DESIGN SPEED
HORIZONTAL: 20 MPH
VERTICAL: 20 MPH

THE CITY OF CLEBURNE, TEXAS
PLANS FOR

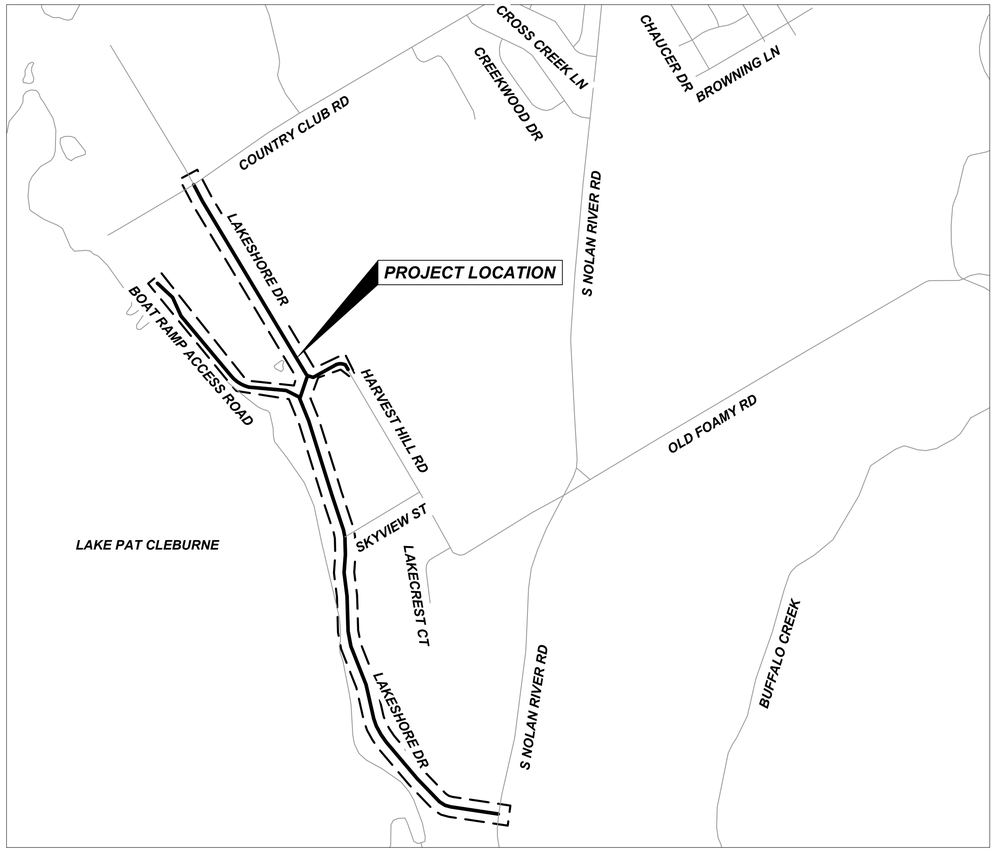
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

City Officials:

Mayor:	Scott Cain
Mayor Pro Tem:	Blake Jones
City Council:	Derek Weathers John Warren Oliver Cozby

City Staff:

City Manager:	Michael Marrero
Deputy City Manager:	Chris Fuller
Director of Public Works:	Jeremy Hutt, P.E.
City Engineer:	Kent Conner, P.E.



N

LOCATION MAP
1" = 200'

04/10/2026
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

cleburne
this is texas

Kimley»Horn

Texas Board Of Professional Engineers Firm Registration Number: F-928
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102, (817) 335-6511
Contact: Ivan Lopez, PE

APRIL 2026

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*TXDOT DETAIL - CH-PW-0
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*TXDOT DETAIL - GF (31)-19
*TXDOT DETAIL - I-COB (FTW) (1 OF 3)
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*TXDOT DETAIL - MI-CBC (FTW)
*TXDOT DETAIL - PED-18 (SHEET 1 0F 4)
*TXDOT DETAIL - PED-18 (SHEET 2 0F 4)
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*TXDOT DETAIL - PSET-SC
*TXDOT DETAIL - PW
*TXDOT DETAIL - SCP-4
*TXDOT DETAIL - SCP-6
*TXDOT DETAIL - SCP-7
*TXDOT DETAIL - SGT(12S) 31-18

*THE STANDARD TXDOT SHEETS, SPECIFICALLY IDENTIFIED IN THIS SHEET INDEX, HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

, P.E.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

INDEX

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C0.02

Plotted, By: 2026-04-16 18:07:31, Salinas, Rene
Last Saved: 2026-04-09 17:11:01 (INDEX)
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Filename: dr\cadd\sheets\cover.dwg

GENERAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION OR PRIOR TO MANUFACTURE OF PIPE. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS APPROXIMATE AND BASED ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE CITY AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR THE COMPLETENESS OF ANY SUCH INFORMATION AND DATA; AND, THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, FOR LOCATING ALL UNDERGROUND FACILITIES, FOR COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, FOR THE SAFETY AND PROTECTION THEREOF, AND FOR REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL OF WHICH WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

CITY OF CLEBURNE PUBLIC WORKS	(817) 556-8869
ATMOS GAS	(817) 207-2839
ONCOR ELECTRIC	(817) 215-6184
CHARTER CABLE	(817) 298-3681
AT&T	(817) 338-6787
SOUTHWESTERN BELL TELEPHONE CO	(800) 464-7928
1 (800) DIG-TESS	

2. THE CONTRACTOR SHALL RE-ESTABLISH ANY PROPERTY MARKER, BENCHMARK, ETC. DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL LOCATION AND ELEVATION. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VERTICAL AND HORIZONTAL CONTROL SHOWN ON THE PLANS THROUGHOUT THE PROJECT. THE CONTRACTOR IS SOLEY RESPONSIBLE FOR PERFORMING ALL CONSTRUCTION LAYOUTS AND STAKING FROM THE SITE LAYOUT CONTROL POINTS, AND FROM THE DIMENSIONS AND CENTERLINES SHOWN. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE CONTRACT AMOUNT.
3. THE CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, EMISSIONS, TRENCHING, SHORING, AND SITE SAFETY.
4. THE CONTRACTOR SHALL COORDINATE WITH THE CLEBURNE PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO CUTTING OR CONNECTING TO EXISTING UTILITY LINES. PUBLIC WORKS DEPARTMENT PERSONNEL SHALL DETERMINE THE MOST APPROPRIATE TIME FOR THESE ACTIVITIES TO TAKE PLACE.
5. CONTRACTOR SHALL FIELD LOCATE EXISTING WATER AND SEWER LINES PRIOR TO COMMENCING WORK OR PURCHASING PIPE. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE, CONTRACTOR WILL NEED TO LOCATE BOTH HORIZONTALLY AND VERTICALLY BEFORE STARTING WORK. EXISTING PIPE SIZE TO BE CONNECTED TO SHALL BE VERIFIED PRIOR TO PURCHASING PIPE. IF A DISCREPANCY EXISTS BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. SUCH VERIFICATION SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
6. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (N.C.T.C.O.G.) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, STANDARD SPECIFICATION FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES-2023 EDITION, TXDOT SPECIFICAITONS, AND THE CITY OF CLEBURNE'S DESIGN CRITERIA AND CONSTRUCTION DETAILS, EXCEPT WHERE MODIFIED IN THESE PLANS OR THE SPECIFICATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING SIGNS, UTILITY POLES, SPRINKLER SYSTEMS, ETC. DURING CONSTRUCTION. THIS WORK SHALL BE SUBSIDIARY TO THE THE CONTRACT AMOUNT.
8. THE CONTRACTOR SHALL COORDINATE WITH THE OWNERS OF UTILITIES WHICH MUST BE CROSSED BY THE PROPOSED UTILITY LINES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ENSURE THAT THE REQUIRED VERTICAL SEPARATION DISTANCES ARE MAINTAINED.
9. ALL PAVEMENT CUTS ARE TO BE NEAT SAW CUT LINES. ALL PAVEMENT SHALL BE SAW CUT PRIOR TO EXCAVATION. THIS WORK SHALL BE CONSIDERED SUBSIDIARY.
10. CONTRACTOR IS RESPONSIBLE FOR UTILITY TESTING. ALL COST AND WORK ASSOCIATED WITH THE UTILITY TESTING SHALL BE CONSIDERED SUBSIDIARY TO THE PROVIDED BID ITEM. CONTRACTOR SHALL PAY FOR DENSITY TESTING ALONG TRENCH. TESTS TO BE PERFORMED BY CMJ ENGINEERING.
11. CONTRACTOR TO PROVIDE TRENCH SAFETY FOR GEOTECH TO PERFORM TESTING (SUBSIDIARY TO TRENCH SAFETY). ALL TESTING SHALL BE WITNESSED BY CITY STAFF.
12. THE REMOVAL OF CONCRETE AND ASPHALT PAVEMENT AND CONCRETE CURB AND GUTTER SHALL BE PAID FOR UNDER GENERAL SITE PREPARATION.
13. THERE IS A GAS LINE ALONG THE CORRIDOR. CONTRACTOR SHALL CONSIDER ALL WORK REQUIRED TO LOCATE, AVOID, AND PROTECT GAS LINES IN THEIR BID.
14. INSTALLATION OF WATER AND STORM LINES SHALL BE IN ALL TYPES OF GROUND CONDITIONS INCLUDING ROCK.

STORM DRAIN

1. ALL STORM DRAIN SHALL BE PAID FOR BY THE HORIZONTAL LINEAR FOOT BASIS. MEASUREMENT OF THE PIPE SHALL BE TO THE INSIDE FACE OF THE INLET/MANHOLE. ALL STORM DRAIN SHALL BE PAID FOR IN ACCORDANCE WITH NCTCOG SPECIFICATIONS.
2. ALL CONCRETE FOR DRAINAGE STRUCTURES SHALL MEET NCTCOG STANDARDS, CITY STANDARDS AND TXDOT SPECIFICATIONS.
3. REMOVAL OF EXISTING STORM DRAIN PIPES SHALL BE PAID FOR UNDER THE "GENERAL SITE PREPARATION" PAY ITEM UNLESS OTHERWISE NOTED. THE ENGINEER ATTEMPTED TO SHOW THE LOCATION OF THE EXISTING STORM DRAIN FACILITIES. HOWEVER, THE ACTUAL LOCATION OF THE FACILITIES MAY VARY.
4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
5. PROPOSED STORM SEWER MANHOLES SHALL BE SET TO EXISTING ELEVATIONS UNTIL THE CONSTRUCTION OF THE PROPOSED ROADWAY. CONTRACTOR SHALL ADJUST ALL PROPOSED AND EXISTING STORM SEWER MANHOLES TO FINAL ELEVATIONS AFTER ALL ROADWAY CONSTRUCTION IS COMPLETE. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. LOCATION OF ALL UNDERGROUND UTILITIES AND STORM DRAINAGE FACILITIES IN THE AREA OF STORM DRAIN CONSTRUCTION AND OTHER AREAS OF POSSIBLE CONFLICT SHALL BE UNCOVERED TO DETERMINE EXACT LOCATIONS PRIOR TO START OF CONSTRUCTION. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
7. THE CONTRACTOR SHALL PLACE LABELS / MARKERS AT ALL INLETS. THE LABELS / MAKERS SHALL BE PLACED ALONG THE FACE OF THE INLET. THE CITY WILL PROVIDE THE CONTRACTOR WITH THE LABELS / MARKERS. THE WORK TO ATTACH THE LABELS / MARKERS TO THE INLETS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
8. THE CONTRACTOR SHALL CONSTRUCT INLETS AND SIDEWALKS SO THAT THE TOP OF CURB ELEVATIONS MATCH. THERE SHALL BE NO DIFFERENCE IN ELEVATION IN ORDER TO MEET ADA REQUIREMENTS.

WATER

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE CONNECTIONS TO THE EXISTING WATER LINES. CONNECTION TO EXISTING WATER LINES COULD BE EITHER DRY OR WET. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR MAKING WET CONNECTION IF REQUIRED.
2. NO UTILITY TRENCHES SHALL BE LEFT OPEN OVERNIGHT DURING THE CONSTRUCTION OF ANY UNDERGROUND CONDUIT.
3. CONTRACTOR SHALL MAINTAIN WATER SERVICE THROUGHOUT CONSTRUCTION UNLESS OTHERWISE APPROVED BY CITY.
4. EXISTING FIRE HYDRANTS ON WATER LINES TO BE REMOVED ARE TO BE SALVAGED BY THE CONTRACTOR AND RETURNED TO THE CITY OF CLEBURNE WATER DEPARTMENT. THIS SHALL BE SUBSIDIARY TO COST OF THE PROJECT.
5. ALL EXISTING WATER VALVES AND METER BOXES SHALL BE ADJUSTED TO THE PROPOSED GROUND. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. THE CONTRACTOR SHALL REVEGETATE UNPAVED AREAS DISTURBED BY CONSTRUCTION PRIOR TO ACCEPTANCE OF THE PROJECT, THIS INCLUDES TRENCH WIDTHS IN UNPAVED AREAS. REVEGETATION SHALL CONSIST OF SEEDING AND WATERING. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
7. ALL UTILITY SERVICES MUST BE INSTALLED PRIOR TO CONSTRUCTION OF NEW ROADWAY. NO ROADWAY CUTS WILL BE ALLOWED ONCE NEW PAVEMENT IS PLACED.
8. CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING FIRE HYDRANTS AND VALVES WITHIN THE PROJECT LIMITS

EROSION CONTROL

1. TEMPORARY EROSION CONTROL, SEDIMENTATION, AND WATER POLLUTION PREVENTION AND CONTROL INCLUDES SILT FENCE ALONG THE LIMITS OF CONSTRUCTION FOR THE ENTIRE LENGTH OF THE PROJECT, INLET PROTECTION AT ALL INLETS WITHIN THE LIMITS OF CONSTRUCTION, AND CONSTRUCTION ENTRANCES. ALL TEMPORARY EROSION CONTROL, SEDIMENTATION, AND WATER POLLUTION PREVENTION AND CONTROL MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENT STANDARD SPECIFICATION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF EROSION CONTROL DEVICES AFTER FINAL ACCEPTANCE OF THE PROJECT. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING, SUBMITTING, AND POSTING THE THE NOTICE OF INTENT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH STATE RULES AND REGULATIONS. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF PROJECT.
4. CONTRACTOR IS RESPONSIBLE FOR SELECTING AND MANAGING THE STAGING AREA. CONTRACTOR IS RESPONSIBLE TO COORDINATE AND SECURE THE SITE CHOSEN. STAGING AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION. NO ADDITIONAL PAY.
5. CONTRACTOR MAY BE PERMITTED TO TO USE THE SOUTHWEST CORNER OF LAKESHORE DRIVE AND NOLAN RIVER ROAD AS A STAGING AREA. THAT AREA IS PROPERTY OF THE CITY OF CLEBURNE PARKS DEPARTMENT. CONTRACTOR SHALL COORDINATE WITH THE CITY AND RECEIVE PERMISSION IN WRITING.

TRAFFIC CONTROL

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TRAFFIC CONTROL PLAN THAT SHALL BE APPROVED BY THE OWNER AND ENGINEER BEFORE ANY CONSTRUCTION SHALL OCCUR. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE TRAFFIC CONTROL PLAN PAY ITEM.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL MEASURES.
3. ALL BARRICADES, WARNING SIGNS, LIGHTS, DEVICES, ETC. FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS SHALL CONFORM TO THE INSTALLATION AND LOCATION GUIDELINES SHOWN IN THE LATEST VERSION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), AS CURRENTLY AMENDED, AS PUBLISHED BY THE TEXAS DEPARTMENT OF TRANSPORTATION.
4. BARRICADES AND SIGNS SHALL BE PLACED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE SIGHT DISTANCE OF DRIVERS ENTERING THE ROADWAYS OR SIDE STREETS.
5. IF THE CONTRACTOR DAMAGES EXISTING SIGNAGE, HE SHALL REPLACE THE SIGNAGE TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S OWN EXPENSE.
6. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTORS PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC CONTROL DOES NOT PROVIDE FOR SAFE, COMFORTABLE MOVEMENT, THE CONTRACTOR SHALL IMMEDIATELY CHANGE HIS OPERATIONS TO CORRECT THE UNSATISFACTORY CONDITION(S) AND NOTIFY THE ENGINEER.
7. THE ENGINEER HAS PROVIDED A TCP NARRATIVE AS PART OF THIS PROJECT. THE NARRATIVE IS TO BE USED AS A GUIDE, HOWEVER, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN THAT IS SIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. ANY CHANGES TO THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED, SIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS.
8. ALL TRAFFIC CONTROL SHALL BE PAID FOR UNDER THE PAY ITEM TRAFFIC CONTROL AND TRAFFIC CONTROL PLAN. THIS SHALL INCLUDE BARRICADES, BARRELS, FLAG MEN, TEMPORARY ROCK AND/OR GRAVEL, SIGNAGE AND MESSAGE BOARDS. THE TRAFFIC CONTROL PLAN AND ANY TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH TMUTCD.
9. CONTRACTOR SHALL MAINTAIN AT LEAST ONE ACCESS POINT TO ALL THE PROPERTY OWNERS ALONG THE CORRIDOR THROUGHOUT THE DURATION OF CONSTRUCTION. ANY ROAD OR DRIVEWAY CLOSURES MUST BE APPROVED BY THE OWNER OF THE PROPERTY AND THE CITY.
10. THE CONTRACTOR WILL BE REQUIRED TO BE SUBSTANTIALLY COMPLETED FROM NOLAN RIVER ROAD TO THE ENTRYWAY OF THE PARK WITHIN 16 MONTHS IN ORDER ACCOMMODATE THE OPENING OF THE PARK PROJECT.

PAVING

1. ALL PAVING DIMENSIONS ARE TO EDGE OF PAVEMENT AND/OR FACE OF CURB UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING PAVEMENT FROM TRACK MARKS AND/OR CRACKING DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
3. ALL PAVEMENT CUTS ARE TO BE NEAT SAW CUT LINES. ALL PAVEMENT SHALL BE SAW CUT PRIOR TO EXCAVATION. SAW-CUTTING SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
4. LONGITUDINAL JOINT LOCATIONS ARE TO BE DETERMINED BY THE OWNER IN THE FIELD.
5. JOINT SEALANT SHALL BE PLACED AT ALL JOINTS, INCLUDING CONSTRUCTION JOINTS, EXPANSION JOINTS, ETC. JOINT SEALANT SHALL BE PER NCTCOG SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. TACK COATS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE TEMPORARY ASPHALT PAVEMENT.
7. CONNECTING PROPOSED SIDEWALK AND PAVEMENT TO EXISTING PAVEMENT SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT. CONTRACTOR SHALL DOWEL PROPOSED PAVEMENT INTO EXISTING PAVEMENT.
8. CONTRACTOR RESPONSIBLE FOR ENSURING THAT ALL ADA REQUIREMENTS ARE MET FOR PROPOSED SIDEWALK AND BARRIER FREE RAMPS.
9. BARRIER FREE RAMPS SHALL HAVE POLYTILE TRUNCATED DOMES, NOT PAVERS, UNLESS OTHERWISE DIRECTED BY THE CITY.
10. ALL DRIVEWAYS ARE TO BE CONCRETE TO THE ROW. THE LABELS ON THE PAVING SHEETS INDICATE THE EXISTING MATERIAL THAT THE PROPOSED PAVEMENT IS TO TIE INTO.
11. CONTRACTOR SHALL COORDINATE WITH AFFECTED PROPERTY OWNERS DURING THE CONSTRUCTION OF DRIVEWAYS. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESS DURING CONSTRUCTION. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.
12. CONTRACTOR SHALL TRY TO SALVAGE EXISTING BRICK/STONE MAILBOXES IF POSSIBLE. IF NOT POSSIBLE CONTRACTOR SHALL COORDINATE WITH CITY/PROPERTY OWNER ON NEW MAILBOX.
13. CONTRACTOR SHALL EXTEND SIDEWALK TO THE BACK OF INLETS IN AREAS WHERE THE PARKWAY WOULD BE LESS THAN 3'. THE CONTRACTOR SHALL CONSTRUCT INLETS AND SIDEWALKS SO THAT THE TOP OF CURB ELEVATIONS MATCH. THERE SHALL BE NO DIFFERENCE IN ELEVATION IN ORDER TO MEET ADA REQUIREMENTS. SIDEWALK SHALL NOT BE DOWELED INTO THE SIDE OF THE INLETS.
14. CONTRACTOR SHALL NOT DOWEL IN THE PROPOSED SIDEWALK INTO THE BACK OF CURB.

PAVING POINT ABBREVIATION TABLE:
ME- MATCH EXISTING
TS- TOP OF SIDEWALK
TC- TOP OF CURB
ME - MATCH EXISTING

Kimley»Horn
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No.	Revision	By	Date

04/10/2026
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

GENERAL NOTES

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C0.03

Plotted, By: 2026-04-16 18:07:56, Salinas, Rene
Last Saved: 2026-04-09 17:11:01 (General Notes)
k:\fw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cover.dwg

PHASE 1

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND WARNING SIGNS NECESSARY TO CLOSE LAKESHORE DRIVE FROM BOAT RAMP ROAD TO SKYVIEW STREET. CONTRACTOR SHALL INSTALL DETOUR SIGNS TO COUNTRY CLUB ROAD.
2. CONTRACTOR SHALL CONSTRUCT ALL PORTIONS OF THE PROJECT WITHIN THE LIMITS MENTIONED ABOVE.

PHASE 2

1. CONTRACTOR SHALL BEGIN CONSTRUCTION ON PHASE 2 ONCE THE PARK CONTRACTOR HAS COMPLETED THE BOAT RAMP. THIS WORK SHALL OCCUR SIMULTANEOUSLY WITH PHASE 1.
2. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND WARNING SIGNS NECESSARY TO CLOSE BOAT RAMP ACCESS ROAD.
3. CONTRACTOR SHALL CONSTRUCT ALL PORTIONS OF BOAT RAMP ROAD.

