



July 7, 2025  
AVO 37638.200

Ms. Chris Chaudoir  
Town of Hickory Creek  
1075 Ronald Reagan Avenue  
Hickory Creek, TX 75065

**Re: 1500 Turbeville Road – Sanitary Sewer Addition  
2<sup>nd</sup> Review**

Dear Ms. Chaudoir:

Halff received a request from the Town of Hickory Creek to review a sanitary sewer addition for 1500 Turbeville Road on December 18, 2024. The owner is Ecclesiastical Equity, LP. The surveyor and civil engineer is CCM Engineering. The electrical engineer is Kimley-Horn and Associates, Inc.

**2<sup>nd</sup> Complete Submittal received: July 1, 2025**

When a developer/owner desires to connect to the municipal wastewater collection system, they shall obtain approval from Lake Cities Municipal Utility Authority (LCMUA) and comply with their latest wastewater requirements. The Town of Hickory Creek does not maintain a sanitary sewer/wastewater system and thus approval from the Town is contingent upon plan review and approval from LCMUA.

**Written, Conditional Approval of the plans and submittal from LCMUA received on July 1, 2025 pending a completed and executed Facilities Agreement between LCMUA and owner.**

Halff has reviewed the proposed sanitary sewer additions as they pertain to general design requirements for wastewater collection system construction in the Town of Hickory Creek. It should be noted that proposed sanitary sewer improvements are for existing conditions only of the subject property. Any change in land usage, number of mobile homes or trailer homes serviced or proposed development of the property shall require separate development application and permitting, as needed. Upon review, Halff recommends approval of the sanitary sewer addition and offers the following additional comments below:

**General**

1. Subdivision/Addition name with lot and block number shall be shown on the plans or in the Title Block. (Town Checklist)  
**1<sup>st</sup> Review Response:** Abstract number and tract added (legal description, no lot or block available).  
**2<sup>nd</sup> Review:** Comment addressed.
2. Name, address and contact information of the Owner shall be shown on the Cover Sheet. (Town Checklist)  
**1<sup>st</sup> Review Response:** Owner info added to cover sheet.  
**2<sup>nd</sup> Review:** Comment addressed.

3. See attached markups of plans, design report, and SWPPP for all additional comments and revisions. (Town Checklist)  
**1<sup>st</sup> Review Response:** Submittal revised per attached markups.  
**2<sup>nd</sup> Review:** Comment addressed.
4. Please address comments and markups on the attached plan markups and provide annotated responses and comment response letter. Please note, not all comments are written on this letter since some comments are easier to show and/or explain in a visual context. Please annotate plan markups with responses.  
**1<sup>st</sup> Review Response:** Responses added to markups.  
**2<sup>nd</sup> Review:** Comment addressed.
5. Please confirm plans and design report to address any/all comments provided by Lake Cities Municipal Utility Authority (LCMUA). Plans approval from Town is contingent on addressing/resolving all LCMUA comments.  
**1<sup>st</sup> Review Response:** The full civil set, SCADA, SWPPP and design report have been approved by LCMUA. Upon the acceptance of these plans by Hickory Creek, we will send the plans to LCMUA to ensure that they have no issue with any revisions made per the comments in this letter.  
**2<sup>nd</sup> Review:** Comment addressed.
6. **It is mentioned in the 1<sup>st</sup> Review responses that this proposed line will be connected to the existing OSSF system, but no pipe or service connections are shown in the plans. Are there any planned alignments for this eventual connection to the OSSF? Will those pipe layouts need to be approved by LCMUA? Please confirm.**

#### **Civil Plans**

1. General Notes reference City of Corinth. Please update to reference Town of Hickory Creek general notes and revise notes as needed. (Markups)  
**1<sup>st</sup> Review Response:** Note revised.  
**2<sup>nd</sup> Review:** Comment addressed.
2. Confirm Water/Wastewater General Notes section is per LCMUA latest requirements. (Markups)  
**1<sup>st</sup> Review Response:** The full civil set, SCADA, SWPPP and design report have been approved by LCMUA. Upon the acceptance of these plans by Hickory Creek, we will send the plans to LCMUA to ensure that they have no issue with any revisions made per the comments in this letter.  
**2<sup>nd</sup> Review:** Comment addressed.
3. Sanitary Sewer Line slopes shown in plan view do not match slopes shown in the profile view. Please revise. (Markups)  
**1<sup>st</sup> Review Response:** Slopes revised to match.  
**2<sup>nd</sup> Review:** Comment addressed.
4. Revise manhole concrete pad callout as needed. (Markups)  
**1<sup>st</sup> Review Response:** Pad callout revised.  
**2<sup>nd</sup> Review:** Comment addressed.
5. Revise SF quantity of sidewalk repair as needed per the comments provided. (Markups)  
**1<sup>st</sup> Review Response:** Sidewalk removal no longer needed.  
**2<sup>nd</sup> Review:** Comment addressed.
6. Verify pipe length in the profile section. (Markups)

1<sup>st</sup> Review Response: Length verified.

2<sup>nd</sup> Review: Comment addressed.

7. Please verify the intent/purpose of the sanitary sewer installation as part of the existing conditions. Is there an existing OSSF north of here that will connect to this line? Is the sewer installation built only for future purposes? Please confirm (Markups)

1<sup>st</sup> Review Response: Existing OSSF will be connected to the proposed line.

2<sup>nd</sup> Review: Comment addressed.

8. The property extends an additional 800 LF north, and then further opens up to the northeast. Per the Town's Engineering Design Manual, Part 3 Section 2.02.K, all sewer installations must extend to the borders of the subdivision or property as required for future extensions of the collection system, regardless of whether such extensions are required for service within the subdivision or property. Per this paragraph, sewer extension would be required to, at minimum, be installed to the northern boundary of the subject property or separate development plans for such additional extension of the sewer line would need to be provided for review. (Markups)

1<sup>st</sup> Review Response: All references to multi family has been removed from design sewer, no multifamily is proposed with this site. Per conversation with Hickory Creek, we are removing any reference to the a future MF development, which removes the sewer extension requirement.

2<sup>nd</sup> Review: Comment addressed.

#### **Electrical/Metering Station Plans**

1. Electrical and Metering Station plans, notes, and details shall be reviewed and approved by LCMUA prior to Town approval of plans. (Markups)

1<sup>st</sup> Review Response: These have been approved by LCMUA

2<sup>nd</sup> Review: Comment addressed.

2. Signed and Sealed Electrical plans will be required prior to construction.

#### **Sewer Design Report**

1. Confirm design criteria is also in compliance with LCMUA latest requirements and guidelines (Markups)

1<sup>st</sup> Review Response: The report has been approved by LCMUA.

2<sup>nd</sup> Review: Comment addressed.

2. Current zoning of this property is Commercial C-1. Design assumption calls for Multifamily development, which would be a different zoning classification. Has a zoning change request been approved? Design may potentially need to be amended to reflect proper zoning. Please verify and confirm. (Markups)

1<sup>st</sup> Review Response: References to MF development have been removed from the report.

2<sup>nd</sup> Review: Comment addressed.

3. The design GPD shown per apartment unit assumes that water saving devices will be in use at future development. How can this be confirmed? If this cannot be verified, the assumption should be that no water saving devices are in use and GPD needs to be increased per Appendix A and design will need to be confirmed that 8" pipe is still adequate. (Markups)

1<sup>st</sup> Review Response: References to MF development have been removed from the report.

2<sup>nd</sup> Review: Comment addressed.

**SWPPP**

1. SWPPP will be implemented in the Town of Hickory Creek, not Lake Dallas as is mentioned throughout the current SWPPP packet. All mention of Lake Dallas, addresses, contacts, etc. need to be revised to be Hickory Creek, with corresponding addresses and contacts. SWPPP applicant will need to confirm that the BMPs proposed are in compliance with Hickory Creek's current MS4 and SWMP. (Markups)

1<sup>st</sup> Review Response: Revised SWPPP included with resubmittal. All city referenced in SWPP revised to be Hickory Creek.

2<sup>nd</sup> Review: Comment addressed.

Sincerely,

**HALFF**

TBPELS Engineering Firm No. 312

A handwritten signature in black ink, appearing to read "K. J. Gronwaldt", written in a cursive style.

Kevin Gronwaldt, PE

Consulting Engineer for the Town of Hickory Creek

C: Kristi Rogers – Town Secretary  
John Smith – Town Administrator

Attached: Town Checklist  
Comment Response Sheets



TOWN OF HICKORY CREEK  
ENGINEERING DESIGN MANUAL

## CHECKLISTS

Please make sure the plans you are submitting are in accordance with this checklist. The following checklist will be used during the Plan Review.

**Plat Application:**                      ☐ Preliminary Plat    ☐ Preliminary Replat  
                                                 ☐ Final Plat                      ☐ Final Replat

**Engineering Plan:**                      ☐ Preliminary    ☒ Final

**Site Construction Plan:**                      ☐ Preliminary    ☒ Final    ☐ Post Construction

**Storm Water Management:**                      ☐ Conceptual    ☐ Preliminary    ☐ Final

### Project Information

A. Name of Development: 1500 Turbeville                      B. Date: 7/7/2025

C. Location of Development: 1500 Turbeville Road, Hickory Creek, TX

D. Type of Development: Sanitary Sewer Addition and Metering Station

E. Total area (acres): 0.17

F. Proposed Land Uses (zoning designations): C-1

G. Anticipated project schedule: N/A

H. Name of Owner: Ecclesiastical Equity, LP

I. Owner Telephone No.: \_\_\_\_\_ J. FAX No.: \_\_\_\_\_

K. Owner Contact Name: Ronald Furtick

L. Owner Address: 1500 Turbeville Road, Hickory Creek, TX

M. Owner Email Address: \_\_\_\_\_

N. Engineer/Surveyor's Name: Cody D. Crannell, Luke Spicer

O. Engineer/Surveyor's Email Address: cody@ccm-eng.com, luke@ccm-eng.com

P. Engineer/Surveyor Firm: CCM Engineering

21. Certificate showing all taxes have been paid. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
22. A letter fully outlining and alterations from the approved Preliminary Plat. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_

**ENGINEERING SITE PLAN** – Each Engineering Site Plan shall include:

1. Engineering Site plans shall be placed on maximum 22" x 34" sheets and drawn to a scale of 1" = 100' or 1" = 50' unless approved in advance by the Town. Yes X No \_\_\_\_ N/A \_\_\_\_
2. Title block in lower right hand corner including:
- a. Subdivision name with lot and block number. Abstract and Tract Number provided, unplatted property. Yes X No \_\_\_\_ N/A \_\_\_\_
  - b. Area in acres. Yes X No \_\_\_\_ N/A \_\_\_\_
  - c. Metes and bounds description including survey name and abstract number. Yes X No \_\_\_\_ N/A \_\_\_\_
  - d. Town and County. Yes X No \_\_\_\_ N/A \_\_\_\_
  - e. Preparation Date. Yes X No \_\_\_\_ N/A \_\_\_\_
3. Name, address and telephone number of the owner, applicant, and surveyor/engineer. Yes X No \_\_\_\_ N/A \_\_\_\_
4. Vicinity map and key map, if multiple sheets are needed. Yes X No \_\_\_\_ N/A \_\_\_\_
5. Written scale, graphic scale and north arrow. Yes X No \_\_\_\_ N/A \_\_\_\_
6. Approximate distance to the nearest street. Yes X No \_\_\_\_ N/A \_\_\_\_
7. Site boundaries, dimensions, lot lines and lot areas. Yes X No \_\_\_\_ N/A \_\_\_\_
8. Legend. Yes X No \_\_\_\_ N/A \_\_\_\_
9. Site data summary table including: Sanitary Sewer Addition on Existing Site Plan, Site Data Table not needed.
- a. Zoning. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - b. Proposed use. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - c. Building area (gross square footage). Yes \_\_\_\_ No \_\_\_\_ N/A X
  - d. Building height (feet and inches). Yes \_\_\_\_ No \_\_\_\_ N/A X
  - e. Area of impervious surface. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - f. Total Parking: Required and provided. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - g. Number of handicap parking spaces. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - h. Number of dwelling units and number of bedrooms (multifamily). Yes \_\_\_\_ No \_\_\_\_ N/A X

10. Existing improvements within 75' of the subject property. Yes   X   No        N/A
11. Land use, zoning, subdivision name, recording information and adjacent owners. Yes   X   No        N/A
12. Building locations, sizes, and dimensions. Yes        No        N/A   X
13. Distance between buildings on the same lot. Yes        No        N/A   X
14. Building lines and setbacks. Yes        No        N/A   X
15. Dimensions of all drive lanes and traffic flow arrows. Yes        No        N/A   X
16. FEMA floodplains with elevations, and minimum finished floor elevations (include the floodplain note shown on the final plat). Yes        No        N/A   X
17. Public streets, private drives, and fire lanes with pavement widths and including rights-of-way, median openings, turn lanes, existing driveways, adjacent existing driveways with dimensions, radii, and surface. Yes        No        N/A   X
18. Distances between existing and proposed driveways. Yes        No        N/A   X
19. Loading and unloading areas. Yes        No        N/A   X
20. Ramps, crosswalks, sidewalks and barrier-free ramps with dimensions. Yes        No        N/A   X
21. Locations of dumpsters and trash compactors with height and material of screening. Yes        No        N/A   X
22. Size, location, dimensions and details of all signs and exterior lighting of signs, including type of standards, locations and radius of light and intensity of foot-candles. All signage are subject to approval by the Building Inspections Department. Yes        No        N/A   X
23. Location and sizes of existing and proposed water and sewer mains. Yes   X   No        N/A
24. Location of fire hydrants. Yes        No        N/A   X
25. Location and sizes of storm drains, culverts, inlets and other drainage features on or adjacent to the site. Yes        No        N/A   X
26. Locations, widths, and types of existing and proposed easements. Yes   X   No        N/A
27. Provide an elevation of all four sides of the building including materials, colors and dimensions at an architectural scale of 1"=20'. Yes        No        N/A   X
28. Landscape plan provided on separate sheet to show the following:
- a. Natural features including tree masses and anticipated tree loss. Yes        No        N/A   X
  - b. Floodplains, drainageways and creeks. Yes        No        N/A   X
  - c. Screening walls and fences, retaining walls, headlight screens, and service area screens including height and type of construction. Yes        No        N/A   X

- |                                                                              |                               |
|------------------------------------------------------------------------------|-------------------------------|
| d. Existing and preserved trees including location, size, and species.       | Yes ____ No ____ N/A <u>X</u> |
| e. Landscaping materials including location and size.                        | Yes ____ No ____ N/A <u>X</u> |
| f. Proposed plant materials.                                                 | Yes ____ No ____ N/A <u>X</u> |
| g. Note to indicate type and placement of irrigation system.                 | Yes ____ No ____ N/A <u>X</u> |
| 29. 2" x 3" blank box in lower right corner for Town use.                    | Yes ____ No ____ N/A <u>X</u> |
| 30. Additional information as requested to clarify the proposed development. | Yes <u>X</u> No ____ N/A ____ |

**COVER SHEET** \* - The cover sheet shall include:

- |                                                                                   |                           |
|-----------------------------------------------------------------------------------|---------------------------|
| 1. Project title and type of project.                                             | Yes ____ No ____ N/A ____ |
| 2. Location map.                                                                  | Yes ____ No ____ N/A ____ |
| 3. Disposal site for excess excavation.                                           | Yes ____ No ____ N/A ____ |
| 4. Index of Sheets (if not included on its own sheet).                            | Yes ____ No ____ N/A ____ |
| 5. Approval blocks for Town including Town Engineer and Director of Public Works. | Yes ____ No ____ N/A ____ |
| 6. Professional Engineer's seal, signature and date.                              | Yes ____ No ____ N/A ____ |
| 7. "Release for Construction" note.                                               | Yes ____ No ____ N/A ____ |

\* NOTE: If the Cover Sheet is not furnished, information should appear on other sheets.

**GENERAL**

- |                                                                                                                                     |                           |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1. North arrow clearly shown on each plan sheet.                                                                                    | Yes ____ No ____ N/A ____ |
| 2. Bench marks shown on each sheet; located on permanent structure outside of construction limits and conveniently spaced (500' +). | Yes ____ No ____ N/A ____ |
| 3. Title blocks, title, sheet number and scales shown.                                                                              | Yes ____ No ____ N/A ____ |
| 4. Each sheet must bear the seal of a Licensed Professional Engineer, signature, and date.                                          | Yes ____ No ____ N/A ____ |
| 5. Street names on each sheet.                                                                                                      | Yes ____ No ____ N/A ____ |
| 6. Property owners and property lines shown.                                                                                        | Yes ____ No ____ N/A ____ |
| 7. Submit four (4) sets of plans for review on 22" x 34" sheets.                                                                    | Yes ____ No ____ N/A ____ |
| 8. Prepare plans on 22" x 34" sheets allowing for half size reduction to 11" x 17".                                                 | Yes ____ No ____ N/A ____ |
| 9. Text shall be legible on the half size 11" x 17" plans.                                                                          | Yes ____ No ____ N/A ____ |
| 10. Place standard general notes on plans.                                                                                          | Yes ____ No ____ N/A ____ |

15. Show other utility lines crossing wastewater lines. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
16. Show location of water meters:
- a. Domestic. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
  - b. Irrigation. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
  - c. Fire line. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
17. Show size of water meters. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
18. Note minimum pipe covers (attach water and standard details and general notes). Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_
19. Dedicate water line easements up to and including fire hydrants and water meters for lines off ROW. Yes \_\_\_\_ No \_\_\_\_ N/A \_\_\_\_

**WASTEWATER** – All wastewater plans shall include:

1. Approval letter to connect to the wastewater collection agency (i.e. Flower Mound, Highland Village, Upper Trinity, Private) Yes X No \_\_\_\_ N/A \_\_\_\_  
*Written conditional approval received by LCMUA pending executed Facilities Agreement*
2. Horizontal scale for plan views shall be at 1" = 20' on full size drawings. Yes X No \_\_\_\_ N/A \_\_\_\_
3. Vertical scale for profile views shall be at 1" = 4' on full size drawings. Yes X No \_\_\_\_ N/A \_\_\_\_
4. 8" minimum, PVC SDR-35 (unless 6-inch approved by Town). Yes X No \_\_\_\_ N/A \_\_\_\_
5. Manhole at end of all lines. Yes X No \_\_\_\_ N/A \_\_\_\_
6. Manholes at change of pipe size, tees and bends. Yes X No \_\_\_\_ N/A \_\_\_\_
7. 500' maximum distance between manholes on lines 21" and smaller.  
 800' maximum distance between manholes on lines 24" and larger. Yes X No \_\_\_\_ N/A \_\_\_\_
8. Minimum slopes:
- a. 6" – 0.50% (Pipe size as approved by Town). Yes \_\_\_\_ No \_\_\_\_ N/A X
  - b. 8" – 0.33%. Yes X No \_\_\_\_ N/A \_\_\_\_
  - c. 10" – 0.25%. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - d. 12" – 0.20%. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - e. 15" – 0.14%. Yes \_\_\_\_ No \_\_\_\_ N/A X
  - f. 18" – 0.12%. Yes \_\_\_\_ No \_\_\_\_ N/A X
9. Maximum slope such that velocity is less than 10 fps. Yes X No \_\_\_\_ N/A \_\_\_\_
10. Sewer laterals 10' downstream from water service or to center of lot. Yes \_\_\_\_ No \_\_\_\_ N/A X
11. Minimum lateral size:

- |                                                                                               |     |          |    |      |     |          |
|-----------------------------------------------------------------------------------------------|-----|----------|----|------|-----|----------|
| a. Residential, 4".                                                                           | Yes | ____     | No | ____ | N/A | <u>X</u> |
| b. Apartment, retail or commercial – 6".                                                      | Yes | <u>X</u> | No | ____ | N/A | ____     |
| c. Manufacturing or industrial – 8".                                                          | Yes | ____     | No | ____ | N/A | <u>X</u> |
| 12. Profile all sewer lines except laterals.                                                  | Yes | <u>X</u> | No | ____ | N/A | ____     |
| 13. Show other utility lines crossing wastewater lines.                                       | Yes | ____     | No | ____ | N/A | ____     |
| 14. Label lines to correspond to profile.                                                     | Yes | <u>X</u> | No | ____ | N/A | ____     |
| 15. Concrete encasement at creek crossing.                                                    | Yes | ____     | No | ____ | N/A | <u>X</u> |
| 16. Provide stub outs to adjacent property. Add services for Planned Development Communities. | Yes | ____     | No | ____ | N/A | <u>X</u> |
| 17. Note benchmark on all sheets.                                                             | Yes | <u>X</u> | No | ____ | N/A | ____     |
| 18. 10' utility easement provided for lines not in ROW.                                       | Yes | <u>X</u> | No | ____ | N/A | ____     |

**UTILITIES** – All plans shall show the following:

- |                                                                                                                                           |     |      |    |      |     |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----|------|-----|------|
| 1. Existing and proposed facilities shown in plan and profiles views.                                                                     | Yes | ____ | No | ____ | N/A | ____ |
| 2. Underground facilities close to or in conflict with proposed construction located by actual ties and elevations.                       | Yes | ____ | No | ____ | N/A | ____ |
| 3. Caution notes shown when construction operations come close to existing utilities. Telephone number of utility contact shall be shown. | Yes | ____ | No | ____ | N/A | ____ |

**EROSION CONTROL** – All plans shall show the following:

- |                                                                                                                                      |     |      |    |      |     |      |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|------|----|------|-----|------|
| 1. The scale for Erosion Control Plans may vary however shall be prepared on sheets no smaller than 1" = 100' on full size drawings. | Yes | ____ | No | ____ | N/A | ____ |
| 2. Existing and Proposed Grading.                                                                                                    | Yes | ____ | No | ____ | N/A | ____ |
| 3. Existing and Proposed Drainage Features.                                                                                          | Yes | ____ | No | ____ | N/A | ____ |
| 4. Erosion features including temporary construction entrance, silt fence, inlet protection, rock berms, seeding, etc.               | Yes | ____ | No | ____ | N/A | ____ |
| 5. Erosion control standard details.                                                                                                 | Yes | ____ | No | ____ | N/A | ____ |

**PAVEMENT MARKINGS AND SIGNAGE**

- |                                                                                                                                       |     |      |    |      |     |      |
|---------------------------------------------------------------------------------------------------------------------------------------|-----|------|----|------|-----|------|
| 1. The scale for Pavement Marking Plans may vary however shall be prepared on sheets no smaller than 1" = 100' on full size drawings. | Yes | ____ | No | ____ | N/A | ____ |
| 2. Pavement Markings and Signage Plan in accordance with MUTCD.                                                                       | Yes | ____ | No | ____ | N/A | ____ |
| 3. Pavement Markings Standard Details.                                                                                                | Yes | ____ | No | ____ | N/A | ____ |



January 16, 2025  
AVO 37638.200

Ms. Chris Chaudoir  
Town of Hickory Creek  
1075 Ronald Reagan Avenue  
Hickory Creek, TX 75065

**Re: 1500 Turbeville Road – Sanitary Sewer Addition  
1<sup>st</sup> Review**

Dear Ms. Chaudoir:

Halff received a request from the Town of Hickory Creek to review a sanitary sewer addition for 1500 Turbeville Road Founders Classical Academy of Corinth, Lot 1, Block A of the Cornelius Town Center Addition on December 18, 2024. The owner is Ecclesiastical Equity, LP. The surveyor and civil engineer is CCM Engineering. The electrical engineer is Kimley-Horn and Associates, Inc.

**When a developer desires to connect to the municipal wastewater collection system, they shall obtain approval from Lake Cities Municipal Utility Authority (LCMUA) and comply with their latest wastewater requirements. The Town of Hickory Creek does not maintain a sanitary sewer/wastewater system and thus approval from the Town is contingent upon plan review and approval from LCMUA. Halff has reviewed the proposed sanitary sewer additions as they pertain to general design requirements for wastewater collection system construction in the Town of Hickory Creek and offers the following comments below:**

#### General

1. Subdivision/Addition name with lot and block number shall be shown on the plans or in the Title Block. (Town Checklist)
2. Name, address and contact information of the Owner shall be shown on the Cover Sheet. (Town Checklist)
3. See attached markups of plans, design report, and SWPPP for all additional comments and revisions. (Town Checklist)
4. Please address comments and markups on the attached plan markups and provide annotated responses and comment response letter. Please note, not all comments are written on this letter since some comments are easier to show and/or explain in a visual context. Please annotate plan markups with responses.
5. Please conform plans and design report to address any/all comments provided by Lake Cities Municipal Utility Authority (LCMUA). Plans approval from Town is contingent on addressing/resolving all LCMUA comments.

RESPONSE:  
Abstract number and  
(legal description), r  
block available.

RESPONSE:  
Owner info added to

RESPONSE:  
Submittal revised per  
markups.

RESPONSE:  
Responses added to

#### Civil Plans

RESPONSE:  
The full civil set, SCADA, SWPPP and design report have been approved by LCMUA. Upon the acceptance of these plans by Hickory Creek, we will send the plans to LCMUA to ensure that they have no issue with any revisions made per the comments in this letter.

1. General Notes reference City of Corinth. Please update to reference Town of Hickory Creek general notes and revise notes as needed. (Markups)
2. Confirm Water/Wastewater General Notes section is per LCMUA latest requirements. (Markups)

RESPONSE:  
Noted revised.

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3. Sanitary Sewer Line slopes shown in plan view do not match slopes shown in the profile view. Please revise. (Markups) RESPONSE:  
Slopes revised to match.
4. Revise manhole concrete pad callout as needed. (Markups) RESPONSE:  
Pad callouts revised.
5. Revise SF quantity of sidewalk repair as needed per the comments provided. (Markups) RESPONSE:  
Sidewalk removal no longer needed.
6. Verify pipe length in the profile section. (Markups) RESPONSE: Length verified.
7. Please verify the intent/purpose of the sanitary sewer installation as part of the existing conditions. Is there an existing OSSF north of here that will connect to this line? Is there sewer installation built only for future purposes? Please confirm. (Markups) RESPONSE:  
Existing OSSF will be connected to the proposed line.
8. The property extends an additional 800 LF north, and then further opens up to the northeast. Per the Town's Engineering Design Manual, Part 3 Section 2.02.K, all sewer installations must extend to the borders of the subdivision or property as required for future extensions of the collection system, regardless of whether such extensions are required for service within the subdivision or property. Per this paragraph, sewer extension would be required to, at minimum, be installed to the northern boundary of the subject property or separate development plans for such additional extension of the sewer line would need to be provided for review. (Markups) RESPONSE:  
All references to multifamily development have been removed from the report, not multifamily development proposed with this site.

#### Electrical/Metering Station Plans

RESPONSE:  
Per conversation with Hickory Creek, we are removing any reference to the a future MF development, which removes the sewer extension requirement.

1. Electrical and Metering Station plans, notes, and details shall be reviewed and approved by LCMUA prior to Town approval of plans. (Markups)

RESPONSE:  
These have been approved by LCMUA.

#### Sewer Design Report

1. Confirm design criteria is also in compliance with LCMUA latest requirements and guidelines (Markups) RESPONSE:  
The report has been approved by LCMUA.
2. Current zoning of this property is Commercial C-1. Design assumption calls for Multifamily development, which would be a different zoning classification. Has a zoning change request been approved? Design may potentially need to be amended to reflect proper zoning. Please verify and confirm. (Markups) RESPONSE:  
References to MF development have been removed from the report.
3. The design GPD shown per apartment unit assumes that water saving devices will be in use at future development. How can this be confirmed? If this cannot be verified, the assumption should be that no water saving devices are in use and GPD needs to be increased per Appendix A and design will need to be confirmed that 8" pipe is still adequate. (Markups) RESPONSE:  
References to MF development have been removed from the report.

#### SWPPP

1. SWPPP will be implemented in the Town of Hickory Creek, not Lake Dallas as is mentioned throughout the current SWPPP packet. All mention of Lake Dallas, addresses, contacts, etc. need to be revised to be Hickory Creek, with corresponding addresses and contacts. SWPPP applicant will need to confirm that the BMPs proposed are in compliance with Hickory Creek's current MS4 and SWMP. (Markups)

RESPONSE:  
Revised SWPPP included with resubmittal. All city references in SWPPP revised to be Hickory Creek



Sincerely,

**HALFF**

TBPELS Engineering Firm No. 312

A handwritten signature in black ink, appearing to read "K. J. Gronwaldt", written in a cursive style.

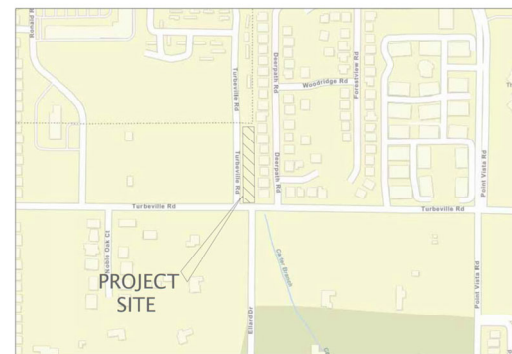
Kevin Gronwaldt, PE  
Consulting Engineer for the Town of Hickory Creek

C: Kristi Rogers – Town Secretary  
John Smith – Town Administrator

Attached: Town Checklist  
Civil Plan Markups  
Electrical/Metering Station Plan Markups  
Sewer Design Report Markups  
SWPPP Markups

# CONSTRUCTION PLANS FOR 1500 TURBEVILLE SEWER EXTENSION

HICKORY CREEK, DENTON COUNTY, TEXAS



VICINITY MAP  
N.T.S.

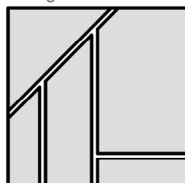
## Drawing Sheet Index

|    |                         |
|----|-------------------------|
| 00 | Cover Sheet             |
| 01 | General Notes           |
| 02 | Sanitary Sewer Plan     |
| 03 | Sanitary Sewer Profiles |
| 04 | Goundwater Control Plan |
| DT | Construction Details    |

Include Owner Name,  
Contact Information,  
etc.

RESPONSE:  
Owner info added to cover sheet.

Engineer:



**CCM Engineering**

2570 FM 407, Suite 209  
Highland Village, Texas 75077  
Ph: 972.691.6633  
Fax: 972.691.6628  
TBPE FIRM #605  
Email: cody@ccm-eng.com



JULY, 2024

Notes reference City of Corinth, need to reference Town of Hickory Creek, where applicable.

