR 255		
WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	170





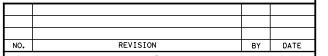
Plan: PROP River 1 Existi	ng CR1 RS:	412 Culv Group: Group #2 Pro	ofile: 4% AEP
Q Culv Group (cfs)	659	Culv Full Len (ft)	
# Barrels	4	Culv Vel US (ft/s)	9.11
Q Barrel (cfs)	164.75	Culv Vel DS (ft/s)	10.39
E.G. US. (f+)	1007.71	Culv Inv El Up (ft)	1003.19
W.S. US. (f+)	1010.64	Culv Inv El Dn (ft)	1002.8
E.G. DS (ft)	1005.56	Culv Frctn Ls (ft)	0.32
W.S. DS (f+)	1005.33	Culv Exit Loss (ft)	1.19
Delta EG (ft)	2.15	Culv Entr Loss (ft)	0.65
Delta WS (ft)	5.32	Q Weir (cfs)	
E.G. IC (ft)	1007.57	Weir Sta Lft (ft)	
E.G. OC (ft)	1007.71	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	1005.77	Weir Max Depth (ft)	
Culv WS Outlet (ft)	1005.06	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.18	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.58	Min El Weir Flow (ft)	1010.33

Plan: PROP River 1 Existing CR1	RS: 412	Culv Group: Group #2 Prof	ile: 1% AEP
Q Culv Group (cfs)	1030	Culv Full Len (ft)	
# Barrels	4	Culv Vel US (ft/s)	9.2
Q Barrel (cfs)	257.5	Culv Vel DS (ft/s)	13.68
E.G. US. (ft)	1009.6	Culv Inv El Up (ft)	1003.19
W.S. US. (ft)	1010.88	Culv Inv El Dn (ft)	1002.8
E.G. DS (ft)	1006.23	Culv Frotn Ls (ft)	0.55
W.S. DS (ft)	1005.93	Culv Exit Loss (ft)	2.17
Delta EG (ft)	3.38	Culv Entr Loss (ft)	0.66
Delta WS (ft)	4.94	Q Weir (cfs)	
E.G. IC (ft)	1009.6	Weir Sta Lft (ft)	
E.G. OC (ft)	1009.28	Weir Sta Rgt (ft)	
Culvert Control	Inlet	Weir Submerg	
Culv WS Inlet (ft)	1007.19	Weir Max Depth (ft)	
Culv WS Outlet (ft)	1005.49	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	3.01	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.48	Min El Weir Flow (ft)	1010.33

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(f+)	(f+)	(f+)	(f+)	(f+/f+)	(ft/s)	(sq ft)	(f+)	
Existing CR1	638	4% AEP	EXIST	659	1014	1014.98		1015.07	0.030683	1.54	307.63	737.64	0.4
Existing CR1	638	4% AEP	PROP	659	1014	1014.99		1015.08	0.028355	1.5	315.43	739.49	0.39
Existing CR1	638	1% AEP	EXIST	1030	1014	1015.12		1015.25	0.028579	1.78	414.45	749.13	0.41
Existing CR1	638	1% AEP	PROP	1030	1014	1015.12		1015.25	0.028466	1.77	414.95	749.16	0.41
Existing CR1	485	4% AEP	EXIST	659	1009.47	1010.66	1010.66	1010.96	0.023651	4.46	159.82	319.78	0.95
Existing CR1	485	4% AEP	PROP	659	1009.47	1010.64	1010.64	1010.96	0.025426	4.58	154.84	315.32	0.98
Existing CR1	485	1% AEP	EXIST	1030	1009.47	1010.88	1010.88	1011.25	0.023777	5.08	235.58	372.59	0.95
Existing CR1	485	1% AEP	PROP	1030	1009.47	1010.88	1010.88	1011.25	0.023833	5.09	235.52	375.66	0.95
Existing CR1	352	4% AEP	EXIST	659	1003.56	1008.63	1006.06	1008.64	0.000088	0.84	1124.77	591.47	0.08
Existing CR1	352	4% AEP	PROP	659	1002.87	1005.33		1005.56	0.003838	3.85	173.07	95.55	0.46
Existing CR1	352	1% AEP	EXIST	1030	1003.56	1008.93	1006.33	1008.94	0.000142	1.12	1306.31	619.4	0.1
Existing CR1	352	1% AEP	PROP	1030	1002.87	1005.93		1006.23	0.003751	4.47	256.27	157	0.47
Existing CR1	330 CULVERT 1			Culvert									
ZXTOTTING SIXT	300 302 (2.11)			0417011									
Existing CR1	312	4% AEP	EXIST	659	1003.53	1006,16	1006.06	1006.42	0.011272	5.14	179.29	245.82	0.74
Existing CR1	312	4% AEP	PROP	659	1002.59	1005.24		1005.4	0.002329	3.2	213.16	133.07	0.36
Existing CR1	312	1% AEP	EXIST	1030	1003.53	1006.63	1006.38	1006.82	0.007136	4.9	332.92	386.36	0.61
Existing CR1	312	1% AEP	PROP	1030	1002.59	1005.86		1006.06	0.002413	3.74	314.61	218.89	0.38
Existing CR1	206	4% AEP	EXIST	1140	1001.87	1004.3		1004.64	0.021648	3.24	296.97	204.96	0.43
Existing CR1	206	4% AEP	PROP	1140	1001.87	1004.3		1004.64	0.021648	3.24	296.97	204.96	0.43
Existing CR1	206	1% AEP	EXIST	1800	1001.87	1004.72		1005.24	0.023716	3.9	389.22	225.13	0.46
Existing CR1	206	1% AEP	PROP	1800	1001.87	1004.72		1005.24	0.023716	3.9	389.22	225.13	0.46
Existing CR1	18	4% AEP	EXIST	1140	999.2	1001.71	1001.39	1001.94	0.01002	4.72	309.25	261.54	0.69
Existing CR1	18	4% AEP	PROP	1140	999.2	1001.71	1001.39	1001.94	0.01002	4.72	309.25	261.54	0.69
Existing CR1	18	1% AEP	EXIST	1800	999.2	1002.12	1001.69	1002.42	0.01	5.4	421.01	281.78	0.72
Existing CR1	18	1% AEP	PROP	1800	999.2	1002.12	1001.69	1002.42	0.01	5.4	421.01	281.78	0.72

#### NOTES:

- 1. CULVERTS WERE MODELED USING HEC-RAS VERSION 6.4.
- 2. HYDROLOGY FOR ALL BRIDGE-CLASS CROSSINGS WERE COMPUTED BASED ON THE NRCS UH METHOD WITH RAINFALL DEPTHS GATHERED FROM THE NOAA PRECIPITATION FREQUENCY SERVER FOR ATLAS 14.
- 3. HEC-HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS.
- 4. REFER TO THE CR 255 DRAINAGE REPORT FOR SOILS INFORMATION.
- 5. A CURVE NUMBER ADJUSTMENT FACTOR OF -15 WAS APPLIED TO ALL COMPUTED ON VALUES EXCEPT FOR AREAS THAT REPRESENT IMPERVIOUS COVER.







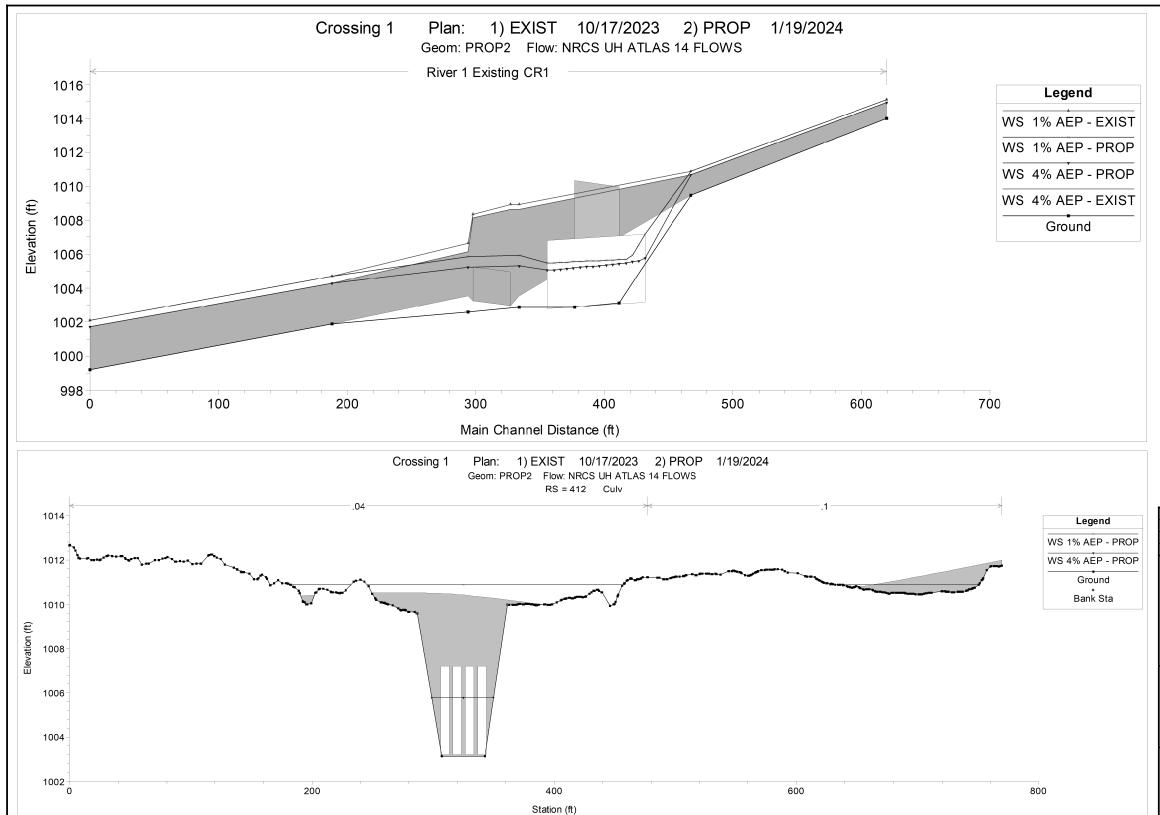


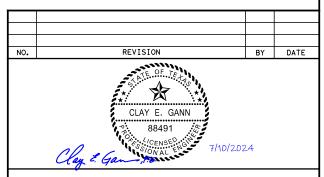
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERT 1 STA 44+85

SHEET 1 OF 2									
SIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.					
ECKED:	Х	TEXAS		CR 255					
AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.			
ECKED:	XX	XX	XX	XX	XX	171			









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERT 1 STA 44+85

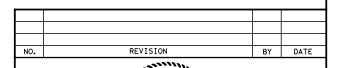
SHEEL Z OF Z									
ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.					
HECKED:	Х	TEXAS			CR 255				
RAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.			
HECKED:	XX	XX	XX	XX	XX	172			

7	Plan: PROP River 1 Reach 1	RS: 101	5 Culv Group: Group #1 Pr	ofile: 4% AEP
	Q Culv Group (cfs)	669	Culv Full Len (ft)	
	# Barrels	4	Culv Vel US (ft/s)	8.76
	Q Barrel (cfs)	167.25	Culv Vel DS (ft/s)	9.78
1	E.G. US. (ft)	968.56	Culv Inv El Up (ft)	964.38
1	W.S. US. (ft)	968.4	Culv Inv El Dn (ft)	963.99
1	E.G. DS (f+)	966.62	Culv Frotn Ls (ft)	0.34
4	W.S. DS (f+)	966.24	Culv Exit Loss (ft)	0.99
1	Delta EG (ft)	1.93	Culv Entr Loss (ft)	0.6
1	Delta WS (ft)	2.16	Q Weir (cfs)	
Ŋ	E.G. IC (ft)	968.52	Weir Sta Lft (ft)	
1	E.G. OC (ft)	968.56	Weir Sta Rgt (ft)	
1	Culvert Control	Outlet	Weir Submerg	
1	Culv WS Inlet (ft)	966.77	Weir Max Depth (ft)	
1	Culv WS Outlet (ft)	966.13	Weir Avg Depth (ft)	
	Culv Nml Depth (ft)	2.1	Weir Flow Area (sq ft)	
•	Culv Crt Depth (ft)	2.39	Min El Weir Flow (ft)	970.41
_				

Plan: PROP River 1 Reach 1 RS:	1015 C	ulv Group:	Group #1 P	rofile:	1% AEP
Q Culv Group (cfs)	1049	Culv Full	Len (ft)		
# Barrels	4	Culv Vel U	S (ft/s)		10.18
Q Barrel (cfs)	262.25	Culv Vel D	S (ft/s)		11.15
E.G. US. (f+)	970.13	Culv Inv E	l Up (ft)		964.38
W.S. US. (f+)	969.99	Culv Inv E	l Dn (ft)		963.99
E.G. DS (f+)	967.19	Culv Frotn	Ls (ft)		0.35
W.S. DS (f+)	966.64	Culv Exit	Loss (ft)		1.67
Delta EG (ft)	2.93	Culv Entr	Loss (ft)		0.92
Delta WS (ft)	3.35	Q Weir (cf	s)		
E.G. IC (f+)	970.13	Weir Sta L	f† (f†)		
E.G. OC (f+)	970.02	Weir Sta R	gt (ft)		
Culvert Control	Inlet	Weir Subme	rg		
Culv WS Inlet (ft)	967.6	Weir Max D	epth (ft)		
Culv WS Outlet (ft)	966.93	Weir Avg D	epth (ft)		
Culv Nml Depth (ft)	2.88	Weir Flow	Area (sq ft)		
Culv Crt Depth (ft)	3.22	Min El Wei	r Flow (ft)		970.41

HEC F	2 A S \	NORK	MΔP

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev			E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(f+)	(ft)	(ft)	(f+)	(ft/ft)	(ft/s)	(sq ft)	(f†)	
Reach 1	2715	4% AEP	EXIST	384	988.61	989.54	989.54	989.81	0.026863	5.14	106.37	205.45	1.03
Reach 1	2715	4% AEP	PROP	384	988.61	989.54	989.54	989.81	0.026863	5.14	106.37	205.45	1.03
Reach 1	2715	1% AEP	EXIST	603	988.61	989.75	989.75	990.07	0.02451	5.76	151.85	232.12	1.02
Reach 1	2715	1% AEP	PROP	603	988.61	989.75	989.75	990.07	0.02451	5.76	151.85	232.12	1.02
Reach 1	2556	4% AEP	EXIST	384	986.48	988.12		988.19	0.003478	2.66	193.41	206.13	0.41
Reach 1	2556	4% AEP	PROP	384	986.48	988.11		988.19	0.003512	2.67	193.13	211.16	0.41
Reach 1	2556	1% AEP	EXIST	603	986.48	988.42	987.83	988.52	0.003945	3.24	265.21	261.38	0.45
Reach 1	2556	1% AEP	PROP	603	986.48	988.41	987.83	988.51	0.003962	3.24	264.56	260.57	0.45
Reach 1	2492	4% AEP	EXIST	384	986.48	987.38	987.38	987.67	0.025268	4.95	97.05	173.16	1
Reach 1	2492	4% AEP	PROP	384	986.48	987.38	987.38	987.67	0.024485	4.9	98.45	181.43	0.98
Reach 1	2492	1% AEP	EXIST	603	986.48	987.6	987.6	987.96	0.02395	5.71	138.51	199.85	1.01
Reach 1	2492	1% AEP	PROP	603	986.48	987.6	987.6	987.95	0.023914	5.69	141.32	220.99	1.01
Reach 1	2480	4% AEP	EXIST	384	982.46	985.99		986.19	0.002627	3.55	108.02	41.2	0.39
Reach 1	2480	4% AEP	PROP	384	982.46	985.99		986.19	0.002628	3.56	108.01	41.2	0.39
Reach 1	2480	1% AEP	EXIST	603	982.46	987.43		987.56	0.001334	3.04	246.3	189.11	0.29
Reach 1	2480	1% AEP	PROP	603	982.46	987.43		987.56	0.001337	3.05	245.98	188.99	0.29
Reach 1	2464	4% AEP	EXIST	384	982.38	985.96	984.41	986.15	0.002501	3.49	109.9	41.45	0.38
Reach 1	2464	4% AEP	PROP	384	982.38	985.96	984.4	986.15	0.002502	3.49	109.89	41.45	0.38
Reach 1	2464	1% AEP	EXIST	603	982.38	987.35	985.03	987.53	0.001732	3.43	182.75	114.35	0.33
Reach 1	2464	1% AEP	PROP	603	982.38	987.36	985.02	987.53	0.001664	3.36	195.69	114.89	0.32
Reach 1	2425 DMCulvert1			Culvert									
Reach 1	2378	4% AEP	EXIST	384	982.57	984.21	983.93	984.6	0.011563	5.04	76.18	53.27	0.74
Reach 1	2378	4% AEP	PROP	384	981.44	983.89	983.43	984.35	0.00951	5.45	70.41	37.43	0.7
Reach 1	2378	1% AEP	EXIST	603	982.57	984.81		985.28	0.009339	5.51	109.53	56.98	0.7
Reach 1	2378	1% AEP	PROP	603	981.44	984.53	984.03	985.14	0.009893	6.31	95.54	41.93	0.74
Reach 1	2116	4% AEP	EXIST	384	978.34	980.59	980.39	981.23	0.01455	6.4	59.99	34.52	0.86
Reach 1	2116	4% AEP	PROP	384	978	980	980	980.81	0.020721	7.24	53.04	33.04	1.01
Reach 1	2116	1% AEP	EXIST	603	978.34	981.07	980.99	982.02	0.017372	7.83	77.04	37.35	0.96
Reach 1	2116	1% AEP	PROP	603	978	980.61	980.61	981.63	0.019283	8.09	74.54	37.15	1.01
Reach 1	1882	4% AEP	EXIST	384	975.14	976.4	976.4	976.89	0.024086	5.62	68.38	70.91	1.01
Reach 1	1882	4% AEP	PROP	384	974.9	977.58	976.9	977.97	0.007086	4.99	76.99	37.36	0.61
Reach 1	1882	1% AEP	EXIST	603	975.14	976.74	976.74	977.39	0.021958	6.46	93.4	73.23	1.01
Reach 1	1882	1% AEP	PROP	603	974.9	978.28	977.52	978.79	0.007389	5.78	104.39	41.83	0.64
Reach 1	1683	4% AEP	EXIST	384	972.81	975.06		975.14	0.001417	2.18	176.53	90.45	0.27
Reach 1	1683	4% AEP	PROP	384	972.88	974.88	974.88	975.69	0.020712	7.22	53.15	33.22	1.01
Reach 1	1683	1% AEP	EXIST	603	972.81	975.64		975.74	0.00154	2.63	229.19	93.8	0.3
Reach 1	1683	1% AEP	PROP	603	972.88	975.49	975.49	976.5	0.019281	8.08	74.62	37.25	1.01









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERTS 2 & 2B STA 86+10 SHEET 1 OF

DESIGNED: FED. RD. STATE FEDERAL AID PROJECT NO. HIGHWAY NO.

CHECKED: X TEXAS CONTROL SECTION JOB SHEET NO.

CHECKED: XX XX XX XX XX XX 173

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CORPT: S:08 Projects/2011 (2R25599: Project Standards/CR25; CRPP : c:dg/cdb/ygamidras/1862/CR255\_HD528.dgn

Reach	River Sta	Profile	Plan										Froude # Chi
Reach 1	1462	4% AEP	EXIST	(cfs) 656	(ft) 971.01	(f†) 974.86	(f†)	(ft) 974.92	(ft/ft) 0.000824	(ft/s) 2.13	(sq ft) 347.15	(ft) 194.49	0.22
Reach 1 Reach 1	1 462 1 462	4% AEP	PROP EXIST	656 1031	971.8 971.01	974.01 975.37	974.01	974.82 975.46	0.001767 0.001139	7.26 2.8	91.87 457.76	65.71 229.81	0.99 0.27
Reach 1	1462	1% AEP	PROP	1031	971.8	974.62	974.62	975.66	0.001574	8.22	136.14	88.41	0.98
Reach 1 Reach 1	1430 1430	4% AEP 1% AEP	PROP PROP	656 1031	966.99 966.99	970.77 973	969.57 970.39	971.21 973.33	0.000442 0.000183	5.31 4.62	123.48 227.96	40.65 56.76	0.54 0.37
Reach 1	1422		EXIST	656	970.78	974.85	972.1	974.89	0.000337	1.65	479.17	273.67	0.15
Reach 1	1422	1% AEP		1031	970.78	975.37	972.56	975.42	0.000337	2.09	640.95	326.17	0.18
Reach 1	1399 DMCulvert2			Culvert									
Reach 1	1376	4% AEP		656	970.28	974.06		974.09	0.000541	1.83	478.54	277.34	0.18
Reach 1	1376	1% AEP		1031	970.28	974.35	070.40	974.41	0.000865	2.45	560.7	291.89	0.24
Reach 1	1370 1370	4% AEP 1% AEP	EXIST EXIST	656 1031	970.16 970.16	974.06 974.35	972.19 972.55	974.09 974.4	0.000435 0.000707	1.66 2.24	522.29 607.26	284.73 299.15	0.16 0.21
Reach 1	1355 Driveway			Culvert									
Reach 1	1339	4% AEP	EXIST	656	969.47	971.85	971.85	972.35	0.018385	6.05	123.96	134.91	0.93
Reach 1	1339	1% AEP	EXIST	1031	969.47	972.27	972.27	972.81	0.014411	6.44	193.26	179.3	0.86
Reach 1 Reach 1	1282 1282	4% AEP	EXIST PROP	669 669	968.43 966.34	970.59 969.27	970.59 969.27	971.21 970.38	0.021702 0.018352	6.29 8.46	106.65 79.35	89.56 37.72	1
Reach 1 Reach 1	1282 1282	1% AEP 1% AEP	EXIST PROP	1049 1049	968.43 966.34	971.15 970.16	971.15 970.16	971.78 971.46	0.014267 0.015123	6.5 9.22	176.76 117.85	159.96 50.31	0.86 0.95
Reach 1	1102	4% AEP	PROP	669	964.23	968. 4	966.49	968.55	0.001818	3.19	216.99	84.99	0.33
Reach 1	1102	1% AEP	PROP	1049	964.23	969.99	967.14	970.12	0.001005	3.02	367.5	103.71	0.26
Reach 1 Reach 1	1101 1101	4% AEP	EXIST EXIST	669 1049	964.23 964.23	969.3 969.72	966.61 967.31	969. 41 969. 93	0.001049 0.001812	2.65 3.67	252.92 285.57	170.01 187.66	0.26 0.34
Reach 1 Reach 1	963 963	4% AEP	EXIST	669 1049	966. 98 966. 98	969.15 969.54	968.3 968.56	969.21 969.63	0.001729 0.002019	2.33 2.86	355.7 472.28	276. 98 323. 63	0.3 0.34
Reach 1	926 XCulvert7	1/4 ALI	LXISI	Culvert	300.30	303.34	300.30	303.03	0.002013	2.00	412.20	323.03	V. 54
Reach 1	907	4% AEP	EXIST	669	964.52	967.05	966.99	967.43	0.019931	4.99	134.64	149.08	0.91
Reach 1	907 907	4% AEP	PROP EXIST	669 1049	963.56 964.52	966.24 967.32	967.32	966.62	0.006338 0.021219	5.07	145.53 178.8	118.89	0.59
Reach 1	907	1% AEP	PROP	1049	963.56	966.64	967.32	967.86 967.19	0.021219	6.1 6.27	194.16	179.55 129.6	0.98 0.68
Reach 1	771		EXIST	669	963.72	965.26		965.51	0.010137	4.67	170.22	163.95	0.7
Reach 1	771 771	4% AEP	PROP EXIST	669 1049	963.72 963.72	965.26 965.64		965.51 965.96	0.010137 0.009328	4.67 5.26	170.22 234.28	163.95 173.71	0.7
Reach 1	771	1% AEP	PROP	1049	963.72	965.64		965.96	0.009333	5.26	234.23	173.71	0.7
Reach 1 Reach 1	734 734	4% AEP 4% AEP	EXIST PROP	669 669	959.79 959.79	964.99 964.99		965.2 965.2	0.00682 0.00682	4.27 4.27	192.64 192.64	170.9 170.9	0.58 0.58
Reach 1	734 734	1% AEP 1% AEP	EXIST PROP	1049 1049	959.79 959.79	965.4 965.4		965.66 965.66	0.006402 0.006411	4.79 4.79	266.65 266.54	186.29 186.28	0.58 0.58
Reach 1	689	4% AEP	EXIST	669	962.78	964.18	964.18	964.66	0.023609	5.66	120.13	153.98	1
Reach 1 Reach 1	689 689	4% AEP		669 1049	962.78 962.78	964.18 964.53	964.18 964.53	964.66 965.15	0.023618 0.022013	5.66 6.23	120.12 166.3	153.97 176.63	1
Reach 1	689	1% AEP	PROP	1049	962.78	964.53	964.53	965.15	0.021935	6.22	166.51	176.73	1
Reach 1 Reach 1	602 602	4% AEP 4% AEP	EXIST PROP	669 669	960.66 960.66	962.72 962.72		963.03 963.03	0.012196 0.012196	5.61 5.61	160.17 160.17	169.65 169.65	0.78 0.78
Reach 1	602 602	1% AEP	EXIST PROP	1049 1049	960.66 960.66	963.13 963.13		963.48 963.48	0.010085	5.93 5.93	234.98 234.98	196.59 196.59	0.74 0.74
Reach 1	540	4% AEP	EXIST	669	959.16	962.39		962.56	0.004412	4.15	215.22	178.8	0.49
Reach 1	540 540	4% AEP	PROP EXIST	669 1049	959.16 959.16	962.39 962.81		962.56 963.03	0.004412 0.004592	4.15 4.76	215.22 302.29	178.8 230.25	0.49 0.51
Reach 1	540	1% AEP	PROP	1049	959.16	962.81		963.03	0.004592	4.76	302.29	230.25	0.51
Reach 1	496 496	4% AEP 4% AEP	EXIST PROP	669 669	957.89 957.89	961.76 961.76	961.76 961.76	962.23 962.23	0.011213 0.011213	6.84 6.84	142.86 142.86	151.43 151.43	0.78 0.78
Reach 1	496	1% AEP	EXIST	1049	957.89	962.1	962.1	962.68	0.012281	7.83	197.63	168.92	0.83
Reach 1	496	1% AEP	PROP	1049	957.89	962.1	962.1	962.68	0.012281	7.83	197.63	168.92	0.83
Reach 1	450 450	4% AEP	PROP	669 669	957.7 957.7	960. 91 960. 91	960. 91 960. 91	961.3 961.3	0.011101	6.38	163.58 163.58	195.68 195.68	0.77 0.77
Reach 1	450 450	1% AEP	EXIST PROP	1049 1049	957.7 957.7	961.19 961.19	961.19 961.19	961.67 961.67	0.012381 0.012381	7.31 7.31	220 220	212.46 212.46	0.83 0.83
Reach 1	301	4% AEP	EXIST	669	955.43	957.06	957.06	957.46	0.019496	6.18	138.6	163.3	0.95
Reach 1	301 301	4% AEP	PROP EXIST	669 1049	955.43 955.43	957.06 957.34	957.06 957.34	957.46 957.86	0.019496 0.019524	6.18 6.82	138.6 186.22	163.3 169.17	0.95 0.98
Reach 1	301	1% AEP	PROP	1049	955. 43	957.34	957.34	957.86	0.019524	6.82	186.22	169.17	0.98
Reach 1 Reach 1	174 174	4% AEP 4% AEP	EXIST PROP	669 669	954.16 954.16	954.72 954.72	954.65 954.65	955.05 955.05	0.015765 0.015765	2. 4 2. 4	152.65 152.65	187.73 187.73	0.7 0.7
Reach 1	174 174	1% AEP	EXIST PROP	1049 1049	954.16 954.16	955.07 955.07	954.96 954.96	955.44 955.44	0.01438 0.01438	3.56 3.56	221.94 221.94	215.07 215.07	0.74 0.74
Reach 1	18	4% AEP	EXIST	669	950.24	952.25	952.1	952.65	0.015012	5.59	136.43	137	0.84
Reach 1 Reach 1	18 18	4% AEP	PROP	669 1049	950.24 950.24	952.25 952.62	952.1 952.52	952.65 953.14	0.015012 0.015013	5.59 6.54	136.43 189.96	137 165. 23	0.84 0.88
Reach 1	18	1% AEP	PROP	1049	950.24	952.62	952.52	953.14	0.015003	6.54	189.96	165.23	0.88

Plan: PROP River 1 Reach	1 RS: 139	9 Culv Group: Group #1	Profil	e: 4% AEP
Q Culv Group (cfs)	65€	Culv Full Len (ft)		
# Barrels	4	Culv Vel US (ft/s)		9.1
Q Barrel (cfs)	164	Culv Vel DS (ft/s)		10.42
E.G. US. (ft)	971.2	Culv Inv El Up (ft)		966.99
W.S. US. (ft)	970.77	Culv Inv El Dn (ft)		966.51
E.G. DS (ft)	970.38	Culv Frotn Ls (ft)		0.41
W.S. DS (ft)	969. 27	Culv Exit Loss (ft)		0.07
Delta EG (ft)	0.83	Culv Entr Loss (ft)		0.36
Delta WS (ft)	1.5	Q Weir (cfs)		
E.G. IC (ft)		Weir Sta Lft (ft)		
E.G. OC (ft)	971.1	Weir Sta Rgt (ft)		
Culvert Control	Inlet	Weir Submerg		
Culv WS Inlet (ft)		Weir Max Depth (ft)		
Culv WS Outlet (ft)	968.76	Weir Avg Depth (ft)		
Culv Nml Depth (ft)	2.19	Weir Flow Area (sq ft)		
Culv Crt Depth (ft)	2.57	Min El Weir Flow (ft)		975.01

Plan: PROP River 1 Reach	1 RS: 139	9 Culv Group: Group #1	Profile: 1% AEP
Q Culv Group (cfs)	1031	Culv Full Len (ft)	
# Barrels	4	Culv Vel US (ft/s)	9.21
Q Barrel (cfs)	257.75	Culv Vel DS (ft/s)	14.29
E.G. US. (ft)	973.33	Culv Inv El Up (ft)	966.99
W.S. US. (ft)		Culv Inv El Dn (ft)	966.51
E.G. DS (f+)	971.46	Culv Frotn Ls (ft)	0.8
W.S. DS (ft)		Culv Exit Loss (ft)	0.8
Delta EG (ft)		Culv Entr Loss (ft)	0.26
Delta WS (ft)		Q Weir (ofs)	
E.G. IC (ft)		Weir Sta Lft (ft)	
E.G. OC (f+)		Weir Sta Rgt (ft)	
Culvert Control	Inlet	Weir Submerg	
Culv WS Inlet (ft)	970.99	Weir Max Depth (ft)	
Culv WS Outlet (ft)		Weir Avg Depth (ft)	
Culv Nml Depth (ft)	3.03	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.48	Min El Weir Flow (ft)	975.01









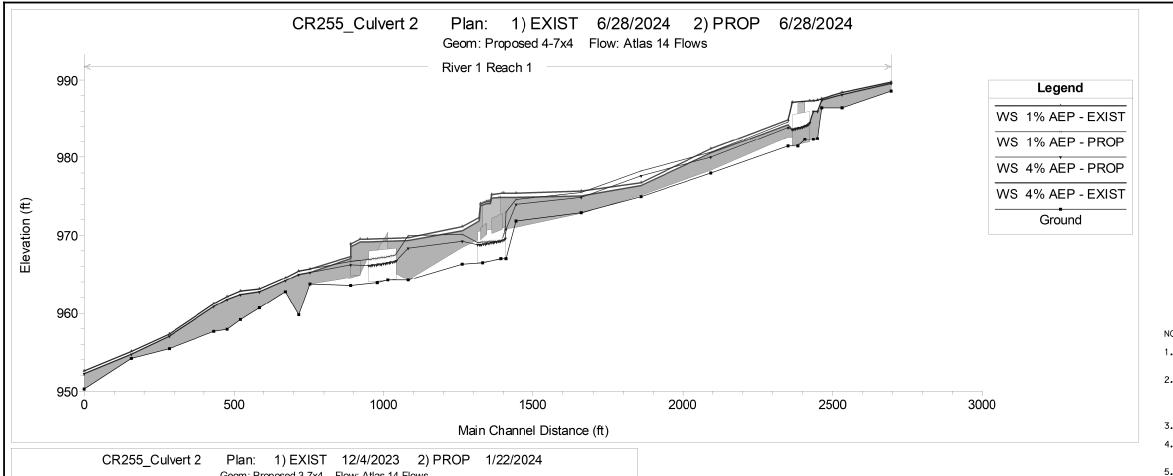
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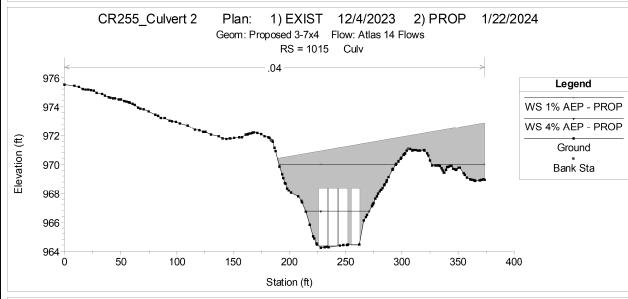
CR 255

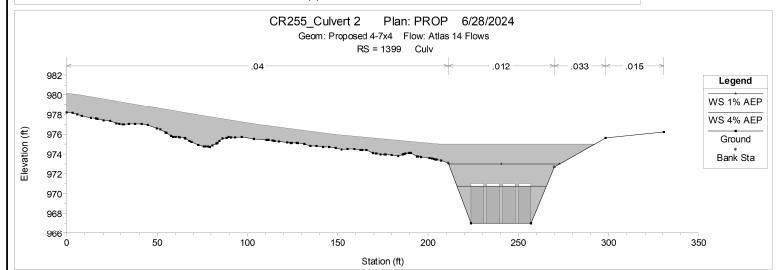
HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERTS 2 & 2B STA 86+10 SHEET 2 OF

				311		2 01 3
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	X	TEXAS				₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	174







#### NOTES:

- 1. CULVERTS WERE MODELED USING HEC-RAS VERSION 6.4.
- 2. HYDROLOGY FOR ALL BRIDGE-CLASS CROSSINGS WERE COMPUTED BASED ON THE NRCS UH METHOD WITH RAINFALL DEPTHS GATHERED FROM THE NOAA PRECIPITATION FREQUENCY SERVER FOR ATLAS 14.
- 3. HEC-HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS.
- 4. REFER TO THE CR 255 DRAINAGE REPORT FOR SOILS INFORMATION.
- 5. A CURVE NUMBER ADJUSTMENT FACTOR OF -15 WAS APPLIED TO ALL COMPUTED ON VALUES EXCEPT FOR AREAS THAT REPRESENT IMPERVIOUS COVER.

NO. REVISION BY DATE





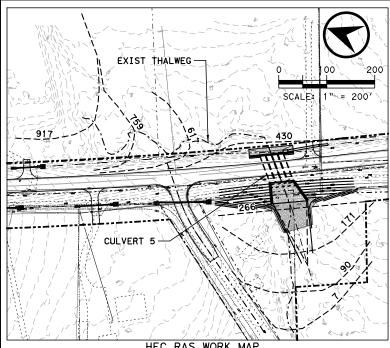


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERTS 2 & 2B STA 86+10

SIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
HECKED:	X	TEXAS		CR 255		
AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
IECKED:	XX	XX	XX	XX	XX	175



Plan: PROP River 1 R	each 1 RS: 356	Culv Group: Group #1	Profile: 4% AEP
Q Culv Group (cfs)	994	Culv Full Len (ft)	
# Barrels	4	Culv Vel US (ft/s)	9.28
Q Barrel (cfs)	248.5	Culv Vel DS (ft/s)	10.66
E.G. US. (f+)	939.03	Culv Inv El Up (ft)	934.34
W.S. US. (f+)	939.8	Culv Inv El Dn (ft)	934.04
E.G. DS (f+)	937.07	Culv Frctn Ls (ft)	0.22
W.S. DS (f+)	936.78	Culv Exit Loss (ft)	1.07
Delta EG (ft)	1.95	Culv Entr Loss (ft)	0.67
Delta WS (ft)	3.02	Q Weir (cfs)	
E.G. IC (f+)	938.67	Weir Sta Lft (ft)	
E.G. OC (f+)	939.03	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	937.02	Weir Max Depth (ft)	
Culv WS Outlet (ft)	936.37	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.17	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.68	Min El Weir Flow (ft)	943.87

Plan: PROP River 1 Reach 1 RS	S: 356 Cu	ulv Group: Group #1 Pro	file: 1% AEP
Q Culv Group (cfs)	1560	Culv Full Len (ft)	
# Barrels	4	Culv Vel US (ft/s)	9.75
Q Barrel (cfs)	390	Culv Vel DS (ft/s)	13.65
E.G. US. (ft)	940.87	Culv Inv El Up (ft)	934.34
W.S. US. (ft)	940.25	Culv Inv El Dn (ft)	934.04
E.G. DS (ft)	937.88	Culv Frotn Ls (ft)	0.34
W.S. DS (f+)	937.42	Culv Exit Loss (ft)	1.92
Delta EG (ft)	2.99	Culv Entr Loss (ft)	0.74
Delta WS (ft)	2.83	Q Weir (cfs)	
E.G. IC (ft)	940.87	Weir Sta Lft (ft)	
E.G. OC (ft)	940.67	Weir Sta Rgt (ft)	
Culvert Control	Inlet	Weir Submerg	
Culv WS Inlet (ft)	938.34	Weir Max Depth (ft)	
Culv WS Outlet (ft)	936.9	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.97	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.62	Min El Weir Flow (ft)	943.87

HEC	RAS	WORK	MΔP

	HEC R	KAS WOR	K MAP										
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(f+)	(f+)	(f+)	(f+)	(f+/f+)	(ft/s)	(sq ft)	(f+)	
Reach 1	917	4% AEP	EXIST	994	942.6	945.52		945.82	0.006441	5.37	256.08	196.22	0.61
Reach 1	917	4% AEP	PROP	994	942.6	945.52		945.82	0.006441	5,37	256.09	196.22	0.61
Reach 1	917	1% AEP	EXIST	1560	942.6	946.01		946.37	0.006422	6.07	363.1	234.4	0.63
Reach 1	917	1% AEP	PROP	1560	942.6	946.01		946.37	0.006422	6.07	363.1	234.4	0.63
Reach 1	759	4% AEP	EXIST	994	941.28	944.1	944.1	944.68	0.013143	7.04	182.08	154.59	0.85
Reach 1	759	4% AEP	PROP	994	941.28	944.1	944.1	944.68	0.013143	7.04	182.08	154.59	0.85
Reach 1	759	1% AEP	EXIST	1560	941.28	944.48	944.45	945.25	0.014641	8.29	246.87	191	0.92
Reach 1	759	1% AEP	PROP	1560	941.28	944.48	944.45	945.25	0.014641	8.29	246.87	191	0.92
Reach 1	617	4% AEP	EXIST	994	938.52	942.36	942.36	942.99	0.012334	8.1	223.7	182.85	0.85
Reach 1	617	4% AEP	PROP	994	938.52	942.36	942.36	942.99	0.012287	8.09	224.06	183.04	0.85
Reach 1	617	1% AEP	EXIST	1560	938.52	942.88	942.88	943.58	0.011976	8.95	329.87	222.21	0.87
Reach 1	617	1% AEP	PROP	1560	938.52	942.88	942.88	943.58	0.011976	8.95	329.87	222.21	0.87
							272.6		0.01115		000 77	100.75	
Reach 1	430	4% AEP	EXIST	994	937.31	939.95	939.8	940.44	0.011192	6.36	222.37	186.32	0.78
Reach 1	430	4% AEP	PROP	994	937.31	939.8	939.8	940.33	0.013177	6.58	188.18	176.05	0.84
Reach 1	430	1% AEP	EXIST	1560	937.31	940.38	940.27	941.05	0.012556	7.64	308.05	207.83	0.85
Reach 1	430	1% AEP	PROP	1560	937.31	940.25	940.25	940.89	0.012656	7.42	266.6	202.97	0.85
D	750	48/ 450	FVICE	204	075 47	070.60	070 11	070 00	0 007740	4.6	005 17	206 20	0.40
Reach 1	359	4% AEP	EXIST	994	935.43	939.69	939.11	939.92	0.003742	4.6	295.13	206.99	0.48
Reach 1	359	1% AEP	EXIST	1560	935.43	940.01	939.58	940.39	0.005572	6.03	367.95	250.35	0.59
Dogob 1	332 Culvert 5			Culvert									
Reach 1	552 Curveri 5			curverr									
Reach 1	295	4% AEP	EXIST	994	934.49	938.24	938.04	938.84	0.012497	8.04	253.15	151.94	0.86
Reach 1	295	1% AEP	EXIST	1560	934.49	938.95	938.84	939.62	0.012431	8.91	403.31	247.98	0.85
TREGOTT 1	255	178 ALI	LXISI	1300	331.13	330.33	330.01	333.02	0.011201	0.31	103.31	211.50	0.00
Reach 1	266	4% AEP	EXIST	994	934.57	938.01	937.88	938.45	0.009441	7.13	290.12	170.09	0.75
Reach 1	266	4% AEP	PROP	994	933.73	936.78	935.74	937.07	0.00366	4.36	232.64	113.8	0.47
Reach 1	266	1% AEP	EXIST	1560	934.57	938.8	938.16	939.24	0.007567	7.54	444.68	217.62	0.7
Reach 1	266	1% AEP	PROP	1560	933.73	937.42	936.33	937.88	0.004333	5.46	291.4	142.21	0.53
Reach 1	171	4% AEP	EXIST	994	933.7	936.03	936.03	936.93	0.025256	8.55	158.19	142.44	1.14
Reach 1	171	4% AEP	PROP	994	933.26	935.83	935.55	936.37	0.016766	6.63	215.49	135.89	0.82
Reach 1	171	1% AEP	EXIST	1560	933.7	936.68	936.68	937.87	0.022108	9.86	217.77	163.04	1.12
Reach 1	171	1% AEP	PROP	1560	933.26	936.35	936.16	937.09	0.017474	7.88	290.31	152.58	0.87
Reach 1	90	4% AEP	EXIST	994	932.19	935.36	934.43	935.69	0.007788	6.08	315.76	244.31	0.67
Reach 1	90	4% AEP	PROP	994	932.19	935.21	934.38	935.43	0.006776	5.43	393.08	234.03	0.62
Reach 1	90	1% AEP	EXIST	1560	932.19	936.06	935.05	936.5	0.007926	7.21	434.01	287.43	0.71
Reach 1	90	1% AEP	PROP	1560	932.19	935.85	934.94	936.12	0.006307	6.15	557.31	276.83	0.62
Reach 1	7	4% AEP	EXIST	994	931.8	935.04	933.38	935.1	0.005005	2.08	522.09	302.28	0.22
Reach 1	7	4% AEP	PROP	994	931.8	934.92	933.39	934.98	0.005001	2.02	563.21	296.36	0.22
Reach 1	7	1% AEP	EXIST	1560	931.8	935.8	933.77	935.88	0.005002	2.44	710.15	344.16	0.23
Reach 1	7	1% AEP	PROP	1560	931.8	935.6	933.78	935.68	0.005002	2.35	777.38	335.22	0.23

#### NOTES:

- 1. CULVERTS WERE MODELED USING HEC-RAS VERSION 6.4.
- 2. HYDROLOGY FOR ALL BRIDGE-CLASS CROSSINGS WERE COMPUTED BASED ON THE NRCS UH METHOD WITH RAINFALL DEPTHS GATHERED FROM THE NOAA PRECIPITATION FREQUENCY SERVER FOR ATLAS 14.
- 3. HEC-HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS.
- 4. REFER TO THE CR 255 DRAINAGE REPORT FOR SOILS INFORMATION.
- 5. A CURVE NUMBER ADJUSTMENT FACTOR OF -15 WAS APPLIED TO ALL COMPUTED ON VALUES EXCEPT FOR AREAS THAT REPRESENT IMPERVIOUS COVER.

NO. REVISION BY DATE





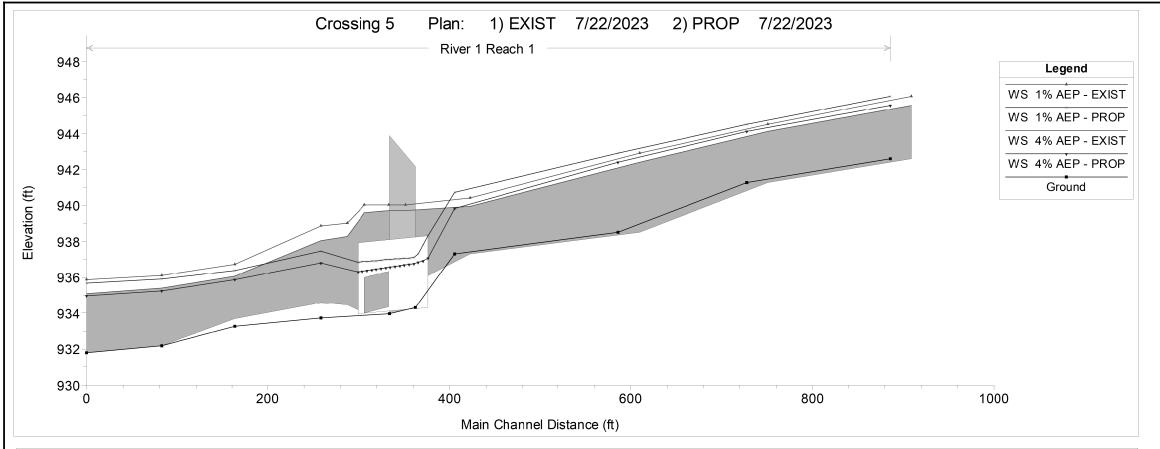


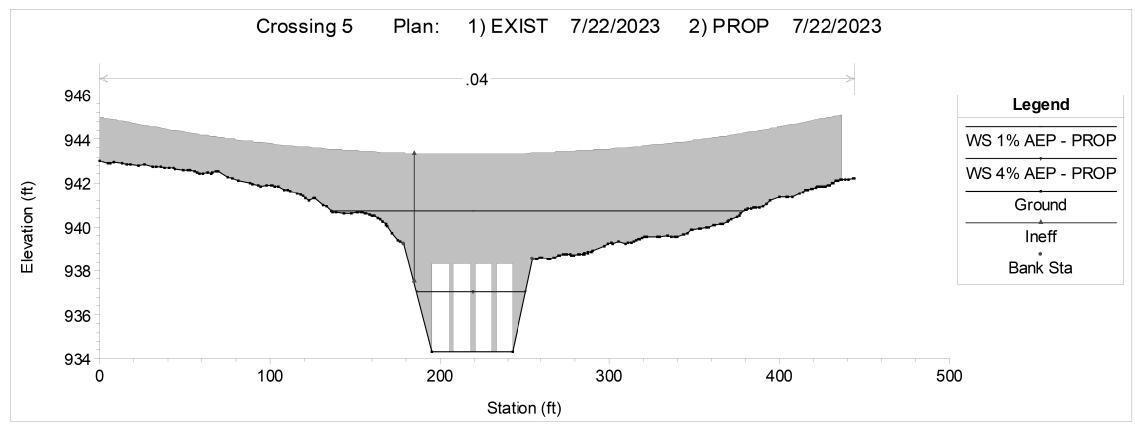
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERT 5 STA 118+33

	_											
	SHEET 1 OF 2											
SIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.								
ECKED:	Х	TEXAS		CR 255								
AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB SHEET No. No.							
ECKED:	XX	XX	XX	XX	XX	176						









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

**INFRASTRUCTURE** 

CR 255 HYDRAULIC DATA SHEET

BRIDGE-CLASS CULVERT 5 STA 118+33

				SHI	EET 2	2 OF 2	
ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.			
HECKED:	Х	TEXAS			CR 255		
RAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
HECKED:	XX	XX	XX	XX	XX	177	

#### CR 255 HY-8 CULVERT ANALYSIS REPORT **CULVERT 3-PROPOSED CONDITIONS**

SUMMARY OF CULVERT FLOWS AT CROSSING											
HW Elev (ft)	Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	Rdwy Q (cfs)	Iterations						
961.7	25	year	111	111	0						
962.19	100	year	147	147	0						
965.67	Overtopping	303.99	303.99	0	Overtopping						

COLVERT NOTES								
Allowable HW (Edge of Pavement) = 965.11 ft								

CIII VERT NOTES

# **CULVERT 4 - PROPOSED CONDITIONS**

SUMMARY OF CULVERT FLOWS AT CROSSING											
HW Elev (ft)	Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	Rdwy Q (cfs)	Iterations						
956.96	25	81	81	0	1						
957.96	100	105	105	0	1						
959.13	Overtopping	124.9	124.9	0	Overtopping						
				·							

#### **CULVERT NOTES**

Allowable HW (EDGE OF PVMT) = 958.58'

#### **CULVERT SUMMARY TABLE**

Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	HW Elev (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Crit Depth (ft)	Outlet Depth (ft)	TW Depth (ft)	Outlet Vel (ft/s)	TW Vel (ft/s)	Shear (psf)	Froude Number
25	111	111	961.89	2.64	2.69	1-S1t	1.44	1.56	2.11	2.11	5.26	8.31	6.58	1.43
100	147	147	962.41	3.21	2.71	5-JS1t	1.76	1.89	2.34	2.34	6.27	8.92	7.31	1.45
·														

SITE DATA

#### ROADWAY DATA

Coord no. Station(ft) Elevation(ft) 967.24 965.67 244.95 399.1

Roadway Surface: Paved Roadway Length: 28.00 ft Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 959.20 ft, Outlet Elevation (invert): 958.89 ft

Culvert Slope: 0.0051	

Site Data Option: Culvert Invert Data Inlet Station: 0.00 ft	Barrel Shape: Concrete Box Barrel Span: 5.00 ft Barrel Rise: 3.00 ft
Inlet Elevation: 959.20 ft	Barrel Material: Concrete
Outlet Station: 61.00 ft	Embedment: 0.00 in
Outlet Elevation: 958.89 ft	Barrel Manning's n: 0.0130
Number of Barrels: 2	Culvert Type: Straight
	Inlet Configuration: Square Edge (90

# CULVERT SUMMARY TABLE

Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	HW Elev (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Crit Depth (ft)	Outlet Depth (ft)	TW Depth (ft)	Outlet Vel (ft/s)	TW Vel (ft/s)	Shear (psf)	Froude Number
25-YR	81	81	956.96	3.49	3.63	7-M2c	2.13	2.07	2.07	1.54	7.78	3.11	0.96	0.62
100-YR	105	105	957.96	4.63	4.32	7-M2c	3.00	2.36	2.36	1.70	8.82	3.32	1.06	0.64

CR 255 HY-8 CULVERT ANALYSIS REPORT

#### ROADWAY DATA

Coord No. Station(ft) Flevation(ft)

Roadway Surface: Paved 28.00 ft Roadway Length:

### Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 953.33 ft, Outlet Elevation (invert): 952.77 ft Culvert Length: 111.48 ft, Culvert Slope: 0.0050

Coord No.	Station(It)	Elevation(π)	
0	0	961.26	
1	129.3	959.6	
2	244.3	959.13	
3	431.4	959.59	
	701.7	303.03	l

Site Data Option: Culvert Invert Data Inlet Station: 0.00 ft Inlet Elevation: 953.33 ft Outlet Station: 111.48 ft Outlet Elevation: 952.77 ft Number of Barrels: 2

SITE DATA

Barrel Shape: Circular Barrel Diameter: 3.00 ft Barrel Material: Concrete

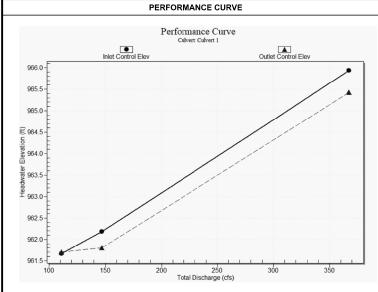
CULVERT DATA

Barrel Manning's n: 0.0130 Culvert Type: Straight
Inlet Configuration: Mitered to Conform to Slope (Ke=0.7) Inlet Depression: None

Embedment: 0.00 in

TAILWATER DATA

### TAILWATER DATA



Tailwater Channel Option: Triangular Channel Side Slope (H:V): 3.00 (\_:1) Channel Slope: 0.0500 Channel Manning's n: 0.0400 Channel Invert Elevation: 958.89 ft

CULVERT DATA

Performance Curve
Culvert: Culvert 1 959.0 957.5 110 120 130 Total Discharge (cfs) 140

PERFORMANCE CURVE

Tailwater Channel Option: Triangular Channel Side Slope (H:V): 11.00 (\_:1) Channel Slope: 0.0100 Channel Manning's n: 0.0400 Channel Invert Elevation: 952.77 ft

Flow Type	Flow Control	Submerged Inlet	Submerged Outlet	Length Full	Loss Calc	Outlet Depth
1	Inlet	No	No	None	S2n	Normal
1	Inlet	No	No	None	S1t	Tailwater
1	Inlet	No	Yes	Part	S1f	Full
5	Inlet	Yes	No	None	S2n	Normal
5	Inlet	Yes	No	None	S1t	Tallwater
5	Inlet	Yes	Yes	Part	S1f	Full
2	Outlet	No	No	None	M2c	Critical
3	Outlet	No	No	None	M1t	Tailwater
З	Outlet	No	No	None	M2t	Tailwater
З	Outlet	No	Yes	Part	M1f	Full
4	Outlet	Yes	Yes	ALL	FFf	Full
6	Outlet	Yes	No	Most	FFt	Tailwater
6	Outlet	Yes	No	Most	FFc	Critical
7	Outlet	Yes	No	Part	M1t	Tailwater
7	Outlet	Yes	No	Part	M2t	Tailwater
7	Outlet	Yes	No	Part	M2c	Critical

HY-8 FLOW TYPES

#### CULVERT COMPUTATION NOTES:

- 1. ALL MINOR CULVERTS WERE ANALYZED AND DESIGNED USING HY-8 VERSION 7.80.
- 2. DESIGN STORM IS 25-YEAR.

REVISION BY DATE







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE COMPUTATIONS CULVERTS 3 & 4

SHEET 1 OF 1

ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.			
CHECKED:	X	TEXAS		CF	CR 255		
RAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	XX	XX	XX	XX	XX	178	

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### CR 255 HY-8 CULVERT ANALYSIS REPORT **CULVERT 6A - PROPOSED CONDITIONS**

SUMMARY OF CULVERT FLOWS AT CROSSING								
HW Elev (ft)	Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	Rdwy Q (cfs)	Iterations			
947.41	25	111	111	0	1			
948.29	100	145	145	0	1			
948.57	Overtopping	154.38	154.38	ОТ	Overtopping			

**CULVERT NOTES** 

Allowable HW (EDGE OF PVMT) = 948.57 ft

#### **CULVERT SUMMARY TABLE**

Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	HW Elev (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Crit Depth (ft)	Outlet Depth (ft)	TW Depth (ft)	Outlet Vel (ft/s)	TW Vel (ft/s)	Shear (psf)	Froude Number
25 year	111	111	947.41	2.79	2.14	5 <b>-</b> S2n	1.15	1.56	1.22	1.36	9.13	5.41	1.70	0.92
100 year	145	145	948.29	3.67	2.95	5 <b>-</b> S2n	1.38	1.87	1.48	1.57	9.82	5.87	1.96	0.94

Coord No. Station(ft) Elevation(ft) 948.86 53.4 948.57 948.79 100

ROADWAY DATA

Roadway Surface: Paved 28.00 ft Roadway Length:

Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 944.62 ft, Outlet Elevation (invert): 944.04 ft Culvert Length: 59.00 ft, Culvert Slope: 0.0098

'	

Site Data Option: Culvert Invert Data Inlet Station: 0.00 ft Inlet Elevation: 944.62 ft Outlet Station: 59.00 ft Outlet Elevation: 944.04 ft Number of Barrels: 2

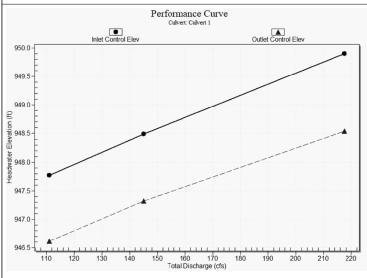
SITE DATA

Barrel Shape: Concrete Box Barrel Span: 5.00 ft Barrel Rise: 2.00 ft Barrel Material: Concrete Embedment: 0.00 in Barrel Manning's n: 0.0130 Culvert Type: Straight Inlet Configuration: Square Edge (90 deg) Headwall (Ke=0.5) Inlet Depression: None

TAILWATER DATA

CULVERT DATA

## PERFORMANCE CURVE Performance Curve



Tailwater Channel Option: Trapezoidal Channel Bottom Width: 11.00 ft Side Slope (H:V): 3.00 (\_:1) Channel Slope: 0.0200 Channel Manning's n: 0.0400 Channel Invert Elevation: 944.04 ft

#### CR 255 HY-8 CULVERT ANALYSIS REPORT

#### **CULVERT 6B-PROPOSED CONDITIONS**

SUMMARY C	SUMMARY OF CULVERT FLOWS AT CROSSING								
HW Elev (ft)	Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	Rdwy Q (cfs)	Iterations				
944.3	25	128	128	0	1				
944.93	100	167	167	0	1				
945	Overtopping	171.47	171.47	ОТ	Overtopping				

#### CULVERT NOTES

Culvert 6B Allowable HW (EDGE OF PVMT)=945.00 ft

#### CULVERT SUMMARY TABLE

Storm Freq.	Total Q (cfs)	Culvert Q (cfs)	HW Elev (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Crit Depth (ft)	Outlet Depth (ft)	TW Depth (ft)	Outlet Vel (ft/s)	TW Vel (ft/s)	Shear (psf)	Froude Number
25 year	128	128	944.3	2.91	2.21	1-JS1t	1.57	1.72	2.11	2.11	6.08	3.51	0.68	0.5
100 year	167	167	944.93	3.54	2.91	5-JS1t	1.90	2.05	2.42	2.42	6.91	3.78	0.78	0.51
	·													
					·									

#### **ROADWAY DATA**

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Coord No.	Station(ft)	Elevation(ft)		
0	0	945.69		
1	30.4	945		
2	33.7	944.67		
3	53.6	944.67		
4	58.3	946.23		

Roadway Surface: Gravel Roadway Top Width: 4.00 ft Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 941.39 ft, Outlet Elevation (invert): 940.94 ft Culvert Length: 85.00 ft, Culvert Slope: 0.0053

#### SITE DATA

Site Data Option: Culvert Invert Data Inlet Station: 0.00 ft Inlet Elevation: 941.39 ft Outlet Station: 85.00 ft Outlet Elevation: 940.94 ft

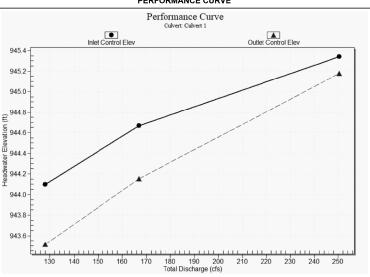
Number of Barrels: 2

Barrel Shape: Concrete Box Barrel Span: 5.00 ft Barrel Rise: 3.00 ft Barrel Material: Concrete Embedment: 0.00 in Barrel Manning's n: 0.0130 Culvert Type: Straight Inlet Configuration: Square Edge (90 deg) Headwall (Ke=0.5)

**CULVERT DATA** 

Inlet Depression: None

PERFORMANCE CURVE TAILWATER DATA



Tailwater Channel Option: Trapezoidal Channel Bottom Width: 11.00 ft Side Slope (H:V): 3.00 (\_:1) Channel Slope: 0.0052 Channel Manning's n: 0.0400 Channel Invert Elevation: 940.94 ft

Flow Type	Flow Control	Submerged Inlet	Submerged Outlet	Length Fu <b>ll</b>	Loss Calc	Outlet Depth
1	Inlet	No	No	None	S2n	Normal
1	Inlet	No	No	None	S1t	Tailwater
1	Inlet	No	Yes	Part	S1f	Full
5	Inlet	Yes	No	None	S2n	Normal
5	Inlet	Yes	No	None	S1t	Tallwater
5	Inlet	Yes	Yes	Part	S1f	Full
2	Outlet	No	No	None	M2c	Critical
3	Outlet	No	No	None	M1t	Tailwater
3	Outlet	No	No	None	M2t	Tailwater
3	Outlet	No	Yes	Part	M1f	Full
4	Outlet	Yes	Yes	ALL	FFf	Full
6	Outlet	Yes	No	Most	FFt	Tailwater
6	Outlet	Yes	No	Most	FFc	Critical
7	Outlet	Yes	No	Part	M1t	Tailwater
7	Outlet	Yes	No	Part	M2t	Tailwater
7	Outlet	Yes	No	Part	M2c	Critical

HY-8 FLOW TYPES

#### CULVERT COMPUTATION NOTES:

- 1. ALL MINOR CULVERTS WERE ANALYZED AND DESIGNED USING HY-8 VERSION 7.80.
- 2. DESIGN STORM IS 25-YEAR.