PHASE 3A

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND WARNING SIGNS NECESSARY TO CONVERT LAKESHORE DRIVE TO ONE WAY FROM NOLAN RIVER ROAD TO SKYVIEW STREET.
2. MAINTAIN A MINIMUM 10' LANE GOING NORTHBOUND (WEST SIDE OF ROAD).
3. INSTALL STORM STRUCTURES AND CONSTRUCT THE PROPOSED CONCRETE PAVEMENT AND CURB ON THE WEST SIDE OF LAKESHORE DRIVE.

PHASE 3B

1. ADJUST THE TEMPORARY TRAFFIC CONTROL DEVICES AND WARNING SIGNS SO THAT VEHICLES UTILIZE THE NEWLY CONSTRUCTED PAVEMENT.
2. MAINTAIN ONE 10' LANE GOING NORTHBOUND (WEST SIDE OF ROAD).
3. INSTALL STORM STRUCTURES AND CONSTRUCT THE PROPOSED CONCRETE PAVEMENT, CURB, SIDEWALKS AND DITCHES ON THE EAST SIDE OF LAKESHORE DRIVE.

PHASE 4

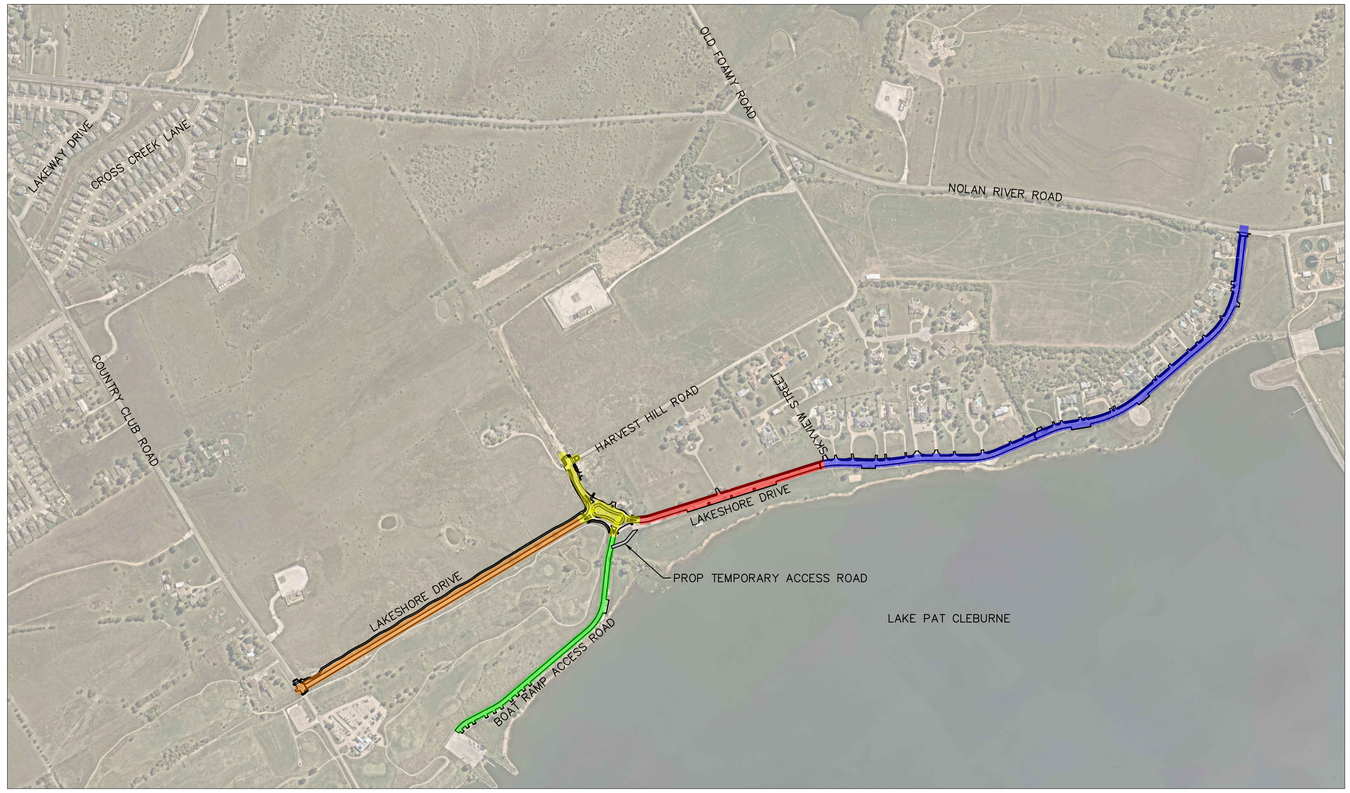
1. ADJUST THE TEMPORARY TRAFFIC CONTROL DEVICES AND WARNING SIGNS TO CLOSE THE PORTION OF HARVEST HILL ROAD AND THE ENTRYWAY AREA.
2. CONTRACTOR SHALL BUILD A TEMPORARY ROAD THAT IS 20' IN WIDTH THAT ALLOWS PUBLIC ACCESS TO THE NEW BOAT RAMP ROAD.
3. CONTRACTOR SHALL CONSTRUCT ALL PORTIONS OF THE ENTRYWAY.

PHASE 5

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVEICES AND WARNING SIGNS NECESSARY TO CLOSE LAKESHORE DRIVE FROM COUNTRY CLUB ROAD TO THE ENTRYWAY. CONTRACTOR SHALL INSTALL DETOUR SIGNS AND ROAD CLOSED SIGNS FOR THIS PHASE..
2. CONTRACTOR SHALL CONSTRUCT ALL PORTIONS OF THE PROJECT IN THE LIMITS MENTIONED ABOVE.

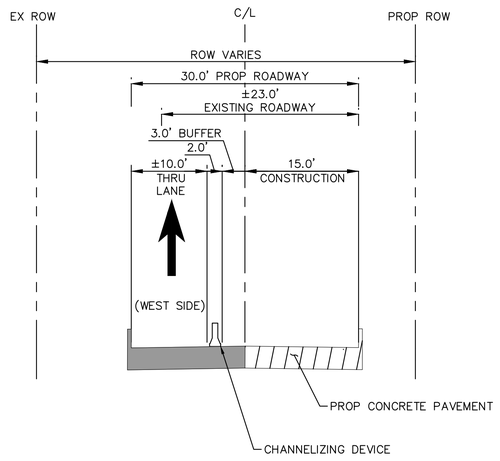
LEGEND

- PHASE 1 (FULL ROAD CLOSURE)
- PHASE 2 (FULL ROAD CLOSURE)
- PHASE 3A & 3B (ONE WAY TRAFFIC NORTHBOUND)
- PHASE 4 (FULL ROAD CLOSURE)
- PHASE 5 (FULL ROAD CLOSURE)

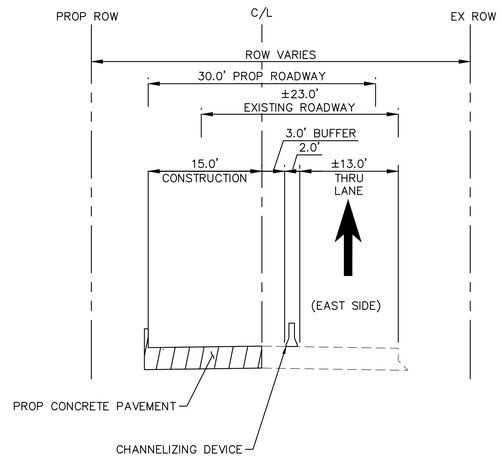


NOTES:

1. THIS TCP NARRATIVE HAS BEEN CREATED TO SHOW THE INTENT OF SEQUENCING FOR THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A TRAFFIC CONTROL PLAN THAT IS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER. DETOUR PLANS SHALL BE INCLUDED IN THE TCP PLAN. THE CONTRACTORS PROPOSED TRAFFIC CONTROL PLAN WILL BE DISCUSSED WITH THE CITY, ENGINEER AND THE CONTRACTOR FOR THE PARKS PROJECT.
2. DURING CONSTRUCTION CONTRACTOR SHALL ENSURE THAT ACCESS TO ALL THE PROPERTY OWNERS (INCLUDING THE CLEBURNE GOLF LINKS) ALONG THE CORRIDOR ARE MAINTAINED. IN THE EVENT OF A DRIVEWAY CLOSURE, THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND PROPERTY OWNER.
3. CONTRACTOR SHALL INCLUDE DETOUR PLANS FOR EACH PHASE OF CONSTRUCTION IN THE PROPOSED TRAFFIC CONTROL PLAN.
4. CONTRACTOR TO COORDINATE WITH CITY IF A COMPLETED PHASE IS TO BE OPENED TO THE PUBLIC ONCE COMPLETED.
5. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE STORM CROSSINGS WITH THE PARK CONTRACTOR. ROADWAY CONTRACTOR SHALL INSTALL THE STORM CROSSINGS BEFORE THE FINAL PARK SIDEWALK AND RAIL ARE TO BE CONSTRUCTED.
6. PHASES 1, 2, 3, & 4 SHALL BE SUBSTANTIALLY COMPLETE WITHIN 18 MONTHS TO FACILITATE THE OPENING OF THE PARK.
7. THE PROPOSED PHASING DOES NOT NEE TO BE SEQUENTIAL AND MAY OCCUR SIMULTANEOUSLY.



NORTHBOUND LAKESHORE DRIVE TCP
TYPICAL SECTION
PHASE 3A



NORTHBOUND LAKESHORE DRIVE TCP
TYPICAL SECTION
PHASE 3B

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

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STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

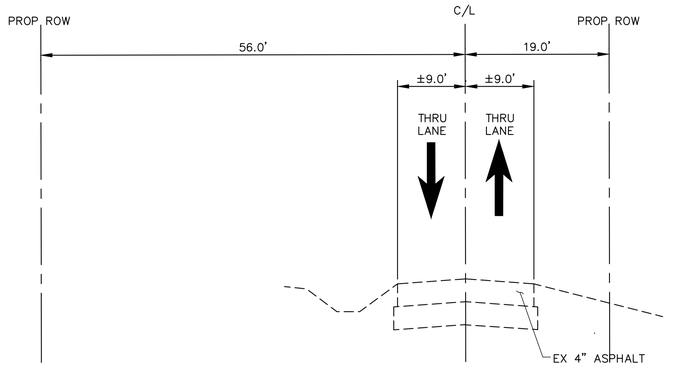
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

TCP NARRATIVE

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

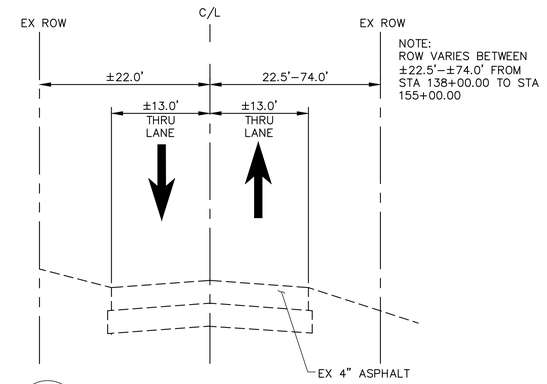
SHEET NUMBER
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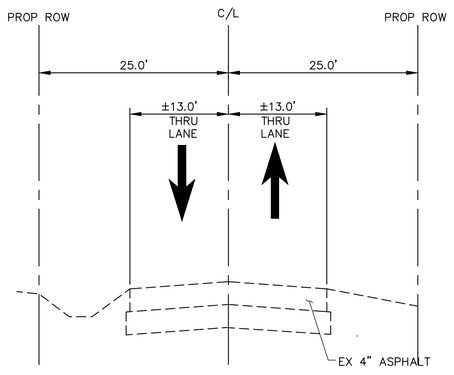
1 C0.05 EXISTING LAKESHORE DRIVE TYPICAL SECTION

BEGIN TO STA 123+00
SCALE: H: 1"=10'
V: 1"=2'



2 C0.05 EXISTING LAKESHORE DRIVE TYPICAL SECTION

STA 124+50 TO END
SCALE: H: 1"=10'
V: 1"=2'



3 C0.05 EXISTING BOAT RAMP ACCESS ROAD TYPICAL SECTION

SCALE: H: 1"=10'
V: 1"=2'

Plotted, By: 2026-04-16 18:08:32, Salinas, Rene
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Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\typical sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

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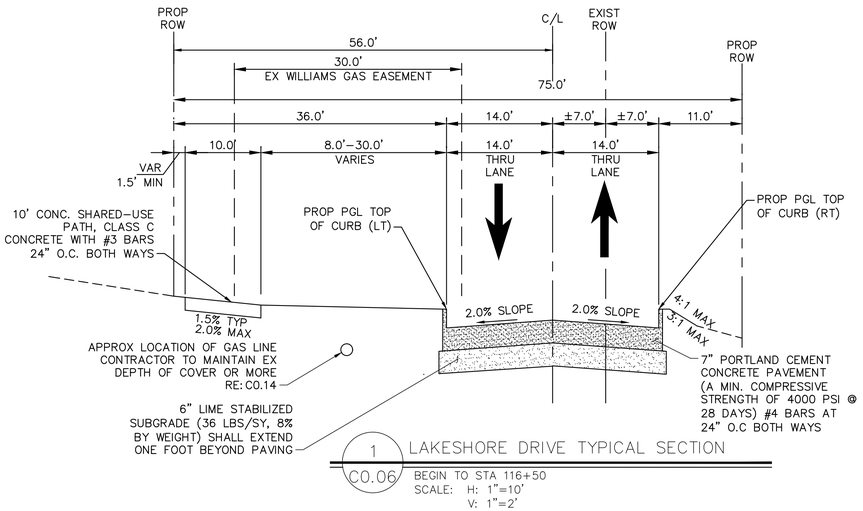
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

EXISTING TYPICAL SECTIONS

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

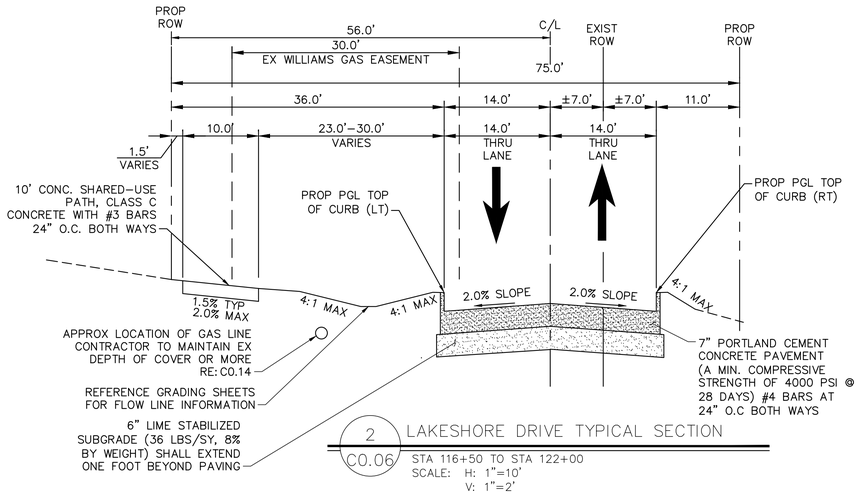
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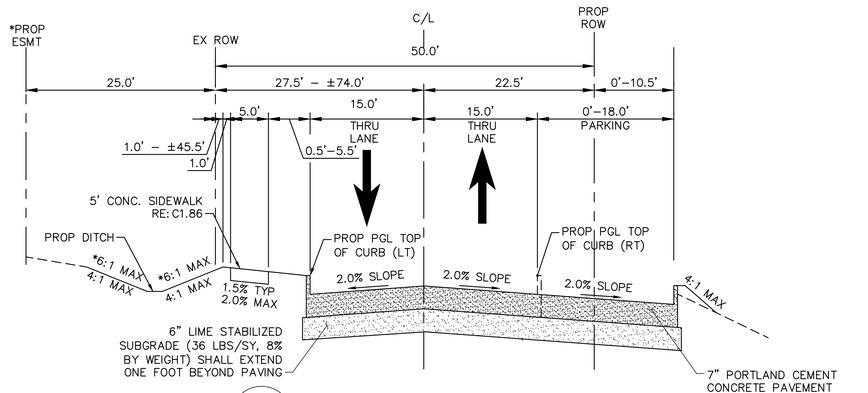
1 C0.06 LAKESHORE DRIVE TYPICAL SECTION

BEGIN TO STA 116+50
SCALE: H: 1"=10'
V: 1"=2'



2 C0.06 LAKESHORE DRIVE TYPICAL SECTION

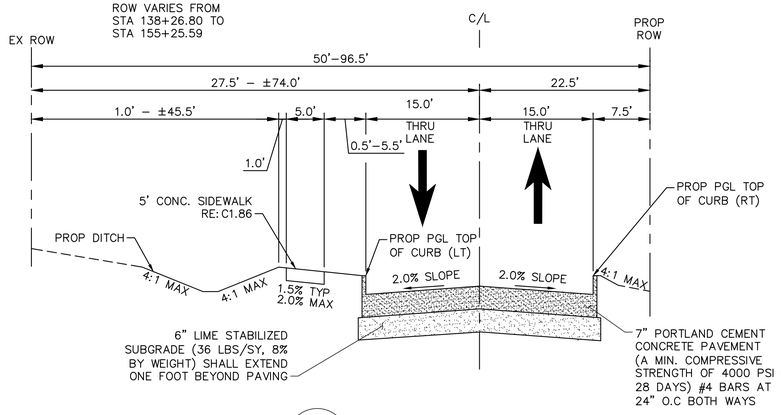
STA 116+50 TO STA 122+00
SCALE: H: 1"=10'
V: 1"=2'



3 C0.06 LAKESHORE DRIVE TYPICAL SECTION

*STA 127+00.00 TO STA 135+50.00
STA 141+00.00 TO STA 142+00.00
STA 155+00.00 TO STA 156+00.00
STA 160+00.00 TO STA 161+00.00
SCALE: H: 1"=10'
V: 1"=2'

NOTE:
ROW VARIES FROM STA 138+26.80 TO STA 155+25.59



4 C0.06 LAKESHORE DRIVE TYPICAL SECTION

STA 126+00.00 TO STA 127+00.00
STA 135+50.00 TO STA 141+00.00
STA 142+00.00 TO STA 155+00.00
STA 156+00.00 TO STA 160+00.00
STA 161+00.00 TO END
SCALE: H: 1"=10'
V: 1"=2'

NOTE:
1. REFER TO GRADING SHEETS FOR DITCH LOCATIONS
2. SEE CROSS SECTIONS FOR PARKWAY GRADES. MAX 4:1.
3. ALL PARKWAYS ARE TO BE SEEDED. UNLESS OTHERWISE NOTED. REFER TO EROSION CONTROL SHEETS FOR LIMITS.
4. REFER TO GEOTECHNICAL REPORT PROVIDED BY KLEINFELDER DATED AUGUST 2024.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
1406647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

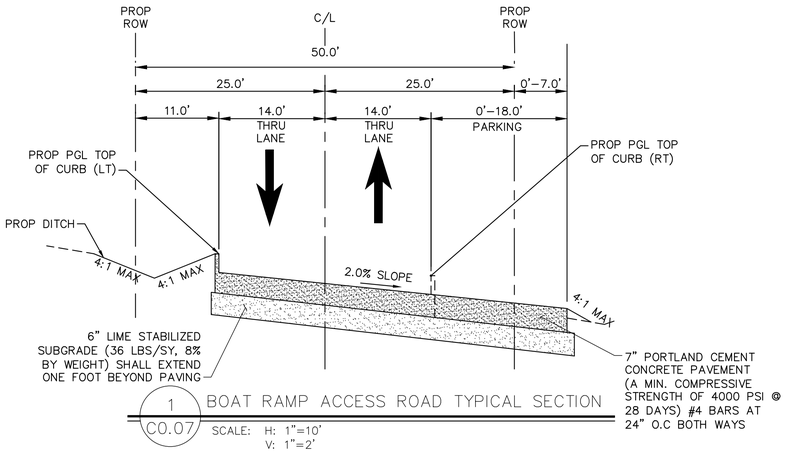
PROPOSED TYPICAL SECTIONS

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

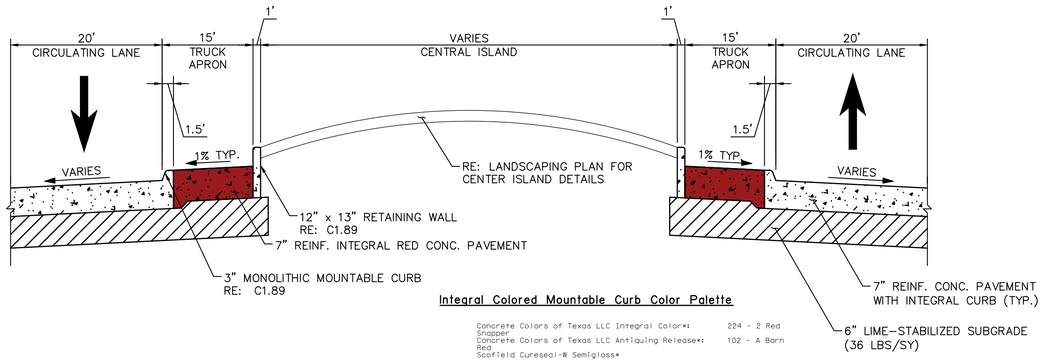
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Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\typical sections.dwg



1 C0.07 BOAT RAMP ACCESS ROAD TYPICAL SECTION

SCALE: H: 1"=10'
V: 1"=2'



Integral Colored Mountable Curb Color Palette

Concrete Colors of Texas LLC Integral Color*:	224 - 2 Red Snapper
Concrete Colors of Texas LLC Antiquing Release*:	102 - A Barn Red
Seafield Cureseal-W Semigloss*	

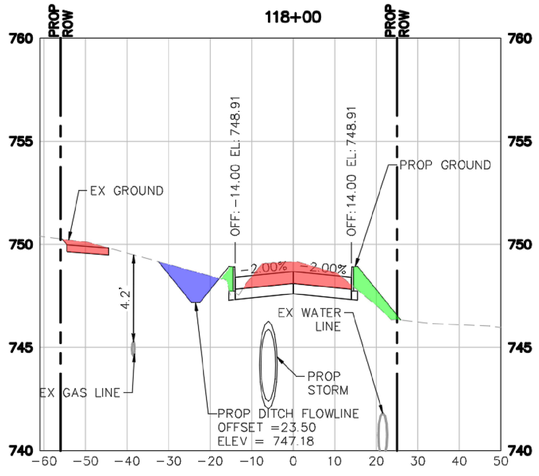
- For contractors information only.
* Or approved equal.