## GENERAL NOTES

- RESPONSE:  
Notes revised to reference Hickory Creek
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND THE CITY OF CORINTH'S ADDENDUM THERETO.
  - BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A CONSTRUCTION SEQUENCE SCHEDULE. THE CONSTRUCTION SCHEDULE SHALL BE SUCH THAT THERE IS MINIMUM INTERFERENCE WITH TRAFFIC ALONG OR ADJACENT TO THE PROJECT.
  - CONSTRUCTION MAY NOT BE BEGUN EARLIER THAN 7:00 A.M. ON WEEKDAYS NOR CONTINUED AFTER DARK WITHOUT PERMISSION FROM THE CITY OF CORINTH. CONSTRUCTION ON SATURDAY MAY NOT BE BEGUN BEFORE 8:00 A.M. AND WORK ON SUNDAY IS PROHIBITED WITHOUT SPECIAL PERMISSION.
  - UTILITIES SHOWN ON THE PLANS WERE TAKEN FROM FIELD SURVEYS AND INFORMATION PROVIDED BY THE UTILITY COMPANIES. THE COMPLETENESS AND THE ACCURACY OF THIS DATA IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND PROTECTING THEM FROM DAMAGE DURING CONSTRUCTION.
  - WORK MAY NOT BE BACKFILLED OR COVERED UNTIL IT HAS BEEN INSPECTED BY THE CITY.
  - MATERIAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY AND PAID FOR BY THE CONTRACTOR.
  - ALL EXCAVATION ON THE PROJECT IS UNCLASSIFIED.
  - TEMPORARY EROSION CONTROL SHALL BE USED TO MINIMIZE THE SPREAD OF SILT AND MUD FROM THE PROJECT ON TO EXISTING STREETS, ALLEYS, DRAINAGEWAYS AND PUBLIC AND PRIVATE PROPERTY. TEMPORARY EROSION CONTROLS MAY INCLUDE STRAW BALES, BERMS, DIKES, SWALES, STRIPS OF UNDISTURBED VEGETATION, CHECK DAMS AND OTHER METHODS AS REQUIRED BY THE CITY ENGINEER.
  - THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES ALONG THE PROJECT.
  - REMOVE, SALVAGE AND REPLACE ALL STREET AND TRAFFIC CONTROL SIGNS WHICH MAY BE DAMAGED BY THE CONSTRUCTION OF THE PROJECT.
  - ALL TRENCHING AND EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH OSHA STANDARDS.
  - ALL BACKFILL WILL BE COMPACTED AT A MOISTURE CONTENT OF 2% OR HIGHER OF OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698 WHERE ASTM D-698 IS THE APPLICABLE TEST METHOD. TEX 113-E MAY BE USED FOR GRANULAR SOILS.
  - A TWO YEAR 100% MAINTENANCE BOND SHALL BE PROVIDED TO THE CITY TO GUARANTEE THE PERFORMANCE AND REPAIR OF ALL PUBLIC FACILITIES UPON COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY.

## GRADING

- TOP SOIL SHALL NOT BE REMOVED FROM RESIDENTIAL LOTS OR USED AS SPOIL, BUT SHALL BE STRIPPED AND REDISTRIBUTED SO AS TO PROVIDE AT LEAST SIX (6) INCHES OF COVER ON THE LOTS, PARKWAYS AND MEDIANS. PERMANENT EROSION CONTROL MEASURES SHALL BE PROVIDED THROUGHOUT THE DEVELOPMENT PRIOR TO FINAL ACCEPTANCE OF THE IMPROVEMENTS.
- TEMPORARY EROSION CONTROL SHALL BE USED TO MINIMIZE THE SPREAD OF SILT AND MUD FROM THE PROJECT ON TO EXISTING STREETS, ALLEYS, DRAINAGEWAYS AND PUBLIC AND PRIVATE PROPERTY. TEMPORARY EROSION CONTROLS MAY INCLUDE SILT FENCES, STRAW BALES, BERMS, DIKES, SWALES, STRIPS OF UNDISTURBED VEGETATION, CHECK DAMS AND OTHER METHODS AS REQUIRED BY THE CITY ENGINEER AND AS SPECIFIED IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS CONSTRUCTION (N.C.T.C.O.G.) BMP MANUAL.
- ALL STREET RIGHTS-OF-WAY, REGARDLESS OF SLOPE; ALL FINISHED GRADE SLOPES THAT ARE STEEPER THAN 6H:1V; AND THE FLOW LINES OF ALL DRAINAGE DITCHES AND SWALES SHALL BE SEEDED AND COMPLETELY COVERED WITH EROSION CONTROL MATTING AS SPECIFIED IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS CONSTRUCTION (N.C.T.C.O.G.) BMP MANUAL.
- GRASS SHALL BE ESTABLISHED ON THE SLOPES OF ALL DRAINAGE CHANNELS. GRASS SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OF THE TEXAS DEPARTMENT OF TRANSPORTATION.
- FINISHED SLOPES ON PUBLIC RIGHTS-OF-WAY AND EASEMENTS SHALL NOT BE STEEPER THAN 4H:1V. ALL SLOPES STEEPER THAN 6H:1V SHALL BE HYDROMULCHED AND MAINTAINED BY THE CONTRACTOR UNTIL GRASS COVERS ALL PARTS OF THE SLOPE. GRASS MUST BE LUSH, GREEN, VIGOROUS AND GROWING. NO BARE SPOTS OVER ONE SQUARE FOOT WILL BE ALLOWED. ALL RUTS FROM WASHING MUST BE FILLED IN AND GRASSED.
- ALL PERMEABLE SURFACES WITHIN THE DEVELOPMENT SHALL BE GRADED TO A SMOOTH AND UNIFORM APPEARANCE THAT CAN BE EASILY MOWED WITH A SMALL RESIDENTIAL RIDING LAWNMOWER.
- IF FRANCHISE UTILITIES ARE INSTALLED AFTER PLANTING GRASS, ANY AREAS DISTURBED BY THE INSTALLATION OF THE FRANCHISE UTILITIES SHALL BE REPAIRED AND GRASS RE-ESTABLISHED BEFORE ACCEPTANCE OF IMPROVEMENTS.

## PAVING

- ALL EMBANKMENT SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AT A MOISTURE CONTENT OF +2% OR HIGHER OF OPTIMUM MOISTURE CONTENT.
- UNLESS EXCESSIVE SULFATE CONTENT IS FOUND DURING SUBGRADE TESTING, ALL STREETS AND ALLEYS SHALL BE PLACED ON LIME STABILIZED SUBGRADE WITH A LIME CONTENT OF NOT LESS THAN 6% AND A PLASTICITY INDEX (P.I.) LESS THAN 15. FOR SMALL PROJECTS WHERE THE COST OF LIME STABILIZATION IS PROHIBITIVE, TWO ADDITIONAL INCHES OF CONCRETE MAY BE SUBSTITUTED FOR THE LIME TREATED SUBGRADE.
- THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE STREET PAVING SHALL NOT BE LESS THAN 3600 PSI AND SHALL BE AIR ENTRAINED, N.C.T.C.O.G. CLASS "C", SIX (6) SACK MIX. WATER MAY NOT BE APPLIED TO THE SURFACE OF CONCRETE PAVING TO IMPROVE WORKABILITY.
- FLY ASH WILL NOT BE ALLOWED IN PLACE OF CEMENT.
- ALL CURB AND GUTTER SHALL BE INTEGRAL WITH THE PAVEMENT.
- PARABOLIC CROWNS ARE REQUIRED ON ALL STREET PAVEMENT EXCEPT ON MAJOR THOROUGHFARES WHERE STRAIGHT SECTIONS ARE REQUIRED.
- STREETS AND ALLEYS SHALL BE CONSTRUCTED WITH PROVISIONS FOR SIDEWALK RAMPS AT ALL INTERSECTIONS.

## DRAINAGE

- STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III UNLESS OTHERWISE NOTED.
- ALL STRUCTURAL CONCRETE SHALL BE CLASS "C" (3600 PSI COMPRESSIVE STRENGTH AT 28 DAYS). AIR ENTRAINED.
- THE CONTRACTOR SHALL INSTALL PLUGS IN STORM SEWER LINES OR OTHERWISE PREVENT MUD FROM ENTERING THE STORM SEWER SYSTEM DURING CONSTRUCTION.
- STORM SEWER SHALL BE VIDEOTAPED SIX MONTHS PRIOR TO EXPIRATION OF THE TWO YEAR MAINTENANCE BOND.

## WATER AND SANITARY SEWER

- WATER MAINS SHALL BE AWWA C-900 PVC CLASS 150 UNLESS OTHERWISE NOTED.
- MARKING TAPE SHALL BE INSTALLED OVER PVC WATER LINES.
- NO WATER METER BOXES OR SANITARY SEWER CLEANOUTS WILL BE ALLOWED IN DRIVEWAYS OR SIDEWALKS..
- FITTINGS FOR PVC WATER LINES SHALL BE DUCTILE IRON AND BE ENCASED IN A POLYETHYLENE SHEATH.
- VALVES SHALL BE RESILIENT SEAT GATE VALVES.
- ALL DIRECT BURIAL VALVES SHALL BE PROVIDED WITH CAST IRON VALVE BOXES WITH PVC STACKS. VALVE STACKS SHALL BE VERTICAL AND CONCENTRIC WITH THE VALVE STEM. STAINLESS STEEL VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES WHERE THE OPERATING NUT IS GREATER THAN 4 FEET BELOW FINISHED GRADE.
- FIRE HYDRANTS SHALL BE FIELD PAINTED PER CITY OF CORINTH SPECIFICATIONS.
- ALL EXPOSED BOLTING ON ANY EQUIPMENT OR MATERIAL SHALL BE STAINLESS STEEL. INCLUDED ARE:
  - BONNET AND STUFFING BOX BOLTS ON VALVES.
  - SHOE BOLTS ON FIRE HYDRANTS.
  - FLANGE BOLTS.
- METER BOXES SHALL BE AS APPROVED BY THE CITY OF CORINTH. CONTACT THE PUBLIC WORKS DIRECTOR FOR SPECIFICATIONS.
- SANITARY SEWER MAINS SHALL BE MINIMUM SDR 26 PVC.
- A GEOTEXTILE FABRIC SHALL BE PLACED BELOW ALL NEW MANHOLES.
- ALL SANITARY SEWER SERVICE CONNECTIONS SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER.
- ALL SANITARY SEWER SERVICES SHALL BE VIDEOTAPED AFTER INSTALLATION OF FRANCHISE UTILITIES.
- ALL SANITARY SEWER MANHOLES SHALL BE PROTECTED FROM SULFIDES AND GROUNDWATER INFILTRATION. ONE OF THE FOLLOWING METHODS OR APPROVED EQUAL MAY BE USED:
  - CONSHIELD MIXED WITH CONCRETE USED IN THE MANHOLES;
  - RAVEN 405 COAT; OR
  - SPECTRASHIELDGATOR WRAP OR APPROVED EQUAL SHALL BE INCLUDED ON ALL MANHOLE CONSTRUCTION JOINTS.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN WATER TIGHT PLUGS IN ALL CONNECTIONS TO THE CITY'S SANITARY SEWER SYSTEM UNTIL THE PROJECT IS ACCEPTED BY THE CITY.
- ALL SANITARY SEWER LINES AND MANHOLES SHALL BE LEAK TESTED BEFORE THE PROJECT IS ACCEPTED. DEFLECTION TESTING OF PVC SEWER LINES IS REQUIRED.
- ALL SANITARY SEWER SHALL BE VIDEO TAPED AFTER INSTALLATION OF THE SERVICE CONNECTIONS, PRIOR TO ACCEPTANCE OF THE PROJECT. ALL SANITARY SEWER WILL BE RE-VIDEO TAPED BY THE DEVELOPER THREE MONTHS PRIOR TO THE EXPIRATION OF THE TWO YEAR MAINTENANCE AGREEMENT. THE PURPOSE OF THE SEWER VIDEO IS TO IDENTIFY ANY PROBLEMS THAT MAY HAVE OCCURRED SINCE ACCEPTANCE SUCH AS SETTLEMENT, CUTTING OFF THE LINES BY FRANCHISE UTILITIES, ETC.
- NO BULLHEAD WATER SERVICE CONNECTIONS WILL BE ALLOWED.
- NO METER BOXES WILL BE ALLOWED IN SIDEWALKS OR DRIVEWAYS.
- FULL BODY FITTINGS REQUIRED.
- MEGA-LUGS REQUIRED ON ALL MJ FITTINGS.
- DESIGN MUST MEET ALL APPLICABLE REQUIREMENT OF TCEQ CHAPTERS 290 AND 217.
- THE FOLLOWING TYPES OF BACKFILL ARE REQUIRED AT A MINIMUM:
  - WATER LINE: CLASS B-4;
  - SANITARY SEWER: CLASS B+ MODIFIED TO HAVE FINE GRADATION CRUSHED STONE 6" ABOVE THE PIPE;
  - STORM SEWER: CLASS B+USE OF OTHER MATERIALS WILL BE CONSIDERED UPON PROPER ENGINEERING JUSTIFICATION.

These notes should be per LCMUA requirements, confirm.

RESPONSE:  
Approved by LCMUA

CCM Engineering

2570 FM 407, Suite 209  
Highland Village, Texas 75077  
Ph: 972.691.6633  
TBPE FIRM #605

REVISIONS

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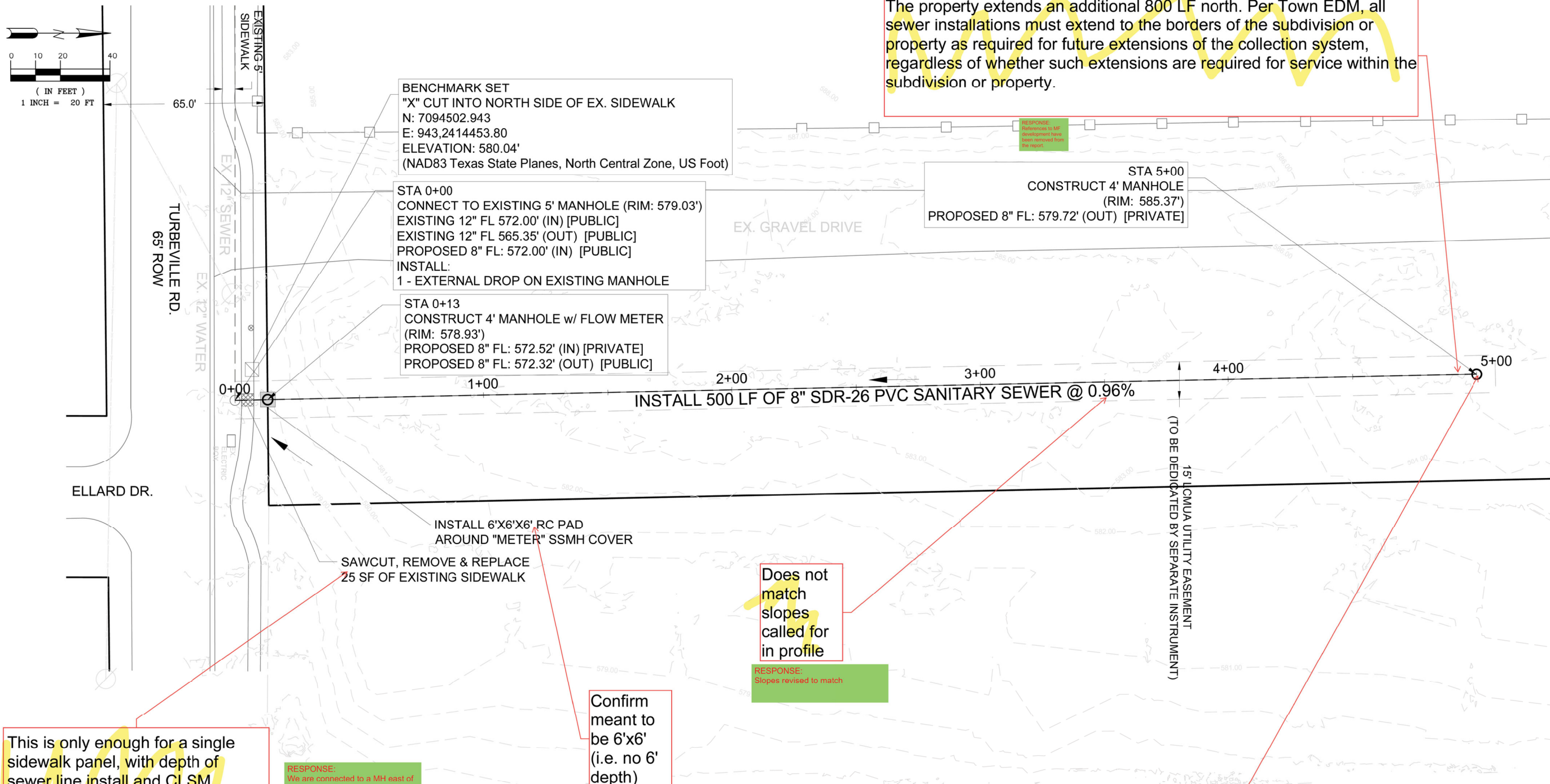
TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS

GENERAL NOTES  
1500 TURBEVILLE  
SEWER ADDITION

REVISIONS

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Sheet 1 of 3



This is only enough for a single sidewalk panel, with depth of sewer line install and CLSM backfill install at existing manhole, likely will need at least two more panels of sidewalk repair on either side, please confirm.

RESPONSE:  
We are connected to a MH east of the fence so the sidewalk removal is no longer needed.

Confirm meant to be 6'x6' (i.e. no 6' depth)

RESPONSE:  
Depth dimension removed.

Does not match slopes called for in profile

RESPONSE:  
Slopes revised to match

Is there meant to be a connection to any existing OSSF north of here? Or is this being built for future purposes only?

RESPONSE:  
The proposed 8\"/>

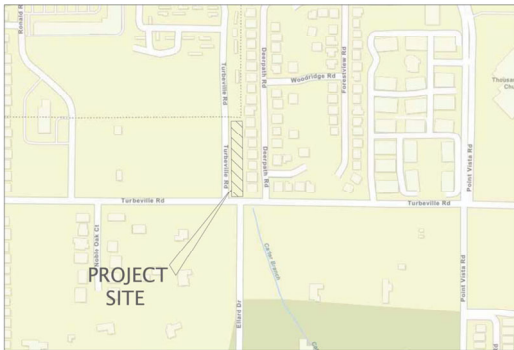
The property extends an additional 800 LF north. Per Town EDM, all sewer installations must extend to the borders of the subdivision or property as required for future extensions of the collection system, regardless of whether such extensions are required for service within the subdivision or property.

**CAUTION**  
UNDERGROUND UTILITIES

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

~ CAUTION ~  
Call: Texas One Call  
at 1-800-245-4545  
48 Hours Prior to Construction

**CAUTION!!!**  
Existing underground/overhead utilities. Contractor to call for locations and field verify the location, depth and sizes of all existing utilities prior to excavation.



VICINITY MAP  
N.T.S.



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TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS

SANITARY SEWER PLAN  
1500 TURBEVILLE  
SEWER ADDITION

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CAUTION  
UNDERGROUND UTILITIES

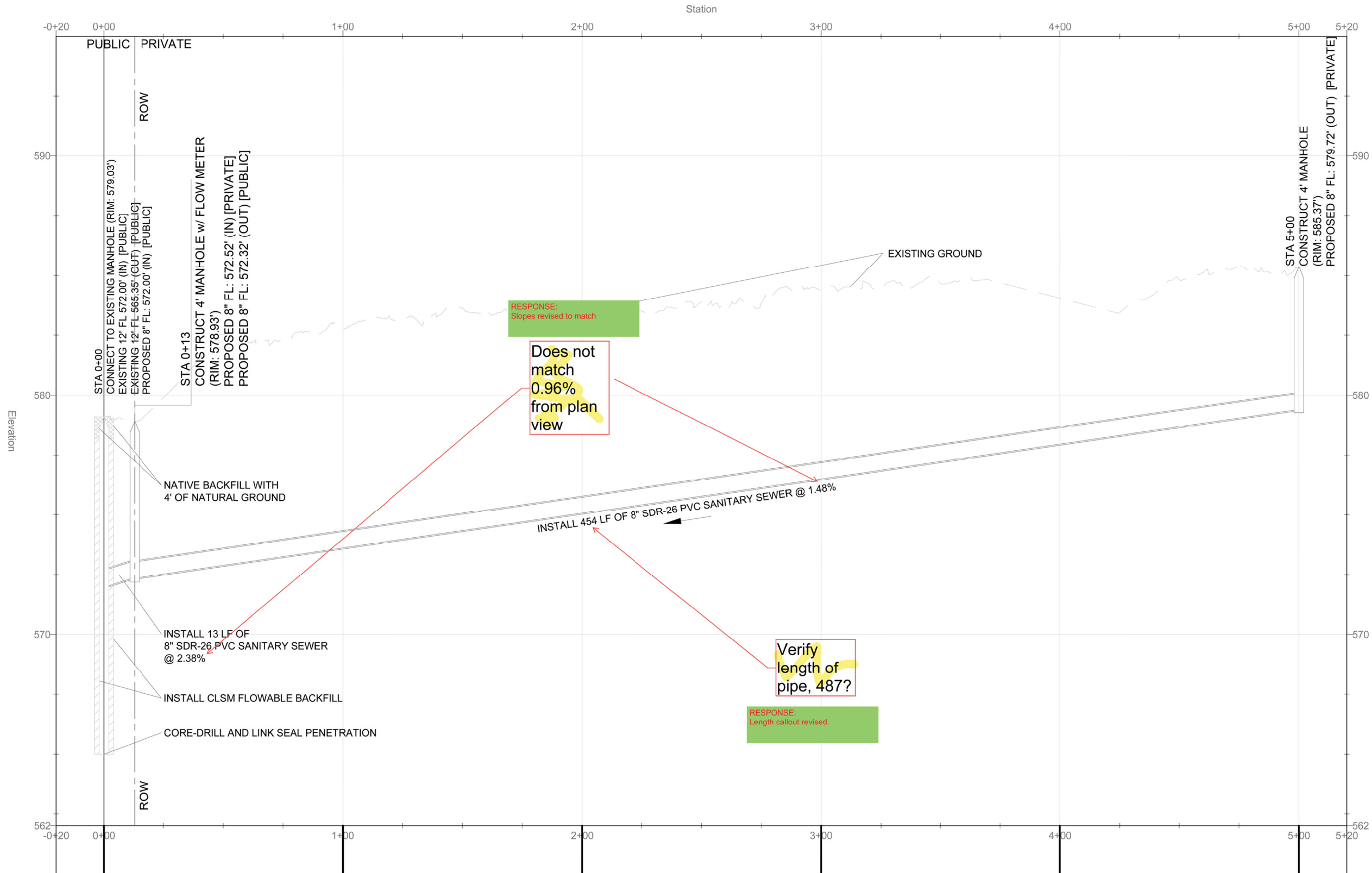
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~ CAUTION ~  
Call: Texas One Call  
at 1-800-245-4545  
48 Hours Prior to Construction

CAUTION!!!  
Existing underground/overhead  
utilities. Contractor to call for  
locations and field verify the location,  
depth and sizes of all existing  
utilities prior to excavation.

0 10 20 40  
( IN FEET )  
1 INCH = 20 FT

SEWER EXTENSION PROFILE



CCM Engineering

2570 FM 407, Suite 209  
Highland Village, Texas 75077  
Ph: 972.691.6633  
TBPE FIRM #605



REVISIONS

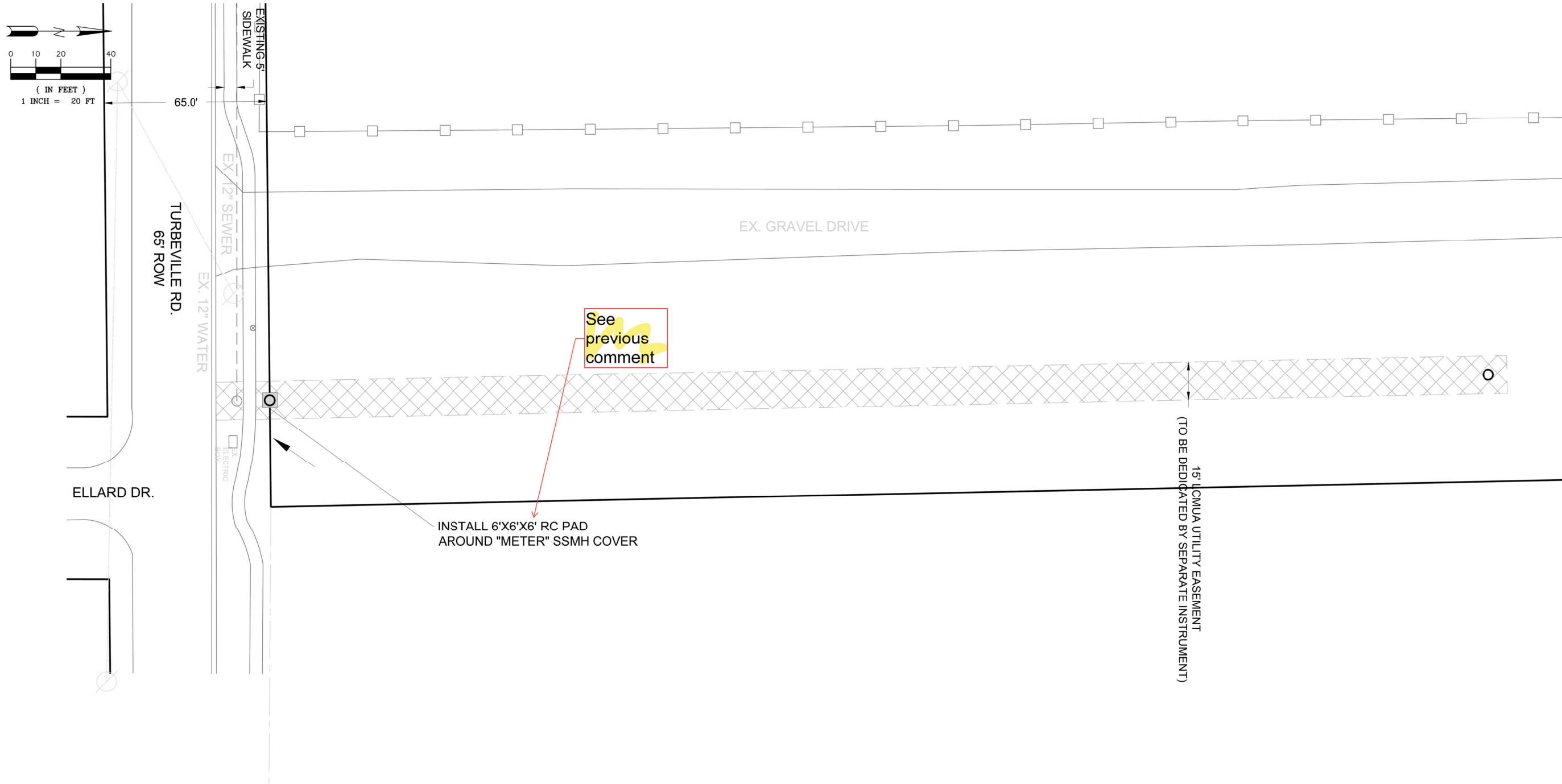
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TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS

SANITARY SEWER  
PROFILE  
1500 TURBEVILLE  
SEWER ADDITION

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RESTORATION NOTES:

1. BURMUDA GRASS SOD AREA SHALL INCLUDE THE PLACEMENT OF A MINIMUM 3" COMPOST ROLLED IN PLACE UPON FINAL GRADE ESTABLISHED IN THE GRADING AND PARKING AREA PLAN SHEETS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL RESTORED AREAS A MINIMUM OF FOUR WEEKS OR UNTIL ALL VEGETATION IS UNIFORM AND SELF-SUSTAINING.
3. PRIOR TO FINAL ACCEPTANCE, ALL RESTORED AREAS SHALL BE MOWED BY THE CONTRACTOR.
4. THE GENERAL MANAGER AND PROPERTY OWNER SHALL DETERMINE THE ADEQUACY OF THE RESTORED AREAS UNIFORMITY AND SUSTAINABILITY.
5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL PRIOR TO CONSTRUCTION.
6. ALL RESTORED AREAS SHALL BE ROCK FREE WITH NO CLOUDS OR OTHER FOREIGN MATERIAL AND RAKED SMOOTH PRIOR TO SEEDING OR SODDING.