NO.	REVISION	BY	DATE







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 DRAINAGE COMPUTATIONS

CULVERTS 6A & 6B

SHEET 1 OF 1

DESIGNED:	DIV. No.	STATE	FEDERAL AID	HIGHWAY NO.		
CHECKED:	X	TEXAS			CF	255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	179

CR 255 HY-8 CULVERT ANALYSIS REPORT **CULVERT 7 - PROPOSED CONDITIONS** SUMMARY OF CULVERT FLOWS AT CROSSING **CULVERT NOTES** Culvert Rdwy Q Iterations Freq. (cfs) (ft) (cfs) (cfs) 939 84 25 vear 92.4 92.4 0 941.08 100 120 120 0 Allowable HW (EDGE OF PVMT) = 941.49 ft 942.04 137.85 137.85 0 Overtopping Overtopping CULVERT SUMMARY TABLE Crlt Outlet TW Outlet Culvert Storm Control Control Shear Froude Depth Depth Depth Depth Vel Vel Depth Depth (psf) Number Type Freq. (ft) (ft/s) (cfs) (cfs) (ft) (ft/s) 25 year 92.4 92.4 939.84 3.95 2.83 5-S2n 1.62 2.20 1.77 1.98 10.47 4.28 1.23 0.67 120 120 5.19 4.24 5-S2n 1.95 2.62 2.14 2.24 11.21 4.58 100 year 941.08 ROADWAY DATA Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 935.89 ft, Outlet Elevation (invert): 935.36 ft Culvert Length: 51.80 ft Culvert Slope: 0.0102 Coord No. Station(ft) Elevation(ft) SITE DATA **CULVERT DATA** 942.64 140.05 942.04 296.8 942.64 Barrel Shape: Concrete Box Barrel Span: 5.00 ft Site Data Option: Culvert Invert Data Barrel Rise: 3 00 ft Inlet Station: 0.00 ft Barrel Material: Concrete Roadway Surface: Paved Inlet Elevation: 935.89 ft Embedment: 0.00 in Barrel Manning's n: 0.0130 Outlet Station: 51.80 ft 28.00 ft Roadway Length: Outlet Elevation: 935.36 ft Culvert Type: Straight Inlet Configuration: Square Edge (0º flare) Number of Barrels: 1 Wingwall (Ke=0.7) Inlet Depression: None PERFORMANCE CURVE TAILWATER DATA Performance Curve 942.5 942.0 941.5 Tailwater Channel Option: Trapezoidal Channel Bottom Width: 5.00 ft Side Slope (H:V): 3.00 (\_:1) Channel Slope: 0.0100 940.5 Channel Manning's n: 0.0400

# SUMMARY OF CULVERT FLOWS AT CROSSING Freq. (ft) 943 64 25 944.13 100 944.2 Overtopping CULVERT SUMMARY TABLE Storm Freq. (cfs) 25 year 35.4 45.4 100 year **ROADWAY DATA**

Channel Invert Elevation: 935.36 ft

Culvert Barrel Type Straight Culvert Inlet Elevation (invert): 941.53 ft, Outlet Elevation (invert): 941.19 ft Culvert Length: 68.00 ft, Culvert Slope: 0.0050

Crlt

Depth

(ft)

1.34

1.59

Norma

Depth

1.29

1.54

Flow

Type

5-JS1t

5-JS1t

Outlet

Depth

(ft)

1.57

1.76

TW

Depth

(ft)

1.57

1.76

Outlet

Vel

(ft/s)

5.64

6.43

Shear | Froude

Number

(psf)

2.59 0.49

2.77 0.55

(ft/s)

**CULVERT NOTES** 

Allowable HW (EDGE OF PVMT) = 945.26 ft

Coord No	Station(ft)	Elevation(ft)	
0	0	949.36	
1	185.36	946.07	
2	200.44	944.2	
3	212.8	944.2	
4	219.5	945.96	

Roadway Surface: Paved Roadway Top Width: 28.00 ft Site Data Option: Culvert Invert Data Inlet Station: 0.00 ft Inlet Elevation: 941.53 ft Outlet Station: 68 00 ft Outlet Elevation: 941.19 ft Number of Barrels: 1

SITE DATA

CR 255 HY-8 CULVERT ANALYSIS REPORT

**CULVERT 8 - PROPOSED CONDITIONS** 

Iterations

0

Overtopping

Outlet

Control

Depth

1.83

2.41

Culvert

(cfs)

35.4

45.4

46.74

Elev

943.64

944.13

(cfs)

vear

year

46.74

Culvert

(cfs)

35.4

45.4

Rdwy

(cfs)

35.4

45.4

0

Control

Depth

2.11

2.60

Barrel Shape: Concrete Box Barrel Span: 4.00 ft Barrel Rise: 2.00 ft Barrel Material: Concrete Embedment: 0.00 in Barrel Manning's n: 0.0130 Culvert Type: Straight Inlet Configuration: Square Edge (30-75Ű flare) Wingwall (Ke=0.4) Inlet Depression: None

TAILWATER DATA

**CULVERT DATA** 

#### Inlet No Part Full 5 Inlet Yes None S2n Normal Inlet Yes No None S1t Tallwater Part S1f Full 5 Inlet Yes Yes 2 Outlet None M2c Critical Nο Nο 3 Outlet No Nο None | M1t | Tailwater 3 Outlet No No None M2t Tailwater 3 Outlet No Yes Part M1f Full ALL FFf 4 Outlet 6 Outlet Most FFt Tailwater Yes No Most FFc Critical 6 Outlet Yes No Part M1t Tailwater 7 Outlet Yes Nο 7 Outlet Yes No Part | M2t | Tailwater 7 Outlet Yes No Part M2c Critical

HY-8 FLOW TYPES | Submerged | Submerged | Length | Loss |

Outlet

No

No

Inlet

No

Nο

Outlet

Depth

Normal

Full Calc

None | S2n |

None S1t Tailwater

#### CULVERT COMPUTATION NOTES:

Flow | Flow Type Control

1 Inlet

Inlet

- ALL MINOR CULVERTS WERE ANALYZED AND DESIGNED
- 2. DESIGN STORM IS 25-YEAR.

		-93114		
	NO.	REVISION	BY	DATE
4				
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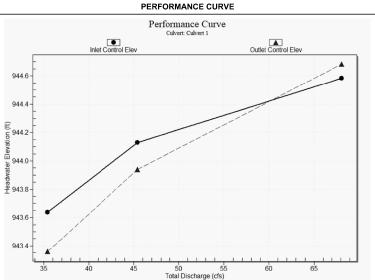


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE COMPUTATIONS

CULVERTS 7 & 8

				SH	EET	1 OF 1
IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CKED:	X	TEXAS			CF	R 255
.WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	180



Tailwater Channel Option: Trapezoidal Channel Bottom Width: 4.00 ft Side Slope (H:V): 3.00 (\_:1) Channel Slope: 0.0050 Channel Manning's n: 0.0400 Channel Invert Elevation: 941.19 ft

				SH	EET	1 OF 1	
ED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.	
):	Х	TEXAS			CF	R 255	
	STATE DISTRICT	COUNTY	CONTROL No.	JOB No.	SHEET No.		
):	XX	XX	XX	XX	XX	180	

<u>8</u> 940.0

939.5

939.0-

120

150

Total Discharge (cfs)

		RUNC	FF SUMM	ARY FOR DRAINAG	E AREAS SM	IALLER T	HAN 200 ACRES USING	THE RATIO	NAL METHOD		
DRAINAGE	AREA			SUBAREAS (AC)			COMPOSITE	TOTAL	TOTAL	INTENSITY	DISCHARGE
NO.	ACRES		SUBAF	REA 1	REMAININ	G AREA	C VALUE	CA	То	I (5)	Q(5)
		AREA (AC)	С	LAND USE	AREA (AC)	С			(MIN)	(IN/HR)	(CFS)
1 A O	1.71	0.69	0.90	IMP	1.03	0.41	0.61	1.04	10.00	6.01	6.24
1A3	103.04	1.90	0.90	IMP	101.13	0.41	0.42	43.17	42.00	2.92	126
1A5	61.27	0.86	0.90	IMP	60.41	0.41	0.42	25.55	39.00	3.06	78.2
180	4.70	0.22	0.90	IMP	4.48	0.40	0.42	1.99	14.00	5.26	10.5
1B2	27.16	0.28	0.90	IMP	26.88	0.41	0.41	11.27	33.00	3.38	38.2
1C0	13.23	0.17	0.90	IMP	13.05	0.41	0.42	5.50	25.00	3.96	21.8
1C2	129.49	1.80	0.90	IMP	127.69	0.41	0.42	54.00	25.00	3.96	214
1C3	34.91	0.04	0.90	IMP	34.87	0.41	0.41	14.31	37.00	3.16	45.3
1 DO	0.64	0.02	0.90	IMP	0.63	0.41	0.42	0.27	10.00	6.01	1.64
2A0	8.82	0.17	0.90	IMP	8.66	0.40	0.41	3.61	18.00	4.69	16.9
2A3	14.39	0.58	0.90	IMP	13.81	0.40	0.42	6.04	29.00	3.65	22.1
2A5	4.16	0.21	0.90	IMP	3.95	0.40	0.42	1.77	21.00	4.34	7.68
2A7	3.32	0.20	0.90	IMP	3.12	0.40	0.43	1.43	14.00	5.26	7.51
2A9	1.33	0.18	0.90	IMP	1.15	0.40	0.47	0.62	10.00	6.01	3.74
280	1.05	0.23	0.90	IMP	0.82	0.40	0.51	0.53	13.00	5. 42	2.89
200	1.30	0.03	0.90	IMP	1.28	0.40	0.41	0.53	15.00	5.10	2.73
2C3	1.37	0.05	0.90	IMP	1.32	0.40	0.42	0.58	10.00	6.01	3.46
205	0.84	0.05	0.90	IMP	0.79	0.40	0.43	0.36	10.00	6.01	2.18
209	0.67	0.05	0.90	IMP	0.62	0.40	0.44	0.29	10.00	6.01	1.77
3A0	2.27	0.25	0.90	IMP	2.02	0.38	0.44	1.00	12.00	5.61	5.58
3A3	1.05	0.23	0.90	IMP	0.82	0.37	0.49	0.51	15.00	5.10	2.61
3B0	3.19	0.33	0.90	IMP	2.87	0.37	0.42	1.35	10.00	6.01	8.14
3C3	0.34	0.03	0.90	IMP	0.32	0.37	0.41	0.14	10.00	6.01	0.85
304	0.26	0.01	0.90	IMP	0.25	0.37	0.40	0.10	15.00	5.10	0.53
3D0 3D2	0.27	0.04	0.90	IMP IMP	0.23	0.37	0.45	0.12	10.00	6.01	0.73
3D3	0.44	0.05	0.90	IMP	0.39	0.37	0.43 0.39	0.19	10.00	6.01 6.01	0.83
4A0	15.05	0.01	0.90	IMP	14.31	0.37	0.40	5.96	25.00	3.96	23.6
4B0	0.91	0.10	0.90	IMP	0.81	0.37	0.43	0.39	10.00	6.01	2.34
400	0.33	0.04	0.90	IMP	0.29	0.37	0.44	0.14	10.00	6.01	0.87
402	0.68	0.03	0.90	IMP	0.65	0.37	0.39	0.27	10.00	6.01	1.6
4D0	0.17	0.01	0.90	IMP	0.17	0.37	0.40	0.07	10.00	6.01	0.42
5A0	0.86	0.09	0.90	IMP	0.77	0.37	0.42	0.37	12.00	5.61	2.06
5A3	1.52	0.30	0.90	IMP	1.22	0.37	0.48	0.72	12.00	5.61	4.05
5B0	7.82	0.30	0.90	IMP	7.52	0.37	0.39	3.05	22.00	4.24	12.9
5B3	64.26	0.82	0.90	IMP	63.44	0.34	0.35	22.30	22.00	4.24	94.6
5C0	0.85	0.03	0.90	IMP	0.82	0.37	0.39	0.33	10.00	6.01	1.99
5C3	0.33	0.03	0.90	IMP	0.30	0.37	0.41	0.14	10.00	6.01	0.82
5C5	0.31	0.05	0.90	IMP	0.26	0.37	0.46	0.14	10.00	6.01	0.86
5C6	0.31	0.03	0.90	IMP	0.28	0.37	0.42	0.13	10.00	6.01	0.79
5D0	0.98				0.98	0.37	0.37	0.36	10.00	6.01	2.18
5D3	1.04	0.03	0.90	IMP	1.02	0.37	0.38	0.40	10.00	6.01	2.4
5D4	0.42	0.01	0.90	IMP	0.41	0.37	0.38	0.16	10.00	6.01	0.97
6A0	1.18	0.54	0.90	IMP	0.64	0.34	0.60	0.70	10.00	6.01	4.22
6A1	0.17	0.09	0.90	IMP	0.09	0.34	0.62	0.11	10.00	6.01	0.63
6B0	0.35	0.16	0.90	IMP	0.19	0.34	0.59	0.20	10.00	6.01	1.23
600	0.36	0.03	0.90	IMP	0.33	0.34	0.39	0.14	10.00	6.01	0.84
603	0.23	0.03	0.90	IMP	0.20	0.34	0.41	0.09	10.00	6.01	0.56
6C5	0.85	0.04	0.90	IMP	0.81	0.34	0.37	0.32	10.00	6.01	1.9
6D1 7A0	0.40	0.18	0.90	IMP IMP	0.22	0.34	0.59 0.61	0.24 0.46	10.00	6.01 6.01	1.42 2.77
780 780	0.76	0.34	0.90	IMP	0.42	0.37	0.61	0.46	10.00	6.01	3.38
8A0	1.55	0.42	0.90	IMP	0.97	0.37	0.57	0.89	10.00	6.01	5.32
940	0.45	0.58	0.90	IMP	0.37	0.37	0.47	0.89	10.00	6.01	1.26
9A2	0.45	0.08	0.90	IMP	0.76	0.37	0.41	0.34	10.00	6.01	2.04
2A10	1.17	0.35	0.90	IMP	0.76	0.37	0.59	0.69	10.00	6.01	4.16
2011	0.15	0.03	0.90	IMP	0.12	0.40	0.49	0.03	10.00	6.01	0.45
2013	0.54	0.54	0.90	IMP	0.00	0.40	0.90	0.49	10.00	6.01	2.93
2015	1.24	0.03	0.90	IMP	1.21	0.40	0.41	0.51	13.00	5. 42	2.76
2017	3.04	0.05	0.90	IMP	2.99	0.40	0.41	1.24	13.00	5. 42	6.72

#### NOTES

- ALL PEAK FLOWS WERE COMPUTED USING GEOPAK DRAINAGE.
- 2. INTENSITIES WERE COMPUTED USING TXDOT'S ATLAS 14 SPREADSHEET (EBDLKUP-2019-VCG. 2, 10. XLSM) FOR WILLIAMSON COUNTY USING PARTIAL DURATION IN THE SAN GABRIEL RIVER ZONE

NO.	REVISION	BY	DATE







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE COMPUTATIONS

RUNOFF SUMMARY - 5 YR

SHEET 1 OF 1

GNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CKED:	X	TEXAS			CF	₹ 255
/N:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
KED:	XX	XX	XX	XX	XX	181

Conveyance																														
Link	Noc	e I.D.	Inver-	t Elev	Soffi	t Elev	Link	No. of	Span	Rise/	Link	Shape	Hyd	Slope	Manning's	H. G	3. L.	Ε.	G.L.	Unif	Unif	Crit	Crit	Crit	Frictn	Actual	Actual	Total	Link	Junctn
I.D.	US	DS	US	DS	US	DS	Туре	Barrels		Dia	Mtrl		Length		"n"	US Elev	DS Elev	US Elev	DS Elev	Depth	Vel	Depth	Vel	Slope	Slope	Depth	Vel	Q	Capacity	Loss
			(f†)	(f†)	( <del>f</del> †)	( <del>f</del> †)			(ft)	(ft)			(ft)	(%)		(ft)	(ft)	(ft)	(ft)	( <del>f</del> t)	  (f†/s)	(ft)	(ft/s)	(%)	(%)	( <del>f</del> †)	(ft/s)	(cfs)	(cfs)	(ft)
LINE 1A1	1 A 1	1A2	1024.84	1024, 29	1026.34	1025.79	Pine	1		1.5	Concrete	Circular	41.34	1.33	0.012	1025.91	1025.04	1026.33	1025.81	0.73	7.33	0.97	5.19	0.54	1.33	0.75	7.02	6.24	14.12	0.11
LINE 1A3	1A3	184	1020.51	1020.38	1023.51	1023.38	⊢÷-	2	4	3	Concrete	_	26.21	0.50	0.012	1023.93	1023.65	1024.38	<u> </u>	1.88	8.60	2.01	8.04	0.42	0.50	3.00	5.39	129	234.27	0.21
LINE 1A5	1A5	1A6	1007.67	1007.25		1010.25	<u> </u>	2	5	3	Concrete	Box	39.54	1.06	0.012	1011.25	1010.86	1011.89	<del>                                     </del>	1.55	12.38	2.26	8.52	0.38	1.06	3.00	6. 42	192	464.71	0.28
LINE 1B1	1B1	182	1006.10	1005.83	1008.10	1007.83	Pipe	1		2	Concrete	Circular	54.41	0.50	0.012	1008.21	1008.06	1008.38	<del>                                     </del>	1.13	5.72	1.16	5.54	0.45	0.49	2.00	3.33	10.5	18.57	0.05
LINE 1B3	1B3	1B4	1004.96	1003.20	1006.96	1005.20	Pipe	2	3	2	Concrete	Box	81.06	2.17	0.012	1006.23	1003.92	1006.83	1005.62	0.68	10.99	1.20	6.22	0.43	2.17	0.72	10.45	44.9	195.04	0.07
LINE 2A1	2A1	2A2	1007.18	1006.85	1009.18	1008.85	Pipe	1		2	Concrete	Circular	51.48	0.64	0.012	1008.87	1008.29	1009.58	1009.05	1.44	7.00	1.48	6.78	0.59	0.64	1.44	7.00	16.9	21.11	0.20
LINE 2A3	2A3	2A4	1002.97	1002.76	1004.97	1004.76	Pipe	2		2	Concrete	Circular	28.00	0.75	0.012	1004.99	1004.74	1005.50	1005.07	1.39	7.54	1.51	6.91	0.61	0.75	1.98	5.62	35.2	45.66	0.15
LINE 2A5	2A5	2A6	998.73	998.23	1000.73	1000.23	Pipe	2		2	Concrete	Circular	28.00	1.79	0.012	1000.52	999.52	1001.39	1000.93	1.14	10.99	1.62	7.49	0.71	1.78	1.29	9.51	40.8	70.46	0.17
LINE 2A7	2A7	2A8	993.77	993. 42	995.77	995.42	Pipe	1	3	2	Concrete	Box	21.00	1.67	0.012	995.91	994.93	996.87	996.48	1.22	12.31	1.92	7.85	0.51	1.68	1.51	9.99	45.1	85.44	0.22
LINE 2A9	2A9	2A10	989.44	989.05	991.44	991.05	Pipe	1	3	2	Concrete	Box	23.00	1.70	0.012	991.62	990.58	992.60	992.19	1.25	12.48	1.96	7.94	0.51	1.70	1.53	10.19	46.6	86.18	0.23
LINE 2B0	2B0	2B OUT	967.53	967.46	969.03	968.96	Pipe	1		1.5	Concrete	Circular	12.22	0.65	0.012	968.46	968.05	968.67	968.36	0.58	4.61	0.65	3.97	0.43	0.65	0.59	4. 48	2.89	9.89	0.24
LINE 2C1	201	2C2	1003.97	1003.69	1005.47	1005.19	Pipe	1		1.5	Concrete	Circular	52.95	0.53	0.012	1004.67	1004.28	1004.91	1004.56	0.59	4.19	0.63	3.90	0.43	0.53	0.59	4.19	2.73	8.90	0.08
LINE 2C3	203	2C4	993.87	992.63	995.37	994.13	Pipe	1		1.5	Concrete	Circular	82.00	1.51	0.012	994.72	993.17	995.01	993.88	0.54	6.79	0.76	4.38	0.46	1.51	0.54	6.74	3.91	15.05	0.09
LINE 2C5	205	208	987.21	986.32	988.71	987.82	Pipe	1		1.5	Concrete	Circular	96.01	0.93	0.012	988.16	987.02	988.50	987.57	0.69	6.01	0.84	4.70	0.49	0.93	0.70	5.98	4.8	11.79	0.11
LINE 2C9	209	2C10	984.02	983.69	985.52	985.19	Pipe	1		1.5	Concrete	Circular	42.01	0.79	0.012	985.04	984.48	985.41	985.00	0.79	5.83	0.90	4.93	0.51	0.79	0.79	5.76	5. 47	10.85	0.11
LINE 3A1	3A1	3A2	965.26	964.82	966.76	966.32	Pipe	1		1.5	Concrete	Circular	40.00	1.10	0.012	966.26	965.56	966.65	966.20	0.72	6.65	0.91	4.97	0.51	1.10	0.74	6.44	5.58	12.84	0.09
LINE 3A3	3A3	3A4	964.03	963.62	965.53	965.12	Pipe	1		1.5	Concrete	Circular	42.00	0.98	0.012	965.24	964.55	965.74	965.25	0.91	6.83	1.07	5.68	0.61	0.97	0.93	6.72	7.69	12.09	0.14
LINE 3C3	3C3	3C4	961.33	960.76	962.83	962.26	Pipe	1		1.5	Concrete	Circular	68.00	0.84	0.012	961.79	961.05	961.92	961.25	0.29	3.55	0.34	2.79	0.42	0.83	0.29	3.54	0.85	11.21	0.12
LINE 3DO	300	301	961.46	961.04	962.96	962.54	Pipe	1		1.5	Concrete		82.00	0.51	0.012	962.15	961.52	962.34	961.74	0.48	3.71	0.51	3.46	0.42	0.51	0.48	3.71	1.83	8.76	0.19
LINE 3D2	302	3D3	960.13	959.78	961.63	961.28	Pipe	1		1.5	Concrete			0.51	0.012	960.69	960.26	960.88	960.48	0.48	3.71	0.51	3.46	0.42	0.51	0.48	3.71	1.83	8.72	0.05
LINE 4A1	4A1	4A2	955.69	955.15	957.69	957.15	Pipe	1		2	Concrete		<b>-</b>	1.28	0.012	957.74	956.64	958.79	958.02	1.42	9.93	1.72	8.20	0.86	1.29	1.49	9.42	23.6	29.85	0.33
LINE 4C1	401	4C2	960.10	958.85	961.60	960.35	Pipe	1		1.5		t .		1.37	0.012	960.49	959.11	960.61	959.39	0.26	4.25	0.35	2.79	0.41	1.37	0.26	4.25	0.87	14.31	0.04
LINE 5A1	5A1	5A2	954.92	954.68	956.42	956.18	Pipe	1		1.5			45.78	0.52	0.012	955.50	955.19	955.70	955.42	0.51	3.87	0.54	3.58	0.42	0.52	0.51	3.87	2.06	8.86	0.03
LINE 5A3	5A3	5A4	948. 49	947.16	949.99	948.66	Pipe	1		1.5			44.75	2.97	0.012	949.50	947.73	949.88	948.95	0.54	9.48	0.90	4.91	0.51	2.97	0.57	8.87	5.41	21.10	0.12
LINE 5B1	5B1	582	961.20	959.56	962.70	961.06	Pipe	1	1	1.5	Concrete	_	65.01	2.52	0.012	962.80	960.54	963.73	962.27	0.94	11.13	1.35	7.73	1.14	2.53	0.98	10.55	12.9	19.44	0.25
LINE 5B3	583 5C1	584 5C2	938.95 949.52	934.35 947.82	940.95 951.02	936.35 949.32	Pipe	1	4	1.5	Concrete		66.80 59.17	6.89 2.87	0.012	941.74	935.56 948.15	943.94	941.54	0.97	7.03	2.00 0.53	11.88 3.55	1.58 0.42	2.87	0.33	19.59 6.98	95.1	256.50	0.19
LINE 5C1	5C3	5C2 5C4	944.07	942.41	945.57	943.91	Pipe	1		1.5	Concrete		64.19	2.59	0.012	944.78	942.81	945.02	943.67	0.33	7.50	0.64	3.93	0.42	2.59	0.33	7.39	2.81	19.69	0.05
LINE 5C5	5C5	506	939.90	937.57	941.40	939.07	Pipe	1		1.5	Concrete	l	93.05	2.50	0.012	940.71	938.03	940.99	939.00	0.45	7.94	0.72	4. 25	0.45	2.50	0.46	7.90	3.58	19.37	0.01
LINE 501	503 501	502	953.16	947.95	954.66	949.45	Pipe	1		1.5	Concrete		95.69	5.44	0.012	953.78	948.24	953.99	949.52	0.29	9.06	0.56	3.64	0.42	5.44	0. 29	9.02	2.18	28.56	0.07
LINE 503	503	504	938.91	938.24	940.41	939.74	Pipe	1		1.5	Concrete			0.69	0.012	939.90	939.80	940.12	940.56	0.71	5.21	0.79	4.51	0.47	0.69	1.50	2. 42	4.29	10.14	0.07
LINE 6C1	6C1	6C2	962.08			962.26	<u> </u>	1		-	Concrete				1	962.44				_					+	<b>-</b>		-		+
LINE 6C3	6C3	604	959.63			959.59					Concrete						958.39		958.87						_					0.04
LINE 6C5	6C5	606	944.69			944.62			1	<del></del>	Concrete								944.33									_		0.09
LINE 6D1	6D1	6D2	947.00			948.03		1	1		Concrete						946.84		947.28											0.16
LINE 9A1	9A1	9A2	952.97		954.47			1			Concrete						951.48		951.88									-		0.04
LINE 9A3	9A3	9A OUT	944.08	941.83			_	1			Concrete						942.24		943.04			_			_			_		0.06
LINE 2C11	2011	2012	983.34					1			Concrete					984.37	983.80		984.33									-		0.11
LINE 2C13	2013		981.27	980.88				1			Concrete					982. 42	981.80	982.88												0.14
LINE 2C15	2015	2016	979.46	978.69	980.96			1			Concrete						979.52		980.56											0.16
LINE 2C17	2017	2018	970.22	969.36	972.22	971.36	Pipe	1			Concrete								971.37											0.15

Inlets																			
Inlet	Inlet	1	nlet Locat	ion		Top/Inlet			Grate				20% AEP	Intercept	Ponded	Depth	*HGL	**Min	Eff
I.D.	Туре	Cntrl	Inlet	Offset	LT/RT	Elev	L	W	Туре	Р	A	To	Inlet Q	Capacity	Allowed	Actual	Check	Depth	
		Chain	Station	(f+)		(f+)	(f+)	(f†)		(f+)	(sf)	(min)	(cfs)	(cfs)	(ft)	(f+)		Check	(%)
280	(TY PSL) (FG) (3X3L) (3X3G) Grate Inlet In Sag	DANIELMT	12+79.86	25.00	RT	971.30	3.00	3.00	Reticuline	12.67	4.53	13.00	2.89	6.91	0.50	0.28	OK	ок	100%







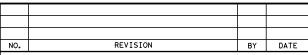


# CR 255 DRAINAGE COMPUTATIONS

INLETS & LINKS - 5 YR

				SH	EET	1 OF 1
GNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
KED:	X	TEXAS			CF	R 255
N:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
VED-	YY	YY	~~	VV	~~	182

ROADSIDE DITCHES - 5YR  Link Node I.D. Invert Elev Link Max Shape A P R Hyd Slope Manning's H.G.L. Unif Unif Crit Crit Crit Fricth Actual Actual Total Link Shear																										
Link	No	de I.D.	Inver	t Elev	Link	Max	Shape	А	Р	R	Hyd	Slope	Manning's	н. с	3. L.	Unif	Unif	Crit	Cri+	Cri+	Frictn	Actual	Actual	Total	Link	Shear
I.D.	US	DS	US	DS	Туре	Depth					Length		"n"	US Elev	DS Elev	Depth	Vel	Depth	Vel	Slope	Slope	Depth	Vel	Q	Capacity	Stress
			(ft)	(ft)		(ft)		(sqft)	(ft)	(ft)	(ft)	(ft/ft)		(ft)	(ft)	(ft)	(fps)	(f†)	(fps)	(%)	(%)	(ft)	(fps)	(cfs)	(cfs)	(lbs/sf)
DITCH 1AO	1A0	1A1	1048.13	1024.95	Ditch	2	V-DITCH	1.72	4.79	0.36	925.49	0.03	0.033	1049, 22	1025.71	0.76	3.62	0.77	3.52	2.34	2.53	0.76	3.62	6.24	83.04	0.57
DITCH 1A2	1A2	1 A 3	1024.17			3	V-DITCH	26.28	18.72	_	343.75	0.0103	0.033	1025.43	1023.93		2.59	0.77	3.52	2.34	1.03	2.96	0.24	6.24	156.15	0.90
DITCH 1A4	1A4	1 A 5	1020.38	1008.16	Ditch	4	V-DITCH	28.63	19.54	1.47	1295.43	0.0098	0.033	1023.65	1011.25	2.82	5.42	2.58	6.45	1.56	0.98	3.09	4.51	129	327.51	0.89
DITCH 1A6	1A6	1AB OUT	1007.27	+	+	5		27.56		_	440.42	0.0094	0.033	1010.86	1006.39	_	5.89		6.98	1.48	0.94	3.03	6.98	192	580.96	0.84
DITCH 1B0	1B0	181	1007.65		+	3	V-DITCH	12.49		0.97	298.58	0.0052	0.033	1008.98	1008.21	1.20	2.25	0.92	3.84	2.19	0.53	2.04	0.77	10.5	120.64	0.31
DITCH 1B2 DITCH 1CO	1B2 1C0	183 1C1	1005.75	_	+	5 3	V-DITCH V-DITCH	8.60 5.03	9.78	0.80	170.12 1258.66	0.0050	0.033	1008.06	1006.74	_	3.24 4.33		5.22 4.17	1.80	0.51 2.25	1.69	5.22 4.33	44.9 21.8	426.82 352.41	0.25 0.72
DITCH 1C1	1C1	1C2	1020.60		_	4.5		41.99	_	_	111.78	0.0098	0.033	1022.57	1022.55	_	3.18		4.17	2.02	0.98	3.05	0.52	21.8	686.54	0.91
DITCH 1C2	1C2	1C3	1019,50	1011.14	Ditch	4	V-DITCH	32.18	24.72	1.30	872.82	0.0096	0.033	1022.55	1013.81	2.91	5.55	2.67	6.56	1.49	0.96	2.67	6.56	211	494.75	0.78
DITCH 1C3	103	1C OUT	1011.14		_	4	V-DITCH	14.06	16.34	0.86	891.48	0.0096	0.033	1013.50	1004.67	1.96	4.33	1.77	5.33	1.66	0.96	1.77	5.33	233	1567.06	0.52
DITCH 1DO	100	1C OUT	1007.33		+	5	V-DITCH	0.44	2.88	_	392.11	0.0121	0.033	1008.07	1003.26		1.60		2.25		1.21	0.31	2.25	1.64	1701.33	0.11
DITCH 2A0 DITCH 2A2	2A0 2A2	2A1 2A3	1007.64	-	_	3	V-DITCH V-DITCH	7.74 11.38		_	72.01 630.20	0.0065	0.033	1009.26	1008.87		2.81	1.15	4.29	2.05	0.66	1.61	2.19 1.49	16.9	123.96 120.96	0.31 0.36
DITCH 2A2	2A4	2A5 2A5	1000.77	+		3	V-DITCH	7.49	9.99	0.75	274.00	0.0062	0.033	1004.74	1004.53		4.62	1.54	4. 23	1.86	1.53	1.58	4.71	35.2	189.78	0.36
DITCH 2A6	2A6	2A7	998.00	994.07	+	3	V-DITCH	10.15		_	266.00	0.0168	0.033	1000.25	995.91	1.66	4.97	1.63	5.12	1.82	1.68	1.84	4.02	40.8	199.13	0.91
DITCH 2A8	2A8	2A9	993.11	989.73	Ditch	3	V-DITCH	10.76	11.98	0.90	237.00	0.0168	0.033	995.54	991.62	1.72	5.11	1.70	5.22	1.80	1.69	1.89	4.20	45.1	199.47	0.94
DITCH 2CO	200	201	1007.50	+	_	2	V-DITCH	1.86	5.95	_	666.32	0.0053	0.033	1007.99	1004.67	0.43	1.16	0.31	2.23	2.99	0.52	0.64	0.51	2.73	169.86	0.10
DITCH 2C2	202	203	1003.63 992.50	+	+	3	V-DITCH	1.94	6.07	0.32	635.02	0.0156	0.033	1004.32	994.72	0.35	1.74	0.31	2.22	2.97	1.55	0.66	0, 49	2.73	859.51	0.31
DITCH 2C4 DITCH 2C8	2C4 2C8	2C5 2C9	986.25	987.35 984.10	_	3	V-DITCH V-DITCH	2.96 3.95	7.50 8.66	-	430.05 298.00	0.0126	0.033	993.22	988.16 985.04	_	1.76	0.35	2.39	2.84	1.26 0.78	0.81	0.46	3.91 4.8	772.51 348.76	0.31
DITCH 3AO	3A0	3A1	966.91	965.33	_	3	V-DITCH	2.62	_	0.44	166.85	0.0101	0.033	967.94	966.26	_	2.49		3.44		1.00	0.93	2.13	5.58	154.63	0.28
DITCH 3A2	3A2	3A3	964.73	964.12	Ditch	3	V-DITCH	3.79	7.11	_	82.00	0.0100	0.033	965.83	965.24	0.86	2.49		3.44	2.37	1.00	1.12	1.47	5.58	153.82	0.33
DITCH 3A4	3A4	3A OUT	963.51	960.95	+	3	V-DITCH	2.10	_	0.40	257.34	0.0116	0.033	964.92	961.79	_	2.84	0.84	3.67	2.28	1.16	0.84	3.67	7.69	165.81	0.29
DITCH 3B0	3B0	3A OUT	963.60	959.85	+	4	V-DITCH	2.19	5.41	0.41	475.97	0.0084	0.033	964.94	960.71	1.03	2.57	0.86	3.71	2.26	0.85	0.86	3.71	8.14	304.36	0.21
DITCH 3C4 DITCH 3D1	3C4 3D1	3CD OUT 3D2	960.66	958.90 960.18	_	3	V-DITCH V-DITCH	0.27	4.74	0.12	139.55 184.00	0.0136	0.033	961.10	959.14 960.69	0.29	1.44	0.24	1.99 2.15	3.24	1.36 0.49	0.24	1.99 0.66	1.25	220.05 394.05	0.10
DITCH 3D3	303	3CD OUT	959.73	958.88	+	3	V-DITCH	0.49	3.06	_	194.58	0.0046	0.033	960.26	959.21	0.47	1.15		2.30	2.90	0.46	0.33	2.30	2.66	377.52	0.05
DITCH 4AO	4A0	4A1	963.60	955.86	Ditch	3	V-DITCH	10.65	11.92	0.89	663.15	0.0119	0.033	965.34	957.74	1.44	3.82	1.31	4.59	1.96	1.20	1.88	2.22	23.6	167.90	0.66
DITCH 4A2	4A2	4A OUT	955.00	953.36	Ditch	4	V-DITCH	3.70	7.02	0.53	48.13	0.0474	0.033	957.03	954.47	1.11	6.39		4.59	1.96	4.74	1.11	6.38	23.6	720.85	1.56
DITCH 4B0	4B0	4A OUT	955.23	954.60	+	4	V-DITCH	0.81	3.29	_	134.48	0.0047	0.033	955.98	955.12	0.72	1.51	0.52	2.88	2.65	0.47	0.52	2.88	2.34	226.74	0.07
DITCH 4C0 DITCH 4C2	4C0 4C2	4C1 4C OUT	961.47 958.70	960.25 953.00	_	3	V-DITCH V-DITCH	0.25	_	0.11	100.82	0.0135	0.033	961.88	960. 49 953. 45	_	1.36 2.08	0.22	1.91 2.70	3.36 2.71	1.36	0.24	1.74 2.70	0.87 2.47	552.93 272.96	0.10
DITCH 4D0	4D0	4C OUT	955.33	953.00	+	3	V-DITCH	0. 22	2.05	_	158.21	0.0133	0.033	955.62	953.22	_	1.37	0. 22	1.87	3.37	1.47	0.43	1.87	0.42	284.86	0.10
DITCH 5AO	5A0	5A1	955.27	954.97	+	4	V-DITCH	0.83	3.33	_	65.82	0.0054	0.033	956.02	955.50	0.67	1.54	0.49	2.83	2.73	0.54	0.53	2.48	2.06	243.95	0.08
DITCH 5A2	5A2	5A3	954.62	948.80	Ditch	3	V-DITCH	1.48	4.45	0.33	409.79	0.0150	0.033	955.49	949.50	0.55	2.25	0.49	2.82	2.72	1.49	0.70	1.39	2.06	188.20	0.31
DITCH 5A4	5A4	5AB OUT	946.82	936.80		3	V-DITCH	1.58	4.59	_	487.93	0.0232	0.033	948.89	937.53	0.73	3.39	0.73	3.42		2.33	0.73	3.42	5.41	234.33	0.50
DITCH 580	5B0	5B1	964.50	961.47	+	_	V-DITCH V-DITCH	5.33	_	0.63	207.03	0.0154	0.033	965.87	962.80	1.09	_	1.03	4.07		1.54	1.33	2.43	12.9	411.33	0.61
DITCH 5B2 DITCH 5C0	5B2 5C0	5B3 5C1	959.30 955.62	+			V-DITCH	_		_			0.033	961.04	941.74 950.51			0.41			1.27	2.52 0.41		1.99	212.98 264.65	1.43 0.16
DITCH 5C2	5C2	503	947.52		_		V-DITCH	_	_	-			0.033	948.54	944.69		_	0.41				0.41		1.99	398.53	0.36
DITCH 5C4	5C4	5C5	942.16				V-DITCH	1.44	5.24	0.28	100.80	0.0253	0.033	943.18	940.71	0.48	2.72	0.48	2.76	2.65	2.54	0.57	1.94	2.81	373.47	0.44
DITCH 5C6	506	5CD OUT	937.31				V-DITCH					0.0242	0.033	939,05	934.60			0.56				0.56		4.32	365.37	0.42
DITCH 5D0 DITCH 5D2	5D0	5D1	963.70		_		V-DITCH V-DITCH					0.0226	0.033	964.40	954.67			0.43	_		2.27 1.80	0.43	2.63		353.27 314.46	0.30
DITCH 5D2	5D2 5D4	5D3 5CD OUT	947.74				V-DITCH					0.0179	0.033	948.59	939.90 934.64	+		0.43	_		2.13	0.94	3.12		342.53	0.51 0.39
DITCH 6A0	6A0	6A1	964.76				V-DITCH			0.38		0.0231	0.033	965.58	947.16						2.32	0.80	2.20		818.79	0.55
DITCH 6A1	6A1	6A OUT	946.36		+		V-DITCH	1.30	4.16	0.31	108.06	0.0105	1	947.16	945.88	0.77	2.37	0.66	3.26	2.47	1.06	0.66	3.26	4.23	553.29	0.21
DITCH 6BO	6B0	6B OUT	942.77				V-DITCH			_		0.0051	0.033	943.35	941.96	+	_	0.40			0.52	0.40	2.54	-	237.34	0.06
DITCH 600	600	6C1	963.66	+	+		V-DITCH	_		_		0.0109	<del>                                     </del>	964.14	962.53	+	_	0.29			1.10	0.29	2.18	<del>                                     </del>	245.08	0.10
DITCH 6C2 DITCH 6C4	6C2 6C4	6C3 6C5	960.50 957.86	+			V-DITCH V-DITCH	_		_		0.0136	0.033	961.13 958.24	960.29 945.24		_	0.29			1.36	0.29	2.18	0.84	274.10 412.29	0.12
DITCH 6C4	606	6C OUT	942.91		+		V-DITCH	_	_	-		0.0308	0.033	943.64	941.51	0.60			_			0.51	2.85	-	244.98	0.33
DITCH 6D2	6D2	6D-OUT	945.00	+	_		V-DITCH					0.0185		945.66	944.34			0.43			1.86	0.46	2.23		209.41	0.26
DITCH 7AO	7A0	7AB OUT	942.80	938.00	Ditch	3	V-DITCH	0.93	3.51	0.26	532.69	0.0090	0.033	943.54	938.56	0.68	2.01	0.56	2.99	2.61		0.56	2.99	_	146.01	0.15
DITCH 7BO	7B0	7AB OUT	941.60	936.10	_		V-DITCH			0.29		0.0090	0.033	942.40	936.70						0.89	0.60		3.38	145.90	0.16
DITCH 8A0	8A0	8A OUT	955.00				V-DITCH					0.0218	0.033	955.90	943.72							0.72		5.32	342.62	0.47
DITCH 9A0 DITCH 9A2	9A0 9A2	9A1 9A3	954.15 951.00	1			V-DITCH V-DITCH					0.0058	0.033	954.72 952.21	953.43 945.04	_		0.36				0.40	3.02	1.26 3.3	158.83 348.77	0.07 0.43
DITCH 2C10	2010	2011	983.60	+			V-DITCH					0.0201	0.033	984.49	984.37			0.51			0.77	0.96	0.79	5.47	345.11	0.43
DITCH 2C12	2012	2013	982.91	981.36			V-DITCH					0.0077	0.033	983.68	982.42							1.06		5.66	511.21	0.25
DITCH 2C14	2014	2015	980.81				V-DITCH					0.0087	0.033	981.60	980.73		_					1.11	0.43	_	643.99	0.30
DITCH 2C16	2016	2017	978.52	+	_		V-DITCH					0.0166	0.033	979.55	971.57	0.56	_					1.12	0.62	_	716.48	0.57
DITCH 2C18	2018	2C OUT	969.13	963.90	_		V-DITCH	_		_		0.0344	0.033	970, 25	964.45	_	_		_			0,55			1029.72	0.57
DITCH 2A10	2A10	2A OUT	988.74	982.25	υitch	3	V-DITCH	9.22	11.09	υ <b>.</b> 83	503.44	0.0135	0.033	990.99	984.00	1.85	4. 79	1.75	5.31	1.78	1.35	1.75	5.31	49	178.81	0.70









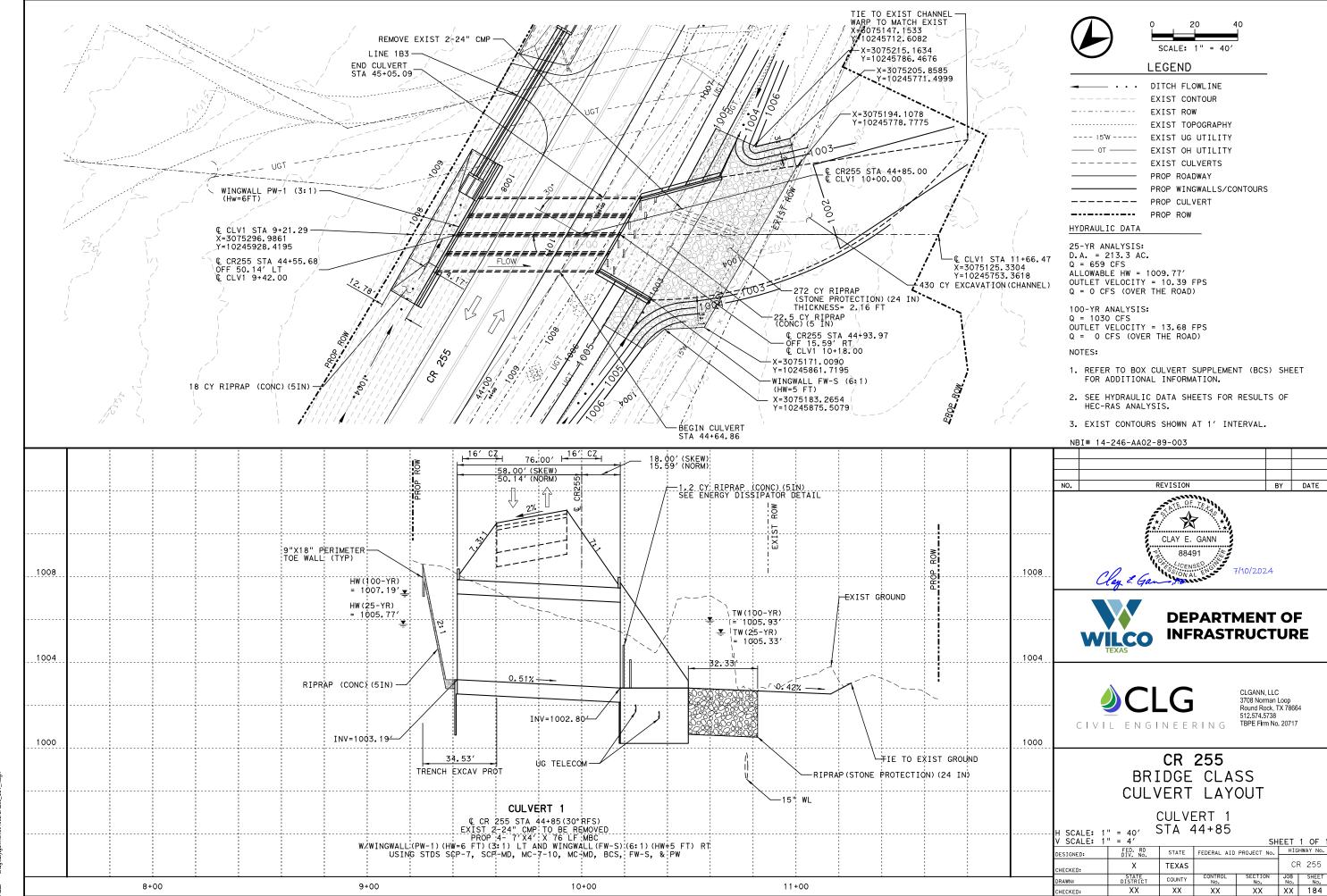
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

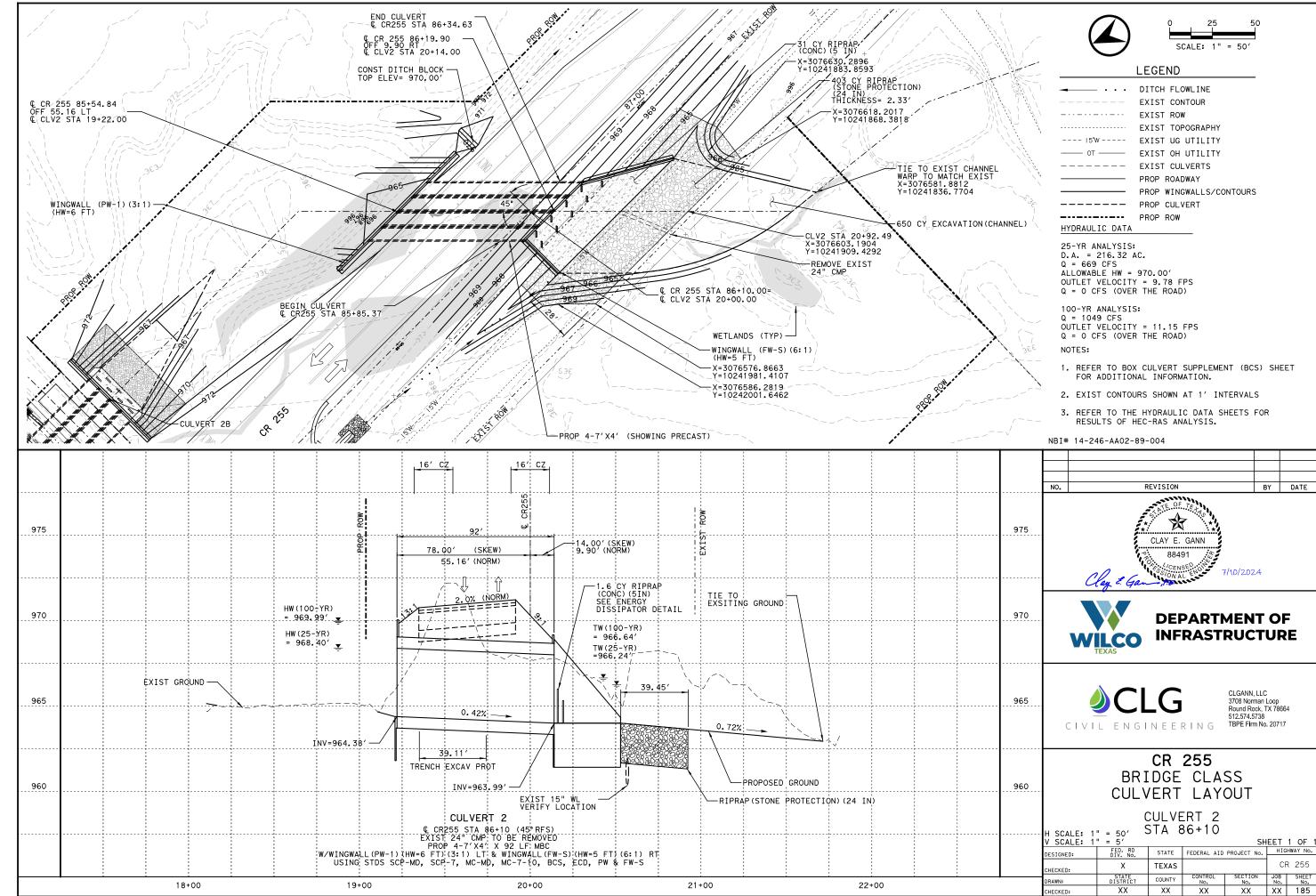
# CR 255 DRAINAGE COMPUTATIONS

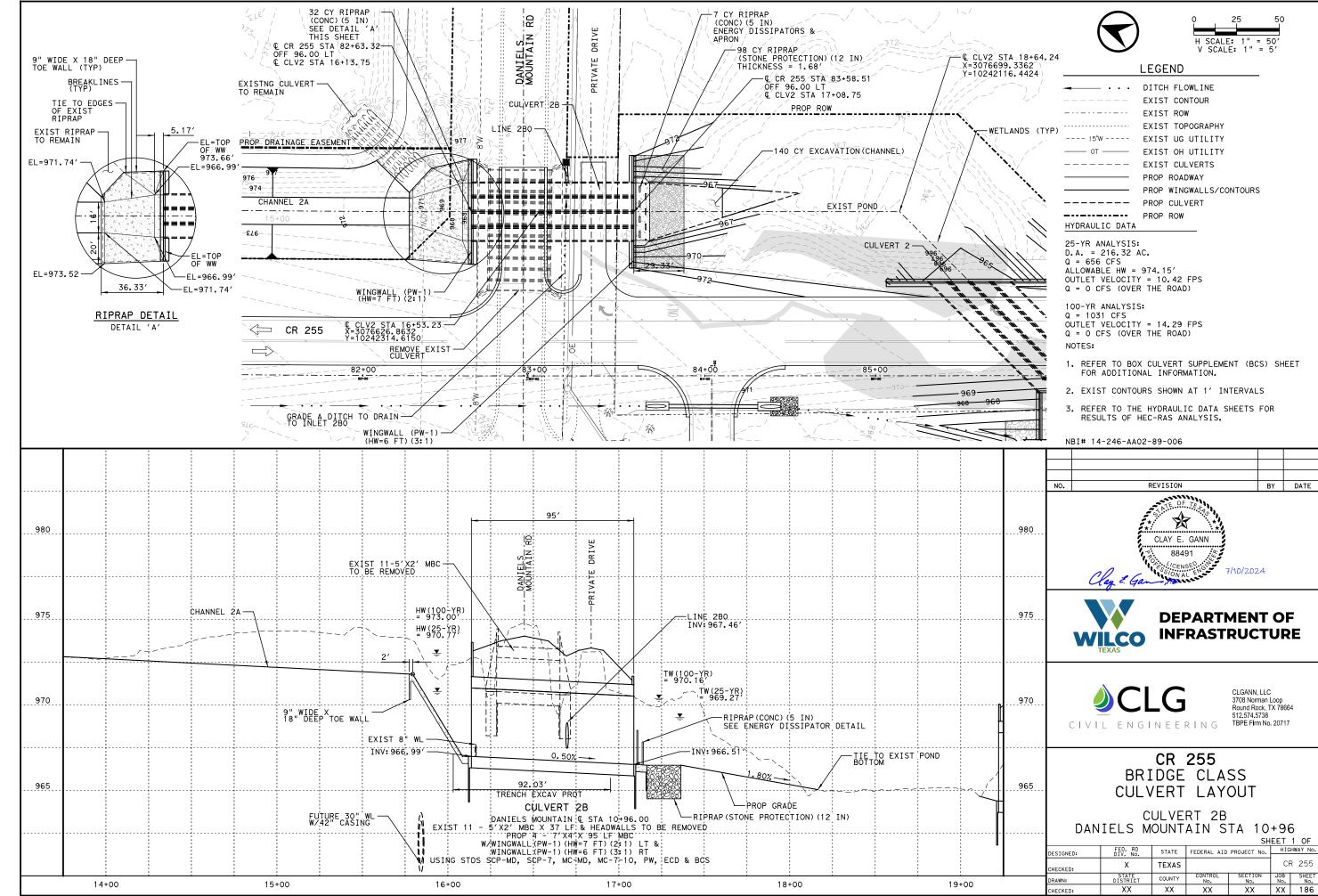
DITCHES - 5 YR

SHEET 1 OF 1

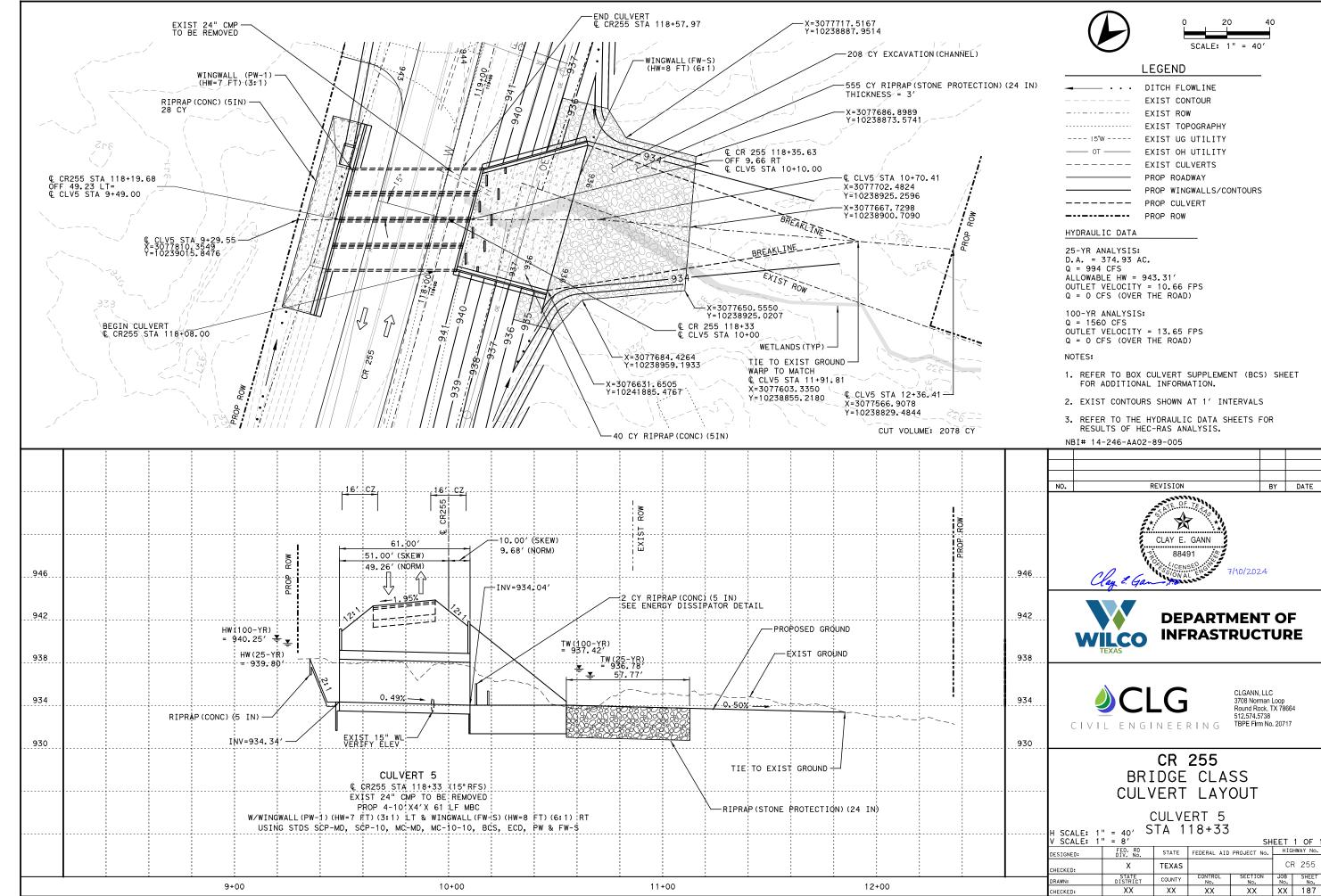
FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
Х	TEXAS			CF	R 255
STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
XX	XX	XX	XX	XX	183
	X STATE DISTRICT	X TEXAS  STATE DISTRICT COUNTY	X TEXAS  STATE COUNTY CONTROL No.	X TEXAS STATE DISTRICT COUNTY NO. NO. NO.	X TEXAS CONTROL SECTION No. No. No. No.