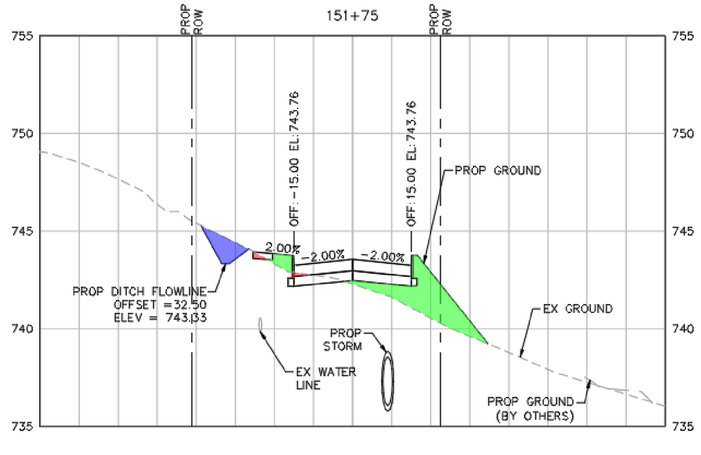
2 C0.07 PROPOSED ENTRYWAY TYPICAL SECTION

SCALE: H: 1"=10'
V: 1"=2'

NOTE:
1. REFER TO THE DIAGRAMS BELOW FOR EXAMPLES OF HOW EMBANKMENT AND EXCAVATION ARE QUANTIFIED.
2. EXCAVATION INCLUDES REMOVING ALL TYPES OF MATERIAL INCLUDING ASPHALT, CONCRETE, ROCK, SAND AND CURB.

GREEN – EMBANKMENT
RED – STREET EXCAVATION
BLUE – CHANNEL EXCAVATION





3 C0.07 EARTHWORK DIAGRAMS

SCALE: N.T.S.

NOTE:
1. REFER TO GRADING SHEETS FOR DITCH LOCATIONS
2. SEE CROSS SECTION FOR PARKWAY GRADES. MAX 4:1.
3. ALL PARKWAYS ARE TO BE SEEDED. UNLESS OTHERWISE NOTED. REFER TO EROSION CONTROL SHEETS FOR LIMITS.
4. REFER TO GEOTECHNICAL REPORT PROVIDED BY KLEINFELDER DATED AUGUST 2024.

Kimley»Horn
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04/10/2026

STATE OF TEXAS
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PROFESSIONAL ENGINEER

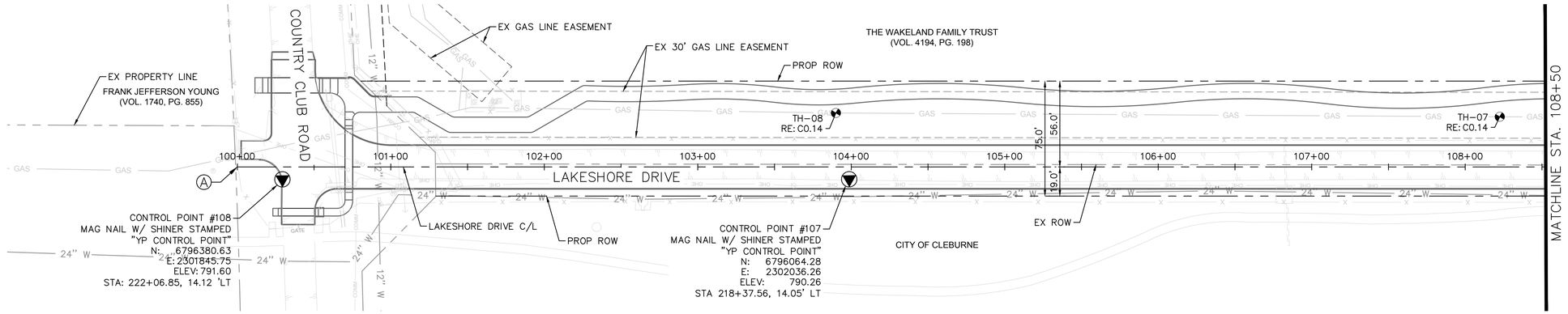
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

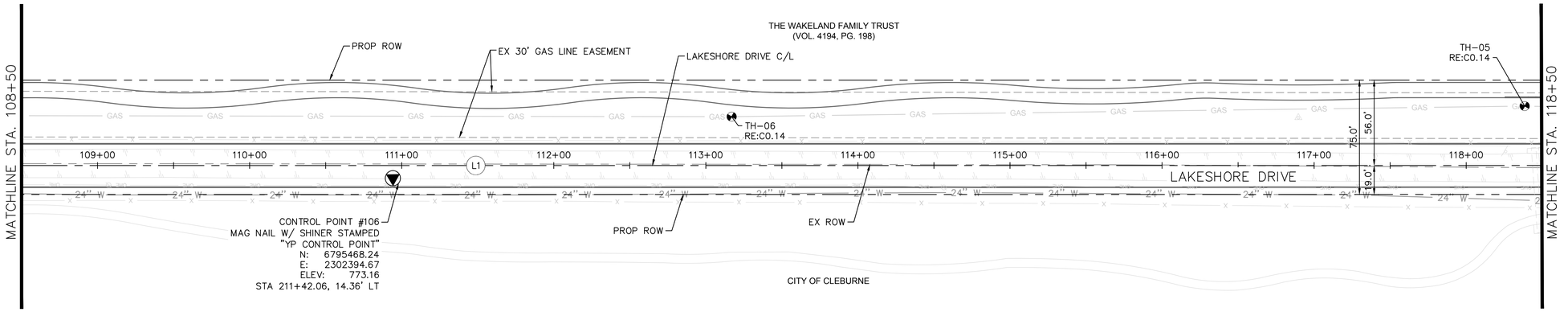
PROPOSED TYPICAL SECTIONS

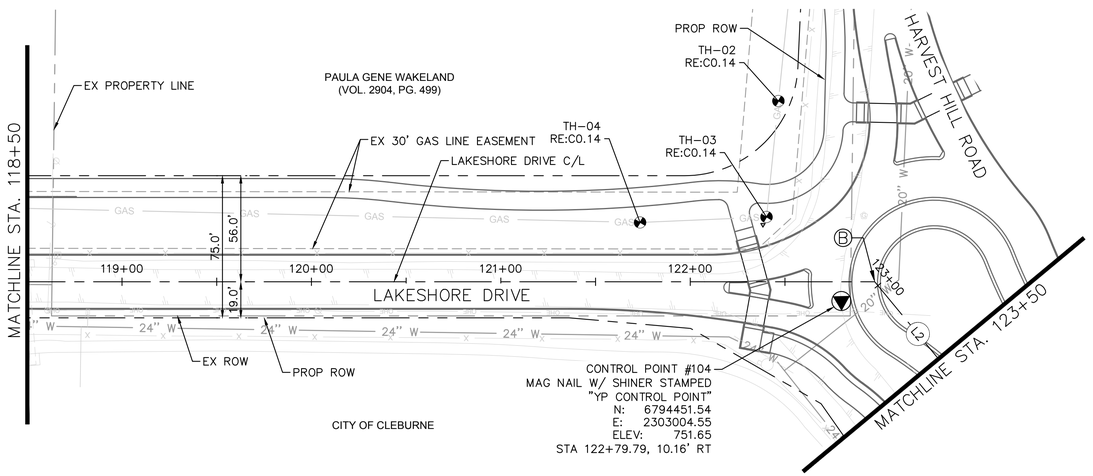
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C0.07

Plotted, By: 2026-04-16 18:08:44, Salinas, Rene
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LAKESHORE DRIVE				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
A	100+00.00	BEGIN	6796410.01	2301837.55
B	122+97.40	PI	6794441.69	2303022.34

LINE TABLE		
LINE	LENGTH	BEARING
L1	2297.40	S31°02'42.45"E
L2	152.60	S19°21'45.94"W

GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

NOTE:
1. AREA FROM EX ROW TO LAKE PAT CLEBURNE IS CONSIDERED CITY PROPERTY

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

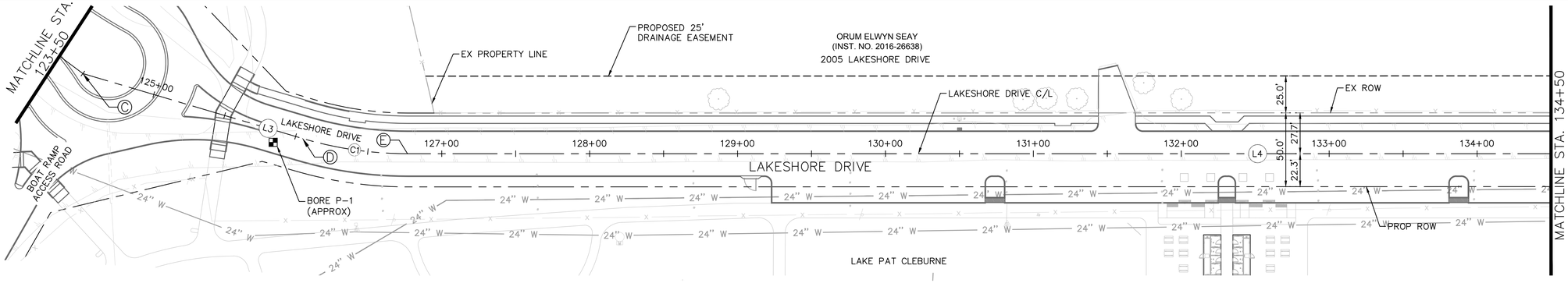
PROJECT CONTROL-LAKESHORE DRIVE (SHEET 1 OF 6)

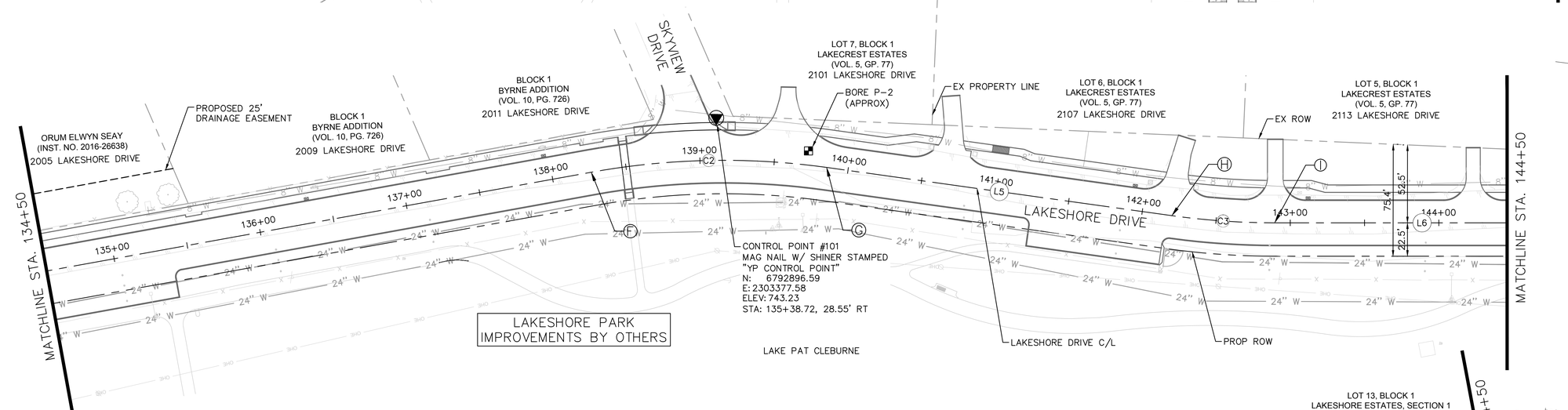
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

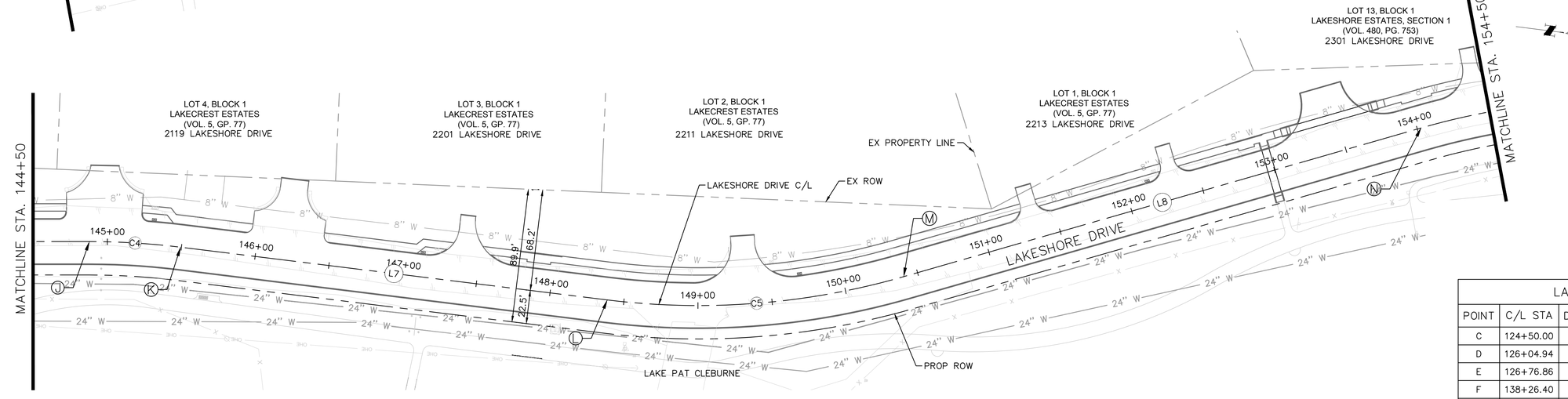
SHEET NUMBER

C0.08

Plotted, By: 2026-04-16 18:09:16, Salinas, Rene
Last Saved: 2026-03-31 11:30:57 (SHEET 1 OF 6)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\project control.dwg

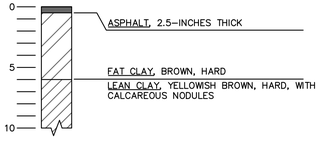




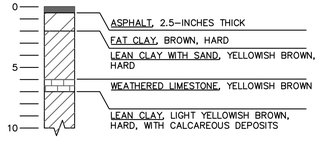


BORE LOGS

BORE LOG FOR P-1



BORE LOG FOR P-2



GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

NOTE:
1. AREA FROM EX ROW TO LAKE PAT CLEBURNE IS CONSIDERED CITY PROPERTY

LINE TABLE		
LINE	LENGTH	BEARING
L3	154.94	S0°58'36.07"E
L4	1149.54	S17°27'38.30"E
L5	234.58	S0°46'30.52"W
L6	198.43	S7°10'41.91"E
L7	289.38	S0°07'44.49"E
L8	362.26	S23°13'09.59"E

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C1	250.00'	71.92'	S9°13'07"E	71.68'	16°29'02"	36.21'
C2	500.00'	159.14'	S8°20'34"E	158.47'	18°14'09"	80.25'
C3	500.00'	69.41'	S3°12'06"E	69.35'	7°57'12"	34.76'
C4	500.00'	61.52'	S3°39'13"E	61.48'	7°02'57"	30.80'
C5	500.00'	201.50'	S11°40'27"E	200.14'	23°05'25"	102.14'

LAKESHORE DRIVE				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
C	124+50.00	PI	6794297.72	2302971.75
D	126+04.94	PT	6794142.80	2302974.39
E	126+76.86	PC	6794072.05	2302985.87
F	138+26.40	PT	6792975.48	2303330.79
G	139+85.54	PC	6792818.69	2303353.79
H	142+20.11	PT	6792584.13	2303350.61
I	142+89.52	PC	6792514.89	2303354.49
J	144+87.95	PT	6792318.02	2303379.28
K	145+49.46	PC	6792256.67	2303383.20
L	148+38.84	PT	6791967.29	2303383.85
M	150+40.34	PC	6791771.29	2303424.35
N	154+02.60	PT	6791438.37	2303567.17

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

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STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

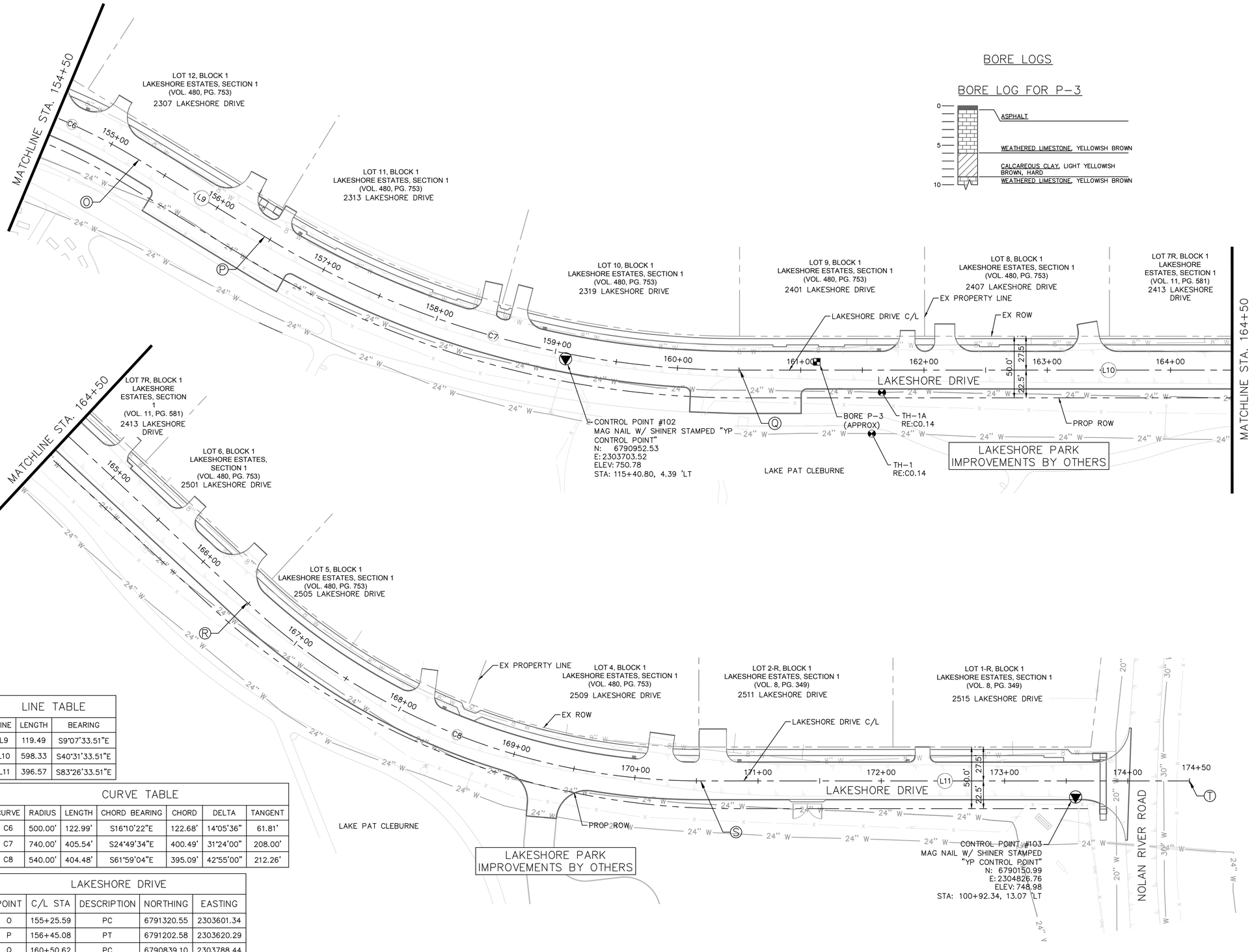
PROJECT CONTROL-LAKESHORE DRIVE (SHEET 2 OF 6)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C0.09

Plotted By: 2026-04-16 18:09:26, Salinas, Rene
Last Saved: 2026-03-31 11:30:57 (SHEET 2 OF 6)
Filename: k:\fw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\project control.dwg



BORE LOGS

BORE LOG FOR P-3

GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

LINE TABLE		
LINE	LENGTH	BEARING
L9	119.49	S9°07'33.51"E
L10	598.33	S40°31'33.51"E
L11	396.57	S83°26'33.51"E

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C6	500.00'	122.99'	S16°10'22"E	122.68'	14°05'36"	61.81'
C7	740.00'	405.54'	S24°49'34"E	400.49'	31°24'00"	208.00'
C8	540.00'	404.48'	S61°59'04"E	395.09'	42°55'00"	212.26'

LAKESHORE DRIVE				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
O	155+25.59	PC	6791320.55	2303601.34
P	156+45.08	PT	6791202.58	2303620.29
Q	160+50.62	PC	6790839.10	2303788.44
R	166+48.95	PT	6790384.30	2304177.23
S	170+53.43	PC	6790198.72	2304526.02
T	174+50.00	END	6790153.44	2304920.00

NOTE:
1. AREA FROM EX ROW TO LAKE PAT CLEBURNE IS CONSIDERED CITY PROPERTY

Plotted, By: 2026-04-16 18:09:36, Salinas, Rene
Last Saved: 2026-03-31 11:30:57 (SHEET 3 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\project control.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
1406647
LICENSED
PROFESSIONAL ENGINEER