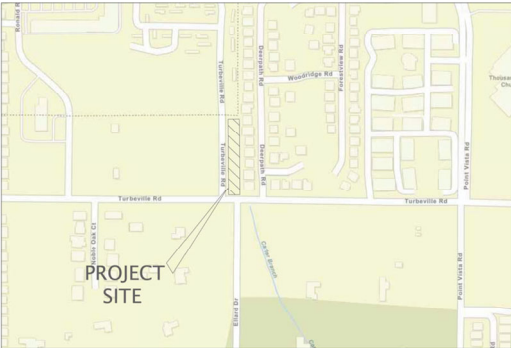
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UNDERGROUND UTILITIES

EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

LEGEND



BERMUDA GRASS HYDROSEED  
RATE OF 2LBS PER 1,000 SF  
AREA = 7,606 SF



V I C I N I T Y   M A P  
N.T.S.



| REVISIONS |
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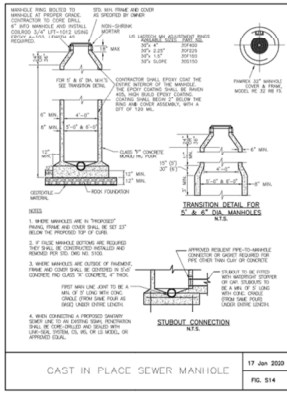
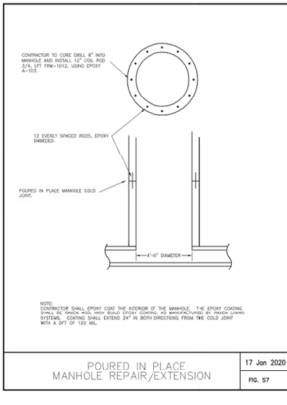
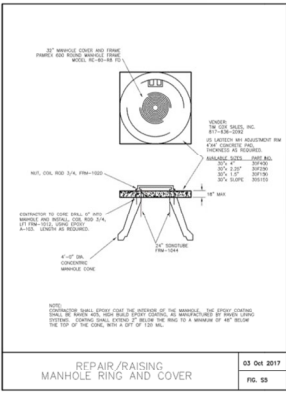
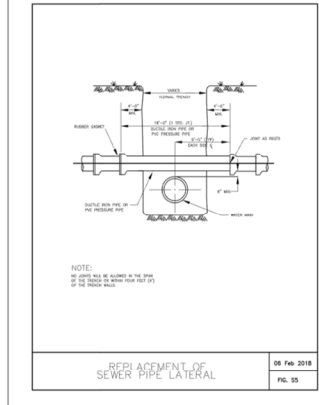
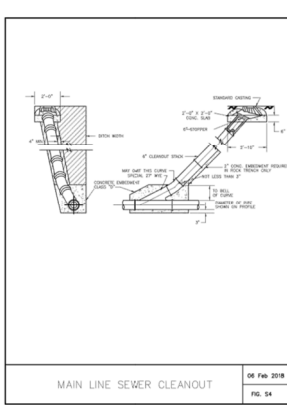
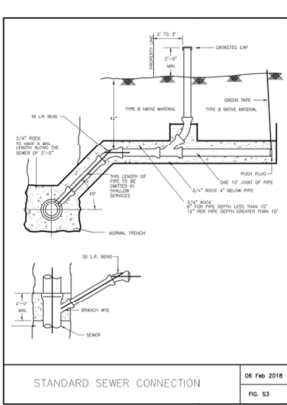
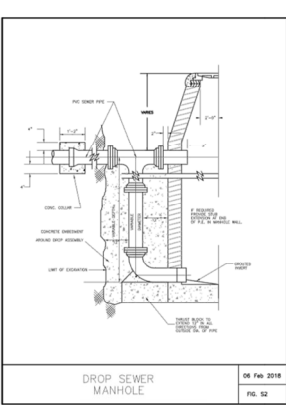
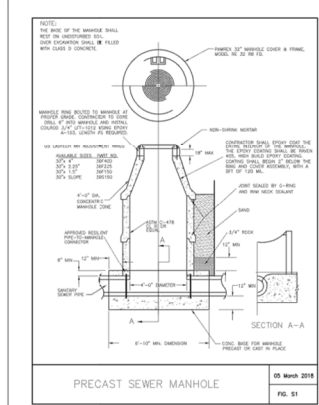
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TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS

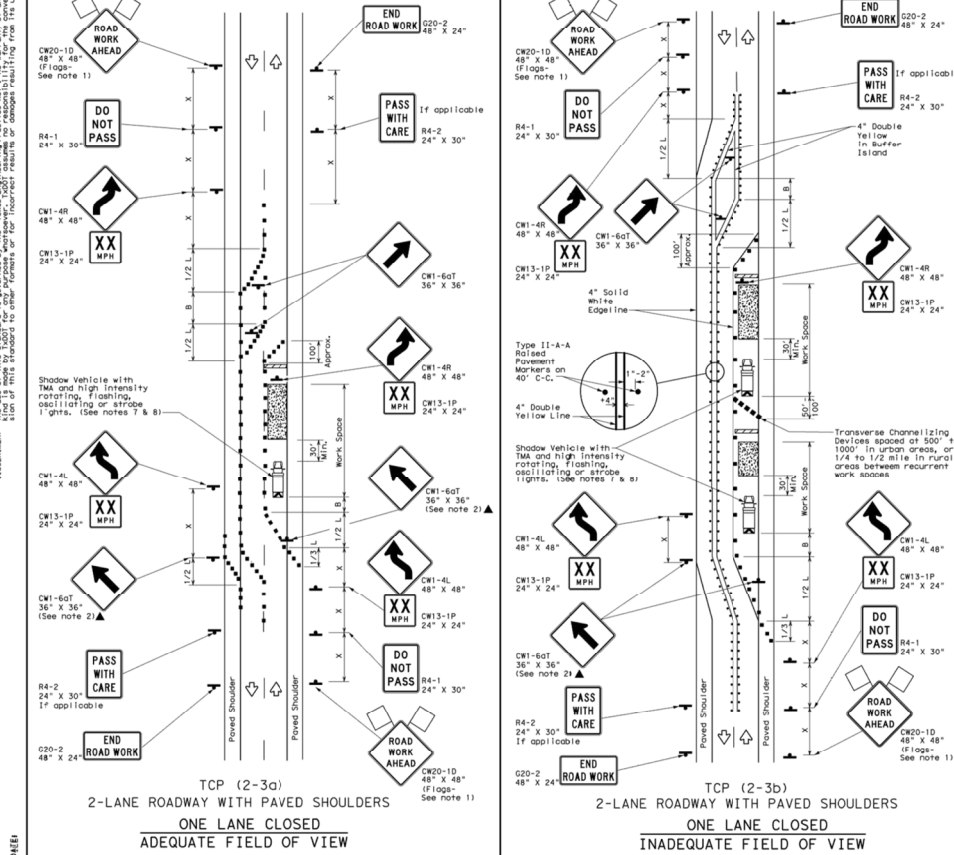
GROUNDWATER  
RESTORATION PLAN  
1500 TURBEVILLE  
SEWER ADDITION

| REVISIONS |
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SS DETAILS SHEET 1



# LEGEND

Type 3 Barricade

Heavy Work Vehicle

Trailer Mounted Flashing Arrow Board

Sign

Flag

Channelizing Devices

Truck Mounted Attenuator (TMA)

Raised Pavement Markers Ty II-AA

Traffic Flow

Flagger

| Posted Speed | Formula                   | Minimum Taper Length | Suggested minimum Taper Length | Minimum sign spacing | Suggested minimum sign spacing |
|--------------|---------------------------|----------------------|--------------------------------|----------------------|--------------------------------|
|              |                           | 150' 165' 180'       | On a curve Distance            | 30' 35' 40'          | 30' 35' 40'                    |
| 30           | $M = \frac{L \cdot W}{S}$ | 150' 165' 180'       | 30' 60' 120'                   | 120'                 | 90'                            |
| 35           |                           | 205' 225' 245'       | 35' 70' 140'                   | 160'                 | 125'                           |
| 40           |                           | 265' 295' 320'       | 40' 80' 160'                   | 200'                 | 155'                           |
| 45           |                           | 325' 365' 380'       | 45' 90' 180'                   | 240'                 | 185'                           |
| 50           |                           | 385' 435' 440'       | 50' 100' 200'                  | 280'                 | 220'                           |
| 55           |                           | 445' 505' 510'       | 55' 110' 220'                  | 320'                 | 255'                           |
| 60           |                           | 505' 575' 580'       | 60' 120' 240'                  | 360'                 | 290'                           |
| 65           |                           | 565' 645' 650'       | 65' 130' 260'                  | 400'                 | 325'                           |
| 70           |                           | 625' 715' 720'       | 70' 140' 280'                  | 440'                 | 360'                           |
| 75           |                           | 685' 785' 790'       | 75' 150' 300'                  | 480'                 | 395'                           |
| 80           |                           | 745' 855' 860'       | 80' 160' 320'                  | 520'                 | 430'                           |
| 85           |                           | 805' 925' 930'       | 85' 170' 340'                  | 560'                 | 465'                           |
| 90           |                           | 865' 995' 1000'      | 90' 180' 360'                  | 600'                 | 500'                           |

W Conventional Roads Only  
M Taper lengths have been rounded off.  
L Length of Taper (FT) W Width of Offset (FT) S Posted Speed (MPH)

| TYPICAL USAGE |                |                       |                              |
|---------------|----------------|-----------------------|------------------------------|
| MOBILE        | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY |
|               |                |                       |                              |

LONG TERM STATIONARY  
TCP (2-3) ONLY

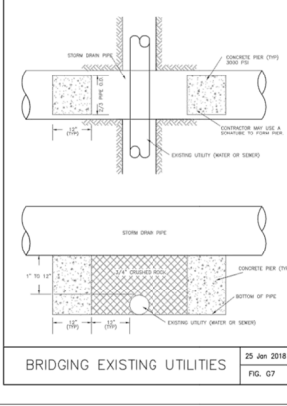
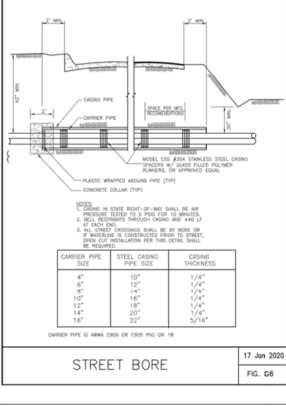
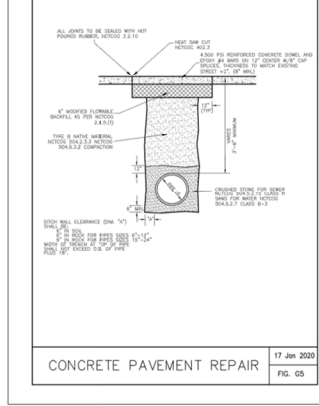
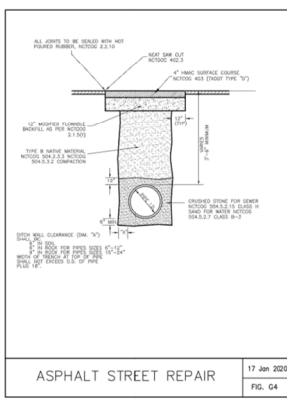
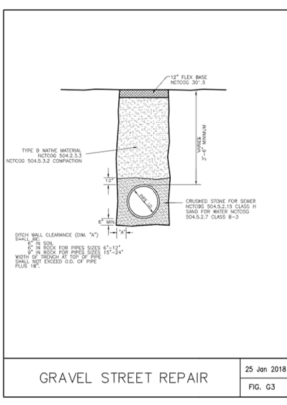
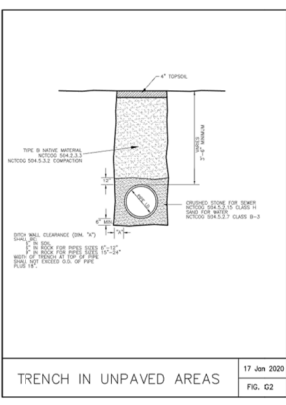
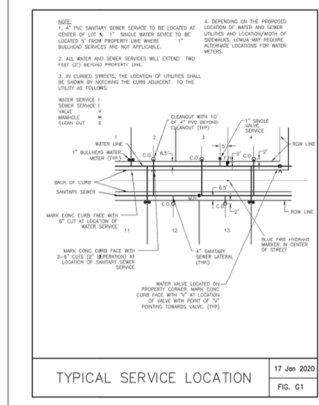
## GENERAL NOTES

- Signs attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plan, or for routine maintenance work, when approved by the Engineer.
- When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
- Flagging control shall NOT be used unless roadway conditions or heavy traffic volume require additional measures to safely control traffic. Flagging should be positioned at end of traffic queue.
- The R-1-100 NOT PASS, R-2-1 PASS WITH CARE, and construction regulatory speed zone signs may be installed within C20-10 "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
- Conflicting pavement marking shall be removed for long-term projects.
- A shadow vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 barricades or other channelizing devices may be substituted.
- Additional shadow vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

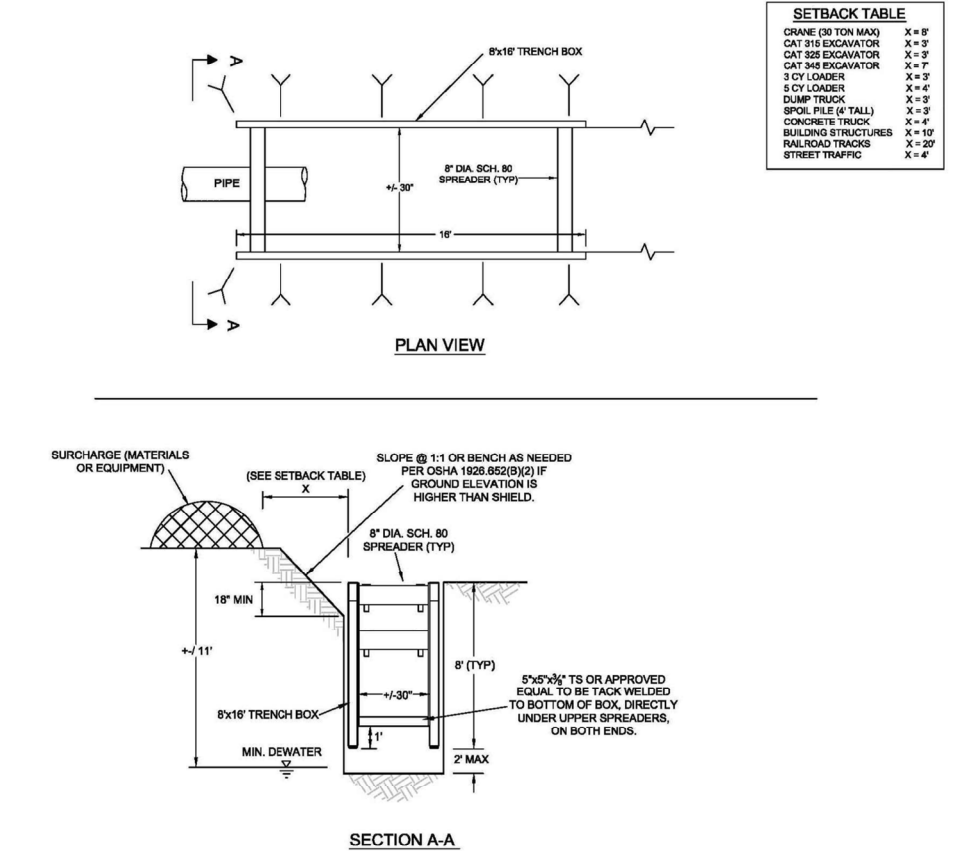
CP (2-3a)

Conflicting pavement markings shall be removed for long-term projects. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 120' where S is the speed in mph. This 110' device spacing is intended for the area of the conflicting markings, not the entire work zone.

For construction or maintenance work, the contractor shall be responsible for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining all necessary permits, contracts, and permits, and for obtaining 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EMBEDMENT DETAILS



| SETBACK TABLE        |       |  |  |
|----------------------|-------|--|--|
| CRANE (30 TON MAX)   | X=8'  |  |  |
| CAT 316 EXCAVATOR    | X=3'  |  |  |
| CAT 325 EXCAVATOR    | X=3'  |  |  |
| CAT 345 EXCAVATOR    | X=7'  |  |  |
| 3 CY LOADER          | X=3'  |  |  |
| 5 CY LOADER          | X=4'  |  |  |
| DUMP TRUCK           | X=3'  |  |  |
| SPOIL PILE (4' TALL) | X=3'  |  |  |
| CONCRETE TRUCK       | X=4'  |  |  |
| BUILDING STRUCTURES  | X=10' |  |  |
| RAILROAD TRACKS      | X=20' |  |  |
| STREET TRAFFIC       | X=4'  |  |  |

CCM Engineering  
2570 FM 407, Suite 209  
Highland Village, Texas 75077  
Ph: 972. 691.6633  
TBPE FIRM #605



DESIGN: CCM  
DRAWN: CCM  
DATE: 7/14/2024  
SCALE:  
NOTES:  
FILE:

TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS

DETAILS  
1500 TURBEVILLE  
SEWER ADDITION

REVISIONS

DESIGN: CCM  
DRAWN: CCM  
DATE: 7-14-24  
SCALE:  
NOTES:  
FILE:

Sheet DT

General Comment:  
Electric Metering Stations plans, notes and details shall be reviewed and approved by LCMUA

1.0 GENERAL

1.1 FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS HEREIN - AS NOTED OR IMPLIED - NOT LIMITED TO WHAT IS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, TRADES AND PROVIDING ALL EQUIPMENT, DEVICES, APPURTENANCES AND SUPPORT AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

RESPONSE:  
These are approved by LCMUA

1.2 ALL DRAWINGS ARE SCHEMATIC IN NATURE AND ALL APPURTENANCES, BASES, PADS, SUPPORTS NOT INDICATED TO MAKE A COMPLETE AND WORKING SYSTEM MUST BE INCLUDED IN THE CONTRACTORS BID.

1.3 IF ANY ITEMS APPEAR TO BE CONTRADICTORY WITHIN THE DRAWINGS, OR OTHERWISE INCONSISTENT IN THE DESIGNS INTENT, IT IS THE CONTRACTORS RESPONSIBILITY TO CLARIFY THESE ITEMS PRIOR TO BID IN WRITING WITH THE ENGINEER. IF THE CONTRACTOR FAILS TO CLARIFY ANY QUESTIONS OR INCONSISTENCIES, HE ACCEPTS RESPONSIBILITY TO CORRECT AT HIS COST ANY SUCH ITEM TO MEET THE DESIGN INTENT AS DEFINED BY THE ENGINEER.

1.4 ANY PROPOSED DEVIATIONS FROM PLANS AND SPECIFICATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.

1.5 ALL MATERIALS AND WORKMANSHIP WILL CONFORM TO THE LATEST ADOPTED EDITIONS OF NFPA 70, 70E, 72, 101, COUNTY, CITY, AND STATE REQUIREMENTS, AS REQUIRED BY THE ENGINEER, STATE CODES AND ORDINANCES, AND UTILITY COMPANY REQUIREMENTS.

1.6 CONTRACTOR SHALL SUPPLY INFORMATION AS REQUIRED TO ALL SERVING UTILITIES IN A TIMELY MANNER AS REQUIRED TO ASSURE SERVICE (POWER, WATER, TELEPHONE, ETC) IS PROVIDED PER PROJECT SCHEDULE.

1.7 THE CONTRACTOR SHALL HAVE A COPY OF AHJ ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, ON SITE, WITH THE AHJ APPROVED PLANS AT ALL TIMES DURING THE PROJECT CONSTRUCTION.

1.8 THE CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS WHICH MAY AFFECT THEIR BID OR WORK. NO ALLOWANCES WILL BE MADE AFTER THE BID FOR EXISTING CONDITIONS OR THE CONTRACTORS FAILURE TO VERIFY EXISTING CONDITIONS.

1.9 THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACTOR FOR A PERIOD OF (2) YEARS FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK OF THIS CONTRACT BY THE OWNER AND THE ENGINEER AND PROVIDE A BOND TO VALIDATE THIS GUARANTEE. ANY DEFECTS DEVELOPING WITHIN THE PERIOD TRACEABLE TO MATERIALS OR WORKMANSHIP PERFORMED HERE UNDER, WILL BE MADE GOOD AT THE EXPENSE OF THE CONTRACTOR NOT THE OWNER OR ENGINEER. THE CONTRACTOR WILL ACCEPT AND FULLY UNDERSTAND THIS PROVISION PRIOR TO CONTRACT BEING AWARDED, AS NO CLAIM FOR EXTRA COMPENSATION WILL BE ALLOWED FOR CORRECTION OF FAULTY WORK OR DEFECTIVE MATERIALS. ANYTIME DURING THE CONSTRUCTION PERIOD, THE OWNERS REPRESENTATIVES AND THE ENGINEER RETAIN THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REINSTALL ANY EQUIPMENT OR MATERIALS NOT FOLLOWING THE STANDARDS AS PRESENTED HEREIN OR IN THE DRAWINGS WITHOUT COST TO THE OWNER OR ENGINEER.

1.10 PROVIDE SHOP DRAWINGS FOR ALL EQUIPMENT PRIOR TO ORDERING AND IN A TIMELY MANNER (WITHIN 10 DAYS OF BID AS DETERMINED BY ENGINEER) SO NOT TO DELAY WORK, TO ENGINEER FOR APPROVAL. (CONDUIT, SWITCHES, SWITCHBOARDS, PANELBOARDS, CONDUCTORS STARTERS, CONDUCTORS, TRANSFORMERS, FUSES (BUSSMAN ONLY), ETC.).

1.11 CONTRACTOR SHALL PROVIDE ACCURATE AND COMPLETE "AS-BUILT" DRAWINGS TO OWNER AND ENGINEER AT TIME OF OWNER ACCEPTANCE. ALL "AS-BUILT" DRAWINGS TO BE "1" SET OF "REDLINES" TO OWNER AND ENGINEER ON MAGNETIC MEDIA OR COMPACT DISC AUTOCAD 2007 OR LATER (BY AUTODESK). FAILURE TO DO SO WILL CONSTITUTE FORFEITURE OF ALL PAYMENTS DUE.

1.12 REFER TO CIVIL OR STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT LOCATION, LOADS, AND ADDITIONAL REQUIREMENTS.

1.13 IF LOCAL POWER COMPANY REQUIRES SPECIFIC POWER FACTOR REQUIREMENTS TO BE MAINTAINED, CONTRACTOR MUST NOTIFY OWNER THAT THIS REQUIREMENT MAY CAUSE FOR SPECIFIC POWER FACTOR CORRECTION. THIS IS NOT PART OF ENGINEERING DESIGN AND WILL CONSTITUTE ADDITIONAL DESIGN AND CONSTRUCTION.

1.14 LOW VOLTAGE WORK SHALL BE PERFORMED BY LICENSED ELECTRICAL CONTRACTOR. ALL WORK IS TO BE PERFORMED BY QUALIFIED TRADESMEN WITH EXPERIENCE IN THE TYPE OF WORK TO BE PERFORMED. ALL WORK WILL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER AND OWNER.

1.15 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CIRCUIT INTEGRITY TO ALL EQUIPMENT AND DEVICES TO REMAIN. THE CONTRACTOR WILL REPAIR ANY DAMAGE TO EXISTING EQUIPMENT OR DEVICES TO THE SATISFACTION OF THE ENGINEER AND OWNER.

1.16 THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF DEMOLISHED EQUIPMENT AND DEVICES. THE CONTRACTOR WILL COORDINATE WITH THE OWNER FOR ANY EQUIPMENT TO BE RETURNED TO OWNER STOCK PRIOR TO DISPOSAL.

1.17 WORK HOURS AND ACCESS TO SITE TO BE PER OWNER'S REQUIREMENTS.

2.0 MATERIALS AND METHODS.

2.1 ALL FITTINGS MUST BE STEEL COMPRESSION TYPE; DIE CAST FITTINGS ARE UNACCEPTABLE. EACH RACEWAY WITH CODE SIZED COPPER BOND WIRE. MINIMUM CONDUIT 21mm (3/4") C. EXCEPT FIXTURE FLEXES BY MANUFACTURER. OVER 53mm (2") CONDUIT TO BE RIGID GALVANIZED STEEL. ALL WORK WILL BE IN CONDUIT; COMPLETED SYSTEM REAMED, AND SWABBED PRIOR TO CONDUCTOR INSTALL.

2.2 CONDUCTORS TO BE 600V STRANDED COPPER (98% CONDUCTIVITY). FEEDERS AND ANY CONDUIT EXPOSED TO THE AMBIENT WILL CONTAIN CONDUCTORS WITH XHHW-2 INSULATION, BRANCH CIRCUITS MAY HAVE THHN/THWN INSULATION.

2.3 MINIMUM LINE VOLTAGE WIRE SIZE IS 12 AWG. WIRING DEVICES TO BE INDUSTRIAL OR HEAVY DUTY GRADE, MINIMUM 20 AMPS FOR RECEPTACLES AND 20 AMPS FOR SWITCHES, HUBBEL OR ENGINEER APPROVED EQUAL. ALL SPECIAL RECEPTACLES AND GROUND FAULT PROTECTED DEVICES MUST BE PERMANENTLY MARKED WITH ENGRAVED COVER PLATES.

2.4 UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC OR RGS WRAPPED WITH PVC TAPE. MINIMUM CONDUIT DEPTH SHALL BE 24 INCHES. MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1 INCH. UNDERGROUND SWEEPS FOR RISERS TO ABOVE GROUND SHALL BE PVC COATED RGS.

2.5 NONMETALLIC CONDUIT MAY BE USED BELOW GRADE OR UNDER SLABS OR IN CONCRETE OR MASONRY WALLS (EXCEPT AS PROHIBITED BY LOCAL CODES). CONDUITS SHALL BE A MINIMUM OF 152mm (6") DEEP UNDER SLAB.

2.6 CONTRACTOR SHALL PROVIDE LETTER TO ENGINEER CONFIRMING ALL EQUIPMENT AND TERMINATIONS ARE PROPERLY TORQUED AND SIGNED BY LICENSED CONTRACTOR.

2.7 CIRCUIT CONDUCTORS #2 AWG OR SMALLER TO BE COPPER TYPE "XHHW" FOR BELOW GRADE INSTALLATION OR COPPER TYPE THHN/THWN FOR ABOVE GRADE INSTALLATIONS. #1 AWG OR LARGER SHALL BE COPPER TYPE "XHHW-2" STRANDED COPPER. MINIMUM CONDUCTOR SIZE TO BE #12 AWG WITH #12 GND.

2.8 ALL 600V RATED POWER AND CONTROL CONDUCTORS SHALL BE TESTED AFTER PULLING IN CONDUIT AND PRIOR TO TERMINATION. INSULATION TESTS SHALL BE 1000V FOR 1 MIN BETWEEN PHASES AND EACH PHASE TO GROUND. MINIMUM ACCEPTABLE TEST RESULT VALUE IS 10M OHM. FOR CABLE FAILURES, ALL CABLES IN CONDUIT SHALL BE EXTRACTED AND NEW CABLE RE-PULLED AND TESTED UNTIL ACCEPTABLE TEST RESULTS ARE ACHIEVED. ALL TESTS SHALL BE RECORDED, SIGNED AND SUBMITTED TO ENGINEER.

2.9 ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, U.L. OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING AND REVIEWED BY THE ENGINEER BEFORE ORDERING.

2.10 PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE.

2.11 LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS, AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK SITE DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT, AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.

3.0 SERVICE

3.1 SERVICE TO ENTRANCE EQUIPMENT MUST BE LABELED WITH REFERENCE TO "SERVICE ENTRANCE".

4.0 DISTRIBUTION

4.1 PANEL BOARDS (NEW): TO BE RATED AS SHOWN ON DRAWINGS WITH PLATED COPPER BUSSING, FULL SIZE CIRCUIT BREAKERS TO BE EQUAL TO SQ D, GENERAL ELECTRICAL, OR AS APPROVED BY ENGINEER. NEMA ENCLOSURE AS REQUIRED BY CODE FOR LOCATION, BACK BOXES ENLARGED FOR DOUBLE NEUTRALS AND LUGS CAPABLE OF OVER SIZING - ISOLATED GROUND AND NORMAL GROUND BUS.

4.2 CIRCUIT BREAKERS WILL BE SWITCH RATED AND AMBIENT COMPENSATED FOR ALL CIRCUITS. PROVIDE SWITCHED NEUTRALS ON ALL CIRCUIT BREAKERS FEEDING CLASS 1 AND CLASS 2 AREAS WITH NEUTRALS. GFCI ON CIRCUITS WITH NEUTRALS TO DEVICES ABOVE CLASSIFIED AREAS. CIRCUIT BREAKERS SERVING HVAC UNITS AND MOTORS WILL BE HACR TYPE.

4.3 ALL EQUIPMENT (PANELS, DISCONNECT SWITCHES, STARTERS, ETC.) WILL BE MARKED WITH LABELS BEARING THE PANEL AND CIRCUIT NUMBER.

4.4 ALL PANEL BOARDS WILL HAVE TYPED DIRECTORY CARDS IDENTIFYING ALL CIRCUITS AND SPACES (REVISED FOR THIS WORK).

4.5 LABEL ALL PANELS / TRANSFORMERS / DISCONNECTS WITH "WARNING - ELECTRICAL EQUIPMENT - DANGER - QUALIFIED PERSONNEL ONLY TO OPERATE ON OPEN EQUIPMENT".

ELECTRICAL ABBREVIATIONS

|       |                                  |
|-------|----------------------------------|
| AMP   | AMPERE                           |
| AL    | ALUMINUM                         |
| ATS   | AUTOMATIC TRANSFER SWITCH        |
| AWG   | AMERICAN WIRE GAUGE              |
| BRK   | BREAKER                          |
| CAT   | CATALOG                          |
| CR    | CARD READER                      |
| CIRC. | MIL CIRCULAR MILS (AWG)          |
| C.O.  | CONDUIT ONLY                     |
| CKT   | CIRCUIT                          |
| CP    | CONTROL PANEL                    |
| DIA   | DIAMETER                         |
| DS    | DOOR SWITCH                      |
| DWG   | DRAWING                          |
| EA    | EACH                             |
| ELECT | ELECTRICAL                       |
| ELEV  | ELEVATION                        |
| EXIST | EXISTING                         |
| FLA   | FULL LOAD AMPS                   |
| FUT   | FUTURE                           |
| FVNR  | FULL VOLTAGE, NON-REVERSING      |
| GFCI  | GROUND FAULT CIRCUIT INTERRUPTER |
| GND   | GROUND                           |
| HP    | HORSE POWER                      |
| HZ    | HERTZ (CYCLES PER SECOND)        |
| IC    | INTERRUPTING CAPACITY            |
| KV    | KILOVOLTS                        |
| LCL   | LONG CONTINUOUS LOAD             |
| LED   | LIGHT EMITTING DIODE             |
| LTG   | LIGHTING                         |
| LS    | LEVEL SWITCH                     |
| MAX   | MAXIMUM                          |
| MCC   | MOTOR CONTROL CENTER             |
| MCP   | MAIN CONTROL PANEL               |
| MCM   | THOUSAND CIRCULAR MIL (AWG)      |
| MFR   | MANUFACTURER                     |
| MIN   | MINIMUM                          |
| MIS   | MISCELLANEOUS                    |
| MOV   | MOTOR OPERATED VALVE             |
| MPZ   | MINI POWER ZONE                  |
| MTG   | MOUNTING                         |
| N.C.  | NORMALLY CLOSED                  |
| NEC   | NATIONAL ELECTRICAL CODE         |
| N.O.  | NORMALLY OPEN                    |
| NO.   | NUMBER                           |
| PLC   | PROGRAMMABLE LOGIC CONTROLLER    |
| PNL   | PANEL                            |
| PR    | PAIR                             |
| PVC   | POLYVINYL CHLORIDE               |
| REC   | RECEPTACLE                       |
| RGS   | RIGID GALVANIZED STEEL           |
| RTU   | REMOTE TERMINAL UNIT             |
| SCE   | SOUTHERN CALIFORNIA EDISON       |

4.6 DISCONNECT SWITCHES WILL BE HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK, HORSEPOWER RATED, NEMA-1 INDOOR, NEMA-3R GASKETED, (4X) NEMA-12, OR NEMA-7 AS APPLICABLE WITH CLASS RK-1 BUSSMANN FUSES AND REJECTION CLIPS, SIZED AS SHOWN ON DRAWINGS OR PROPER DISCONNECTS PER N.E.C. WILL BE PROVIDED FOR EACH PIECE OF ELECTRICAL EQUIPMENT.