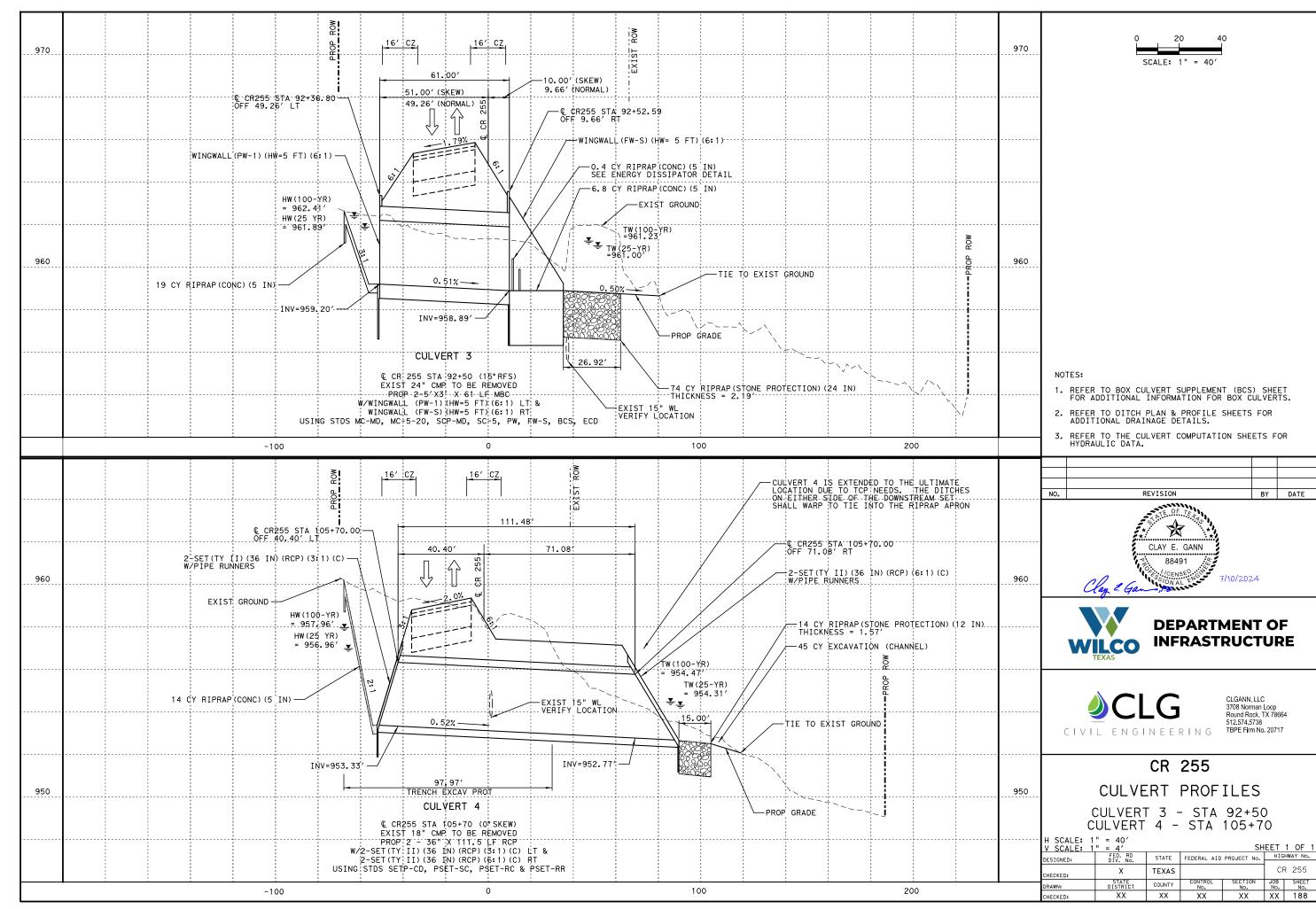


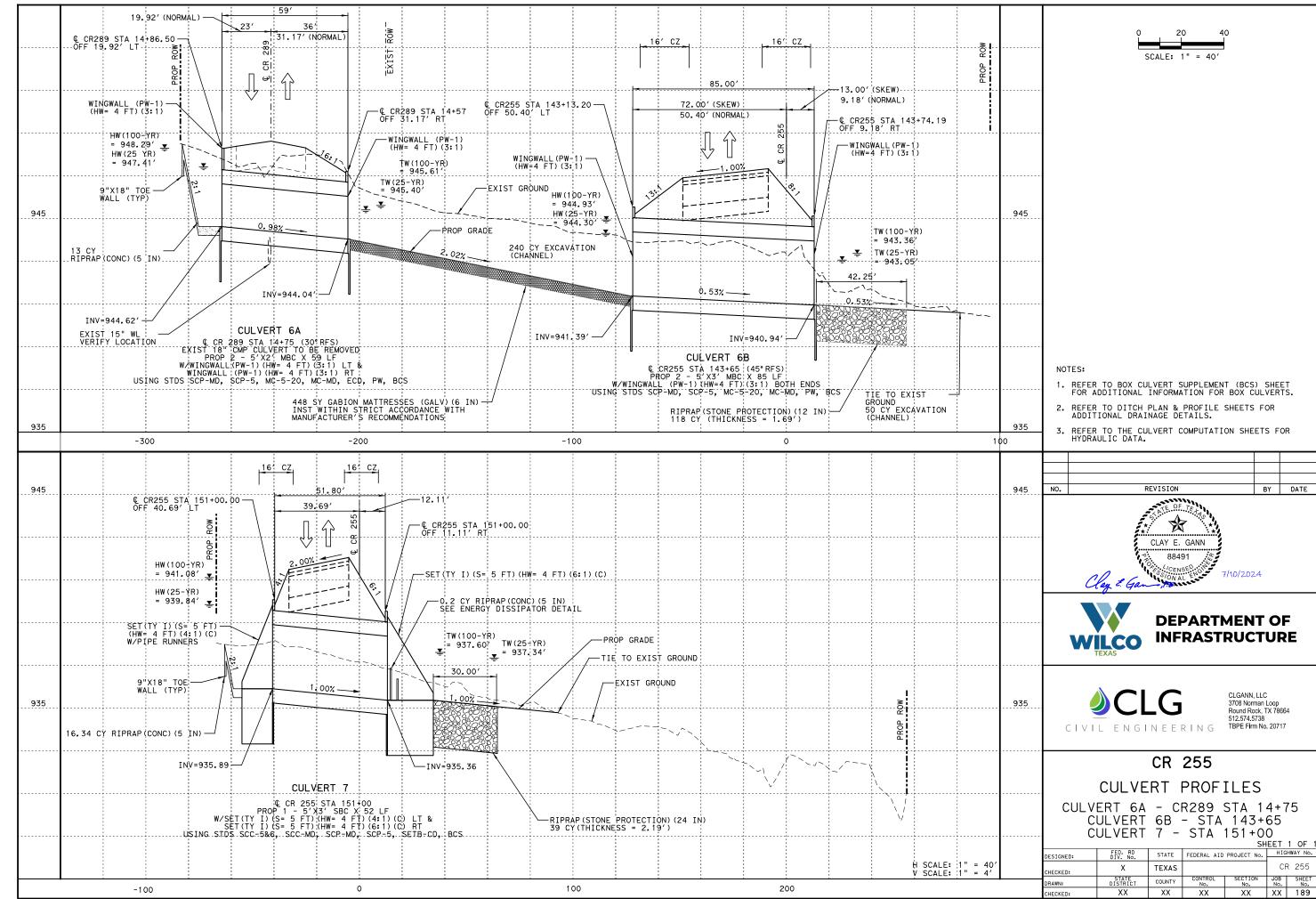




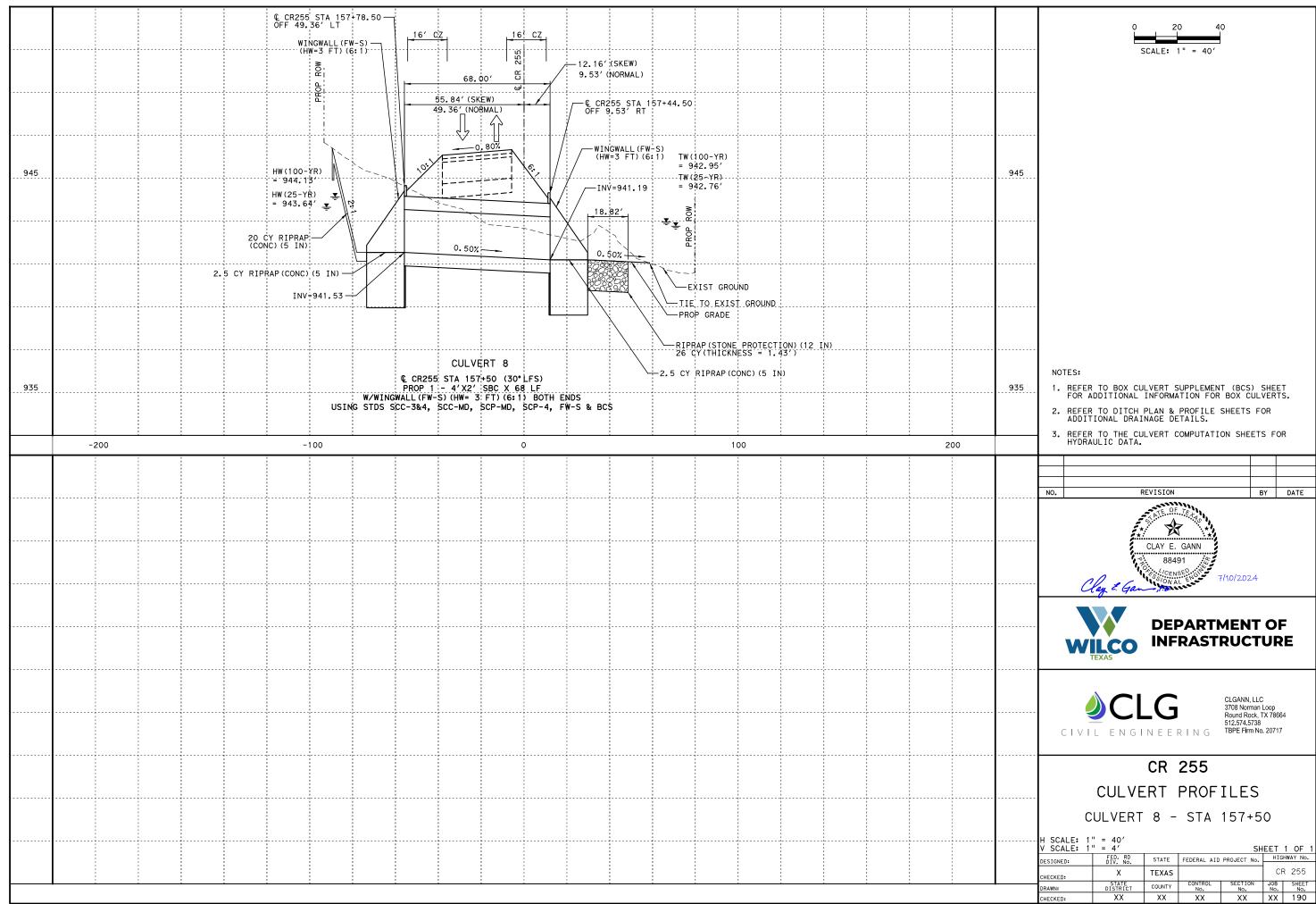
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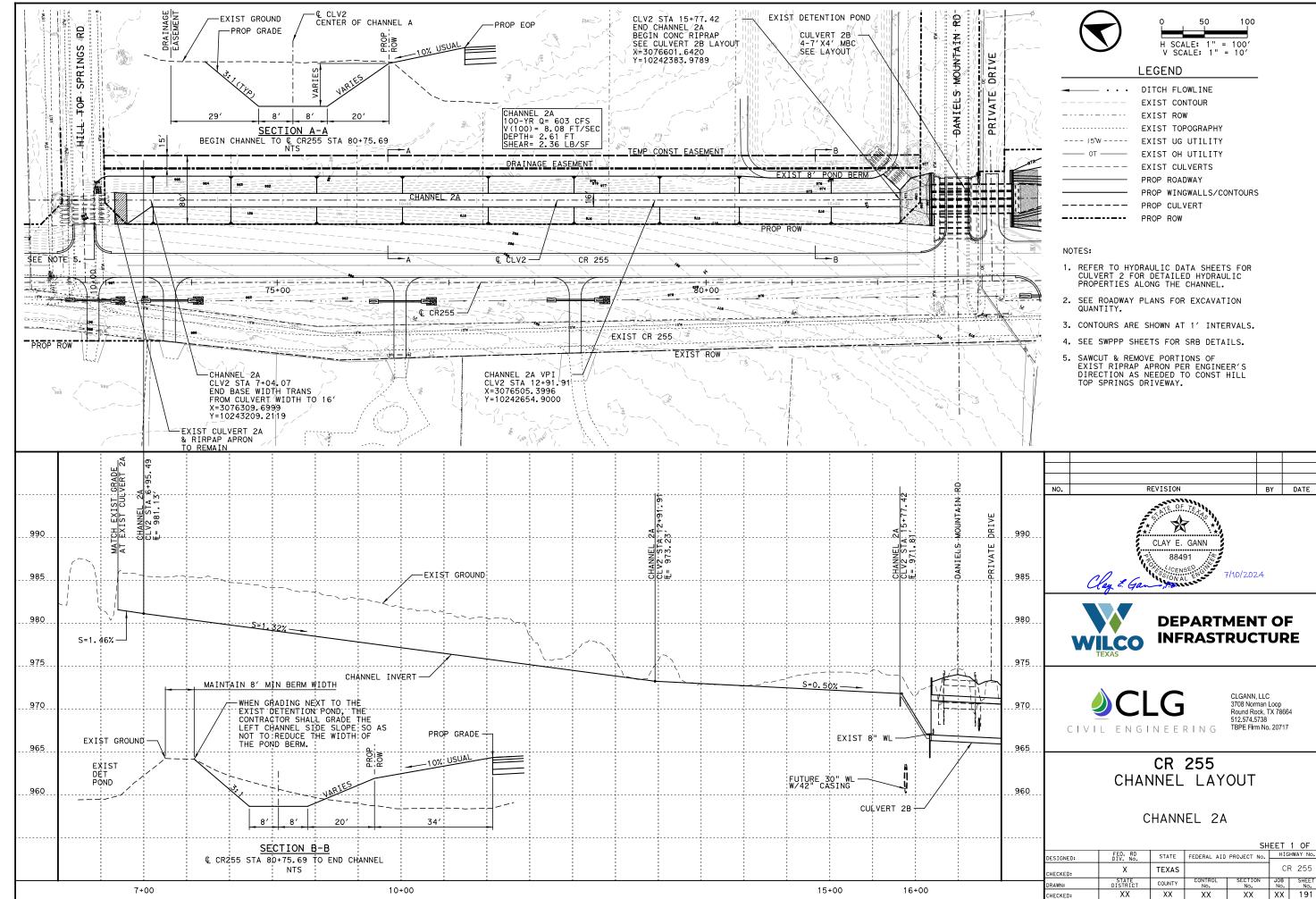


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4:29:00 PM ts\22011\_CR255\99 - Project Standa nn\dms01862\CR255\_CLV\_8.dgn

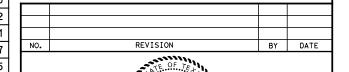
STATE FEDERAL AID PROJECT No. HIGHWAY No. CR 255



HIGHWAY No

CR 255 JOB SHEET No. No.

SUMMARY OF C	CULVERTS AT DRIVEWAYS & COUNTY ROADS									
CULVERT I.D.	CULVERT DESCRIPTION	U.S. NODE I.D.	U.S. NODE DESCRIPTION	U.S. NODE LO	CATION	U.S. INVERT	D.S. NODE I.D.	D.S. NODE DESCRIPTION	D.S. NODE LOCATION	D.S. INVERT
	(# - SIZE X LENGTH @ SLOPE)					(FT)				(FT)
LINE 1A1	1 - 18" RCP X 41 ' @ 1.33 %	1A1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 22+75.00	, -55.00 ′	T 1024.84	1A2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 23+16.00 , -55.00 'LT	1024.29
LINE 1A3	2 - 4' x 3' BC X 26 ' @ 0.50 %	1A3	SET(2TY I)(S=4')(HW=4')(6:1)(P)	CR255 STA 26+57.00	, -54.00 '	T 1020.51	1A4	SET(2TY I)(S=4')(HW=4')(6:1)(P)	CR255 STA 26+83.00 , -54.00 ' LT	1020.38
LINE 1A5	2 - 5' x 3' BC X 40 ' @ 1.06 %	1A5	SET(2TY I)(S=5')(HW=4')(6:1)(P)	CR255 STA 39+69.00	, -54.00 ′ l	T 1007.67	1A6	SET(2TY I)(S=5')(HW=4')(6:1)(P)	CR255 STA 40+09.00 , -54.00 ' LT	1007.25
LINE 1B1	1 - 24" RCP X 54 ' @ 0.50 %	1B1	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 47+92.00	, -51.50 ′ I	T 1006.10	1B2	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 47+37.00 , -50.50 ' LT	1005.83
LINE 1B3	2 - 3' x 2' BC X 81 ' @ 2.17 %	1B3	SET(2TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 45+65.00	, -54.00 ′ l	T 1004.96	1B4	SET(2TY I)(S=3')(HW=3')(3:1)(C)	CR255 STA 44+83.00 , -56.00 ' LT	1003.20
LINE 2A1	1 - 24" RCP X 51 ' @ 0.64 %	2A1	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 51+75.00	, -54.50 ′ l	T 1007.18	2A2	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 52+26.00 , -57.00 ' LT	1006.85
LINE 2A3	2 - 24" RCP X 28 ' @ 0.75 %	2A3	SET (2-TY II) (24") (RCP) (6:1) (P)	CR255 STA 58+52.00	, -54.00 ′	T 1002.97	2A4	SET (2-TY II) (24") (RCP) (6:1) (P)	CR255 STA 58+80.00 , -54.00 ' LT	1002.76
LINE 2A5	2 - 24" RCP X 28 ' @ 1.79 %	2A5	SET (2-TY II) (24") (RCP) (6:1) (P)	CR255 STA 61+54.00	, -54.00 ′	T 998.73	2A6	SET (2-TY II) (24") (RCP) (6:1) (P)	CR255 STA 61+82.00 , -54.00 ' LT	998.23
LINE 2A7	1 - 3' x 2' BC X 21 ' @ 1.67 %	2A7	SET(TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 64+48.00	, -54.00 ′	T 993.77	2A8	SET(TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 64+69.00 , -54.00 ' LT	993.42
LINE 2A9	1 - 3' x 2' BC X 23 ' @ 1.70 %	2A9	SET(TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 67+06.00	, -55.00 ′	T 989.44	2A10	SET(TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 67+29.00 , -55.00 ' LT	989.05
LINE 2C1	1 - 18" RCP X 53 ' @ 0.53 %	2C1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 56+70.00	, 22.00 ′	RT 1003.97	202	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 57+23.00 , 20.00 ' RT	1003.69
LINE 2C3	1 - 18" RCP X 82 ' @ 1.51 %	2C3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 63+58.00	, 25.00 ′	RT 993.87	204	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 64+40.00 , 25.00 ' RT	992.63
LINE 2C5	1 - 18" RCP X 96 ' @ 0.93 %	2C5	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 68+70.00	, 18.50 ′	RT 987.21	208	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 69+66.00 , 19.50 ' RT	986.32
LINE 2C9	1 - 18" RCP X 42 ' @ 0.79 %	209	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 72+64.00	, 20.30 ′	RT 984.02	2C10	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 73+06.00 , 21.00 ' RT	983.69
LINE 3A1	1 - 18" RCP X 40 ' @ 1.10 %	3A1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 88+13.00	, -55.50 ' l	T 965.26	3A2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 88+53.00 , -55.50 ' LT	964.82
LINE 3A3	1 - 18" RCP X 42 ' @ 0.98 %	3A3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 89+35.00	, -55.80 ′	T 964.03	3A4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 89+77.00 , -56.20 ' LT	963.62
LINE 3C3	1 - 18" RCP X 68 ' @ 0.84 %	3C3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 90+52.00	, 30.60 ′	RT 961.33	3C4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 91+20.00 , 30.70 ' RT	960.76
LINE 3DO	1 - 18" RCP X 82 ' @ 0.51 %	3D0	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 97+89.00	, 31.00 ′	RT 961.46	3D1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 97+07.00 , 31.30 ' RT	961.04
LINE 3D2	1 - 18" RCP X 69 ' @ 0.51 %	302	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 95+23.00	, 31.80 ′	RT 960.13	3D3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 94+54.00 , 32.00 ' RT	959.78
LINE 4A1	1 - 24" RCP X 42 ' @ 1.28 %	4A1	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 104+80.00	, -47.00 ′	T 955.69	4A2	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 105+22.00 , -50.00 ' LT	955.15
LINE 4C1	1 - 18" RCP X 91 ' @ 1.37 %	4C1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 100+40.00	, 36.40 ′	RT 960.10	4C2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 101+32.00 , 36.00 ' RT	958.85
LINE 5A1	1 - 18" RCP X 46 ' @ 0.52 %	5A1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 108+26.00	, -50.00 ′	T 954.92	5A2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 108+72.00 , -51.20 ' LT	954.68
LINE 5A3	1 - 18" RCP X 45 ' @ 2.97 %	5A3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 112+84.00	, -56.60 ' l	T 948.49	5A4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 113+29.00 , -57.50 ' LT	947.16
LINE 5B1	1 - 18" RCP X 65 ' @ 2.52 %	5B1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 130+58.00	<b>,</b> -51.50 ′ l	T 961.20	5B2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 129+93.00 , -52.50 ' LT	959.56
LINE 5B3	1 - 4' x 2' BC X 67 ' @ 6.89 %	5B3	SET(TY I)(S=3')(HW=3')(6:1)(P)	CR255 STA 119+21.00	, -58.50 ' l	.T 938.95	5B4	SET(TY I)(S=4')(HW=3')(3:1)(C)	CR255 STA 118+54.00 , -53.61 ' LT	934.35
LINE 5C1	1 - 18" RCP X 59 ' @ 2.87 %	5C1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 112+21.00	, 24.50 ′	RT 949.52	5C2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 112+80.00 , 26.00 ' RT	947.82
LINE 5C3	1 - 18" RCP X 64 ' @ 2.59 %	5C3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 114+13.00	, 29.00 '	RT 944.07	5C4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 114+77.00 , 29.00 ' RT	942.41
LINE 5C5	1 - 18" RCP X 93 ' @ 2.50 %	5C5	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 115+77.47	, 31.00 ′	RT 939.90	506	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 116+70.00 , 37.20 ' RT	937.57
LINE 5D1	1 - 18" RCP X 96 ' @ 5.44 %	5D1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 127+93.00	, 37.50 ′	RT 953.16	5D2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 126+98.00 , 49.00 ' RT	947.95
LINE 5D3	1 - 18" RCP X 98 ' @ 0.69 %	5D3	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 121+86.00	, 47.00 ′	RT 938.91	5D4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 120+88.00 , 42.00 ' RT	938.24
LINE 6C1	1 - 18" RCP X 76 ' @ 1.74 %	6C1	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 134+80.00	, 34.20 ′	RT 962.08	6C2	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 135+56.00 , 37.00 ' RT	960.76
LINE 6C3	1 - 18" RCP X 79 ' @ 1.96 %	-	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 136+14.00	, 37.00 ′	RT 959.63	6C4	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 136+93.00 , 36.20 ' RT	
LINE 6C5	1 - 18" RCP X 86 ' @ 1.83 %	6C5	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 141+15.00	, 37.00 ′	RT 944.69	606	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 142+00.00 , 33.80 ' RT	943.12
LINE 6D1	1 - 18" RCP X 25 ' @ 1.90 %	6D1	SET (TY II) (18") (RCP) (6:1) (P)	CR289 STA 15+54.00	, 22.00 ′	RT 947.00	6D2	SET (TY II) (18") (RCP) (6:1) (P)	CR289 STA 15+30.00 , 24.40 ' RT	946.53
LINE 9A1	1 - 18" RCP X 108 ' @ 1.66 %	9A1	SET (TY II) (18") (RCP) (6:1) (P)	RRB STA 23+00.00	, -56.00 ′	T 952.97	9A2	SET (TY II) (18") (RCP) (6:1) (P)	RRB STA 21+93.00 , -49.00 'LT	951.18
LINE 9A3	1 - 24" RCP X 102 ' @ 2.21 %	9A3	SET (TY II) (24") (RCP) (6:1) (P)	RRB STA 19+39.96	, -59.00 ′	T 944.08	9A OU	SET (TY II) (24") (RCP) (6:1) (P)	RRB STA 18+38.66 , -59.00 'LT	941.83
LINE 2C11	1 - 18" RCP X 44 ' @ 0.80 %	2011	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 73+52.00	, 21.00 ′	RT 983.34	2C12	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 73+96.00 , 21.00 ' RT	982.99
LINE 2C13	1 - 18" RCP X 50 ' @ 0.78 %	2013	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 76+18.00	, 22.00 '	RT 981.27	2C14	SET (TY II)(18")(RCP)(6:1)(P)	CR255 STA 76+68.00 , 22.00 ' RT	
LINE 2C15	1 - 18" RCP X 45 ' @ 1.71 %	2015	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 78+25.00	, 20.50 ′	RT 979.46	2016	SET (TY II) (18") (RCP) (6:1) (P)	CR255 STA 78+70.00 , 20.50 ' RT	978.69
LINE 2C17	1 - 24" RCP X 52 ' @ 1.65 %	2017	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 83+79.00	, 17.70 ′ 1	RT 970.22	2C18	SET (TY II) (24") (RCP) (6:1) (P)	CR255 STA 84+31.00 , 18.00 ' RT	969.36







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

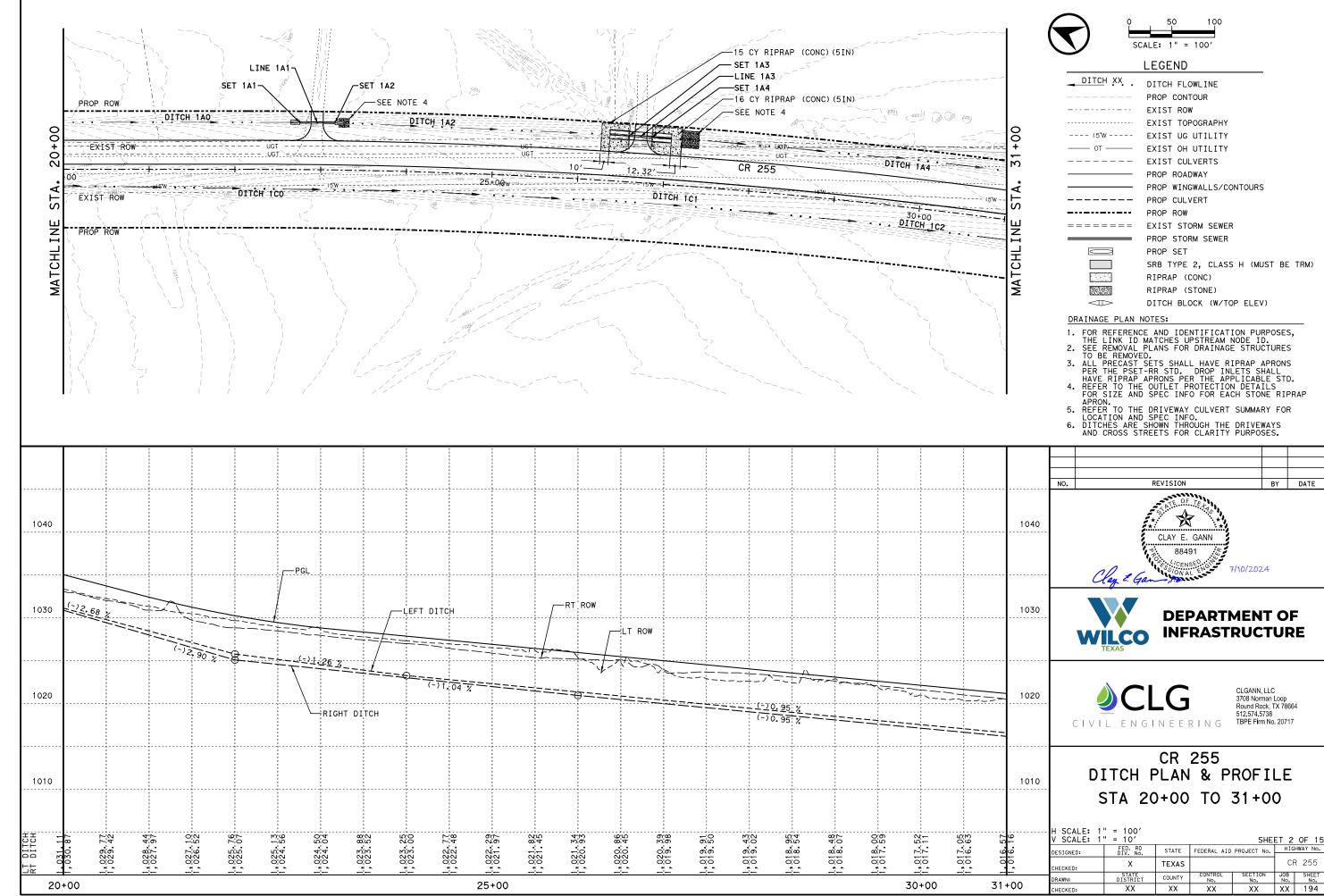
CR 255

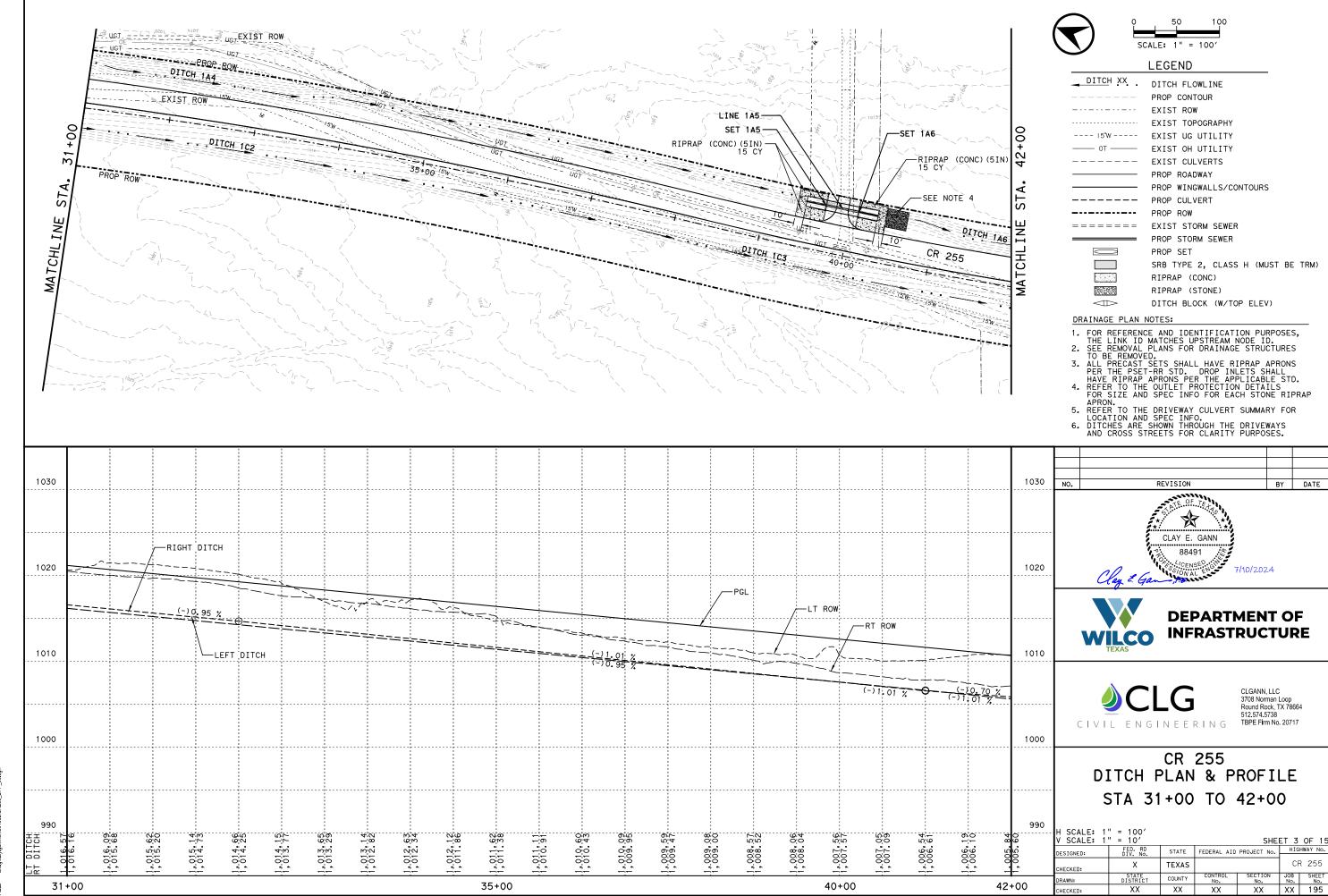
DRIVEWAY CULVERT SUMMARY

SHEET 1 OF 1

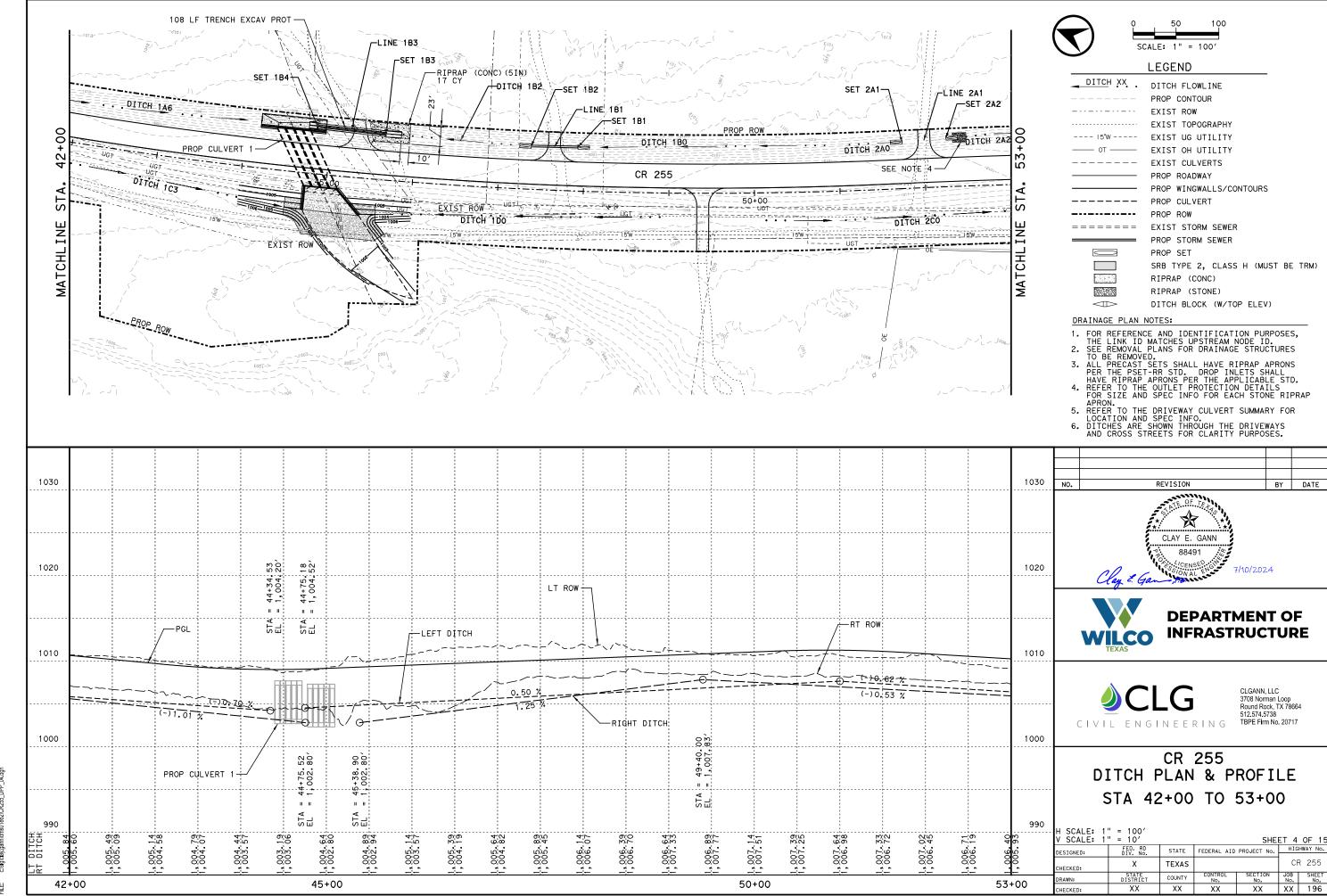
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AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
ECKED:	XX	XX	XX	XX	XX	192	

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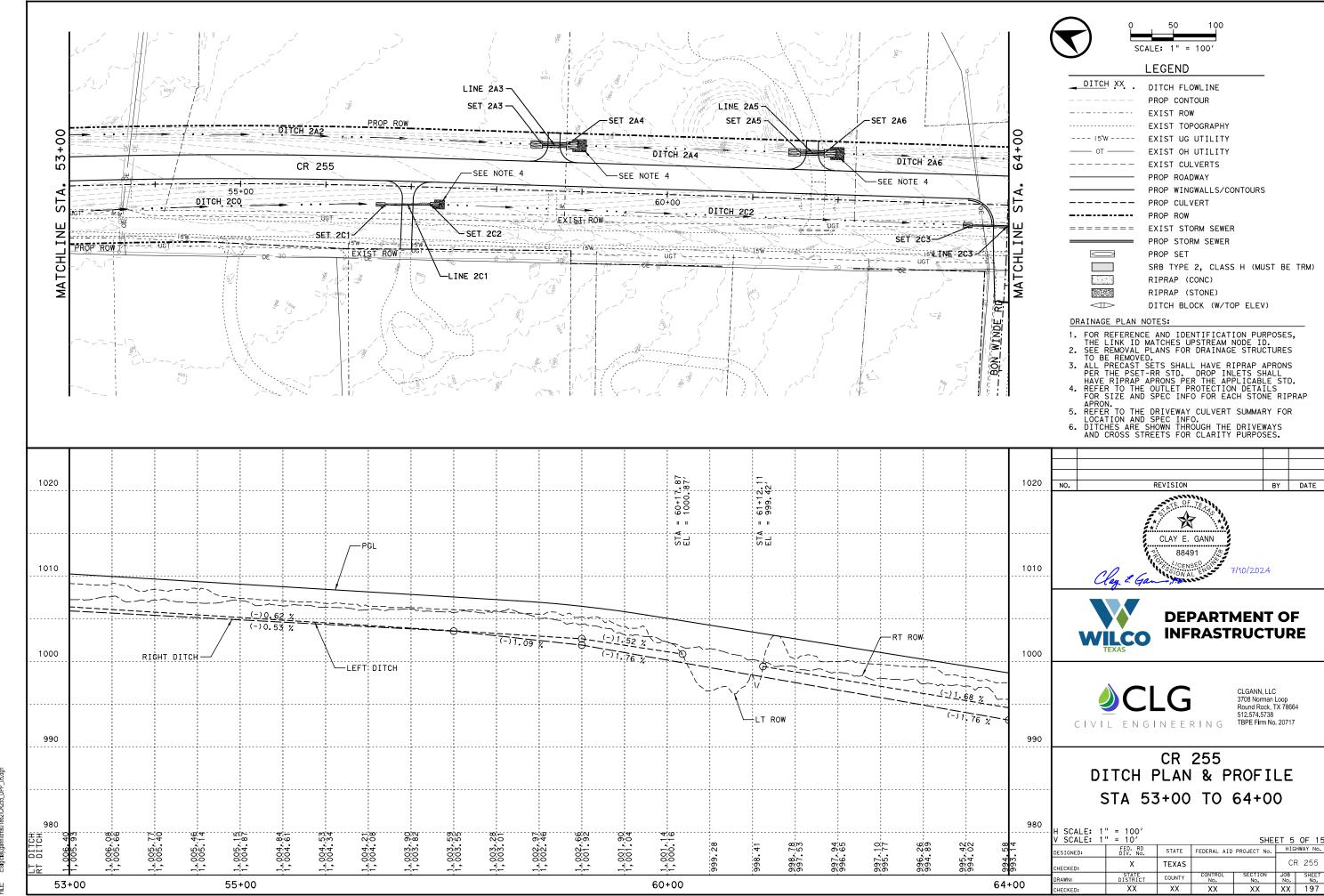




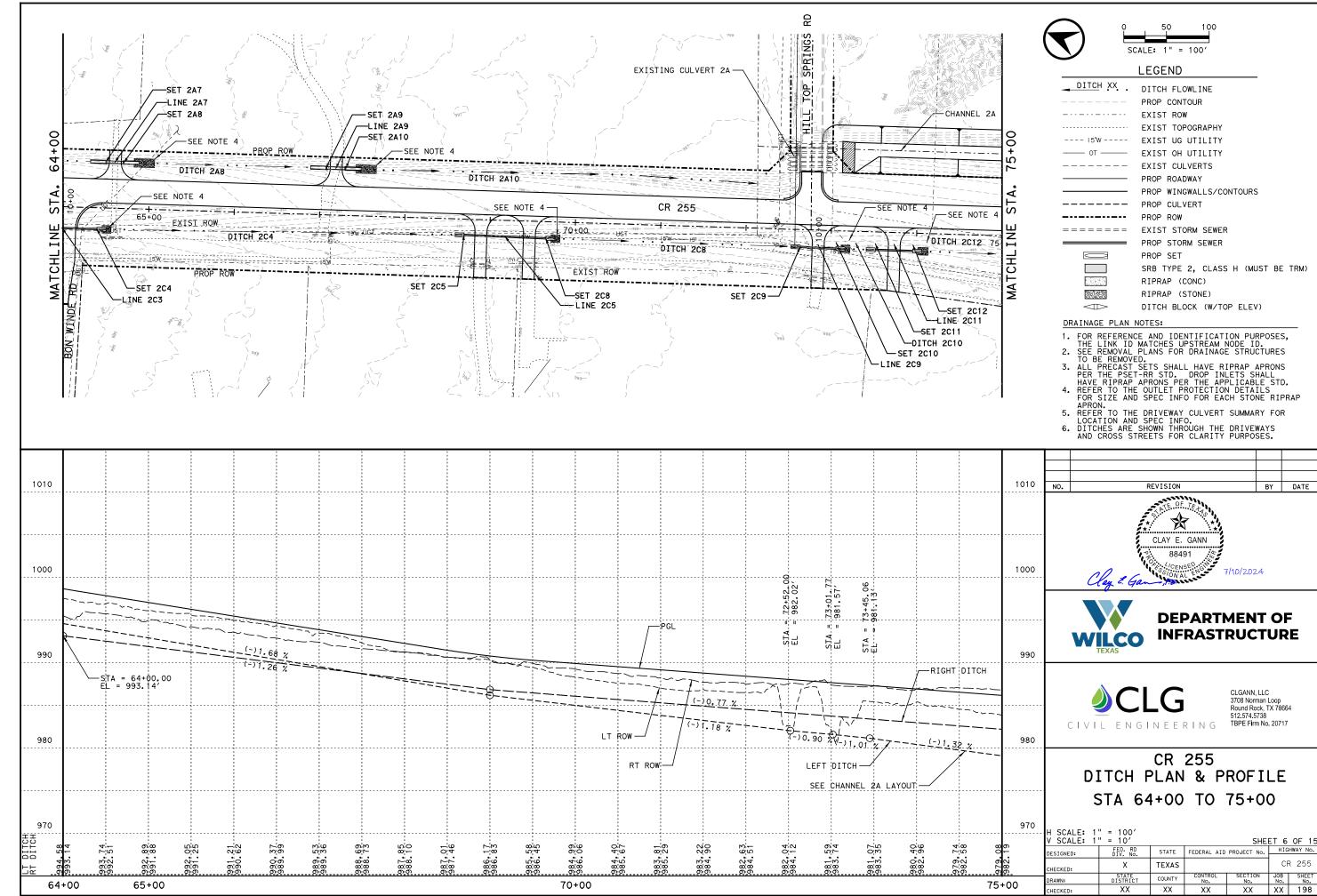
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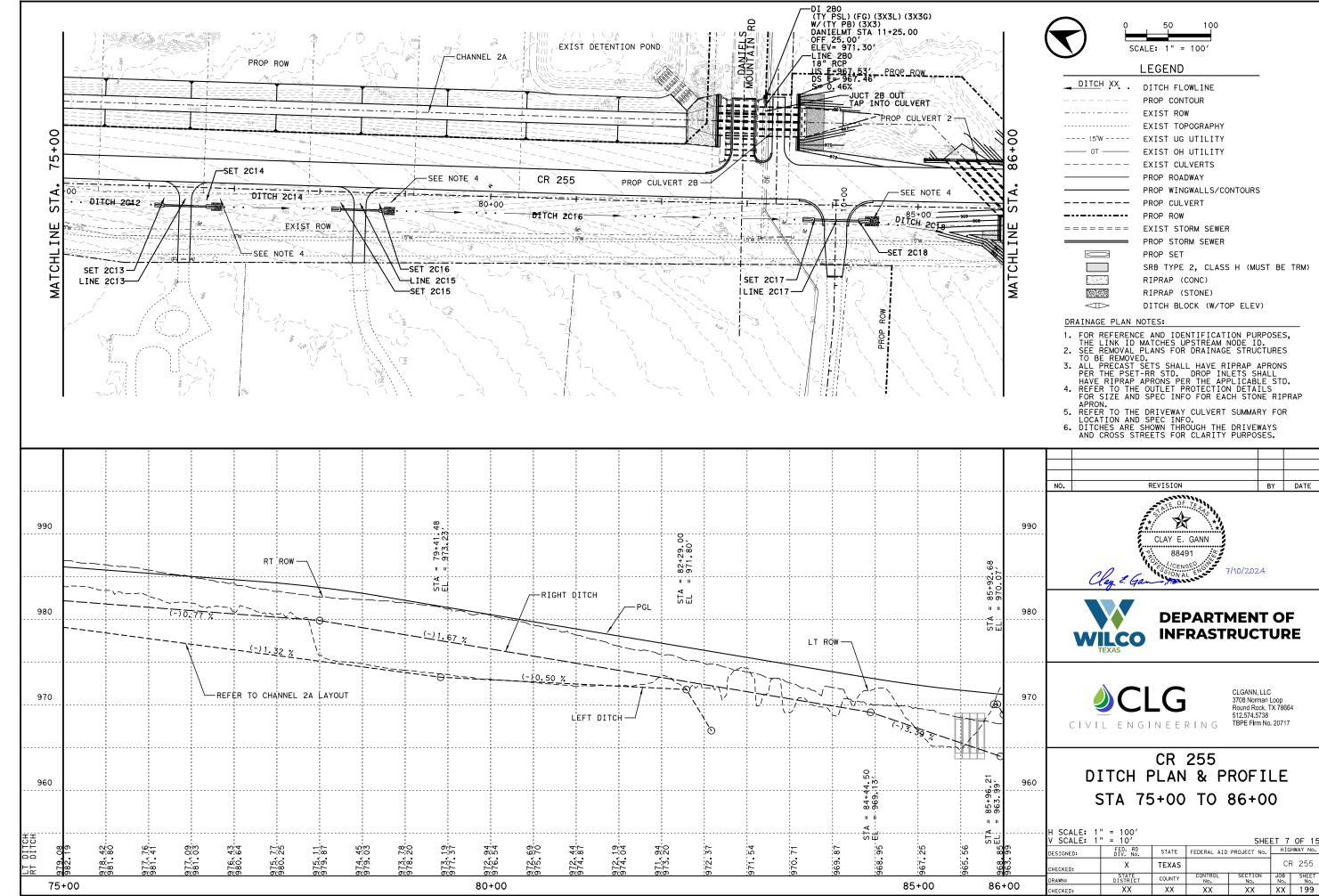


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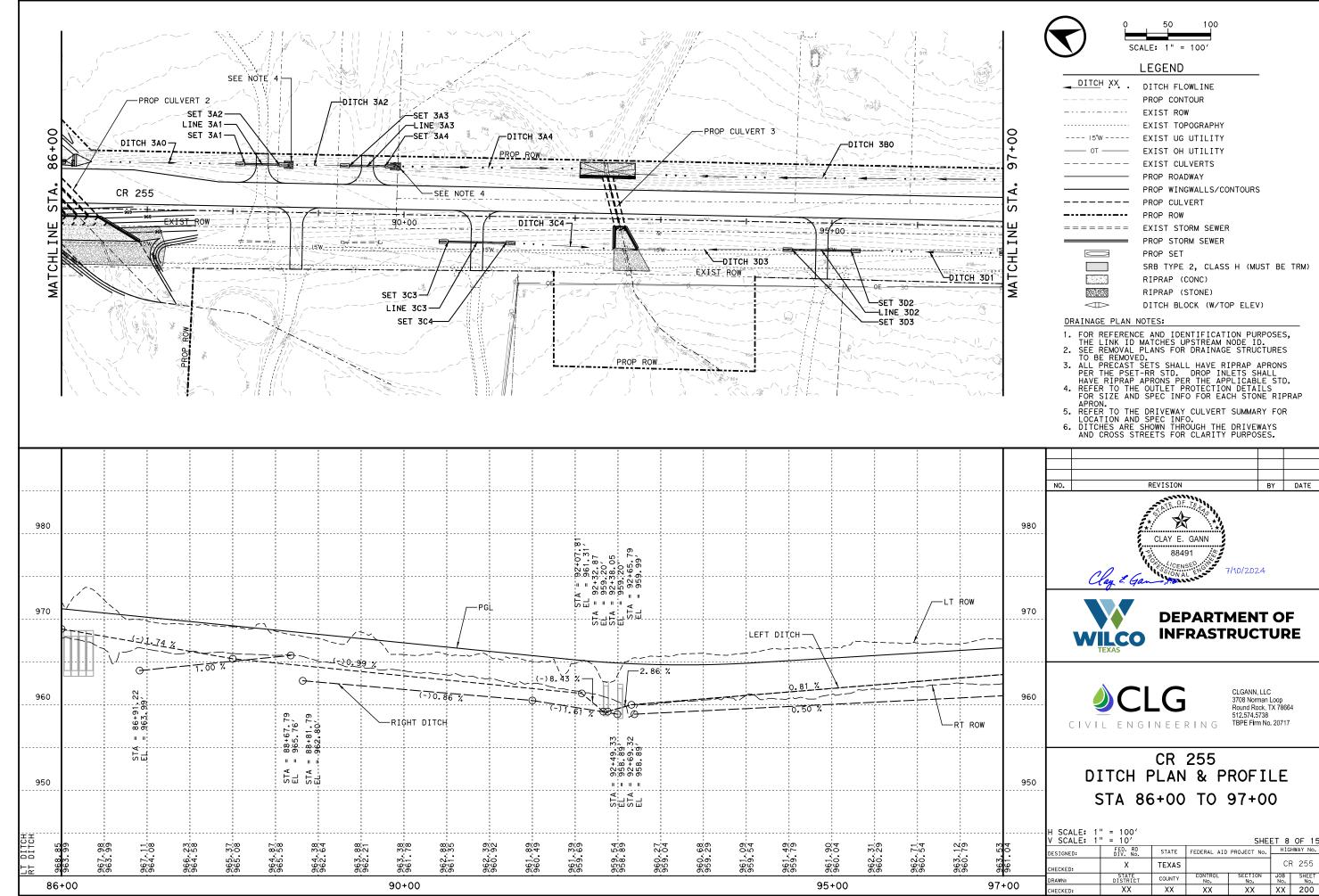


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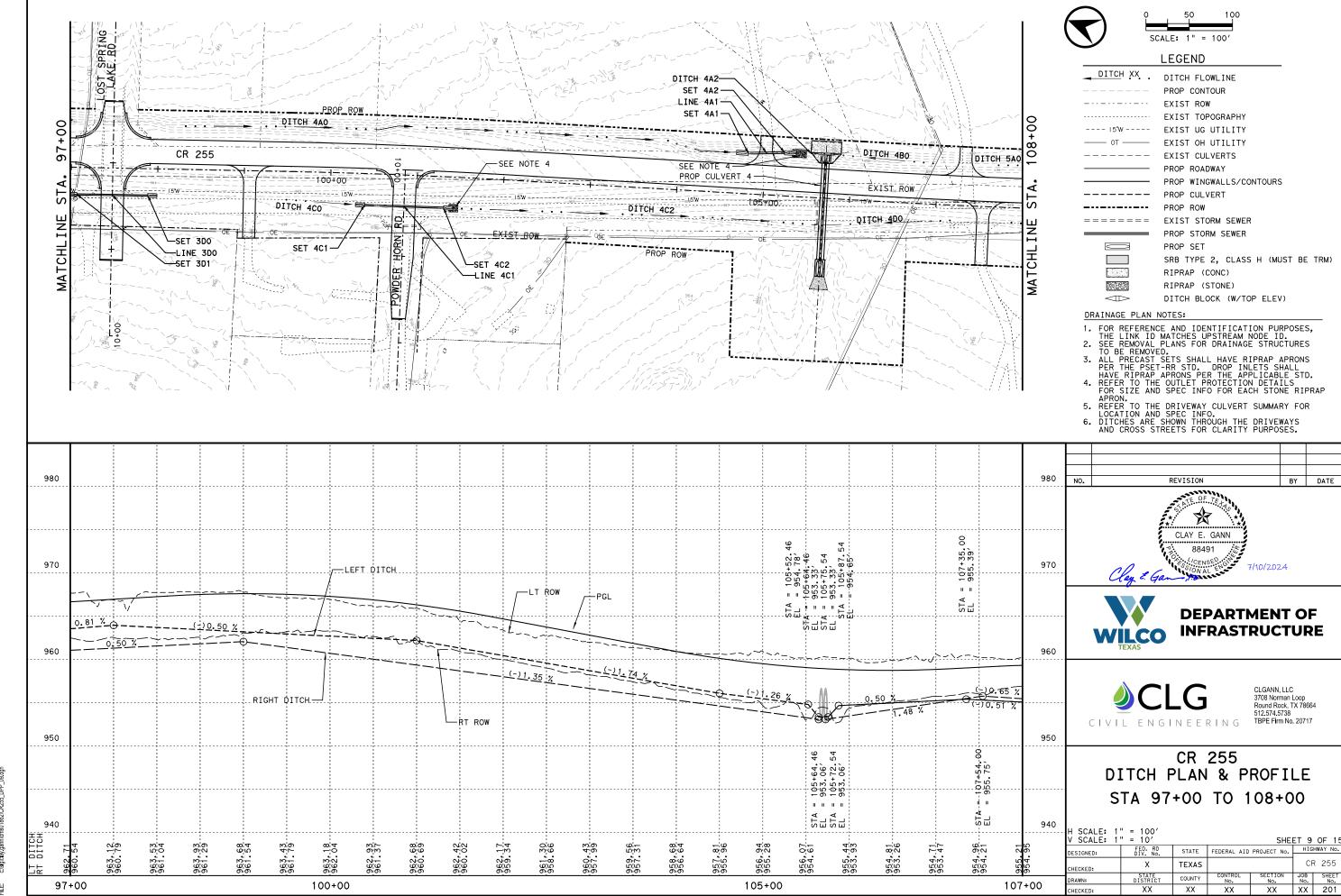
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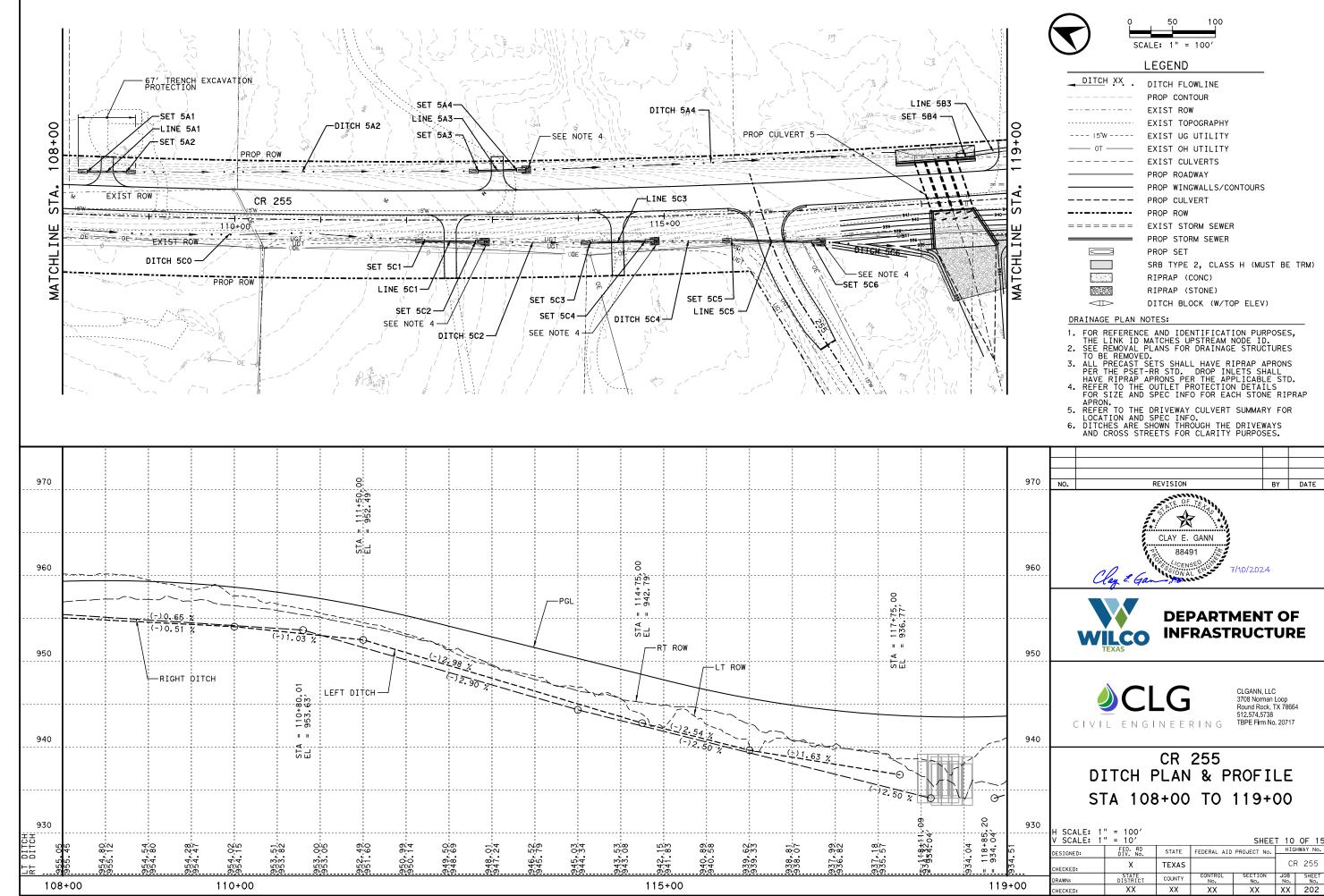