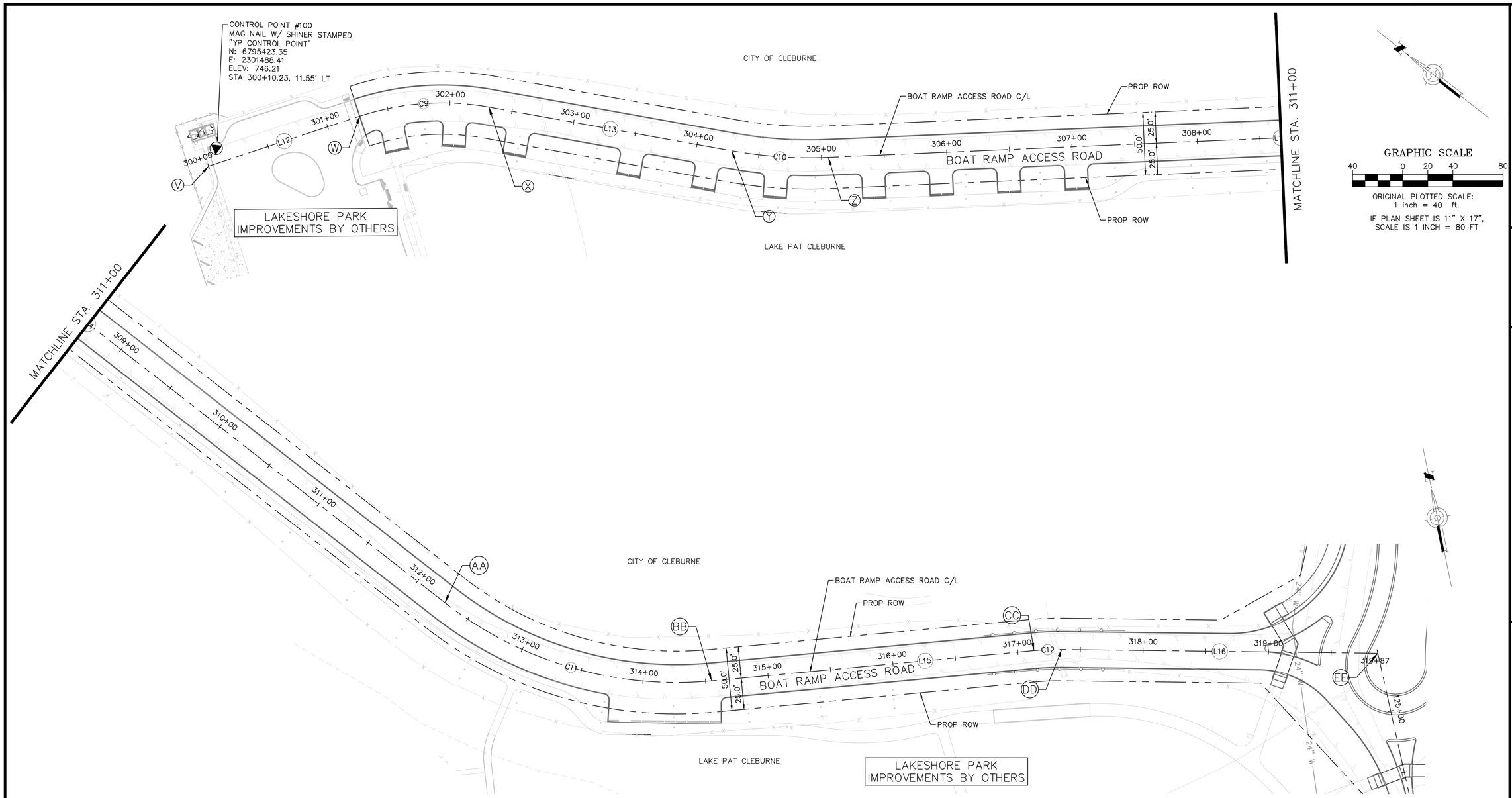
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PROJECT CONTROL-LAKESHORE DRIVE (SHEET 3 OF 6)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C0.10



GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

BOAT RAMP ACCESS ROAD				
V	300+00.00	BEGIN	6795419.43	2301473.48
W	301+26.92	PT	6795348.86	2301578.97
X	302+31.31	PC	6795272.05	2301648.08
Y	304+28.14	PT	6795097.85	2301739.68
Z	305+05.51	PC	6795033.89	2301782.94
AA	312+27.76	PT	6794483.90	2302251.09
BB	314+54.78	PC	6794380.13	2302446.94
CC	317+12.98	PT	6794352.07	2302703.61
DD	317+35.14	PC	6794348.51	2302725.47
EE	319+87.24	END	6794294.88	2302971.80

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C9	210.00'	104.39'	S41°58'42"E	103.31'	28°28'49"	53.29'
C10	350.00'	77.37'	S34°04'17"E	77.22'	12°39'59"	38.85'
C11	300.00'	227.02'	S62°05'00"E	221.64'	43°21'27"	119.26'
C12	210.00'	22.15'	S80°44'23"E	22.14'	6°02'39"	11.09'

LINE TABLE		
LINE	LENGTH	BEARING
L12	126.92	S56°13'07.03"E
L13	196.83	S27°44'17.57"E
L14	722.25	S40°24'16.35"E
L15	258.20	S83°45'42.91"E
L16	252.10	S77°43'03.65"E

NOTE:
1. AREA FROM EX ROW TO LAKE PAT CLEBURNE IS CONSIDERED CITY PROPERTY

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

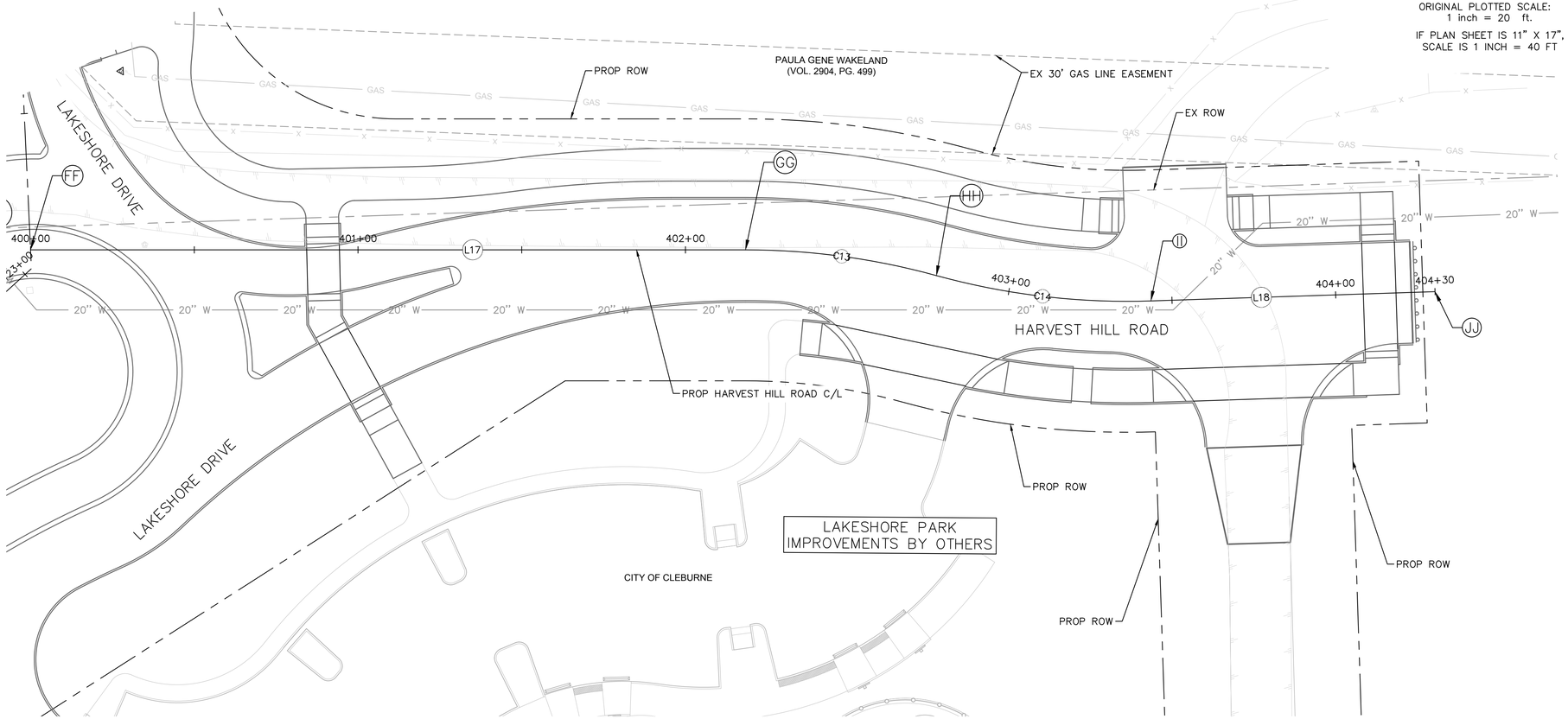
PROJECT CONTROL-
BOAT RAMP
ACCESS ROAD
(SHEET 4 OF 6)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C0.11

Plotted By: 2026-04-16 18:09:44, Salinas, Rene
Last Saved: 2026-03-31 11:30:57 (SHEET 4 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\project control.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LINE TABLE		
LINE	LENGTH	BEARING
L17	218.34	N61°35'54.86"E
L18	86.81	N59°43'12.07"E

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C13	220.00'	59.00'	N69°16'53"E	58.82'	15°21'56"	29.68'
C14	220.00'	66.21'	N68°20'31"E	65.96'	17°14'39"	33.36'

HARVEST HILL ROAD				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
FF	400+00.00	BEGIN	6794446.62	2303019.37
GG	402+18.34	PC	6794550.47	2303211.43
HH	402+77.34	PRC	6794571.28	2303266.45
II	403+43.55	PT	6794595.63	2303327.76
JJ	404+30.36	END	6794639.40	2303402.72

NOTE:
1. AREA FROM EX ROW TO LAKE PAT CLEBURNE IS CONSIDERED CITY PROPERTY

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IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PROJECT CONTROL-
HARVEST HILL ROAD
(SHEET 5 OF 6)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C0.12

Plotted By: 2026-04-16 18:09:49, Salinas, Rene
Last Saved: 2026-03-31 11:30:57 (SHEET 5 OF 6)
Filename: k:\fw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\project control.dwg

LINE TABLE		
LINE	LENGTH	BEARING
L3	22.74	S61°35'54.86"W
L4	74.05	N31°02'42.45"W

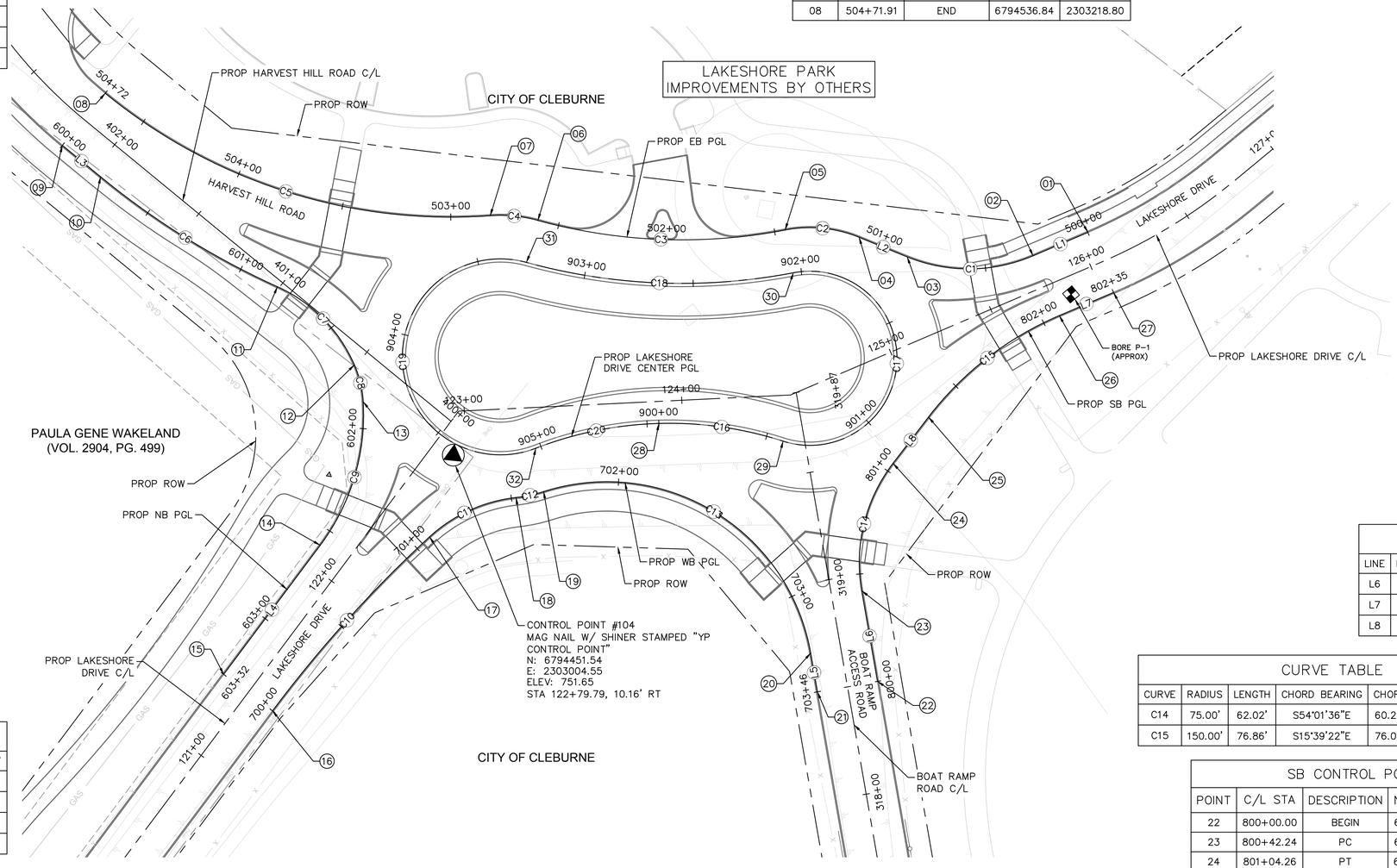
CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C6	364.00'	95.88'	S54°03'10"W	95.60'	15°05'30"	48.22'
C7	70.00'	51.52'	S67°35'28"W	50.36'	42°10'05"	26.99'
C8	50.00'	17.46'	N81°19'14"W	17.37'	20°00'32"	8.82'
C9	100.00'	70.29'	N51°10'50"W	68.85'	40°16'16"	36.67'

NB CONTROL POINTS				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
09	600+00.00	BEGIN	6794564.11	2303204.06
10	600+22.74	PC	6794553.29	2303184.06
11	601+18.62	PRC	6794497.17	2303106.66
12	601+70.14	PCC	6794477.97	2303060.10
13	601+87.60	PCC	6794480.59	2303042.93
14	602+57.88	PT	6794523.75	2302989.29
15	603+31.93	END	6794587.19	2302951.10

LINE TABLE		
LINE	LENGTH	BEARING
L1	27.38	N0°58'36.07"W
L2	23.85	N44°19'26.06"E

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C1	75.00'	59.30'	N21°40'25"E	57.77'	45°18'02"	31.30'
C2	60.00'	34.63'	N27°47'29"E	34.15'	33°03'55"	17.81'
C3	250.00'	114.60'	N24°23'29"E	113.60'	26°15'56"	58.33'
C4	65.00'	22.10'	N27°46'57"E	22.00'	19°28'59"	11.16'
C5	250.00'	190.06'	N39°49'11"E	185.51'	43°33'27"	99.89'

EB CONTROL POINTS				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
01	500+00.00	BEGIN	6794143.11	2302989.39
02	500+27.38	PC	6794170.48	2302988.92
03	500+86.67	PT	6794224.16	2303010.26
04	501+10.52	PC	6794241.22	2303026.92
05	501+45.15	PRC	6794271.43	2303042.84
06	502+59.75	PRC	6794374.89	2303089.75
07	502+81.85	PRC	6794394.35	2303100.01
08	504+71.91	END	6794536.84	2303218.80



LINE TABLE		
LINE	LENGTH	BEARING
L6	42.24	S77°43'03.65"E
L7	27.09	S0°58'36.07"E
L8	26.76	S30°20'08.63"E

LINE TABLE		
LINE	LENGTH	BEARING
L5	18.07	N77°43'03.65"W

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C14	75.00'	62.02'	S54°01'36"E	60.27'	47°22'55"	32.91'
C15	150.00'	76.86'	S15°39'22"E	76.02'	29°21'33"	39.29'

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C10	585.00'	107.78'	S25°46'01"E	107.63'	10°33'22"	54.04'
C11	70.00'	44.38'	S2°19'35"E	43.64'	36°19'30"	22.96'
C12	65.00'	12.99'	S10°06'33"W	12.97'	11°27'14"	6.52'
C13	95.00'	162.32'	S53°19'56"W	143.29'	97°54'01"	109.09'

SB CONTROL POINTS				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
22	800+00.00	BEGIN	6794310.37	2302834.85
23	800+42.24	PC	6794301.38	2302876.12
24	801+04.26	PT	6794265.98	2302924.90
25	801+31.02	PC	6794242.88	2302938.42
26	802+07.88	PT	6794169.68	2302958.93
27	802+34.97	END	6794142.60	2302959.39

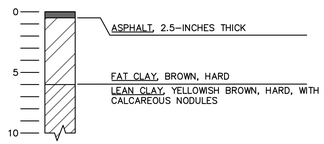
WB CONTROL POINTS				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
16	700+00.00	BEGIN	6794572.75	2302927.11
17	701+07.78	PC	6794475.83	2302973.90
18	701+52.16	PRC	6794432.22	2302975.67
19	701+65.15	PRC	6794419.45	2302973.39
20	703+27.48	PT	6794333.88	2302858.46
21	703+45.55	END	6794337.73	2302840.81

CENTER LAKESHORE CONTROL POINTS				
POINT	C/L STA	DESCRIPTION	NORTHING	EASTING
28	900+00.00	BEGIN/END	6794358.65	2302982.44
29	900+57.92	PRC	6794308.88	2302953.37
30	902+03.68	PRC	6794275.33	2303023.22
31	903+27.45	PRC	6794387.07	2303073.89
32	904+97.51	PRC	6794415.27	2302993.21

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C16	170.00'	57.92'	S30°17'13"W	57.64'	19°31'13"	29.24'
C17	40.00'	145.76'	S64°20'50"E	77.49'	208°47'19"	155.85'
C18	270.00'	123.77'	N24°23'29"E	122.69'	26°15'56"	62.99'
C19	45.00'	170.05'	N70°44'05"W	85.47'	216°31'03"	136.40'
C20	170.00'	57.92'	S10°46'00"W	57.64'	19°31'13"	29.24'

BORE LOGS

BORE LOG FOR P-1



GRAPHIC SCALE

30 0 15 30 60

ORIGINAL PLOTTED SCALE:
1 inch = 30 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 60 FT

Kimley»Horn

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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PROJECT CONTROL-
ENTRYWAY (SHEET
6 OF 6)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C0.13

Plotted By: 2026-04-16 18:10:22, Salinas, Rene
Last Saved: 2026-03-31 14:24:10 (SHEET 6 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\project control_rab.dwg

The Rios Group
7400 Sand St.
Fort Worth, TX 76118
(817)345-7500

Summary of Test Hole Information and Coordinates



Project Name: Lakeshore Dr
General Location: Lakeshore Drive in Cleburne, TX
Field Manager: CM
Technicians: JT, JP, AH
Client Name: Kimley-Horn
Vacuum Excavation Truck/Trailer: 1
TRG Proj. Number: KHA_2408.00
City/Town: Cleburne **County:** John **State:** TX
Designating Truck: 1

Test Hole #	Utility Size, O.D. (Inches)	Utility Material (Refer to Legend)	Utility Type (Refer to Legend)	Depth to Top of Utility (Feet)	Cross Sectional View	General Utility Direction	Surface Type and Thickness (Inches) (Refer to Legend)	ID'd By: 1:5/8"Iron Rod/Cap 2: Nail/Disk 3: 'X'in Conc.	Date Test Hole Excavated	Utility Observed (Yes or No)	Survey Point #	Northing (Y)	Easting (X)	Ground Elevation (Z)	Top of Utility Elevation	Test Hole Specific Notes/Locations/Etc
1	12	PVC	W	4.90	◯	↘↖	NG	Rod/Cap	3/26/2024	YES	2001	6790724.28	2303818.82	744.76	739.86	City of Cleburne
1A	24	RCCP	W	5.20	◯	↘↖	NG	Rod/Cap	3/26/2024	YES	2000	6790739.72	2303849.59	748.28	743.08	City of Cleburne Aquilla Pipeline.
2	8	STL	PL	3.80	◯	↗↙	NG	Rod/Cap	8/20/2024	YES	3014	6794534.47	2303077.86	756.65	752.85	Williams
3	8	STL	PL	3.78	◯	↗↙	NG	Rod/Cap	8/20/2024	YES	3013	6794508.28	2303022.17	753.10	749.32	Williams
4	8	STL	PL	5.06	◯	↘↖	NG	Rod/Cap	8/20/2024	YES	3012	6794563.99	2302985.29	752.01	746.95	Williams
5	8	STL	PL	3.58	◯	↘↖	NG	Rod/Cap	8/20/2024	YES	3011	6794855.01	2302819.07	748.83	745.25	Williams
6	8	STL	PL	2.86	◯	↘↖	NG	Rod/Cap	8/20/2024	YES	3010	6795298.22	2302544.18	762.60	759.74	Williams
7	8	STL	PL	2.76	◯	↘↖	NG	Rod/Cap	8/19/2024	YES	3009	6795722.17	2302289.76	777.58	774.82	Williams
8	8	STL	PL	3.46	◯	↘↖	NG	Rod/Cap	8/19/2024	YES	3008	6796094.03	2302068.83	791.73	788.27	Williams

Notes:

Utility Materials:		
STL - Steel	**PVC** - Polyvinyl Chloride	**CSC** - Concrete/Steel Cylinder
PE - Polyethylene	**DBC** - Direct Buried Cable	**CMP** - Corrugated Metal Pipe
AC - Transite	**RCP** - Reinforced Concrete Pipe	**RCCP** - Reinforced Concrete Cylinder Pipe
CI - Cast Iron	**VC** - Vitrified Clay	-
DI - Ductile Iron	**FG** - Fiberglass	-

Utility Types:		
E - Electric	**T** - Telephone	**TS** - Traffic Signal
G - Gas	**FOC** - Fiber Optic Cable	**FM** - Force Main
W - Water	**SAN** - Sanitary Sewer	-
PL - Product Line	**STM** - Storm Sewer	-
FL - Fuel Line	**CTV** - Cable Television	-

Surface Types:
A - Asphalt
B - Brick
C - Concrete
NG - Natural Ground
-

NOTE:
1. CONTRACTOR TO REFER TO C0.08–C0.13 FOR TEST HOLE LOCATIONS.