5.0 LIGHT FIXTURES

5.1 FURNISH AND INSTALL ALL LIGHTING FIXTURES COMPLETE WITH LAMPS AND ACCESSORIES AS DIRECTED BY THE ENGINEER.

5.2 ALL FIXTURES TO BE INSTALLED IN SYMMETRICAL MANNER FREE FROM LIGHT LEAKS AND DIRTY LENSES OR REFLECTORS.

6.0 TESTING

6.1 THE ELECTRICAL DISTRIBUTION SYSTEM FROM SES TO EACH SERVICE DISCONNECT POINT TO BE TESTED WITH THE FOLLOWING:

ELECTRICAL SYMBOLS

SINGLE LINE DIAGRAMS

|  |                                                                                                                          |
|--|--------------------------------------------------------------------------------------------------------------------------|
|  | AMMETER                                                                                                                  |
|  | VOLTMETER                                                                                                                |
|  | METER                                                                                                                    |
|  | GENERATOR                                                                                                                |
|  | KILOWATT HOUR METER                                                                                                      |
|  | AMMETER SWITCH                                                                                                           |
|  | VOLTMETER SWITCH                                                                                                         |
|  | CURRENT TRANSFORMER                                                                                                      |
|  | POTENTIAL TRANSFORMER                                                                                                    |
|  | POWER TRANSFORMER                                                                                                        |
|  | CONTROL TRANSFORMER                                                                                                      |
|  | DRAW OUT TYPE EQUIPMENT                                                                                                  |
|  | DRAW OUT TYPE HIGH VOLTAGE MOTOR STARTER                                                                                 |
|  | PLUG-IN TYPE EQUIPMENT                                                                                                   |
|  | CIRCUIT BREAKER                                                                                                          |
|  | DISCONNECT SWITCH, 3 POLE UNLESS OTHERWISE INDICATED                                                                     |
|  | OIL FUSE CUTOUTS                                                                                                         |
|  | FUSE                                                                                                                     |
|  | TRANSFER SWITCH, AUTOMATIC                                                                                               |
|  | MAGNETIC MOTOR STARTER: "1" INDICATES SIZE 1, RV INDICATES REDUCED VOLTAGE, 2S INDICATES 2 SPEED, R INDICATES REVERSING. |
|  | MAGNETIC CONTACTOR                                                                                                       |
|  | CONDUIT NUMBER E-### SEE CONDUIT AND WIRING SCHEDULE FOR SIZES AND QUANTITIES OF CONDUIT AND WIRES.                      |
|  | GROUND                                                                                                                   |
|  | KIRK KEY INTERLOCKING OF EQUIPMENT                                                                                       |
|  | PHASE FAILURE RELAY                                                                                                      |
|  | SURGE ARRESTER                                                                                                           |
|  | EXISTING MOTOR (# = HP)                                                                                                  |
|  | NEW MOTOR (# = ESTIMATED HP)                                                                                             |
|  | FUTURE MOTOR (# = ESTIMATED HP)                                                                                          |
|  | EYS SEAL                                                                                                                 |
|  | ELECTRONIC OVERLOAD RELAY                                                                                                |

SCHED SCHEDULE

|       |                              |
|-------|------------------------------|
| SES   | SERVICE ENTRANCE SECTION     |
| SPECS | SPECIFICATIONS               |
| SS    | SOFT STARTER                 |
| SSS   | SOLID STATE STARTER          |
| TEL   | TELEPHONE                    |
| TDR   | TIME DELAY RELAY             |
| TTB   | TELEPHONE TERMINAL BACKBOARD |
| TYP   | TYPICAL                      |
| UG    | UNDER GROUND                 |
| US    | ULTRASONIC SENSOR            |
| UCP   | UNIT CONTROL PANEL           |
| V     | VOLTS                        |
| VFD   | VARIABLE FREQUENCY DRIVE     |
| WP    | WEATHERPROOF                 |
| XFMR  | TRANSFORMER                  |

CONTROL WIRING DIAGRAMS

| NORMALLY OPEN | NORMALLY CLOSED | DEVICE                                                                       |
|---------------|-----------------|------------------------------------------------------------------------------|
|               |                 | CONTACT                                                                      |
|               |                 | LIMIT SWITCH                                                                 |
|               |                 | LIMIT SWITCH HELD CLOSED                                                     |
|               |                 | LIMIT SWITCH HELD OPEN                                                       |
|               |                 | PRESSURE OR VACUUM SWITCH                                                    |
|               |                 | LIQUID LEVEL SWITCH                                                          |
|               |                 | TEMPERATURE ACTUATED SWITCH                                                  |
|               |                 | FLOW SWITCH (AIR, WATER, ETC.)                                               |
|               |                 | PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT.                                |
|               |                 | PUSH BUTTON SINGLE CIRCUIT LOCK-OUT/LOCATED AT MOTOR UNLESS OTHERWISE NOTED. |
|               |                 | TIMED CONTACT- CONTACT ACTION RELAY ON ENERGIZATION.                         |
|               |                 | TIMED CONTACT- CONTACT ACTION RELAY ON DE-ENERGIZATION.                      |
|               |                 | ON-OFF SWITCH.                                                               |
|               |                 | EMERGENCY STOP PUSH BUTTON (MAINTAINED CONTACT)                              |
|               |                 | STOP-START PUSH-BUTTON STATION (MAINTAINED CONTACTS).                        |
|               |                 | HAND-OFF-AUTO SELECTOR SWITCH SEE NOTE 3. (THREE POSITION).                  |
|               |                 | TWO POSITION SELECTOR SWITCH SEE NOTE 3.                                     |
|               |                 | PILOT LIGHT, Y=YELLOW, R=RED, A=AMBER, SEE NOTE 3. B=BLUE, W=WHITE, G=GREEN. |
|               |                 | BELL                                                                         |
|               |                 | HORN OR SIREN                                                                |
|               |                 | CONTROL RELAY                                                                |
|               |                 | STARTER COIL.                                                                |
|               |                 | TIME DELAY RELAY, (0-30 SECONDS UNLESS OTHERWISE NOTED).                     |
|               |                 | MOTOR STARTER OVERLOAD RELAY CONTACTS                                        |
|               |                 | CONTROL TRANSFORMER                                                          |
|               |                 | MANUAL MOTOR STARTER                                                         |
|               |                 | SOLENOID OPERATED CONTROL VALVE                                              |
|               |                 | MOTOR                                                                        |
|               |                 | RUNNING TIME METER, (ELAPSED TIME METER)                                     |
|               |                 | SPACE HEATERS, (LOCATED AT MOTOR UNLESS OTHERWISE NOTED).                    |
|               |                 | TERMINALS IN MOTOR CONTROL CENTER/MCP                                        |
|               |                 | CONTACT OR DEVICE REMOTE FROM MOTOR CONTROL CENTER/MCP                       |
|               |                 | TERMINALS IN MOTOR CONTROL CENTER/MCP                                        |
|               |                 | CONTACT IN MOTOR CONTROL CENTER FOR CONNECTION TO REMOTE DEVICE/MCP          |
|               |                 | DEVICE SIGNAL OUTPUT                                                         |
|               |                 | DEVICE SIGNAL INPUT                                                          |
|               |                 | MECHANICAL INTERLOCK                                                         |

6.1.2 MEGGER TESTED WITH ALL SWITCHES CLOSED BETWEEN EACH PHASE CONDUCTOR TO GROUND AND NEUTRAL PHASE CONDUCTOR WITH 900V FOR ONE (1) MINUTE.

6.1.3 EACH SUB-FEEDER SHALL BE TESTED FOR PROPER PHASING AND OUTLETS ARE TESTED FOR CORRECT POLARITY.

6.1.4 EACH SERVICE DISCONNECT LOCATION SHALL BE TESTED TO ENSURE PHASING AND POLARITY.

6.1.5 RTU TO HAVE FACTORY ACCEPTANCE TESTING PRIOR TO SITE DELIVERY.

6.1.6 SITE ACCEPTANCE TESTING TO BE PERFORMED PRIOR TO TURN OVER.

PLANS

|  |                                                                                                                             |
|--|-----------------------------------------------------------------------------------------------------------------------------|
|  | CONDUIT RUN IN CONCEALED INTERIOR OR EXTERIOR GRADE (CONCEALED IN SLAB WHERE SO NOTED OR WHERE ALLOWED PER SPECIFICATIONS). |
|  | CONDUIT RUN EXPOSED UNLESS OTHERWISE NOTED                                                                                  |
|  | EXISTING CONDUIT RUN                                                                                                        |
|  | GROUND WIRE                                                                                                                 |
|  | CONDUIT UP (OUT TOP OF EQUIPMENT)                                                                                           |
|  | CONDUIT DOWN (OUT BOTTOM OF EQUIPMENT)                                                                                      |
|  | CONDUIT STUBBED OUT AND CAPPED                                                                                              |
|  | LIGHTING FIXTURE MOUNTED ON POLE OR POST OR ABOVE PLATFORM                                                                  |
|  | CEILING MOUNTED LIGHTING FIXTURE                                                                                            |
|  | BRACKET MOUNTED LIGHTING FIXTURE                                                                                            |
|  | FLOODLIGHT                                                                                                                  |
|  | FLUORESCENT LIGHTING FIXTURE                                                                                                |
|  | POLE MOUNTED LIGHT FIXTURE                                                                                                  |
|  | EXIT LIGHT                                                                                                                  |
|  | RECESSED INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE                                                                     |
|  | LIGHTING FIXTURES CONNECTED TO EMERGENCY CIRCUITS                                                                           |
|  | LIGHTING FIXTURE TYPE A, 100 WATTS, WITH 1 LAMP. SEE LIGHTING FIXTURE SCHEDULE                                              |
|  | SINGLE POLE, SINGLE THROW TOGGLE SWITCH                                                                                     |
|  | DOUBLE POLE, SINGLE THROW TOGGLE SWITCH                                                                                     |
|  | THREE-WAY TOGGLE SWITCH                                                                                                     |
|  | FOUR-WAY TOGGLE SWITCH                                                                                                      |
|  | MANUAL MOTOR STARTER                                                                                                        |
|  | OUTLETS SHOWN WITH SUBSCRIPT "a" ADJACENT TO THEM SHALL BE CONTROLLED BY S a                                                |
|  | DUPLEX CONVENIENCE RECEPTACLE AT +12" OR AS NOTED                                                                           |
|  | SINGLE CONVENIENCE RECEPTACLE AT +12" OR AS NOTED                                                                           |
|  | SPECIAL PURPOSE RECEPTACLE AT +12" OR AS NOTED, RATING AS INDICATED                                                         |
|  | JUNCTION BOX, SIZE AS REQUIRED BY CODE                                                                                      |
|  | THERMOSTAT OUTLET AT +54"                                                                                                   |
|  | CLOCK OUTLET AT +7-6" OR AS NOTED                                                                                           |
|  | TELEPHONE OUTLET AT                                                                                                         |
|  | TELEPHONE FLOOR OUT                                                                                                         |
|  | HORN                                                                                                                        |
|  | CONTROL DEVICE<br>PD = PRESSURE TRANSFER<br>FS = FLOAT SWITCH<br>L = LEVEL SWITCH<br>V = CONTROL VALVE                      |
|  | CONTROL STATION, PUSH SWITCH. SEE CONTROL REQUIREMENTS.                                                                     |
|  | EXISTING MOTOR                                                                                                              |
|  | NEW MOTOR                                                                                                                   |
|  | FUTURE MOTOR                                                                                                                |
|  | GROUND WELL                                                                                                                 |
|  | GROUND ROD                                                                                                                  |
|  | DISCONNECT SWITCH. SEE SINGLE LINE DIAGRAM FOR SIZE.                                                                        |
|  | LIGHTING PANEL, SURFACE MOUNTED.                                                                                            |
|  | SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER                                                                     |
|  | EQUIPMENT BY OTHERS                                                                                                         |
|  | INDICATES TO REFER TO NOTE (1) ON DRAWING                                                                                   |
|  | WEATHERPROOF. PROVIDE GASKETS AS REQUIRED                                                                                   |
|  | CONDUIT ONLY                                                                                                                |
|  | ELECTRICAL PULL BOX (SIZE AS REQUIRED)                                                                                      |
|  | COMMUNICATIONS PULL BOX (SIZE AS REQUIRED)                                                                                  |
|  | OUTPUT TERMINAL                                                                                                             |
|  | INPUT TERMINAL                                                                                                              |
|  | PROPOSED TRANSFORMER                                                                                                        |
|  | AUTOMATIC TRANSFER SWITCH (ATS)                                                                                             |
|  | REMOVABLE BOLLARD                                                                                                           |
|  | RADIO AND ANTENNA                                                                                                           |
|  | OMNI DIRECTIONAL ANTENNA                                                                                                    |

Please  
final seal  
upon  
LCMUA  
approval.

RESPONSE:  
Noted

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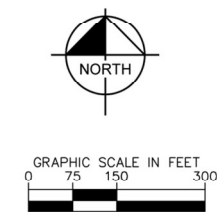
ELECTRICAL LEGEND,  
SYMBOLS, AND NOTES  
1500 TURBEVILLE  
SEWER ADDITION

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E01



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**TOWN OF HICKORY HILL  
DENTON COUNTY, TEXAS**

**ELECTRICAL  
OVERALL MAP**

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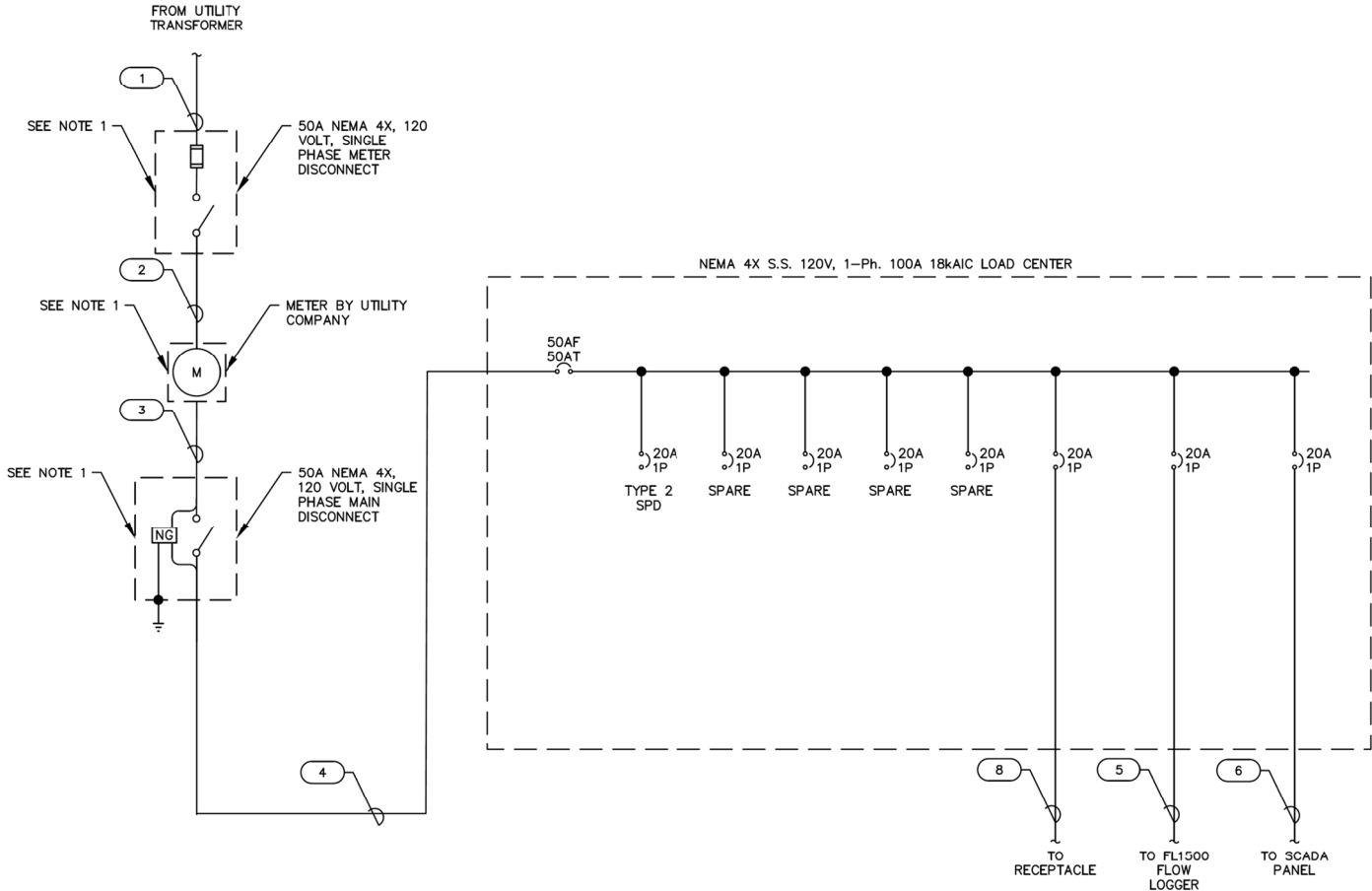
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E02

**ELECTRICAL OVERALL SITE PLAN**





- NOTES:
1. SERVICE ENTRANCE EQUIPMENT IS SHOWN FOR REFERENCE ONLY. MODIFY INSTALLATION PER UTILITY COMPANY STANDARDS.

1  
E04 ELECTRICAL ONE - LINE DIAGRAM  
N.T.S.

| CONDUIT SCHEDULE |      |            |         |         |                 |        |                                   |                       |                       |                    |
|------------------|------|------------|---------|---------|-----------------|--------|-----------------------------------|-----------------------|-----------------------|--------------------|
| CONDUIT          |      | CONDUCTORS |         |         |                 |        | DESCRIPTION                       | ORIGIN                | DESTINATION           | COMMENT            |
| TAG              | SIZE | POWER      | NEUTRAL | CONTROL | INSTRUM.        | GROUND |                                   |                       |                       |                    |
| 1                | 1"   | 2 - #6     |         |         |                 | #8     | POWER                             | UTILITY TRANSFORMER   | METER DISCONNECT      |                    |
| 2                | 1"   | 2 - #6     |         |         |                 | #8     | POWER                             | METER DISCONNECT      | UTILITY COMPANY METER |                    |
| 3                | 1"   | 2 - #6     |         |         |                 | #8     | POWER                             | UTILITY COMPANY METER | MAIN DISCONNECT       |                    |
| 4                | 1"   | 2 - #6     |         |         |                 | #8     | POWER                             | MAIN DISCONNECT       | LOAD CENTER           |                    |
| 5                | 1"   | 2 - #12    |         |         |                 | #12    | FLOW INDICATING TRANSMITTER POWER | LOAD CENTER           | FL1500 FLOW LOGGER    |                    |
| 6                | 1"   |            |         |         | FLOWMETER CABLE |        | FLOWMETER POWER AND SIGNAL        | FL1500 FLOW LOGGER    | FLOWMETER             | MANUFACTURER CABLE |
| 7                | 1"   | 2 - #12    |         |         |                 | #12    | SCADA PANEL POWER                 | LOAD CENTER           | SCADA PANEL           |                    |
| 8                | 1"   | 2 - #12    |         |         |                 | #12    | RECEPTACLE POWER                  | LOAD CENTER           | RECEPTACLE AT RACK    |                    |
| 9                | 1"   |            |         |         | #16 TSP         |        | FLOW LOGGER SIGNAL                | FL1500 FLOW LOGGER    | SCADA PANEL           |                    |

| PANEL SCHEDULE                                                                                                                           |                         |                             |      |      |      |      |                                       |      |      |         |                  |          |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------|------|------|------|------|---------------------------------------|------|------|---------|------------------|----------|
| SEE NOTE                                                                                                                                 | DESIGNATION: LOADCENTER |                             |      |      |      |      | MAINS: 100 AMP MAIN CIRCUIT BREAKER   |      |      |         |                  |          |
|                                                                                                                                          | LOCATION:               |                             |      |      |      |      | BUS SIZE: 100 AMP                     |      |      |         |                  |          |
|                                                                                                                                          | VOLTAGE: 120/240        |                             |      |      |      |      | PANEL MOUNTING: SURFACE               |      |      |         |                  |          |
|                                                                                                                                          | PHASE: 1 PHASE, 3 WIRE  |                             |      |      |      |      | ALL BREAKERS: 10,000 A.I.C. (MINIMUM) |      |      |         |                  |          |
|                                                                                                                                          | CKT. NO.                | LOAD DESCRIPTION            | KVA  | AMPS | POLE | A    | B                                     | AMPS | POLE | KVA     | LOAD DESCRIPTION | CKT. NO. |
|                                                                                                                                          | 1                       | FLOW INDICATING TRANSMITTER | 1.38 | 20   | 1    | 2.28 |                                       | 20   | 1    | 1.20    | SCADA PANEL      | 2        |
|                                                                                                                                          | 3                       | RECEPTACLE                  | 1.08 | 20   | 1    |      | 1.08                                  | 20   | 1    | 0.00    | SPARE            | 4        |
|                                                                                                                                          | 5                       | SPARE                       | 0.00 | 20   | 1    | 0.00 |                                       | 20   | 1    | 0.00    | SPARE            | 6        |
|                                                                                                                                          | 7                       | SPARE                       | 0.00 | 20   | 1    |      | 0.00                                  | 20   | 1    | 0.00    | SPARE            | 8        |
| TOTAL CONNECTED LOAD:                                                                                                                    |                         |                             |      |      |      | 2.28 | 1.08                                  |      |      | TOTAL = | 3.38             |          |
| NOTES:<br>A. FOR CONDUIT AND CABLE FOR EACH CIRCUIT, REFER TO BRANCH CIRCUIT CONDUIT AND CABLE SCHEDULE ON THIS SHEET.<br>B.<br>C.<br>D. |                         |                             |      |      |      |      |                                       |      |      |         |                  |          |

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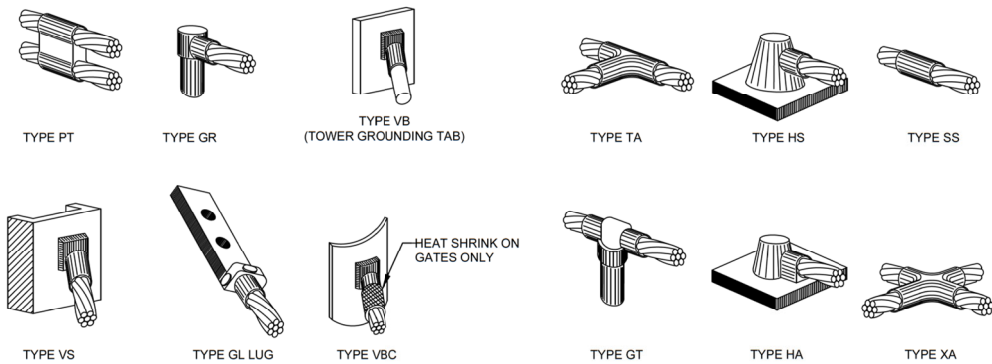
ELECTRICAL DETAILS  
1500 TURBEVILLE  
SEWER ADDITION

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E04

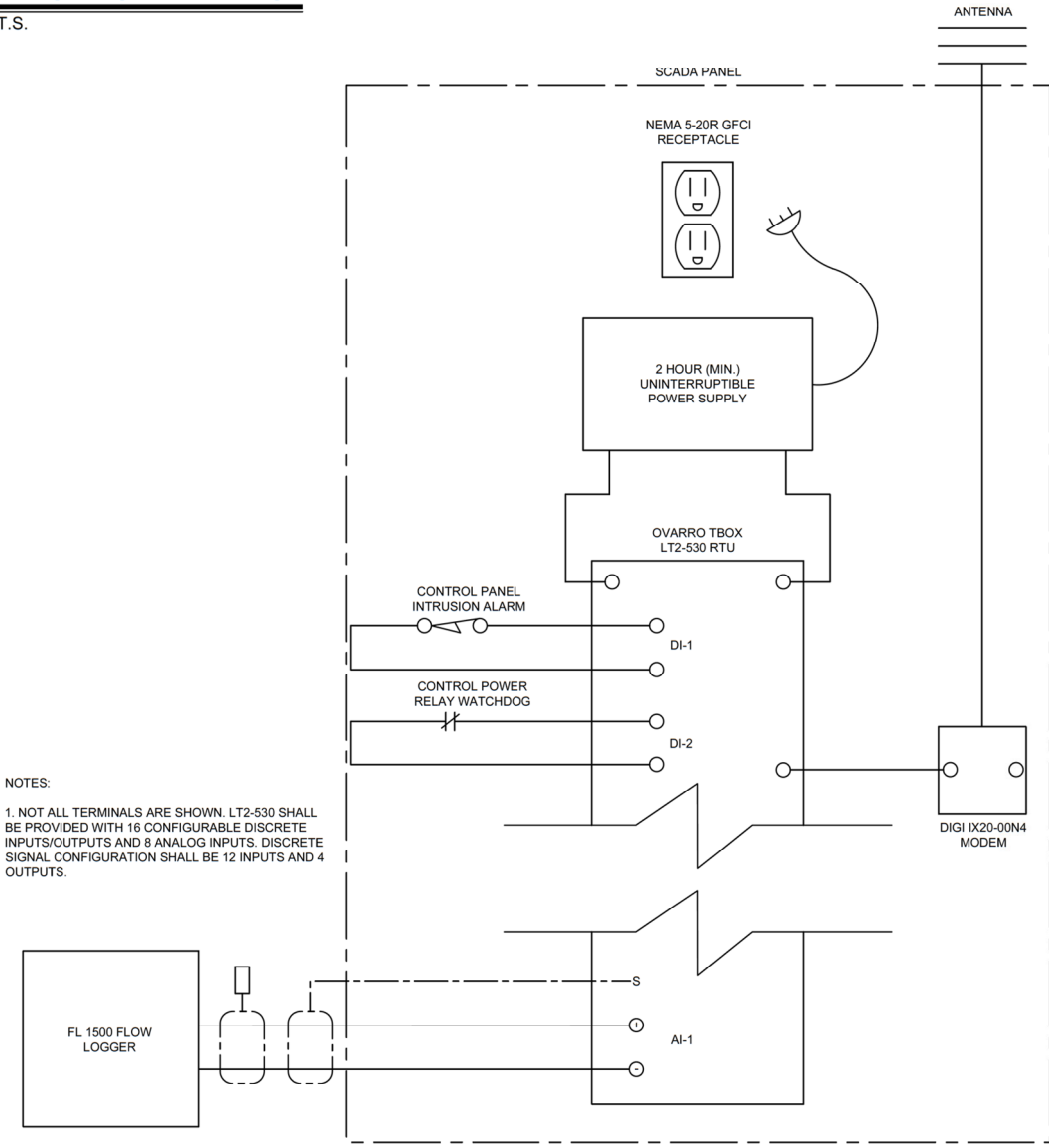


NOTES:  
1. CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES. PROVIDE APPROPRIATE TYPES AS REQUIRED.

1  
E05  
TYPICAL CAD WELDS  
N.T.S.

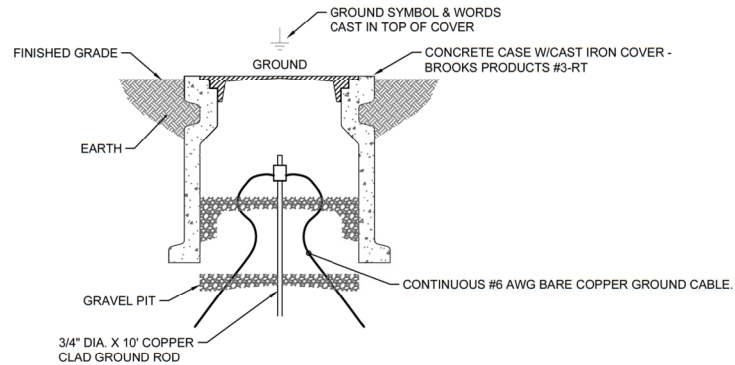
| RTU I/O LIST |                     |                 |
|--------------|---------------------|-----------------|
| NUMBER       | DESCRIPTION         | TYPE            |
| DI-1         | POWER FAILURE       | DISCRETE INPUT  |
| DI-2         | RTU PANEL INTRUSION | DISCRETE INPUT  |
| DI-3         | ALARM               | DISCRETE INPUT  |
| DI-4         | SPARE               | DISCRETE INPUT  |
| DI-5         | SPARE               | DISCRETE INPUT  |
| DI-6         | SPARE               | DISCRETE INPUT  |
| DI-7         | SPARE               | DISCRETE INPUT  |
| DI-8         | SPARE               | DISCRETE INPUT  |
| DI-9         | SPARE               | DISCRETE INPUT  |
| DI-10        | SPARE               | DISCRETE INPUT  |
| DI-11        | SPARE               | DISCRETE INPUT  |
| DI-12        | SPARE               | DISCRETE INPUT  |
| DO-1         | SPARE               | DISCRETE OUTPUT |
| DO-2         | SPARE               | DISCRETE OUTPUT |
| DO-3         | SPARE               | DISCRETE OUTPUT |
| DO-4         | SPARE               | DISCRETE OUTPUT |
| AI-1         | SPARE               | FLO-DAR FLOW    |
| AI-2         | FLO-DAR FLOW        | ANALOG INPUT    |
| AI-3         | SPARE               | ANALOG INPUT    |
| AI-4         | SPARE               | ANALOG INPUT    |
| AI-5         | SPARE               | ANALOG INPUT    |
| AI-6         | SPARE               | ANALOG INPUT    |
| AI-7         | SPARE               | ANALOG INPUT    |
| AI-8         | SPARE               | ANALOG INPUT    |

4  
E05  
RTU I/O LIST  
N.T.S.

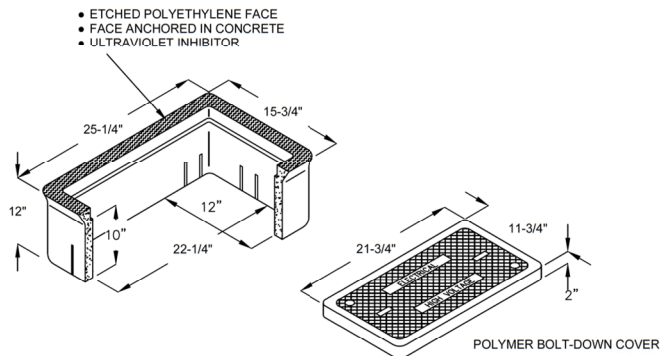


NOTES:  
1. NOT ALL TERMINALS ARE SHOWN. LT2-530 SHALL BE PROVIDED WITH 16 CONFIGURABLE DISCRETE INPUTS/OUTPUTS AND 8 ANALOG INPUTS. DISCRETE SIGNAL CONFIGURATION SHALL BE 12 INPUTS AND 4 OUTPUTS.

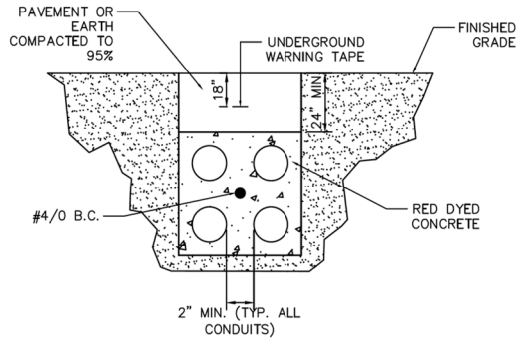
5  
E05  
INTERCONNECTION DIAGRAM  
N.T.S.