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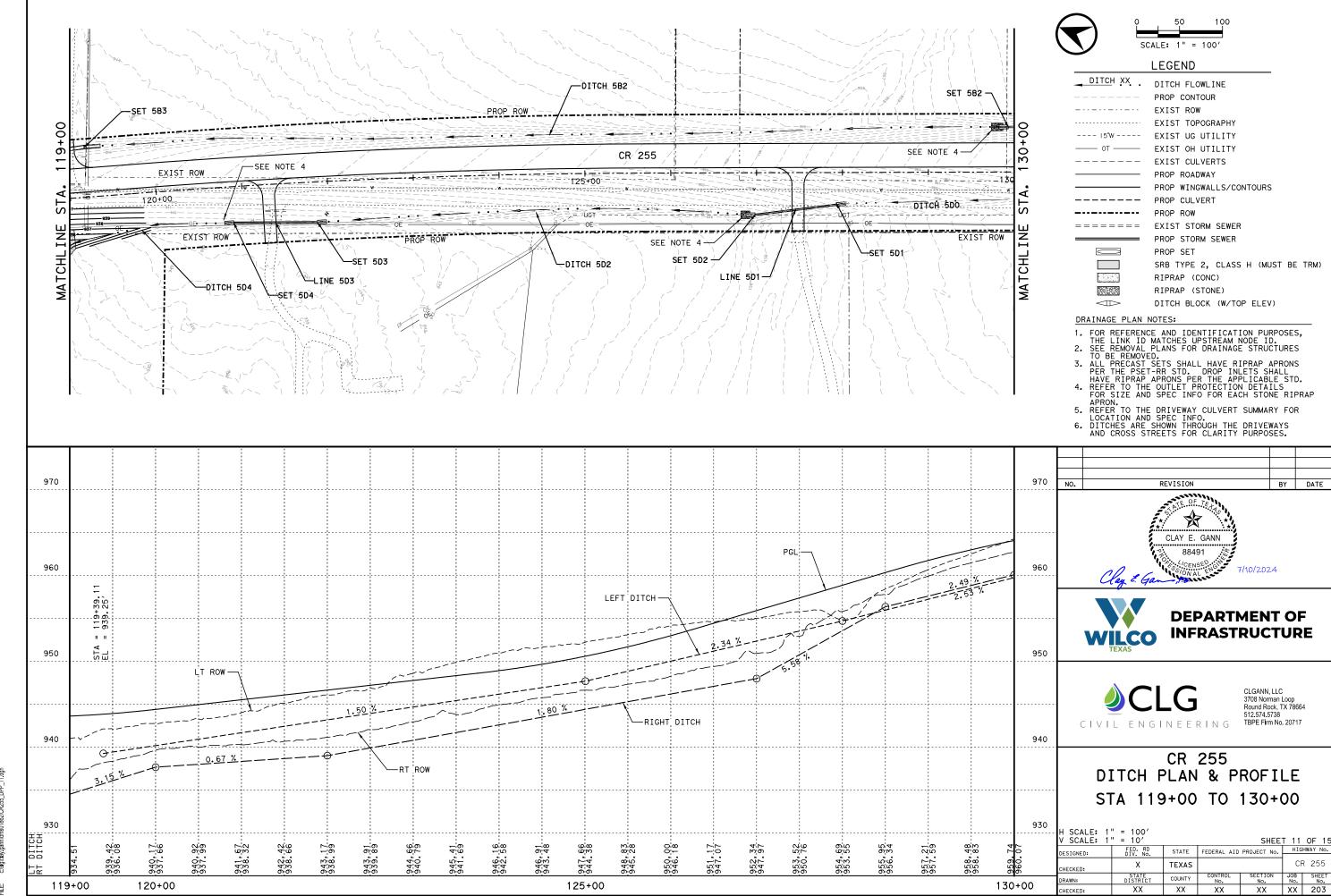


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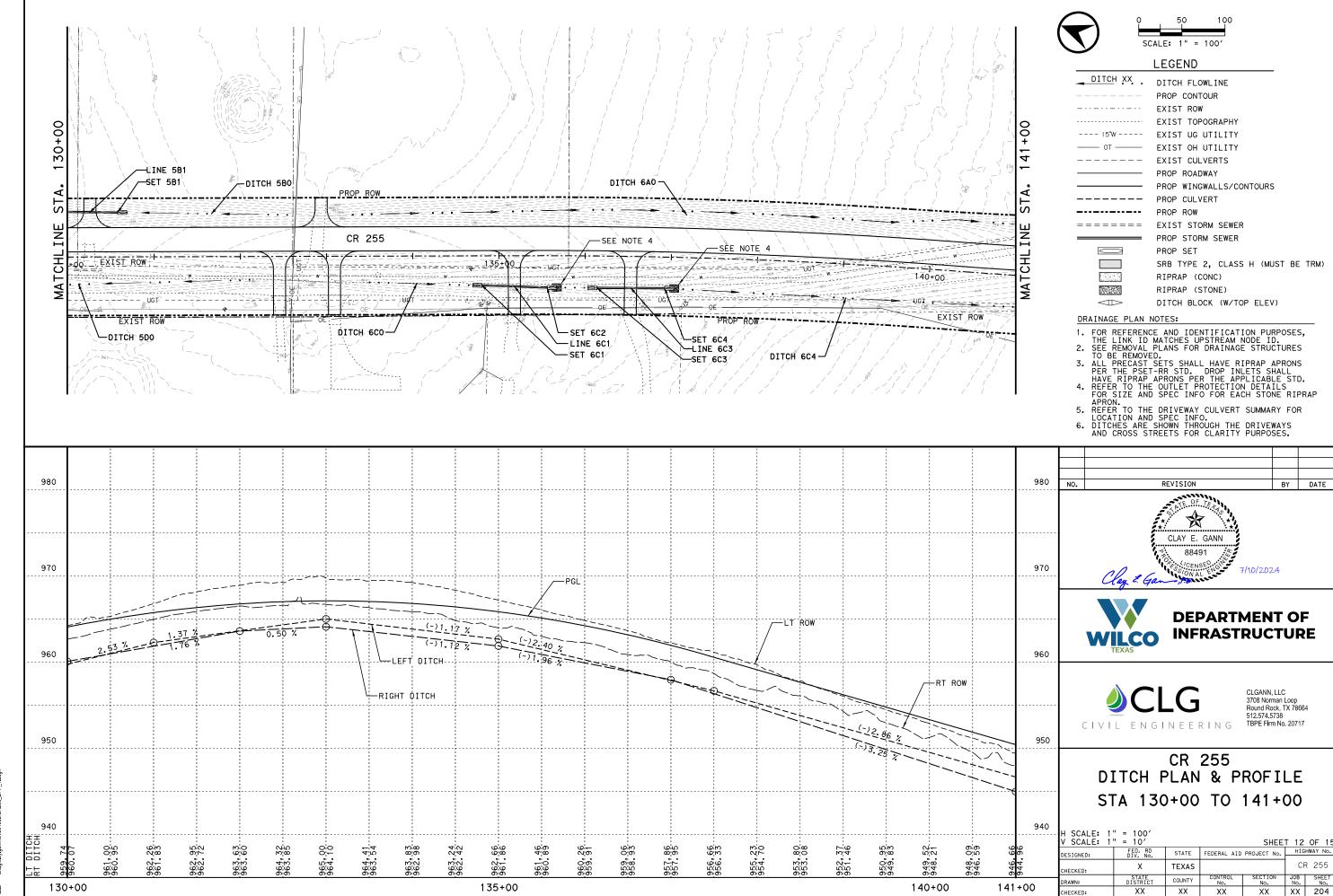




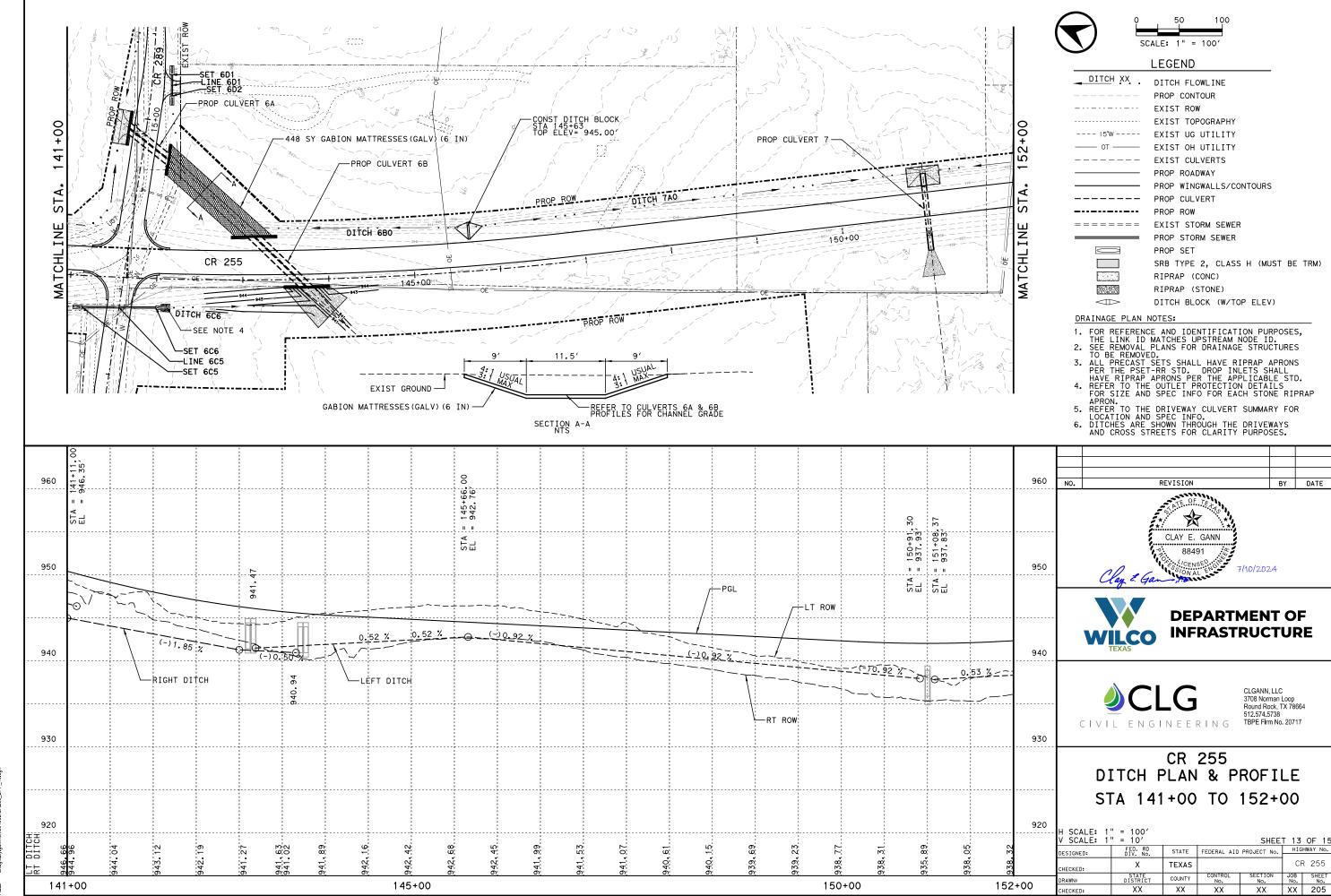
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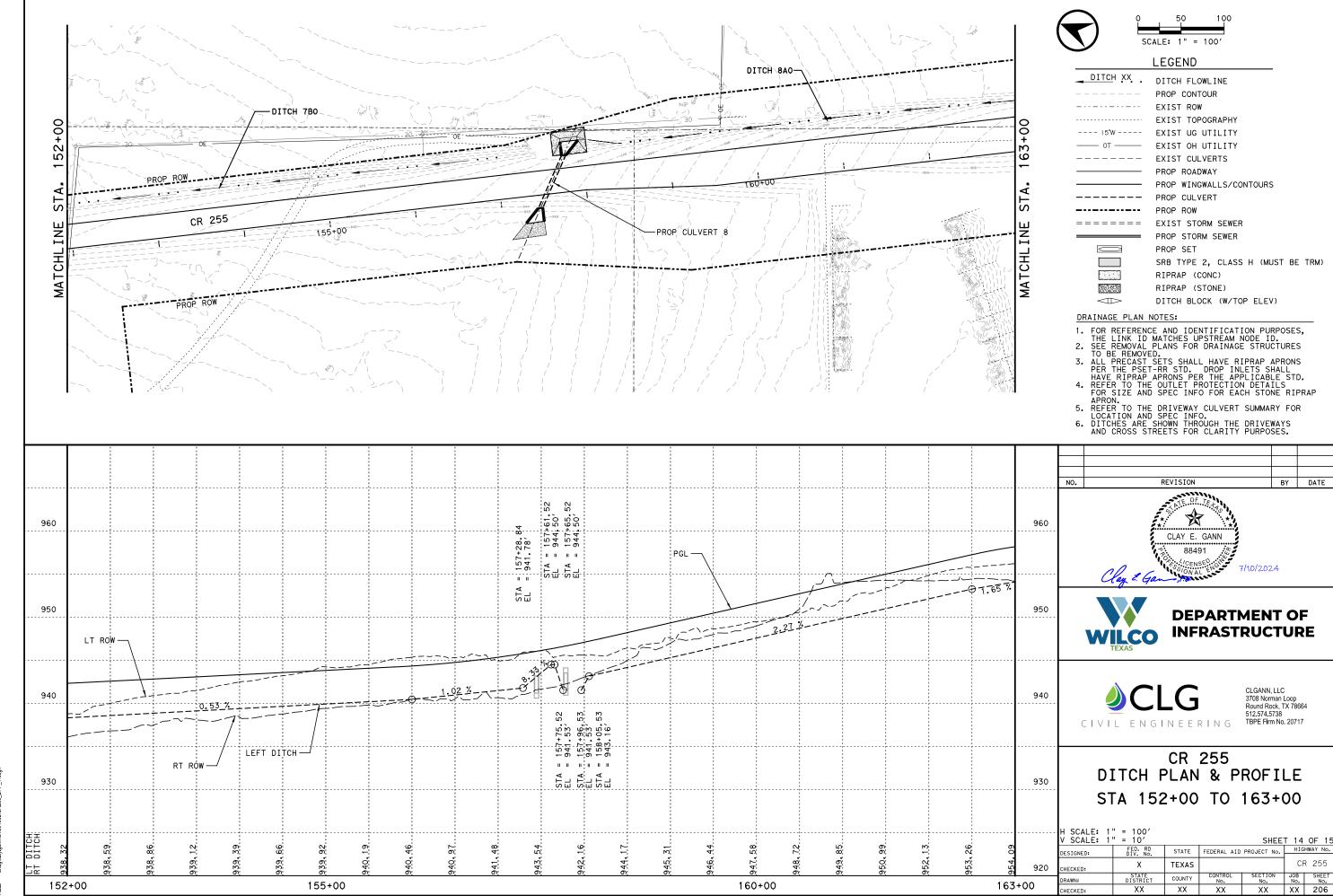
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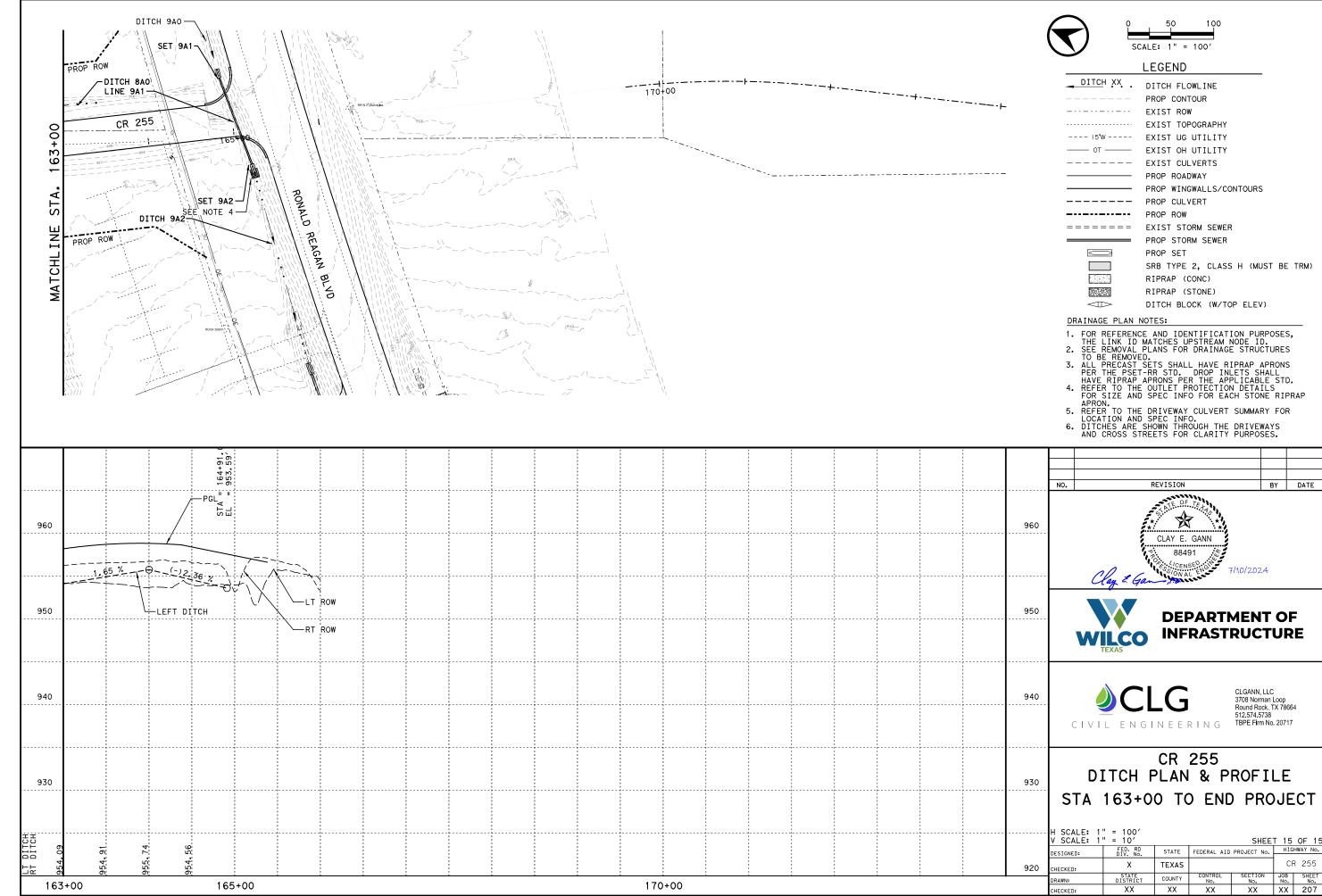


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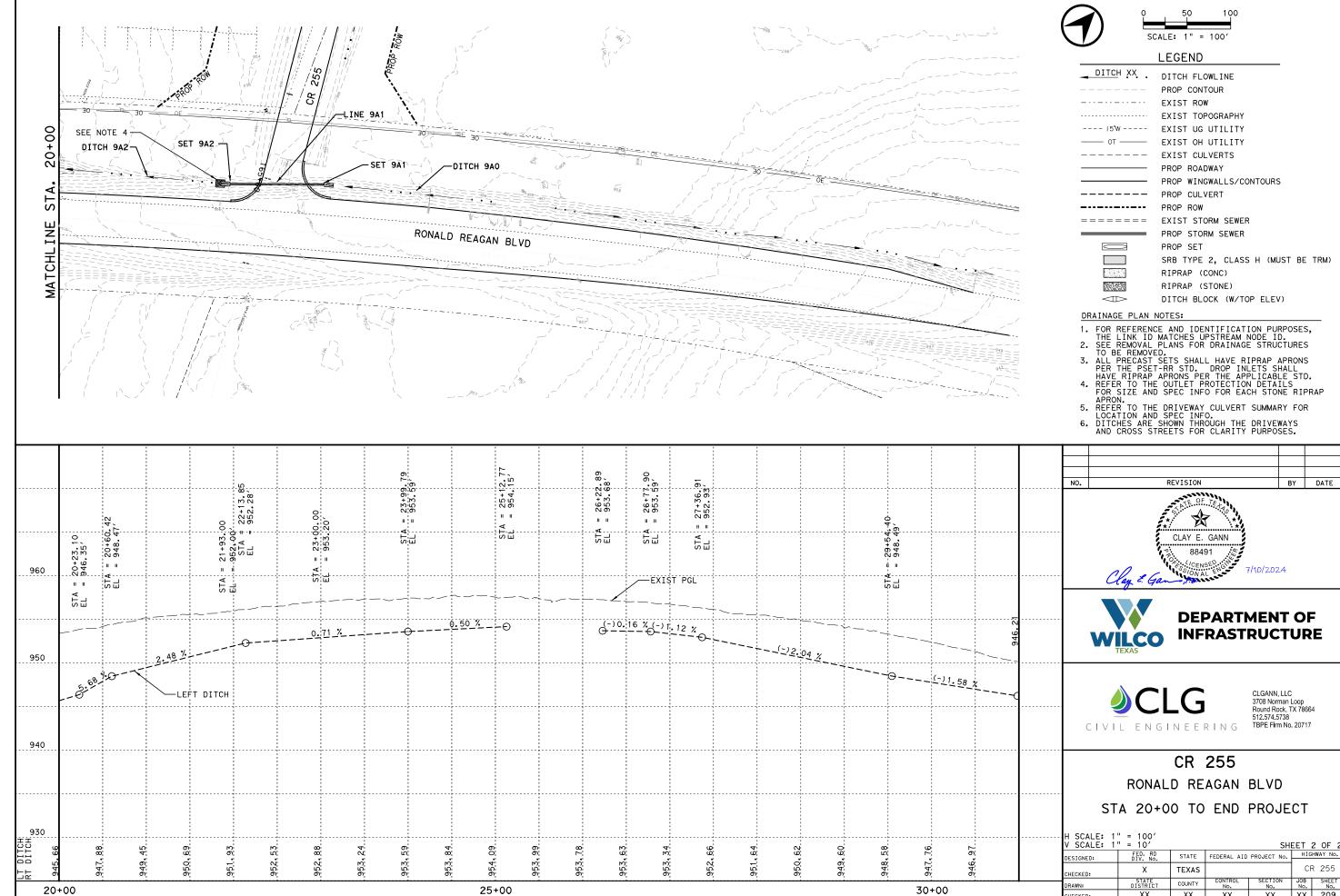




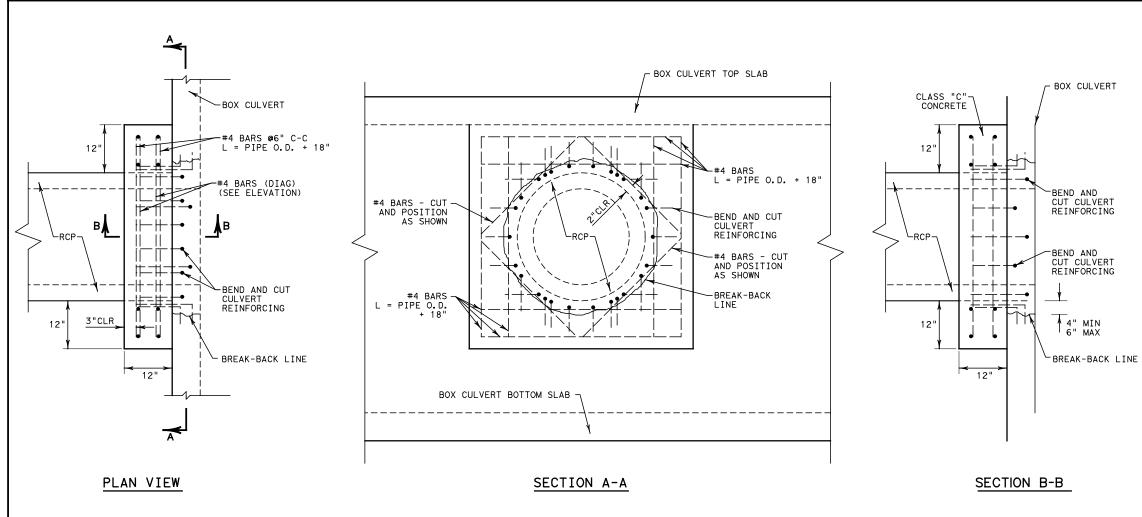
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SHEET 1 OF 2 HIGHWAY No.

CR 255 JOB SHEET No. No. XX XX XX XX 208



CR 255 JOB SHEET NO. XX 209 XX XX XX

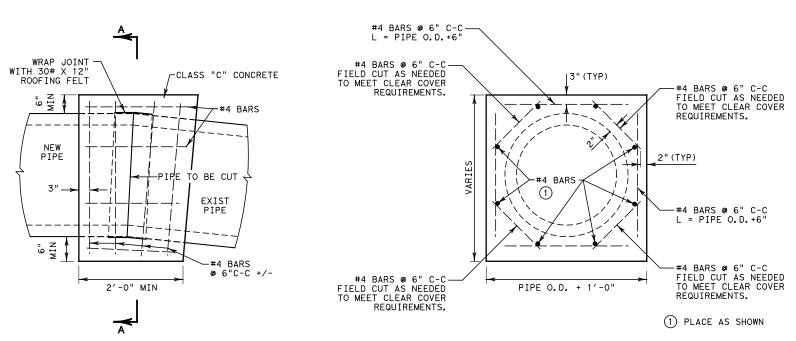


#### PIPE STUB-IN GENERAL NOTES

- 1. SAW CUT A MAXIMUM 1/2" DEPTH AT BREAK-BACK LINE. USE REMOVAL METHODS THAT WILL NOT DAMAGE REMAINING CONCRETE OR CULVERT REINFORCING.
- 2. EXPOSE AND CLEAN BOX CULVERT REINFORCING.
  BEND BARS INTO PROPOSED CONNECTION AND TIE TO
  CONNECTION REINFORCING.
- 3. ROUGHEN AND CLEAN EXISTING CONCRETE SURFACES THAT ARE IN CONTACT WITH NEW CONCRETE BEFORE PLACING FORMS.
- PLACING FORMS.

  4. MATERIAL & LABOR FOR PIPE/BOX CONNECTIONS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEMS 462 AND 464.

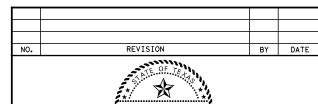
# PIPE STUB-IN CONNECTION TO BOX CULVERT OR EXISTING DRAINAGE STRUCTURE



#### PIPE COLLAR GENERAL NOTES

- 1. THE CONTRACTOR SHALL
  TAKE STEPS TO ENSURE
  A SMOOTH JOINT ALONG
  THE INSIDE WALL OF DIPE
- THE INSIDE WALL OF PIPE.

  2. ANY SPILLAGE OF CONCRETE THROUGH THE JOINT SHALL BE REMOVED AND THE INSIDE PIPE SURFACES SMOOTHED AS DIRECTED BY THE ENGINEER.
- 3. PIPE COLLARS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 464.







CLGANN, LLC
3708 Norman Loop
Round Rock, TX 78664
512.5774.5738
CIVIL ENGINEERING TBPE Firm No. 20717

CR 255

DRAINAGE DETAILS
PIPE COLLARS
AND BOX CONNECTIONS

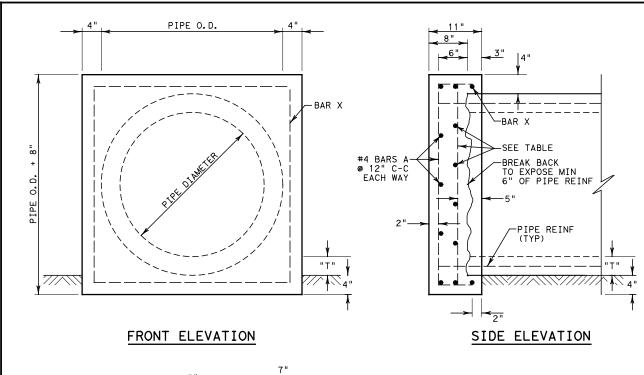
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ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.								
HECKED:	X	TEXAS		CF	R 255							
RAWN:	STATE DISTRICT COUNTY		CONTROL No.	SECTION No.	JOB No.	SHEET No.						
HECKED:	XX	XX	XX	XX	XX	210						

ER: ClayGann TE: 7/10/2024 4.29:55 PM RIPT: S:/08 Projects/SEAT/CR255999-Project Standards/CR

PLAN/ELEVATION

SECTION A-A

PIPE COLLAR DETAIL
FOR HORIZONTAL OR VERTICAL PLACEMENT
N.T.S.



o.

**\***4 BAR A

#### INNER REINFORCING SIZE/SPACING MAXIMUM DEPTH PIPE DIA(IN) #4 @ 12" C-C #4 @ 12" C-C #4 @ 12" C-C #4 @ 10" C-C <48 60 #4 @ 12" C-C #5 @ 10" C-C #4 @ 10" C-C #5 @ 8" C-C

#### PIPE END CAP GENERAL NOTES

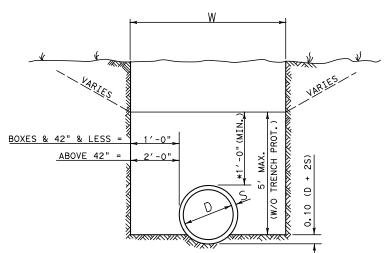
- 1. "T" PIPE WALL THICKNESS.
  2. ALL CONCRETE SHALL BE CLASS "C".
  3. ALL REINFORCING STEEL SHALL BE GRADE 60.
  4. OCTAGONAL PLUG MAY BE USED IN LIEU OF SQUARE. PROVIDE 4" MINIMUM COVER OVER OUTSIDE OF PIPE. DIMENSIONS OF PIPE PLUG AND REINFORCING TO BE AS APPROVED.

## DRAINAGE PIPE END CAP OR PLUG DETAILS

# CONCRETE LINED DITCH. DITCH BLOCK DETAILS N.T.S.

DITCH BLOCK AND INLET LOCATIONS SHOWN ELSEWHERE IN THE PLANS.
 DITCH BLOCKS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO THE VARIOUS BID ITEMS.

SEE PLANS FOR TOP ELEVATION-

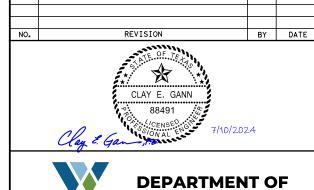


DITCH BLOCK

GENERAL NOTES

CLASS "C" BEDDING EXCEPT AS NOTED \*SEE STANDARD SPECIFICATION ITEM 400, EXCEPT WHERE NEGATIVE PROJECTION IS USED.

STRUCTURE EXCAVATION (TRENCH)





NOTE: 1'-0" HEIGHT USUAL (1) SLOPES AS SHOWN ELSEWHERE IN THE PLANS (6:1 USUAL)

2 0.5% MINIMUM FOR NON-LINED DITCH. 0.2% MINIMUM FOR

CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

**INFRASTRUCTURE** 

## CR 255

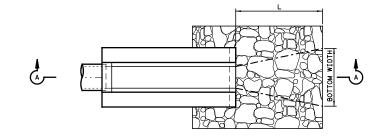
DRAINAGE DETAILS PLUGS, DITCH BLOCKS & STRUCTURAL EXCAVATION

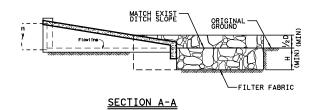
	SHEET 2 OF 4									
IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIG	HWAY No.					
CKED:	X	TEXAS		CF	₹ 255					
WN:	STATE DISTRICT	COUNTY	CONTROL SECTION No. No.		JOB No.	SHEET No.				
CKED:	XX	XX	XX	XX	XX	211				

o.

PIPE 0.D. + 3 "

\*4 BAR X





## RIPRAP APRON AT CULVERT OUTLET WITH DITCH

CULVERT	CULVERT	DISCHARGE	NORMAL	CRITICAL	OUTLET	TAILWATER	OUTLET	ADJUSTED	RIPRAP	RIPRAP	TXDOT	APRON	APRON	APRON	APRON
ID	WIDTH	PER BARREL	DEPTH	DEPTH	DEPTH	DEPTH	VELOCITY	D	SIZE	SIZE	RIPRAP	LENGTH	DEPTH	AREA	VOLUME
	D	Q	D (N)	D(C)	D (O)	Tw	v	D'	D (50)	D (50)	SIZE	L	Н Н	A	VOL
	(FT)	(CFS)	(FT)	(FT)	(FT)	(FT)	(FPS)	(FT)	(FT)	(IN)		(FT)	(FT)	(SQ.FT)	(CY)
LINE 1A1	1.5	6.24	0.73	0.97	0.75	0.60	7.02	1.11	0.33	4, 32	RIPRAP(STONE)(PROTECTION)(12 IN)	6	1.15	83.25	4
LINE 1A3	4	64.5	1.88	2.01	3,00	1,60	5.39	4.00	0.50	6,64	RIPRAP (STONE) (PROTECTION) (12 IN)	20	1,21	634	29
LINE 1A5	5	96	1.55	2.26	3.00	2.00	6.42	5.00	0.51	6.71	RIPRAP (STONE) (PROTECTION) (12 IN)	25	1.22	962.5	44
LINE 1B1	2	10.5	1.13	1.16	2.00	0,80	3, 33	2.00	0.23	2.98	N/A		.,,		
LINE 1B3	3	22.45	0.68	1.20	0.72	1,20	10.45	1.84	0.46	6.10	N/A				
LINE 2A1	2	16.9	1.44	1.48	1.44	0.80	7.00	1.72	0.52	6,87	RIPRAP (STONE) (PROTECTION) (12 IN)	10	1.25	161	8
LINE 2A3	2	17.6	1.39	1.51	1.98	0.80	5,62	2.00	0.45	5.92	RIPRAP (STONE) (PROTECTION) (12 IN)	10	1.48	181	10
LINE 2A5	2	20.4	1.14	1.62	1.29	0.80	9.51	1.57	0.75	9, 94	RIPRAP (STONE) (PROTECTION) (12 IN)	10	1.81	181	13
LINE 2A7	3	45.1	1.22	1.92	1.51	1, 20	9, 99	2.11	0.98	12.89	RIPRAP (STONE) (PROTECTION) (24 IN)	18	2.15	378	31
LINE 2A9	3	46.6	1.25	1,96	1.53	1.20	10,19	2.12	1.01	13.36	RIPRAP (STONE) (PROTECTION) (24 IN)	18	2.23	378	32
LINE 2BO	1.5	2.89	0.64	0.65	0.64	0.60	4.04	1.07	0.12	1.64	N/A				
LINE 2C1	1.5	2.73	0.59	0.63	0.59	0.60	4.19	1.05	0.12	1.56	RIPRAP (STONE) (PROTECTION) (12 IN)	6	0.41	83.25	2
LINE 2C3	1.5	4.19	0.56	0.78	0.57	0.60	6.85	1.03	0.21	2.82	RIPRAP (STONE) (PROTECTION) (12 IN)	6	0.75	83.25	3
LINE 2C5	1.5	5.2	0.73	0.88	0.73	0.60	6.10	1.11	0.26	3.40	RIPRAP (STONE) (PROTECTION) (12 IN)	6	0.90	83.25	3
LINE 2C9	1.5	5.94	0.83	0.94	0.84	0.60	5.87	1.17	0.29	3,81	RIPRAP (STONE) (PROTECTION) (12 IN)	6	1.01	83.25	4
LINE 3A1	1.5	5.58	0.72	0.91	0.74	0.60	6.44	1.11	0.28	3.74	RIPRAP (STONE) (PROTECTION) (12 IN)	6	0.99	83.25	4
LINE 3A3	1.5	7.69	0.91	1.07	0.93	0.60	6.72	1.21	0.39	5.14	RIPRAP(STONE)(PROTECTION)(12 IN)	7.5	1.28	99	5
LINE 3C3	1.5	0.85	0.29	0.34	0.29	0.60	3.54	0.90	0.03	0.41	N/A				
LINE 3DO	1.5	1.83	0.48	0.51	0.48	0.60	3.71	0.99	0.07	0.98	N/A				
LINE 3D2	1.5	1.83	0.48	0.51	0.48	0.60	3.71	0.99	0.07	0.98	N/A				
LINE 4A1	2	23.6	1.42	1.72	1.49	0.80	9.42	1.71	0.82	10.81	RIPRAP (STONE) (PROTECTION) (12 IN)	12	1.80	186	13
LINE 4C1	1.5	0.87	0.26	0.35	0.26	0.60	4.25	0.88	0.03	0.43	RIPRAP (STONE) (PROTECTION) (12 IN)	6	0.11	83.25	1
LINE 5A1	1.5	2.06	0.51	0.54	0.51	0.60	3.87	1.01	0.09	1.13	N/A				
LINE 5A3	1.5	5.41	0.54	0.90	0.57	0.60	8.87	1.02	0.30	4.03	RIPRAP (STONE) (PROTECTION) (12 IN)	6	1.07	83.25	4
LINE 5B1	1.5	12.9	0.94	1.35	0.98	0.60	10.55	1.22	0.77	10.10	RIPRAP (STONE) (PROTECTION) (12 IN)	9	1.68	114.75	8
LINE 5B3	4	95.1	0.97	2.00	1.21	1.60	19.59	2.49	1.59	21.02	N/A				
LINE 5C1	1.5	1.99	0.32	0.53	0.32	0.60	7.10	0.91	0.09	1.23	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.33	83.25	2
LINE 5C3	1.5	2.81	0.40	0.64	0.40	0.60	7.39	0.95	0.14	1.85	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.49	83.25	2
LINE 5C5	1.5	3.58	0.45	0.72	0.46	0.60	7.90	0.98	0.19	2.46	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.65	83.25	3
LINE 5D1	1.5	2.18	0.29	0.56	0.29	0.60	9.02	0.90	0.11	1.42	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.38	83.25	2
LINE 5D3	1.5	4. 29	0.71	0.79	1.50	0.60	2.42	1.50	0.13	1.76	N/A				
LINE 6C1	1.5	0.84	0.24	0.34	0.24	0.60	4.57	0.87	0.03	0.41	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.11	83.25	1
LINE 6C3	1.5	1.4	0.30	0.44	0.30	0.60	5.54	0.90	0.06	0.78	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.21	83.25	1
LINE 6C5	1.5	3.29	0.47	0.69	0.47	0.60	6.89	0.99	0.16	2.17	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.57	83.25	2
LINE 9A1	1.5	1.26	0.30	0.42	0.30	0.60	5.08	0.90	0.05	0.68	RIPRAP(STONE)(PROTECTION)(12 IN)	6	0.18	83.25	2
LINE 9A3	2	3.3	0.40	0.64	0.40	0.80	7.26	1.20	0.09	1.25	RIPRAP(STONE)(PROTECTION)(12 IN)	8	0.33	136	2
LINE 2C11	1.5	6.14	0.84	0.96	0.85	0.60	5.96	1.17	0.30	3.96	RIPRAP(STONE)(PROTECTION)(12 IN)	6	1.05	83.25	4
LINE 2C13	1.5	7.52	0.97	1.06	0.97	0.60	6.22	1.23	0.37	4.84	RIPRAP(STONE)(PROTECTION)(12 IN)	6	1.28	83.25	4
LINE 2C15	1.5	8.97	0.84	1.16	0.88	0.60	8.31	1.17	0.50	6.58	RIPRAP(STONE)(PROTECTION)(12 IN)	7.5	1.20	99	5
LINE 2C17	2	12.3	0.87	1.26	0.92	0.80	8.73	1.43	0.43	5.72	RIPRAP(STONE)(PROTECTION)(12 IN)	10	1.43	161	9

#### NOTES:

- 1. FOR SIMPLICITY, DETAIL ONLY SHOWS ONE BARREL. FOR MULTIPLE BARREL CULVERTS, THE RIPRAP APRON WIDTH SHALL BE ADJUSTED TO INCLUDE THE WIDTH OF ADDITIONAL BARRELS AND ANY SPACE BETWEEN THE ADDITIONAL SETS.
- WITH ENGINEER'S APPROVAL, THE LIMITS OF RIPRAP MAY BE ADJUSTED IN THE FIELD TO BETTER FIT ACTUAL FIELD CONDITIONS.
- 3. REFER TO TXDOT SPEC ITEM 432, "RIPRAP" FOR CONSTRUCTION AND PAYMENT DETAILS.

NO.	REVISION	BY	DATE





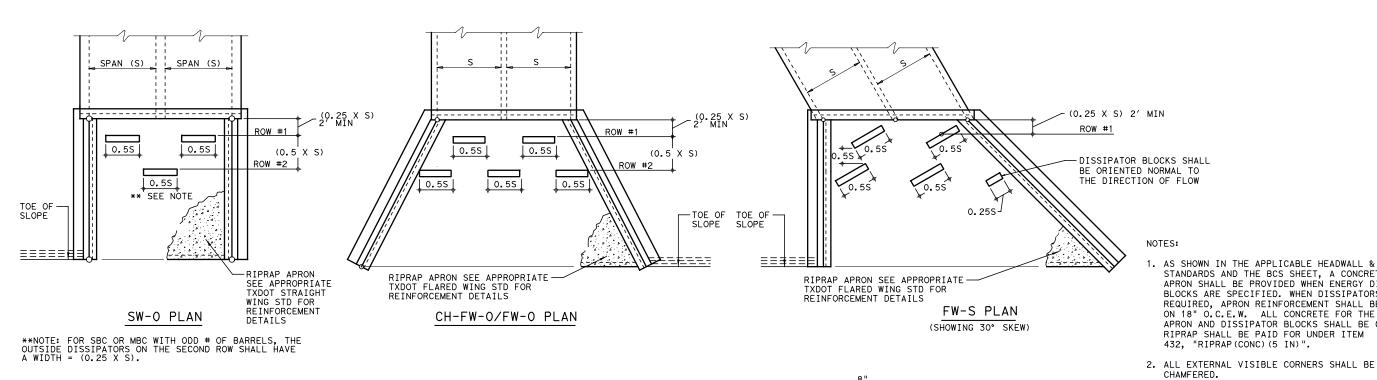


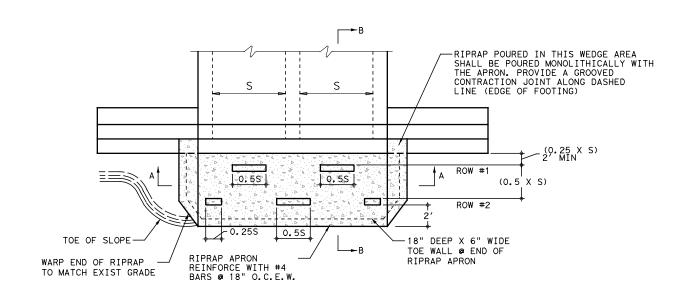
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

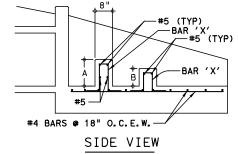
## CR 255 DRAINAGE DETAILS

#### DRIVEWAY CULVERT OUTLET PROTECTION

SHEET 3 OF 4									
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIGHWAY No.				
CHECKED:	Х	TEXAS		CR 255					
DRAWN:	STATE DISTRICT	COUNTY	CONTROL SECTION		JOB No.	SHEET No.			
CHECKED:	XX	XX	XX XX		XX	212			

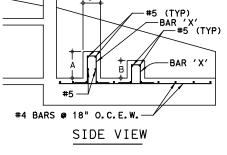






"A" IS EQUAL TO ONE-HALF THE STRUCTURE HEIGHT/PIPE DIAMETER, BUT NO HIGHER THAN 30".

"B" IS EQUAL TO ONE-THIRD THE STRUCTURE HEIGHT/PIPE DIAMETER, BUT NO HIGHER THAN 30".



**DEPARTMENT OF INFRASTRUCTURE** 

CLAY E. GANN

88491

AS SHOWN IN THE APPLICABLE HEADWALL & WINGWALL

STANDARDS AND THE BCS SHEET, A CONCRETE RIPRAP

APRON SHALL BE PROVIDED WHEN ENERGY DISSIPATION BLOCKS ARE SPECIFIED. WHEN DISSIPATORS ARE REQUIRED, APRON REINFORCEMENT SHALL BE #4 BARS

APRON AND DISSIPATOR BLOCKS SHALL BE CLASS "C".

ON 18" O.C.E.W. ALL CONCRETE FOR THE RIPRAP

RIPRAP SHALL BE PAID FOR UNDER ITEM

3. ROW #1 ENERGY DISSIPATORS SHALL BE LOCATED AT MID-SPAN. ROW #2 ENERGY DISSIPATORS

4. REFER TO TXDOT SPEC 432, "RIPRAP" FOR REBAR CLEARANCE REQUIREMENTS.

REVISION

432, "RIPRAP(CONC)(5 IN)".

SHALL STRADDLE ROW #1.

NO.





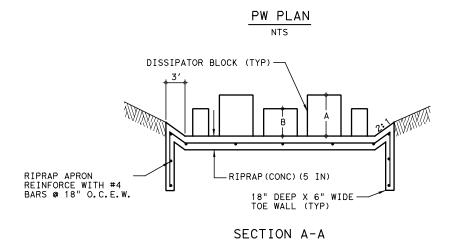
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

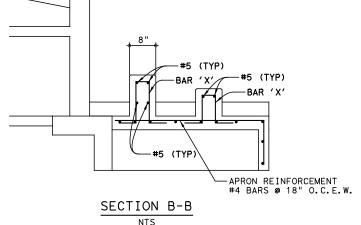
7/10/2024

CR 255 DRAINAGE DETAILS

**ENERGY DISSIPATORS** 

	SHEET 4 OF 4										
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	FEDERAL AID PROJECT No.							
CHECKED:	Х	TEXAS			CF	₹ 255					
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.					
CHECKED:	XX	XX	XX	XX	XX	213					





#5 BAR A OR B PLACE BARS @ 12" MAX SPACING 2 BARS MIN PER BAR 'X' DETAIL

					VFS		
BMP ID	COUNTY	AVERAGE ANNUAL PRECIPITATION	TOTAL AREA	IMPERVIOUS COVER	BMP EFFICIENCY	TSS LOAD REMOVED	TOTAL TS LOAD REMOVED
		Р	Α	Α		L	L
			ACRES	ACRES	%	LBS	LBS
VFS-1	WILLIAMSON	32	0.61	0.61	85	574	574
VFS-2	WILLIAMSON	32	0.20	0.20	85	188	188
VFS-3	WILLIAMSON	32	0.24	0.24	85	226	226
VFS-4	WILLIAMSON	32	0.36	0.36	85	339	339
VFS-5	WILLIAMSON	32	0.03	0.03	85	28	28
VFS-6	WILLIAMSON	32	0.37	0.37	85	348	348
VFS-7	WILLIAMSON	32	0.15	0.15	85	141	141
VFS-8	WILLIAMSON	32	0.15	0.15	85	141	141
VFS-9	WILLIAMSON	32	0.12	0.12	85	113	113
VFS-10	WILLIAMSON	32	0.19	0.19	85	179	179
VFS-11	WILLIAMSON	32	0.61	0.61	85	574	574
VFS-12	WILLIAMSON	32	0.12	0.12	85	113	113
VFS-13	WILLIAMSON	32	0.04	0.04	85	38	38
VFS-14	WILLIAMSON	32	0.13	0.13	85	122	122
VFS-15	WILLIAMSON	32	0.06	0.06	85	56	56
VFS-16	WILLIAMSON	32	0.20	0.20	85	188	188
VFS-17	WILLIAMSON	32	0.18	0.18	85	169	169
VFS-18	WILLIAMSON	32	0.28	0.28	85	264	264
VFS-19	WILLIAMSON	32	0.13	0.13	85	122	122
VFS-20	WILLIAMSON	32	0.07	0.07	85	66	66
VFS-21	WILLIAMSON	32	0.12	0.12	85	113	113
VFS-22	WILLIAMSON	32	0.32	0.32	85	301	301
VFS-23	WILLIAMSON	32	0.41	0.41	85	386	386
VFS-24	WILLIAMSON	32	0.43	0.43	85	405	405
VFS-25	WILLIAMSON	32	0.20	0.20	85	188	188
VFS-26	WILLIAMSON	32	0.50	0.50	85	471	471
AL.	•		•	•	•	•	5,854

THE FOLLOWING TCEQ REQUIREMENTS (FORM TCEQ-0592A, REV. 7/15/15) ARE APPLICABLE TO ALL WORK THAT DISTURBS 5 OR MORE ACRES IN THE CONTRIBUTING ZONE OF THE EDWARDS AQUIFER IN HAYS, TRAVIS AND/OR WILLIAMSON COUNTIES AND MUST BE ADHERED TO BY THE CONTRACTOR AND ALL SUBCONTRACTORS:

- 1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY GROUND DISTURBANCE OR CONSTRUCTION ACTIVITIES. THIS NOTICE MUST INCLUDE:

   THE NAME OF THE APPROVED PROJECT;
   THE ACTIVITY START DATE; AND
   THE ACTIVITY START DATE; AND

  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ON-SITE.
- 3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
- 4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- 5. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
- 6. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- 7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
- 8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.
- 9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOILSTABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
- 10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:

  - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
     THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
     THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
- 11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
  - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES (BMPS) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND

#### TCEQ REGIONAL OFFICE

Austin Regional Office 12100 Park 35 Circle Bldg A, Room 179 Austin, Texas 78753 Phone: (512) 339-2929 Fax: (512) 339-3795

NO.	REVISION	BY	DATE







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

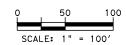
COMPUTATIONS & GENERAL NOTES

SCALE: 1" = 100 SCALE: 1" = 10'

SHEET 1 OF

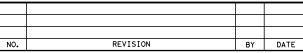
STATE | FEDERAL AID PROJECT No. | HIGHWAY No ESIGNED: CR 255 TEXAS HECKED: JOB SHEET COUNTY XX XX XX XX XX 214





• • • • • • • • • • • • • • • • • • • •	DITCH FLOWLINE
	EXIST CONTOUR
	EXIST ROW
	PROP ROW/PROJECT SITE
	ENGINEERED VEGETATIVE FILTER STRIPS
	LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

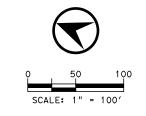
## CR 255 WATER QUALITY SITE PLAN

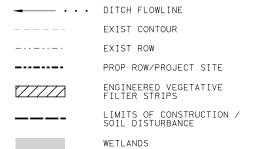
BEGIN TO STA 20+00

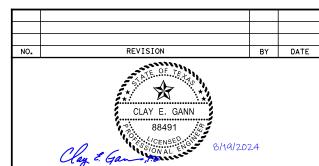
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DE	SIGNED:		FED. RD DIV. No.	STATE

		SHE		OF 10
TATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
XAS			CF	R 255
UNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
XX	XX	XX	XX	215

BM	ıΡ	ΙD	BMP	TYPE	TOTAL	<b>IMPERVIOUS</b>	AREA	TSS	LOAD	REMOVED	
						Ibs					
V	VFS-1 VFS			FS	0.61				574		
V	FS	-2	>	FS	0.2			188			
٧	FS:	-3	٧	FS	0.24		0.24		22	:6	









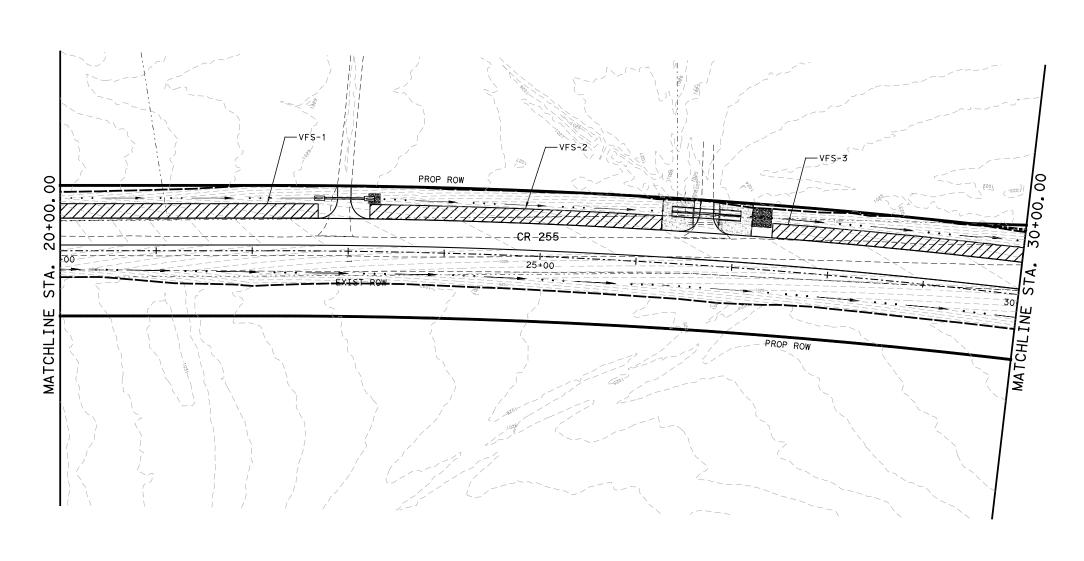


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

STA 20+00 TO 30+00

SCALE: 1" = 100' SCALE: 1" = 10' SHEET 2 OF 18								
IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.				
CKED:	Х	TEXAS		CF	₹ 255			
VN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.		
OKED.	YY	YY	VV	VV	~~	216		







· · · DITCH FLOWLINE EXIST CONTOUR EXIST ROW

> PROP ROW/PROJECT SITE ENGINEERED VEGETATIVE FILTER STRIPS

> > LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS

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400 400 400 400 400 400 400 400 400 400	
MATCHL IN	
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CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

TEXAS

COUNTY

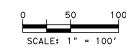
STA 30+00 TO 40+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

STATE FEDERAL AID PROJECT No. CR 255 SECTION JOB SHEET No. No. No. No.