Prepared By: Rwalton Date: 8/26/2024
Checked by: Scudnoski Date: 8/26/2024
Sheet: 1 of 1

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

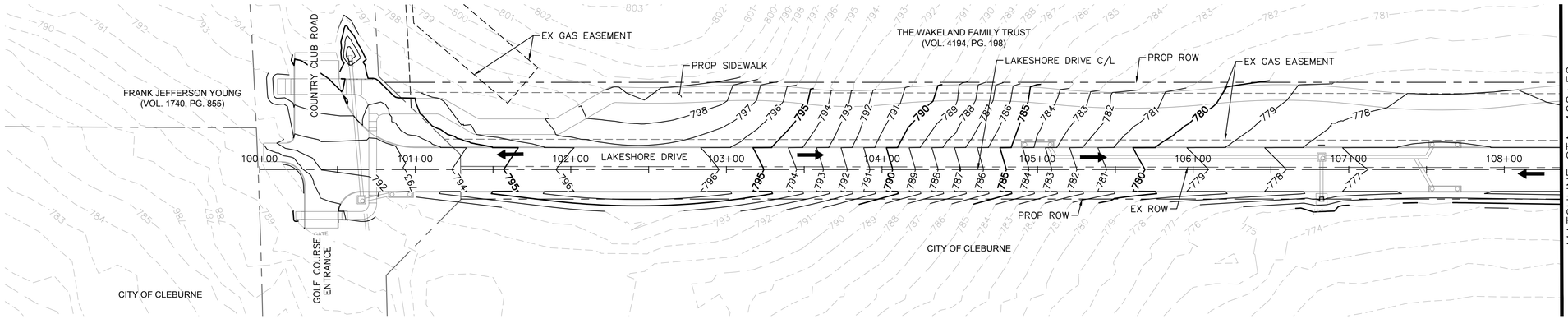
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

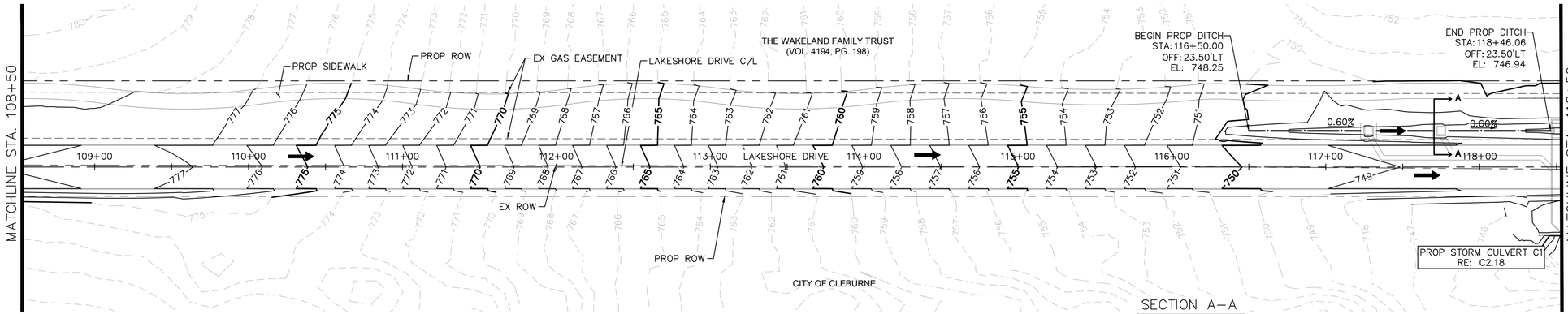
TEST HOLE INFORMATION

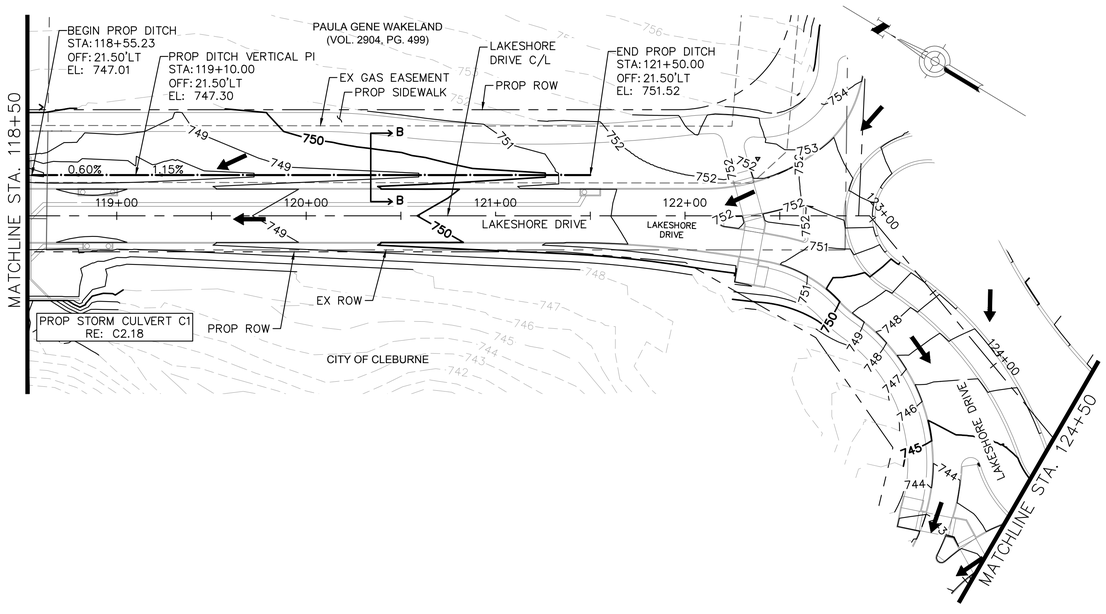
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C0.14

Plotted, By: 2026-04-16 18:10:24, Salinas, Rene
Last Saved: 2026-03-31 14:24:10 (TEST HOLE INFORMATION)
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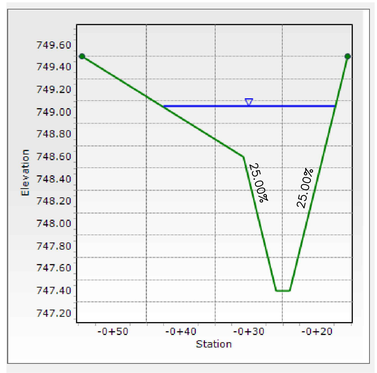






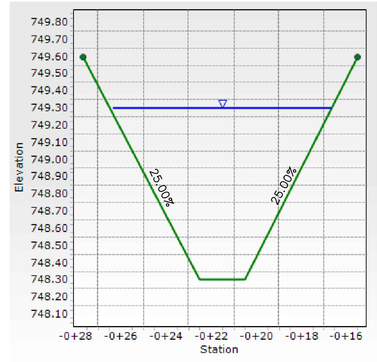
SECTION A–A

50–YEAR DEVELOPED FLOW
C=0.58
Q_{50} = 37.38 CFS
Q_{CAP} = 46.15 CFS
V_{50} = 3.33 FPS
DEPTH = 1.45 FT
MANNINGS = 0.03

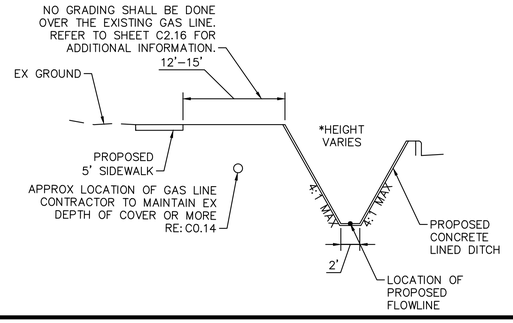


SECTION B–B

50–YEAR DEVELOPED FLOW
C=0.58
Q_{50} = 20.58 CFS
Q_{CAP} = 37.29 CFS
V_{50} = 3.67 FPS
DEPTH = 0.96 FT
MANNINGS = 0.03



TRAPEZOIDAL DITCH SECTION FOR SECTION A–A & B–B



GRAPHIC SCALE
40 0 20 40 80
ORIGINAL PLOTTED SCALE: 1 inch = 40 ft.
IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 80 FT

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801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

GRADING PLAN (SHEET 1 OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C1.01

Plotted By: 2026-04-16 18:16:02, Salinas, Rene
Last Saved: 2026-04-09 08:44:40 (SHEET 1 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\grading plan.dwg

MATCHLINE STA. 124+50

PROP DITCH HIGH POINT
STA: 127+43.16
OFF: 33.45'LT
EL: 744.31

ORUM ELWYN SEAY
(INST. NO. 2016-26638)

PROP SIDEWALK

END PROP DITCH
STA: 130+72.58
OFF: 33.50'LT
EL: 742.11

LAKESHORE DRIVE C/L

EX ROW

BEGIN PROP DITCH
STA: 132+35.00
OFF: 34.50'LT
EL: 743.70

PROP DRAINAGE EASEMENT

MATCHLINE STA. 134+50

PROP STORM CULVERT D1
RE: C2.21

BEGIN PROP DITCH
STA: 126+35.00
OFF: 33.44'LT
EL: 741.86

LAKESHORE PARK IMPROVEMENTS
BY OTHERS

LAKESHORE DRIVE

PROP ROW

GRAPHIC SCALE
40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 18.39 CFS
Q_{CAP} = 29.18 CFS
V_{50} = 3.07 FPS
DEPTH = 0.85 FT
MANNINGS = 0.03

MATCHLINE STA. 134+50

ORUM ELWYN SEAY
(INST. NO. 2016-26638)

PROP DRAINAGE EASEMENT

BLOCK 1
BYRNE ADDITION
(VOL. 10, PG. 726)

LAKESHORE DRIVE C/L

EX ROW

PROP SIDEWALK

SKYVIEW DRIVE

BLOCK 1
BYRNE ADDITION
(VOL. 10, PG. 726)

LOT 7, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

BEGIN PROP DITCH
STA: 141+00.00
OFF: 37.51'LT
EL: 741.13

LOT 6, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

REFER TO SHEETS C2.43 – C2.48
FOR CULVERT GRADING

PROP DITCH FLOWLINE
STA: 142+02.93
OFF: 37.51'LT
EL: 741.65

PROP DITCH FLOWLINE
STA: 143+07.10
OFF: 37.40'LT
EL: 742.07

LOT 5, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

END PROP DITCH
STA: 134+92.80
OFF: 34.50'LT
EL: 742.41

PROP ROW

PROP STORM CULVERT E1
RE: C2.27

LAKESHORE DRIVE

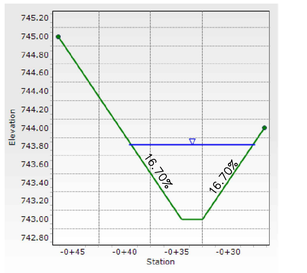
LAKESHORE PARK IMPROVEMENTS
BY OTHERS

PROP DITCH HIGH POINT
STA: 143+44.28
OFF: 35.67'LT
EL: 742.34

PROP DITCH FLOWLINE
STA: 144+05.80
OFF: 32.80'LT
EL: 741.46

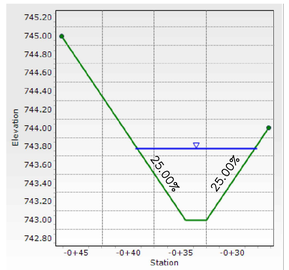
MATCHLINE STA. 144+50

SECTION C–C



50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 18.79 CFS
Q_{CAP} = 20.63 CFS
V_{50} = 2.38 FPS
DEPTH = 1.0 FT
MANNINGS = 0.03

SECTION E–E



50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 11.66 CFS
Q_{CAP} = 20.63 CFS
V_{50} = 2.11 FPS
DEPTH = 0.81 FT
MANNINGS = 0.03

LOT 1, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

BEGIN PROP DITCH
STA: 152+92.58
OFF: 32.50'LT
EL: 739.53

END PROP DITCH
STA: 152+79.42
OFF: 32.50'LT
EL: 739.62

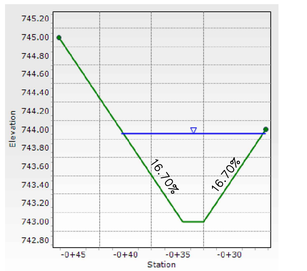
LOT 13, BLOCK 1
LAKESHORE ESTATES, SECTION 1
(VOL. 480, PG. 753)

END PROP DITCH
STA: 154+35.00
OFF: 32.50'LT
EL: 746.20

PROP DITCH FLOWLINE
STA: 153+77.09
OFF: 32.50'LT
EL: 739.95

MATCHLINE STA. 154+50

SECTION D–D



MATCHLINE STA. 144+50

LOT 4, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

PROP DITCH FLOWLINE
STA: 147+21.75
OFF: 30.29'LT
EL: 737.21

LOT 3, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

LOT 2, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)

REFER TO SHEETS C2.43 – C2.48
FOR CULVERT GRADING

EX ROW

PROP DITCH FLOWLINE
STA: 149+08.89
OFF: 32.52'LT
EL: 738.74

LAKESHORE DRIVE C/L

PROP SIDEWALK

END PROP DITCH
STA: 150+80.00
OFF: 32.50'LT
EL: 745.05

BEGIN PROP DITCH
STA: 151+45.00
OFF: 32.50'LT
EL: 745.30

PROP DITCH FLOWLINE
STA: 152+14.61
OFF: 32.57'LT
EL: 740.71

PROP DITCH FLOWLINE
STA: 153+12.76
OFF: 32.50'LT
EL: 739.63

PROP DITCH FLOWLINE
STA: 152+49.14
OFF: 32.50'LT
EL: 740.57

PROP DITCH FLOWLINE
STA: 146+52.59
OFF: 27.30'LT
EL: 739.00

PROP STORM CULVERT F1
RE: C2.27

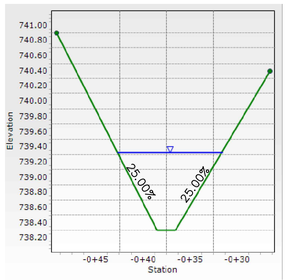
BEGIN PROP DITCH
STA: 147+93.58
OFF: 32.27'LT
EL: 737.70

PROP ROW

PROP DITCH FLOWLINE
STA: 149+55.67
OFF: 32.33'LT
EL: 739.91

LAKESHORE DRIVE

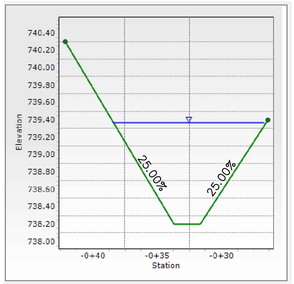
SECTION F–F



LAKESHORE PARK IMPROVEMENTS
BY OTHERS

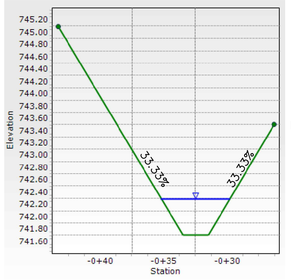
50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 24.52 CFS
Q_{CAP} = 131.44 CFS
V_{50} = 3.54 FPS
DEPTH = 1.05 FT
MANNINGS = 0.03

SECTION G–G

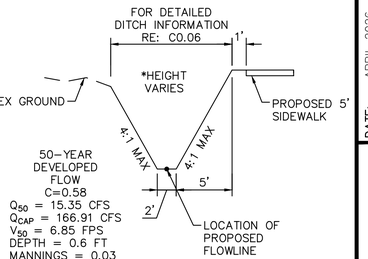


50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 34.72 CFS
Q_{CAP} = 35.02 CFS
V_{50} = 4.33 FPS
DEPTH = 1.25 FT
MANNINGS = 0.03

SECTION H–H



TRAPEZOIDAL
DITCH SECTION
FOR SECTION
C–C THROUGH H–H



50-YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 15.35 CFS
Q_{CAP} = 166.91 CFS
V_{50} = 6.85 FPS
DEPTH = 0.6 FT
MANNINGS = 0.03

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

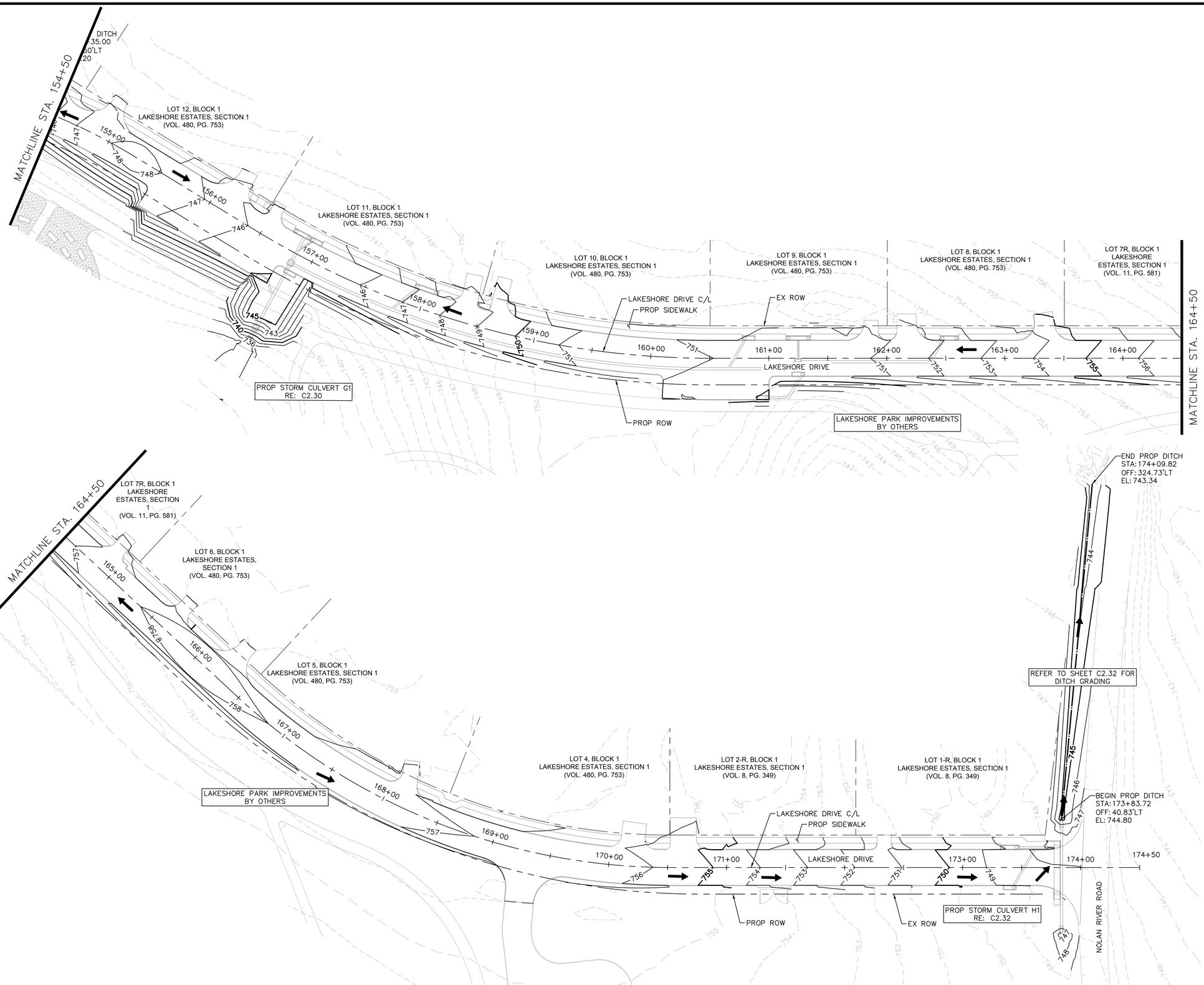
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

GRADING PLAN
(SHEET 2 OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C1.02

Plotted By: 2026-04-16 18:16:18, Salinas, Rene
Last Saved: 2026-04-09 08:44:40 (SHEET 2 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\grading plan.dwg



Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

GRADING PLAN (SHEET 3 OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.03

Plotted By: 2026-04-16 18:16:27, Salinas, Rene
Last Saved: 2026-04-09 08:44:40 (SHEET 3 OF 6)
Filename: k:\dfw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\grading plan.dwg

PROP DITCH VERTICAL PI
STA: 304+12.55
OFF: 20.50'LT
ELEV: 739.31

BEGIN PROP DITCH
STA: 303+75.00
OFF: 20.50'LT
ELEV: 740.07

CITY OF CLEBURNE

END PROP DITCH
STA: 304+61.19
OFF: 20.50'LT
ELEV: 738.87

BEGIN PROP DITCH
STA: 304+68.81
OFF: 20.50'LT
ELEV: 738.88

PROP DITCH HIGH POINT
STA: 307+21.74
OFF: 20.50'LT
ELEV: 740.06

MATCHLINE STA. 311+00

LAKESHORE PARK IMPROVEMENTS BY OTHERS

PROP STORM CULVERT I1
RE: C2.33

PROP STORM CULVERT I2
RE: C2.35

CITY OF CLEBURNE

BOAT RAMP ACCESS ROAD

MATCHLINE STA. 311+00

TRIANGULAR DITCH SECTION
J–J & K–K

*HEIGHT VARIES

EX GROUND

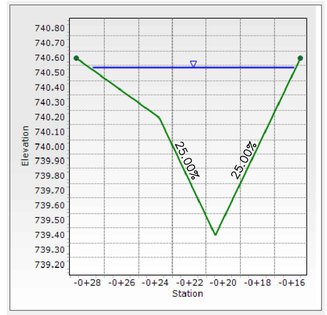
4:1 MAX

4:1 MAX

PROP CURB

LOCATION OF PROPOSED FLOWLINE

SECTION J–J



50–YEAR DEVELOPED FLOW
C=0.58
Q_{50} = 12.68 CFS
Q_{CAP} = 12.68 CFS
V_{50} = 2.06 FPS
DEPTH = 0.92 FT
MANNINGS = 0.03

CITY OF CLEBURNE

END PROP DITCH
STA: 313+96.15
OFF: 20.50'LT
ELEV: 735.77

BEGIN PROP DITCH
STA: 314+03.85
OFF: 20.50'LT
ELEV: 735.79

END PROP DITCH
STA: 315+25.00
OFF: 20.50'LT
ELEV: 736.37

BOAT RAMP ACCESS ROAD

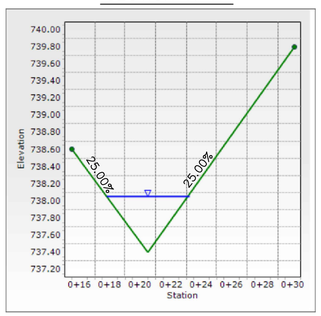
LAKESHORE DRIVE

PROP STORM CULVERT I3
RE: C2.35

CITY OF CLEBURNE

PROP STORM CULVERT I4
RE: C2.36

SECTION K–K



50–YEAR DEVELOPED FLOW
C=0.58
Q_{50} = 11.06 CFS
Q_{CAP} = 54.16 CFS
V_{50} = 6.02 FPS
DEPTH = 0.68 FT
MANNINGS = 0.03

GRAPHIC SCALE
40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
1406647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