2  
E05  
GROUNDING ROD AND WELL DETAIL  
N.T.S.



3  
E05  
PULLBOX DETAIL  
N.T.S.



6  
E05  
DUCTBANK DETAIL  
N.T.S.

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**ELECTRICAL DETAILS**  
**1500 TURBEVILLE**  
**SEWER ADDITION**

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E05

ELECTRICAL RACK NOTES

- SPD NOT SHOWN FOR CLARITY. PROVIDE TYPE 1 SPD CONNECTED ON LINE SIDE OF MAIN BREAKER AND MOUNTED TO BACK OF MAIN BREAKER.
- CONDUITS EXITING THE MANHOLE SHALL BE EQUIPPED WITH EYS SEALS PRIOR TO PENETRATING EQUIPMENT AT ELECTRICAL RACK.
- PROVIDE ALL HARDWARE AND APPURTENANCES AS NEEDED. ALL HARDWARE TO BE 316 STAINLESS STEEL, EXCEPT POST BASES AND C-CHANNELS, WHICH SHALL BE 304 STAINLESS STEEL.
- PROVIDE NAMEPLATES FOR ALL ENCLOSURES ON ELECTRICAL RACK. NAMEPLATES SHALL BE ENGRAVED ENAMEL, BLACK LETTERS ON WHITE BACKGROUND.

1  
E06

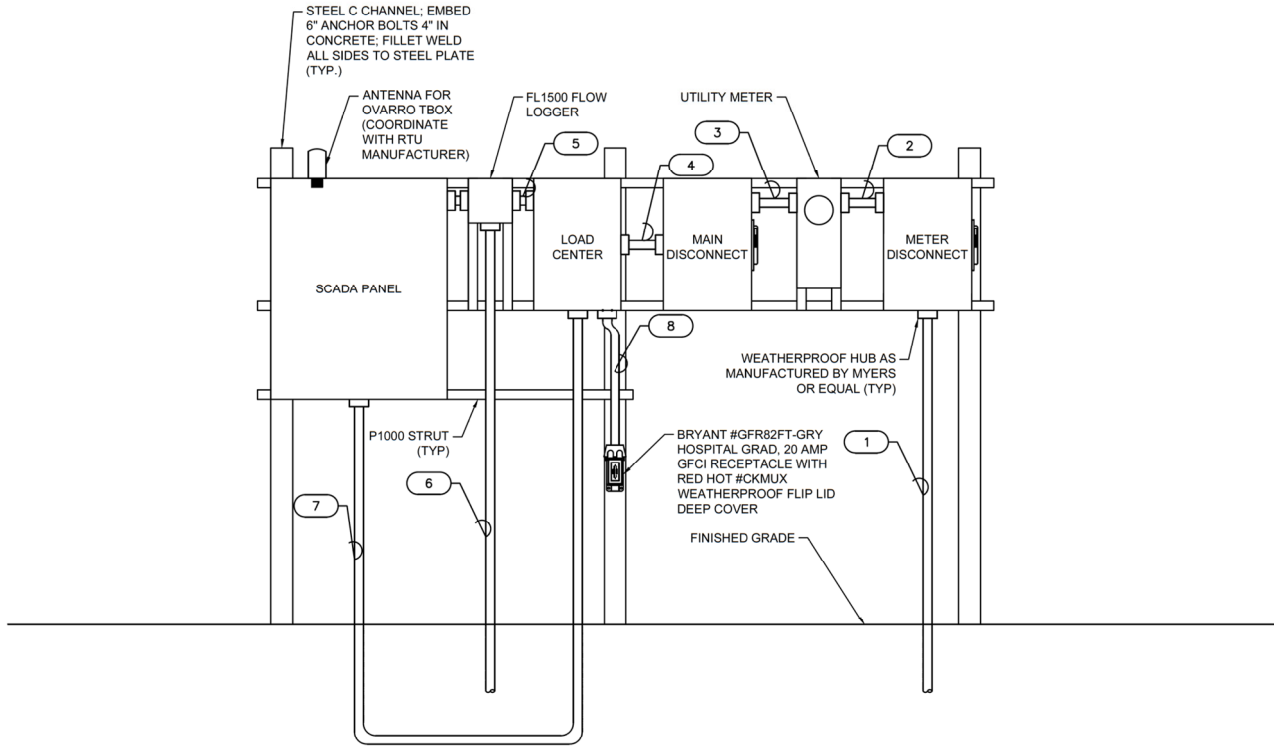
ELECTRICAL RACK DETAIL

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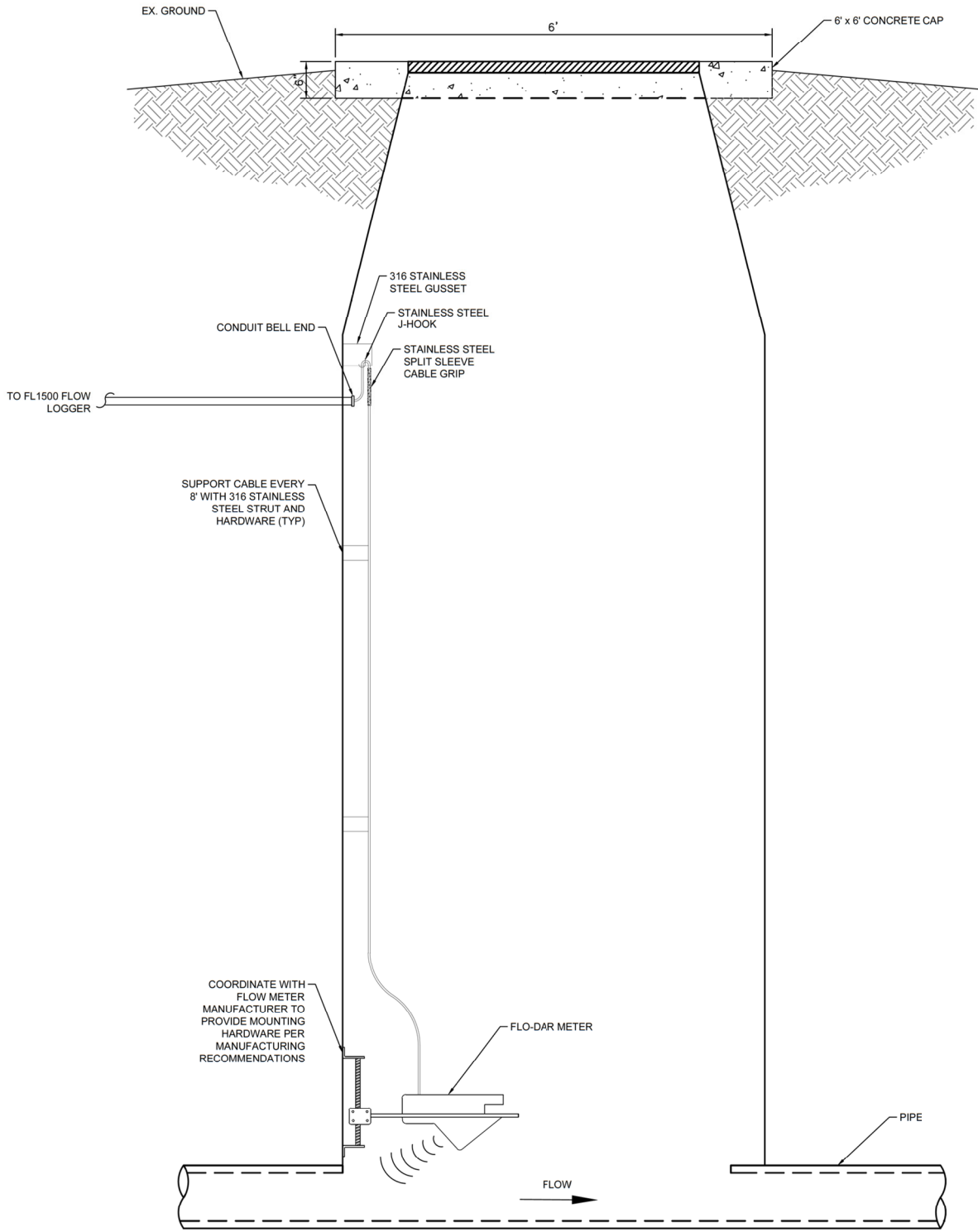
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E06

SANITARY SEWER METER MANHOLE DETAIL

N.T.S.



ELEVATION



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ELECTRICAL DETAILS  
1500 TURBEVILLE  
SEWER ADDITION

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E06

# SEWER METER DESIGN REPORT

## 1500 TURBEVILLE LANE

### HICKORY CREEK TEXAS, TEXAS

General Comment:  
Design Criteria shall follow latest  
requirements of Lake Cities Municipal  
Utility Authority

RESPONSE:  
Report has been  
approved by  
LCMUA.

## CCM ENGINEERING

2570 FM 407, SUITE 209  
HIGHLAND VILLAGE, TEXAS 75077

firm registration #605



8/6/2024

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**EXHBIIT A - Sewer Drainage Basin****EXHIBIT B – Flow Profile (Existing Condition, Mobile Homes)****EXHIBIT C - Flow Profile (Proposed Condition, Apartments)****APPENDIX A - Figure: 30 TAC §285.91(3) from the Texas Secretary of State**

Current zoning is commercial, has zoning change request been approved for Multifamily zoning? Multifamily design is a little more conservative, so okay to leave as is, just worth considering.

RESPONSE:  
All references to a MF development have been removed from the report.

## 1.0 INTRODUCTION

### 1.1 Purpose

The purpose of this Sewer Report is to identify provide the design parameters for the proposed LCMUA flow metering station and associated 8" PVC sanitary sewer line at 1500 Turbeville Rd in Hickory Creek, TX. The report will analyze the proposed line serving both an existing mobile home development and a possible future proposed 500 unit multifamily development. The multifamily development would replace the mobile home development in the event that it was constructed.

### 1.2 Proposed Sewer Line

The proposed sewer line is a 500' sewer extension that comes off of an existing LCMUA 5' diameter sewer manhole. The manhole sits with the existing Turbeville Rd. Right-of-Way (ROW), on the north side of the existing road. The proposed line will extend north 500' into the mobile home site from the existing manhole until it terminates at a proposed 4' diameter manhole.

The proposed line will be constructed of 8" diameter SDR-26 PVC pipe. It will drain from the proposed manhole on the mobile home site to the existing LCMUA manhole within the Turbeville Rd. ROW.

A LCMUA flow metering station will be installed at the downstream end of the proposed sewer line.

## 2.0 SITE DESCRIPTION

### 2.1 Existing Conditions

The existing site is a mobile home community with 15 mobile homes and 45 trailer homes.

### 2.2 Proposed Conditions

The existing mobile home site would be removed and replaced with a 500 unit multifamily development under the future proposed condition. At this time, no plans to move forward with this development have been made and it is hypothetical in nature. It is being considering in this report for feasibility purposes.

## 3.0 DESIGN CRITERIA

### 3.1 Sewer Demand (Average)

#### EXISTING:

The existing site is a mobile home community with 15 mobile homes and 45 trailer homes. Per Figure: 30 TAC §285.91(3) from the Texas Secretary of State (Appendix A), each mobile home will have usage rate of 180 gallons/day.

Average sewer flow:  $(180 \text{ GPD}) * (60 \text{ mobile units}) = \mathbf{10,800 \text{ GPD}}$

#### PROPOSED:

The proposed site will be a 500 unit multifamily community. Per Figure: 30 TAC §285.91(3) from the Texas Secretary of State (Appendix A), each unit will have usage rate of 100 gallons/day per bedroom. 2 bedrooms/unit were assumed for this study.

Average sewer flow:  $(100 \text{ GPD}) * (2 \text{ bedrooms}) * (500 \text{ units}) = \mathbf{100,000 \text{ GPD}}$

### 3.2 Sewer Demand (Peak)

A peaking factor of 4 was selected for this project under both existing and proposed conditions to estimate peak wet weather flows. The peaking factor will be multiplied by the average sewer demand to determine the peak flow.

#### EXISTING:

Average sewer flow:  $(10,800 \text{ GPD}) * (4) = \mathbf{43,320 \text{ GPD}}$

#### PROPOSED:

Average sewer flow:  $(100,000 \text{ GPD}) * (4) = \mathbf{400,000 \text{ GPD}}$

This GPD is based on the assumption of water saving devices being in use. Can we assume that this early, or should 125 be used (w/o water saving devices)...

RESPONSE:  
All references to a MF development have been removed from the report, including this segment.

### 3.3 Total Drainage Basin

The proposed sanitary sewer line will serve the existing 25.6 acre site that the mobile home park sits on. It will not serve any other developments. See Exhibit A for the defined total drainage basin. In the proposed multifamily site condition, the proposed line will only serve the multifamily site.

### 3.4 Velocity calculations and Flow Profile

The peak flow calculated in section 3.2 was used in a sewer flow calculator to create a flow profile (Exhibits B & C) for each condition and determine the proposed velocity of the flow within the proposed 8" line. The analysis performed demonstrated that an 8" pipe will have sufficient capacity to carry sanitary flow from the site under both the existing and proposed conditions. The proposed velocity under each condition is within industry standards.

### 3.5 Hydraulic Grade Line Calculations

The proposed sanitary sewer flow is under gravity flow in both conditions and will not require a hydraulic grade line analysis.

## 4.0 SUMMARY

The proposed 8" sanitary sewer line has sufficient capacity to handle the proposed flow from this site under both existing and proposed development conditions. Industry standard values were considered during all analysis performed and the proposed line met all criteria needed to display that it will perform satisfactorily for both scenarios run.

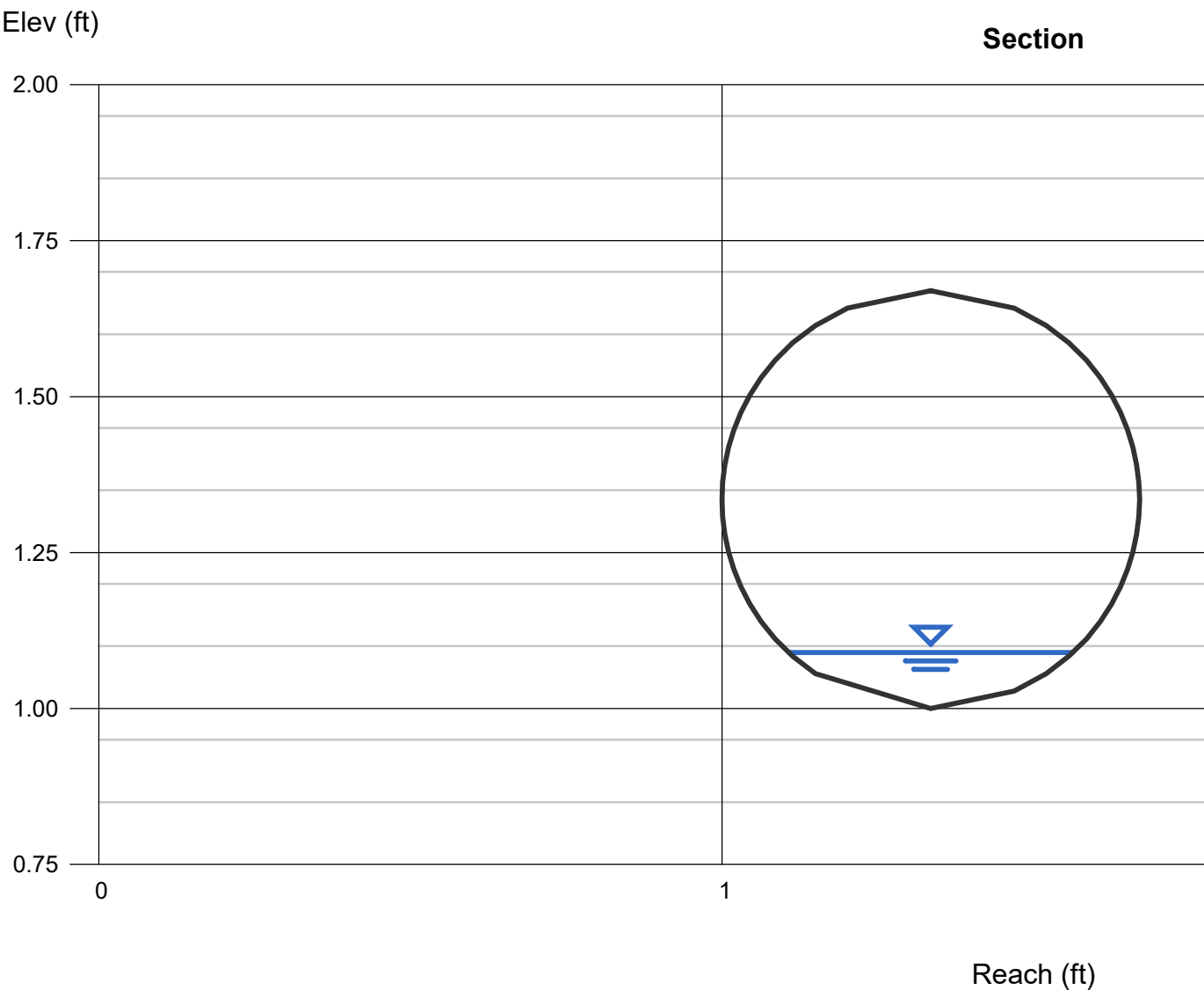


## EXHIBIT A - SEWER DRAINAGE BASIN 1500 TURBEVILLE RD.

# Channel Report

## Exhibit B - Flow Profile (Existing Condition, Mobile Homes)

|                     |         |                     |         |
|---------------------|---------|---------------------|---------|
| <b>Circular</b>     |         | <b>Highlighted</b>  |         |
| Diameter (ft)       | = 0.67  | Depth (ft)          | = 0.09  |
|                     |         | Q (cfs)             | = 0.070 |
|                     |         | Area (sqft)         | = 0.03  |
| Invert Elev (ft)    | = 1.00  | Velocity (ft/s)     | = 2.44  |
| Slope (%)           | = 1.47  | Wetted Perim (ft)   | = 0.51  |
| N-Value             | = 0.009 | Crit Depth, Yc (ft) | = 0.12  |
|                     |         | Top Width (ft)      | = 0.46  |
|                     |         | EGL (ft)            | = 0.18  |
| <b>Calculations</b> |         |                     |         |
| Compute by:         | Known Q |                     |         |
| Known Q (cfs)       | = 0.07  |                     |         |



# Channel Report

## Exhibit C - Flow Profile (Proposed Condition, Apartments)

### Circular

Diameter (ft) = 0.67

Invert Elev (ft) = 1.00

Slope (%) = 1.47

N-Value = 0.009

### Calculations

Compute by: Known Q

Known Q (cfs) = 0.62

### Highlighted

Depth (ft) = 0.25

Q (cfs) = 0.620

Area (sqft) = 0.12

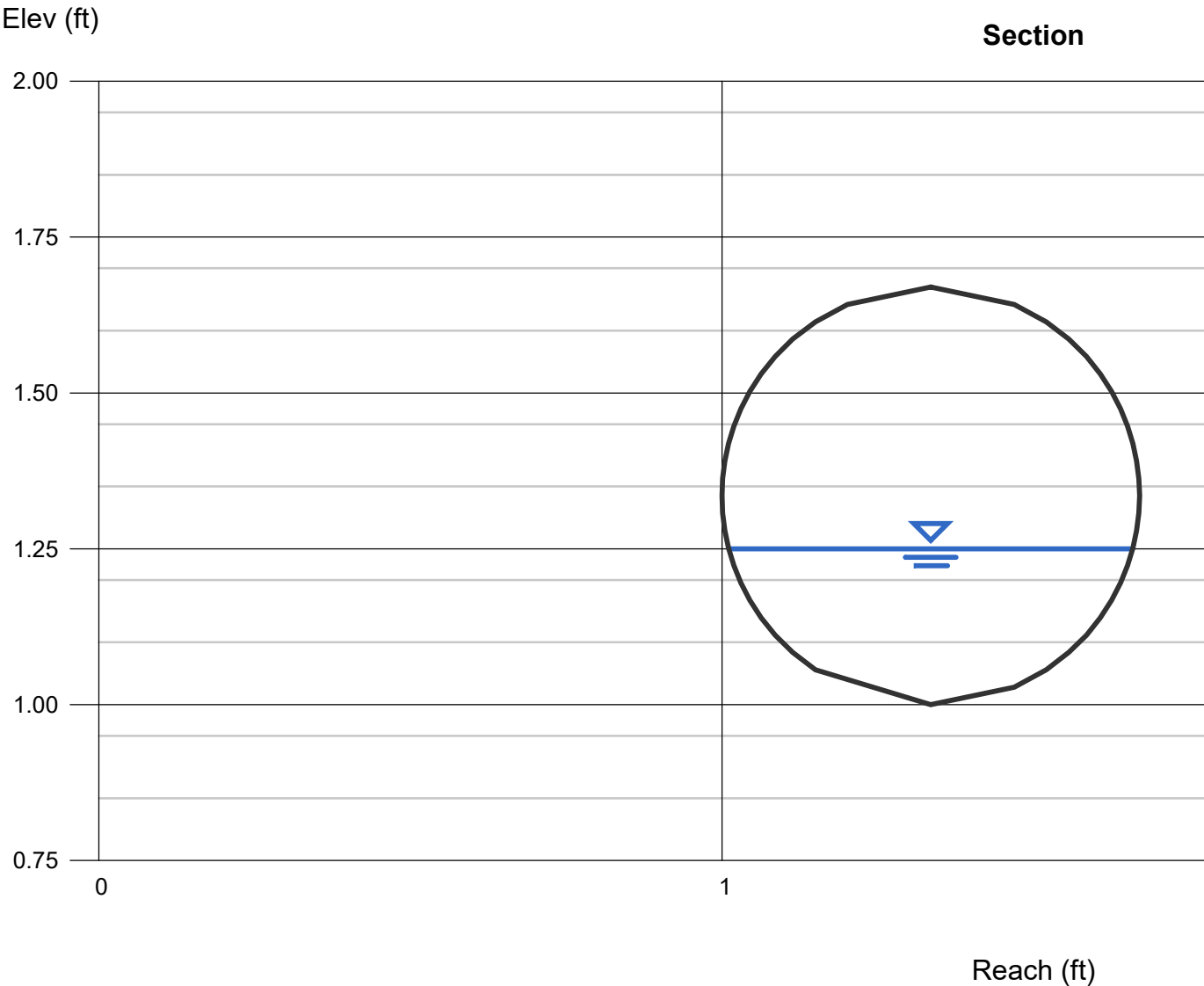
Velocity (ft/s) = 5.16

Wetted Perim (ft) = 0.88

Crit Depth, Yc (ft) = 0.37

Top Width (ft) = 0.65

EGL (ft) = 0.66



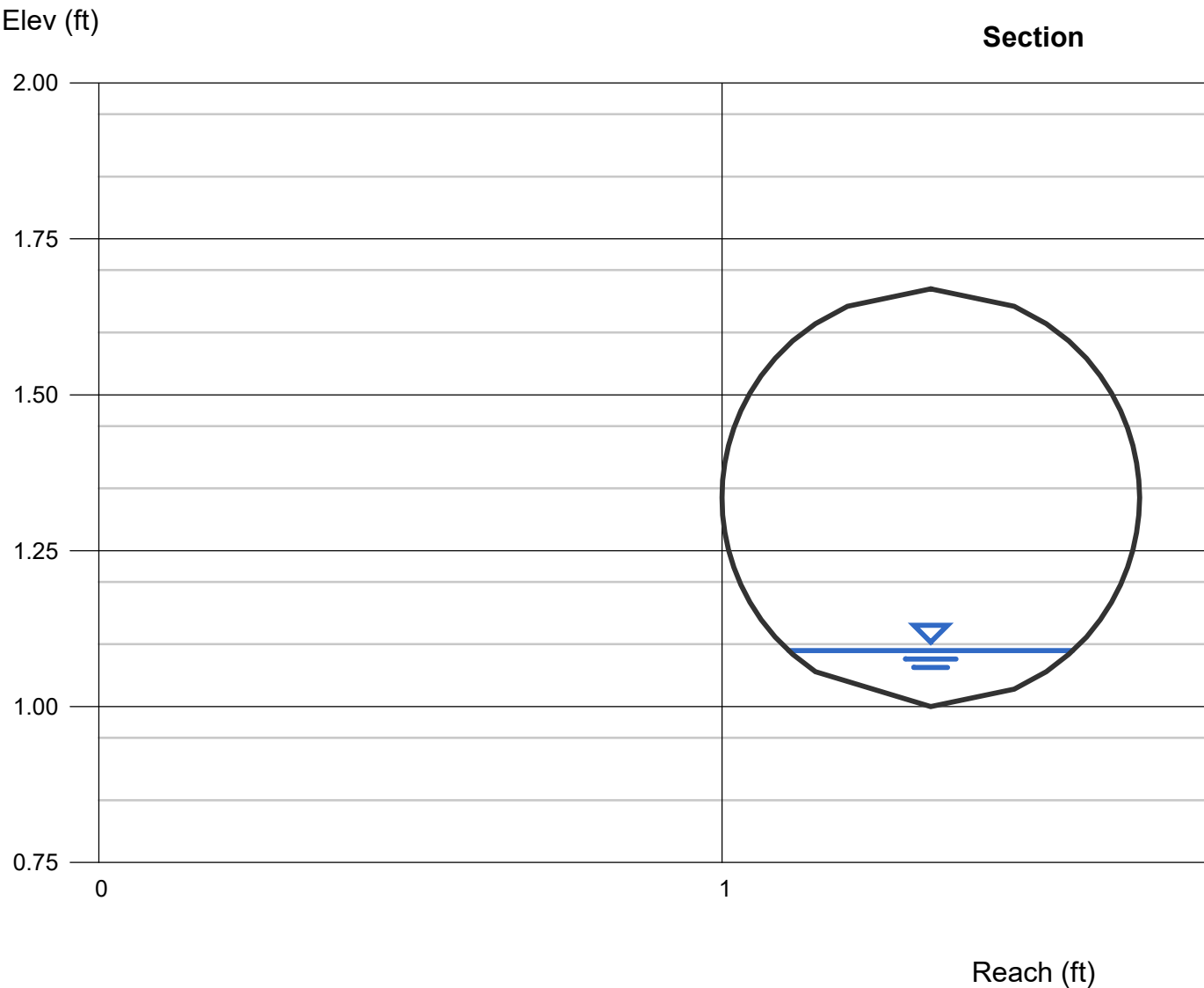


## EXHIBIT A - SEWER DRAINAGE BASIN 1500 TURBEVILLE RD.

# Channel Report

## Exhibit B - Flow Profile (Existing Condition, Mobile Homes)

|                     |         |                     |         |
|---------------------|---------|---------------------|---------|
| <b>Circular</b>     |         | <b>Highlighted</b>  |         |
| Diameter (ft)       | = 0.67  | Depth (ft)          | = 0.09  |
|                     |         | Q (cfs)             | = 0.070 |
|                     |         | Area (sqft)         | = 0.03  |
| Invert Elev (ft)    | = 1.00  | Velocity (ft/s)     | = 2.44  |
| Slope (%)           | = 1.47  | Wetted Perim (ft)   | = 0.51  |
| N-Value             | = 0.009 | Crit Depth, Yc (ft) | = 0.12  |
|                     |         | Top Width (ft)      | = 0.46  |
|                     |         | EGL (ft)            | = 0.18  |
| <b>Calculations</b> |         |                     |         |
| Compute by:         | Known Q |                     |         |
| Known Q (cfs)       | = 0.07  |                     |         |



# Channel Report

## Exhibit C - Flow Profile (Proposed Condition, Apartments)

### Circular

Diameter (ft) = 0.67

Invert Elev (ft) = 1.00

Slope (%) = 1.47

N-Value = 0.009

### Calculations

Compute by: Known Q

Known Q (cfs) = 0.62

### Highlighted

Depth (ft) = 0.25

Q (cfs) = 0.620

Area (sqft) = 0.12

Velocity (ft/s) = 5.16

Wetted Perim (ft) = 0.88

Crit Depth, Yc (ft) = 0.37

Top Width (ft) = 0.65

EGL (ft) = 0.66

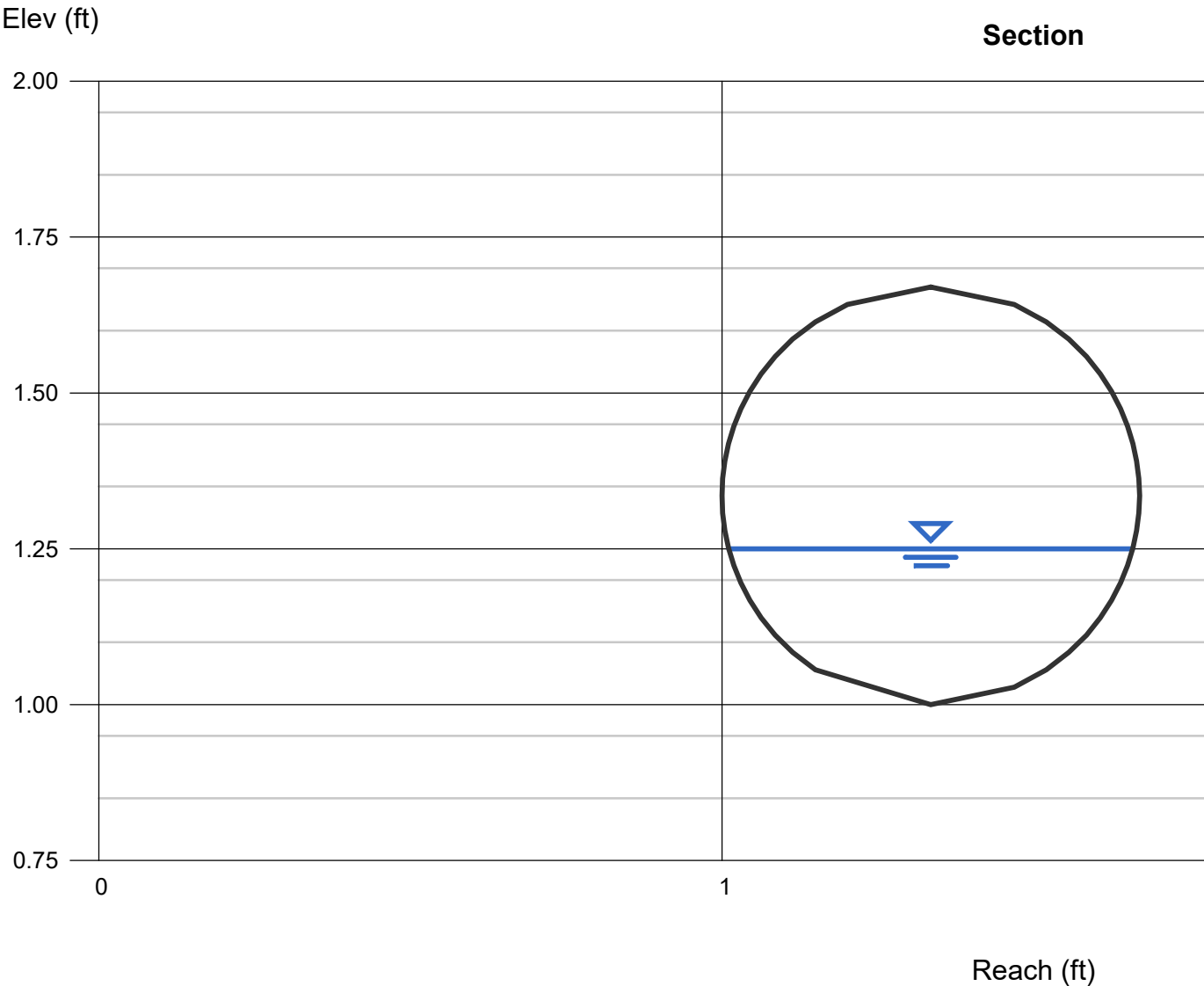


Figure: 30 TAC §285.91(3)

**APPENDIX A****Table III. Wastewater Usage Rate.**

This table shall be used for estimating the hydraulic loading rates only. Sizing formulas are based on residential strength BOD<sub>5</sub>. Commercial/institutional facilities must pretreat their wastewater to 140 BOD<sub>5</sub> prior to disposal unless secondary treatment quality is required. For design purposes, restaurant wastewater will be assumed to have a BOD<sub>5</sub> of at least 1,200 mg/l after exiting the grease trap or grease interceptor.