BMP ID BMP TYPE TOTAL IMPERVIOUS AREA TSS LOAD REMOVED





DITCH FLOWLINE

----EXIST CONTOUR

EXIST ROW

PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE
FILTER STRIPS

LIMITS OF CONSTRUCTION /
SOIL DISTURBANCE

WETLANDS

NO.	REVISION	BY	DATE
	OF TAIL		







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

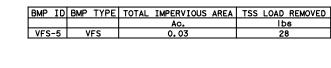
CR 255

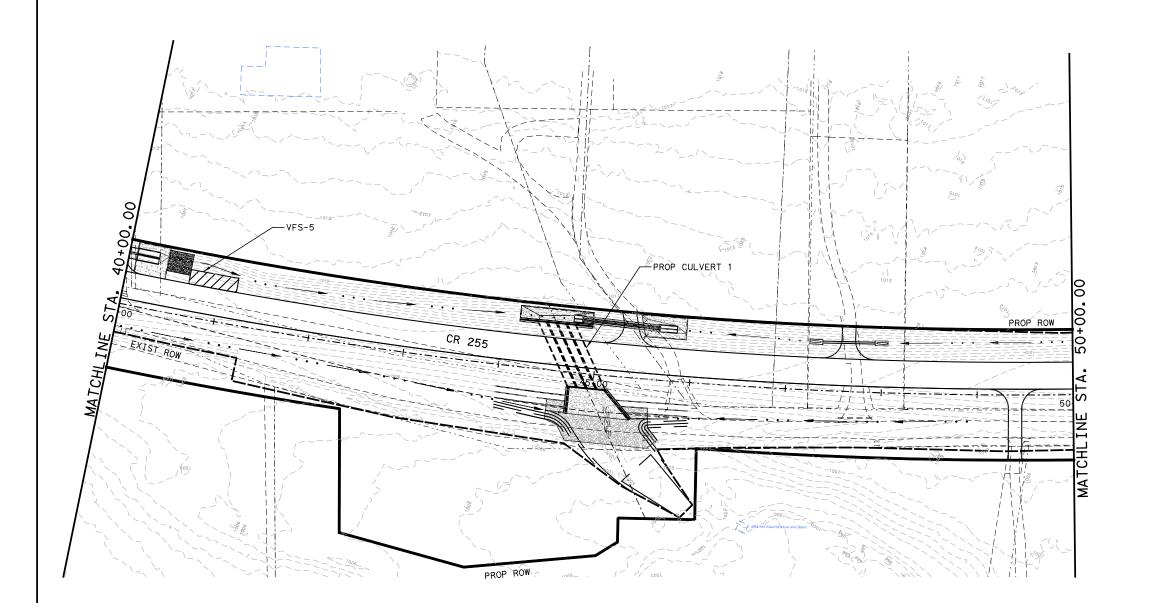
WATER QUALITY SITE PLAN
STA 40+00 TO 50+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

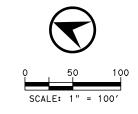
SHEET 4 OF 18

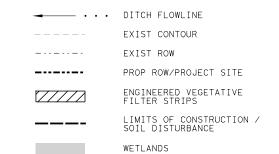
IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
CKED:	Х	TEXAS		CR 255		
WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	218

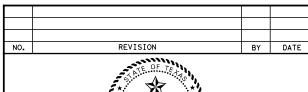




BMP ID	BMP TYPE	TOTAL IMPERVIOUS AREA	TSS LOAD REMOVED
		Ac.	Ibs
VFS-6	VFS	0.368	346
VFS-7 VFS		0.15	141













CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

STA 50+00 TO 60+00

SCALE:	1 ''	=	100'		
SCALE:	1 "	=	10'		
		f	ED. RD	П	

CHECKED:

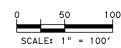
Χ

		SHE	ET 5	OF 18
STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
TEXAS			CF	R 255
COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
XX	XX	XX	XX	219

00 <b>0</b> 0	VFS-6	VFS-7	
WATCHLINE STA.	CR 255	DOS EXIST ROW TOSE TOSE	MATCHLINE STA. 60+0

ВМР	ID	BMP	TYPE	TOTAL	IMPERVIOUS	AREA	TSS	LOAD	REMOVED
					Ac.			Ιb	8
VFS-7 VFS		'FS	0.15			141			
VFS-8 VFS		0.15			1 4 1				
VFS-9 VFS		0.12		113		3			
VES-	-10	_	FS		0.19			17	<u> </u>





EXIST CONTOUR EXIST ROW PROP ROW/PROJECT SITE ENGINEERED VEGETATIVE FILTER STRIPS LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS

· · DITCH FLOWLINE

NO. REVISION BY DATE





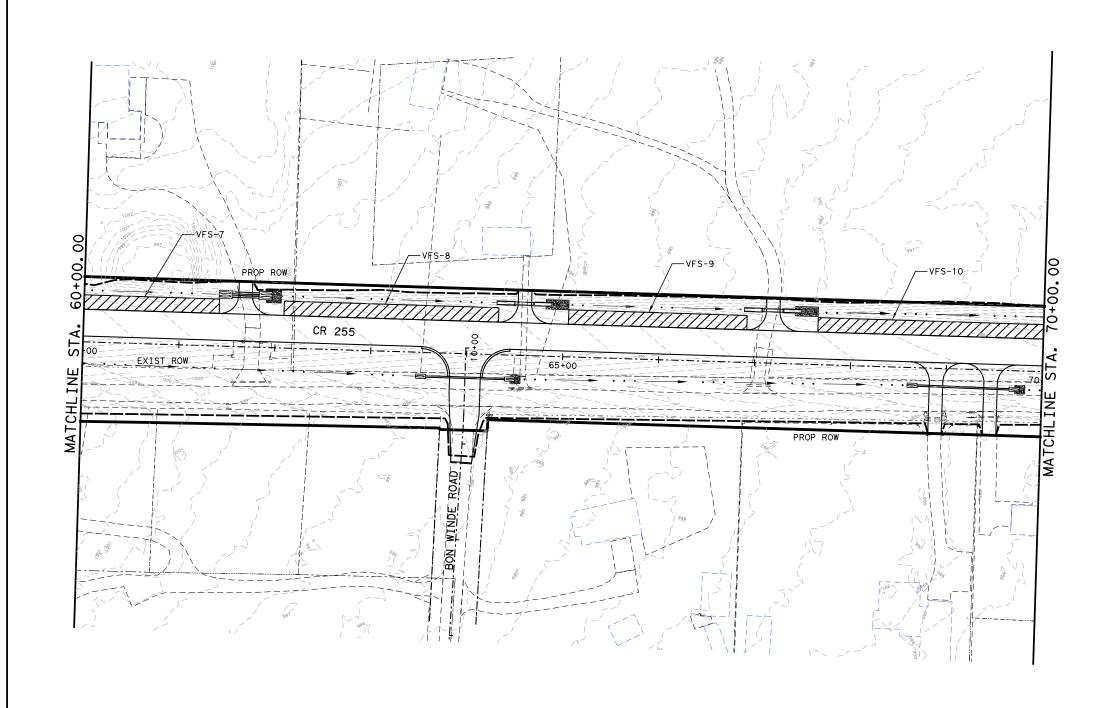
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

INFRASTRUCTURE

## CR 255 WATER QUALITY SITE PLAN

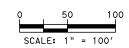
STA 60+00 TO 70+00

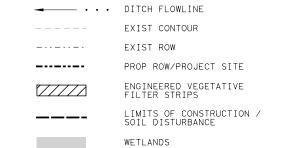
SCALE: 1	ET 6	OF 18				
IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
CKED:	X	TEXAS		CF	R 255	
WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	220

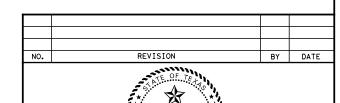


BMP ID	BMP TYPE	TOTAL IMPERVIOUS AREA	TSS LOAD REMOVED		
		Ac.	lbs		
VFS-10	VFS	0.19	179		
VFS-11	VFS	0.61	574		











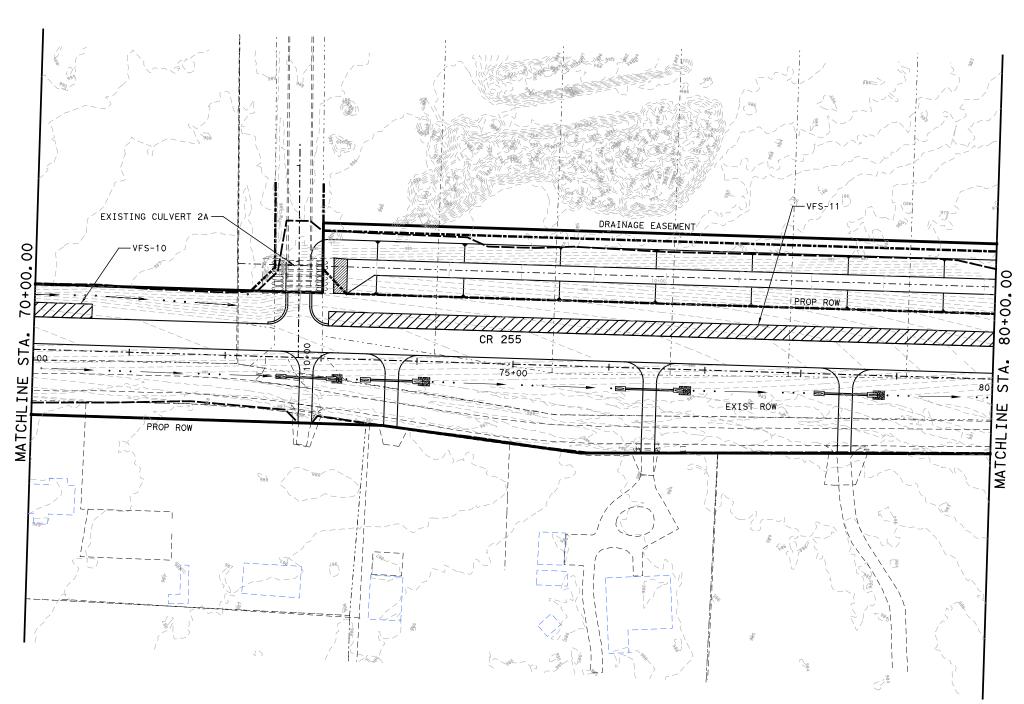


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

STA 70+00 TO 80+00

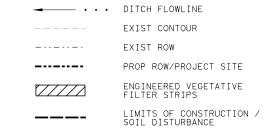
H SCALE: 1 V SCALE: 1				SHE	ET 7	OF 18
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID PROJECT No. HIGHW			HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	221



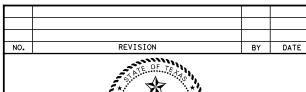
BMP I	D BMP TYPE	TOTAL IMPERVIOUS AREA	TSS LOAD REMOVED
		Ac.	lbs
VFS-1	1 VFS	0.61	574
VFS-1	2 VFS	0.124	117
VFS-1	3 VFS	0.04	38







WETLANDS







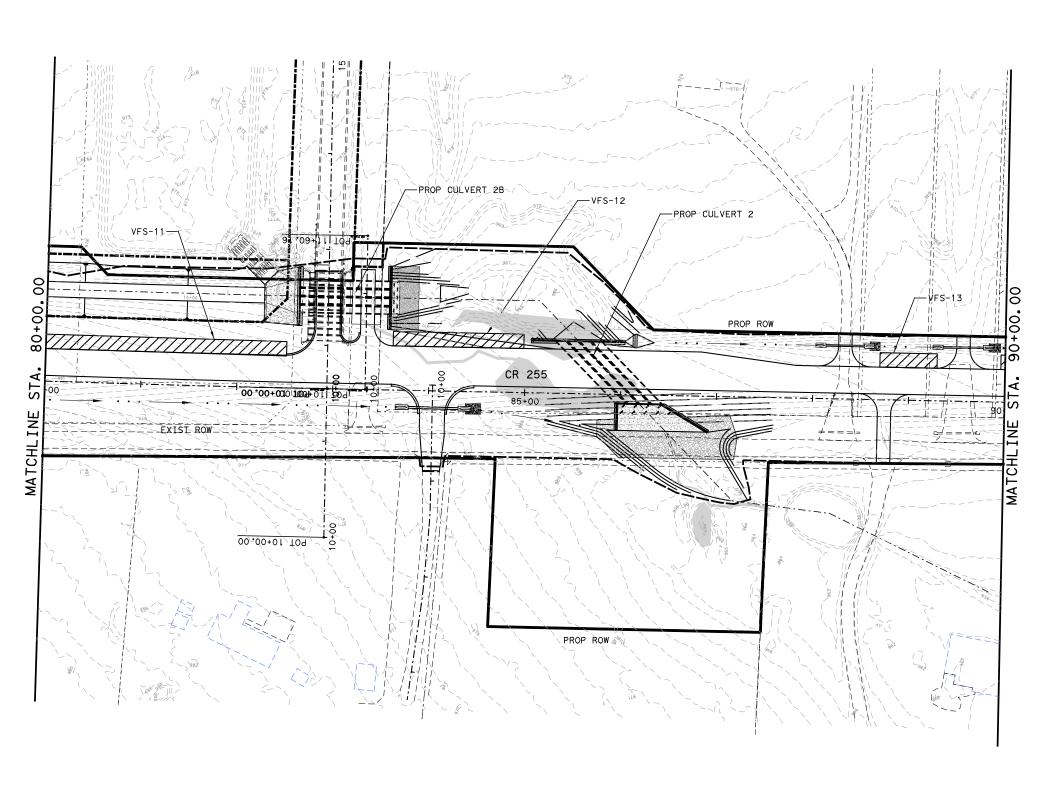


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

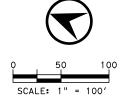
## CR 255 WATER QUALITY SITE PLAN

STA 80+00 TO 90+00

SCALE: 1	" = 100′					
SCALE: 1	" = 10'			SHE	ET 8	OF 18
SIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
01011201	D11. NO.					
ECKED:	Х	TEXAS			CF	₹ 255
AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
		VV	VV	VV	VV	222



ВМР	ΙD	ВМР	TYPE	TOTAL	IMPERVIOUS	AREA	TSS	LOAD	REMOVED
					Ac.			Ιb	6
VFS-	-14	٧	FS		0.13			12	2
VFS-	-15	٧	FS		0.056			5	3



- · · · DITCH FLOWLINE EXIST CONTOUR EXIST ROW PROP ROW/PROJECT SITE ENGINEERED VEGETATIVE FILTER STRIPS LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS

NO. REVISION BY DATE

CLAY E. GANN





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## CR 255 WATER QUALITY SITE PLAN

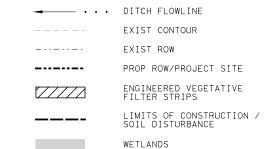
STA 90+00 TO 100+00

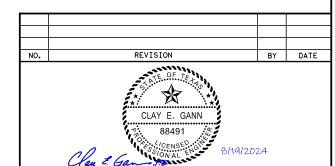
H SCALE: 1 V SCALE: 1				SHE	ET 9	OF 18
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	X	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	223

				200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
VFS-14	PROP CULVERT 3	PROP	CR 255	
	PROP ROW	95+00	985	
656	9550	962	961 949 948 948	











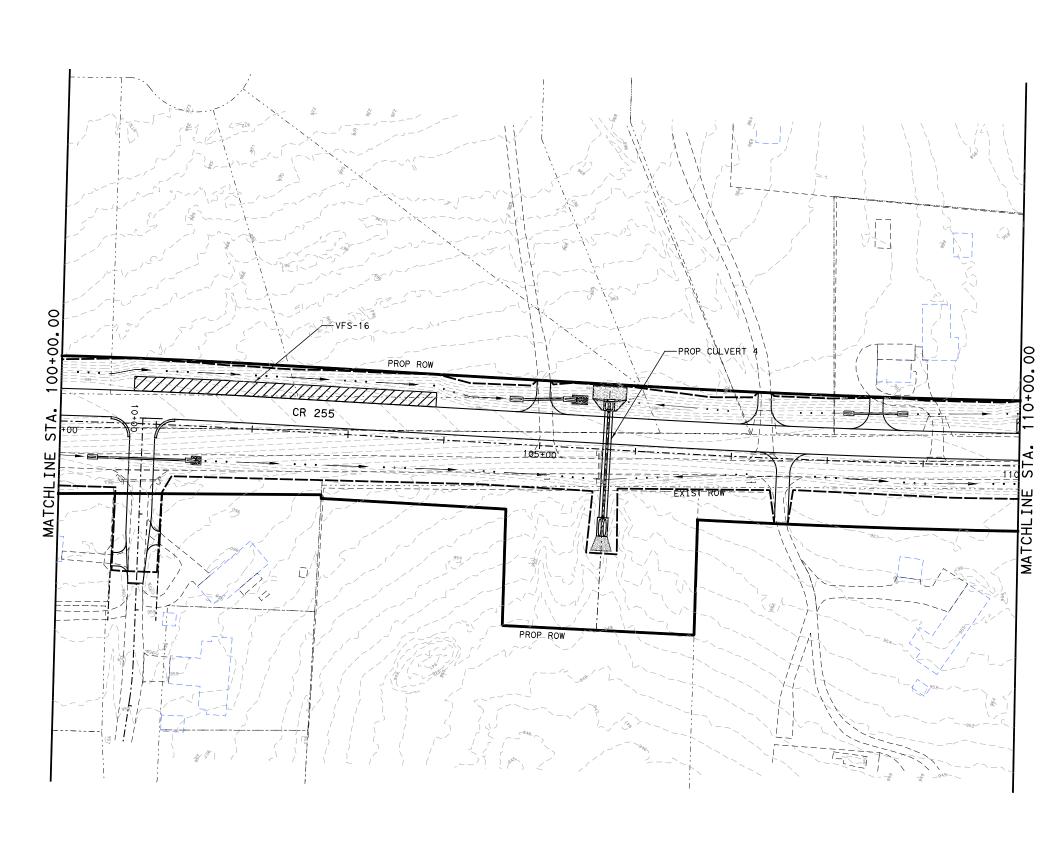


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## CR 255 WATER QUALITY SITE PLAN

STA 100+00 TO 110+00

H SCALE: 1'V SCALE: 1				SHEE	T 10	OF 18
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	X	TEXAS			CF	R 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	224



| BMP ID | BMP TYPE | TOTAL IMPERVIOUS AREA | TSS LOAD REMOVED | Ac. | Ibs | VFS | O.2 | 188 |





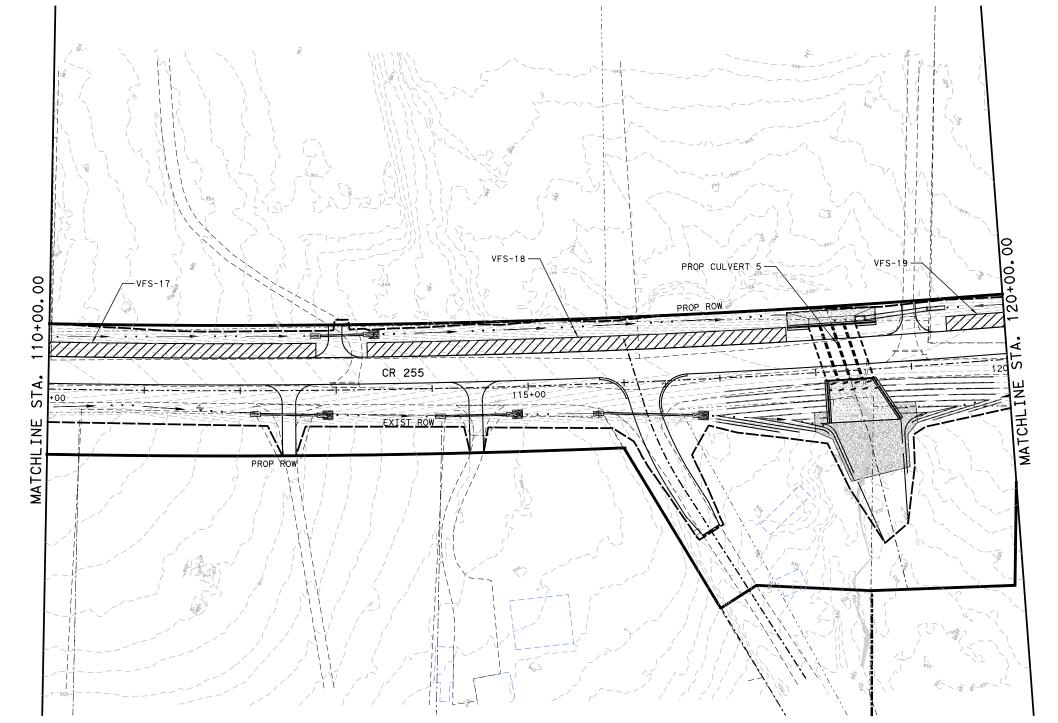
· · DITCH FLOWLINE EXIST CONTOUR

EXIST ROW PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE FILTER STRIPS

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

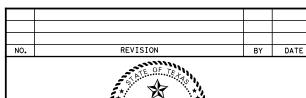
WETLANDS



BMP ID BMP TYPE TOTAL IMPERVIOUS AREA TSS LOAD REMOVED

VFS-17 VFS VFS-18 VFS VFS-19 VFS

169 264 122



CLAY E. GANN





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## CR 255 WATER QUALITY SITE PLAN

STA 110+00 TO 120+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 11 OF 18

STATE FEDERAL AID PROJECT No. CR 255 TEXAS SECTION JOB SHEET No. No. No. No. COUNTY





DITCH FLOWLINE

----EXIST CONTOUR

EXIST ROW

ENGINEERED VEGETATIVE FILTER STRIPS

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

PROP ROW/PROJECT SITE

WETLANDS

NO. REVISION BY DATE

CLAY E. GANN





CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

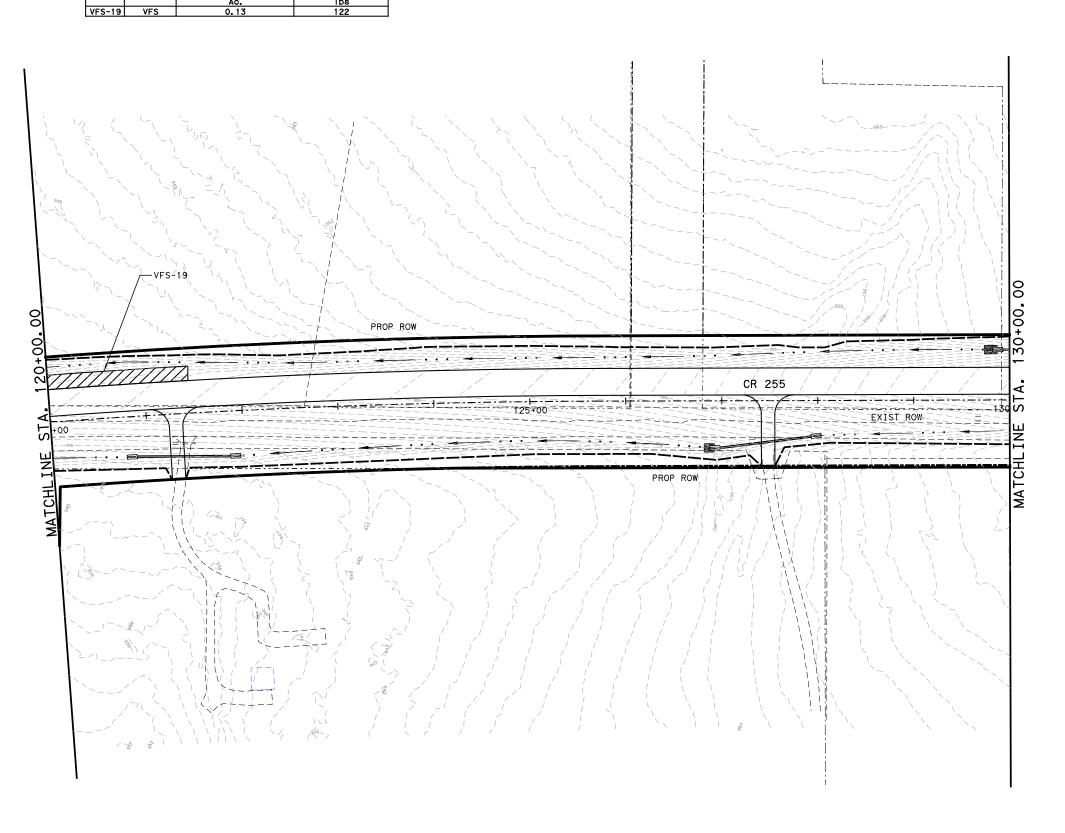
STA 120+00 TO 130+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 12 OF 18

DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID PROJECT No.		HIGHWAY No.	
CHECKED:	X	TEXAS			CF	R 255
RAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	226

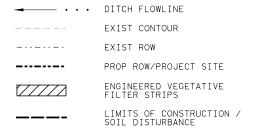
| BMP ID | BMP TYPE | TOTAL IMPERVIOUS AREA | TSS LOAD REMOVED | Ac. | Ibs | VFS | VFS | 0.13 | 122 |



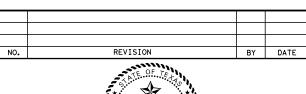
En. - Oraybanii FE: 81/92024 - 3:25:33 PM RIPT: S:08\_Project/Si22011\_CR255/99 - Project Standards/CR255\_jplot, FE: - cristir/elv.crann/hms/1957/RP55, W/O 17 Ann







WETLANDS



CLAY E. GANN





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CR 255 WATER QUALITY SITE PLAN

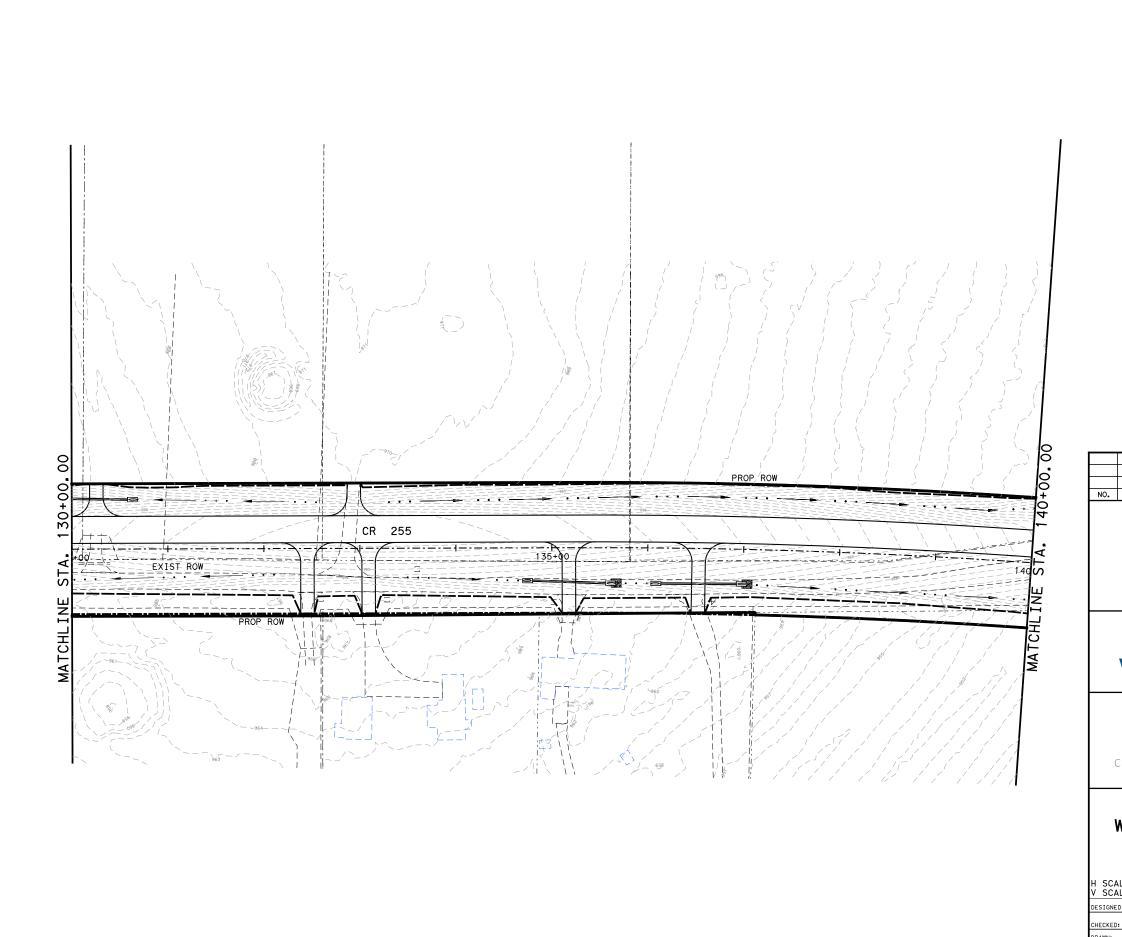
STA 130+00 TO 140+00

TEXAS

COUNTY XX

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 13 OF 18 STATE FEDERAL AID PROJECT No. HIGHWAY NO. CR 255 SECTION JOB SHEET No. No. No. No.







DITCH FLOWLINE

---EXIST CONTOUR

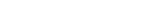
EXIST ROW

PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE FILTER STRIPS

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS



NO. REVISION BY DATE





CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

## CR 255 WATER QUALITY SITE PLAN

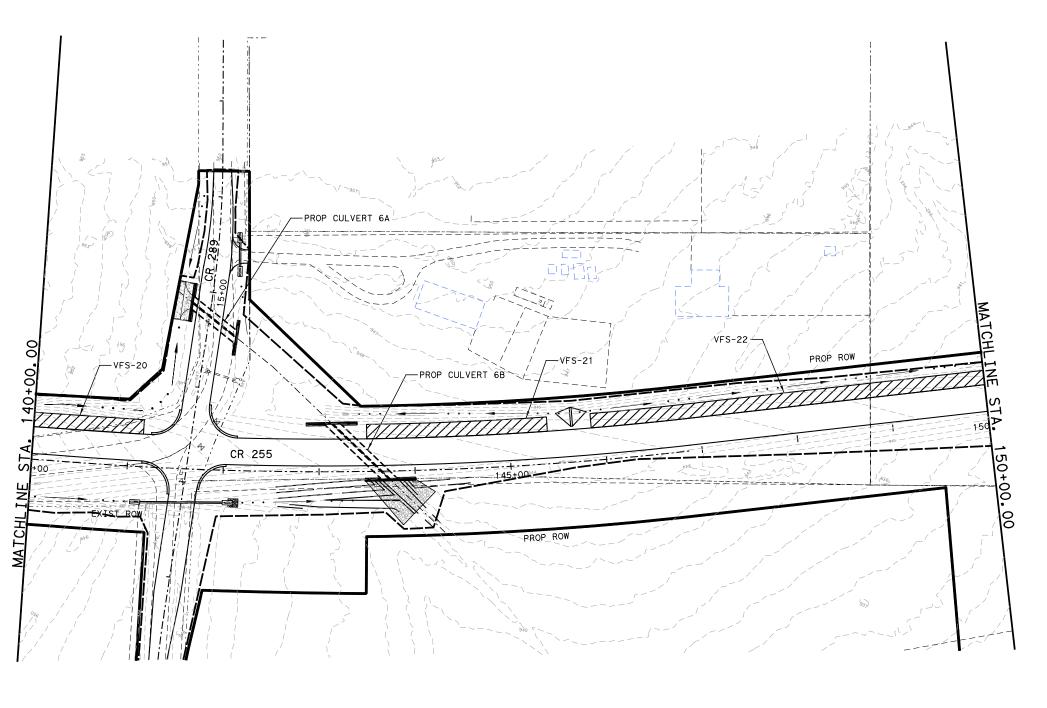
STA 140+00 TO 150+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 14 OF 18

IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.	
CKED:	X	TEXAS			CF	₹ 255	
.WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CKED:	XX	XX	XX	XX	XX	228	

BMP ID	BMP TYPE	TOTAL IMPERVIOUS AREA	TSS LOAD REMOVE
		Ac.	lbs
VFS-20	VFS	0.07	66
VFS-21	VFS	0.12	113
VFS-22	VFS	0.315	296







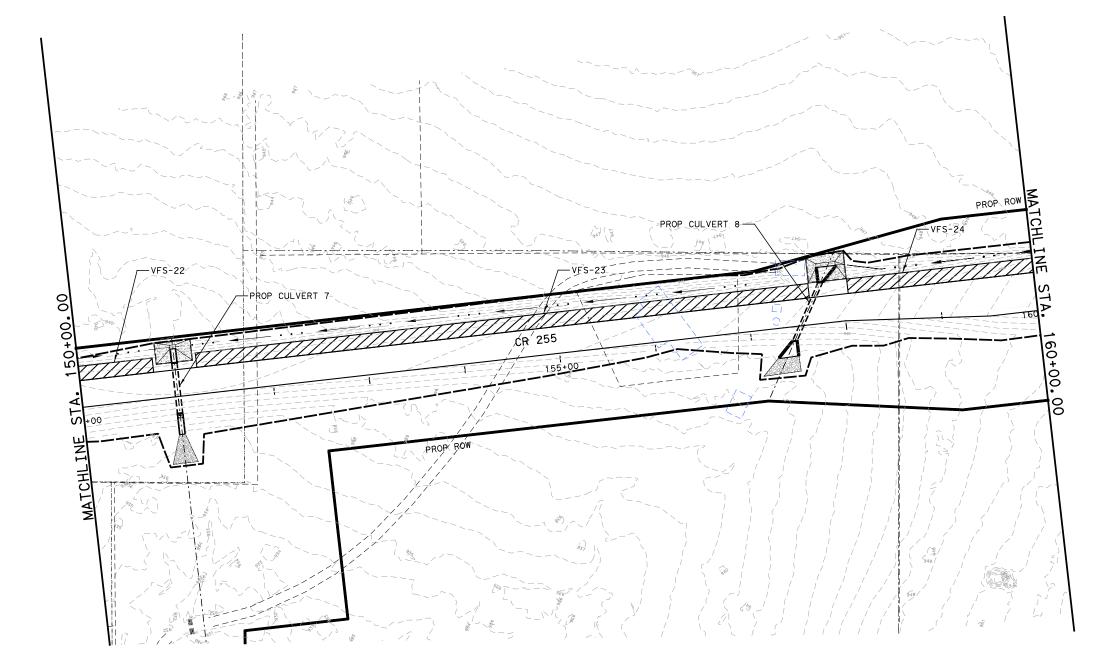
----- EXIST CONTOUR
----- EXIST ROW

PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE FILTER STRIPS

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS



BMP ID BMP TYPE TOTAL IMPERVIOUS AREA TSS LOAD REMOVED







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

INFRASTRUCTURE

## CR 255 WATER QUALITY SITE PLAN

STA 150+00 TO 160+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 15 OF 18





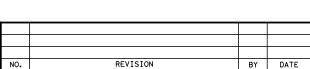
· · DITCH FLOWLINE

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS



EXIST CONTOUR EXIST ROW PROP ROW/PROJECT SITE ENGINEERED VEGETATIVE FILTER STRIPS 









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

#### CR 255 WATER QUALITY SITE PLAN

STA 160+00 TO END

H SCALE: 1" = 100' V SCALE: 1" = 10'

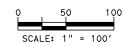
SHEET 16 OF 18

STATE FEDERAL AID PROJECT No. TEXAS CR 255 STATE DISTRICT XX SECTION JOB SHEET No. No. No. XX XX 230 COUNTY XX



BMP	ID	BMP	TYPE	TOTAL	IMPERVIOUS	AREA	TSS	LOAD	REMOVED
					Ac.			Ιb	8
VFS	-26	٧	FS		0.497			46	8





#### <u>LEGEND</u>

· · DITCH FLOWLINE EXIST CONTOUR

EXIST ROW

PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE FILTER STRIPS 

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS

NO.	REVISION	BY	DATE
	CIAY F GANN	·	





CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

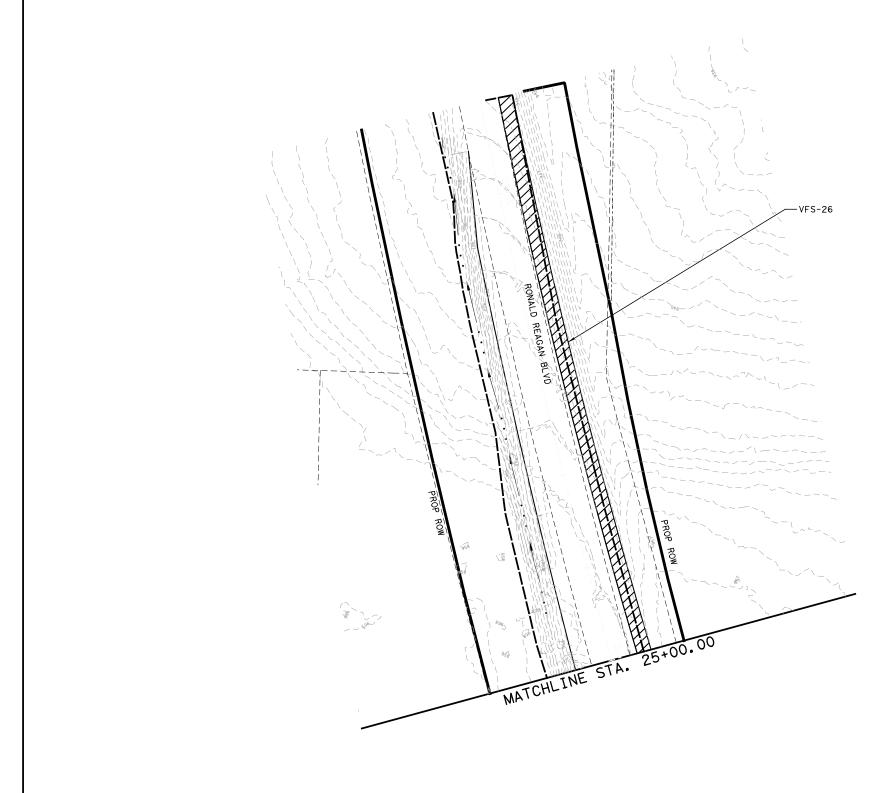
### CR 255 WATER QUALITY SITE PLAN

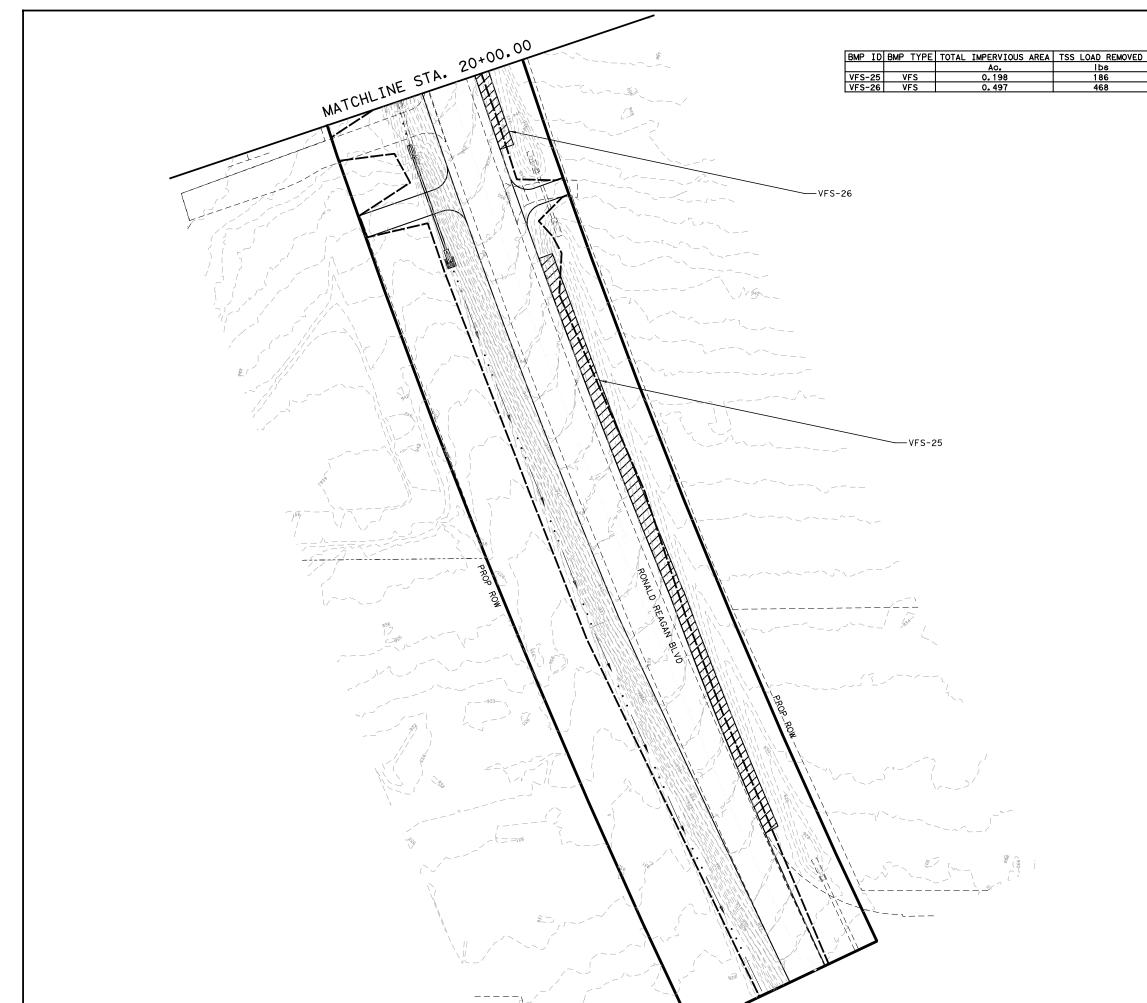
RONALD REAGAN STA 25+00 TO END

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 17 OF 18

DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
CHECKED:	X	TEXAS		CF	₹ 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	231









#### <u>LEGEND</u>

---- • • DITCH FLOWLINE

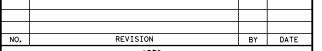
----- EXIST CONTOUR ----- EXIST ROW

PROP ROW/PROJECT SITE

ENGINEERED VEGETATIVE FILTER STRIPS

LIMITS OF CONSTRUCTION / SOIL DISTURBANCE

WETLANDS







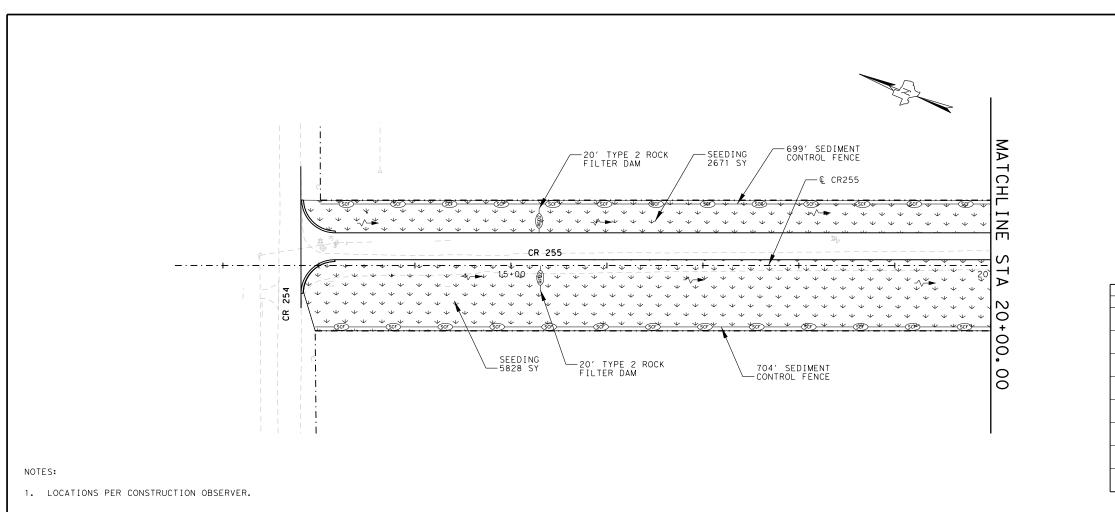
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

#### CR 255 WATER QUALITY SITE PLAN

RONALD REAGAN STA 10+00 TO 20+00

H SCALE: 1" = 100' V SCALE: 1" = 10'

SHEET 18 OF 1



SCALE: 1" = 100'

LEGEND OUTFALL DIRECTION

FLOW DIRECTION

ROCK FILTER DAM TY 2

ROCK FILTER DAM TY 3

SEDIMENT CONTROL FENCE

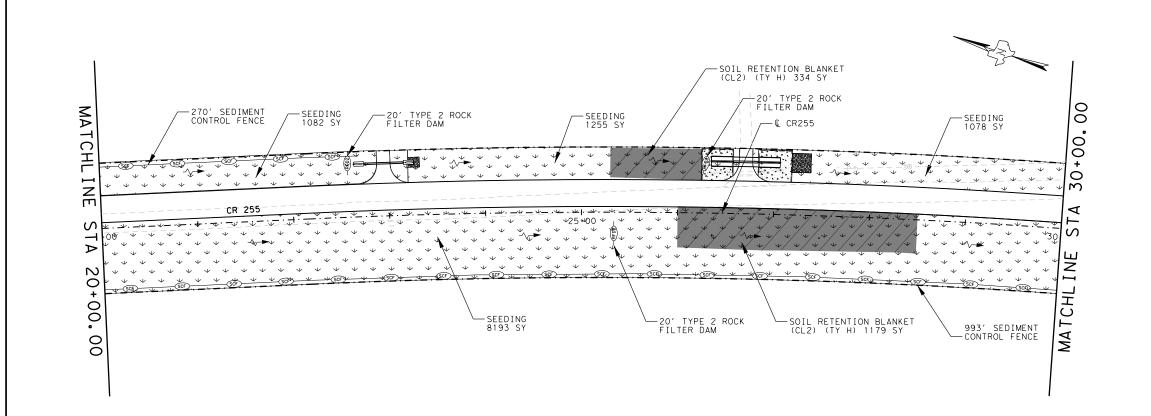
ROCK CONSTRUCTION EXIT

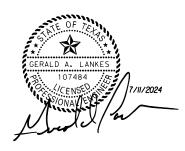
SEEDING

SOIL RETENTION BLANKETS (CL1) (TYP A)

SOIL RETENTION BLANKETS (CL2) (TYP H)

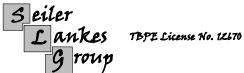
SWP3 QUANTITIES									
SYM	ITEM	DESCRIPTION	UNIT	QTY					
+ + +	164-WC05	SEEDING	SY	20107					
	169-6001	SOIL RETENTION BLANKETS (CL1)(TYP A)	SY						
///	169-6008	SOIL RETENTION BLANKETS (CL2)(TYP H)	SY	1513					
—(FD-2)—	506-6002	ROCK FILTER DAMS(INSTALL)(TY2)	LF	100					
—(FD-3)—	506-6003	ROCK FILTER DAMS(INSTALL)(TY3)	LF						
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	100					
—SCF—	506-6038	TEMP SEDMT CONT FENCE(INSTALL)	LF	2666					
_	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	2666					







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



PLANNING . ENGINEERING . CONSTRUCTION

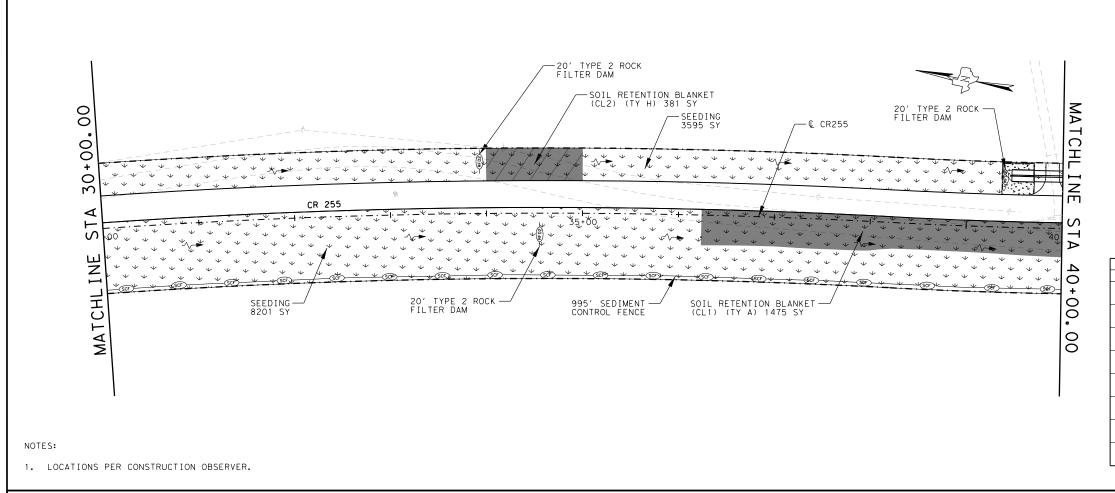
CR 255

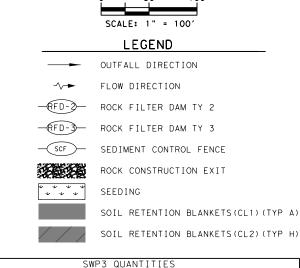
SWP3 BEGIN TO STA 30+00

SHEET 1 OF 8

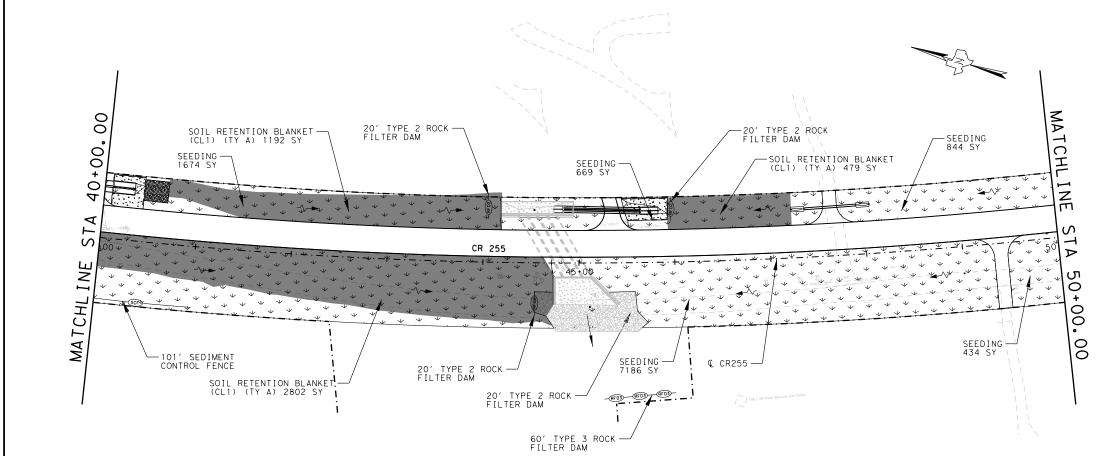
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID PROJECT No.	HIGHWAY No.		
CHECKED:	D17. NO.	TEXAS		CR 255		
DRAWN:	COUNTY				SHEET No.	
CHECKED:	WILLIAMSON				302	

ocuments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Miscellaneous/CR255\_tiplut.pen ocuments/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Plan\_Set/09- Environmental/CR255\_ENV\_01





		SWP3 QUANTITIES		
SYM	ITEM	DESCRIPTION	UNIT	QTY
* * * * *	164-WC05	SEEDING	SY	22603
	169-6001	SOIL RETENTION BLANKETS (CL1)(TYP A)	SY	5948
///	169-6008	SOIL RETENTION BLANKETS (CL2)(TYP H)	SY	381
—(RFD-2)—	506-6002	ROCK FILTER DAMS(INSTALL)(TY2)	LF	140
—(FD-3)—	506-6003	ROCK FILTER DAMS(INSTALL)(TY3)	LF	60
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	200
—SCF—	506-6038	TEMP SEDMT CONT FENCE(INSTALL)	LF	1096
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	1096







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



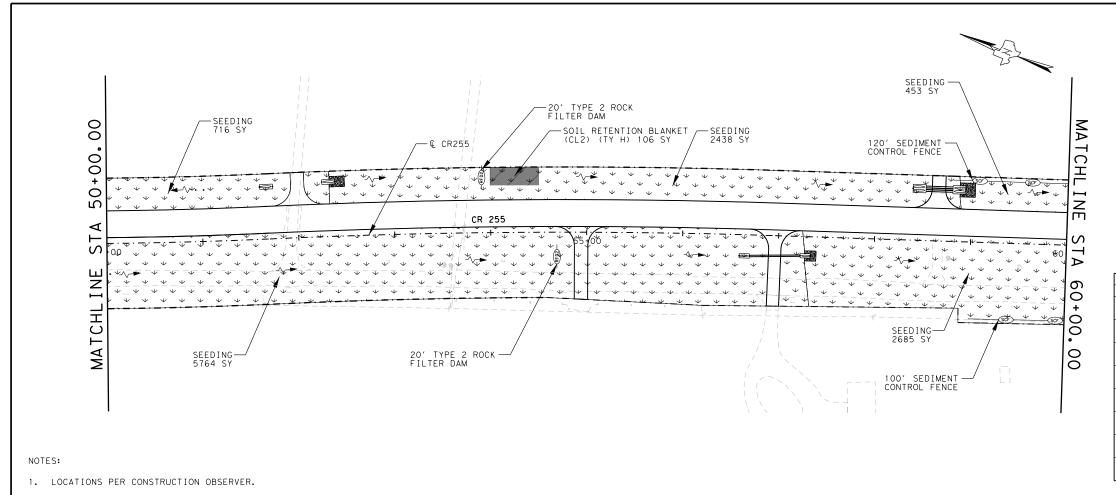
PLANNING . ENGINEERING . CONSTRUCTION

CR 255

SWP3

STA 30+00 TO STA 50+00

						SHE	ET 2	2 OF 8	
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL	AID	PROJECT	No.	HIG	HWAY No.	
CHECKED:		TEXAS					CR	255	
DRAWN:		COUNTY					JOB No.	SHEET No.	
CHECKED:		WILL	IAMSON					303	



SCALE: 1" = 100'

LEGEND

OUTFALL DIRECTION

FLOW DIRECTION

ROCK FILTER DAM TY 2

ROCK FILTER DAM TY 3

SCF

SEDIMENT CONTROL FENCE

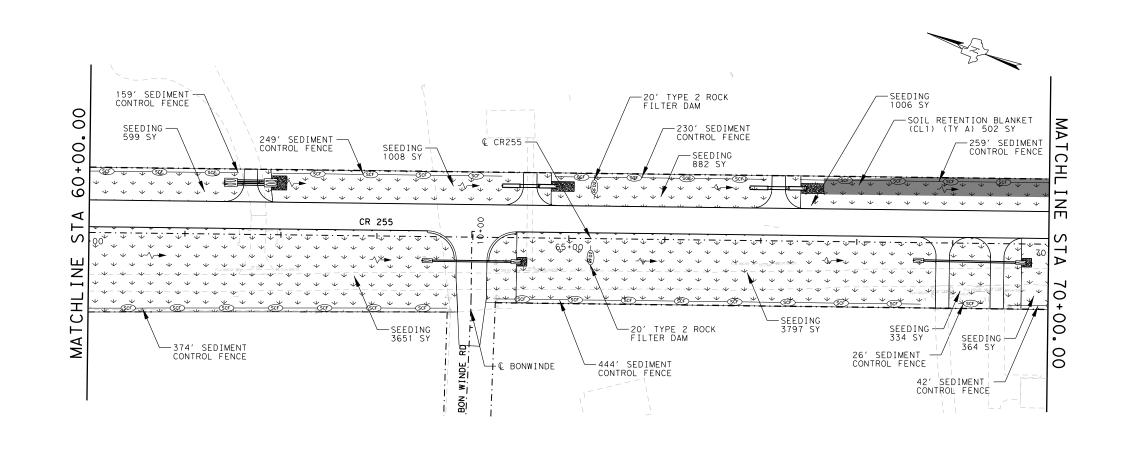
ROCK CONSTRUCTION EXIT

SEEDING

SOIL RETENTION BLANKETS (CL1) (TYP A)

SOIL RETENTION BLANKETS (CL2) (TYP H)

		SWP3 QUANTITIES		
SYM	ITEM	DESCRIPTION	UNIT	QTY
+ + +	164-WC05	SEEDING	SY	23697
	169-6001	SOIL RETENTION BLANKETS (CL1)(TYP A)	SY	502
	169-6008	SOIL RETENTION BLANKETS (CL2)(TYP H)	SY	106
-RFD-2-	506-6002	ROCK FILTER DAMS(INSTALL)(TY2)	LF	80
-RFD-3-	506-6003	ROCK FILTER DAMS(INSTALL)(TY3)	LF	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	80
—SCF	506-6038	TEMP SEDMT CONT FENCE(INSTALL)	LF	2003
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	2003







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



Lankes TBPE License No. 12670

PLANNING • ENGINEERING • CONSTRUCTION

CR 255

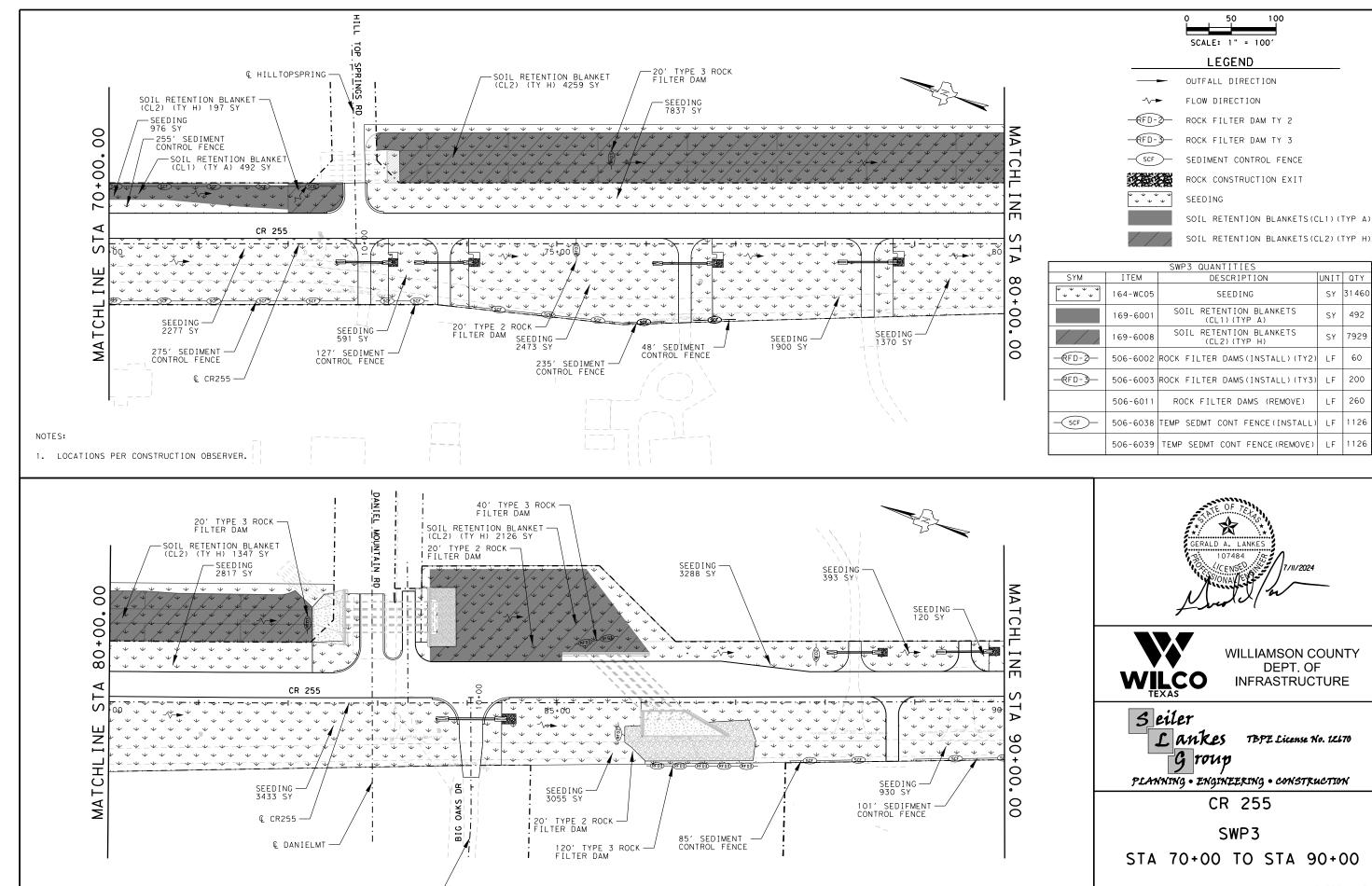
SWP3

STA 50+00 TO STA 70+00

	SHE	EΤ	3	OF	8
JECT	No.	Н	IGH	NAY	No.

DESIGNED:	DIV. No.   STATE   FEDERAL AID PROJECT No.			HIG	HWAT NO.
CHECKED:	D17. NO.	TEXAS		CR	255
DRAWN:		JOB No.	SHEET No.		
CHECKED:			304		

DATE: 1/11/2024 8:22 SCRIPT: pw/lsenver.skj-eng.com/38j-ds/Documents/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Miscallaneous/CR255\_iplot.pen FILE: pw/lsenver.skj-eng.com/38j-ds/Documents/WILC0302-CR255\_CR289/Design\_Data/4 - Design/Bran\_Set/09. Environmental/CR255\_ENV



€ BIGOAKS-

UNIT QTY

SY

SY 7929

STATE FEDERAL AID PROJECT No. HIGHWAY No.

CR 255

JOB SHEET No. 305

FED. RD DIV. No.