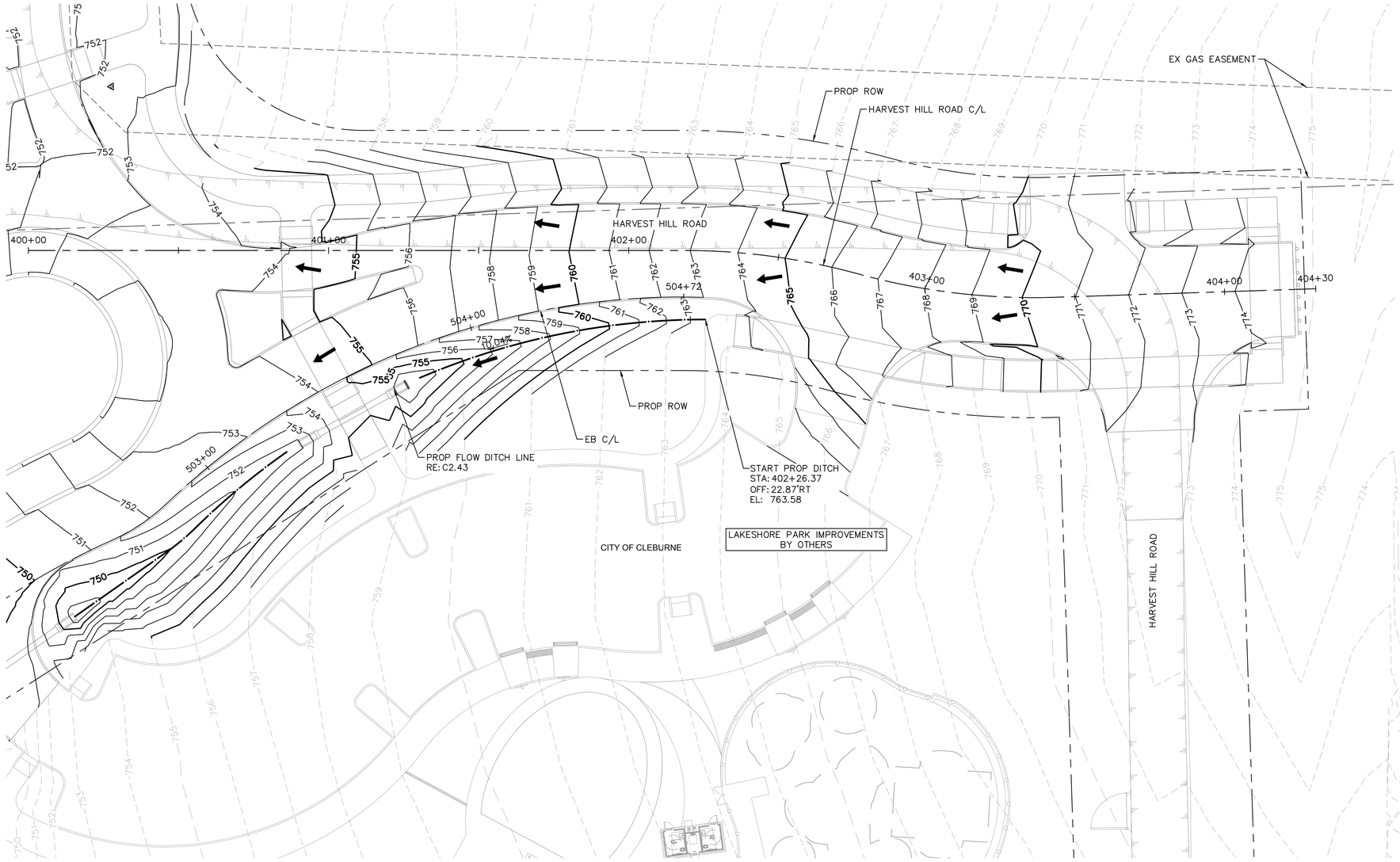
CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

GRADING PLAN (SHEET 4 OF 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.04

Plotted, By: 2026-04-16 18:16:37, Salinas, Rene
Last Saved: 2026-04-09 08:44:40 (SHEET 4 OF 6)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\grading plan.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

GRADING PLAN (SHEET 5 OF 5)

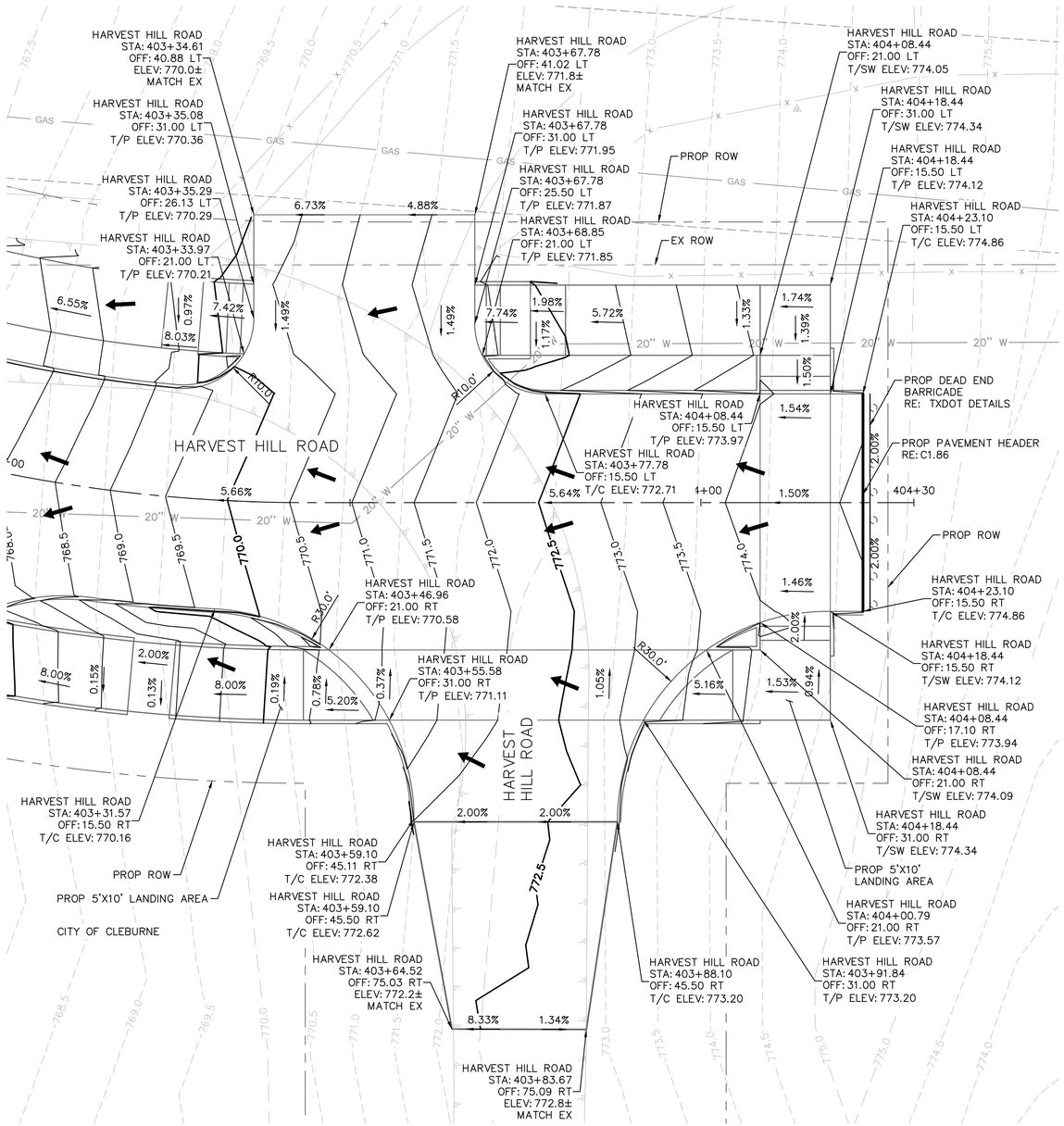
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DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

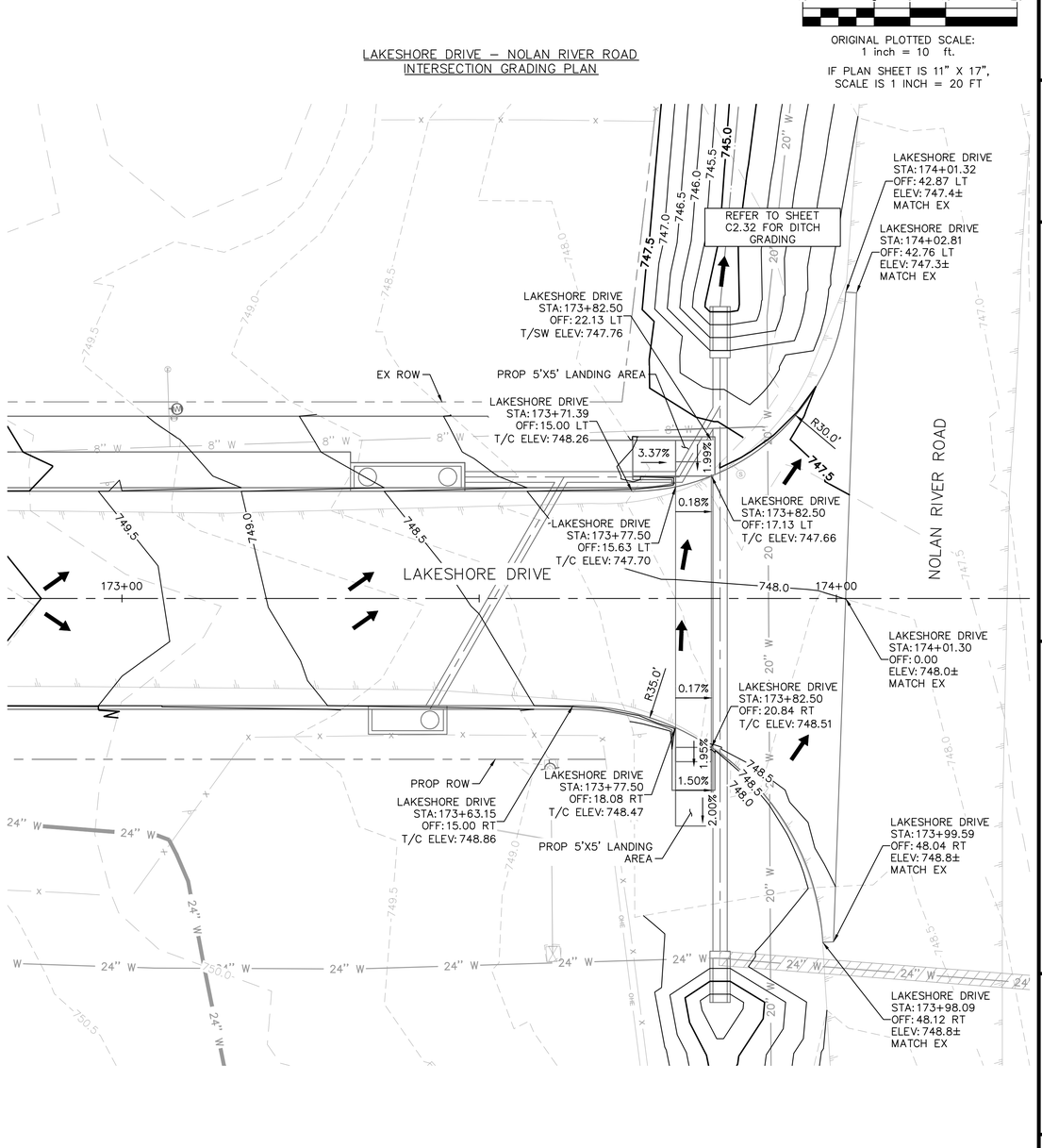
C1.05

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Last Saved: 2026-04-09 08:44:40 (SHEET 5 OF 6)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\grading plan.dwg

HARVEST HILL ROAD – FUTURE DEVELOPMENT INTERSECTION GRADING PLAN



LAKESHORE DRIVE – NOLAN RIVER ROAD INTERSECTION GRADING PLAN



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

GRAPHIC SCALE
10 0 5 10 20
ORIGINAL PLOTTED SCALE: 1 inch = 10 ft.
IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 20 FT

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

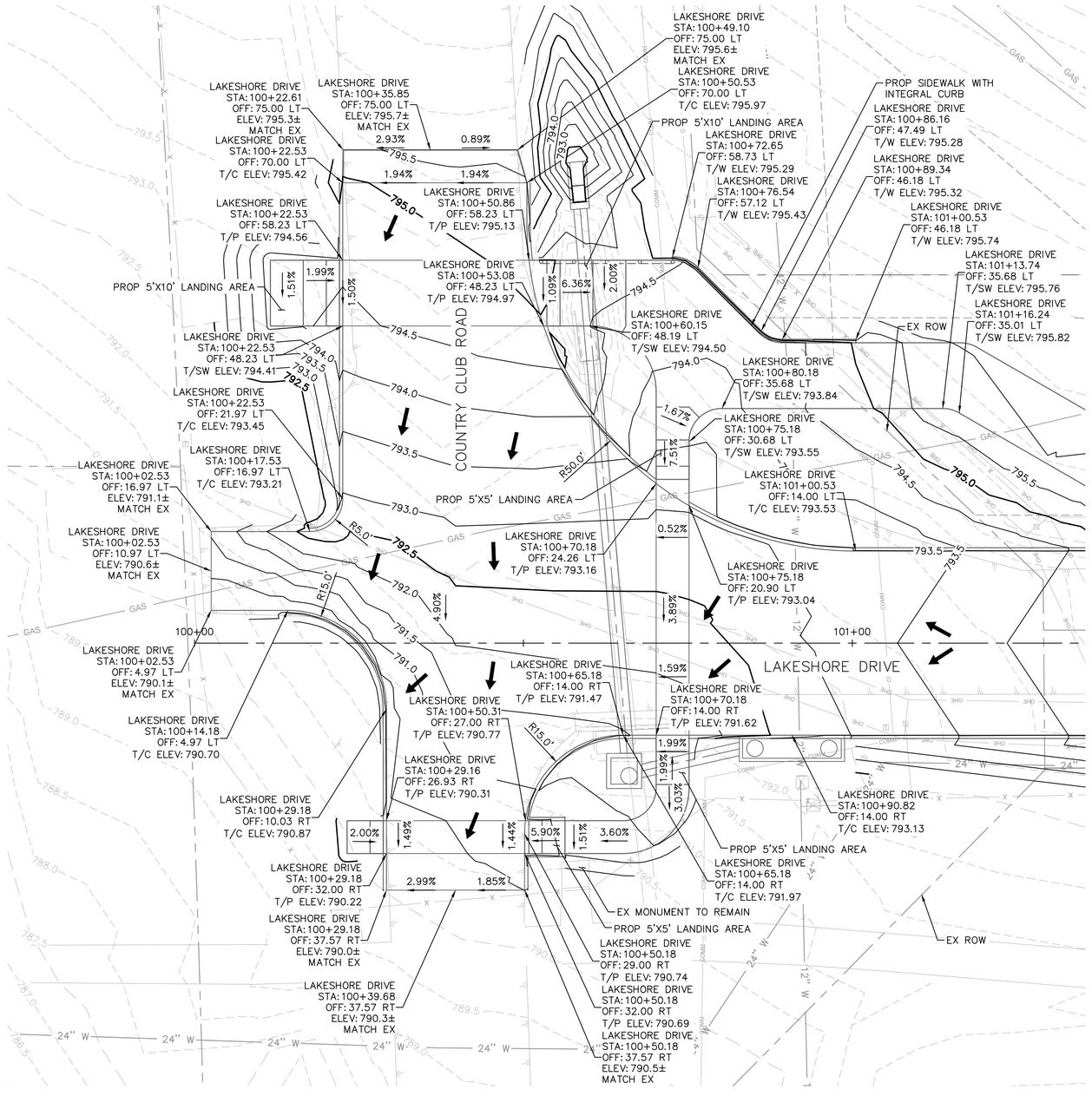
NOLAN RIVER ROAD AND HARVEST HILL ROAD INTERSECTION GRADING PLAN

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C1.06

Plotted, By: 2026-04-16 18:17:34, Salinas, Rene
Last Saved: 2026-04-09 08:45:49 (SHEET 1 OF 2)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\intersection grading.dwg

LAKESHORE DRIVE – COUNTRY CLUB
INTERSECTION GRADING PLAN



GRAPHIC SCALE

10 0 5 10 20

ORIGINAL PLOTTED SCALE:
1 inch = 10 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 20 FT

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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
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140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

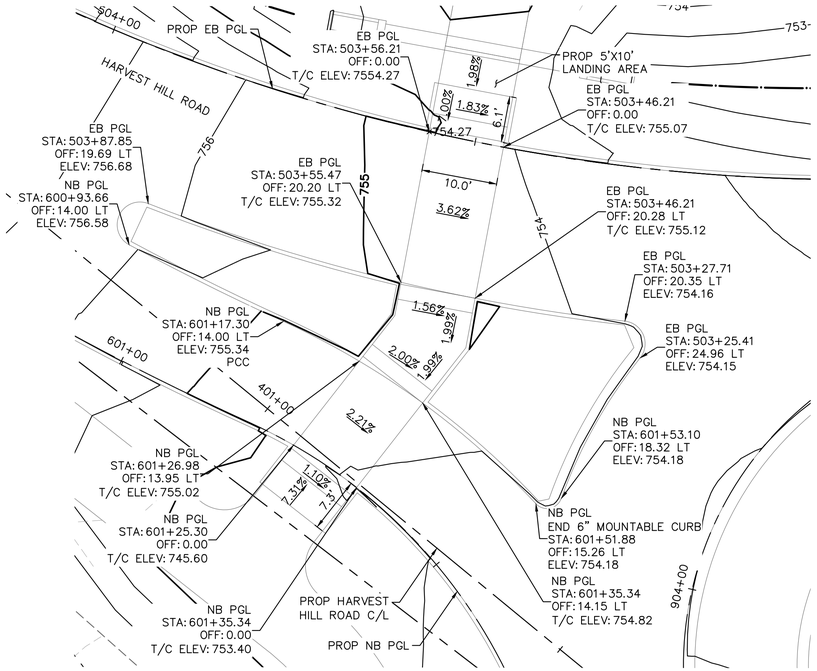
COUNTRY CLUB
ROAD INTERSECTION
GRADING PLAN

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.07

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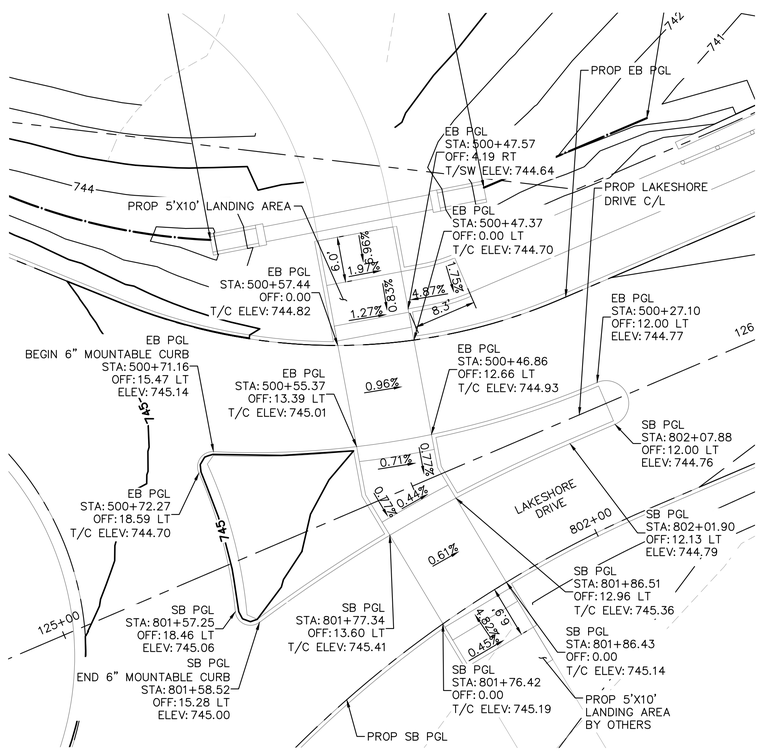