**Actual water usage data or other methods of calculating wastewater usage rates may be used by the system designer if it is accurate and acceptable to the Texas Commission on Environmental Quality or its authorized agents. If actual water use records are greater than the usage rates in this table, the system shall be designed for the higher flow.**

| TYPE OF FACILITY                                                                        | USAGE RATE<br>GALLONS/DAY<br>(Without Water<br>Saving<br>Devices) | USAGE RATE<br>GALLONS/DAY<br>(With Water<br>Saving<br>Devices) |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|
| Single family dwelling (one or two bedrooms) - less than 1,500 square feet.             | 225                                                               | 180                                                            |
| Single family dwelling (three bedrooms) - less than 2,500 square feet.                  | 300                                                               | 240                                                            |
| Single family dwelling (four bedrooms) - less than 3,500 square feet.                   | 375                                                               | 300                                                            |
| Single family dwelling (five bedrooms) - less than 4,500 square feet.                   | 450                                                               | 360                                                            |
| Single family dwelling (six bedrooms) - less than 5,500 square feet.                    | 525                                                               | 420                                                            |
| Single family dwelling (seven bedrooms) - less than 6,500 square feet.                  | 75                                                                | 60                                                             |
| Greater than 5,500 square feet, each additional 1,500 square feet or increment thereof. |                                                                   |                                                                |
| Condominium or Townhouse (one or two bedrooms)                                          | 225                                                               | 180                                                            |
| Condominium or Townhouse (each additional bedroom)                                      | 75                                                                | 60                                                             |
| Mobile home (one or two bedrooms)                                                       | 225                                                               | 180                                                            |
| Mobile home (each additional bedroom)                                                   | 75                                                                | 60                                                             |
| Country Clubs (per member)                                                              | 25                                                                | 20                                                             |
| Apartment houses (per bedroom)                                                          | 125                                                               | 100                                                            |
| Boarding schools (per room capacity)                                                    | 50                                                                | 40                                                             |
| Day care centers (per child with kitchen)                                               | 25                                                                | 20                                                             |
| Day care centers (per child without kitchen)                                            | 15                                                                | 12                                                             |
| Factories (per person per shift)                                                        | 15                                                                | 12                                                             |

|                                                                              |     |     |
|------------------------------------------------------------------------------|-----|-----|
| Hospitals (per bed)                                                          | 200 | 160 |
| Hotels and motels (per bed)                                                  | 75  | 60  |
| Nursing homes (per bed)                                                      | 100 | 80  |
| Laundries (self service per machine)                                         | 250 | 200 |
| Lounges (bar and tables per person)                                          | 10  | 8   |
| Movie Theaters (per seat)                                                    | 5   | 4   |
| Office buildings (no food or showers<br>per occupant)                        | 5   | 4   |
| Office buildings (with food service per<br>occupant)                         | 10  | 8   |
| Parks (with bathhouse per person)                                            | 15  | 12  |
| Parks (without bathhouse per person)                                         | 10  | 8   |
| Restaurants - minimum effluent BOD5<br>quality<br>described above this table | 35  | 28  |
| Restaurants (per seat)                                                       | 15  | 12  |
| Restaurants (fast food per seat)                                             |     |     |
| Schools (with food service & gym per<br>student)                             | 25  | 20  |
| Schools (without food service)                                               | 15  | 12  |
| Service stations (per vehicle)                                               | 10  | 8   |
| Stores (per washroom)                                                        | 200 | 160 |
| Swimming pool bathhouses (per<br>person)                                     | 10  | 8   |
| Travel trailer/RV parks (per space)                                          | 50  | 40  |
| Vet clinics (per animal)                                                     | 10  | 8   |
| Construction sites (per worker)                                              | 50  | 40  |
| Youth camps (per camper)                                                     | 30  | 24  |

## **Owner and General Contractor:**

The Action Item List on the next page outlines your responsibilities under this Stormwater Pollution Prevention Plan. It is important that you understand every step of this process.

At any time, should you have any questions, comments or concerns, please contact:

**Cardinal Strategies Environmental Services**

**469-547-1281**

**[envsales@cardinalstrategies.com](mailto:envsales@cardinalstrategies.com)**

**General Comment:**

SWPPP will be done in the Town of Hickory Creek, not Lake Dallas. All mention of Lake Dallas addresses, contacts, etc. need to be amended to reflect Hickory Creek information.

**Need to confirm that that BMPs proposed are in compliance with Hickory Creek MS4**

In order to fulfill the requirements of the Construction General Permit, complete the following checklist and retain with your (SWPPP).

### Project Name: 1500 Turbeville Sewer Addition

| Initial requirements to be completed:                                                                                                                                                                                                                                                                                  | Responsible Permittee                                                                                                                      | Date Executed |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1. Sign and date the SWPPP Certification Page(s)* located in Appendix A.                                                                                                                                                                                                                                               | <input checked="" type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC                                                           | OW:<br>GC:    |
| 2. Complete and post the CSN for each Primary and Secondary Operators at the construction site in a location that is readily available for viewing by the general public, local, state, and federal authorities. CSNs are located in Appendix C. CSN's must be maintained until final stabilization has been achieved. | <input checked="" type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC                                                           | OW:<br>GC:    |
| 3. Submit a copy of the executed CSN(s) to the MS4 via certified mail or email. Keep a record in Appendix D.                                                                                                                                                                                                           | <input checked="" type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC                                                           | OW:<br>GC:    |
| 4. Execute and submit the Delegation Letter(s) to the TCEQ via STEERs and keep a copy in Appendix E of the SWPPP.                                                                                                                                                                                                      | <input checked="" type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC                                                           | OW:<br>GC:    |
| 5. Complete and update the Major Grading Activities and BMP Installation Schedule (Table) on page 27 of the SWPPP.                                                                                                                                                                                                     | <input checked="" type="checkbox"/> GC                                                                                                     | GC:           |
| <b>TCEQ Address:</b><br>Executive Director<br>TX Commission on Environmental Quality - Stormwater Team (MC-148)<br>PO Box 13087<br>Austin, TX 78711-3087                                                                                                                                                               | <b>City of Lake Dallas MS4 Address:</b><br>City of Lake Dallas<br>City Manager<br>212 Main Street<br>Lake Dallas, TX 75065<br>940-497-2226 |               |

| Ongoing requirements to be completed:                                                                                                                                                                                                       | Responsible Permittee                                                            | Date Executed |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------|
| 6. Complete and update the SWPPP regularly (including major grading activities, stabilizing activities, etc.)                                                                                                                               | <input checked="" type="checkbox"/> GC                                           | GC:           |
| 7. Conduct required construction inspections (Appendix F) and retain copies of all the reports in the SWPPP. Record the Frequency of Inspections and include the Inspectors experience/qualification, and Corrective Actions in Appendix F. | <input type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC            | Ongoing       |
| 8. If changes occur during the project, update the SWPPP and BMP map to document the changes                                                                                                                                                | <input checked="" type="checkbox"/> GC                                           | Ongoing       |
| 9. List any subcontractors on the on the Subcontractor Acknowledgement Certificate located in Appendix H.                                                                                                                                   | <input checked="" type="checkbox"/> GC                                           | Ongoing       |
| 10. When the conditions for termination are met, submit a signed CSN(s) to the MS4.                                                                                                                                                         | <input checked="" type="checkbox"/> OW<br><input checked="" type="checkbox"/> GC | OW:<br>GC:    |

# SWPPP PROJECT OVERVIEW – SMALL SITE

## SITE SPECIFIC INFORMATION

**Project/Site Name:** 1500 Turbeville Sewer Addition

**Site Address/Location:** Extending north from just west of Ellard Drive on the north side of Turbeville Road

**Site City, State Zip:** Lake Dallas, TX 75065

**Site County:** Denton **Latitude & Longitude:** 33.122628, -97.043262

**Project Type(s):** ☐ Homebuilding ☐ Commercial ☐ Land Development  
(Check all that apply) ☒ Linear ☐ Oil/Gas ☐ Multifamily Residential  
☐ Institutional ☐ Other: \_\_\_\_\_

**Total Acreage at Site:** 0.17 +/- **Total Disturbed Acreage at Site:** 0.17 +/-

☐ This site is part of a Common Plan of Development.

**Location of site with regards to the Edwards Aquifer:** ☒ Outside the Aquifer ☐ Recharge Zone  
☐ Contributing Zone (CZ) ☐ CZ w/in Transition Zone

**Is the project located in Indian Country?** ☐ Yes ☒ No **If Yes, Name Reservation:** N/A

Fill in Information as Needed.

RESPONSE:  
Info added

**SITE C**

|                                                                                                                |               |
|----------------------------------------------------------------------------------------------------------------|---------------|
| <b>Site Owner:</b>                                                                                             |               |
| <b>Name:</b>                                                                                                   | <b>Title:</b> |
| <b>Address:</b>                                                                                                |               |
| <b>Contact #(s):</b>                                                                                           |               |
| <b>Contact E-mail:</b>                                                                                         |               |
| <b>Area:</b>                                                                                                   | Entire Site   |
| <input type="checkbox"/> <b>Primary Operator</b> <input checked="" type="checkbox"/> <b>Secondary Operator</b> |               |

**SITE OPERATOR CONTACT LIST**

|                                                                                                                |               |
|----------------------------------------------------------------------------------------------------------------|---------------|
| <b>Site Owner:</b>                                                                                             |               |
| <b>Name:</b>                                                                                                   | <b>Title:</b> |
| <b>Address:</b>                                                                                                |               |
| <b>Contact #(s):</b>                                                                                           |               |
| <b>Contact E-mail:</b>                                                                                         |               |
| <b>Area:</b>                                                                                                   | Entire Site   |
| <input checked="" type="checkbox"/> <b>Primary Operator</b> <input type="checkbox"/> <b>Secondary Operator</b> |               |

**ADDITIONAL OWNER/OPERATOR CONTACT LIST:**

|                                                                                 |               |
|---------------------------------------------------------------------------------|---------------|
| <input type="checkbox"/> <b>Owner</b> <input type="checkbox"/> <b>Operator:</b> |               |
| <b>Name:</b>                                                                    | <b>Title:</b> |
| <b>Address:</b>                                                                 |               |
| <b>Contact #(s):</b>                                                            |               |
| <b>Contact E-mail:</b>                                                          |               |
| <b>Area:</b>                                                                    |               |

# **STORMWATER POLLUTION PREVENTION PLAN**

**REGARDING**

## **1500 TURBEVILLE SEWER ADDITION**

**LAKE DALLAS, TX**

**Prepared for:**

**CCM ENGINEERING**



2770 Capital Street

Wylie, TX 75098

(469) 547-1281

[www.cardinalstrategies.com](http://www.cardinalstrategies.com)



**JULY 31, 2024**

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# 1. Introduction

---

This Stormwater Pollution Prevention Plan (SWPPP) is for the following project:  
**1500 Turbeville Sewer Addition** (Project)

The location of the Project is shown on the site map(s) in Appendix J. The SWPPP identifies potential sources of stormwater pollution, describes the practices to be completed to prevent discharges of pollutants to stormwater, and outlines the procedures to comply with the requirements of the TPDES General Permit TXR150000 Relating to Stormwater Discharges Associated with Construction Activities.

## 1.1 Regulatory Background

The U.S. Environmental Protection Agency (EPA) issued a final National Pollutant Discharge Elimination System (NPDES) Stormwater Baseline General Permit on September 9, 1992. This program is the means by which the EPA regulates discharges of potentially contaminated wastewater and stormwater into waters of the U.S. through the issuance of permits applicable to specific sources. General Permits are available for coverage of certain industrial facilities, which have a relatively low potential for releasing pollutants into stormwater. The Baseline General Permit expired on September 9, 1997.

On September 29, 1995, and amended on September 24, 1996, the EPA promulgated the Multi-Sector General Permit (MSGP), which directed all facilities subject to the MSGP to prepare, retain and implement a Stormwater Pollution Prevention Plan (SWPPP) to ensure proper management of potential sources of stormwater pollution.

On July 6, 1998, EPA Region 6 reissued the NPDES General Permits for Stormwater Discharges from Construction Activities in Region 6. On March 5, 2003, the state of Texas received delegated authority from the EPA under the TPDES General Permit TXR150000. This permit was renewed on March 5, 2013 and expired on March, 4, 2018. The new TPDES General Permit TXR150000 was authorized on March 5, 2018 and amended on January 28, 2022, which authorizes discharges from construction activities into surface water in the state. The general permit specifies which construction activities must obtain permit coverage, which are eligible for waivers, and which may be required to obtain individual permit coverage. The general permit specifies that where discharges will reach Waters of the United States, (defined

under 40 CFR 122.2), a stormwater pollution prevention plan (SWP3) must be developed and implemented unless certain conditions are met. The general permit provides authorization for discharges from large and small construction sites, according to federal Phase I and Phase II stormwater regulations finalized in the Federal Register of November 16, 1990, and December 8, 1999, respectively. This permit expired on March 4, 2023 at Midnight.

The TPDES General Permit TXR150000 was renewed on March 5, 2023. This SWPPP is permitted under this TPDES General Permit. See Appendix K for a link to this permit.

## **1.2 Stormwater Pollution Plan Information**

The SWPPP has been developed according to the provisions of the Permit and is intended to:

- Describe implementation of practices used to minimize the extent practicable the discharge of pollutants in stormwater associated with construction activity and non-stormwater discharges
- Identify actual and potential sources of pollution that may be reasonably expected to affect the quality of stormwater discharges from the facility.
- Establish practices and necessary controls that will prevent or effectively reduce pollution in stormwater discharges from the facility and that ensure compliance with the terms and conditions of the permit.
- Describe how the selected practices and controls are appropriate for the Project and how each will effectively prevent or lessen pollution.
- Discuss how controls and practices relate to each other such that together they comprise an integrated, facility-wide approach for pollution prevention in stormwater discharges.

## **1.3 Operator Responsibilities**

The TPDES permit defines “Primary Operator” as the person or persons associated with a large or small construction activity that meets either of the following two criteria:

1. the person or persons that have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

2. the person or persons that have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a Stormwater Pollution Prevention Plan (SWPPP) for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions)

The TPDES permit defines “Secondary Operator” as the person or entity, often the property owner, whose operational control is limited to:

1. the employment of other operators, such as a general contractor, to perform or supervise construction activities; or
2. the ability to approve or disapprove changes to construction plans and specifications, but who does not have day-to-day on-site operational control over construction activities at the site.

Secondary operators must either prepare their own SWPPP or participate in a shared SWPPP that covers the areas of the construction site where they have control over the plans and specifications. If there is not a primary operator at the construction site, then the secondary operator is defined as the primary operator and must comply with the requirements for primary operators.

The Primary Operator(s) on this site is:



- 1.
- 2.
- 3.

The Secondary Operator(s) on this site is:



- 1.
- 2.
- 3.

Fill in when available

RESPONSE:  
Noted.

All secondary operators and primary operators with control over construction plans and specifications shall:

- ensure the project specifications allow or provide that adequate BMPs are developed to meet the requirements of Part III of the general permit;
- ensure that the SWPPP indicates the areas of the project where they have control over project specifications, including the ability to make modifications in specifications;
- ensure that all other operators affected by modifications in project specifications are notified in a timely manner so that those operators may modify their BMPs as necessary to remain compliant with the conditions of the general permit; and
- ensure that the SWPPP for portions of the project where they are operators indicates the name and site-specific TPDES authorization number(s) for operators with the day-to-day operational control over those activities necessary to ensure compliance with the SWPPP and other permit conditions. If the party with day-to-day operational control has not been authorized or has abandoned the site, the person with control over project specifications is considered to be the responsible party until the authority is transferred to another party and the SWPPP is updated.

## **1.4 Large Construction Sites**

Large construction activities disturbing 5 acres or more and construction activities that will disturb less than 5 acres, but that are part of a larger common plan of development that will disturb greater than 5 acres need to apply for a permit and submit a Notice of Intent (NOI). NOIs must be submitted online using **STEERs (State of Texas Environmental Electronic Reporting System):** [\*\*https://www3.tceq.texas.gov/steers\*\*](https://www3.tceq.texas.gov/steers).

A copy of the NOI must also be submitted at least 2 days before construction commences to the operator of the Municipal Separate Storm Sewer System (MS4) receiving discharges from the site. Operators with an electronic reporting waiver must submit a completed paper NOI to the TCEQ at least 7 days prior to commencement of construction activity to obtain provisional coverage 48 hours after the postmark date for delivery.

All persons meeting the definition of “secondary operator” in Part I of the permit are hereby notified that they are regulated under this general permit, but are not

required to submit an NOI, provided that a primary operator at the site has submitted an NOI, or is required to submit an NOI, and the secondary operator has provided notification to the operator(s) of the need to obtain coverage (with records of notification available upon request).

**This site is classified as a:**

☐ **Large Construction Site**

☒ **Small Construction Site (does not require an NOI)**

A copy of the Construction Site Notice(s) (CSN) must be posted on the construction site in a location that is readily available for viewing (preferably near the entrance to the site).

## **1.5 Small Construction Sites**

Small Construction Sites may waive the otherwise applicable requirements of this general permit for stormwater discharges under the following terms and conditions.

1. Operators may apply for and receive a waiver from the requirements when the calculated rainfall erosivity (R) factor for the entire period of the project is less than five (5).
2. Operators MUST submit a Low Rainfall Erosivity Waiver (LREW) certification form to the TCEQ electronically via STEERs
3. The LREW from coverage does not apply to any non-stormwater discharges, including what is allowed under this permit. The operator must ensure that all non-stormwater discharges are either authorized under a separate permit or authorization or are captured and routed to an authorized treatment facility for disposal.

## **1.6 Plan Availability**

The SWPPP may be kept electronically if the e-copy meets the same standards as the paper copy. However, if the e-copy does not meet the same standards then a copy of this plan should be kept on-site. If there is no place to store the SWPPP, the Construction Site Notice must specify where the SWPPP is located so it can be made readily available for review by the general public, authorized TCEQ personnel, and other governmental personnel upon request.

## **1.7 Plan Maintenance**

This SWPPP, including the site map, shall be revised or updated within seven days whenever there is a change in design, construction, operation, or maintenance which may impact the potential for pollutants to be discharged through stormwater, changing site conditions based on updated plans and specifications, new operators, new areas of responsibility, and changes in BMPs or based upon inspections by the site operator, operators of the MS4, federal, state or local agencies approving sediment and erosion control plans, and authorized TCEQ personnel. Primary Operators/Applicants must submit an Notice of Change online via STEERs. All waivers from electronic reporting are non-transferrable. A copy of the NOC must be provided to the MS4. Such modifications will be based upon a determination that the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under the permit. The Executive Director may determine, following a review or inspection, that the Plan is not sufficient and require that the Plan be revised to correct all deficiencies.

An Update Form, which can be used to update or amend the SWPPP, is provided in Appendix G, along with a Street Sweeping Log, De-Watering Log, and Rain Log to be used if needed.

## 2. Site Description & Potential Contamination Sources

### 2.1 Site Description

The Project's location is as follows and is indicated on the Site Map(s) in Appendix J:

**Extending north from just west of Ellard Drive on the north side of Turbeville Road - Lake Dallas, Texas**

#### 2.1.1 Project Description and Disturbed Area

The Project includes the following activities:

- ☐ Demolition   ☐ Earthwork   ☒ Site Grading   ☒ Drainage & Utility Installations  
☐ Building Construction   ☐ Paving   ☐ Landscaping   ☒ Site Stabilization

Demoing sidewalk,  
include X

RESPONSE:  
Demo checked

Project Description: construction

Preconstruction site condition: low-density vegetative lot with scattered trees/shrubs

| Project Acreage Summary |                  |
|-------------------------|------------------|
| Total acreage           | 0.17 +/- acre(s) |
| Offsite acreage         | 0 +/- acre(s)    |
| Disturbed acreage       | 0.17 +/- acre(s) |

For projects that include demolition, if any structure with at least 10,000 square feet of floor space that was built or renovated before January 1, 1980, and the receiving water body is impaired for polychlorinated biphenyls (PCBs), the primary operator is required to do the following:

1. Implement controls to minimize the exposure of PCB-containing building materials, including paint, caulk, and pre-1980 fluorescent lighting fixtures to precipitation and to stormwater; and

2. Ensure that disposal of such materials is performed in compliance with applicable state, federal, and local laws.

A sedimentation basin is required, **where feasible**, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time. A sedimentation basin may be temporary or permanent, and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site.

☐ **Drainage area is ten acres or more for this site.**

☐ A sedimentation basin has been designed and will be constructed. See construction documents and plans for calculations, equipment and design. Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.

☐ It is not feasible for this site to construct a sedimentation basin. Therefore, equivalent controls have been designed.

☒ **Drainage area is less than ten acres for this site and, therefore, a sedimentation basin is not required.**

☐ A sedimentation basin is not required but one has been constructed and will be utilized. See construction documents and plans for calculations, equipment and design. Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%.

### 2.1.2 Runoff Coefficient

Runoff coefficients were determined based upon the existing (pre) and proposed (post) land use characteristics and weighted by area against the runoff coefficient for each land use. The land use runoff coefficient values follow the guidelines provided in the iSWM Technical Manual, which is part of the Integrated Stormwater Management (iSWM) program developed by the North Central Texas Council of Governments.

Estimated Runoff Coefficients:

|                                               |      |
|-----------------------------------------------|------|
| Estimated Runoff Coefficient Pre-Construction | 0.30 |
|-----------------------------------------------|------|

|                                                |      |
|------------------------------------------------|------|
| Estimated Runoff Coefficient Post-Construction | 0.90 |
|------------------------------------------------|------|

### 2.1.3 Soils

According to the NCSS (National Cooperative Soil Survey) Web site, the soil(s) on this site is:

| Soil Type                  | Soil Group                                                                                                             |
|----------------------------|------------------------------------------------------------------------------------------------------------------------|
| Callisburg Fine Sandy Loam | <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D |
|                            | <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D            |
|                            | <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D            |

**Hydrologic Soil Group A:** Soils have a low runoff coefficient due to high infiltration rates.

**Hydrologic Soil Group B:** Soils have a moderately low runoff potential due to moderate infiltration rates. These soils consist primarily of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures.

**Hydrologic Soil Group C:** Soils have a moderately high runoff potential due to slow infiltration rates. These soils consist primarily of soils in which a layer exists near the surface that impedes the downward movement of water or soils with moderately fine-to-fine texture.

**Hydrologic Soil Group D:** Soils have a high runoff potential due to very slow infiltration rates. These soils consist primarily of clays with high swelling potential, soils with permanently high water tables, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious parent material.

### 2.1.4 Major Grading Activities

The project phasing and major grading activities are described in Table 1 of this SWPPP. The phasing of the related BMP installations is discussed in Section 3.2. If there are any other major earth disturbing activities beyond that shown in Table 1, maintain a record of the actual dates that major grading activities occur, when construction activities temporarily or permanently cease, and when stabilization measures are implemented.

### 2.1.5 Industrial Discharges

There are no planned stormwater discharges from industrial facilities for the Project to on-site or near-site wetland or surface waters.

### 2.1.6 Watershed Information and Outfalls

The Project drains to: City of Lake Dallas storm drain system thence to Carter Branch (within 1 mile) thence to Lewisville Lake (0823). The outfall(s) is shown on the BMP map(s) in Appendix J.

Are any of the receiving streams on the 2022 Texas Integrated Report of Surface Water Quality?

☐ Yes ☒ No

If yes, fill in table.

| Segment ID | Name of Receiving Stream | Parameter |
|------------|--------------------------|-----------|
|            |                          |           |
|            |                          |           |

Is this site in the Edwards Aquifer? ☐ Yes ☒ No

If yes, which zone? ☐ Contributing Zone\* ☐ Transition Zone ☐ Recharge Zone

\*If a site is located in Contributing Zone and disturbs less than 5 acres and is not part of a larger common plan of development, an Edwards Aquifer Plan is not required.

### 2.1.7 Endangered Species and Historical Sites

There were no observed habitats at this site for the endangered or threatened species listed on the U.S. Fish and Wildlife Service website for this county. See Appendix L for this listing. Furthermore, due to the urbanized nature of this site, the likelihood of endangered species habitats developing is very low. There are also no historical sites at the proposed construction site.

See Appendix M for the listing of Historic Places in this county from the National Register of Historic Places.

(Cardinal Strategies shall not be responsible for the potential impacts to any endangered or threatened species, their habitats or any historical sites listed or discovered in the construction process.)

## **2.2 Identification of Non-Stormwater Discharges and Illicit Connections**

It is possible that the following non-stormwater discharges will occur from the site during the construction period:

- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred)
- Uncontaminated groundwater (from dewatering excavation)
- Emergency firefighting activities (not including washing of trucks, run-off water from training activities, test water from fire suppression systems, or similar activities)
- Uncontaminated air conditioning condensate
- Uncontaminated water used to control dust
- Landscape irrigation
- Uncontaminated fire hydrant/water line flushing
- Water used to wash building/pavements without detergents
- Vehicle washing areas without detergents
- Ground water and spring water discharges
- Foundation and footing drains
- Potable drinking water

All non-stormwater discharges will be filtered using silt fences and or hay bales, at points capable of appropriately handling any suspected contaminants contained within the discharge. Hyperchlorinated water from water line disinfection cannot be discharged to the storm sewer.

## 2.3 Potential Contamination Sources

| Potential Pollutant                                             | Source and Management of Potential Pollutants                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sediment/Total Suspended Solids                                 | Erosion from areas within the construction project where soil is disturbed. Will be controlled with a combination of erosion control and sediment control measures.                                                                                                                                                                                                                 |
| Vehicle Fluids, including but not limited to fuel, oils, grease | Pollutant sources from vehicles performing related construction activities. Secondary Containment will be used around tanks to contain leaks and spills. Drip pans will be used if oil changes are required. Vehicle washing and oil changes will be discouraged while onsite.                                                                                                      |
| Paints and Stains                                               | Used by painting contractors. These items can be stored onsite, but under cover and away from exposure to stormwater. These items must be removed from the jobsite by the contractor.                                                                                                                                                                                               |
| Glue/Sealant/ Adhesives/ Bonding agents                         | Glues, adhesives, sealants, and binding agents are used in a variety of areas in the construction cycle. Store in sealed containers away from the potential for exposure to stormwater. Waste products should be removed by the contractor.                                                                                                                                         |
| Concrete Wash Water                                             | Ready mix and concrete pump trucks will wash out their vehicles at the designated wash out areas described in the SWPPP.                                                                                                                                                                                                                                                            |
| Paving                                                          | Any paving activities will not be performed immediately before an anticipated storm event. Excess materials will be removed properly and quickly from the jobsite by the contractor.                                                                                                                                                                                                |
| Portable toilets/Sanitary waste                                 | Portable toilets will be placed in strategic locations around the jobsite. This requires placement behind approved BMP measures and away from potential impact to the Storm Sewer systems and positioned so that they will be secure and not tipped/knocked over. Licensed sanitary contractors will maintain toilets, and ensure that they are in good working order at all times. |
| General Litter                                                  | Minimize exposure of wastes by implementing good housekeeping measures. Wastes must be cleaned up and disposed of in designated waste containers on days of operation at the site. Wastes must be cleaned up immediately if containers overflow.                                                                                                                                    |
| Soil Stabilization Measures (e.g. Lime applications, emulsions) | Sources should be contained on site in sealed containment away from exposure to stormwater until needed. Measures will not be applied just before a storm event.                                                                                                                                                                                                                    |
| Refrigerants                                                    | Refrigerants result from AC unit operation. Any HVAC maintenance and repair will be performed by a trained HVAC technician.                                                                                                                                                                                                                                                         |
| Fertilizers/Pesticides                                          | Fertilizers and Pesticides are rarely used on the jobsite, but do risk a potential impact to stormwater quality. Store inside sealed containers, away from exposure to stormwater. If used, application will not be applied just before an anticipated storm event.                                                                                                                 |
| Landscaping materials                                           | Any landscaping materials brought to the jobsite will be stored behind structural BMPs until materials are used. Landscaping materials used as permanent stabilization measures, once placed, will be permitted to be used without BMP support.                                                                                                                                     |

# 3. Best Management Practices

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## 3.1 General Best Management Practices (BMPs)

A number of baseline BMPs will be utilized. The following sections present descriptions of procedures that are to be implemented throughout the Project. All BMPs shall conform to NCTCOG standards, Appendix N, and the City of Lake Dallas standards unless otherwise shown on the construction plans prepared by the Civil Engineer.

### 3.1.1 Good Housekeeping/Pollution Prevention Measures

- Vehicles and equipment should be washed down when and if excess sediment accumulates on the vehicles to prevent the tracking of sediment onto the streets, if the construction entrance is not effective. Discharges from wash waters should be minimized and treated in a sedimentation basin or alternative control.
- Garbage, trash, and waste materials are to be collected for temporary storage in dedicated containers on a regular basis. Wastes are to be regularly collected from these containers and transferred to a covered container for transport to an approved disposal facility. Waste containers are to be covered during non-working hours and rain events.
- Material delivery and storage should be delivered and stored in a specific area to limit the amount of disturbed ground. The BMP map(s) should be modified as required to show the location of the Material Storage Area (MSA).
- A site shall be designated for concrete washout on the map(s) to limit the chance of the concrete washout coming into contact with stormwater runoff if needed.
- Construction materials will be covered or stored in a covered area if practical.
- Products will be kept in their original containers with the original manufacturer's label.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacture's recommendations for proper use and disposal will be followed.