TEXAS

COUNTY WILLIAMSON

DESIGNED:

HECKED:

SY 31460

492

60

200

260

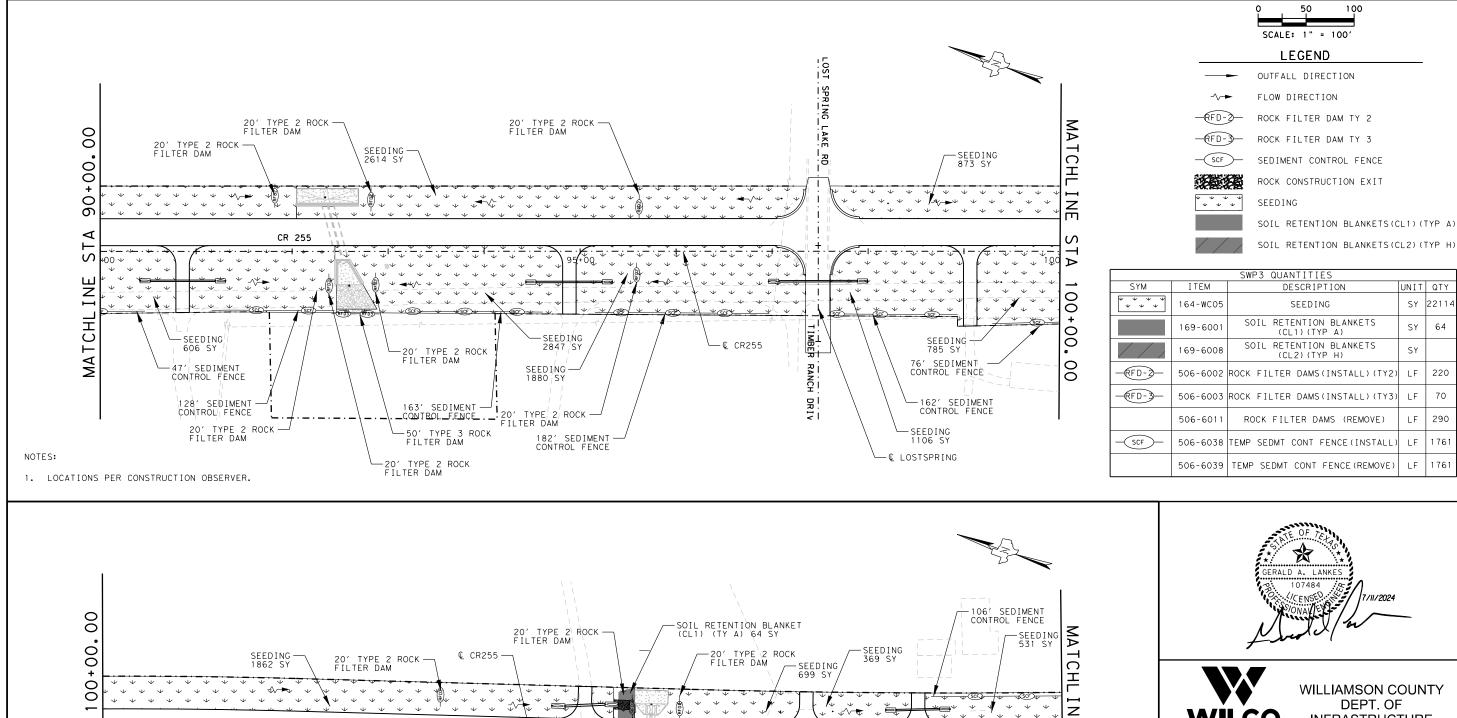
1126

Z

CHL

MAM

-57' SEDIMENT CONTROL FENCE



-20' TYPE 2 ROCK FILTER DAM:

-613' SEDIMENT CONTROL FENCE



UNIT QTY

SY

SY 22114

64

220

290

1761

CR 255

00

00

SEEDING 1956 SY

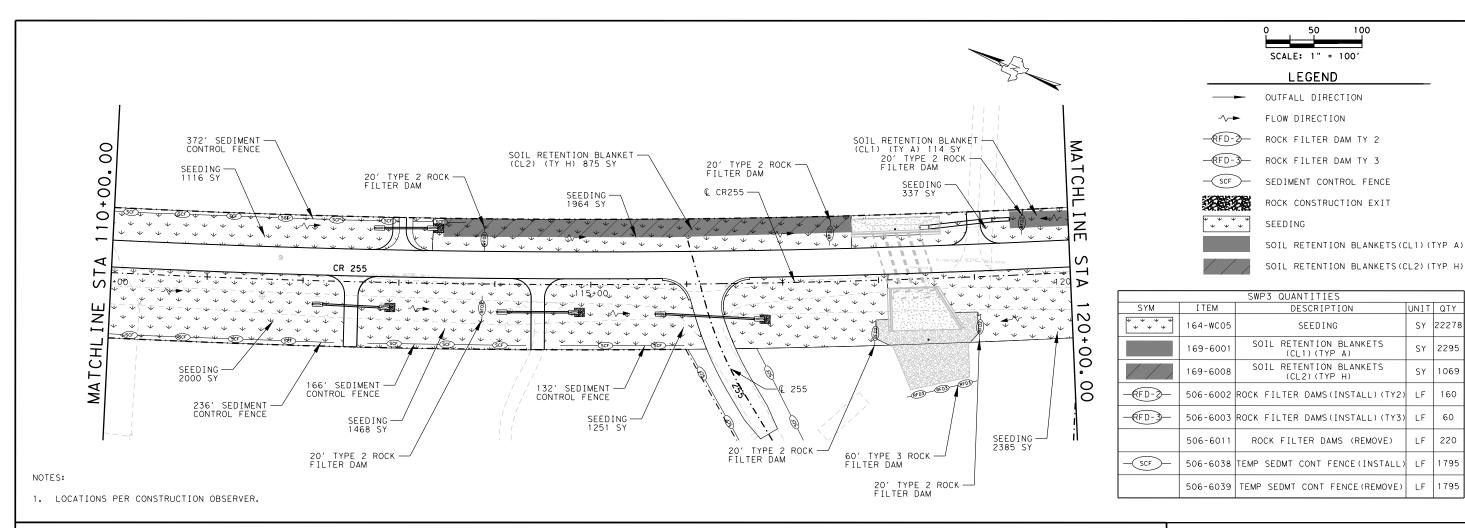
227' SEDIMENT CONTROL FENCE

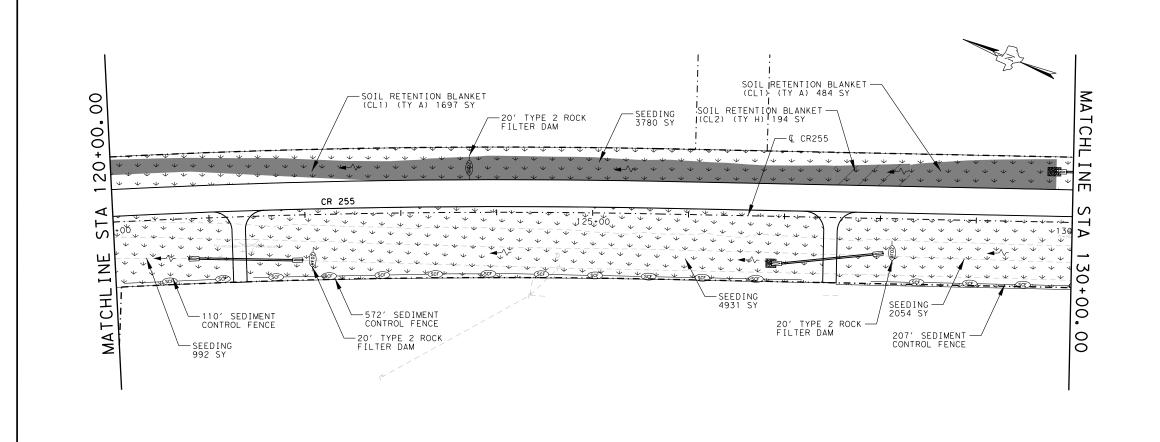
- SEEDING 5355 SY

20' TYPE 3 ROCK FILTER DAM

SWP3 STA 90+00 TO STA 110+00

SHEET 5 OF 8									
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT	No.	HIG	HWAY No.		
CHECKED:		TEXAS				CR	255		
DRAWN:		COUNTY					SHEET No.		
CHECKED:		WILLIAMSON							









WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



Lankes TBPE License No. 12670

PLANNING . ENGINEERING . CONSTRUCTION

CR 255

SWP3

STA 110+00 TO STA 130+00

UNIT QTY

SY 22278

SY 2295

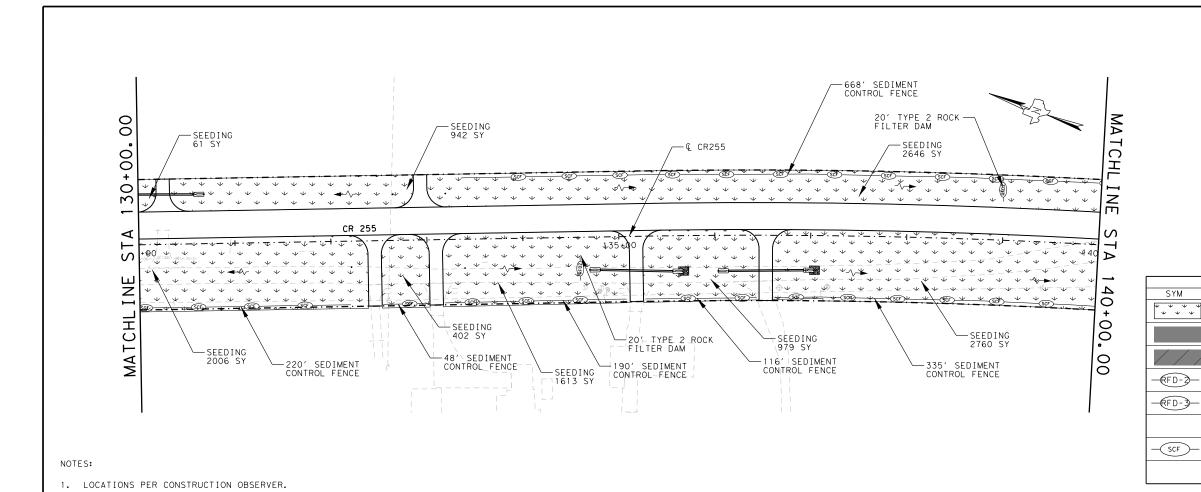
160

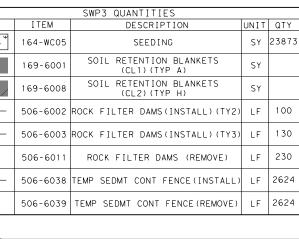
220

1795

SY 1069

STATE FEDERAL AID PROJECT No. HIGHWAY NO. FED. RD DIV. No. DESIGNED: CR 255 TEXAS CHECKED: JOB SHEET No. 307 COUNTY WILLIAMSON





SCALE: 1" = 100' LEGEND OUTFALL DIRECTION

FLOW DIRECTION

SEEDING

200

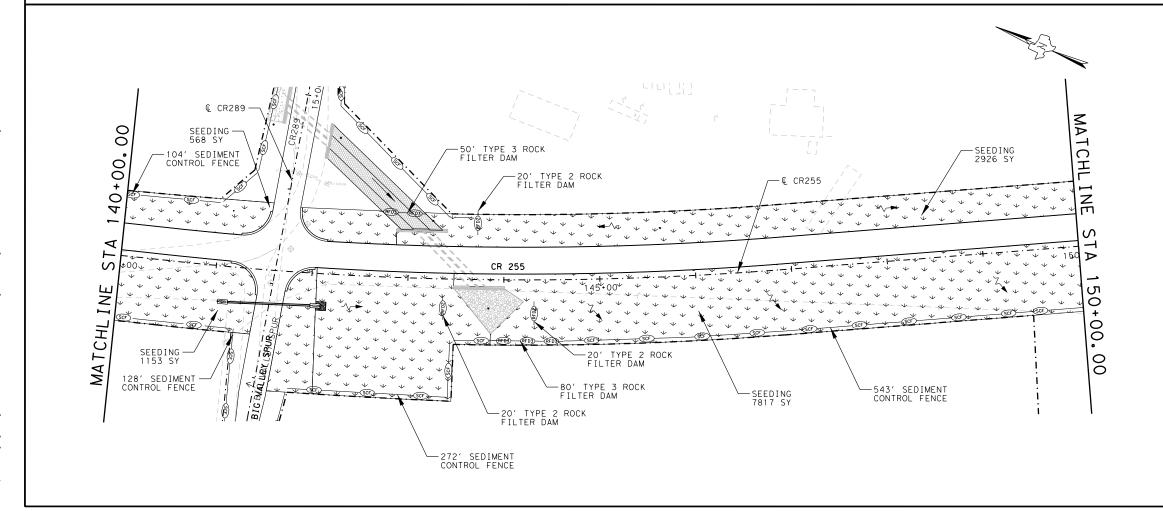
ROCK FILTER DAM TY 2

ROCK FILTER DAM TY 3 SEDIMENT CONTROL FENCE

ROCK CONSTRUCTION EXIT

SOIL RETENTION BLANKETS (CL1) (TYP A)

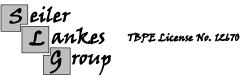
SOIL RETENTION BLANKETS (CL2) (TYP H)







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



PLANNING . ENGINEERING . CONSTRUCTION

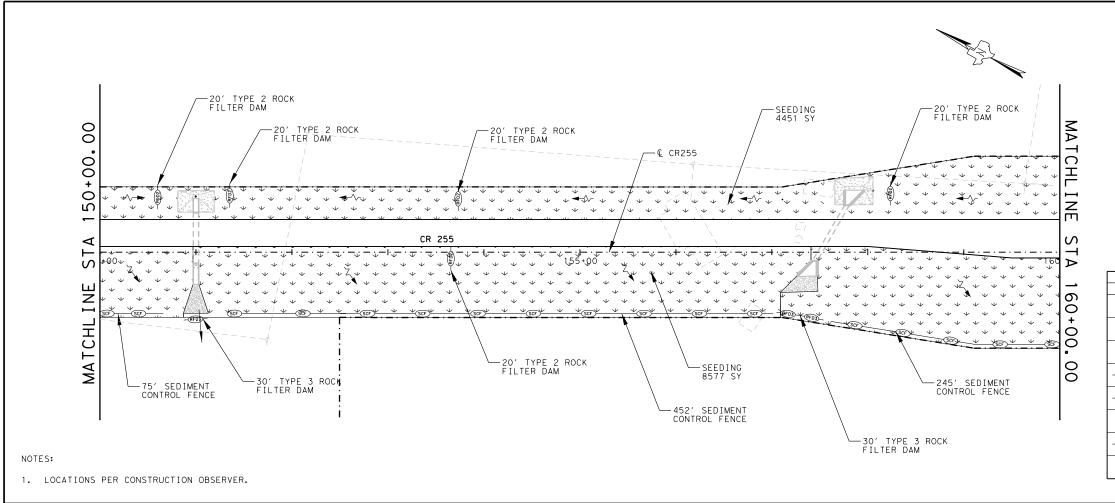
CR 255

SWP3

STA 130+00 TO STA 150+00

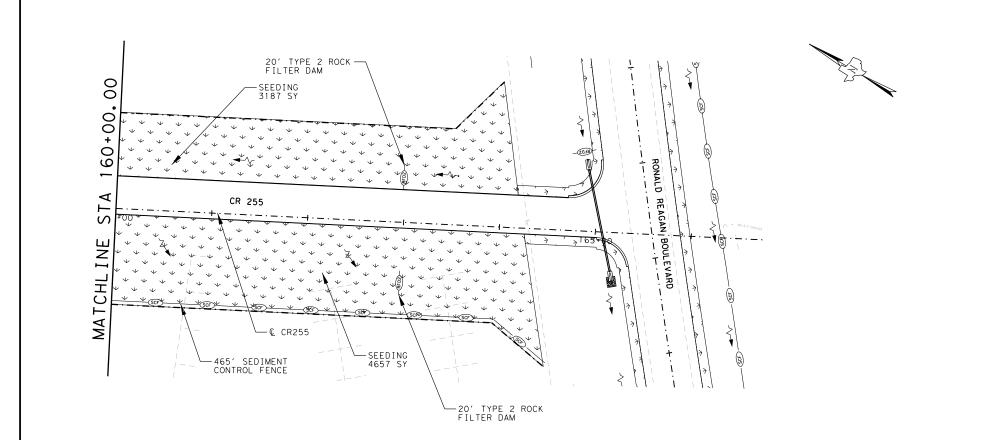
SHEET	 7	OF	8

SIGNED:	FED. RD STATE FEDERAL AID PROJECT No				HIG	HIGHWAY No.		
HECKED:	TEXAS					255		
RAWN:	COUNTY					SHEET No.		
HECKED:	WILLIAMSON					308		



SCALE: 1" = 100' LEGEND OUTFALL DIRECTION FLOW DIRECTION ROCK FILTER DAM TY 2 ROCK FILTER DAM TY 3 SEDIMENT CONTROL FENCE ROCK CONSTRUCTION EXIT SEEDING SOIL RETENTION BLANKETS (CL1) (TYP A) SOIL RETENTION BLANKETS (CL2) (TYP H)

		SWP3 QUANTITIES		
SYM	ITEM	DESCRIPTION	UNIT	QTY
+ + + +	164-WC05	SEEDING	SY	20872
	169-6001	SOIL RETENTION BLANKETS (CL1)(TYP A)	SY	
///	169-6008	SOIL RETENTION BLANKETS (CL2)(TYP H)	SY	
—(FD-2)—	506-6002	ROCK FILTER DAMS(INSTALL)(TY2)	LF	140
—(FD-3)—	506-6003	ROCK FILTER DAMS(INSTALL)(TY3)	LF	60
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	200
—SCF—	506-6038	TEMP SEDMT CONT FENCE(INSTALL)	LF	1237
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	1237







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



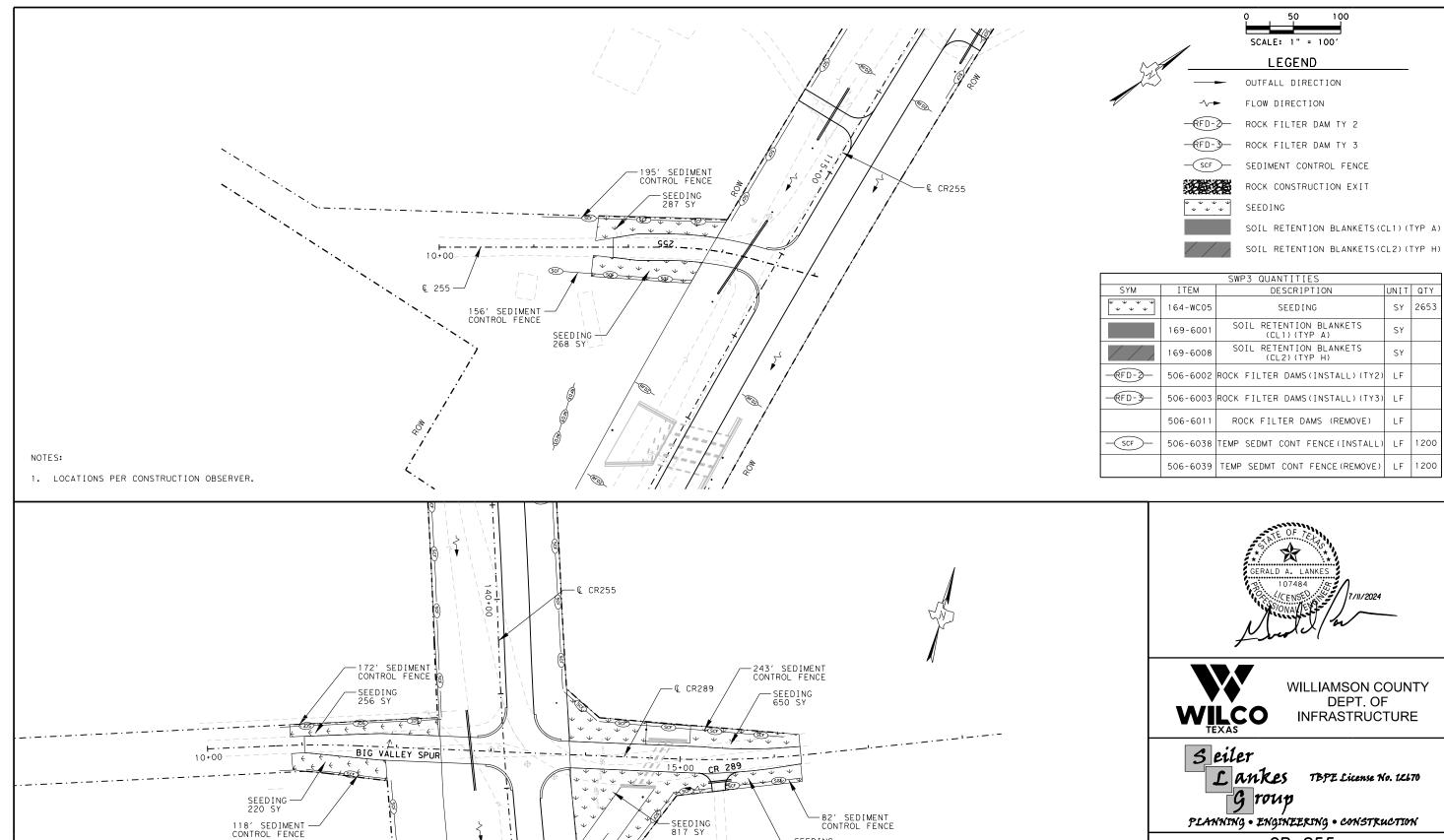
PLANNING . ENGINEERING . CONSTRUCTION

CR 255

SWP3 STA 150+00 TO END

						SHE	ET 8	3 OF 8
SIGNED:	FED. RD DIV. No.	STATE	FEDERAL	AID	PROJECT	No.	HIG	HWAY No.
HECKED:		TEXAS					CR	255
RAWN:		со	UNTY				JOB No.	SHEET No.
HECKED:		WILL	I AMSON					309

cStg-dis Documents WILC0302-CR255, CR299 Design\_Data4 + Design/Miscellaneous/CR255, ptot pen LStg-dis Documents WILC0302-CR255, CR299/Design\_Data4 + Design/Plan\_Set/09, Environmental/CR255, EWV\_08.dgn



-150' SEDIMENT CONTROL FENCE

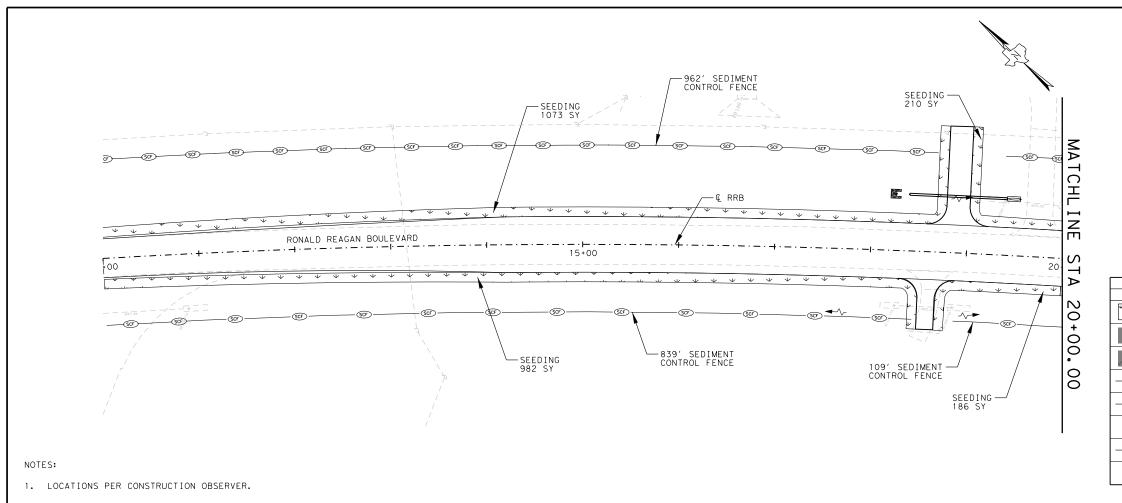
-RFD2

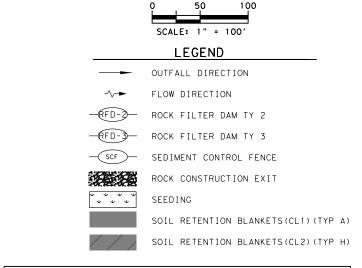
CR 255 255/CR289 SWP3

ERAL	AID	PROJECT	No.	HIGH	WAY No.
				CR	255

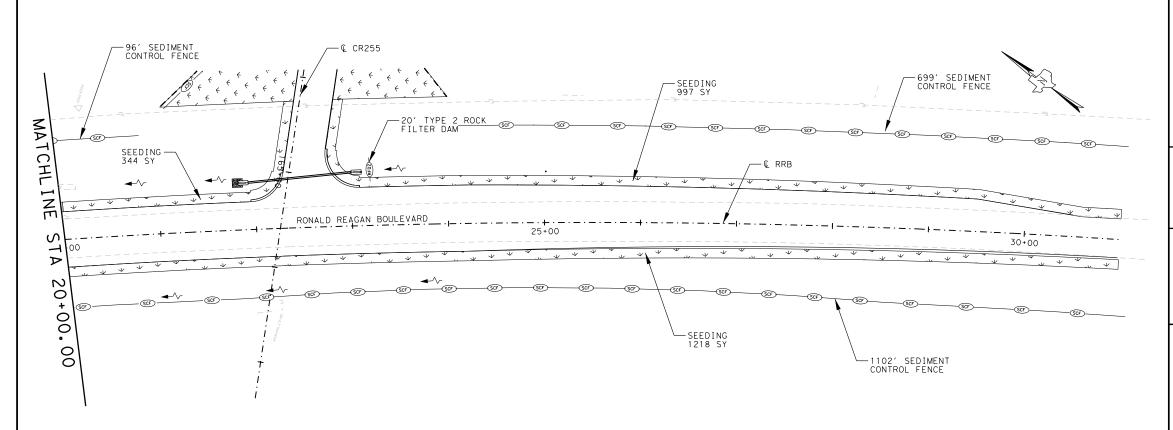
SHEET 1 OF 1

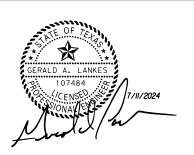
DRAWN: COUNTY JOB SHEET No. No.	DESIGNED:	FED. RD DIV. No.	HIGHWAY No.					
DRAWN: No. No. No. 74.0	CHECKED:		CR 255					
CHECKED: WILLIAMSON 310	DRAWN:		COUNTY					
	CHECKED:	WILLIAMSON					310	





		SWP3 QUANTITIES		
SYM	ITEM	DESCRIPTION	UNIT	QTY
+ + + +	164-WC05	SEEDING	SY	5010
	169-6001	SOIL RETENTION BLANKETS (CL1)(TYP A)	SY	
	169-6008	SOIL RETENTION BLANKETS (CL2)(TYP H)	SY	
-RFD-2-	506-6002	ROCK FILTER DAMS(INSTALL)(TY2)	LF	20
-RFD-3-	506-6003	ROCK FILTER DAMS(INSTALL)(TY3)	LF	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	20
—SCF	506-6038	TEMP SEDMT CONT FENCE(INSTALL)	LF	3807
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	3807







WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE



PLANNING . ENGINEERING . CONSTRUCTION

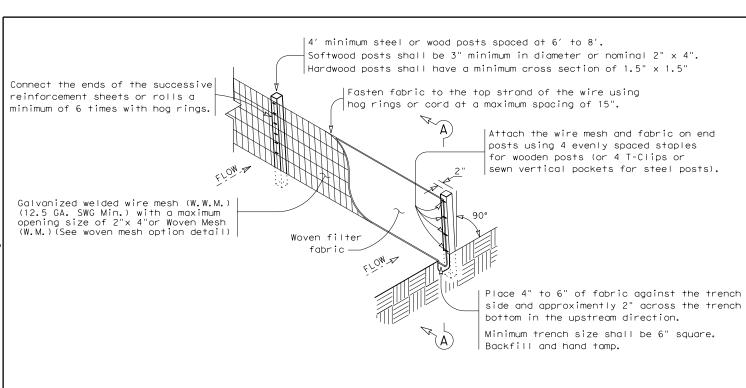
CR 255 RONALD REAGAN SWP3 BEGIN TO END

|--|

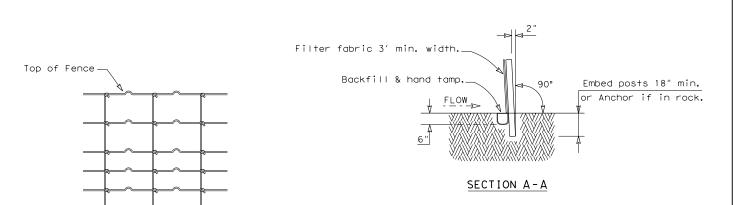
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID PROJECT No.	HIG	HWAY No.
CHECKED:		TEXAS		CR	255
DRAWN:		cc	UNTY	JOB No.	SHEET No.
CHECKED:	WILLIAMSON				311

cSig-dis Documents WILC0302-CR255, CR289 Design, Datal4 - Design/Miscelaneous/CR255, infoltpen cSig-dis Documents WILC0302-CR255, CR289 Design, Datal4 - Design/Plan, Set09, Environmental RR\_ENV\_01 dgn





#### TEMPORARY SEDIMENT CONTROL FENCE



#### HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

#### SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT<sup>2</sup>. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

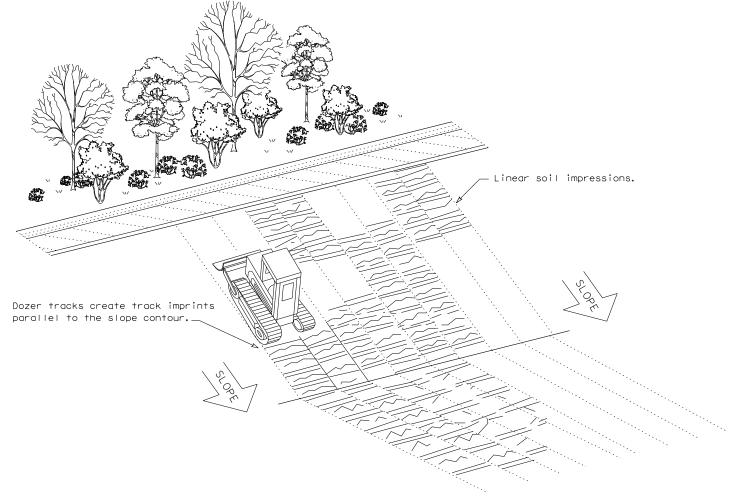
#### LEGEND

Sediment Control Fence



#### GENERAL NOTES

- 1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
- 2. Perform vertical tracking on slopes to temporarily stabilize soil.
- 3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
- 4. Do not exceed 12" between track impressions.
- 5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



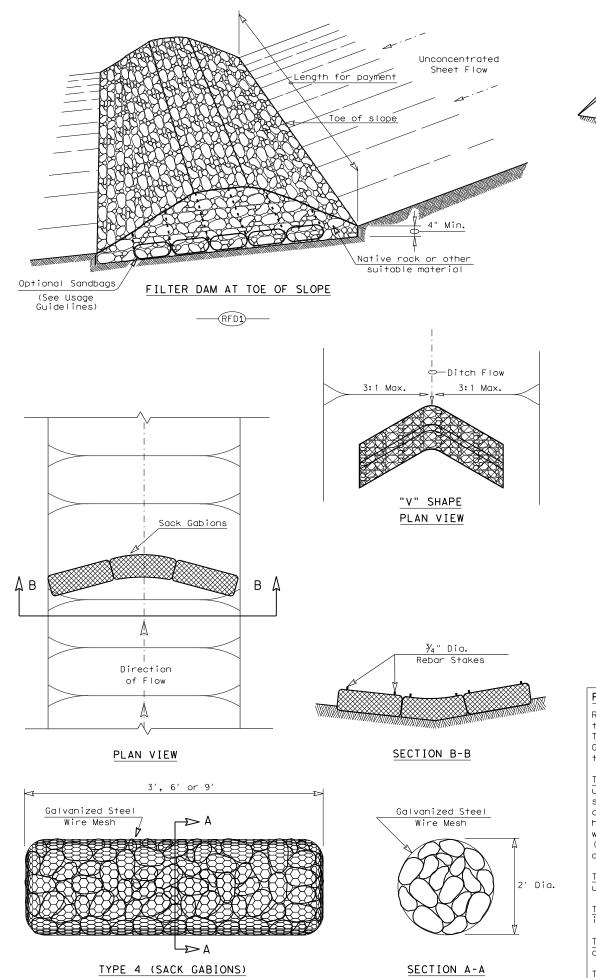
VERTICAL TRACKING



TEMPORARY EROSION. SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE & VERTICAL TRACKING

EC(1)-16

ILE: ec116	DN: Tx[	OT	ck: KM	DW:	VP DN/CK: LS			
TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY			
REVISIONS					CR 255 SHEET NO. N 312		CR 255	
	DIST		COUNTY					
	AUS	١	WILLIAM	102				



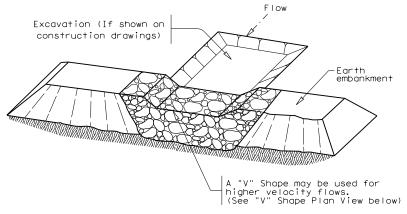
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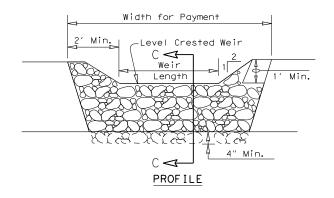
anty of or for

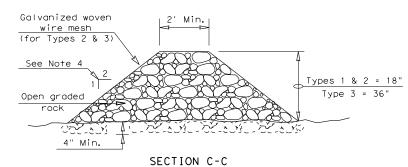
this standard is gover es no responsibility



#### FILTER DAM AT SEDIMENT TRAP







#### ROCK FILTER DAM USAGE GUIDELINES

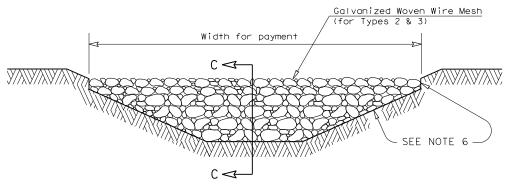
Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60  $\mbox{GPM/FT}^2$  of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximently 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.



#### FILTER DAM AT CHANNEL SECTIONS

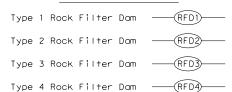
#### 

#### GENERAL NOTES

- If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
- 2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
- 3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
- 4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
- Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
- 6. Filter dams should be embedded a minimum of 4" into existing ground.
- 7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
- 8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified.

  The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
- 9. Sack Gabions should be staked down with  $\frac{3}{4}$ " dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2  $\frac{1}{2}$ " x 3  $\frac{1}{4}$ "
- 10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
- 11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

#### PLAN SHEET LEGEND





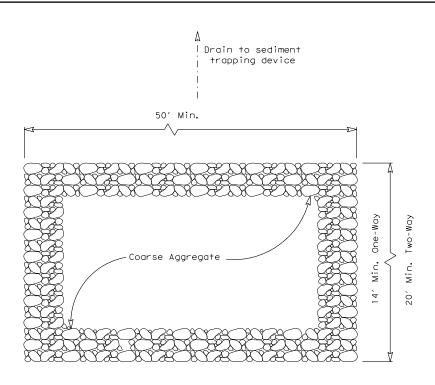
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

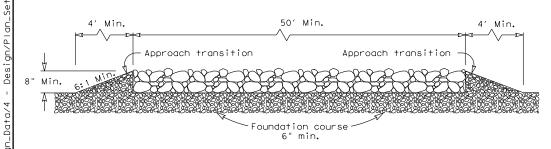
ROCK FILTER DAMS

EC(2)-16

E: ec216	DN: Tx[	OT	ck: KM	DW: VP	VP DN/CK: LS			
xDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY			
REVISIONS					CR 255		CR 255	
	DIST		COUNTY	Y SHEET NO.		SHEET NO.		
	AUS	١	WILLIAMSON 313		313			



#### PLAN VIEW



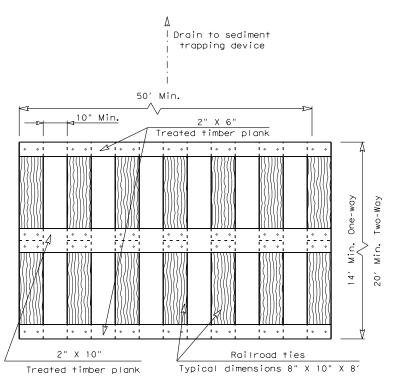
#### ELEVATION VIEW

#### CONSTRUCTION EXIT (TYPE 1)

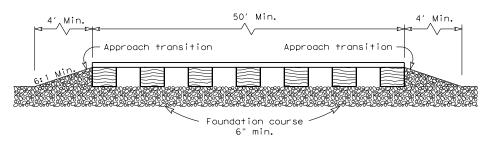
#### ROCK CONSTRUCTION (LONG TERM)

#### GENERAL NOTES (TYPE 1)

- 1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
- 2. The coarse aggregate should be open graded with a size of 4" to 8".
- The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
- 4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materialas approved by the Engineer.
- 5. The construction exit shall be graded to allow drainage to a sediment trappina device.
- 6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- 7. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



#### PLAN VIEW



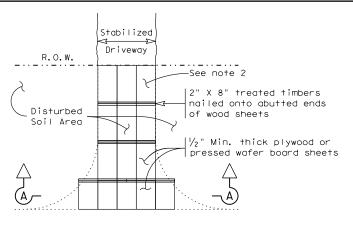
#### ELEVATION VIEW

#### CONSTRUCTION EXIT (TYPE 2)

#### TIMBER CONSTRUCTION (LONG TERM)

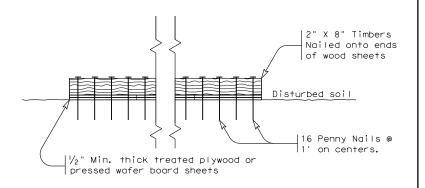
#### GENERAL NOTES (TYPE 2)

- 1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
- The treated timber planks shall be attached to the railroad ties with  $\frac{1}{2}$ "x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
- The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- 4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
- 5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
- The construction exit should be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- 8. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the



#### Paved Roadway

#### PLAN VIEW



#### SECTION A-A

#### CONSTRUCTION EXIT (TYPE 3) SHORT TERM

#### GENERAL NOTES (TYPE 3)

- 1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
- 2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
- 3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- 4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



TEMPORARY EROSION. SEDIMENT AND WATER POLLUTION CONTROL MEASURES CONSTRUCTION EXITS

EC(3) - 16

FILE: ec316	DN: <u>TxDQT</u> CK: KM DW: VP		CK: KM DW: VP		DN: <u>TxDOT</u> CK: KM DW: VP		DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		H	HIGHWAY	
REVISIONS			CR 255		255		
	DIST		COUNTY SHEE		SHEET NO.		
	ΔIIS	ALIS WILLIAMSON			314		

7/11/2024 pw://serve

DATE: FILE:

SECURE END\_ OF LOG TO STAKE LOG ON DOWNHILL STAKE AS SIDE AT THE CENTER, DIRECTED AT EACH END, AND AT ADDITIONAL POINTS AS NEEDED TO SECURE LOG (4' MAX. SPACING), OR AS DIRECTED BY THE ENGINEER. PLAN VIEW STAKE LOG ON DOWNHILL SIDE AT THE CENTER. AT EACH END, AND AT ADDITIONAL POINTS AS NEEDED TO SECURE LOG TEMP. EROSION-(4' MAX. SPACING), OR CONTROL LOG AS DIRECTED BY THE MIN ENGINEER. (TYP.) ADDITIONAL UPSTREAM COMPOST CRADLE UNDER EROSION STAKES FOR HEAVY RUNOFF EVENTS CONTROL LOG SECTION A-A EROSION CONTROL LOG DAM CL-D LEGEND CL-D - EROSION CONTROL LOG DAM -(CL-BOC)- EROSION CONTROL LOG AT BACK OF CURB - EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY (CL-ROW) EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING -(CL-SST EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING -(CL-SSL (CL-DI - EROSION CONTROL LOG AT DROP INLET (CL-CI EROSION CONTROL LOG AT CURB INLET - EROSION CONTROL LOG AT CURB & GRATE INLET CL-GI

FLOW

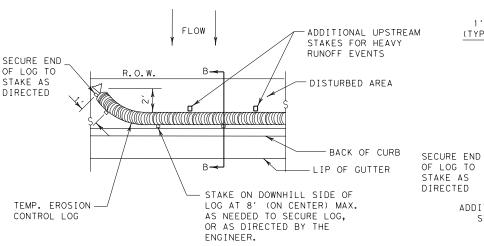
ADDITIONAL UPSTREAM -

STAKES FOR HEAVY

RUNOFF EVENTS

TEMP. EROSION

CONTROL LOG



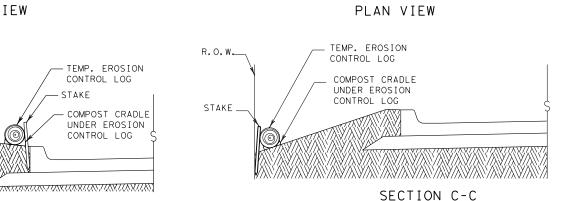
#### PLAN VIEW

SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

. CL - BOC

R.O.W.



FLOW

(TYP.)

ADDITIONAL UPSTREAM

STAKES FOR HEAVY

RUNOFF EVENTS

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY



STAKE ON DOWNHILL SIDE OF

OR AS DIRECTED BY THE

ENGINEER.

LOG AT 8' (ON CENTER) MAX. AS NEEDED TO SECURE LOG,

TEMPORARY

-DISTURBED AREA

LIP OF GUTTER

EROSION

CONTROL

LOG

-BACK OF CURB

#### **GENERAL NOTES:**

- 1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
- 2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
- UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
- FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
- STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
- 6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
- 7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
- SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
- TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE
- 10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

#### SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

The drainage area for a sediment trap should not exceed Log Traps: 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

- 1. Within drainage ditches spaced as needed or min. 500' on center
- 2. Immediately preceding ditch inlets or drain inlets 3. Just before the drainage enters a water course
- 4. Just before the drainage leaves the right of way
- 5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.



CONTROL LOGS SPECIFIED IN PLANS

SHEET 1 OF 3



MINIMUM

COMPACTED

DIAMETER

TEMPORARY EROSION, SEDIMENT AND WATER

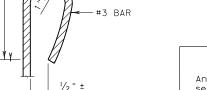
MINIMUM

COMPACTED DIAMETER

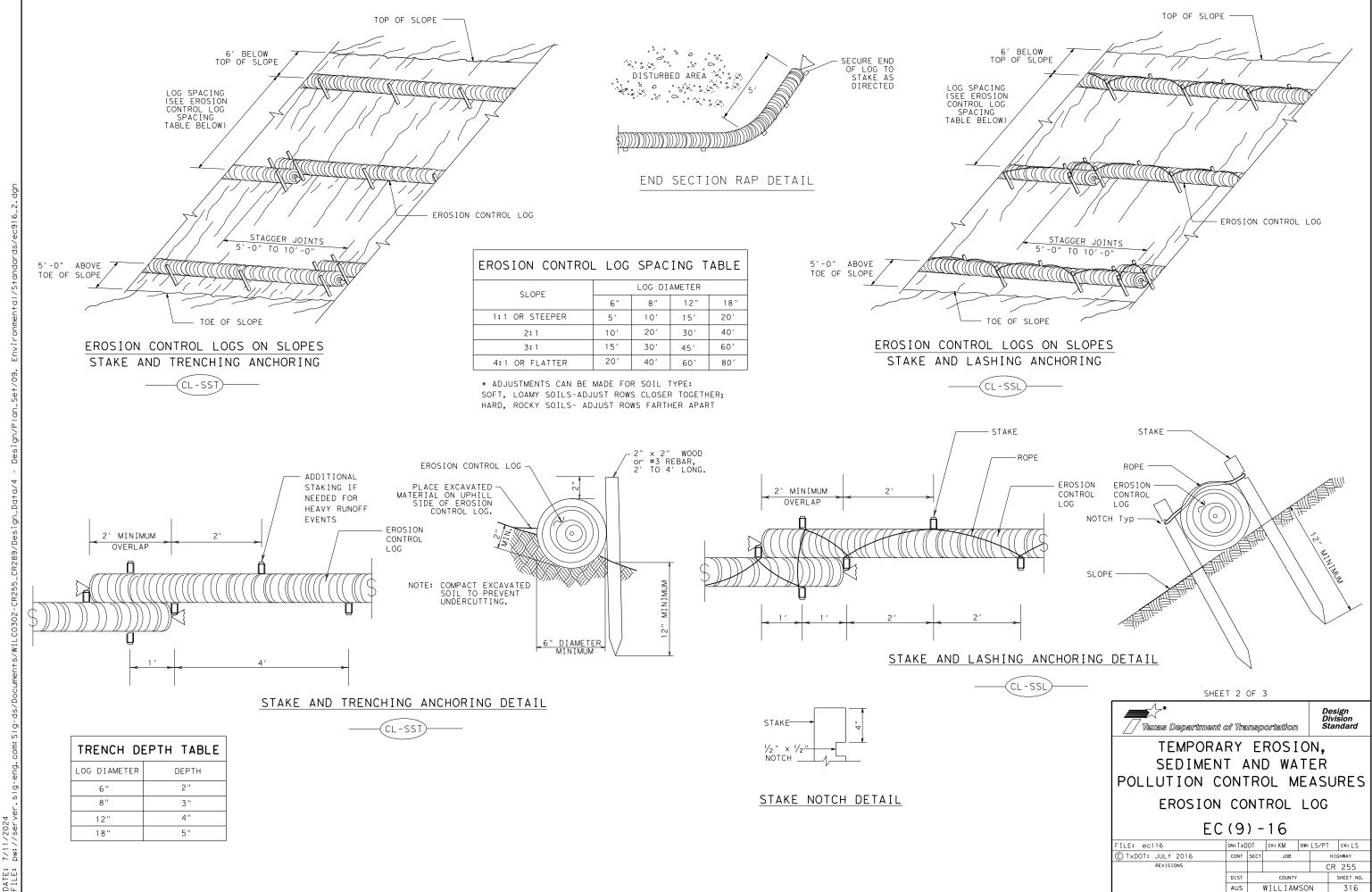
POLLUTION CONTROL MEASURES EROSION CONTROL LOG

EC(9) - 16

ILE: ec916	DN: TxD	OT	ск: КМ	DW:	LS/PT	ck: LS
TxDOT: JULY 2016	CONT	SECT	JOB		H1	GHWAY
REVISIONS						255
	DIST		COUNTY			SHEET NO.
	ALIS	1	MULLITAMSON		VI I	315



REBAR STAKE DETAIL



SECURE END OF LOG TO STAKE AS

TEMP. EROSION-CONTROL LOG

FLOW

7/11/2024 pw://serve

# EROSION CONTROL LOG AT CURB & GRADE INLET

SANDBAG

TEMPORARY EROSION CONTROL LOG USE STAKES ON DOWNSTREAM SIDE OF LOGS, AT ENDS, MIDPOINT, & AS NEEDED OR SANDBAGS TO HOLD IN PLACE.

OVERLAP ENDS TIGHTLY 24" MINIMUM

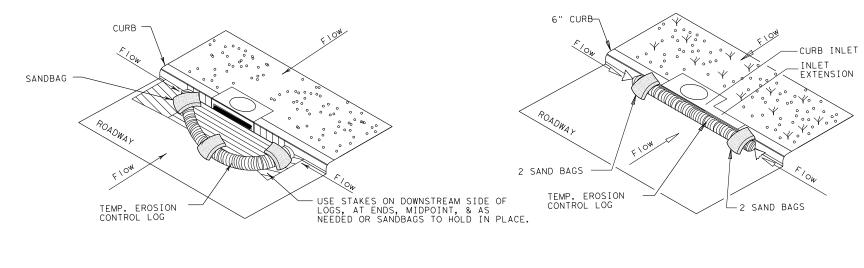
---- FLOW

EROSION CONTROL LOG AT DROP INLET

CURB AND GRATE INLET

-STAKE OR USE SANDBAGS ON DOWNHILL SIDE OF LOG AS NEEDED TO HOLD IN PLACE (TYPICAL)

COMPLETELY SURROUND
DRAINAGE ACCESS TO
AREA DRAIN INLETS WITH
EROSION CONTROL LOG

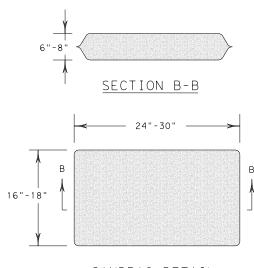


#### EROSION CONTROL LOG AT CURB INLET



EROSION CONTROL LOG AT CURB INLET

NOTE: EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



SANDBAG DETAIL

SHEET 3 OF 3

Texas Department of Transportation	Des Divi Sta

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9) - 16

FILE: ec916	DN: TxD	OT	ck: KM	DW: LS/	/PT	ck: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIG	HWAY
REVISIONS					CR	255
	DIST		COUNTY			HEET NO.
	ALIC	1	ALTEL TARA	CON		717

## ATTACHMENT H – INSPECTION, MAINTENANCE, REPAIR & RETROFIT PLAN

Highway: County Road 255 Improvements

Limits: From approximately intersection of County Road 254 to Ronald Reagan Blvd.

**County:** Williamson County

BMP maintenance operations should be performed on a regular basis as outlined below and as required to ensure that the BMPs and measures are constructed and functioning as designed. Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is planted. Operations must also be performed as required to maintain site aesthetics, vegetation, BMP access, and debris removal. After a Texas licensed professional engineer has certified that the permanent BMPs and measures were constructed as designed and certification has been submitted to the TCEQ regional office, the maintenance schedule as outlined below will commence.

#### **GENERAL**

- Records and diaries will be kept for maintenance activities listed and performed by Williamson County, and contractors. All records must be retained for a period of not less than five (5) years.
- Maintenance and contracted personnel may oversee minor repairs. Major repairs or retrofits must be overseen by City of Georgetown.
- Roadways and roadsides will be reviewed regularly, by maintenance forces. BMPs will be
  inspected after rainfall events greater than four inches to ensure no damage to grass
  cover, accumulation of litter, or erosion has occurred. Areas of concern will be noted, and
  any necessary maintenance scheduled.
- Right-of-way areas will be mowed by contract. Cutting height is a minimum of five inches.
   Mowing will be delayed during times when preferred vegetation is seeding to allow for natural propagation to continue.

#### PEST MANAGEMENT

An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

#### **SEASONAL MOWING AND LAWN CARE**

If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower or remove the clippings. If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and

brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

#### **INSPECTION**

Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

#### **DEBRIS AND LITTER REMOVAL**

Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e., level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection but should be performed no less than 4 times per year.

#### SEDIMENT REMOVAL

Sediment removal is not normally required in filter strips since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottom shovels. Depending on the type of pollutants accumulated, some sediment may be considered hazardous waste or toxic material and are therefore subject to restrictions for disposal.

#### **GRASS RESEEDING AND MULCHING**

A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted form the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replaced and restored to meet specifications. Corrective maintenance, such as weeding, or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

#### **DESIGN NOTE**

This Inspection, Maintenance, Repair and Retrofit Plan was created and designed by the engineer of these BMPs. Maintenance should be followed in accordance with this plan to keep the BMPs operating properly.

Clay & Gam, P.E.
CLAY E.GANN, P.E.

DATE

#### **MAINTENANCE CONTACT - RESPONSIBLE PARTY**

The maintenance will be handled by the Williamson County Maintenance Office. The Maintenance Supervisor may be contacted for questions or concerns after the project has been completed. The contact information is listed below.

ADAM BOATRIGHT, P.E.

**County Engineer** 

3151 S.E. Inner Loop, Suite B

Georgetown, TX 78626

512-943-3330

08/19/2024



Project Name:

# WILLIAMSON COUNTY ROAD & BRIDGE ANNUAL BMP OPERATION & MAINTENANCE INSPECTION FOR VEGETATED FILTER STRIPS

This checklist and inspection form describes inspection activities that should be conducted annually. Contact the Engineering Director for more information.

Project Location:							
Inspector Name:						E-	E-mail address:
Inspection Date/Time:						Р	Phone:
Inspection Iten	ns		-	tion One)			Comments/Corrective Action
	ed for all item	ıs mar					isfactory (U). An explanation of corrective ry. The completion date of any corrective
Inspect the vegetated file	ter strip area	. The	loca	ation o	f inspect	tion	on areas/elements should be noted.
Is the flow distributed even S	enly? <b>Yes =</b>	S	or	U			
Are invasive species of pleasent within the strip?		S	or	U			
Does the vegetation apperhealthy and adequately constrip? <b>Yes = S</b>		S	or	U			
Are there signs of soil ere = U	osion? Yes	S	or	U			
Are there signs of sedime in the filter strip? <b>Yes</b> = <b>I</b>		S	or	U			
Is there any trash or debr Yes= U	ris present?	S	or	U			
Are there signs of rodent damage to the strip? Yes	•	S	or	U			
Are there signs of insects wasps, etc.)? <b>Yes = U</b>	s (ants,	S	or	U			
Is the grass more than 10 = <b>U</b>	o" tall? Yes	S	or	U			
Other (describe)?							

#### ATTACHMENT I – PILOT-SCALE FIELD TESTING PLAN

All BMPs are recognized by the Executive Director of TCEQ so no plan for pilot-scale field testing is needed. This plan does not apply.

## ATTACHMENT J – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

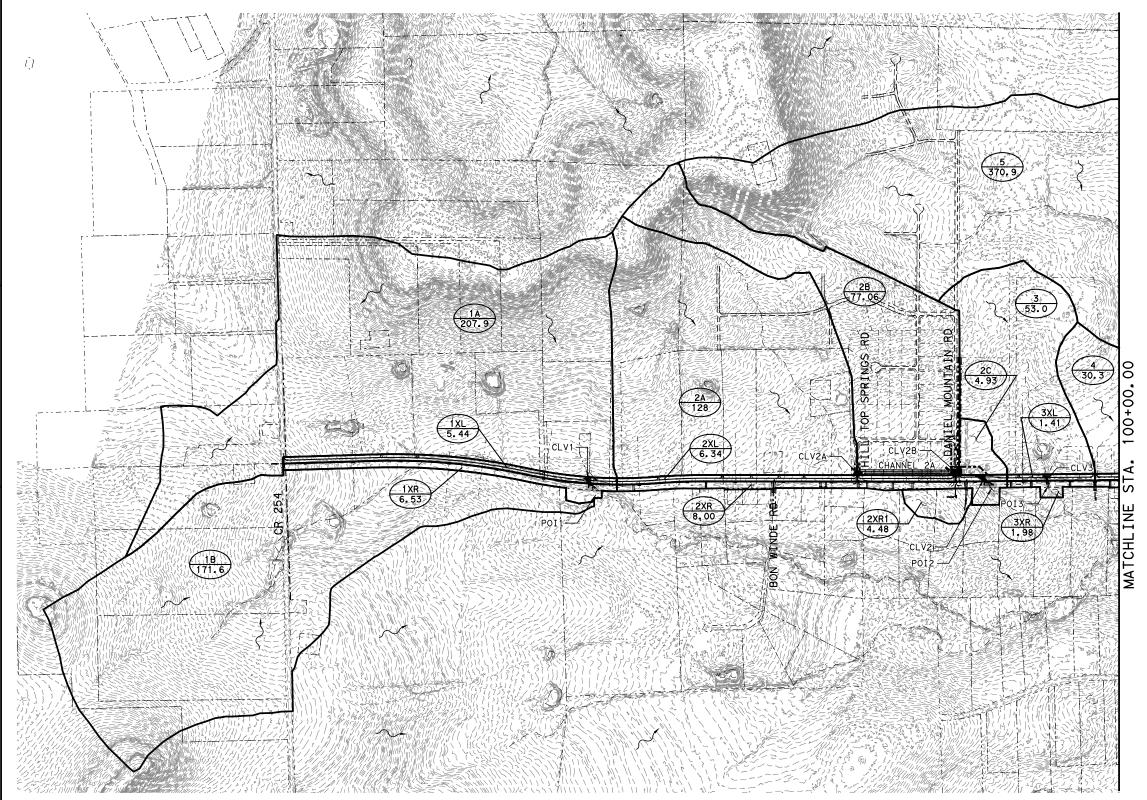
Rock filter dams are being proposed at the cross-culvert outlets to filter water that leaves the site. Vegetative filters strips are being proposed to prevent sediment from exiting the site and entering the surface streams.

All runoff from the site including offsite stormwater flows in a northeasterly to southwesterly fashion and ultimately drains to North Fork San Gabriel River. Runoff from the offsite areas and the roadway drains into roadside ditches which then conveys the flow to this stream. To minimize stream contamination, vegetated filter strips will be used along the roadway embankment and rock berms will be incorporated into the ditches and at outfalls from the ROW to minimize contamination. In addition, good housekeeping measures such as those listed in the Temporary Stormwater Section, Attachment I will be followed to minimize the potential for contamination.

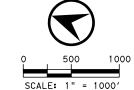
#### ATTACHMENT K – VOLUME & CHARACTER OF STORMWATER

The character of the stormwater generated by this project is typical for road and right-of-way areas. During the construction phase, normal airborne pollutants and typical oils and greases from the paved areas and construction equipment can be expected.

Please refer to the Drainage calculations, in Attachment G of the Temporary Storm water Section of this Contribution Zone Plan for the volume of expected runoff and associated coefficients for this project.



									HYDROL	OGIC COMPA	RISON	TABLE										
								PEAK	DISCHAR	GE				VOLUME								
HYDROLOGIC ELEMENT	50%	AEP	DIF	F Q	10%	AEP	DIFF	Q	4%	AEP	DI	FF Q	1:	% AEP	DI	FF Q	1%	AEP	DIFF V	NOTES		
	EXIST	PROP	PROP-	EXIST	EXIST	PROP	PROP-E	XIST	EXIST	PROP	PROP	-EXIST	EXIST	PROP	PROP	-EXIST	EXIST	PROP	PROP-EXIST			
	(CFS)	(CFS)	(CFS)	(%)	(CFS)	(CFS)	(CFS)	(%)	(CFS)	(CFS)	(CFS)	(%)	(CFS)	(CFS)	(CFS)	(%)	(AC-FT)	(AC-FT)	(AC-FT)			
POI 1	297.0	297.7	0.7	0.24%	773.1	774.0	0.9	0.12%	1128.6	1129.6	1.0	0.09%	1772.2	1773.1	0.9	0.05%	216.5	216.7	0.24			
POI 2	178.7	180.9	2.2	1.23%	461.7	464.2	2.5	0.54%	673.0	675.7	2.7	0.40%	1054.0	1056.4	2.4	0.23%	126.9	127.5	0.53			
POI 3	40.7	40.8	0.1	0.25%	106.3	106.3	0.0	0.00%	155.6	155.6	0.0	0.00%	245.1	245.2	0.1	0.04%	31.0	31.0	0.03			
POI 4	38.3	38.8	0.5	1.31%	90.8	91.4	0.6	0.66%	129.5	130.1	0.6	0.46%	198.6	199.1	0.5	0.25%	19.6	19.8	0.14			
POI 5	268.5	269.1	0.6	0.22%	707.5	708.2	0.7	0.10%	1036.3	1036.9	0.6	0.06%	1632.3	1632.8	0.5	0.03%	209.0	209.5	0.46			
POI 6	50.4	51.1	0.7	1.39%	127.4	128.1	0.7	0.55%	184.3	184.9	0.6	0.33%	286.8	287.5	0.7	0.24%	30.8	31.0	0.25			
POI 7	44.3	44.1	-0.2	-0.45%	106.9	104.8	-2.1	-1.96%	152.6	149.1	-3.5	-2.29%	234.4	227.9	-6.5	-2.77%	21.3	21.5	0.25			
POI 8	17.3	19.8	2.5	14.45%	44.2	47.3	3.1	7.01%	64.2	67.4	3.2	4. 98%	100.0	103.2	3.2	3. 20%	7.4	7.7	0.28			



LEGEND

→ AREA I.D. → AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

- 1. DRAINAGE AREAS SHOWN ON THIS MAP APPLY TO THE HYDROLOGIC IMPACT ANALYSIS ONLY. REFER TO THE OFFSITE DRAINAGE AREA MAP FOR CROSS CULVERT DESIGN AND INTERNAL DRAINAGE AREA MAPS FOR DITCH & DRIVEWAY CULVERT DESIGN.
- 2. CONTOURS ARE SHOWN AT 1' INTERVALS.
- REFER TO THE IMPACT ANALYSIS SUMMARY SHEETS FOR ADDITIONAL INFO.

REVISION BY DATE





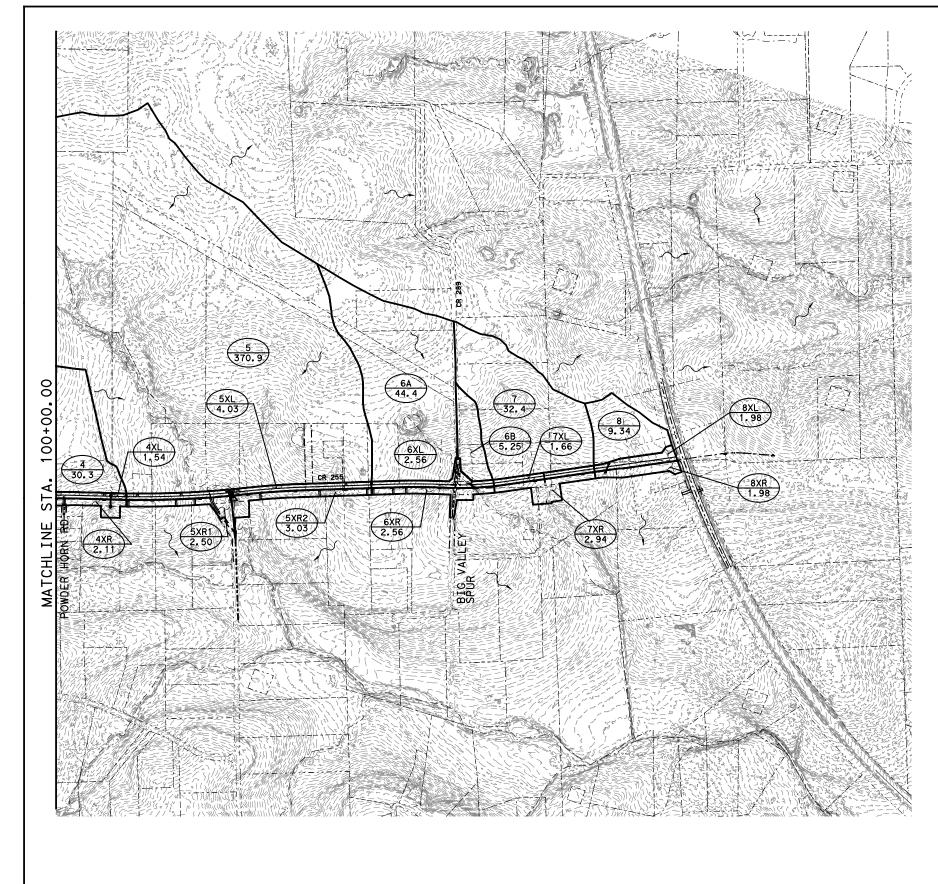


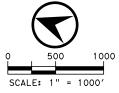
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

#### CR 255 IMPACT ANALYSIS DRAINAGE AREA MAP

BEGIN PROJECT TO STA 100+00

					<b>\$</b> S	N#OF#\$
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	\$SN\$





#### LEGEND



→ AREA I.D. 

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR CREEK THALWEG

EXIST ROW

PROP ROW

NOTES:

- DRAINAGE AREAS SHOWN ON THIS MAP APPLY TO THE HYDROLOGIC IMPACT ANALYSIS ONLY. REFER TO THE OFFSITE DRAINAGE AREA MAP FOR CROSS CULVERT DESIGN AND INTERNAL DRAINAGE AREA MAPS FOR DITCH & DRIVEWAY CULVERT DESIGN.
- 2. CONTOURS ARE SHOWN AT 1' INTERVALS.
- REFER TO THE IMPACT ANALYSIS SUMMARY SHEETS FOR ADDITIONAL INFO.
- 4. THE EXISTING CONDITION DRAINAGE AREA MAP IS SIMILAR TO THE PROPOSED CONDITION EXCEPT FOR AREAS 7 & 8. IN THE EXISTNG CONDITION MODEL, DRAINAGE AREA 7 INCLUDES 7XL & 7XR AND DRAINAGE AREA 8 INCLUDES 8XL & 8XR.