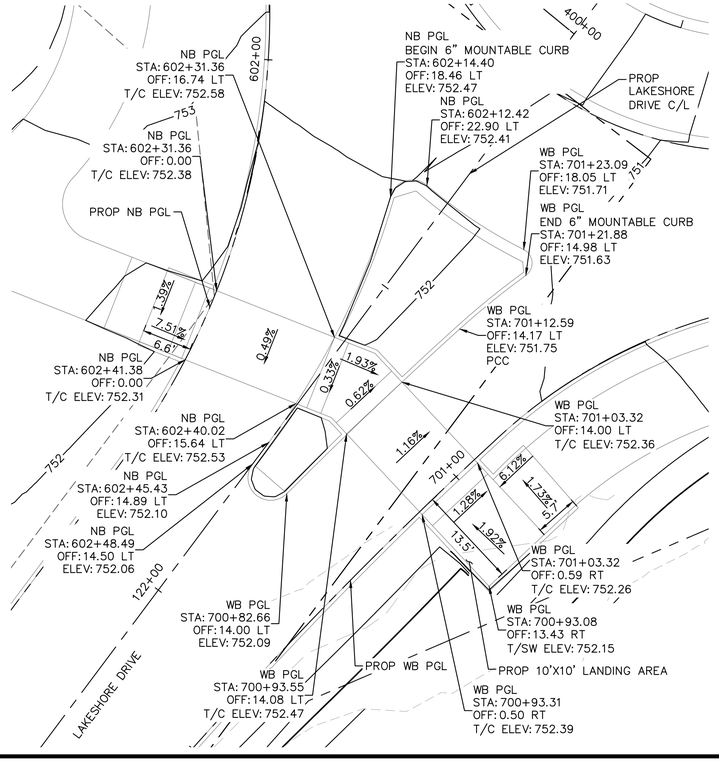
GRAPHIC SCALE

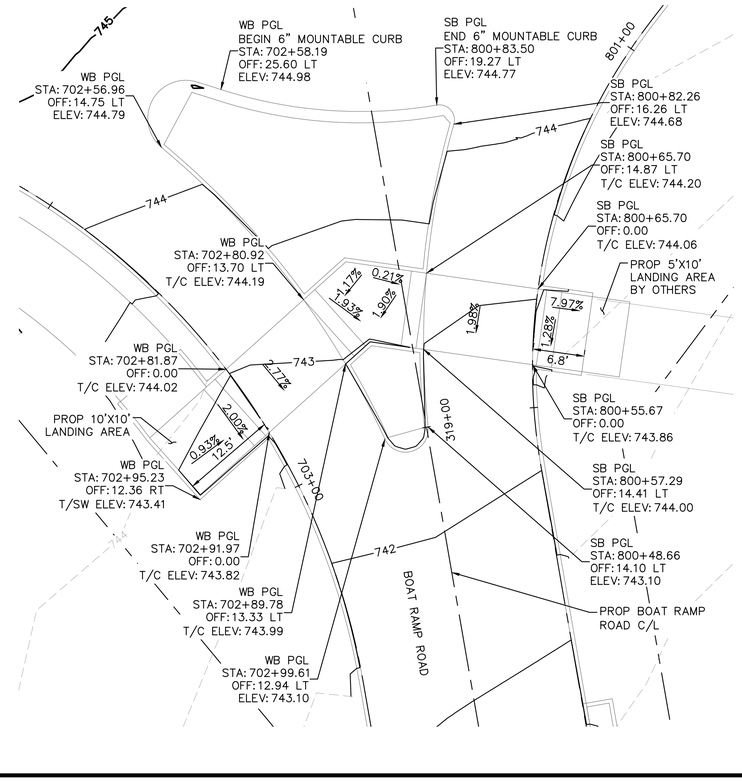
40 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 10 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 20 FT







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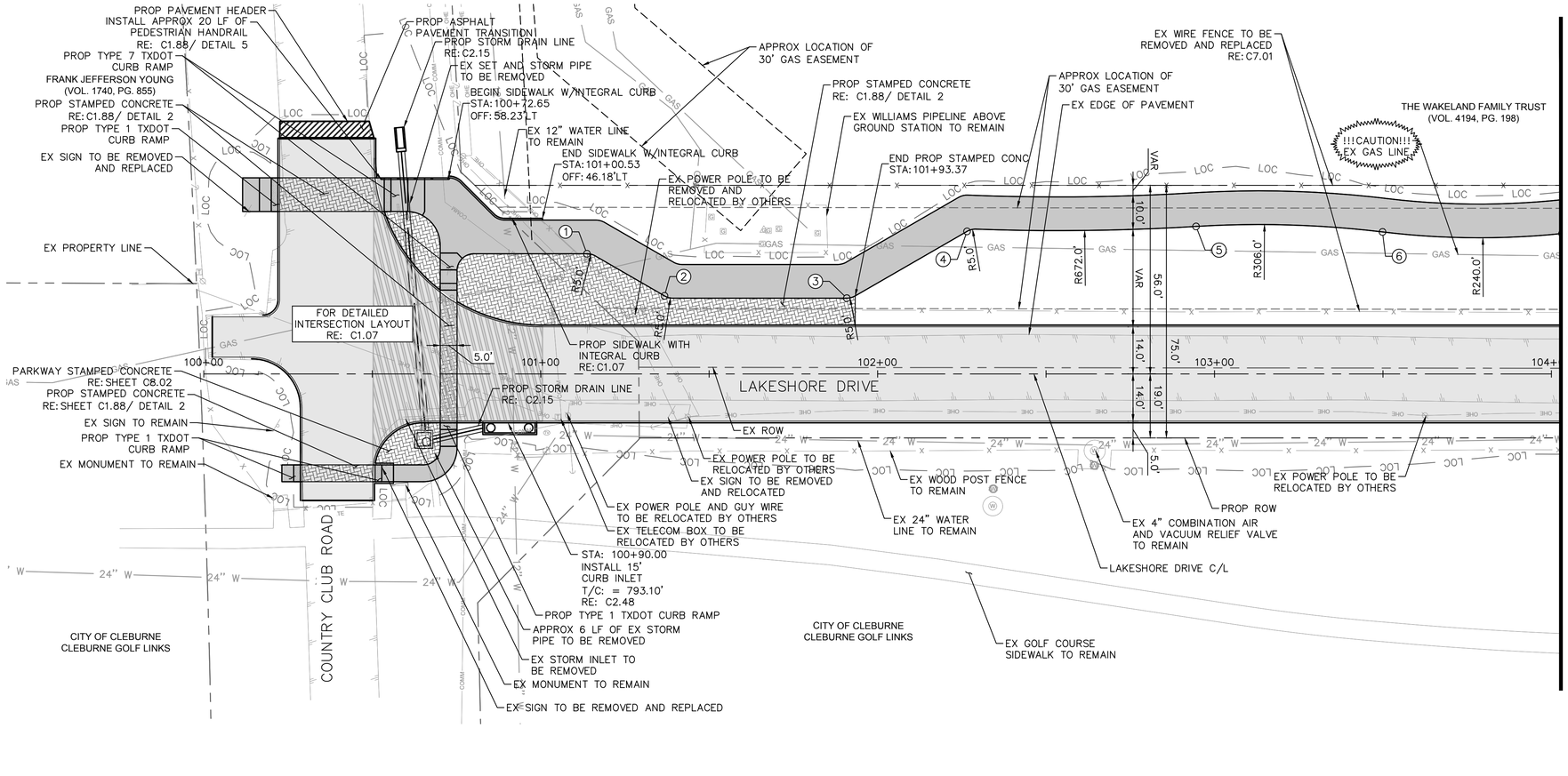
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

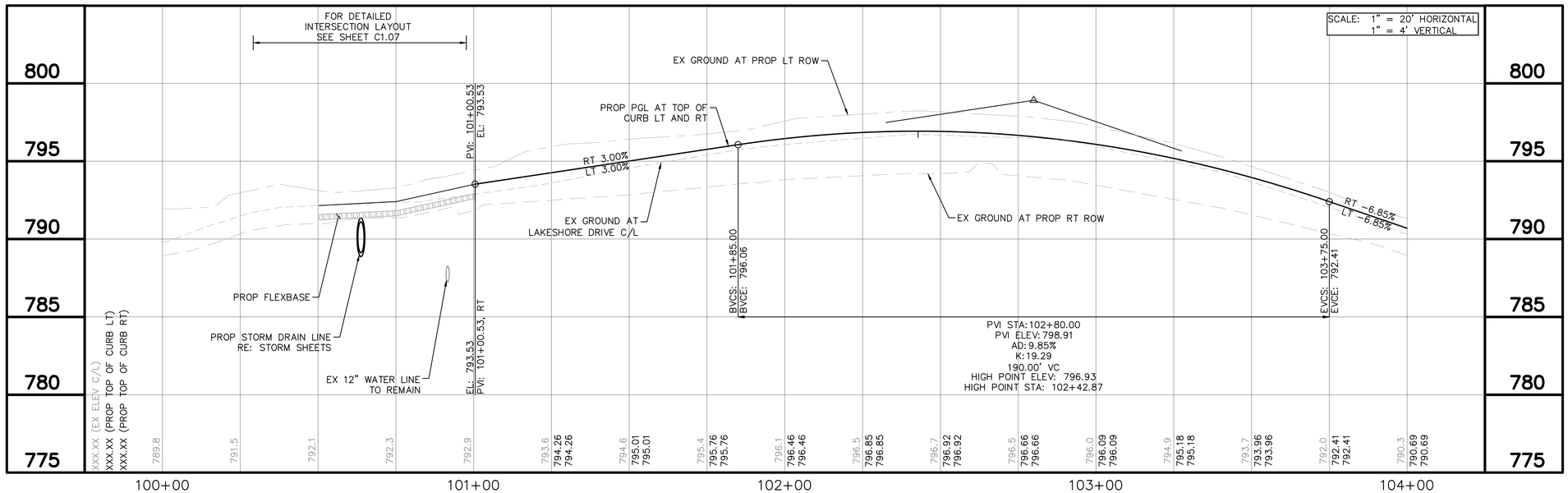
DETAILED ENTRYWAY
SIDEWALK GRADING PLAN

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.08

Plotted By: 2026-04-16 18:18:28, Salinas, Rene
Last Saved: 2026-04-09 10:10:51 (SHEET 6 OF 6 (2))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\contours plan.dwg





POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
1	101+13.74	35.68' LT	TS–PI	795.76
2	101+36.75	23.17' LT	TS–PI	795.94
3	101+90.87	22.50' LT	TS–PI	797.03
4	102+26.54	42.33' LT	TS–PI	798.76
5	102+94.52	43.80' LT	TS–PRC	798.20
6	103+49.86	42.16' LT	TS–PRC	795.15

GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

NOTES:

1. ALL REMOVALS WITHIN THE LOC LIMITS SHALL BE PAID FOR UNDER GENERAL PREPARATION. ITEMS BEYOND LOC LIMITS SHALL BE REMOVED BY OTHERS
2. CONTRACTOR TO LOCATE BOTH 24" WATERLINES AND PROTECT. THE INTENT OF THE DESIGN IS TO AVOID IMPACTS/CONFLICTS WITH THE WATERLINES. NOTIFY ENGINEER IF IN CONFLICT.
3. CONTRACTOR TO REFER TO HARDSCAPE PLAN SHEET C8.01 FOR LIMITS, COLOR, AND PATTERNS OF CONCRETE WITHIN THE PROJECT.
4. CONTRACTOR TO USE FLEXBASE INSTEAD OF LIME IN AREAS WHERE THE STORM LINE IS WITHIN THE SUBGRADE.

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04/10/2026

STATE OF TEXAS
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140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

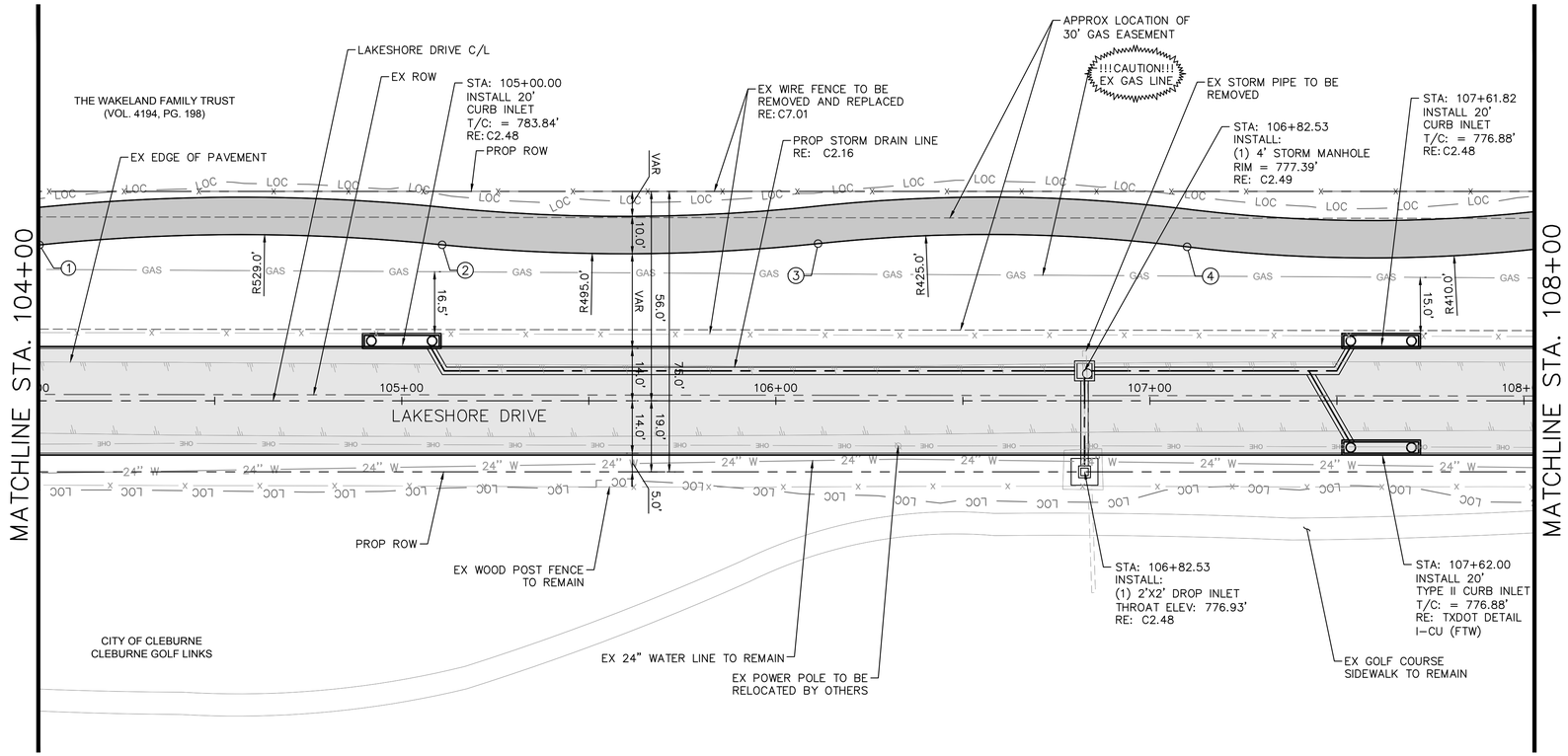
PAVING PLAN & PROFILE
LAKESHORE DRIVE - BEGIN TO STA 104+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.09

Plotted, By: 2026-04-16 18:19:25, Salinas, Rene
Last Saved: 2026-04-09 10:09:04 (Layout1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p begin to 216+00.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

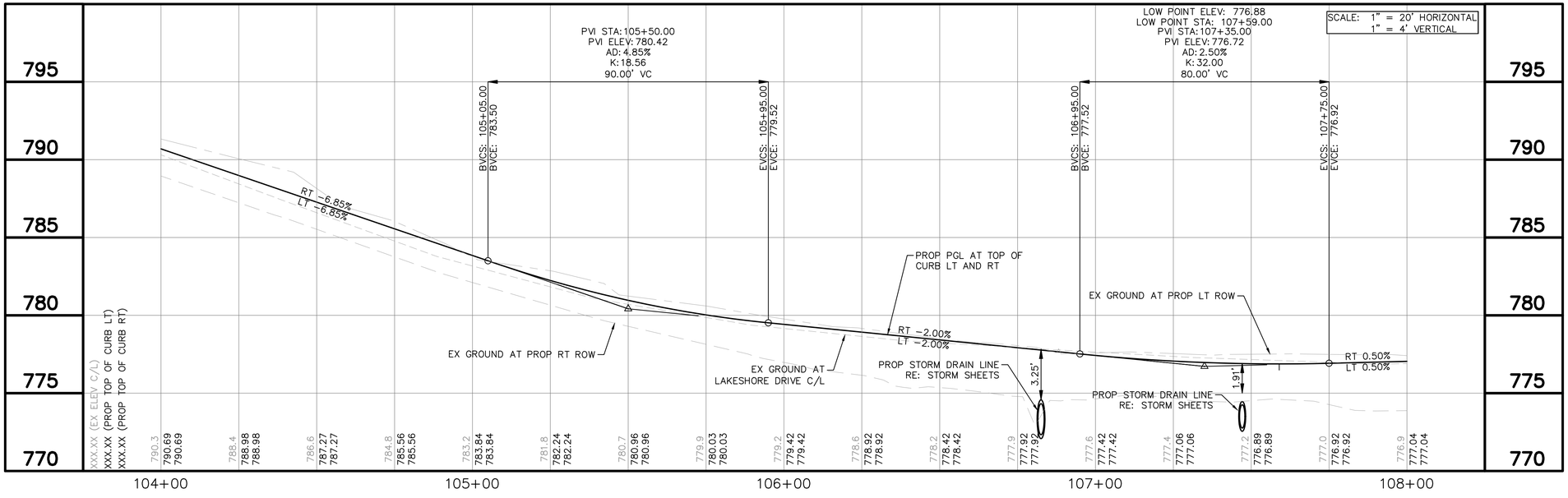
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
1	104+03.14	41.68' LT	TS-PRC	791.41
2	105+10.80	41.72' LT	TS-PRC	784.01
3	106+11.29	42.03' LT	TS-PRC	780.09
4	107+09.95	41.18' LT	TS-PRC	778.17

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LICENSED PROFESSIONAL ENGINEER
04/10/2026

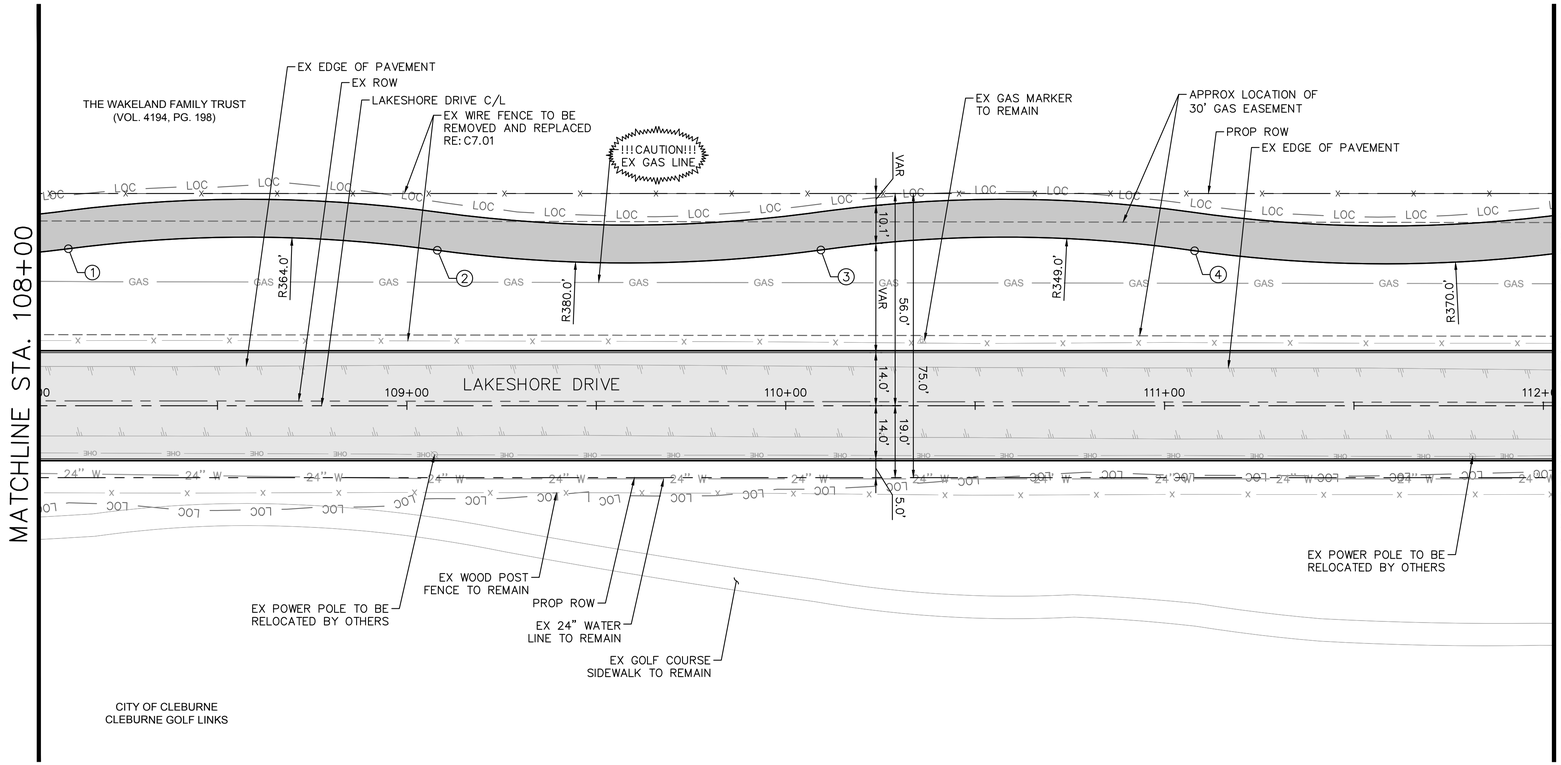
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