- Sediment shall be removed from sediment traps/sedimentation ponds before design capacity is reduced by 50%.
- Accumulations of sediment (if escaping the site) shall be removed at a frequency to minimize further negative effects and prior to the next rain event (when feasible).
- Pumped water shall be filtered if it is not retained on site.

### **3.1.2 Preventative Maintenance**

- If equipment is fueled on site, fueling should be done in a way that would limit the chance of fuel spillage.
- In the event a spill or release is detected, the Construction Manager shall be notified.
- Frequent inspections of parked heavy equipment will be performed to identify and repair any leaks.
- All drums, tanks, and other containers are to be properly sealed and clearly labeled to help prevent spills to the stormwater and to expedite clean up procedures.
- Sensitive areas (eg. wetlands) of the site, if any, will be marked in order that access to these areas will be limited to prevent intentional or accidental intrusions.

### **3.1.3 Prohibited Discharges**

- Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited, unless managed by appropriate controls to address sediment and prevent erosion. Operators must observe and evaluate the dewatering controls once per day while the dewatering discharge occurs as described in Part III.F.7. of this general permit. A report summarizing the scope of any observation and evaluation must be completed within 24-hours following the evaluation. Dewatering is defined as the act of draining accumulated stormwater or groundwater from building foundations, vaults, trenches, and other similar points of accumulation.
- Wastewater from wash out of concrete trucks, unless managed by appropriate controls.

- Wastewater from wash out and cleanout of stucco, paint, form release oils, curing compounds and other construction materials.
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
- Soaps or solvents used in vehicle and equipment washing.
- Contaminated liquids should not be dumped onto pavements or gravel areas of the site where they would discharge along with stormwater.
- Any discharge from construction activities associated with the construction or operation of a facility that is licensed for the storage of high-level radioactive waste by the United States Nuclear Regulatory Commission under 10 CFR. Part 72 based on Texas Health Code Section 401.0525. High-Level Radioactive Waste definition is as assigned by 42 United States Code (U.S.C.) Section 10101 (12) and includes spent nuclear fuel as defined by 42 U.S.C. Section 10101 (23).

In addition to the overall plan baseline BMPs outlined in the previous section, the following additional BMPs will be utilized. The BMP Map(s) is located in Appendix J.

## **3.2 Sediment and Erosion Control**

Erosion and sediment controls will be maintained to minimize erosion and the discharge of pollutants by:

- Controlling stormwater volume and velocity.
- Controlling stormwater discharges, including peak flows and total stormwater volume.
- Minimizing the amount of soil exposed during construction.
- Minimizing the disturbance of steep slopes.
- Minimizing sediment discharges from the site.
- Providing and maintaining buffers in areas that are in close proximity to a surface water in the state.
- Preserving native topsoil.
- Minimizing compaction in post-construction areas.
- Discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible. If infeasible, the permittee must provide documentation in the SWPPP to support the determination,

including the specific conditions or time periods when this exception will apply.

### **3.2.1 Interim Stabilization Practices/Erosion Control (Structural BMPs)**

Interim stabilization practices/ erosion controls (structural BMPs) will be implemented to prevent erosion and sedimentation from rainfall events at construction sites. The temporary controls expected to be used in the following chart will be utilized prior to construction activity commences and until the area affecting the control has been stabilized.

|     | Best Management                                           | Expected Use?                       |                                     | If <b>Yes</b> , describe <b>where</b> it will be utilized. |
|-----|-----------------------------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------|
|     | Practice                                                  | Yes                                 | No                                  | If <b>No</b> , explain <b>why</b> it will not be utilized. |
| 1.  | Silt Fence                                                | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | See BMP map(s) for location(s)                             |
| 2.  | Inlet Protection                                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 3.  | Stabilized Construction Entrance(s)                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | See BMP map(s) for location(s)                             |
| 4.  | Rock Berm                                                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 5.  | Check Dam / Stone Overflow Structure                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | See BMP map(s) for location(s)                             |
| 6.  | Earth Dikes / Diversion Berm                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 7.  | Sediment Trap                                             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 8.  | Temporary Basin                                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 9.  | Curb Cut Back                                             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 10. | Geotextiles / Grass Mesh / Curlex/Erosion Control Matting | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 11. | Tree Protection                                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 12. | Vegetation Filter/Buffer Strips                           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 13. | Rock Rip Rap                                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 14. | Wattle/Mulch Berm/Filter Tube                             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 15. | Straw/Hay Bale                                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 16. | Wind Fence/Orange Mesh Fence                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 17. | De-Watering Skimmer                                       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |

1. **Silt Fence** – consists of filter fabric stretched between support posts to catch sheet flow drainage from disturbed areas. Silt fence, typically used around the perimeter of the site, prevents sediment discharges. (See engineer plans for specific dimensions.)
2. **Inlet Protection** – include a variety of methods to prevent soil and debris from entering the storm sewer. Inlet protection techniques provide detention or filtration of particulates by intercepting sediment using stone, concrete blocks, filter fabric and/or wire mesh. (See engineer plans for specific dimensions.)
3. **Stabilized Construction Entrance** – is used to facilitate the removal of sediment and other debris from construction equipment prior to exiting the construction site or when exiting an access area within the site. This method consists of a pad of bull rock typically on top of geotextile material. (See engineer plans for specific dimensions.)
4. **Rock Berm** – is used to treat concentrated amounts of stormwater and act as a filter reducing the velocity of the discharge. Sediment settles out on the receiving side of the rock berm. Rock berms consist of different size rock bound by wire mesh. (See engineer plans for specific dimensions.)
5. **Check Dam / Stone Overflow Structure** – are small barriers placed across a drainage swale or ditch that reduce the velocity of stormwater flows thereby reducing potential erosion. Check dams can be made from a variety of materials including rock, earthen berms, or silt fence. (See engineer plans for specific dimensions.) Stone overflow structures are outlet devices that are installed at low points along the silt fence.
6. **Earthen Dikes/Diversion Berms** – are used to direct or contain flows on construction sites to sediment basins or stabilized areas for filtration thereby preventing soil loss. Earthen Dikes and Diversion Berms consist of elevated compacted soil.
7. **Sediment Traps** – are small impoundments that detain sediment from runoff water to protect receiving areas downstream. They are formed by excavating an area or by placing an earthen berm across a low-lying area in a drainage easement.
8. **Temporary Basin** – is an excavated or natural depression which allows for a shallow pool of stormwater to promote settling of suspended solids. Water can be released in a controlled manner by dewatering.

9. **Curb Cut Back** – is a sediment trap located at the back of curb. Its function is to allow sediment to settle out of stormwater discharging off a disturbed lot. This technique can be utilized if the slopes are minimal.
10. **Geotextile/Grass Mesh/Curlex/Erosion Control Matting** – are porous fabrics placed over disturbed areas to limit the effect of erosion and runoff by providing immediate protection. They come in a wide variety and can be constructed from synthetic or organic material. Geotextiles can aid plant growth by holding seeds, fertilizers, and topsoil in place.
11. **Tree Protection** – usually consists of a fence located around the tree's drip line. Protecting existing vegetation prevents erosion and protects wildlife habitat. Tree protection typically needs to be installed and maintained during all phases of construction. (See engineer plans and local regulations for specific dimensions.)
12. **Vegetation Filter / Buffer Strips** – are designed to intercept upstream flow and decrease the velocity, diffuse water as sheet flow, promote filtration and infiltration by the vegetation.
13. **Rock Rip Rap** – is an erosion control technique that consists of a permanent erosion-resistant layer, which is typically constructed of stones. The purpose of the rock rip rap is to protect soil from erosion in areas of concentrated runoff. The rock rip rap can also be utilized to stabilize slopes. (See engineer plans for specific dimensions.)
14. **Straw Wattle / Mulch Berm / Filter Tube** – consists of a biodegradable tube filled with mulch or straw which slow, filter, and spread overland water. This type of control can be used to aid re-vegetation and slope stabilization by preventing rill and gully erosion.
15. **Straw or Hay Bale** – can be used to temporarily stabilize the sediment and also as a filter in some drainage areas. (Note: Some local regulations may prohibit use of hay bales onsite.)
16. **Wind Fence / Orange Mesh Fence** – can be used for multiple reasons. Fencing materials can slow the velocity of wind across disturbed soils allowing sediment to be settled out. Fencing can also be used to protect special critical features onsite and to delineate the project boundary to prevent construction vehicles from working outside the limits of construction.
17. **De-Watering Skimmer** – a sedimentation basin dewatering control device that withdraws water from near the basin's water surface, thus removing the

highest quality water from the basin for delivery to the uncontrolled environment.

In addition to the above, if applicable, the following interim stabilization practices may potentially be used:

| <b>Interim Practices</b>                 | <b>When</b>                                 | <b>Where</b>                                                                 | <b>Why</b>                                            |
|------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------|
| Maintain grassy areas                    | At the beginning of the project.            | Grassed areas that may not be disturbed until a later phase of construction. | To help filter runoff and reduce sediment discharges. |
| Mulching, seeding, sodding or hydromulch | To be determined by the General Contractor. | Where soil has been disturbed.                                               | To control erosion.                                   |

Accumulations of sediment (if escaping the site) shall be removed at a frequency to minimize further negative effects and prior to the next rain event (when feasible).

Once final stabilization is achieved, all interim structural controls shall be removed.

### **3.2.2 Permanent Stabilization Practices/Post Construction Controls**

The following permanent stabilization practices and post construction controls will be utilized:

Contractor shall seed all disturbed areas and provide temporary irrigation, if needed, until growth of vegetation achieves 100% coverage with a 70% density to prevent erosion.

|     | Best Management                         | Expected Use?                       |                                     | If <b>Yes</b> , describe <b>where</b> it will be utilized. |
|-----|-----------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------|
|     | Practice                                | Yes                                 | No                                  | If <b>No</b> , explain <b>why</b> it will not be utilized. |
| 1.  | Water Quality Pond                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 2.  | Sedimentation Basin                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 3.  | Velocity Dissipaters                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 4.  | Level Spreader                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 5.  | Gabion                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 6.  | Concrete - Drainage Channel / Swale     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 7.  | Natural Veg. - Drainage Channel / Swale | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 8.  | Sequential Systems                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Curb, gutter, inlet and storm sewer                        |
| 9.  | Outfall Protection                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 10. | Retaining Wall                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 11. | Buildings / Permanent Structures        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 12. | Rip Rap                                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 13. | Underground Detention                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |
| 14. |                                         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Not currently scheduled                                    |

1. **Water Quality Pond** – Wet ponds are constructed basins that treat incoming storm water runoff by algal uptake and settling. These ponds have a constant pool of water at least through the wet season if not the entire year. Water quality ponds are also known as retention ponds or wet ponds. (See engineer plans for specific dimensions.)
2. **Sedimentation Basin** – a constructed basin which provides pollutant removal by detaining storm water runoff for some defined period to allow sediments to settle. (See engineer plans for specific dimensions.)
3. **Velocity Dissipaters** – slows the velocity of discharge from an outlet or outfall

structure to reduce erosion downstream. Velocity dissipaters usually consist of concrete blocks on the concrete pad of headwalls or other discharge structures. (See engineer plans for specific dimensions.)

4. **Level Spreaders** – convert concentrated storm water runoff to sheet flow and release it uniformly over a stabilized slope to prevent erosion. Level spreaders are usually located at the overflow structure of a pond. (See engineer plans for specific dimensions.)
5. **Gabion** –constructed of rock or stone material bound by heavy wire or fencing material. They are used in areas where there is a high potential for erosion to treat water and allow sediment to settle out of the storm water.
6. **Concrete Drainage Channel** – impervious channel used to channel large quantities of water without causing erosion.
7. **Natural Vegetation Drainage Channel** – pervious channel consisting of native vegetation used to channel large quantities of water while promoting infiltration and slowing the velocity of the runoff.
8. **Sequential Systems** – systems of drainage patterns consisting of, but not limited to, storm sewers, drainage channels, a pond, and outlet protection to facilitate storm water treatment prior to discharging offsite.
9. **Outfall Protection** – can be constructed of many different materials and forms. Outfall protection consists of concrete structures designed to withstand impacts of storm water runoff and thereby preventing erosion.
10. **Retaining Walls** – hold sediment in place on steep slopes when stabilization is not feasible and erosion is probable. Retaining walls are used to retain sediment onsite and prevent erosion.
11. **Buildings / Permanent Structures**– buildings and other permanent structures
12. **Rock Rip Rap** – an erosion control technique that consists of a permanent erosion-resistant layer, which is typically constructed of stones. The purpose of the rock rip rap is to protect soil from erosion in areas of concentrated runoff. The rock rip rap can also be utilized to stabilize slopes. (See engineer plans for specific dimensions.)
13. **Underground Detention** – underground structure designed to manage excess stormwater runoff.

### **3.2.3 Temporary and Permanent Stabilization Deadlines**

Stabilization measures must be initiated “immediately” whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site that will not include permanent structures.

Earth-disturbing activities have permanently ceased when clearing, grading, excavation and other activities have been completed within any area of the site that will not include permanent structures.

Earth-disturbing activities have temporarily ceased when clearing, grading, excavation and other activities will not resume for a period of 14 or more calendar days (i.e., the land will be idle, but, such activities will resume in the future) within any area of the site that will not include permanent structures. This 14 calendar day timeframe begins as soon as it is known that construction work on a portion of the site will be temporarily ceased.

“Immediately” means as soon as practicable, but no later than the end of the next work day following the day when the earth disturbing activities have temporarily or permanently ceased.

See construction plans for the design specifications of the stabilization measures utilized for this project.

| <b>Temporary Practices</b>                                              | <b>When</b>                                                                                      | <b>Where</b>                                       | <b>Why</b>                                                                                                    |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Seeding, sodding or hydromulch                                          | "Immediately" after if it is determined that construction has permanently or temporarily ceased. | Disturbed areas.                                   | To control erosion.                                                                                           |
| Mulch or other non-vegetative product, such as erosion control blankets | "Immediately" after if it is determined that construction has permanently or temporarily ceased. | Disturbed areas.                                   | To control erosion.                                                                                           |
| Perimeter fencing around material storage area                          | "Immediately" after if it is determined that construction has permanently or temporarily ceased. | Around the perimeter of the material storage area. | To secure the material storage area                                                                           |
| Tarping                                                                 | "Immediately" after if it is determined that construction has permanently or temporarily ceased. | Typically over stored materials.                   | To protect the materials from rain and keep potential pollutants from becoming part of the stormwater runoff. |

### 3.2.4 Other Controls (Procedural BMPs)

| Construction And Waste Materials      | When                                                                                         | Where                                                            | Why                                                                             |
|---------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Roadway Cleanup                       | During all phases when sediment is deposited on public roadways as a result of construction. | All public roadways.                                             | To prevent slippery road conditions and to keep sediment from leaving the site. |
| Solid Waste Management                | During all phases.                                                                           | Collect trash to specified points as shown on BMP map(s).        | For sanitary, aesthetic and health reasons.                                     |
| Concrete Waste Management             | During paving phase, if applicable.                                                          | To be noted on the BMP Map(s), if applicable.                    | To reduce potential contamination of stormwater runoff.                         |
| Dust Reduction Measures               | During all phases, if needed.                                                                | Where earth is disturbed.                                        | To control dust.                                                                |
| Concrete Cutting Materials            | During construction and paving phase, if applicable.                                         | At concrete cutting locations, if applicable.                    | To control dust and dispose of waste media.                                     |
| Paints, Stains, Solvents and Sealants | During all phases, if applicable.                                                            | Store in the Material Storage Area. Keep sealed when not in use. | To reduce chances of contamination of stormwater runoff.                        |
| Wash water Containment                | During all phases, if applicable.                                                            | Where wash water may be contaminated.                            | To reduce chances of contamination of stormwater runoff.                        |
| Hazardous Waste Removal               | When hazardous material is no longer needed.                                                 | Remove from Material Storage Area.                               | To reduce chances of contamination of stormwater runoff.                        |

### **3.2.5 Off-Site Support Areas**

If there are off-site support areas such as soil borrow or spoil sites, equipment storage areas and/or an asphalt/concrete plant that are used in conjunction with this project, this information shall be added to this Stormwater Pollution Prevention Plan, showing the sediment and erosion control practices to be used. A concrete batch plant must maintain an Inventory of Exposed Materials that may be exposed to stormwater/precipitation that has the potential to drain to stormwater outfalls. In addition, these areas shall be stabilized with permanent ground cover. A list of significant spills and leaks associated with concrete batch plants must be developed, maintained, and updated as needed. The location of any off-site support areas will be added to the associated Site map(s) in Appendix J if applicable.

## **3.3 Approved State, Tribal, or Local Plans**

The SWPPP is consistent with the requirements of applicable sediment and erosion site plans or site permits (if any), or stormwater management site plans or site permits (if any) approved by federal, state, or local officials. The SWPPP will be updated to remain consistent with changes applicable to protecting surface water resources in such plans or permits (if any) for which written notice has been received.

Certain other environmental management plans may contain provisions for managing stormwater. In some cases, it may be possible to build on elements of these plans that are relevant to the SWPPP. Examples of compatible environmental plans include the following:

- Preparedness, Prevention and Contingency Plan
- Spill Prevention Control and Countermeasures Plan (SPCC)\*
- OSHA Emergency Action Plan
- 404 Permit
- Edwards Aquifer Protection Plan

If any of these other plans are required, updated or developed for the Project, their provisions must be compatible with the requirements of this permit and this SWPPP. The SWPPP general permit does not limit the authority or ability of federal, other state, or local government entities from placing additional or more stringent requirements on construction activities or discharges from construction activities. The SWPPP should be updated to reflect these other plans if needed.

\* An SPCC is required if there are stored oil and oil products above ground at capacities in excess of 1,320 gallons. See the Federal Regulations for further criteria and guidelines. It is recommended that the amount of stored oil or oil products on site be kept at a minimum.

## 4. Inspections, Spills & Record Keeping

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### 4.1 Inspection and Maintenance Procedures

Until the site is stabilized or until the Project is turned over to the owner, the following inspection frequency guidelines shall be followed, and the inspection frequency will be specified in Appendix F:

- If a storm event produces 0.5 inches or more of rain within a 24-hour period (including when there are multiple, smaller storms that alone produce less than 0.5 inches but together produce 0.5 inches or more in 24 hours), you are required to conduct one inspection within 24 hours of when 0.5 inches of rain or more has fallen. When the 24-hour inspection time frame occurs entirely outside of normal working hours, you must conduct an inspection by no later than the end of the next business day.
- If a storm event produces 0.5 inches or more of rain within a 24-hour period on the first day of a storm and continues to produce 0.5 inches or more of rain on subsequent days, you must conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the last day of the storm that produces 0.5 inches or more of rain (i.e., only two (2) inspections would be required for such a storm event). When the 24-hour inspection time frame occurs entirely outside of normal working hours, you must conduct an inspection by no later than the end of the next business day.
- Inspection may be temporarily suspended for adverse conditions (conditions that are either dangerous to personnel or that prohibit access to the site. Documentation of date, time, description, and personnel that witnessed the adverse condition must be included in the SWPPP.
- Inspections must be conducted at least once every month in areas of the construction site that meet final stabilization or have been temporarily stabilized.
- Inspections of construction sites located in the Edwards Aquifer sites must be conducted at least once every seven (7) calendar days and within 24 hours of

the end of a storm event of 0.5 inches or greater.

- Inspection where runoff is unlikely due to the occurrence of frozen conditions at the site, must be conducted at least once every month until thawing conditions begin to occur (See definitions for thawing conditions in Part I.B). The SWPPP must also contain a record of the approximate beginning and ending dates of when frozen conditions occurred at the site, which resulted in inspections being conducted monthly, while those conditions persisted, instead of at the interval of once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
- In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. The SWPPP must also contain a record of the total rainfall measured, as well as the approximate beginning and ending dates of when drought conditions occurred at the site, which resulted in inspections being conducted monthly, while those conditions persisted, instead of at the interval of once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
- The inspection procedures described in Part III.F.7.(c).i. – v of the CGP can be performed at the frequencies and under the applicable conditions indicated for each schedule option, provided that the SWPPP reflects the current schedule and that any changes to the schedule are made in accordance with the following provisions: the inspection frequency schedule can only be changed a maximum of one time each month; the schedule change must be implemented at the beginning of a calendar month; and the reason for the schedule change documented in the SWPPP (e.g., end of “dry” season and beginning of “wet” season).

MS4's may have more frequent inspection requirements.

The inspectors shall use the SWPPP Construction Inspection Checklist in Appendix F, at a minimum. Incidents of non-compliance will be indicated on this checklist. If no incidents of non-compliance are noted then the report must certify that the site is in compliance with the SWPPP and the permit. Periodic inspections are required to ensure that all BMPs are working correctly, do not need repair and that additional BMPs are not needed. All records shall be retained for a period of three (3) years from the date the NOT is filed.

Periodic inspections will be conducted to maintain the BMPs as described in the Plan. Areas of the site to be inspected include such things as: disturbed areas that have not been finally stabilized, areas used for material storage that are exposed to precipitation, all interim-temporary-permanent stabilization practices, offsite support areas (if any), etc.

If an inspection is performed when discharges from the construction site are occurring: identify all discharge points at the site, observe and document the visual quality of the discharge (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other such indicators of pollutants in stormwater).

If an inspection requires modification of an existing BMP, an additional BMP or other changes to better control pollutants in runoff, the modification will be recorded on the Update Form to this SWPPP in Appendix G, no less than 7 days after the inspection.

Maintenance, corrections or repairs to the structural controls shall be completed prior to the next anticipated storm event. If this is not possible, then it shall be scheduled as soon as practicable. Controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective shall be replaced or corrected immediately upon discovery.

The inspections are to be completed and signed by authorized, qualified personnel. Such personnel shall be familiar with the SWPPP, the requirements of the permit in Appendix K and sediment and erosion control practices. The qualifications and experience of the inspector will be recorded in Appendix F.

## **4.2 Plan for Spills and Releases**

A spill is any incident in which oil, hazardous substances, industrial waste, or “other substances” contaminate or may contaminate surface water or ground water in the state of Texas.

| Kind of spill                                                                                                                                                 | Where discharged                                           | Reportable Quantity                                               | Rule, statute, or responsible agency |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|
| Hazardous Substance                                                                                                                                           | onto land                                                  | "Final RQ" in Table 302.4 in 40 CFR 302.4 <a href="#">🔗</a> (PDF) | 30 TAC 327                           |
|                                                                                                                                                               | into water                                                 | "Final RQ" or 100 lbs, whichever is less                          | 30 TAC 327                           |
| Any oil                                                                                                                                                       | coastal waters                                             | as required by the Texas General Land Office                      | Texas General Land Office            |
| Crude oil, neither a petroleum product nor used oil                                                                                                           | onto land                                                  | 210 gallons (five barrels)                                        | 30 TAC 327                           |
|                                                                                                                                                               | directly into water                                        | enough to create a sheen                                          | 30 TAC 327                           |
| Petroleum product, used oil                                                                                                                                   | onto land, from an exempt PST facility                     | 210 gallons (five barrels)                                        | 30 TAC 327                           |
|                                                                                                                                                               | onto land, or onto land from a non-exempt PST facility     | 25 gallons                                                        | 30 TAC 327                           |
|                                                                                                                                                               | directly into water                                        | enough to create a sheen                                          | 30 TAC 327                           |
| Associated with the exploration, development and production of oil, gas, or geothermal resources                                                              | under the jurisdiction of the Railroad Commission of Texas | as required by the Railroad Commission of Texas                   | Railroad Commission of Texas         |
| Industrial solid waste or other substances                                                                                                                    | into water                                                 | 100 lbs                                                           | 30 TAC 327                           |
| From petroleum storage tanks, underground or aboveground                                                                                                      | into water                                                 | enough to create a sheen on water                                 | 30 TAC 334 <a href="#">🔗</a> .75-81  |
|                                                                                                                                                               | onto land                                                  | 25 gallons or equal to the RQ under 40 CFR 302                    | 30 TAC 327                           |
| Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state | into water                                                 | 100 lbs                                                           | 30 TAC 327                           |

The following steps must be taken if spills or releases occur of reportable quantities as defined under TCEQ regulations in Appendix N:

1. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as you have knowledge of the release. You must also, within seven (7) calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release.
2. Take corrective actions as appropriate to contain and cleanup the spill and minimize contamination of the site. These actions may include the following as appropriate:
  - Assess the spill - Immediately determine the character, exact source, and amount of any released materials. Response personnel will determine the need for notification of authorities and regulatory agencies and make a determination regarding steps required to safeguard personnel (i.e., evacuation, personal protection, etc.).
  - Stop the flow at the source - After all required safety-related measures have been implemented, and if the potential for a further release still exists, then steps will be implemented to prevent further releases to the extent possible by cutting off the flow at the source. This may simply require the shutting of a valve or the righting of a drum. In some instances, more extensive repairs may be necessary in which case outside contractors may be contacted to stop the flow.
  - Spill containment - Immediately after determination of what safety precautions and containment equipment are required, then containment procedures will be implemented. Containment points include those perimeter outfalls that may be affected by the spill. In addition, portable booms, sandbags, and absorbent material may be placed around storm drains to prevent contaminants from entering storm sewers.

- Spill cleanup - To the extent practicable, spilled material should be retrieved and stored in leak-proof containers until proper disposal may be accomplished. Cleanup equipment includes pads, booms, and absorbent material. Contaminated equipment should be properly decontaminated or properly disposed. Depending upon the nature and extent of the release, the following procedures will be utilized: Whenever possible, dry clean-up methods, such as sweeping and absorbents will be utilized. When dry clean-up methods are not practicable or when the spilled substance is a liquid, booms will be used to prevent the release of the substance to the storm sewer system. If appropriate, liquids generated by spills and clean-up activities will divert to the sanitary sewer system. If the substance is inappropriate for the sanitary sewer system, a contractor will be employed to remove the substance.
  - Dispose of contaminated material - Contaminated material shall be disposed of in accordance with all federal, state, and local regulations. Exact means of disposal will depend upon the nature & volume of the contaminated material.
  - Record spill event information - Ensure that a record of the spill event is made as soon as practicable after the event to recall as much detail as possible. The record should include the location of the spill, spill time, date, weather conditions, and duration of the incident. Also, a description of the type and amount of material spilled and recovered, a brief description of the cause of the spill and any environmental damage, a list of parties notified, and a description of response procedures will be kept. In addition, an evaluation should be conducted to determine measures that can be implemented to prevent a repeat of the incident.
  - Replace used spill equipment - Following each spill event, the inventory of spill response equipment will be assessed and restocked as necessary.
3. The SWPPP must be updated within the 7 days to provide a description of the release, the circumstances leading to the release, the date of release and the corrective action taken. The plan also will be revised to reflect any changes in facility modifications or operating procedures resulting from the evaluation of the incident.

### **4.3 Concrete Truck Wash Out Requirements**

This general permit authorizes the land disposal of wash out from concrete trucks at construction sites regulated under this general permit, provided the following requirements are met:

1. Discharge of concrete truck wash out water to surface water in the state, including discharge to storm sewers, is prohibited
2. Concrete truck wash out water shall be disposed in areas at the construction site where structural controls (ex. temporary berms, temporary shallow pits, temporary storage tanks with slow rate release) have been established to prevent discharge to surface water in the state, or to areas that have a minimal slope that allow infiltration and filtering of wash out water to prevent discharge to surface water in the state
3. Wash out of concrete trucks during rainfall events shall be minimized. The discharge of concrete truck wash out water is prohibited at all times, and the operator shall insure that its BMP's are sufficient to prevent the discharge of concrete truck wash out as the result of rainfall or stormwater runoff.
4. The disposal of wash out water from concrete trucks, made under authorization of this general permit must not cause or contribute to groundwater contamination

If utilized for this Project, the location of the concrete wash out area(s) is shown on the BMP map(s) located in Appendix J.

### **4.4 Records Retention**

All changes or modifications to the SWPPP, records of any inspection, or other related correspondence should be kept with the SWPPP. All completed reports, inspection forms, monitoring data, SWPPP, Construction Site Notice, submittal forms to the MS4, and other records shall be kept for at least three (3) years after the NOT is filed. For activities in which an NOT is not required, records shall be retained for a minimum period of three (3) years from the date that the operator terminates coverage under Section II.F.3 of the General Permit.

## **5. Stormwater Pollution Prevention Plan Certification**

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This SWPPP must be certified in accordance with the Permit. For the owner and general contractor, the certification must be signed by a President, Secretary, Treasurer, or a Vice-president of the Corporation, in charge of a principal business function. The SWPPP can also be signed by person who manages projects that generate \$25 million or over in revenue. This SWPPP has been certified in accordance with the requirements and the certification form is included in Appendix A.

**Table 1 – Major Grading Activities & BMP Installation Schedule**

| <b>Phasing</b>                   | <b>Proposed Start Date</b> | <b>Proposed End Date</b> | <b>Actual Start Date</b> | <b>Actual End Date</b> | <b>Comments</b> |
|----------------------------------|----------------------------|--------------------------|--------------------------|------------------------|-----------------|
|                                  |                            |                          |                          |                        |                 |
| Silt Fence                       |                            |                          |                          |                        |                 |
| Construction Entrance(s)         |                            |                          |                          |                        |                 |
| Site Grading                     |                            |                          |                          |                        |                 |
| Rock Check Dam                   |                            |                          |                          |                        |                 |
| Drainage & Utility Installations |                            |                          |                          |                        |                 |
| Site Stabilization               |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |
| Other:                           |                            |                          |                          |                        |                 |



**TCEQ TPDES General Permit  
No. TXR150000**

**CERTIFICATIONS**

**Project:** 1500 Turbeville Sewer Addition

**Certification of: Stormwater Pollution Prevention Plan  
Certification of: Endangered Species Compliance  
Certification of: Historical Sites Compliance**

"I certify under penalty of law that this Stormwater Pollution Prevention Plan and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If plan is shared by more than one entity:

**Permittee GC:** \_\_\_\_\_  
**Printed Name:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Additional Operator(s)

**Permittee OW/GC:** \_\_\_\_\_  
**Printed Name:** Ronald Furtick  
**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Permittee OW/GC:** \_\_\_\_\_  
**Printed Name:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Permittee OW/GC:** \_\_\_\_\_  
**Printed Name:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Appendix B

### ☒ **Small Site**

This project disturbs less than five (5) acres and is not part of a common plan of development.

Therefore, an NOI and NOT do not need to be filed with the TCEQ for this project.