NO. REVISION BY DATE







CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 IMPACT ANALYSIS DRAINAGE AREA MAP STA 100+00 TO END PROJECT

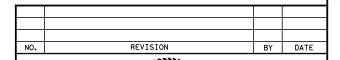
\$SN#O	F#\$

SIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
ECKED:	X X	TEXAS			CF	₹ 255
AWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
ECKED:	XX	XX	XX	XX	XX	\$SN\$

					ROJEC	CT RUNG	OFF SUN	MARY FOR DR	AINAGE AREA	S LARGER THA			TR-55 METHO	OD		
		DRAINAGE	E AR	EA							STORM F					
	,,	REA	CN	IC	(Ia)	Т	Tlag	50% (2-YR)	(D=3.96")	10% (10-YR)	(D=6.37")	4% (25-YR)	(D=8.04")	1% (100-YR)	(D=11.2")	001045117
ID	AF	KEA	CIN	10	(10)	'	rrag	Q	V	Q	V	Q	V	Q	V	COMMENT
	(AC)	(MI		(%)	(IN)	(MIN)	(MIN)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	
1 A	207.87	0.3248			1.08	31	18.6	163.3	17.56	427.6	45.53	624.6	68.06	981.6	114.46	
1XL	5.44			15.48	1.08	17	10.2	8	0.66	17.4	1.45	24.3	2.06	36.4	3.31	
CLV 1	213.31	0.3333	65		1.08			168.3	18.22	439	46.98	641.2	70.12	1005.9	117.77	
1 B	171.65	0.2682	65		1.08	36	21.6	125.6	14.68	327	37.82	477.7	56.44	750.5	94.77	
1 XR	6.53	0.0102		13.03	1.08	17	10.2	9.2	0.75	20.4	1.69	28.6	2.42	43.2	3.91	
POI 1		0.6117			1.08			297	33.66	773.1	86.49	1128.6	128.98	1772.2	216.45	
2A	128.00	0.2000	65	0.84	1.08	31	18.6	101.4	10.92	264.2	28.17	385.6	42.05	605.3	70.64	
CLV 2A	128.00	0.2000	65		1.08			101.4	10.92	264.2	28.17	385.6	42.05	605.3	70.64	
CHANNEL 2A	128.00	0.2000	65		1.08			101.4	10.91	264.2	28.16	385.6	42.04	605.3	70.62	
2B				0.31	1.08	33	19.8	58.2	6.47	152.9	16.82	223.7	25.17	351.8	42.36	
CLV 2B		0.3204			1.08			159.6	17.38	417	44.98	609.3	67.2	956.6	112.98	
CHANNEL 2B		0.3204			1.08			159.6	17.38	417	44.98	609.3	67.2	956.6	112.98	
2XL	6.34	0.0099				22	13.2	8.2	0.76	17.9	1.67	25	2.38	37.6	3.84	
2C	4.93			4.66	1.08	14	8.4	6.3	0.47	15.4	1.15	22.1	1.69	34.2	2.8	
CLV 2		0.3380			1.08			168.9	18.6	438.8	47.8	640.2	71.28	1004.5	119.61	
2XR	8.00	0.0125		11.71	1.08		13.2	9.7	0.9	21.9	2.03	30.9	2.93	46.9	4.75	
5		0.5796		0	1.08	36	21.6	264.5	30.83	698.9	80.59	1024.6	120.7	1614.7	203.4	
CLV 5	370.94	0.5796	65		1.08			264.5	30.83	698.9	80.59	1024.6	120.7	1614.7	203.4	
5XL	4.03	0.0063			1.08	5	3.0	8.6	0.47	18.7	1.05	26.1	1.5	39.4	2.43	
5XR2	3.07	0.0048			1.08	5	3.0	5.6	0.3	13.2	0.73	18.9	1.07	29.1	1.76	
5XR1	2.50	0.0039		5.74	1.08	5	3.0	4.5	0.24	10.8	0.59	15.4	0.87	23.6	1.43	
POI 5	380.54	0.5946	65		1.08			268.5	31.85	707.5	82.95	1036.3	124.14	1632.3	209.01	
2XR1	4.48	0.0070		6.74	1.08	8	4.8	7.3	0.45	17.5	1.07	24.9	1.57	38.2	2.58	
POI 2	228.80	0.3575			1.08			178.7	19.95	461.7	50.9	673	75.77	1054	126.94	
3	52.99			2.1	1.13		19.8	39.1	4.44	103.1	11.46	151.2	17.14	238.8	28.88	
3XL	1.41	0.0022	65	18.87	1.08	3	1.8	3.6	0.18	7.4	0.39	10.2	0.55	15.1	0.88	
CLV 3	54.40				1.08			39.8	4.63	104.4	11.86	153	17.7	241.4	29.75	
3XR	1.98	0.0031		18.87	1.08	3	1.8	5	0.26	10.4	0.55	14.3	0.78	21.2	1.24	
POI 3	56.38				1.08			40.7	4.88	106.3	12.41	155.6	18.47	245.1	30.99	
4		0.0473		7.14		20	12.0	34.9	3.06	83.1	7.27	118.6	10.62	182	17.46	
4XL	1.54	0.0024		14.09		7	4.2	3	0.18	6.6	0.4	9.3	0.58	13.9	0.93	
CLV 4	31.81				1.08			36.4	3.24	86.4	7.67	123.1	11.19	188.9	18.39	
4XR	2.11	0.0033		10.19		7	4.2	3.9	0.23	8.8	0.53	12.4	0.76	18.9	1.24	
7	36.93	0.0577	66		1.03	18	10.8	44.3	3.62	106.9	8.8	152.6	12.91	234.4	21.29	
6A		0.0693		1.37	1.08	24	14.4	40.7	3.85	105	9.85	152.8	14.67	238.9	24.59	
CLV 6A	44.35				1.08			40.7	3.85	105	9.85	152.8	14.67	238.9	24.59	
CHANNEL 6A	44.35	0.0693			1.08			40.7	3.85	105	9.85	152.8	14.67	238.9	24.59	
6B	5.25					17	10.2	7	0.57	16	1.32	22.6	1.9	34.4	3.09	
6XL	2.56	0.0040				5	3.0	5.3	0.29	11.8	0.66	16.5	0.95	24.9	1.53	
6XR	2.56			12.65	1.08	5	3.0	5.3	0.29	11.8	0.66	16.5	0.95	24.9	1.53	
POI 6		0.0855			1.08			50.4	5.01	127.4	12.48	184.3	18.47	286.8	30.75	
POI 7		0.0577			1.08			44.3	3.62	106.9	8.8	152.6	12.91	234.4	21.29	
POI 4		0.0530			1.08			38.3	3.47	90.8	8.2	129.5	11.96	198.6	19.63	
8		0.0208		1.57	1.08	11	6.6	17.3	1.16	44.2	2.97	64.2	4.42	100	7.4	
POI 8	13.31	0.0208	65		1.08			17.3	1.16	44.2	2.97	64.2	4.42	100	7.4	

#### NOTES:

- 1. CN VALUES ARE BASED ON ANTECEDENT MOISTURE CONDITION II
- 2. RAINFALL DEPTHS ARE BASED ON ATLAS 14 PRECIPITATION DATA
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- 4. Q = PEAK DISCHARGE
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- 7. ALL Q AND VOLUME COMPUTATIONS WERE COMPUTED USING HEC-HMS VERSION 4.10.
- 8. Ia = INITIAL ABSTRACTION
- 9. To = TIME OF CONCENTRATION
- 10. Tlag = LAG TIME
- 11. CN = WEIGHTED CURVE NUMBER
- 12. IC = IMPERVIOUS COVER









CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 IMPACT ANALYSIS SUMMARY

EXISTING CONDITION

IGNED: FED. RD STATE FEDERAL AID PROJEC	CT No. HIGHWAY NO
	1
CKED: X TEXAS	CR 255
WN: STATE COUNTY CONTROL SECT	
CKED: XX XX XX XX	XX XX \$SN

			Р	OST-PROJ	IECT R	UNOFF	SUMMAR	Y FOR DRAINA	AGE AREAS L	ARGER THAN	200 ACRES U	SING NRCS T	R-55 METHOD			
		DRAINAG	E ARE	А								REQUENCY				
		EA	CN	IC	(Ia)	т	Tlag	50% (2-YR)	(D=3.96")	10% (10-YR)	(D=6.37")	4% (25-YR)	(D=8.04")	1% (100-YR)	(D=11.2")	COMMENTS
ID		LA	CIV	10	(10)	'	iiug	Q	V	Q	V	Q	V	Q	V	COMMENTS
	(AC)	(MI		(%)	(IN)	(MIN)	(MIN)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	(CFS)	(AC-FT)	
1 A	207.87	0.3248	65	0.51	1.08	31	18.6	163.3	17.56	427.6	45.53	624.6	68.06	981.6	114.46	
1 XL	5.44	0.0085	65	42.67	1.08	17	10.2	12.3	1.03	21.9	1.91	28.6	2.57	40.4	3.88	
CLV 1	213.31	0.3333	65		1.08			170.3	18.58	441.3	47.44	643.7	70.63	1008.1	118.34	
1 B	171.65	0.2682	65	0.99	1.08	36	21.6	125.6	14.68	327	37.82	477.7	56.44	750.5	94.77	
1 XR	6.53	0.0102		0	1.08	17	10.2	6.8	0.54	17.9	1.42	26.1	2.13	40.9	3.59	
POI 1		0.6117			1.08			297.7	33.81	774	86.69	1129.6	129.2	1773.1	216.69	
2A		0.2000		0.84	1.08	31	18.6	101.4	10.92	264.2	28.17	385.6	42.05	605.3	70.64	
CLV 2A		0.2000			1.08			101.4	10.92	264.2	28.17	385.6	42.05	605.3	70.64	
CHANNEL 2A		0.2000			1.08			101.4	10.91	264.2	28.16	385.6	42.04	605.3	70.62	
2B		0.1204		0.31	1.08	33	19.8	58.2	6.47	152.9	16.82	223.7	25.17	351.8	42.36	
CLV 2B		0.3204			1.08			159.6	17.38	417	44.98	609.3	67.2	956.6	112.98	
CHANNEL 2B		0.3204	65	46.0	1.08		17.0	159.6	17.38	417	44.98	609.3	67.2	956.6	112.98	
2XL	6.34	0.0099		46.2	1.08	22	13.2	13.3	1.25	23.3	2.29	30.3	3.07	42.5	4.6	
2C CLV 2	4.93	0.0077 0.3380		4.66	1.08	14	8.4	6.3 172.1	0.47 19.09	15.4 442.5	1.15 48.42	22.1 643.8	1.69 71.96	34.2 1008	2.8 120.38	
2XR	8.00	0.3380		3.78	1.08	22	13.2	8.1	0.74	20.3	1.84	29.2	2.71	45.4	4.51	
ZAR		0.0125		0	1.08	36	21.6	264.5	30.83	698.9	80.59	1024.6	120.7	1614.7	203.4	
CLV 5	370.94	0.5796			1.08	- 30	21.0	264.5	30.83	698.9	80.59	1024.6	120.7	1614.7	203.4	
5XL	4.03	0.0063		43.9	1.08	5	3.0	13.6	0.77	24.1	1.43	31.4	1.93	44.2	2.9	
5XR2	3.07	0.0048		2.29	1.08	5	3.0	5.1	0.27	12.8	0.69	18.5	1.03	28.7	1.72	
5XR1	2.50	0.0039		8.82	1.08	5	3.0	4.8	0.26	11.1	0.61	15.7	0.89	23.9	1.46	
POI 5		0.5946		0,02	1.08		0.0	269.1	32.14	708.2	83.33	1036.9	124.55	1632.8	209.47	
2XR1	4.48	0.0070		6.74	1.08	8	4.8	7.3	0.45	17.5	1.07	24.9	1.57	38.2	2.58	
POI 2		0.3575			1.08	-		180.9	20.28	464.2	51.33	675.7	76.24	1056.4	127.47	
3	52.99	0.0828	64	2.1	1.13	33	19.8	39.1	4.44	103.1	11.46	151.2	17.14	238.8	28.88	
3XL	1.41	0.0022	65	45.09	1.08	3	1.8	5.2	0.27	9.1	0.51	11.8	0.68	16.6	1.02	
CLV 3	54.40	0.0850	65		1.08			39.9	4.72	104.6	11.97	153.2	17.82	241.6	29.9	
3XR	1.98	0.0031	65	4.51	1.08	3	1.8	3.8	0.19	9.1	0.46	13	0.68	20.1	1.13	
POI 3	56.38	0.0881	65		1.08			40.8	4.91	106.3	12.43	155.6	18.5	245.2	31.02	
4	30.27	0.0473	65	7.14	1.08	20	12.0	34.9	3.06	83.1	7.27	118.6	10.62	182	17.46	
4XL	1.54	0.0024		44.85	1.08	7	4.2	4.9	0.3	8.6	0.55	11.2	0.74	15.7	1.11	
CLV 4	31.81	0.0497			1.08			37	3.36	87.1	7.82	123.8	11.35	189.6	18.57	
4XR	2.11	0.0033		4.53	1.08	7	4.2	3.4	0.2	8.3	0.49	11.9	0.72	18.4	1.2	
7	32.38	0.0506		4.69	1.03	18	10.8	39.3	3.22	94.3	7.77	134.3	11.38	206	18.74	
7XL	1.66	0.0026		41.17	1.08	6	3.6	5.3	0.31	9.4	0.58	12.3	0.78	17.4	1.18	
CLV 7	34.05	0.0532			1.08		7.0	41.6	3.53	98.5	8.35	140.2	12.16	214.5	19.92	
7XR	2.94	0.0046		0	1.08	6	3.6	4.4	0.25	11.6	0.64	16.8	0.96	26.3	1.62	
6A	44.35	0.0693		1.37	1.08	24	14.4	40.7	3.85	105	9.85	152.8	14.67	238.9	24.59	
CLV 6A	44.35	0.0693			1.08			40.7	3.85	105	9.85	152.8	14.67	238.9	24.59	
CHANNEL 6A	44.35	0.0693		10 49	1.08	17	10.2	40.7	3.85	105 16	9.85	152.8	14.67	238.9	24.59	
6B 6XL	5.25 2.56	0.0082		10.48	1.08	17 5	10.2	7 8. 4	0.57 0.47	15	1.32 0.89	22.6	1.9	34.4 27.8	3.09 1.81	
CLV 6B		0.0040		41.20	1.08		3.0	49.2	4.89	124	12.05	19.6 179.4	1.2	278.8	29.5	
6XR		0.0040		9.4	1.08	5	3.0	49. Z 5	0.27	11.4	0.63	16.2	0.92	24.6	1.5	
POI 6		0.0040		٥.4	1.08	J	J. ()	51.1	5.17	128.1	12.69	184.9	18.69	287.5	31	
POI 7		0.0578			1.08			44.1	3.78	104.8	8.99	149.1	13.12	227.9	21.54	
POI 4		0.0570			1.08			38.8	3.56	91.4	8.31	130.1	12.08	199.1	19.77	
8	9.34			2.23	1.08	11	6.6	12.3	0.83	31.3	2.1	45.3	3.12	70.4	5.22	
8XL	2.05	0.0032			1.08	6	3.6	6	0.35	11.1	0.68	14.7	0.92	21	1.41	
CLV 8		0.0178			1.08			17	1.18	40.4	2.78	57.5	4.04	88	6.63	
8XR	1.92			0	1.08	6	3.6	2.9	0.16	7.6	0.42	11	0.63	17.1	1.06	
POI 8		0.0208			1.08			19.8	1.34	47.3	3.2	67.4	4.67	103.2	7.68	

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CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 IMPACT ANALYSIS SUMMARY

PROPOSED INTERIM CONDITION

					\$5	N#OF#\$	
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIGHWAY No.		
CHECKED:	Х	TEXAS			CF	₹ 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	XX	XX	XX	XX	XX	\$SN\$	

### **Temporary Stormwater Section**

**Texas Commission on Environmental Quality** 

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

#### Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

executive director approval. The application was prepared by.
Print Name of Customer/Agent: Clay E. Gann, P.E.
Date: <u>08/19/</u> 2024
Signature of Customer/Agent:
Clay & Gam, P.E.
Regulated Entity Name: County Road 255 Extension to Ronald Reagan Blvd

#### **Project Information**

#### **Potential Sources of Contamination**

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1.	Fuels for construction equipment and hazardous substances which will be used during construction:
	The following fuels and/or hazardous substances will be stored on the site:
	These fuels and/or hazardous substances will be stored in:
	Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

	<ul> <li>Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.</li> <li>Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.</li> </ul>
	X Fuels and hazardous substances will not be stored on the site.
2.	X Attachment A - Spill Response Actions. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
3.	X Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
4.	X Attachment B - Potential Sources of Contamination. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.
S	equence of Construction
5.	X Attachment C - Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
	<ul> <li>For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.</li> <li>For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.</li> </ul>

6. X Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: South Fork San Gabriel River

#### Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. X Attachment D – Temporary Best Management Practices and Measures. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

		X A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
		X A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
		X A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
		X A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8.	X	The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
		Attachment E - Request to Temporarily Seal a Feature. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
		X There will be no temporary sealing of naturally-occurring sensitive features on the site.
9.	X	<b>Attachment F - Structural Practices</b> . A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10.	X	<b>Attachment G - Drainage Area Map</b> . A drainage area map supporting the following requirements is attached:
		For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
		For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
		X For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
		There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

- ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
   11. ☐ Attachment H Temporary Sediment Pond(s) Plans and Calculations. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
   X N/A
- 12. X Attachment I Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
- 13. X All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
- 14. X If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
- 15. X Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
- 16. X Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

#### Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. X Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices. A schedule of the interim and permanent soil stabilization practices for the site is attached.

- 18. X Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 19. X Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

#### Administrative Information

- 20. X All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
- 21. X If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 22. X Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

#### ATTACHMENT A – SPILL RESPONSE ACTIONS

Since all fuels and hazardous substances will be provided by an off-site facility, no on-site containment procedures are provided for in this CZP.

If a spill should occur, the person responsible for the spill shall contact the following agency.

## State of Texas Spill-Reporting Hotline (SERC) 1-800-832-8224

Soils contaminated by spills that occur on-site will be removed and disposed at an approved disposal site.

For additional information, instructions and emergency phone numbers, a copy of TCEQs Spill Response Poster and TxDOT's Emergency Spill Response is attached directly behind this page.

Using a smartphone or tablet, scan the QR code below for TCEQ's Spill Response website.





# Report Spills or Discharges in Texas to 1-800-832-8224

# The Who, What, and Where of Spill Reporting

A responsible party must report a spill of a reportable quantity (RQ) as soon as possible but not later than **24 hours after the discovery of the spill or discharge** to the Texas Spill Reporting Hotline at 1-800-832-8224 or the appropriate regional office of the TCEQ during normal office hours.

The RQ depends on the substance released and where it was released. To determine whether you must report and under what rule, use the Reportable Quantities

Table. <a href="mailto:rable.com/">Table.</a>. <a href="mailto:rable.com/">rable.com/</a>. <a href="mailto:rable.com/">rable.com/

Depending on location and type of spill, reporting could be to another state agency such as the Texas General Land Office or the Railroad Commission of Texas.

#### Summary of What to Do After a Spill

#### **Answer these questions:**

- What type of material spilled?
- What is the amount of material spilled?
  - Oil, petroleum product, and used oil will be in gallons.
  - Hazardous substances and industrial solid waste will be in pounds.
- Was the spill onto land or into waters of the state?
- Is it a reportable quantity?
  - If so, what is the appropriate agency to report the spill to?

Mitigate, contain, and remediate all spills and discharges.

## What to Include in the Initial Report Contact information:

- The name, address and telephone number of the person making the telephone report.
- If different from above, the names, addresses, and telephone numbers of the responsible person and the contact person at the location of the discharge or spill.

#### What and where:

- The date, time, and location of the spill or discharge.
- A specific description or identification of the oil, petroleum product, hazardous substances or other substances discharged or spilled.
- An estimate of the quantity discharged or spilled and the duration of the incident.
- The source of the discharge or spill.
- The name of the surface water or a description of the waters in the state affected or threatened by it.
- A description of the extent of actual or potential water pollution or harmful impacts to the environment and an identification of any environmentally sensitive areas or natural resources at risk.
- Any known or anticipated health risks.
- A description of any actions that have been taken, are being taken, and will be taken to contain and respond to the discharge or spill.

#### **Response and actions:**

- The identity of any governmental representatives, including local authorities or third parties, responding to it.
- Any other information that may be significant to the response action.

For additional information on initial notification requirements, refer to Title 30, Texas Administrative Code Section 327.3.

#### **Examples of Reportable Quantities**

Kind of Spill	Where Discharged	Reportable Quantity	Agency
Petroleum product, used oil (e.g. hydraulic fluid)	Onto land, or onto land from a non-exempt PST facility	25 gallons	TCEQ
Petroleum product, used oil	*Onto land, from an exempt	210 gallons	TCEQ

#### Section 3 — Emergency Spill Response

#### **Background**

Hazardous material spills/releases may occur on TxDOT property and the right of way. At the spill location, TxDOT's first concern is human safety. TxDOT employees should take an active role to protect themselves and the traveling public.

#### **Policy**

TxDOT's role in emergency spill response is to provide support to the lead agency—Department of Public Safety (DPS), Texas Commission on Environmental Quality (TCEQ), or local fire marshall—in the containment and cleanup. All TxDOT personnel who may encounter a hazardous material spill or release require Hazardous Materials Awareness Training. For more information about TxDOT's hazardous material cleanup policy, including notification requirements, see the *Occupational Safety Manual*, Chapter 5, Section 6.

#### **Spill Response**

Most spills are a result of a traffic accident; usually, TxDOT is called to the scene by law enforcement. Safety of TxDOT personnel and the motoring public is priority. Department personnel are specifically prohibited from handling, cleaning up or otherwise coming in contact with toxic or hazardous materials at accident scenes or abandonment sites on the department's right of way. Vehicle fluid cleanup of less than 25 gallons is the only exception to handling or cleaning up hazardous materials at accident scenes or abandonment sites.

The table below outlines the responsibilities of each agency involved in an emergency spill response.

#### **Emergency Spill Response**

Agency	Responsibilities				
TxDOT staff*	<ul> <li>restricts public access</li> <li>provides traffic control at the site until relieved by DPS or other on-site coordinator</li> <li>reports all pertinent information to supervisor</li> <li>supervisor reports information to district hazardous material coordinator</li> <li>district engineer/hazardous materials coordinator notifies appropriate governmental agencies such as TCEQ, DPS and local fire department</li> </ul>				
DPS	<ul> <li>performs the on-site coordination of transportation emergencies for all unincorporated areas</li> </ul>				
Fire marshall	<ul> <li>performs on-site coordination of transportation emergencies for all incorporated areas</li> </ul>				

#### **Emergency Spill Response**

Agency	Responsibilities
TCEQ	◆ acts as lead state agency for spill response

<sup>\*</sup>Note: TxDOT personnel should not handle, clean up or otherwise come in contact with toxic or hazardous materials at accident sites.

#### **Spill Response Preparation**

TxDOT supervisors are responsible for:

- ensuring state vehicles have a copy of the USDOT Emergency Response Guidebook
- maintaining updated emergency notification list, including telephone numbers for DPS, local law enforcement, fire department, district hazardous materials coordinator, and the TCEQ
- instructing employees to remain clear of accident areas contaminated with known or suspected toxic or hazardous materials.



# CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN FIELD INSPECTION AND MAINTENANCE REPORT

Form 2118 (Rev. 4/20) Page of

	Contact/Help	Add Additional Table to Last Page		High - must be addressed immediately; all other project work is stopped until issue is resolved.	oust be addressed imm	High - m
		Cause			ites	Other/Notes
+						
		Cause			ites	Other/Notes
+						
		Cause			ites	Other/Notes
+						
		Cause			otes	Other/Notes
+						
		Cause			ites	Other/Notes
+						
	Priority* Date of Corrective Action Completed		Corrective Action	lssue/BMP	) or Left or Right of Centerline	Station(s) or Location
	locations are involved,	. If multiple highways or project	Corrective Actions, Maintenance, Upgrading or Additional Controls  Except the items listed below, all areas/BMPs indicated above have been inspected and do not require maintenance, upgrading or additional controls. If multiple highways or project locations are involved, dentify the highway or project location of the BMPs/areas requiring maintenance or improvement. Document all changes to the SWP3.	Corrective Actions, Maintenance, Upgrading or Additions.  Except the items listed below, all areas/BMPs indicated above have been inspected and do not require maintenance, upgrading dentify the highway or project location of the BMPs/areas requiring maintenance or improvement. Document all changes to the	items listed below, all highway or project loc	Except the dentify the
						Other —
	Chemical/huel storage areas	Chemical/lue	Portable samilary lacilities	☐ Areas mat generate dust☐ Postings	Sediment control BMPs	Sedir
	Parking/equipment storage areas	☐ Parking/equi	Areas where vehicles enter/leave site	☐ Areas where litter/debris/trash collect	Discharge locations	Disch
	Construction material storage areas	☐ Construction	☐ Material stockpiles	☐ Concrete truck washout areas	Disturbed areas	☐ Distu
			All of these RMPs/areas must be inspected when present on the right-of-way	All of these RMPs/areas m		
	e SWP3.	) and approve revisions to th	*For "other" options, the Engineer must verify compliance with Part III.F.7(c) of the TPDES Construction General Permit (CGP) and approve revisions to the SWP3.	ons, the Engineer must verify compliance with Part III.	*For "other" optic	
						O *Other
	(inches)	Amount of Last Rainfall:	County:	At least once every 14 calendar days and within 24 hours after 0.5 inches or more of rainfall.	st once every 14 calen II.	At least rainfall.
		Date of Last Rainfall:	Highway:			
		TCEQ Authorization No.:	Project:	ar days.	At least once everv 7 calendar davs.	O At lea
		Inspection Date:	CSJ:	):	Inspection Cycle (select only one):	Inspection
			Project Information			

**Med** - address as soon as practicable or as directed; other work can continue. **Low** - address within 7 days or before the next rainfall event.

Erosion
Control
Stabil
and Stabilization

	must be initiated immediately, unless excluded by Part III.F 2(b)(iii) of the CGP. Indicate the stabilization measures that have been	When construction activities permane
	excluc	ntly ce
!	led by	ease,
	/ Part	or ten
	≡ F2	nporar
	<u>(</u> b)(iii	тіІу се
	) of th	ase a
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	to	to	to	to	to	Station
						Left or Right of Centerline
Complian						Station Left or Right of Centerline Stabilization Measure Date Initiated
 Compliance Certification						Date Initiated
						Other/Notes

Check One and Complete Signature.

TxDOT's Representative's Name (Print clearly): ☐ With the corrective actions noted (if any), the site is in compliance with the CGP regulations and the SWP3. ☐ The site is in potential non-compliance with the CGP and/or the SWP3. Potential non-compliance issues are described below. Immediately notify Engineer of potential non-compliance

he inspection report must be completed upon completion of inspection but no later than 24 hours, Part III.F.7(f) of the TPDES CGP-

TxDOT's Representative's Signature:

# Potential Non-Compliance Issues

Potential non-compliance issues may include the failure to address previously noted corrective actions, repeated failure of a control measure, off-site discharges of sediment, off-site discharges of other pollutants, or other potential non-compliance issues identified in the CGP. Notified Perapital Non-Compliance Issues.

	to	to	to	to	to	Station
						Left or Right of Centerline
Contractor Notification						Describe rotential Non-compliance issue.  If discharge is present during inspection, inspect all discharge points from the site and document the visual quality of the discharge if it indicates pollutants in stormwater (i.e. floating, settled, or suspended solids; unnatural color, foam, oil sheen, or other indicators of pollutants in stormwater).  Part III. F. 7(b)xi.

Furnish a copy of this inspection report to the Contractor within one calendar day of the inspection. Corrective actions must be taken as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. If corrective actions are not made within this timeframe and become potential noncompliance issues, other work on the project may be suspended by the Engineer. Time charges will continue until the project is brought into compliance and documentation of corrective action is provided. This in no way releases the contractor of liability for noncompliance.

Contractor's Representative's Name (Print clearly): Contractor's Representative's Signature: Title:

# Inspection Certification

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and available the information on the information of the person or persons who manage the system or those persons directly responsible for gathering the information the information of the person or persons who manage the system or those persons directly responsible for gathering the information the information the information of the person or persons who manage the system or those persons directly responsible for gathering the information that the information of the person or persons who manage the system or those persons directly responsible for gathering the information of the person or persons who manage the system or those persons directly responsible for gathering the person of the

best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false informa	tting false information, including the possibility of fine and i	imprisonment for knowing violations.
TxDOT's Certifying Representative's Name (Print clearly):	Title:	Date:
TxDOT's Certifving Representative's Signature:		

#### ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

- Hydraulic fluid, gasoline, oils, diesel, acids, brake fluids and transmission fluids
- Asphalt material
- Drilling fluids
- Portable toilet system (sanitary waste)
- Trash from construction workers
- Paints, paint solvents, glues, concrete and other building materials
- Plant fertilizer and pesticides
- Inadequate maintenance of temporary water pollution abatement measures
- Stockpiles or spoils of materials
- Tracking of construction vehicles onto public roads

#### ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

The following sequence of activities is suggested. The actual sequence may vary based on variables such as contractor means and methods, weather, availability of right-of-way, etc. The entire right-of-way (68.48 acres) is assumed to be disturbed by the roadway construction.

- 1. Install all perimeter silt fence and rock filter dams and other erosion and sediment control devices as applicable. Other ESCP devices that are conflict with the various grading operations shall be installed once grading operations are complete.
- Complete right-of-way preparation operations (clear & grub). Topsoil and spoil stockpiles will be placed at a location on the project site as directed by the contractor or at an offsite location. Silt fence will be installed to enclose all spoils and stockpiles.
- 3. Perform preliminary grading (excavation/fill) of the site including roadway sub-grade and ditch grading. Once preliminary grading is complete by stage, additional silt fence and rock filter dams will be installed in ditches.
- 4. Construct all drainage structures and outlet protection measures. Silt fence, sediment traps and other BMPs will be installed to capture fluids and debris.
- 5. Construct roadway pavement, driveways, guardrails, etc. A concrete truck washout station will be provided as needed.
- 6. Perform final grading of the site and installation of stone riprap.
- 7. Provide final soil stabilization including seeding, sodding, hydromulching and installation of soil retention blankets.
- 8. Complete all signing and striping operations.
- 9. Remove temporary ESCP devices.

## ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The temporary BMPs that will be used during and after construction are construction entrances/exits, silt fences, and rock filter dams. Construction entrances/exits prevent pollution of surface water and ground water by minimizing the mud and sediment transferred to paved roads by construction vehicle wheels, or by channelizing of runoff due to erosion from high vehicle activity. Only onsite storm water runoff will be treated by construction entrances/exits. While this measure treats flow, it is not meant to prevent the treated flow from reaching naturally occurring sensitive features. Silt fences prevent pollution of surface water and ground water by trapping sediment suspended in storm water runoff and thus preventing it from entering the surface water and sensitive features. Silt fences are to be used in areas of sheet flow only and will treat all intercepting flow from both onsite and offsite storm water runoff. While this measure treats flow, it is not meant to prevent the treated flow from reaching naturally occurring sensitive features. Rock filter dams prevent pollution of surface water and ground water by trapping sediment suspended in storm water runoff and thus preventing it from entering the surface water and sensitive features. Rock filter dams are to be used in the roadside ditches and at outfalls where channel flow occurs and will treat all intercepting flow from both onsite and offsite storm water runoff. While this measure treats flow, it is not meant to prevent the treated flow from reaching naturally occurring sensitive features.

The temporary BMPS will be implemented into the construction activity as follows:

- 1. Construction activities will commence with the installation of required silt fences, rock filter dams, and construction entrances/exits. Silt fences, rock filter dams, and the construction entrances will be utilized as the control measures.
- 2. The right-of-way will be cleared of vegetation. Fill and excavation spoils will be placed at a location on the project site as directed by the contractor or at an off-site location. A silt fence will enclose these spoils and any other loose granular material. Silt fences, rock filter dams, and the construction entrances will be utilized as the control measures.
- 3. Bridge-class and drainage structure construction will begin. Silt fences, rock filter dams, and the construction entrances will be utilized as the control measures.
- 4. Grading for the roadway will consist of cut and fill for vertical grades and super-elevation, shaping of the side slopes and roadside ditches, and compaction of fill and subgrade for the roadway. Silt fences, rock filter dams, and the construction entrances will be utilized as the control measures.
- 5. After grading and culvert construction, the roadway will be paved. Silt fences, rock filter dams, and the construction entrances will be utilized as the control measures.
- 6. Side slopes, roadside ditches, and any remaining disturbed right-of-way will be seeded, sodded, or hydro-mulched. Silt fences, rock filter dams, soil retention blankets, and the construction entrances will be utilized as the control measures.
- 7. Once the vegetation in the right-of-way has been established, temporary measures will be removed and disposed following site cleanup.

#### ATTACHMENT E - REQUEST TO TEMPORARILY SEAL A FEATURE

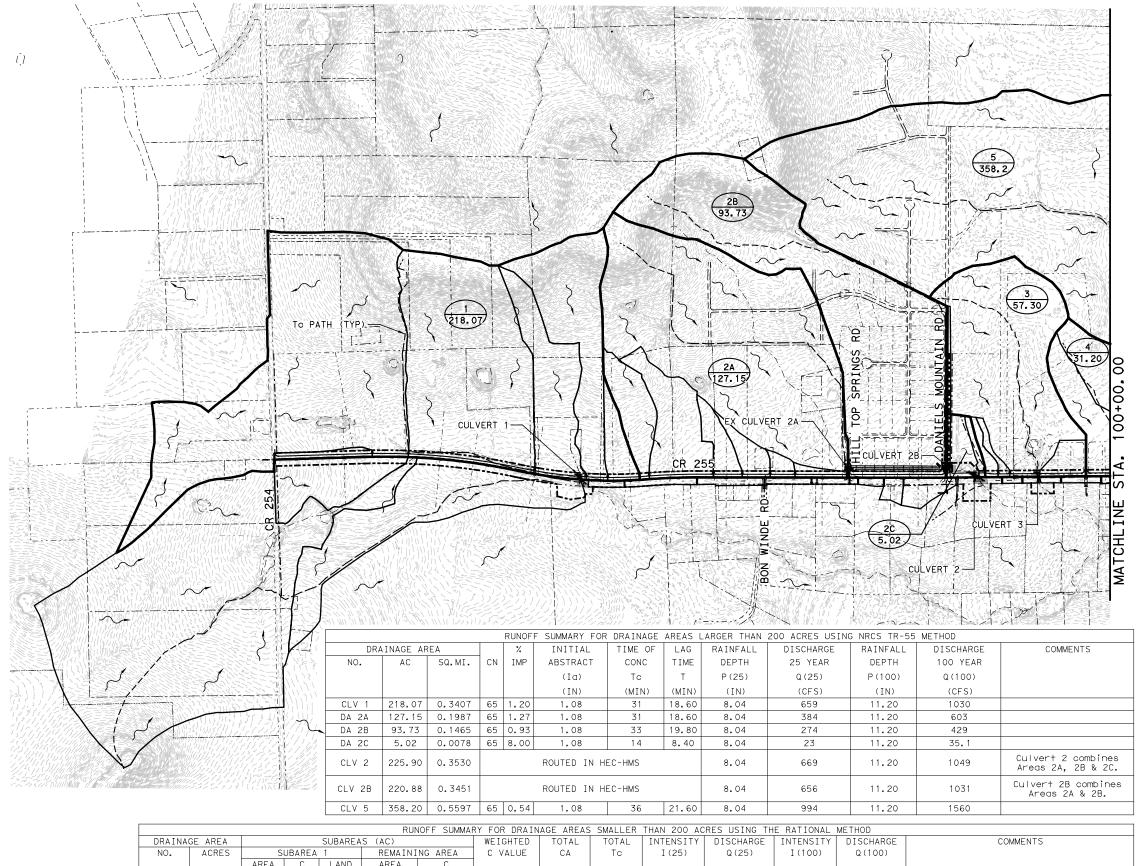
There is no request to temporarily seal a feature on this project.

#### ATTACHMENT F - STRUCTURAL PRACTICES

No structural practices will be utilized to divert flows away from exposed soils or to store flows. Existing parallel roadside ditches are part of the proposed project and will continue to divert off-site water around the proposed project. Silt fences and rock filter dams will help contain pollutants on the site. Temporary construction entrances/exits will also be used to limit the runoff discharge of sediments from exposed areas on the site.

#### ATTACHMENT G - DRAINAGE AREA MAP

A copy of the Drainage Area Maps from the proposed construction plans is located behind this sheet. Pre-development and post-development runoff calculations are presented in Attachment K – Volume and Character of Stormwater, Contributing Zone Plan Application Form (TCEQ-10257).



AREA AREA LAND (AC) USE (MIN) (IN/HR) (CFS) (IN/HR) (CFS) (AC) CLV 3 57.30 1.00 0.90 IMP 56.30 0.37 0.38 21.73 33.00 5.11 111 6.75 147 1.20 0.90 IMP 30.00 0.37 20.00 105 CLV 4 31.20 0.39 6.63 80.7 8.65 12.18 51.10 CLV 6A 52.10 1.00 0.90 TMP 0.34 0.35 18.27 24.00 6.06 111 7.94 145 DA 6B 6.14 0.50 0.90 IMP 5.64 0.34 0.39 2.37 17.00 7.14 16.9 9.27 22 Culvert 6B combines Areas 6A & 6B CLV 6B 58.24 128 167 34.90 0.90 34.22 92.4 120 CLV 8 10.20 0.74 0.90 IMP 9.46 0.37 0.41 4.17 11.00 8.49 35.4 10.89 45.4



0 500 1000 SCALE: 1" = 1000'

#### LEGEND



AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY
DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

----- CREEK THALWEG

PROP ROW

#### NOTES:

- 1. DRAINAGE AREAS LABELED ON THIS MAP APPLY TO CROSS CULVERT OUTFALLS ONLY, REFER TO THE DRAINAGE AREA MAPS FOR DITCH & DRIVEWAY PIPE DESIGN AREAS. DUE TO THE SMALLER SCALE, SUB-AREA BOUNDARIES ARE SHOWN ON THIS MAP TO PROVIDE THE FULL LIMITS OF ALL INTERNAL DRAINAGE AREAS.
- 2. CONTOURS ARE SHOWN AT 1' INTERVALS & TERRAIN DATA WAS GATHERED FROM WILCO GIS WEBSITE AND TNRIS.
- HEC HMS 4.11 WAS USED TO COMPUTE PEAK FLOWS FOR THE NRCS METHOD.
- 4. WHILE AREAS 2A, 2B, & 2C ARE SMALLER THAN 200 AC, THEY COMBINE FOR THE DESIGN OF CULVERT 2 WHICH EXCEEDS 200 AC. THE NRCS METHOD IS USED TO COMPUTE PEAK FLOWS FOR CULVERT 2.
- RATIONAL METHOD FLOWS WERE COMPUTED USING TXDOT'S ATLAS 14 SPREADSHEET TOOL (EBDLKUP-2019-VC6.2.10) PARTIAL DURATION, SAN GABRIEL RIVER ZONE, WILCO.

NO. REVISION BY DATE





### DEPARTMENT OF INFRASTRUCTURE



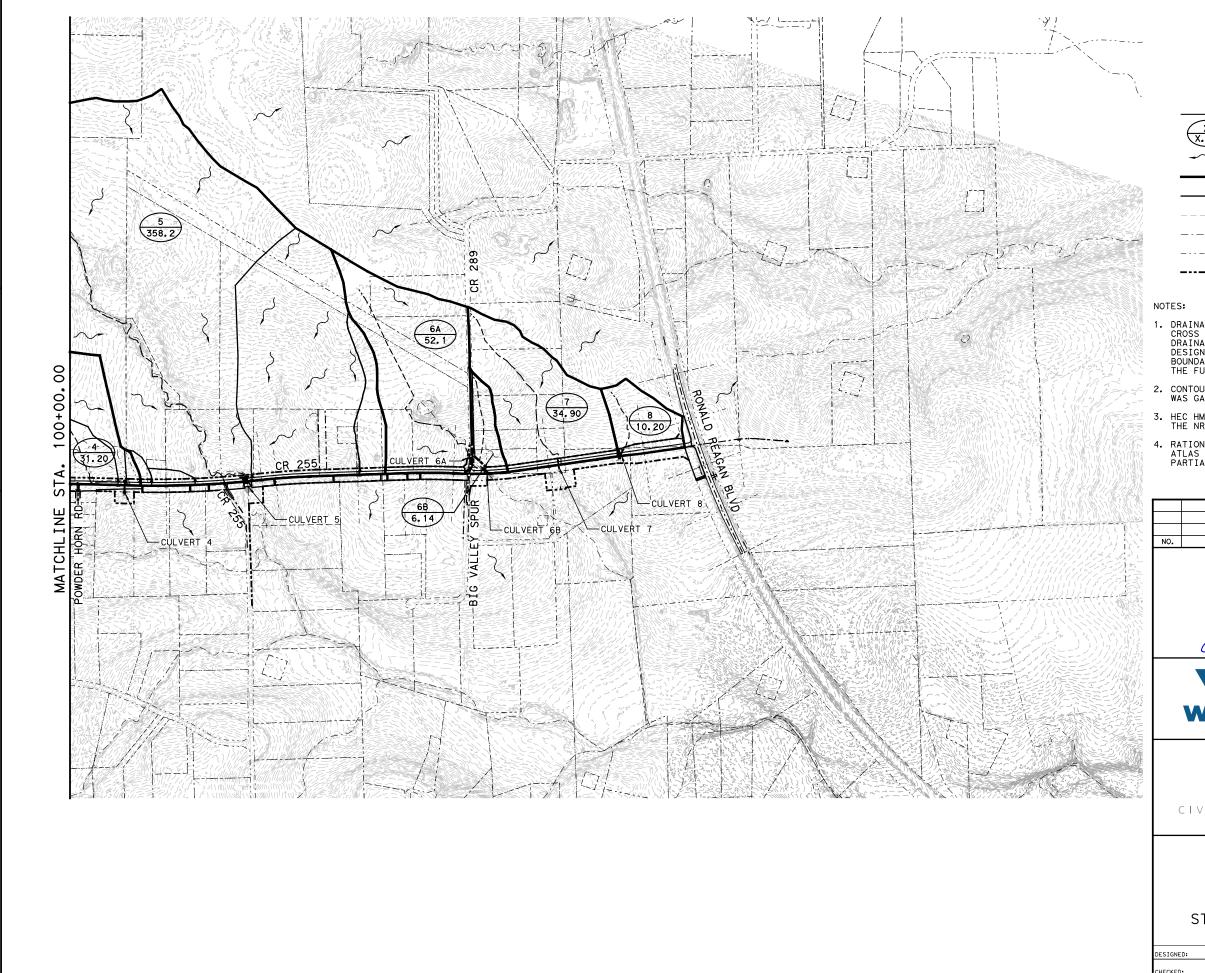
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#### CR 255 OFFSITE DRAINAGE AREA MAP

BEGIN PROJECT TO STA 100+00

				SHI	EET	1 OF 2
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	R 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	151

r. - Cudyosiiii 7.10/2024 - 4:51:33 PM PT: S:08 Projects/S22/011, GR25599 - Project Standards/CR255\_jplo clstglictay.gamldms01862/CR255\_OD401.dgn





SCALE: 1" = 1000'

#### LEGEND

AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

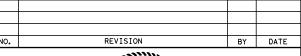
EXIST CONTOUR

EXIST ROW

CREEK THALWEG

PROP ROW

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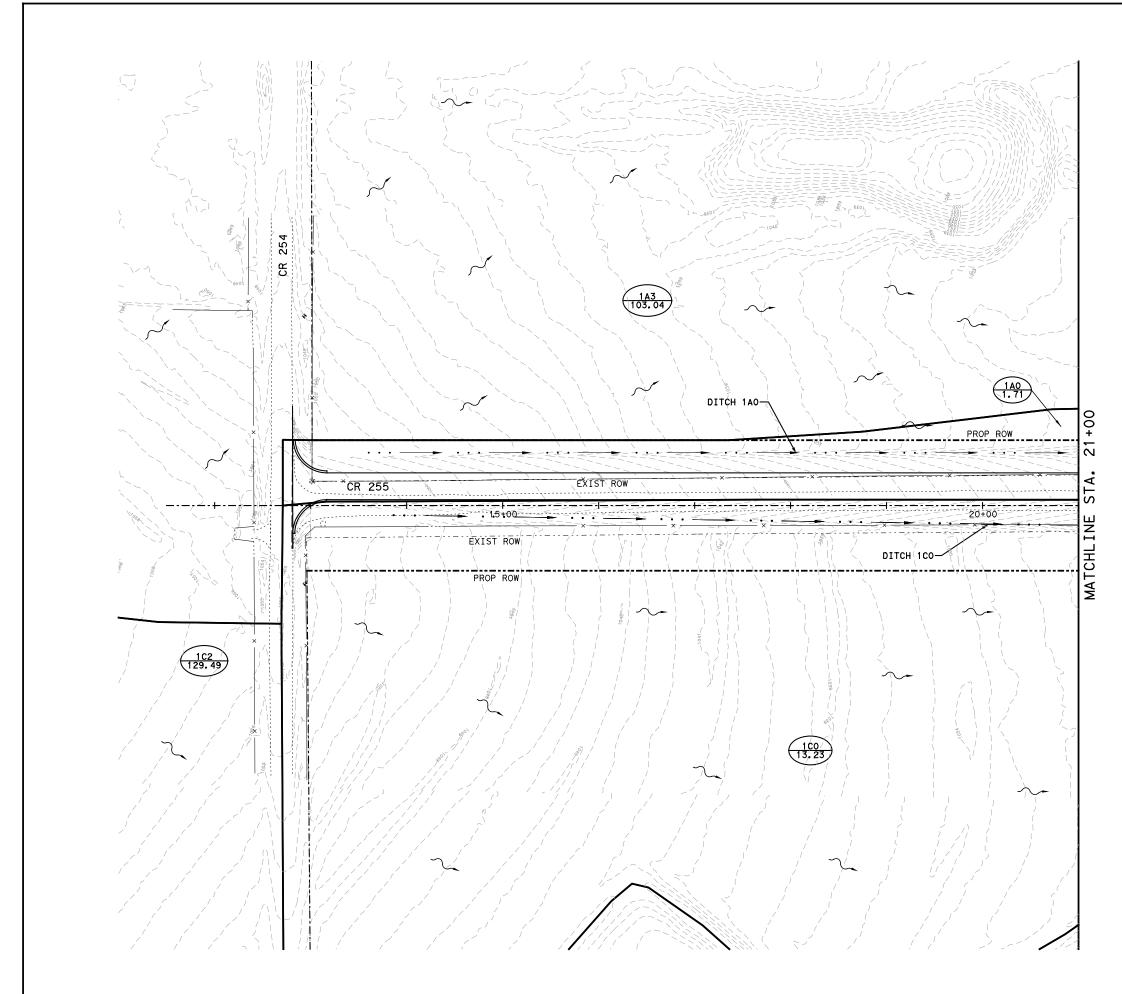
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 OFFSITE DRAINAGE AREA MAP

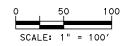
STA 100+00 TO END PROJECT

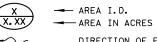
SHEET 2 OF 2

IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CKED:	Х	TEXAS			CF	R 255
WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX	XX	152









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

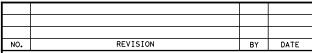
CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

- 1. CONTOURS ARE PROVIDED AT 1' INTERVALS AND GENERATED FROM WILCO GIS WEBSITE AND TNRIS DATA.
- 2. THESE DRAINAGE AREA MAPS REFLECT THE INTERNAL DRAINAGE BOUNDARIES NEEDED TO COMPUTE PEAK FLOWS USING THE RATIONAL METHOD FOR THE DESIGN OF DITCHES AND DRIVEWAY CULVERTS. REFER TO THE OFFSITE DRAINAGE AREA MAPS FOR THE FULL LIMITS OF IDENTIFIED DRAINAGE BOUNDARIES.









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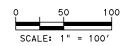
CR 255

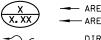
DRAINAGE AREA MAP BEGIN PROJECT TO STA 21+00

HIGHWAY No.

STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX







AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

----- CREEK THALWEG

PROP ROW

#### NOTES:

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CR 255
DRAINAGE AREA MAP

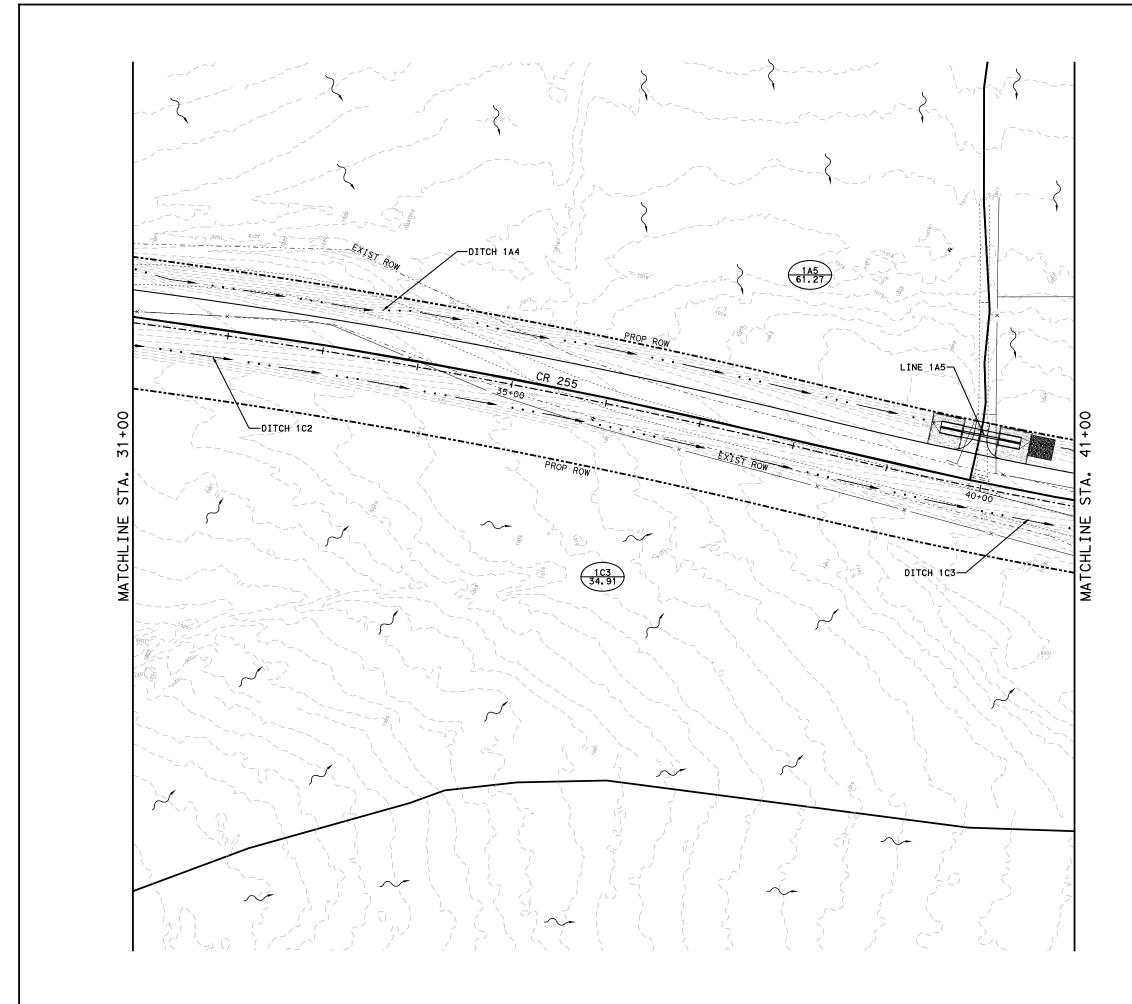
STA 21+00 TO 31+00

SHEET 2 OF 16

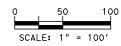
DESIGNED: DEV. NO. STATE FEDERAL AID PROJECT NO. HIGHWAY NO.

CHECKED: X TEXAS

CHECKED: STATE COUNTY CONTROL SECTION NO. NO. NO. NO. NO. CHECKED: XX XX XX XX XX XX 154









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

#### NOTES:

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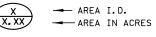
CR 255 DRAINAGE AREA MAP STA 31+00 TO 41+00

SHEET 3 OF 16 STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS SECTION JOB SHEET No. No. No. No. STATE DISTRICT XX COUNTY XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

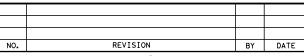
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

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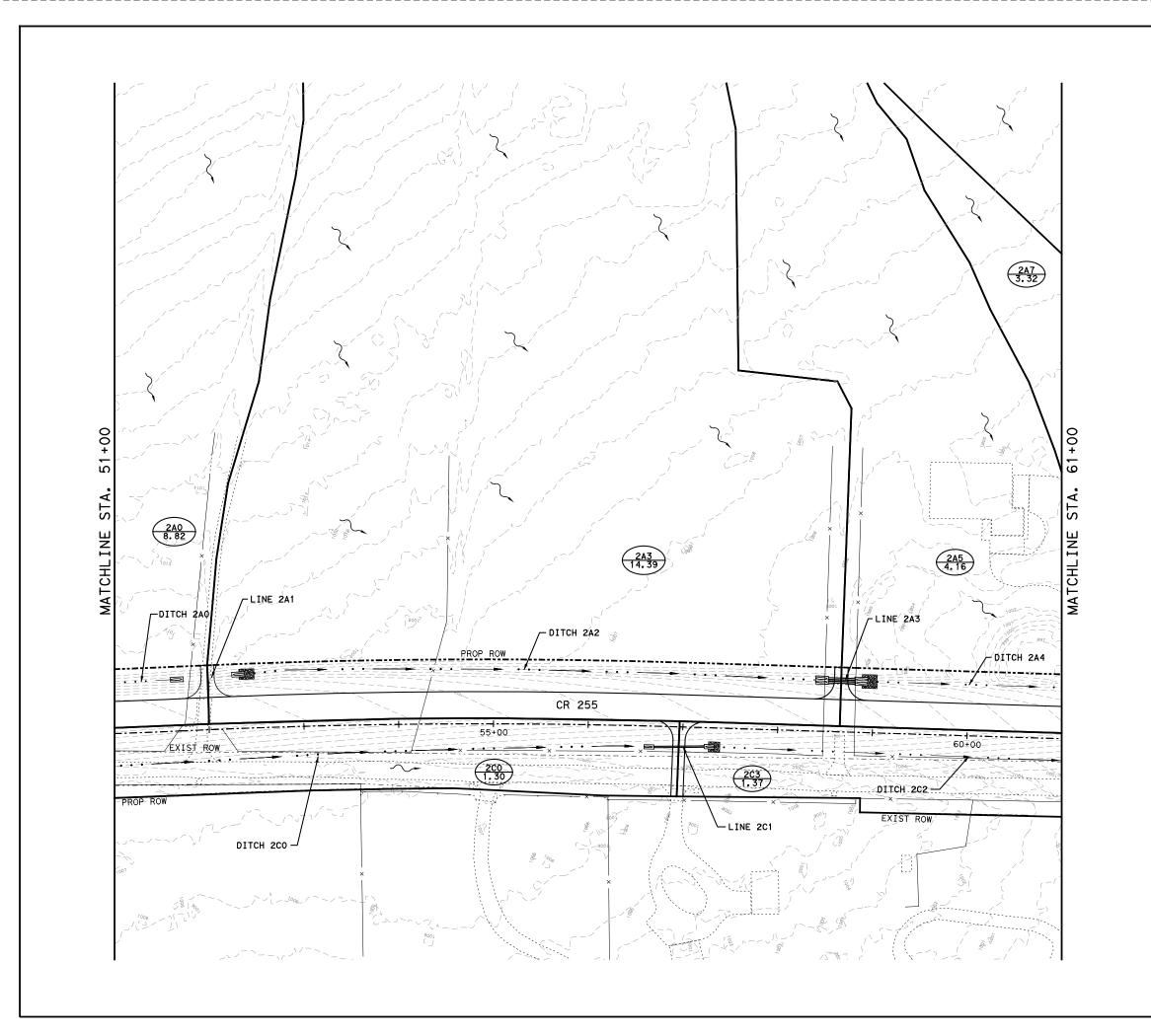




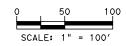
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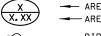
CR 255 DRAINAGE AREA MAP STA 41+00 TO 51+00

SHEET 4 OF 16 STATE FEDERAL AID PROJECT No. HIGHWAY No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. STATE DISTRICT XX COUNTY XX









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

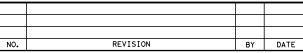
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

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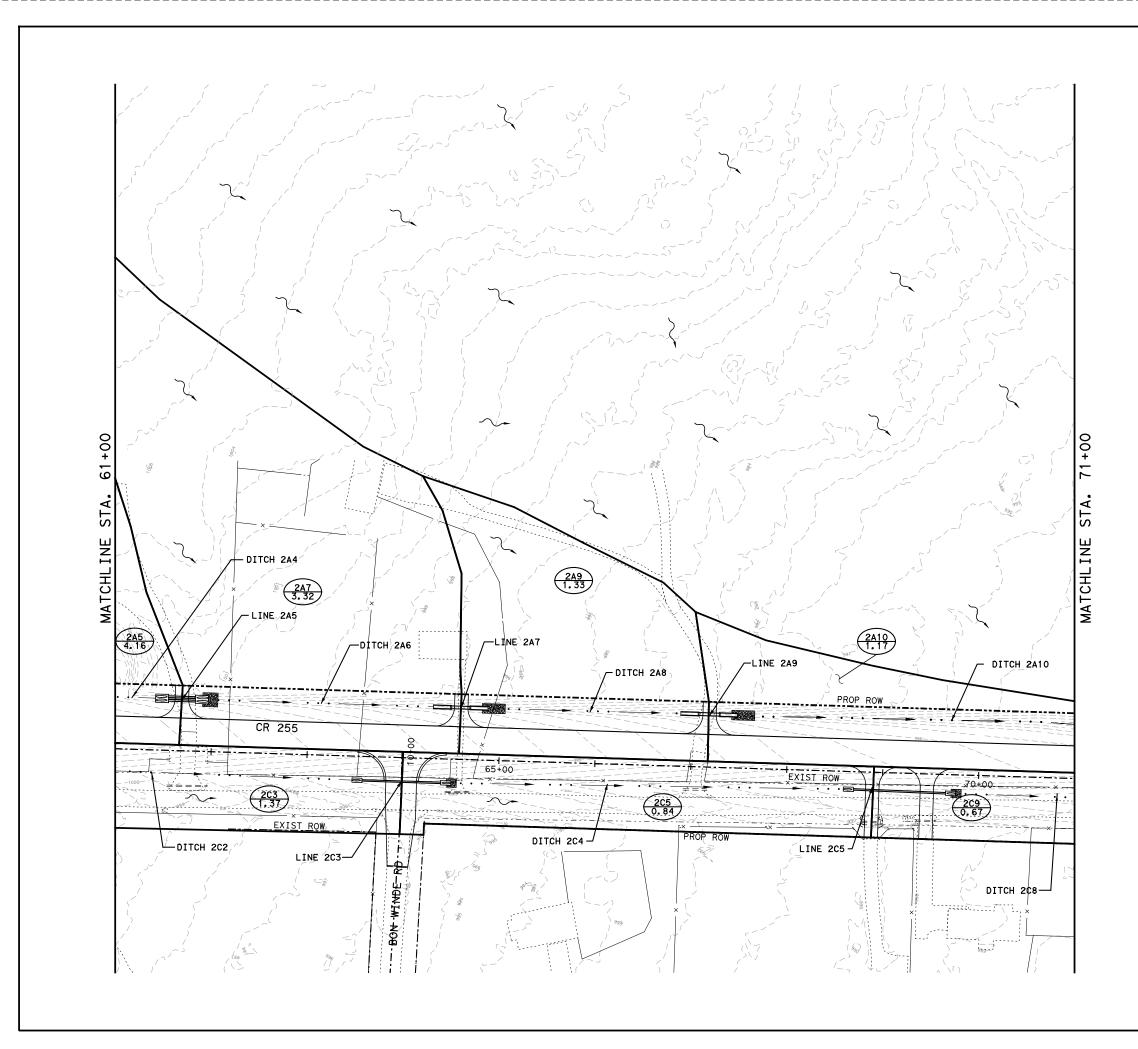




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CR 255 DRAINAGE AREA MAP STA 51+00 TO 61+00

				SHE	ET 5	OF 16
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	157









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG

EXIST ROW

------ PROP ROW

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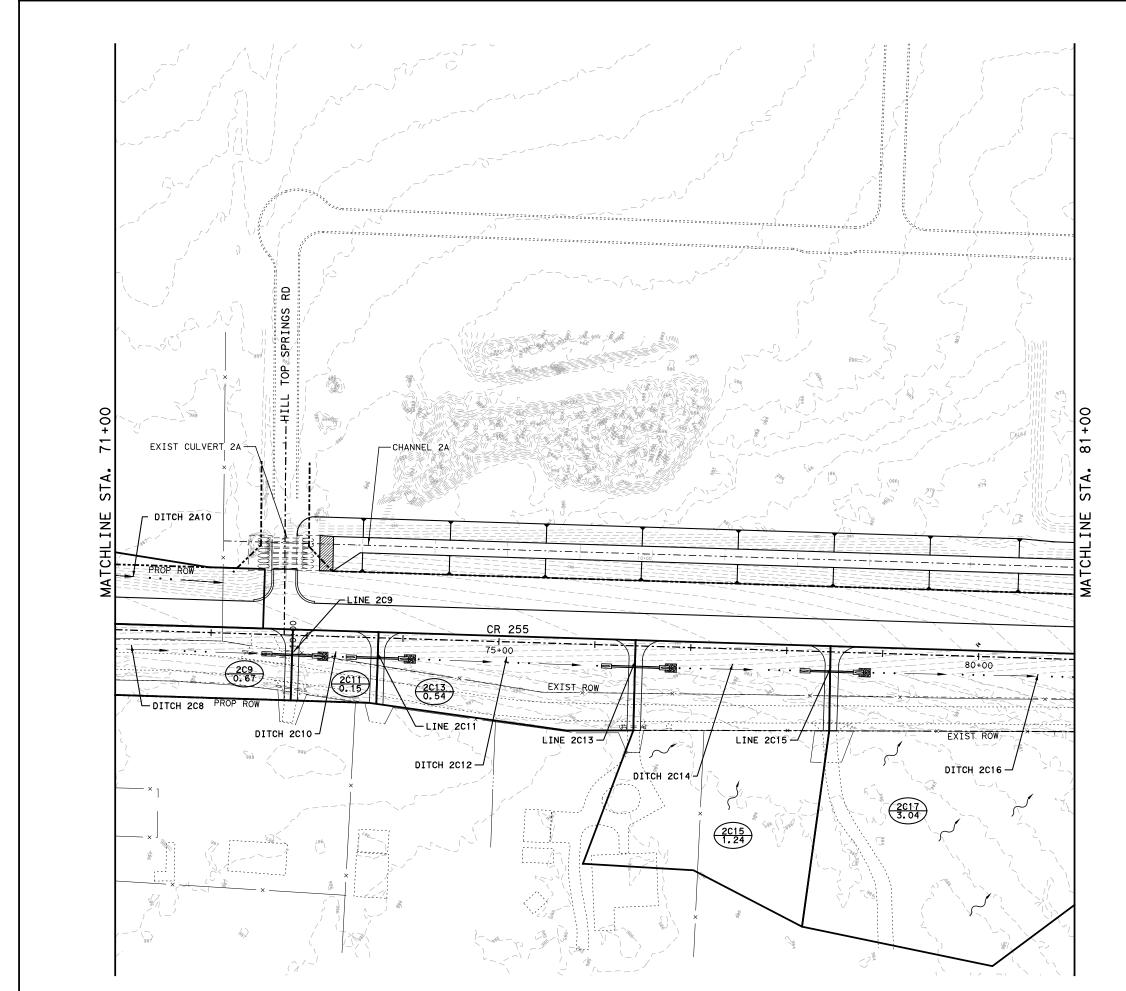






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CR 255
DRAINAGE AREA MAP
STA 61+00 TO 71+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

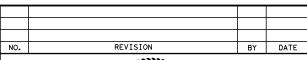
EXIST CONTOUR

CREEK THALWEG

EXIST ROW PROP ROW

#### NOTES:

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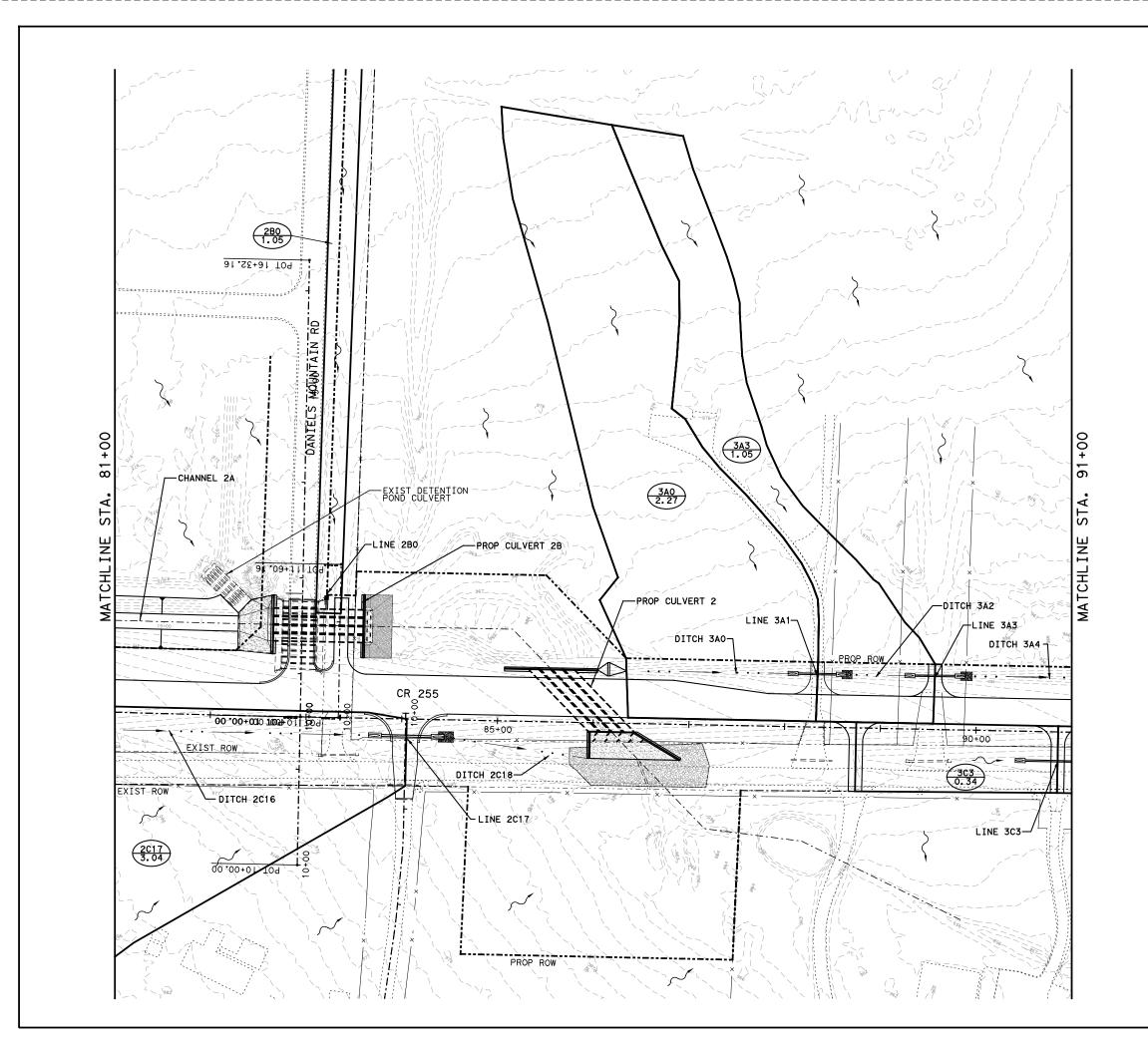




CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 71+00 TO 81+00

				SHE	ET 7	OF 16	
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.	
CHECKED:	Х	TEXAS			CF	R 255	
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.	
CHECKED:	CKED: XX XX		XX	XX	XX	159	









→ AREA I.D. → AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

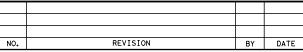
CREEK THALWEG

EXIST ROW

PROP ROW

#### NOTES:

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CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 81+00 TO 91+00

				SHE	ET 8	OF 16
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	160









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

CREEK THALWEG
----- EXIST ROW

------ PROP ROW

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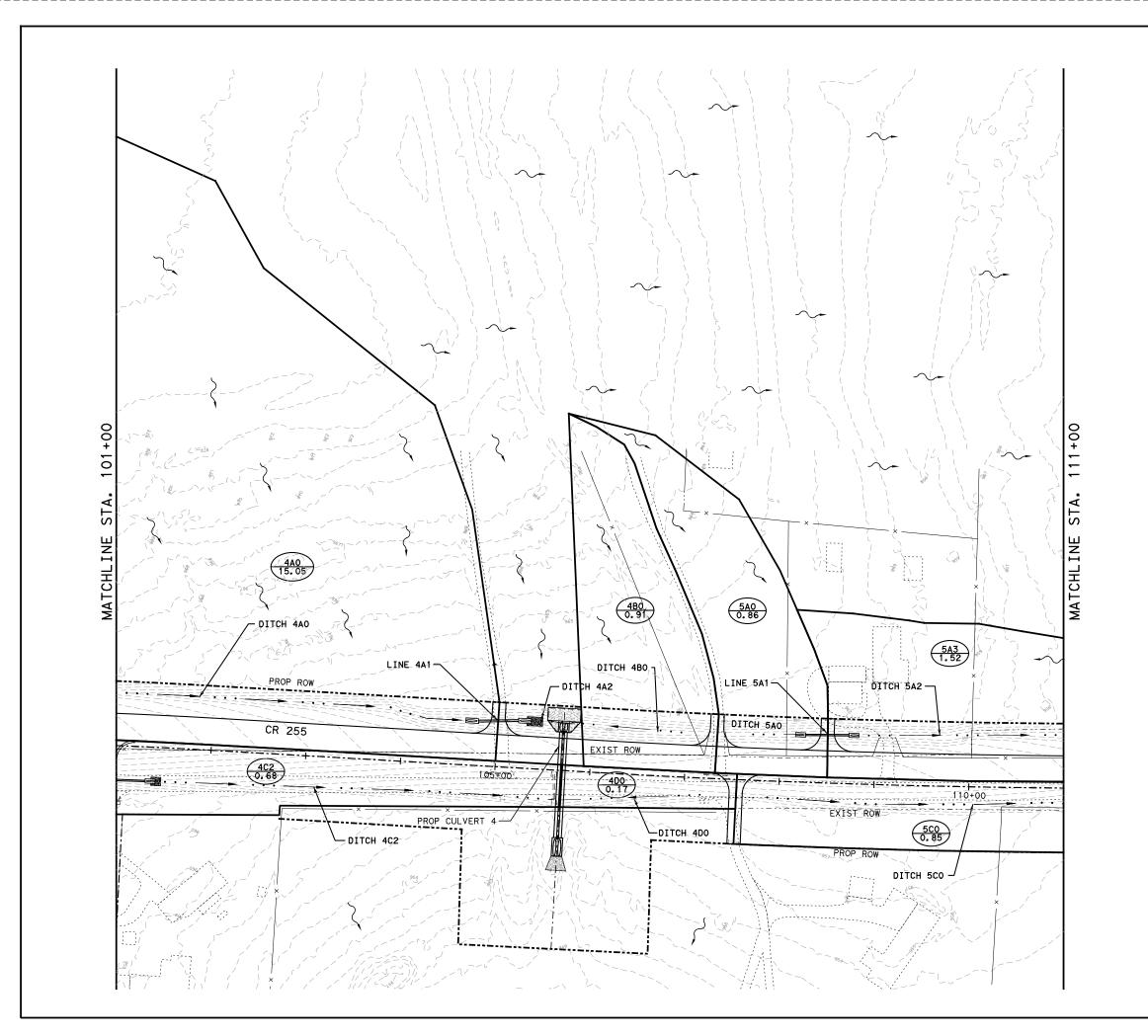




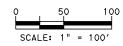
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255
DRAINAGE AREA MAP
STA 91+00 TO 101+00

				SHE	ET 9	OF 16
DESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
CHECKED:	Х	TEXAS			CF	₹ 255
DRAWN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CHECKED:	XX	XX	XX	XX	XX	161









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY EXIST CONTOUR

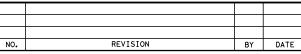
EXIST ROW

CREEK THALWEG

PROP ROW

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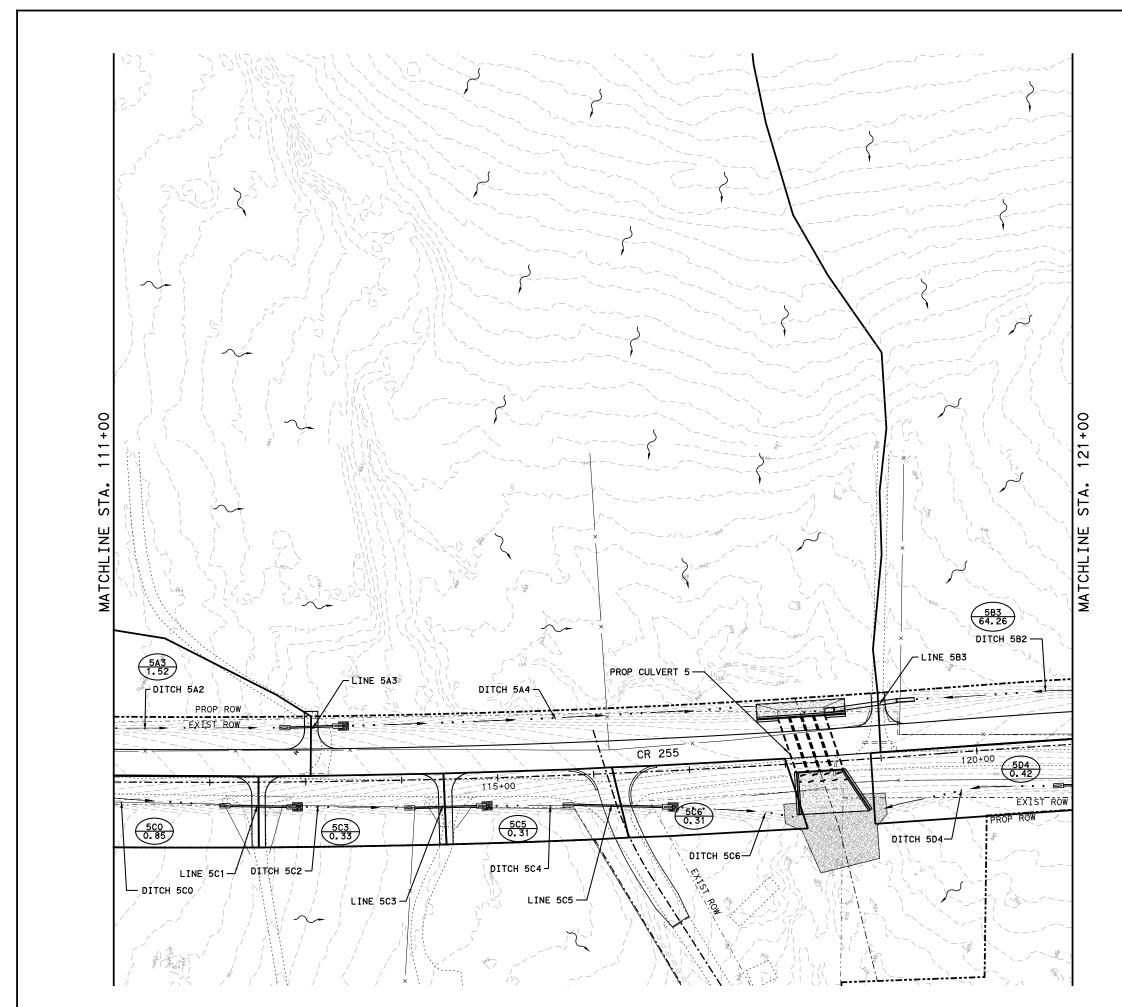


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

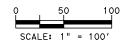
CR 255 DRAINAGE AREA MAP

STA 101+00 TO 111+00

SHEET 10 OF 16 STATE FEDERAL AID PROJECT No. HIGHWAY No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

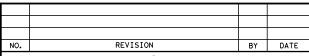
EXIST CONTOUR

CREEK THALWEG

EXIST ROW PROP ROW

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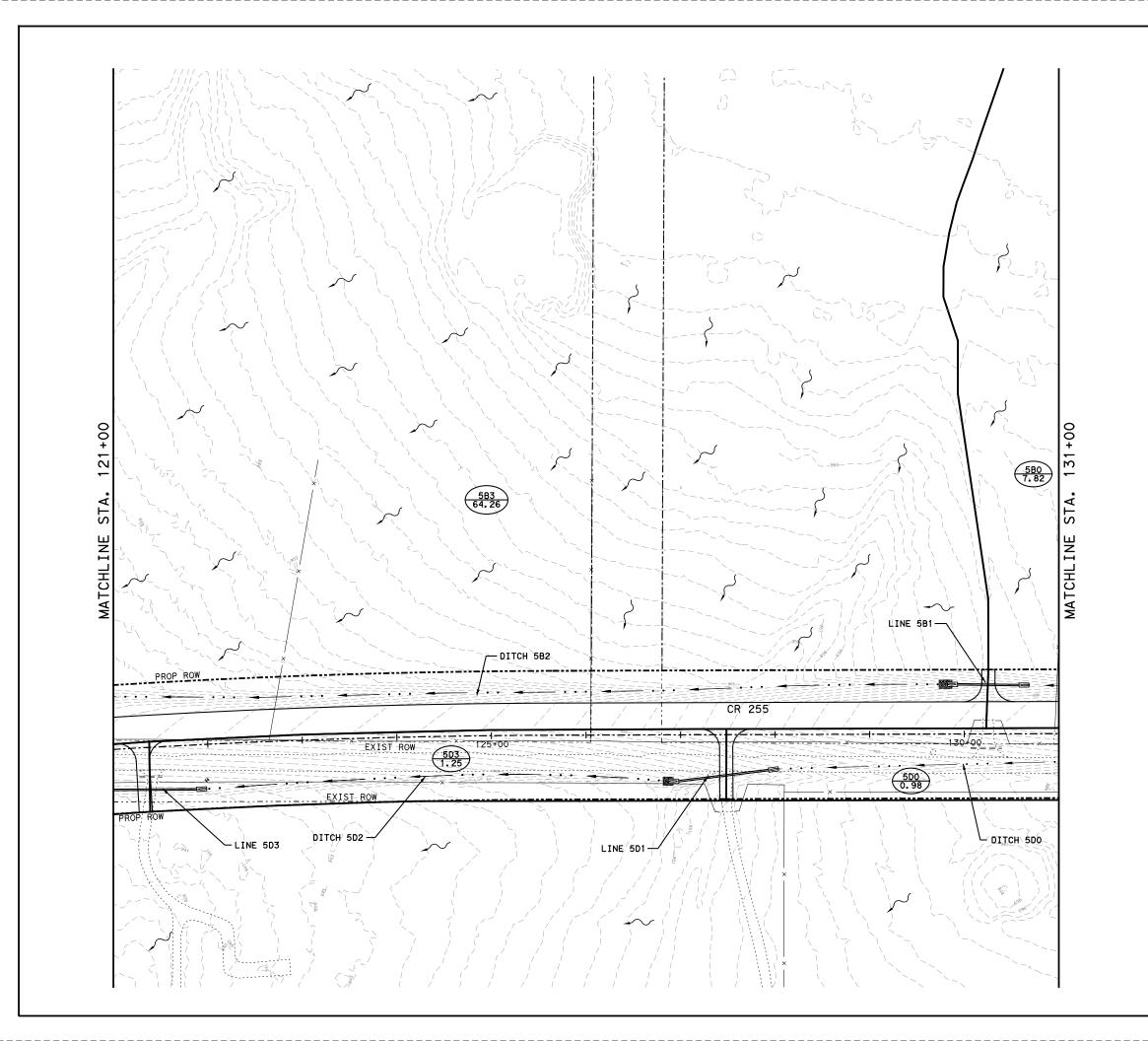


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP

STA 111+00 TO 121+00

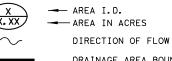
SHEET 11 OF 16 HIGHWAY No. STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX











DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

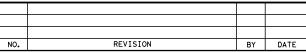
CREEK THALWEG

EXIST ROW

PROP ROW

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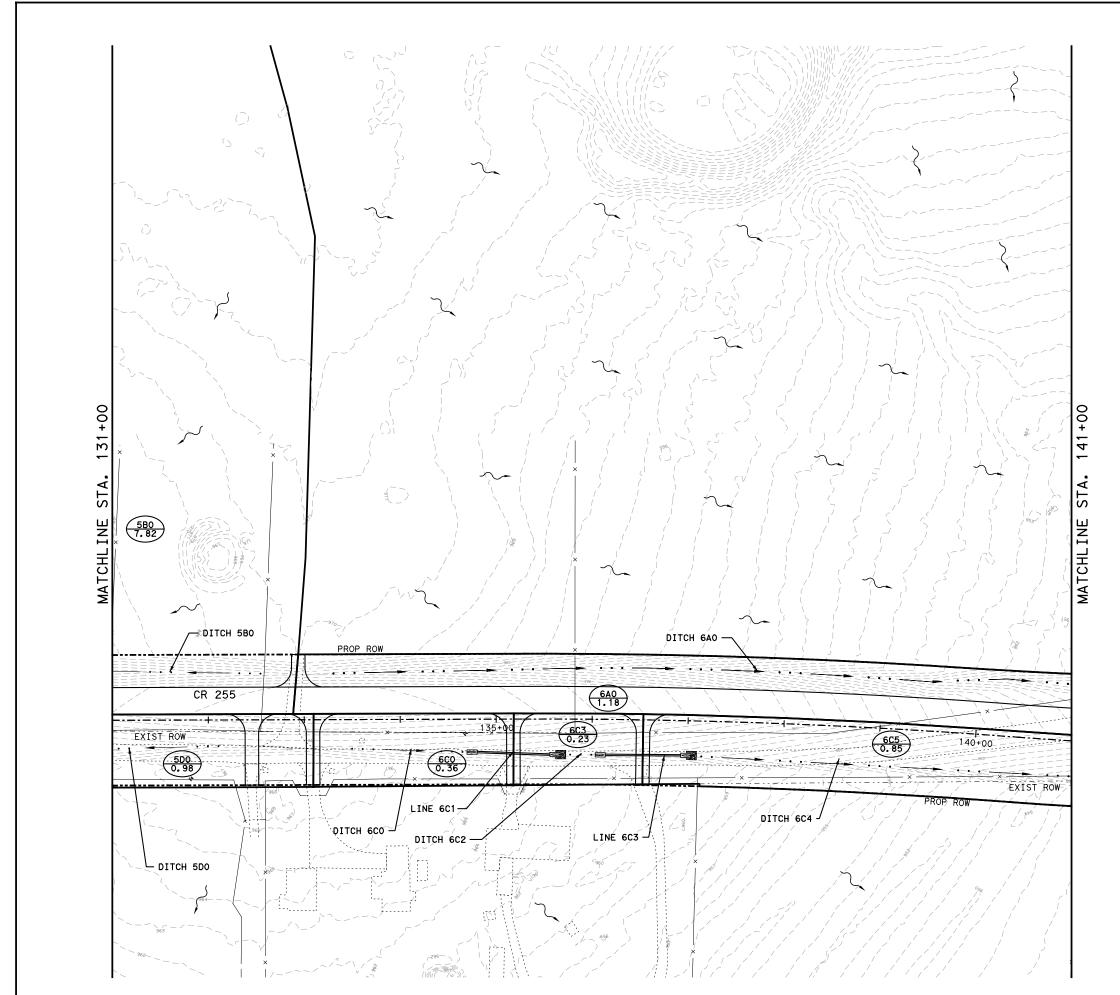


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

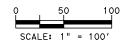
CR 255 DRAINAGE AREA MAP

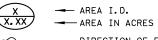
STA 121+00 TO 131+00

SHEET 12 OF 16 HIGHWAY No. STATE FEDERAL AID PROJECT No. DESIGNED: CR 255 TEXAS HECKED: SECTION JOB SHEET No. No. No. No. COUNTY XX XX









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DIATINACE AREA BOOKBART

DRAINAGE SUB-AREA BOUNDARY

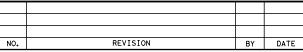
EXIST CONTOUR

CREEK THALWEG
EXIST ROW

PROP ROW

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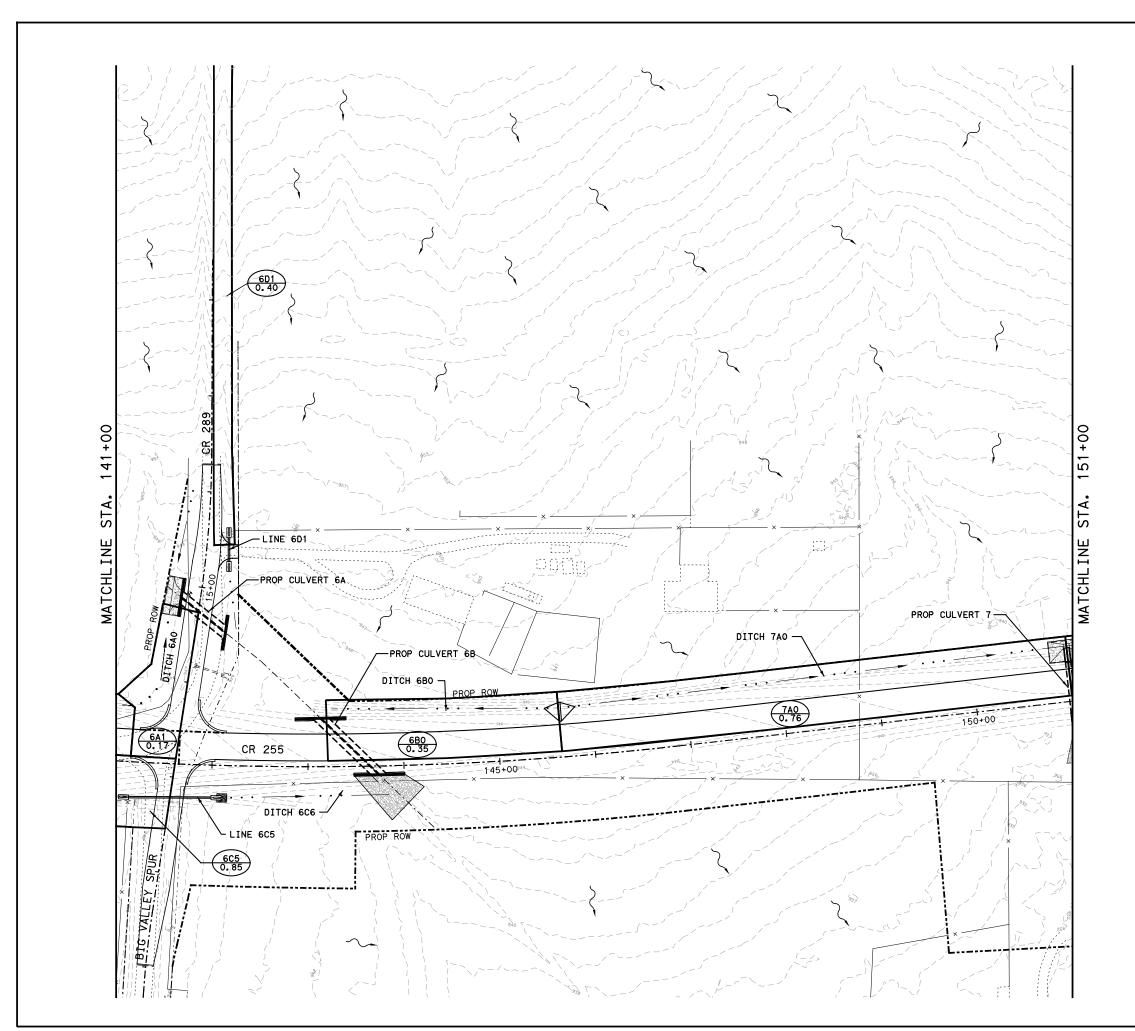






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CR 255
DRAINAGE AREA MAP
STA 131+00 TO 141+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

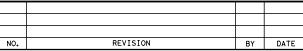
EXIST CONTOUR

----- CREEK THALWEG

----- PROP ROW

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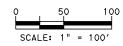


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CR 255
DRAINAGE AREA MAP
STA 141+00 TO 151+00









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

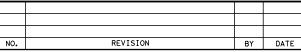
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

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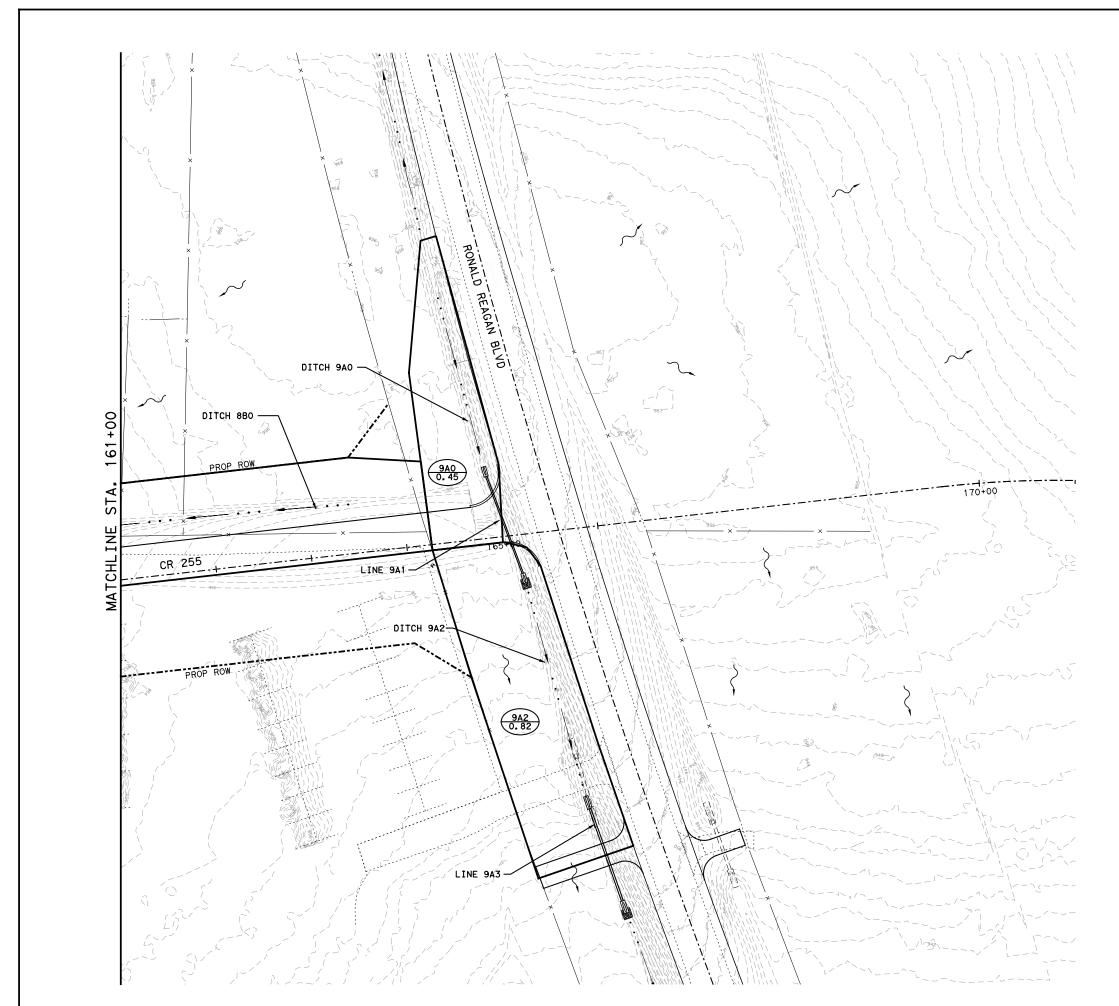
DESIGNED:

CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

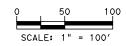
CR 255 DRAINAGE AREA MAP STA 151+00 TO 161+00

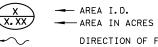
XX

SHEET 15 OF 16 STATE FEDERAL AID PROJECT No. CR 255 TEXAS SECTION JOB SHEET No. No. No. No. COUNTY









DIRECTION OF FLOW

DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

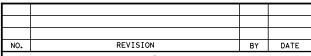
EXIST CONTOUR

CREEK THALWEG EXIST ROW

PROP ROW

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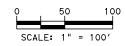
DESIGNED: CHECKED:

CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP STA 161+00 TO END PROJECT

			SHEE	1 16	OF 16
FED. RD DIV. No.	STATE	FEDERAL AID	PROJECT No.	HIG	HWAY No.
Х	TEXAS			CF	R 255
STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
XX	XX	XX	XX	XX	168









DIRECTION OF FLOW

DRAINAGE SUB-AREA BOUNDARY

DRAINAGE AREA BOUNDARY

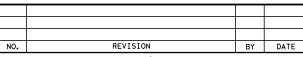
CREEK THALWEG

EXIST CONTOUR

EXIST ROW PROP ROW

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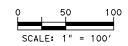
CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP RONALD REAGAN BLVD BEGIN PROJECT TO STA 20+00

SHEET 1 OF 2

ESIGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
HECKED:	Х	TEXAS		CR 255		
RAWN:	STATE DISTRICT	COUNTY	CONTROL SECTION No. No.		JOB No.	SHEET No.
HECKED:	XX	XX	XX	XX	XX	169









AREA I.D.

AREA IN ACRES

DIRECTION OF FLOW DRAINAGE AREA BOUNDARY

DRAINAGE SUB-AREA BOUNDARY

EXIST CONTOUR

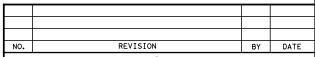
EXIST ROW

CREEK THALWEG

PROP ROW

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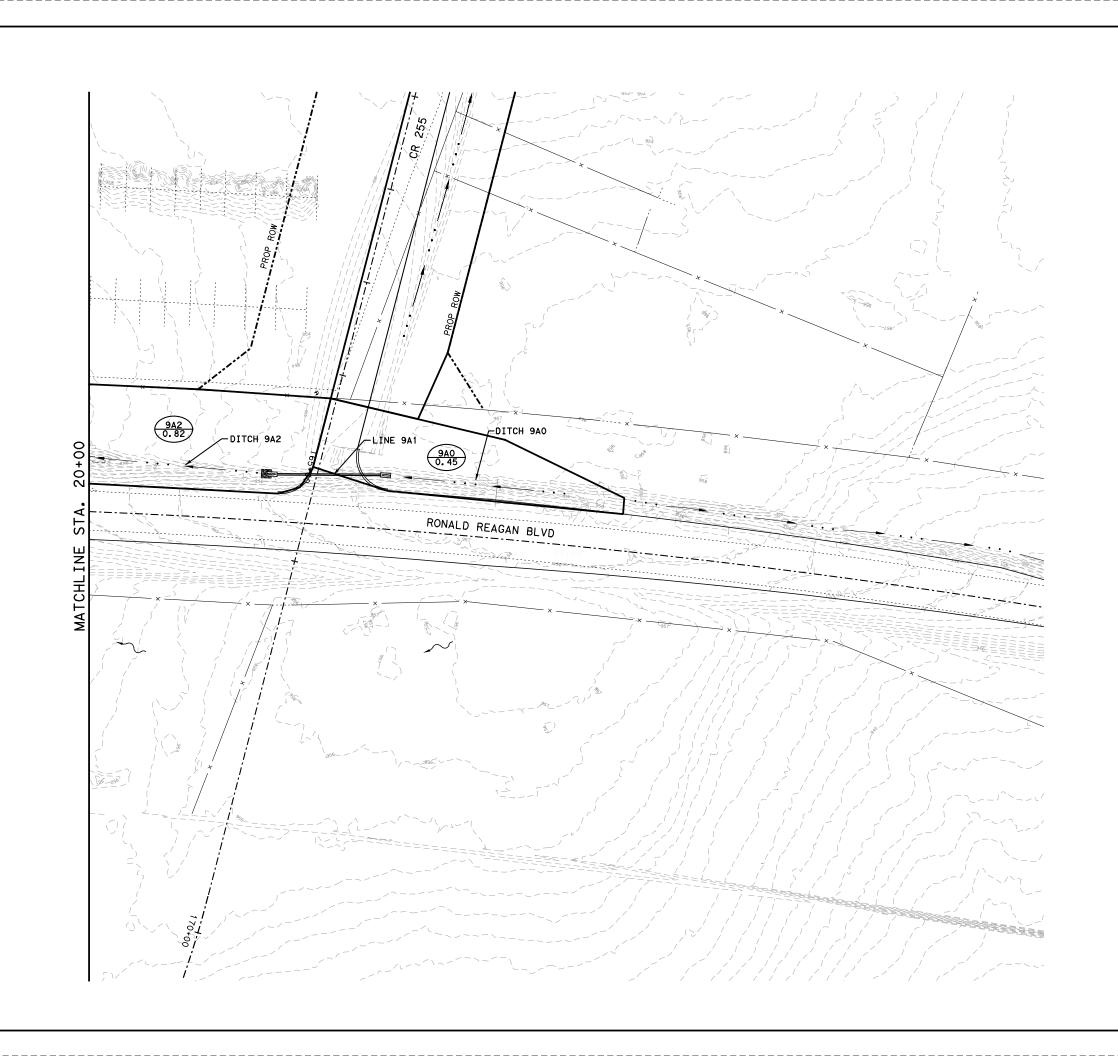


CLGANN, LLC 3708 Norman Loop Round Rock, TX 78664 512.574.5738 TBPE Firm No. 20717

CR 255 DRAINAGE AREA MAP RONALD REAGAN BLVD STA 20+00 TO END PROJECT

SHEET 2 OF 2

IGNED:	FED. RD DIV. No.	STATE	FEDERAL AID	HIGHWAY No.		
CKED:	Х	TEXAS		CR 255		
WN:	STATE DISTRICT	COUNTY	CONTROL No.	SECTION No.	JOB No.	SHEET No.
CKED:	XX	XX	XX	XX XX		170



# ATTACHMENT H – TEMPORARY SEDIMENT POND PLANS AND CALCULATIONS

	No	sediment	ponds a	re proposed fo	r this	project so	no plans	or	calculations a	are	provided
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#### ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

#### INSPECTION FREQUENCY AND PROCEDURES

#### **Frequency**

Qualified personnel should inspect the construction site on a regular inspection cycle. Inspection cycles include at least once every 14 calendar days and within 24 hours of the end of a rainfall that is 1/2-inchor greater or once every 7 days. Where sites have been finally stabilized, or during seasonal arid periods in arid (with an average annual rainfall of 0 to 10 inches) and semiarid (with an average annual rainfall of 10 to 20 inches) areas, inspections shall be conducted at least monthly. The inspection cycle is located on the project's SW3P sheet. The default option is at least once every 14 calendar days and within 24 hours of the end of a rainfall that is 1/2 inch or greater. The inspection shall include an evaluation of the BMP condition, maintenance requirements, and an indication of whether the device is functioning properly. If the inspection determines that modifications to the SW3P are needed, changes will be completed within 7 calendar days of the inspection.

#### **Record Keeping and General Procedures**

A report summarizing the inspection shall be completed that includes the following:

- Name(s) and qualifications of personnel making the inspection.
- The date(s) of the inspection.
- Major observations relating to the implementation of the SW3P and actions taken.

The inspection form to be used—Form 2118—is presented at the end of this Attachment. Note: The Engineer must approve additional BMPs identified as needed in an inspection that is not shown on the SWP3. If any issues are listed that are potentially not in compliance, forward the report immediately to your supervisor. Corrective actions must be taken immediately when the contractor or cleanup procedure is not in compliance with BMPs.

Records of all inspections shall be retained on-site.

TxDOT's website link to download a pdf version of Form 2118 can be found by scanning the QR code below.



#### TEMPORARY AND PERMANENT VEGETATION

#### **Description**

Vegetation is utilized to establish a temporary vegetative cover over areas disturbed by construction but not yet covered by pavement, buildings, permanent vegetation, or other structures. Temporary vegetation protects the soil from erosion until permanent structural installation or final soil stabilization is complete. Permanent vegetation provides final soil stabilization after soil-disturbing activities are complete.

#### **Inspection and Installation Guidelines**

- Complete grading activities prior to applying seed mixture.
- Apply compost-manufactured topsoil if required.
- Apply the seed mixture uniformly to the disturbed areas as required.
- Verify that applied seeds are well pulverized, loose, and uniform.
- Apply fertilizer, if necessary, at the appropriate rate.
- Irrigate vegetation initially and as dry conditions require.
- Determine if weeds and/or pests are hindering vegetative growth.
- Determine if erosion-control measures (mulching, blankets, erosion-control compost, mattings, etc.) are required to assist vegetation growth on steep slopes.

#### **Maintenance Guidelines**

- Seed areas that have less than 80% vegetative cover established.
- Fertilize and irrigate sod vegetation as needed.
- Implement a weed and pest management plan if necessary.
- Implement the erosion control measures, including dikes, diversion, and slope regrading, for steep slopes where vegetation is not established due to erosion of seed.

#### **BLANKETS AND MATTINGS**

#### **Description**

Blankets and mattings refer to sheets of erosion-control materials (straw, jute, wood fiber, coconut fiber, plastic netting, erosion-control compost, or other TxDOT-approved materials) placed on the surface of disturbed soil. The blankets and mattings protect the soil from erosion until vegetation becomes established.

#### **Inspection and Installation Guidelines**

- Complete grading, fertilization, and seeding activities prior to installing a blanket or matting unless noted otherwise in the specifications.
- Install the blanket or matting in accordance with the manufacturer's recommendations and/or the specifications.
- Anchor the blanket or matting to the soil surface using staples, trenches, or other TxDOTapproved anchoring methods.
- Install anchor staples flush with the soil surface.
- Secure blanket or matting joints (Note: Specifications typically require a minimum amount of overlap).
- Identify areas where the blanket or matting is loose, damaged, or missing.

#### **Maintenance Guidelines**

- Seed areas that exhibit inadequate vegetative growth followed by anchoring or replacement of the blanket or matting.
- Anchor any loose areas of the blanket or matting.
- Replace any damaged or missing areas of the blanket or matting.

#### SILT FENCE

#### **Description**

A silt fence consists of geotextile fabric supported by metal posts and wire mesh that prevents soil and sediment from leaving areas disturbed by construction.

#### **Inspection and Installation Guidelines**

- Ensure that the silt fence is installed perpendicular to the direction of runoff flow.
- Securely fasten the geotextile fabric to metal posts or wire mesh.
- Face the geotextile fabric towards the construction area (the steel posts and wire mesh behind the fabric should face away from the construction area).
- Securely anchor the geotextile fabric to the ground so that storm water runoff does not pass beneath the fence.
- Embed the steel posts a minimum of 1 foot deep and no more than 8 feet apart, or 6 feet apart where water is concentrated.
- Ensure that there is a 3-foot overlap where the ends of the geotextile fabric meet.
- Remove accumulated sediment when buildup reaches 1/3 the height of the fence.
- Re-install the silt fence at the end of the day if it was temporarily moved (such as for vehicular access).
- Repair torn or missing sections of the geotextile fabric.

#### **Maintenance Guidelines**

- Repair and replace the silt fence as needed.
- Remove sediment.
- Securely fasten and anchor the silt fence.

#### **ROCK BERM**

#### **Description**

A rock berm consists of a dike constructed of rock wrapped in wire mesh (Type 1 rock berms do not use wire mesh). A rock berm intercepts and slows storm water runoff and retains sediment.

#### **Inspection and Installation Guidelines**

- Install the berm perpendicular to the direction of runoff flow.
- Embed the berm a minimum of 4 inches into the ground.
- When placed in a channel, tie the ends of the berm to the existing side slopes.
- Wrap rocks with wire mesh (wire mesh is not used for Type 1 berms).
- Overlap wire mesh a minimum of 2 inches at ends and at joints (wire mesh is not used for Type 1 berms).
- Repair any wire mesh damaged by traffic (wire mesh is not used for Type 1 berms).
- Remove accumulated sediment.

#### **Maintenance Guidelines**

- Repair wire mesh (wire mesh is not used for Type 1 berms).
- Remove sediment.

#### STABILIZED CONSTRUCTION EXIT

#### Description

A stabilized construction exit is a pad of crushed stone, timber, or other TxDOT-approved material located at any point at which traffic will be leaving the construction site to or from a public right-of-way, street, sidewalk, or parking area. A stabilized construction exit minimizes or eliminates the transport of sediment onto public rights-of-way.

#### **Inspection and Installation Guidelines**

- Ensure that the construction pad is flush with the connecting road so that no damage occurs to the road edge.
- Ensure that the pad foundation is stable enough to handle traffic and that it exhibits minimal settling.
- Re-grade the slope of the pad as necessary to improve drainage.
- Remove any sediment that is spilled, dropped, washed, or tracked onto public rights-ofway immediately.
- Wash wheels if off-site sediment tracking is occurring.
- Capture and drain wash water to an approved sediment-control structure, such as a sediment trap or basin.

#### **Maintenance Guidelines**

None. Construction exit should be removed after construction activities.

#### **GOOD HOUSEKEEPING**

Good housekeeping refers to keeping a clean, orderly construction site. Good housekeeping practices are necessary to prevent storm water contamination. Examples of good housekeeping practices include the following:

- Storing chemicals, pesticides, fertilizers, fuels, etc., in a manner that prevents contact with storm water.
- Scheduling regular collection of garbage, rubbish, construction waste, and sanitary waste.
- Cleaning up spills of liquid or dry materials promptly.
- Cleaning up sediments that have been tracked by vehicles onto the site or nearby roadways.
- Controlling the dumping of excess concrete and concrete wastewater on the site.
- Ensuring that stockpiles of material such as fill are located to prevent storm water from transporting off-site.

#### CONSTRUCTION WASTES

Construction projects tend to generate a variety of excess or unused material. These wastes are sometimes called "construction wastes." Construction wastes may include, but are not limited to, the following:

- Trees and shrubs removed during clearing and grubbing.
- Packaging materials (wood, paper, plastic, etc.).
- Scrap or surplus building materials (scrap metals, rubber, plastic and glass pieces, masonry products, plywood lumber, etc.).
- Materials resulting from the demolition of structures.

The following steps will help ensure proper disposal of construction waste as well as prevent storm water contamination:

- Select a designated waste collection area on-site.
- Provide an adequate number of containers with lids or covers that can be placed over the container prior to rainfall.
- When possible, place containers in a covered area.
- Arrange for waste collection before containers become full.
- Conduct daily site cleanups so that wastes are property managed prior to leaving the site.
- Clean up any spills immediately.
- Plan for additional containers and more frequent pickups during the demolition phase of construction.
- Verify that construction waste is collected, removed, and disposed of only at authorized disposal areas.
- Check with the local solid waste management agency for specific guidance.

#### HAZARDOUS MATERIALS

Many of the materials found at construction sites may be hazardous to the environment or to human health. At a minimum, any products in the categories listed below are considered to be hazardous:

- Paints.
- · Acids for cleaning masonry surfaces.
- Cleaning chemicals.
- Asphalt products.
- Chemicals used for soil stabilization.
- Concrete-curing chemicals.
- Fuel products.

The following practices will help ensure proper disposal of hazardous wastes as well as prevent storm water contamination:

- Store materials in a manner that prevents contact with runoff.
- Check with local management authorities to determine the requirements for disposal of hazardous materials.
- Use the entire product before throwing away the container.
- Do not remove the original product label from the container.
- If surplus products are thrown away, avoid mixing products together.
- Follow the manufacturer's recommended method of disposal.
- Contaminated soil is soil that has been in contact with or contains hazardous substances.
  Contaminated soil may be encountered on-site during earthwork activities or during the
  cleanup of a spill or leak of a hazardous substance. Material storage areas may also have
  been contaminated by undetected spills. A state or local solid waste regulatory agency
  should be contacted for information and procedures necessary to handle contaminated
  soil. Some landfills may accept contaminated soil; however, laboratory testing may be
  required prior to a final decision.
- Concrete trucks should not be washed out at the construction site unless sufficient area
  has been made available to fully capture the wash water. The wash water must be
  prevented from entering any storm water drainage systems.
- Sandblasting is commonly used to remove paint, dirt, etc., from surfaces. Sandblasting
  grit, which consists of both the spent sand and the particles of paint and dirt removed
  from the surface, is hazardous if used to clean old structures on which metal-based
  paints were used. The grit should not be washed into the storm drain or sanitary sewer.

#### OFF-SITE VEHICLE TRACKING

Day-to-day practices can have a major impact on storm water contamination because of their potential for generating sediments. A common problem is vehicles leaving the construction site and transporting sediments to off-site roadways. Measures used to minimize off-site vehicle tracking of sediments include the following:

- Building stabilized construction exits and construction roads out of rocks or other material that will not stick to vehicle tires.
- Cleaning paved streets adjacent to the site to remove any excess mud, dirt, or rock tracked from the site.
- Scheduling deliveries or other traffic at a time when personnel are available to provide cleanup if it is required.

#### SANITARY FACILITIES

Sanitary waste facilities are those facilities used to manage raw sewage at the construction site. The most common facilities are portable facilities that store the sanitary wastes. Other facilities include temporary facilities that employ septic systems for treatment and disposal of sewage, or temporary facilities that release wastes to a sanitary sewer system. Sanitary or septic wastes that are generated on-site should be managed in accordance with state and/or local requirements. To prevent sanitary waste from contacting storm water, the following measures should be implemented:

- Schedule approved waste haulers to regularly remove sanitary and septic wastes and to maintain the facilities in good working order.
- Properly connect the sanitary waste facilities to the sanitary sewer system to prevent releases to the construction site or use appropriate portable facilities.
- Never release or bury untreated, raw sewage waste at the construction site.

# ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Vehicular traffic should be limited to areas of the project site where construction will take place. The contractor should endeavor to preserve existing vegetation as much as practicable to reduce erosion and lower the cost associated with stabilization. Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

All disturbed areas shall be stabilized as described below.

Except as provided for below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

- A. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
- B. Where construction activity on a portion of the site has temporarily ceased, and earth-disturbing activities will be resumed with 21 days, temporary stabilization measures do not have to be initiated on that portion of the site.
- C. In areas experiencing drought, where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

#### Stabilization measures as described as follows:

All disturbed grass areas should be planted in drought resistant species normally grown as permanent lawns, such as Zoysia, Bermuda and Buffalo. Grass areas may be sodded, plugged, sprigged, or seeded except that solid sod shall be used in swales or other areas subject to erosion. All planted areas shall be provided with a readily available water supply and watered as necessary to ensure continuous healthy growth and development. Maintenance shall include the replacement of all dead plant material if that material was used to meet the requirements of this section.

#### Agent Authorization Form

For Required Signature Edwards Aquifer Protection Program Relating to 30 TAC Chapter 213 Effective June 1, 1999

1	Adam Boatright, P.E.	
	Print Name	
	County Engineer	
	Title - Owner/President/Other	
of	Williamson County	
	Corporation/Partnership/Entity Name	
have authorized.	Clay E. Gann, P.E.	
	Print Name of Agent/Engineer	
of	CLGann, LLC	
	Print Name of Firm	

to represent and act on the behalf of the above-named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

#### I also understand that:

- 1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
- 2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
- 3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
- 4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
- 5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

#### SIGNATURE PAGE:

Applicant's Signature	08/19/2024 Date
THE STATE OF Texas §	
County of William Son §	
BEFORE ME, the undersigned authority, on this day person to me to be the person whose name is subscribed to the me that (s)he executed same for the purpose and consider	foregoing instrument and acknowledged to
GIVEN under my hand and seal of office on this <u>/ៗ</u> day o	of August.
NOTARY PUBLIC  NOTARY PUBLIC  NOTARY PUBLIC  NOTARY PUBLIC  NOTARY PUBLIC	NATHAN VAUGHN MALY Notary ID #134008884 My Commission Expires October 10, 2026

MY COMMISSION EXPIRES: 10-10-26

### **Application Fee Form**

#### **Texas Commission on Environmental Quality**

	Name of Proposed Regulated Entity: <u>CR 255</u> Extension to Ronald Reagan Blvd							
Regulated Entity Location: County Road 255 from Intersection of CR 254 to Ronald Reagan Blvd								
Name of Customer: Williamson County		540.040.0000						
Contact Person: <u>Terron</u> Evertson, P.E.		e: <u>512-94</u> 3-3330						
Customer Reference Number (if issue								
Regulated Entity Reference Number	(IT ISSUED):KN							
Austin Regional Office (3373)								
Hays	Travis	XW	illiamson					
San Antonio Regional Office (3362)								
Bexar	Bexar Uvalde							
Comal	Kinney							
Application fees must be paid by che	ck, certified check, c	or money order, payab	le to the <b>Texas</b>					
Commission on Environmental Qual		•						
form must be submitted with your for	<b>ee payment</b> . This pa	ayment is being submi	itted to:					
X Austin Regional Office	San Antonio Regional Office							
Mailed to: TCEQ - Cashier								
Revenues Section	1	2100 Park 35 Circle						
Mail Code 214	В	uilding A, 3rd Floor						
P.O. Box 13088	А	ustin, TX 78753						
Austin, TX 78711-3088	(:	512)239-0357						
Site Location (Check All That Apply):								
Recharge Zone	Contributing Zone	Transi	tion Zone					
Type of Plan		Size	Fee Due					
Water Pollution Abatement Plan, Cor	ntributing Zone							
Plan: One Single Family Residential D	\$							
Water Pollution Abatement Plan, Contributing Zone								
Plan: Multiple Single Family Resident	Acres	\$						
Water Pollution Abatement Plan, Cor								
Plan: Non-residential	68.48 Acres	\$ 8000						
Sewage Collection System		L.F.	\$					
Lift Stations without sewer lines Acres \$								

Signature: _	Clay	٤	Gar, P.E.	Date:	08/19/24
	0				

Underground or Aboveground Storage Tank Facility

Tanks \$

Each \$

Each \$

Each \$

Piping System(s)(only)

Extension of Time

Exception

### **Application Fee Schedule**

**Texas Commission on Environmental Quality** 

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

#### Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	Project Area in Acres	Fee
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional,	< 1	\$3,000
multi-family residential, schools, and other sites	1 < 5	\$4,000
where regulated activities will occur)	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$10,000

Organized Sewage Collection Systems and Modifications

Project	Cost per Linear Foot	Minimum Fee- Maximum Fee
Sewage Collection Systems	\$0.50	\$650 - \$6,500

## Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	Cost per Tank or Piping System	Minimum Fee- Maximum Fee
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

**Exception Requests** 

Project	Fee
Exception Request	\$500

Extension of Time Requests

Project	Fee
Extension of Time Request	\$150



### **TCEQ Core Data Form**

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

### **SECTION I: General Information**

1. Reason fo	r Submis	sion (If other is c	hecked please o	describe in	space <sub>l</sub>	orovid	ed.)				
New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)											
Renewa	l (Core Da	ta Form should b	e submitted with	h the renew	val form	)		Other			
2. Customer	Referenc	e Number <i>(if iss</i>		Follow this li			3. R	egulate	d Entity Reference	e Number <i>(i</i>	if issued)
CN 6008	97888		<u>f</u>	or CN or RN Central F			RI	N			
SECTION	II: Cu	stomer Info	rmation								
4. General C	ustomer I	nformation	5. Effective D	ate for Cu	stome	r Infor	matic	n Upda	ates (mm/dd/yyyy)		
New Cust		0.7 15 11 10		date to Cu					_ •	Regulated E	Entity Ownership
									of Public Accounts)		4::4b 4b -
The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).											
		ne (If an individual		-		ADIIC			Customer, enter previ	ous Custom	er helow:
o. Gustoniei	Legai ivai	ile (ii aii iiiuiviuuai	, print iast name i	1131. eg. D06	:, JUIII)		T	ii iiew C	ustomer, enter previ	ous Custome	er below.
										1	
7. TX SOS/CI	PA Filing	Number	8. TX State Ta	ax ID (11 dig	its)			9. Fede	eral Tax ID (9 digits)	10. DUN	S Number (if applicable)
11. Type of C	Customer:	☐ Corporati	on		Individ	ual		Р	artnership:  Gener	al 🔲 Limited	
		County  Federal	] State ☐ Other		Sole P	roprie	torshi	ρ [	Other:		
12. Number of 0-20		<u> </u>	251-500	☐ 501 a	nd high				ependently Owned	and Opera	ted?
14. Custome	r Role (Pr						n this f	_	ase check one of the	following	
Owner	· · ·	Operat	or		)wner &	Oper	ator			-	
Occupatio	nal Licens	ee 🗌 Respo	nsible Party	□ V	oluntar/	y Clea	anup A	pplicar	t Other:		
15. Mailing Address:											
Address.	City			State			ZIP			ZIP + 4	
16. Country	Mailing In	formation (if outsi	de USA)		-	17. I	E-Mail	Addre	SS (if applicable)		L
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18. Telephon	e Numbe	r	1	19. Extens	ion or (	Code			20. Fax Numbe	r (if applical	ole)
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SECTION	SECTION III: Regulated Entity Information										
			-		itu" ic ca	alacto	d hala	w this f	arm should be seen	mnaniad hy	a normit application
21. General Regulated Entity Information (If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)  ☑ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information											
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal											
		ndings such	•	•							
22. Regulate	d Entity N	ame (Enter name	of the site where t	the regulate	d action	is takii	ng plac	e.)			
County Road 255 Extension to Ronald Reagan Blvd											

TCEQ-10400 (04/20) Page 1 of 2

23. Str	eet Address of											
the Re	gulated Entity:											
<u>(No PO</u>	<u>Boxes)</u>	City			State		ZIP			ZIP + 4		
24. Cou	unty	Willian	nson			1				<u> </u>		
			Enter Physi	cal Loc	ation Description	on if no str	eet addres	ss is prov	vided.			
	scription to al Location:	From A	Andice, go	sout		38 for 1.3	34 miles	, west	on CR 2		0 ft to the CR	
26. Nea	arest City							State		Near	est ZIP Code	
Georg	getown							TX		786	33	
27. Lat	itude (N) In Decin	mal: 30.760463 <b>28.</b> Longitude (W) In Deci						cimal:	97.85675	3		
Degrees		Minutes		Se	conds	Degree	es		Minutes		Seconds	
	30		45		37.6 N		97		4	51	24.3 W	
29. Prir	mary SIC Code (4	digits) 30	. Secondary	y SIC C	ode (4 digits)	31. Primar	-	Code	<b>32. S</b> 6 (5 or 6	econdary NAI	CS Code	
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33. Wh	at is the Primary	Business	of this entit	<b>v?</b> (Do	o not repeat the SIC	or NAICS desc	eription.)					
	c Roadway			,	<u>,                                      </u>		, ,					
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3	34. Mailing											
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	36. Telepho		er		37. Extensio	n or Code		38	B. Fax Nu	mber <i>(if appli</i>	cable)	
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	Programs and ID					mits/registrat	ion number	s that will l	be affected	by the updates	submitted on this	
	Safety	☐ Distri			Edwards Aqui	fer	☐ Emiss	sions Inver	ntory Air	☐ Industrial	Hazardous Waste	
	•				•							
☐ Munio	cipal Solid Waste	☐ New	Source Revie	w Air	OSSF		☐ Petro	leum Stora	ge Tank	☐ PWS		
Sludg	e	☐ Storn	n Water		☐ Title V Air		Tires			☐ Used Oil		
∐ Volun	tary Cleanup	☐ ☐ Wast	e Water		☐ Wastewater A	griculture	Wate	r Rights		Other:		
ECT	ION IV: Pre	parer I	nformat	<u>tion</u>		T						
40. Name: Clay E. Gann, P.E.					41. Title:	Pres	sident					
42. Tele	phone Number	43. Ext./Co	de 4	4. Fax N	Number	45. E-Ma	ail Addres	S				
(512)	574-5738		(	)	-	cgann	@clgan	n.com				
ECT	ON V: Aut	horized	l Signatı	ıre								
<b>6.</b> By m	y signature below, authority to submit	I certify, t	o the best of	my kno								

<u>S</u> sig identified in field 39.

Company:	CLGann, LLC	Job Title:	Presiden			
Name (In Print):	Clay E. Gann, P.E.			Phone:	( 512 ) 574- <b>5738</b>	
Signature:	Clay & Gar, P.E.			Date:	08/19/24	

TCEQ-10400 (04/20) Page 2 of 2