### ☐ **Large Site**

Complete the NOI(s), prior to commencing construction activities, online using:

**STEERs (State of Texas Environmental Electronic Reporting System)**

**<https://www3.tceq.texas.gov/steers/>**



## **Appendix C**

### **Construction Site Notice(s)**

A copy of the Construction Site Notice(s) (CSN) must be posted on the construction site in a location that is readily available for viewing (preferably near the entrance to the site).

CSN's must be maintained until final stabilization has been achieved.



# TCEQ Small Construction Site Notice

Small construction sites disturb at least one but less than five acres or are part of a larger common plan of development or sale that disturbs between one and five acres. Operators of small construction sites will fill out this notice. Operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

**Note:** You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction

**Operator Name:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Project Description:** 1500 Turbeville Sewer Addition

**Project Location/Description:**

Extending north from just west of Ellard Drive on the north side of Turbeville Road  
Lake Dallas, TX 75065

Estimated State Date: \_\_\_\_\_

Projected End Date or Date Disturbed Soils Will Be Stabilized: \_\_\_\_\_

**Location of Stormwater Pollution Prevention Plan (SWP3):** Construction Trailer  
or Contact the Person Listed Above

For Small Construction Activities Authorized Under Part II.E.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I \_\_\_\_\_ (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part II.E.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A stormwater pollution prevention plan has been developed and will be implemented prior to construction, according to permit requirements. A copy of this signed notice is supplied to the operator of the Municipal Separate Storm Sewer System (MS4) if discharges enter an MS4. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

Signature and Title \_\_\_\_\_ Date \_\_\_\_\_

Name of MS4 Operator notified: \_\_\_\_\_ and date notified (per Part II.F.3.): \_\_\_\_\_

Date Site Notice Removed: \_\_\_\_\_



# TCEQ Small Construction Site Notice

Small construction sites disturb at least one but less than five acres or are part of a larger common plan of development or sale that disturbs between one and five acres. Operators of small construction sites will fill out this notice. Operators will then post this notice at the construction site in a location where it is safely and readily available for viewing by the general public and local, state, and federal authorities. Additional information about the TCEQ Construction Stormwater General Permit may be found on TCEQ's webpage on [Assistance Tools for Construction Stormwater General Permits](#).

**Note:** You must also develop a Stormwater Pollution Prevention Plan prior to the commencement of construction

**Operator Name:** \_\_\_\_\_

**Contact Name:** Ronald Furtick

**Phone Number:** \_\_\_\_\_

**Project Description:** 1500 Turbeville Sewer Addition

*Project Location/Description:*

Extending north from just west of Ellard Drive on the north side of Turbeville Road  
Lake Dallas, TX 75065

Estimated State Date: \_\_\_\_\_

Projected End Date or Date Disturbed Soils Will Be Stabilized: \_\_\_\_\_

**Location of Stormwater Pollution Prevention Plan (SWP3):** Construction Trailer  
or Contact the Person Listed Above

For Small Construction Activities Authorized Under Part II.E.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I Ronald Furtick (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part II.E.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A stormwater pollution prevention plan has been developed and will be implemented prior to construction, according to permit requirements. A copy of this signed notice is supplied to the operator of the Municipal Separate Storm Sewer System (MS4) if discharges enter an MS4. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

Signature and Title \_\_\_\_\_ Date \_\_\_\_\_

Name of MS4 Operator notified: \_\_\_\_\_ and date notified (per Part II.F.3.): \_\_\_\_\_

Date Site Notice Removed: \_\_\_\_\_

## Appendix D

### ☒ **Small Site**

Send a copy of your Construction Site Notice to the following MS4 prior to starting construction activities as per number 3 of your “Client Action Items” at the front of this SWPPP. Also, send a signed copy of your Construction Site Notice to the MS4 after final stabilization as per number 10 of your “Client Action Items” at the front of this SWPPP. See Appendix I.

### ☐ **Large Site**

Send a copy of your Notice of Intent (NOI) to the following MS4 prior to starting construction activities as per number 3 of your “Client Action Items” at the front of this SWPPP. Also, send a signed copy of your Notice of Termination (NOT) to the MS4 after final stabilization as per number 11 of your “Client Action Items” at the front of this SWPPP. See Appendix I.

This MS4 accepts documents via:

☒ Certified Mail

☒ Email

**MS4 Address:**

City of Lake Dallas  
City Manager  
212 Main Street  
Lake Dallas, TX 75065  
940-497-2226

**Email Address:**

[mwilson@lakedallas.com](mailto:mwilson@lakedallas.com)

## Appendix E

### Delegation of Authority

Attached are two example delegation letters which are to be utilized to designate individuals who are delegated responsibility associated with implementation of this SWPPP.

One of the letters can be used by the Owner to delegate responsibility to the General Contractor for implementation of this SWPPP and signatory authority associated with implementation of this SWPPP.

The other letter can be used by the General Contractor to delegate responsibility to an individual(s) for signatory authority associated with implementation of this SWPPP.

If signatory authority is delegated by an authorized representative, then a Delegation of Signatories form must be submitted as required by 30 TAC § 305.128 (relating to Signatories to Reports).

Primary operators must submit this form electronically using the State of Texas Environmental Electronic Reporting System (STEERs), TCEQ's online permitting system, or by paper if the permittee requested and obtained an electronic reporting waiver.

A new Delegation of Signatories form must be submitted, if the delegation changes to another individual or position.

Signatory authority for the NOI or NOT cannot be delegated.

Executive Director  
Texas Commission on Environmental Quality  
Stormwater Team (MC-148)  
P.O. Box 13087  
Austin, TX 78711-3087

Subject: Delegation of Signatories to Reports

Company:

Site Name: 1500 Turbeville Sewer Addition

TPDES Permit Number: ☐ TXR15 ☒ N/A

Dear Executive Director:

This letter serves to designate the following people or positions as authorized personnel for signing reports, stormwater pollution prevention plans, certifications or other information requested by the Executive Director or required by the general permit, as set forth by 30 TAC §305.128 (see page 2) .

|                                          |                                   |
|------------------------------------------|-----------------------------------|
| <b>Company,<br/>Name or<br/>Position</b> | A Qualified Inspector Employed by |
| <b>Company,<br/>Name or<br/>Position</b> | Superintendent                    |
| <b>Company,<br/>Name or<br/>Position</b> |                                   |

I understand that this authorization does not extend to the signing of a Notice of Intent for obtaining coverage under a stormwater general permit.

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in 30 TAC §305.44 (see page 2).

Sincerely,

**Signature:**

\_\_\_\_\_

**Printed Name:**

\_\_\_\_\_

**Title:**

\_\_\_\_\_

**Contact Number:**

\_\_\_\_\_

**Date:**

\_\_\_\_\_

Executive Director  
Texas Commission on Environmental Quality  
Stormwater Team (MC-148)  
P.O. Box 13087  
Austin, TX 78711-3087

Subject: Delegation of Signatories to Reports

Company:

Site Name: 1500 Turbeville Sewer Addition

TPDES Permit Number: ☐ TXR15 ☒ N/A

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|                                          |    |
|------------------------------------------|----|
| <b>Company,<br/>Name or<br/>Position</b> | GC |
| <b>Company,<br/>Name or<br/>Position</b> |    |
| <b>Company,<br/>Name or<br/>Position</b> |    |

I understand that this authorization does not extend to the signing of a Notice of Intent for obtaining coverage under a stormwater general permit.

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in 30 TAC §305.44 (see page 2).

Sincerely,

**Signature:**

\_\_\_\_\_

**Printed Name:**

Ronald Furtick

**Title:**

\_\_\_\_\_

**Contact Number:**

\_\_\_\_\_

**Date:**

\_\_\_\_\_

## Relevant Provisions

**305.128(a)** All reports requested by permits and other information requested by the executive director shall be signed by a person described in §305.44(a) of this title (relating to Signatories to Applications) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) the authorization is made in writing by a person described in §305.44(a) of this title (relating to Signatories to Applications);

(2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or for environmental matters for the applicant, such as the position of plant manager, operator of a well or well field, environmental manager, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) the written authorization is submitted to the executive director.

(b) If an authorization under this section is no longer accurate because of a change in individuals or position, a new authorization satisfying the requirements of this section must be submitted to the executive director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(c) Any person signing a report required by a permit shall make the certification set forth in §305.44(b) of this title (relating to Signatories to Applications).

**305.44(a)** All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

(b) A person signing an application shall make the following certification: "I 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 evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Frequency of Inspections

The TCEQ regulations require that inspections be performed until the site is stabilized. Inspections should be done every 14 days and when a rain event of 0.5 inches or greater has occurred. Alternatively, inspections could be done every 7 days without conducting inspections after rain events.

Some cities require inspections weekly and after a rain event of 0.5 inches or greater has occurred.

Indicate with an "X" below, what the frequency of inspections will be for this project:

Project: 1500 Turbeville Sewer Addition

- ☐ Every 14 days and when a rain event of 0.5 inches or greater has occurred.
- ☒ Every 7 days without conducting inspections after rain events.
- ☐ Every 7 days and when a rain event of 0.5 inches or greater has occurred.
- ☐ Other: The frequency of inspections is \_\_\_\_\_.

Inspections will be conducted on \_\_\_\_\_ of each week. The inspection frequency schedule can only be changed a maximum of once per calendar month and implemented within the first five (5) business days of a calendar month; and the reason for the schedule change documented in the SWPPP.

| New Frequency                                                    | New Day | Date | Notes |
|------------------------------------------------------------------|---------|------|-------|
| <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days |         |      |       |
| <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days |         |      |       |
| <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days |         |      |       |

Inspector Experience and Qualifications

See attached document



Cardinal Strategies  
Environmental Services, LLC  
2770 Capital Street  
Wylie, TX 75098  
Phone: (469) 547-1281  
www.cardinalstrategies.com

## SWPPP/NPDES Inspection Report

### Project Information

|                        |  |                          |  |
|------------------------|--|--------------------------|--|
| Project Name:          |  |                          |  |
| Primary Permit Number: |  | Secondary Permit Number: |  |
| Address/Location:      |  |                          |  |
| City, State Zip:       |  |                          |  |
| Lat/Log:               |  |                          |  |
| Client Name:           |  |                          |  |
| Site Contact:          |  |                          |  |
| Site Contact Phone:    |  | Site Contact Email:      |  |

### Inspection Information

|                               |  |                      |  |
|-------------------------------|--|----------------------|--|
| Date of Inspection:           |  | Time of Inspection:  |  |
| Type of Inspection:           |  | Inspection Interval: |  |
| Description of Activity:      |  |                      |  |
| Inspector Name:               |  |                      |  |
| Inspector Phone:              |  | Inspector Email:     |  |
| Inspection Distribution List: |  |                      |  |
| Site Representative Status:   |  |                      |  |

### Weather Information

|                                  |  |                                    |  |
|----------------------------------|--|------------------------------------|--|
| Inspection Weather Conditions:   |  |                                    |  |
| Rain Event Data (if applicable): |  |                                    |  |
| Approx. Rain Event Date:         |  | Estimated Precipitation in Inches: |  |
| Precipitation Data Source:       |  | Rain Event Status:                 |  |
| Est. Rain Event Duration:        |  |                                    |  |

|     |                                                                       |               |
|-----|-----------------------------------------------------------------------|---------------|
| 1)  | Do conditions exist that prevent or preclude inspection at this time? | Yes / No / NA |
| 2)  | Has there been a storm event since the last inspection?               | Yes / No / NA |
| 3)  | Are construction entrances/exits effective in minimizing tracking?    | Yes / No / NA |
| 4)  | Are the silt fences in good working condition?                        | Yes / No / NA |
| 5)  | Are inlet protections working effectively?                            | Yes / No / NA |
| 6)  | Are stock pile and material storage areas contained?                  | Yes / No / NA |
| 7)  | Are concrete washouts/approach effective and maintained?              | Yes / No / NA |
| 8)  | Are portable toilets located properly and maintained?                 | Yes / No / NA |
| 9)  | Are trash containers and trash bins used and emptied regularly?       | Yes / No / NA |
| 10) | Are drainage swales and/or channels in good working condition?        | Yes / No / NA |
| 11) | Are wattles in good working condition?                                | Yes / No / NA |
| 12) | Are check dams in good working condition?                             | Yes / No / NA |
| 13) | Is all paving free of dirt and sediment?                              | Yes / No / NA |
| 14) | Are cut-back curbs installed and effective?                           | Yes / No / NA |
| 15) | Are vegetated buffer strips designated/maintained?                    | Yes / No / NA |
| 16) | Are BMPs at outfall points free of evidence failure?                  | Yes / No / NA |
| 17) | Is secondary containment for petroleum products working effectively?  | Yes / No / NA |
| 18) | Is the site free of evidence of hazardous material spills?            | Yes / No / NA |
| 19) | Is temporary stabilization in good working condition?                 | Yes / No / NA |
| 20) | Is permanent stabilization in good working condition?                 | Yes / No / NA |
| 21) | Is the SWPPP available on site, or can it be on site within 2 hours?  | Yes / No / NA |
| 22) | Is there a copy of the NOI(s) or signed small CSN(s) in the SWPPP?    | Yes / No / NA |
| 23) | Is there a TPDES site notice(s) posted at the entrance to the site?   | Yes / No / NA |
| 24) | Are the inspectors qualifications documented in the SWPPP?            |               |

|     |                                                                                                                                               |               |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 25) | Are all documents in the SWPPP executed and is the information current?                                                                       | Yes / No / NA |
| 26) | Are other/ non-classified BMP's and practices (if any) installed and maintained as required?                                                  | Yes / No / NA |
| 27) | Has the site reached final stabilization (70% growth density) and can the project be closed out with regard to Soil and Erosion Requirements? | Yes / No / NA |
| 28) | Was the BMP map updated during this inspection?                                                                                               | Yes / No / NA |
| 29) | Was the entire site inspected during this visit?                                                                                              | Yes / No / NA |
| 30) | General Notes & Observations                                                                                                                  |               |

### CERTIFICATION STATEMENT

"I 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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**Print name and title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## Appendix G

### Update Form

This Update Form applies to:

**Project: 1500 Turbeville Sewer Addition**

| Item                      | Map Updated? | Date When Updated | By Whom/signature*    | Explanation of Update                           |
|---------------------------|--------------|-------------------|-----------------------|-------------------------------------------------|
| Example: Added Silt Fence | Yes          | 01/01/2024        | Mr. Smith/(signature) | To control additional silt as indicated on map. |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |
|                           |              |                   |                       |                                                 |

\*For all notations on this form, the following applies. With your above signature:

**"I 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 evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."**

# Street Sweeping Log

This Street Sweeping Log applies to:

## Project: 1500 Turbeville Sewer Addition

[illegible]

## Rain Log

**Project: 1500 Turbeville Sewer Addition**[illegible]

---

## **Observation and Evaluation of Dewatering Controls: Instructions**

**TXR150000 Part III Section F.7**

### **Routinely Observe and Evaluate Dewatering Controls and Record Results**

**Dewatering controls must be observed and evaluated once per day when dewatering discharge occurs. The observation and evaluation report should include:**

- Date.
- Name(s) and title(s) of personnel.
- Estimates of the rate (in gallons per day) of discharge.
- Approximate start and end times of dewatering discharge.
- Any indications of pollutants observed at the point of discharge (e.g., color, clarity, presence of oil sheen or odor).
- Major observations such as:
  - locations where erosion and discharges of sediment or other pollutants occurred.
  - locations needing BMP maintenance or additional BMPs.
  - locations where BMPs failed or are inadequate.

Include descriptions of the actions taken in response to the observation and evaluation findings. Your report must contain any incidents of non-compliance. If there are not any incidents of non-compliance, the report must contain a certification that the facility or site complies with the SWP3 and this permit. The observation and evaluation report needs to be signed by personnel with signatory authority and kept within the SWP3.

---

## Dewatering Observation and Evaluation: Worksheets

|                                                                    |                                                 |
|--------------------------------------------------------------------|-------------------------------------------------|
| <b>Date of Observation and Evaluation:</b>                         | <b>Personnel Name:</b>                          |
| <b>Rate of Discharge Estimate:</b><br><i>Gallons per Day (GPD)</i> | <b>Personnel Title:</b>                         |
| <b>Approximate Start:</b><br><i>Date and time</i>                  | <b>Approximate End:</b><br><i>Date and time</i> |

### Observation and Evaluation Questions

Did you see any indications of pollutant discharge?

☐ Yes (describe below)    ☐ No

---

---

---

---

---

Did you see any erosion?

☐ Yes (describe below)    ☐ No

---

---

---

---

---

Did you see any instances of non-compliance?

☐ Yes (describe below)    ☒ No

---

---

---

---

---

---

---

**Are existing BMPs properly and completely implemented?**

☐ Yes      ☐ No (describe below)

---

---

---

---

---

**Do you recommend any corrective actions or additional control measures?**

☐ Yes (describe below)    ☐ No

---

---

---

---

---

**List any other observations:**

---

**Certification Statement:**

30 TAC 305.128 "I 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 evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

## Appendix H

### Subcontractor Acknowledgement Certificate

The subcontractor(s) that will be engaged in on-site activities that may potentially affect stormwater discharges should be identified below. Each should sign a statement acknowledging they understand the TPDES general permit authorizing stormwater discharges during construction. These statements should be maintained in the SWPPP file on site.

| <b><u>Project Information</u></b>                                                                                                                                                                                                                                                        |                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Name of Project:</b>                                                                                                                                                                                                                                                                  | <b>1500 Turbeville Sewer Addition</b>                                                                      |
| <b>Site address:</b>                                                                                                                                                                                                                                                                     | Extending north from just west of Ellard Drive on the north side of Turbeville Road, Lake Dallas, TX 75065 |
| <b>Permit No. (if applicable):</b>                                                                                                                                                                                                                                                       | <input type="checkbox"/> TXR15 <input checked="" type="checkbox"/> N/A                                     |
| <b><u>Contractor Information</u></b>                                                                                                                                                                                                                                                     |                                                                                                            |
| <b>Company Name:</b>                                                                                                                                                                                                                                                                     | _____                                                                                                      |
| <b>Company Address:</b>                                                                                                                                                                                                                                                                  | _____<br>_____                                                                                             |
| <b>Company Phone Number:</b>                                                                                                                                                                                                                                                             | _____                                                                                                      |
| <b>Project Responsibilities:</b>                                                                                                                                                                                                                                                         | _____<br>_____<br>_____<br>_____<br>_____                                                                  |
| "I certify under penalty of law that I understand the terms and conditions of the stormwater general permit that authorizes stormwater discharges associated with construction activity and the Stormwater Pollution Prevention Plan (SWPPP) prepared for the project described herein." |                                                                                                            |
| <b>Contractor's Signature:</b>                                                                                                                                                                                                                                                           | _____ <b>Date:</b> _____                                                                                   |
| <b>Name (typed or printed):</b>                                                                                                                                                                                                                                                          | _____<br>_____                                                                                             |

## Appendix I

### ☒ **Small Site**

Submit a signed copy of the Construction Site Notice(s) to the MS4 as per number 10 of your "Action Items for this SWPPP" at the front of this SWPPP when one of the following occurs:

1. final stabilization has been achieved on all portions of the site that are the responsibility of the permittee.
2. a transfer of operational control has occurred, or the operator has obtained alternative authorization under an individual or general TPDES permit.
3. Authorization to discharge under this general permit terminates immediately upon removal of the applicable site notice. Compliance with the conditions and requirements of this permit is required until the site notice is removed.

### ☐ **Large Site**

#### **Notice of Termination (NOT) Guidelines**

1. Continue the inspections/SWPPP compliance until the NOT is filed and approved
2. Achieve final stabilization as per the regulations (Uniform vegetative cover with a density of 70%).
3. Schedule the removal of all interim structural BMPs.
4. Conduct the final inspection.
5. Submit the NOT within 30 days of the final stabilization.

File the NOT online using:

**STEERs (State of Texas Environmental Electronic Reporting System):**

**<https://www3.tceq.texas.gov/steers/>**



Mail a copy of the NOT/CSN to the MS4. This MS4 accepts documents via:

☒ Certified Mail

☒ Email

**MS4 Address:** City of Lake Dallas  
City Manager  
212 Main Street  
Lake Dallas, TX 75065  
940-497-2226

**Email Address:** [mwilson@lakedallas.com](mailto:mwilson@lakedallas.com)

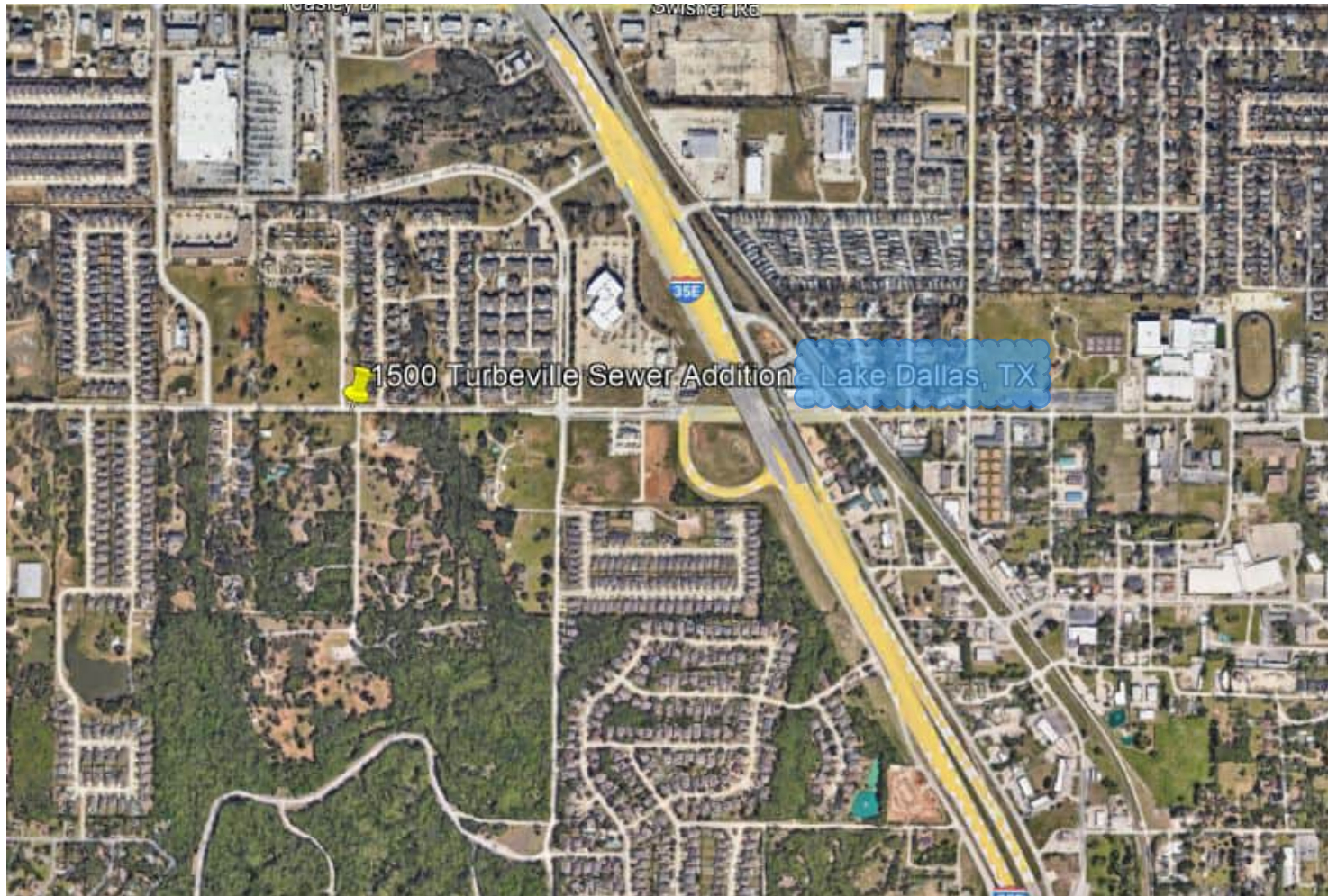
## **Appendix J**

### **Site and BMP Map(s)**

# Aerial Map



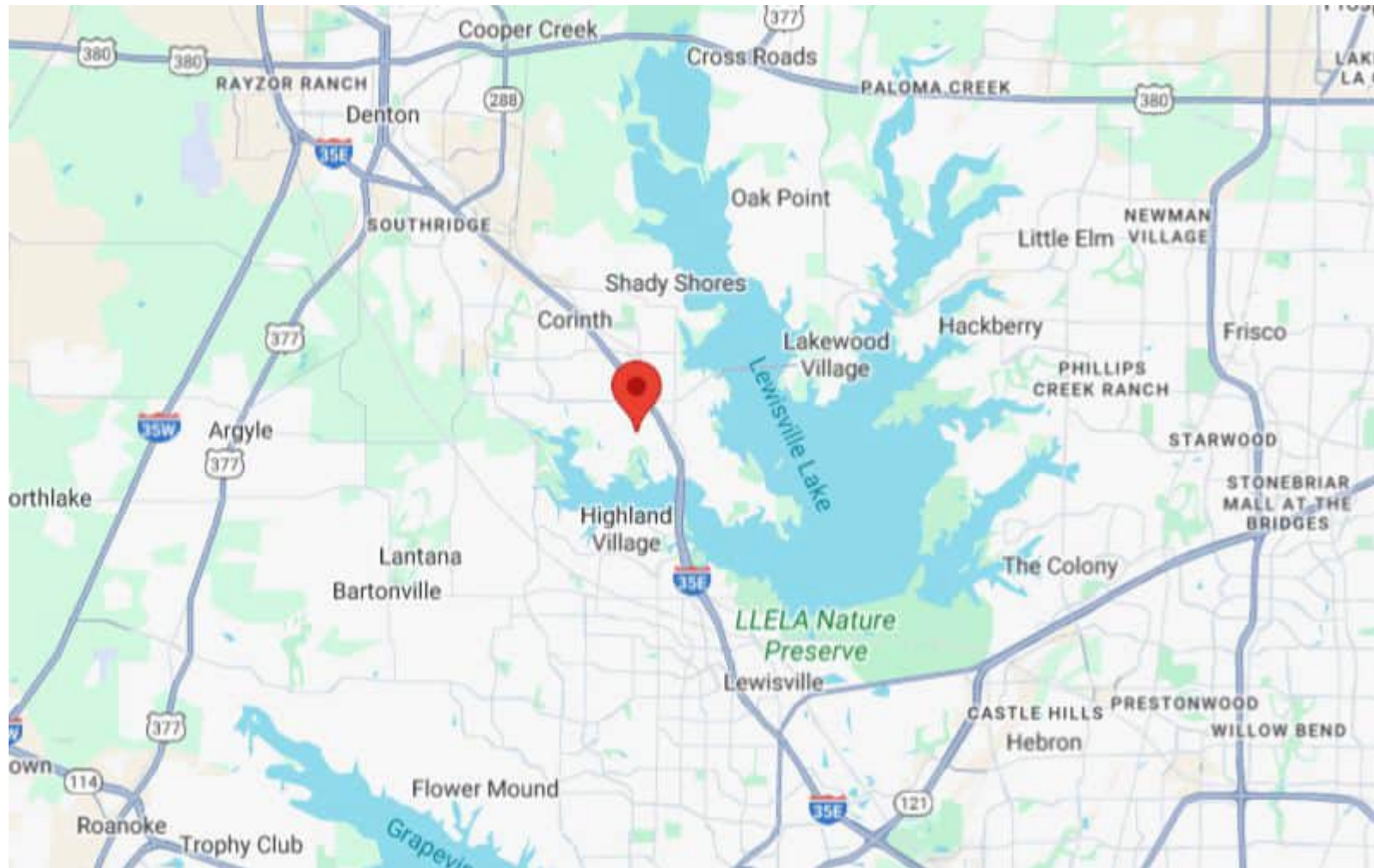
## 1500 Turbeville Sewer Addition - Lake Dallas, TX



# Site Location Map



**1500 Turbeville Sewer Addition - Lake Dallas, TX**



- Legend

Existing Drainage Pattern

Proposed Drainage Pattern

P

Posting Notice

T

Trailer

B

Basin

B

Borrow/Stockpile Area

PT

Portable Toilet

M

Material Storage/Staging

Tree Protection

T

Trash - Rolloff

Outfall

E

Construction Entrance

F

Fuel Storage

IP

Inlet Protection

CP

Concrete Production

CW

Concrete Washout

VW

Vehicle Washout

RR

Rock Rip Rap

RCD

Rock Check Dam

O

Other 1

O

Other 2

Wattle / Filter Tube

Sorb Sox

Silt Fence

Erosion Control Blanket

Protective Fence

Area of Disturbance

Creek

Earth Berm
- 
- All BMPs shall conform to the NCTCOG and Town of Lake Dallas standards unless otherwise indicated in the Civil Plans.  
All demolition will occur within the disturbed area boundaries. Please refer to civil plans for additional demolition details.  
All water flows are between 0-3% unless otherwise indicated.  
Existing drainage patterns are approximately the same as proposed drainage patterns unless otherwise indicated.  
Receiving stream: Town of Lake Dallas storm drain system thence to Carter Branch (within 1 mile) thence to Lewisville Lake.

Lat: 33.122628 Long: -97.043262

BMP MAP

1500 TURBEVILLE SEWER ADDITION

LAKE DALLAS, TX

Created: 07/31/2024

CARDINAL

STRATEGIES

2770 Capital Street

Wylie, TX 75098

(469) 547-1281

www.cardinalstrategies.com

## Appendix K

### TPDES General Permit NO. TXR150000

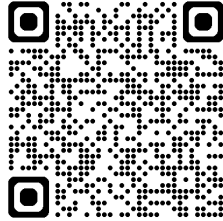
<https://www.tceq.texas.gov/permitting/stormwater/construction>



## Appendix L

### Endangered Species

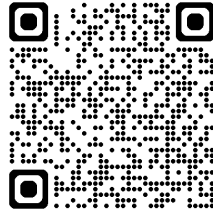
[Listed species believed to or known to occur in Denton, Texas \(fws.gov\)](https://www.fws.gov)



## Appendix M

### Historic Places

[National Register of Historic Places - Texas \(TX\), Denton County](#)



## Appendix N

### NCTCOG iSWM Design Manual for Construction

[https://iswm.nctcog.org/Documents/technical\\_manual/  
Construction\\_Controls\\_10-2019.pdf](https://iswm.nctcog.org/Documents/technical_manual/Construction_Controls_10-2019.pdf)



## **Appendix O**

### **P.E. Certification**

This Storm Water Pollution Prevention Plan has been reviewed and found to be in accordance with good engineering practice and the TPDES General Permit TXR150000.

Signature: 

Date: July 31, 2024

Project: 1500 Turbeville Sewer Addition  
Extending north from just west of Ellard Drive on the north side  
of Turbeville Road  
Lake Dallas, TX 75065



State of Texas Registration Number: 89189  
Cardinal Strategies, LLC  
TX Registration: F-11976