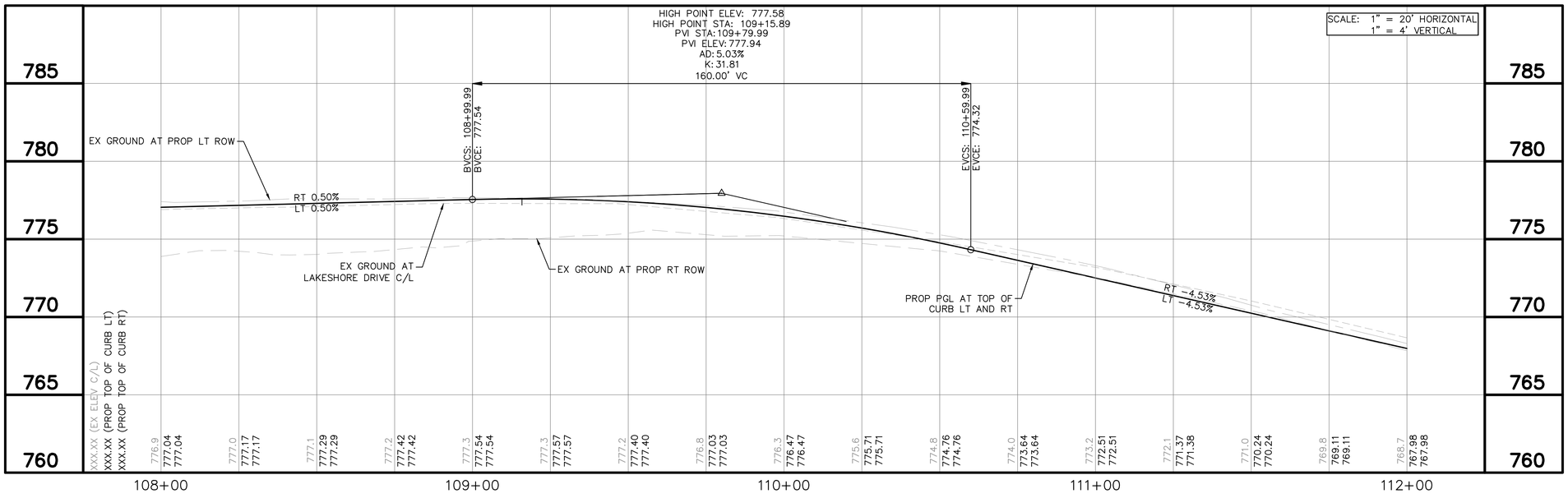
PAVING PLAN & PROFILE
LAKESHORE DRIVE - STA 104+00 TO STA 108+00

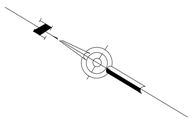
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CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.10

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Last Saved: 2026-04-09 10:09:04 (Layout1 (2))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving p&p begin to 216+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
1	108+10.64	41.43' LT	TS–PRC	777.87
2	109+08.04	41.02' LT	TS–PRC	778.01
3	110+09.27	41.09' LT	TS–PRC	776.69
4	111+07.94	40.89' LT	TS–PRC	773.05

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LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

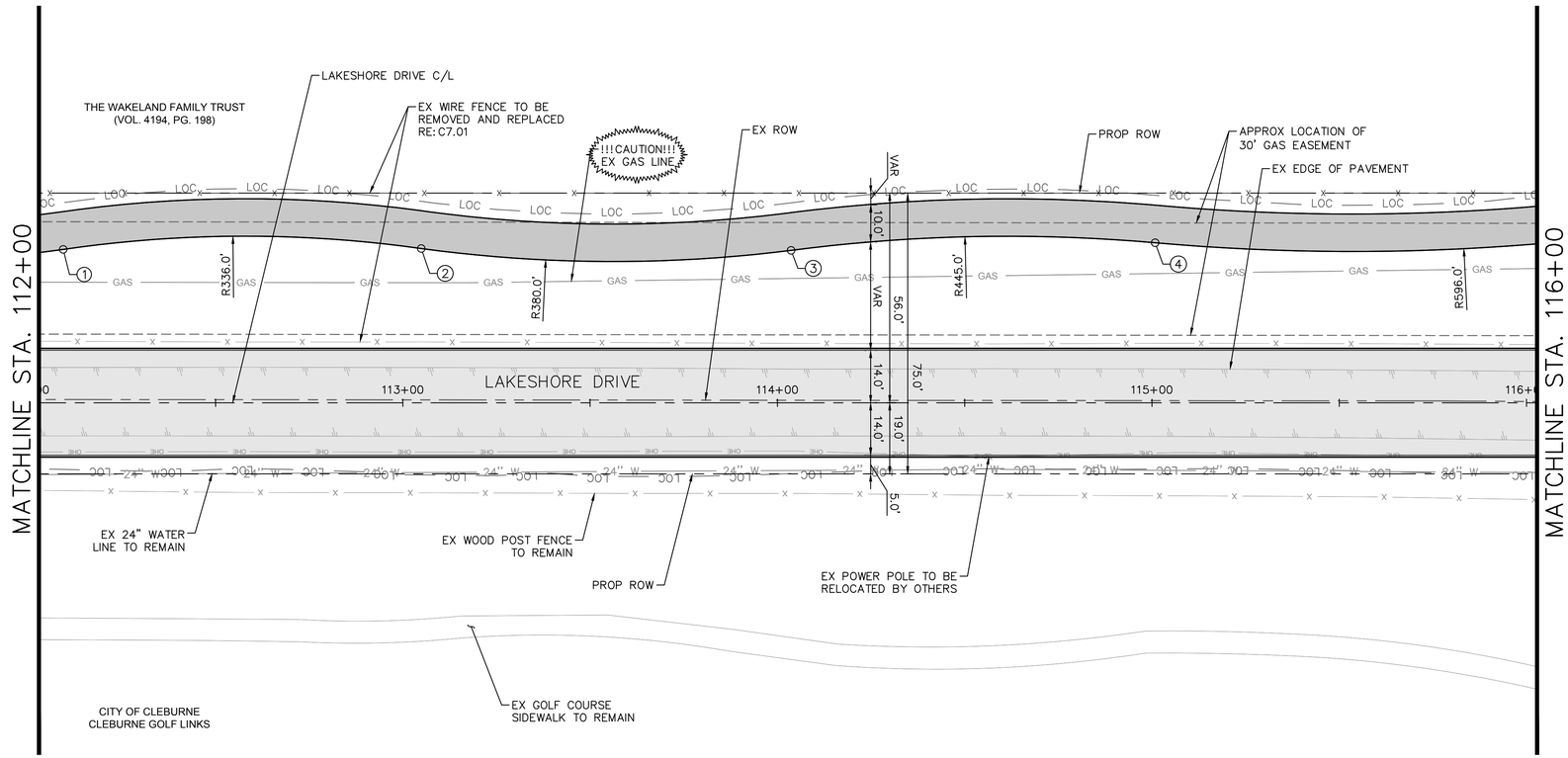
PAVING PLAN & PROFILE
LAKESHORE DRIVE - STA 108+00 TO STA 112+000

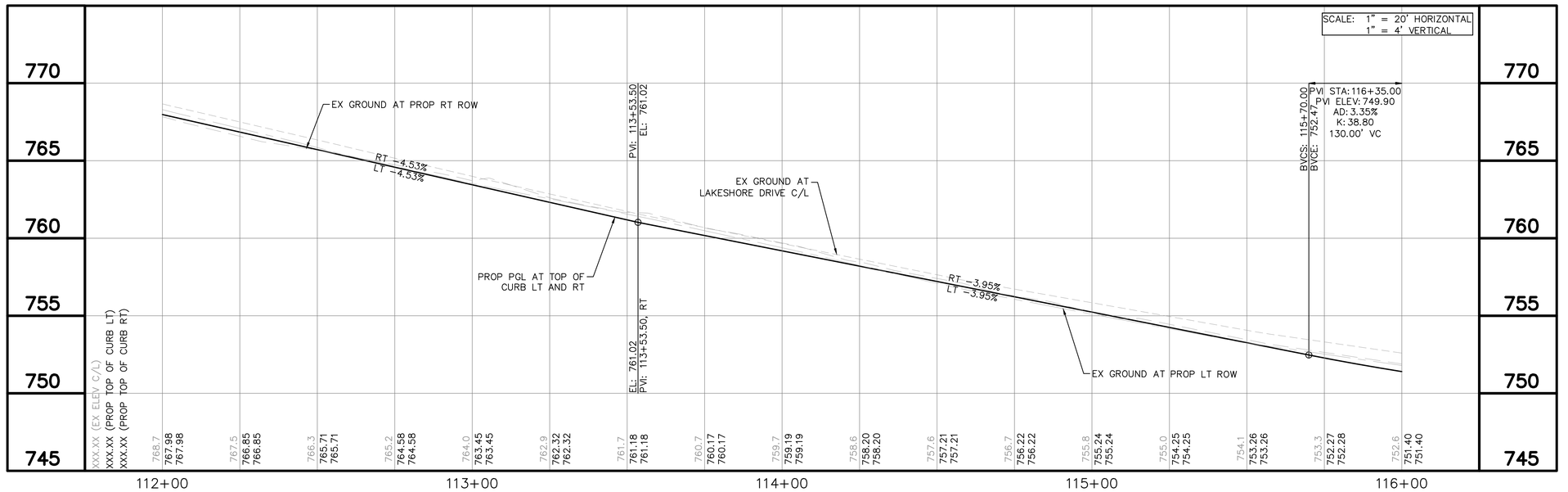
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DESIGN: IL
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KHA NO.: 061165022

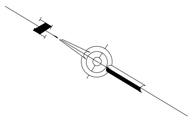
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GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
1	112+09.32	40.97' LT	TS–PRC	767.87
2	113+04.92	41.20' LT	TS–PRC	763.33
3	114+03.67	40.71' LT	TS–PRC	759.20
4	115+00.85	42.74' LT	TS–PRC	755.05

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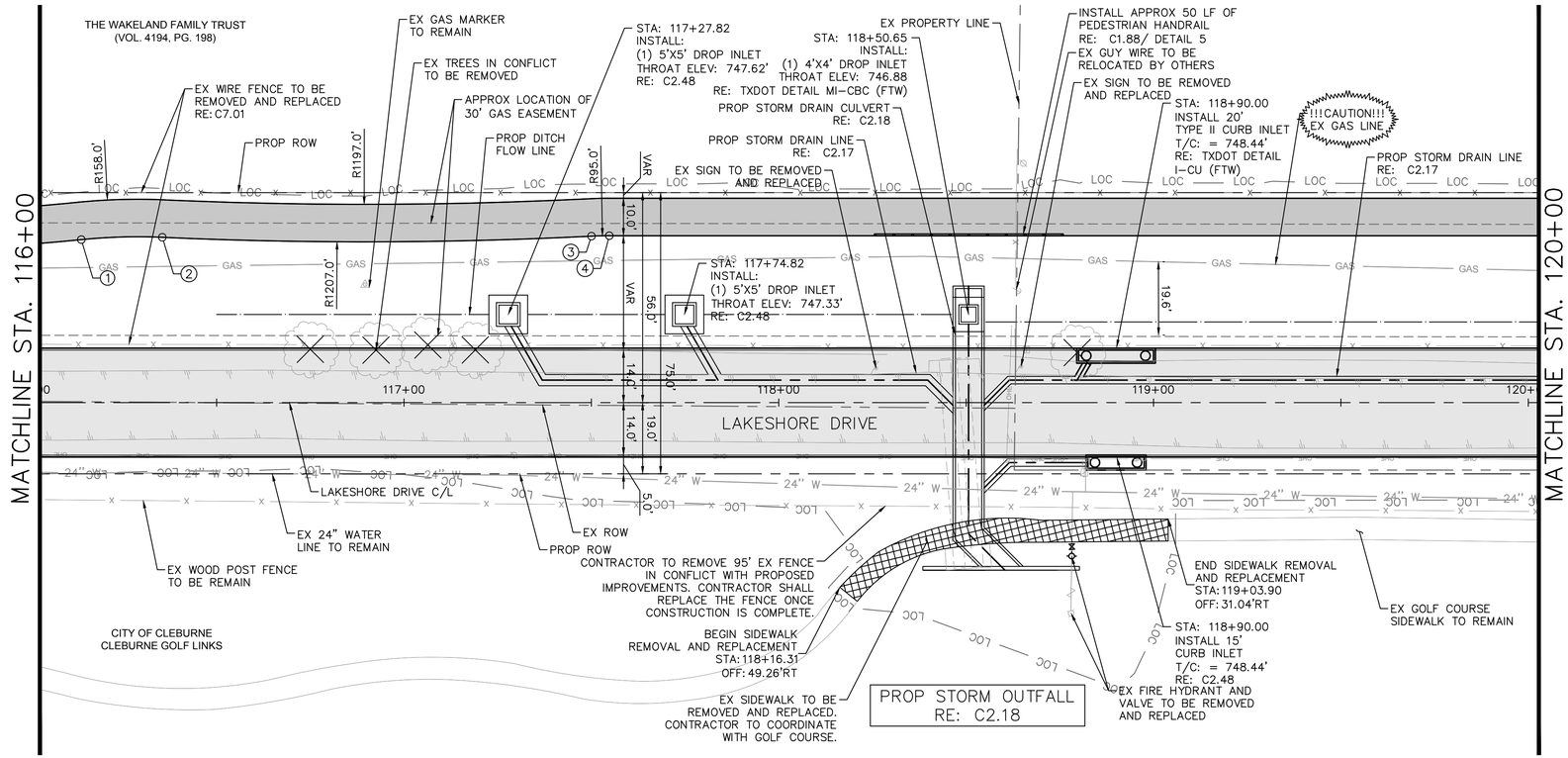
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

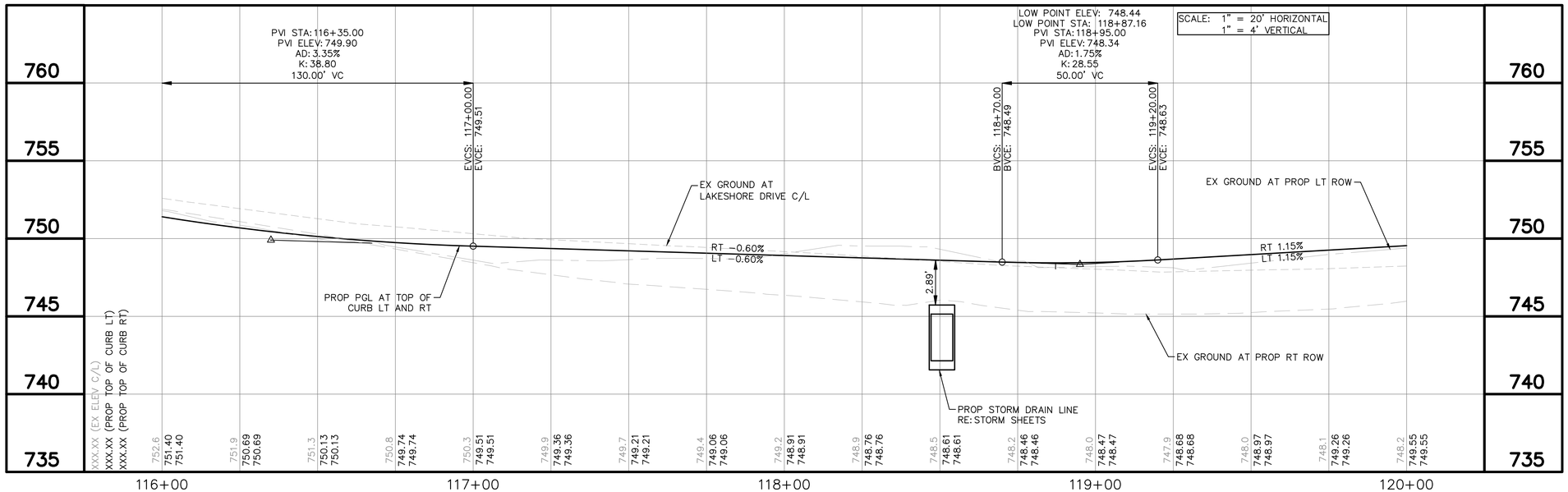
PAVING PLAN & PROFILE
LAKESHORE DRIVE - STA 112+00 TO STA 116+00

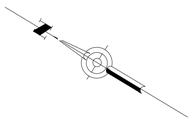
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CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.12

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Last Saved: 2026-04-09 10:09:04 (Layout1 (4))
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Filename: dr\cadd\sheets\paving p&p begin to 216+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
1	116+13.89	43.47' LT	TS-PRC	751.18
2	116+35.51	44.08' LT	TS-PRC	750.37
3	117+50.03	44.38' LT	TS-PRC	749.47
4	117+54.79	44.50' LT	TS-PT	749.48

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

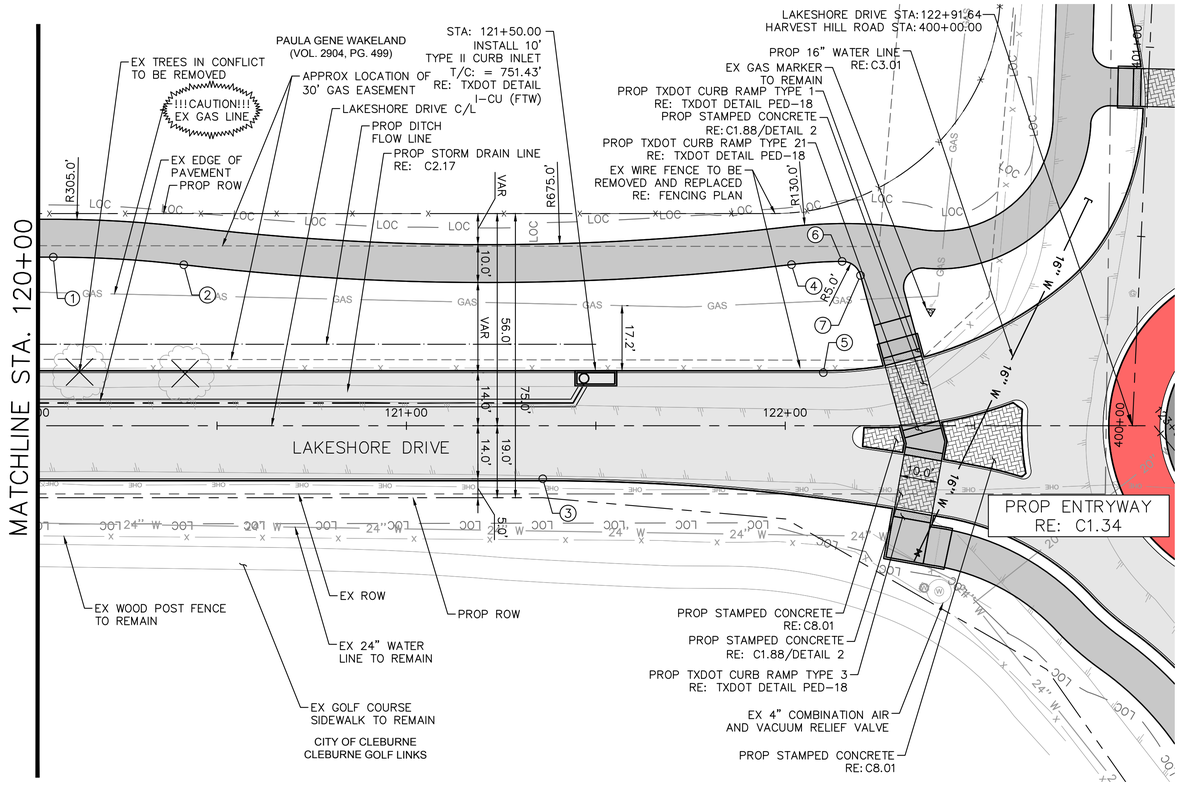
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 116+00 TO STA 120+00

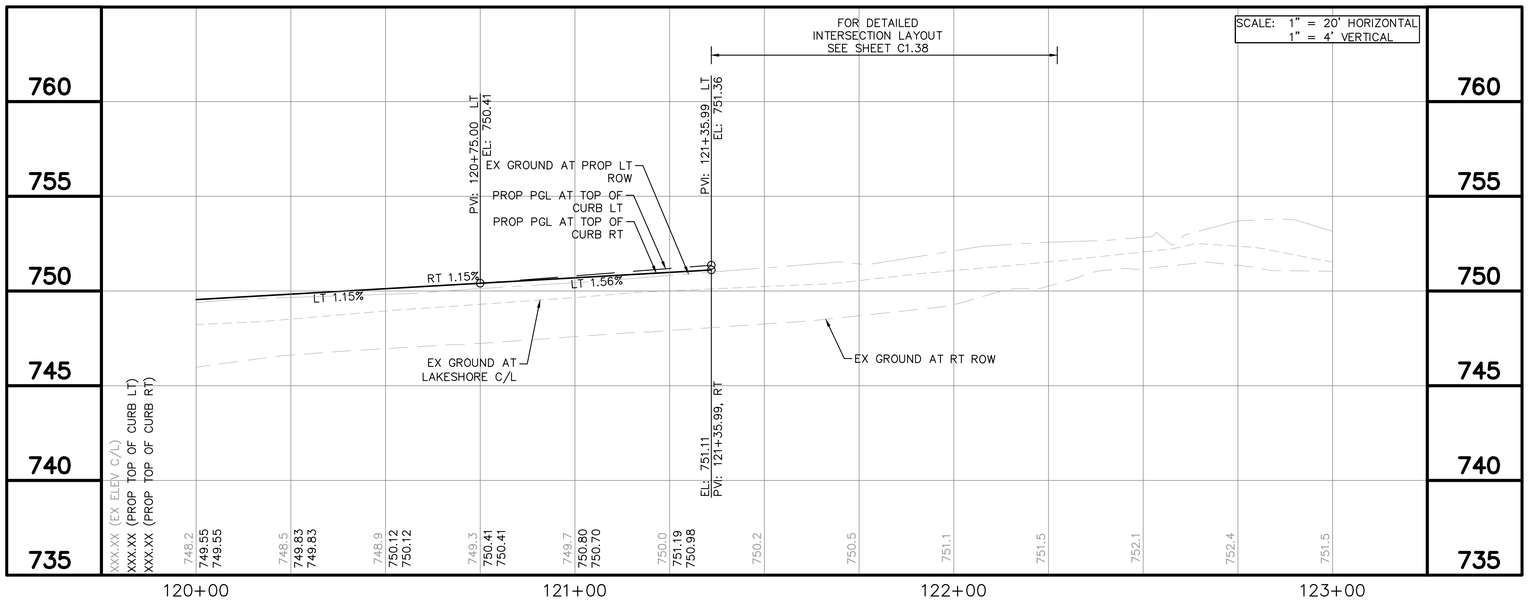
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DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

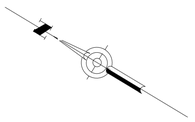
SHEET NUMBER

C1.13

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Last Saved: 2026-04-10 10:45:16 (Layout1 (2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p 216+00 to end.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP TRUCK APRON
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
1	120+06.78	44.50' LT	TS-PC	750.24
2	120+41.23	42.48' LT	TS-PRC	750.41
3	121+35.99	14.00' RT	TC-PC	751.11
4	122+01.64	42.53' LT	TC-PRC	752.25
5	122+10.04	14.00' LT	TC-PC	751.73
6	122+15.01	43.36' LT	TS-PCC	752.34
7	122+19.87	39.67' LT	TS-PT	752.29

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

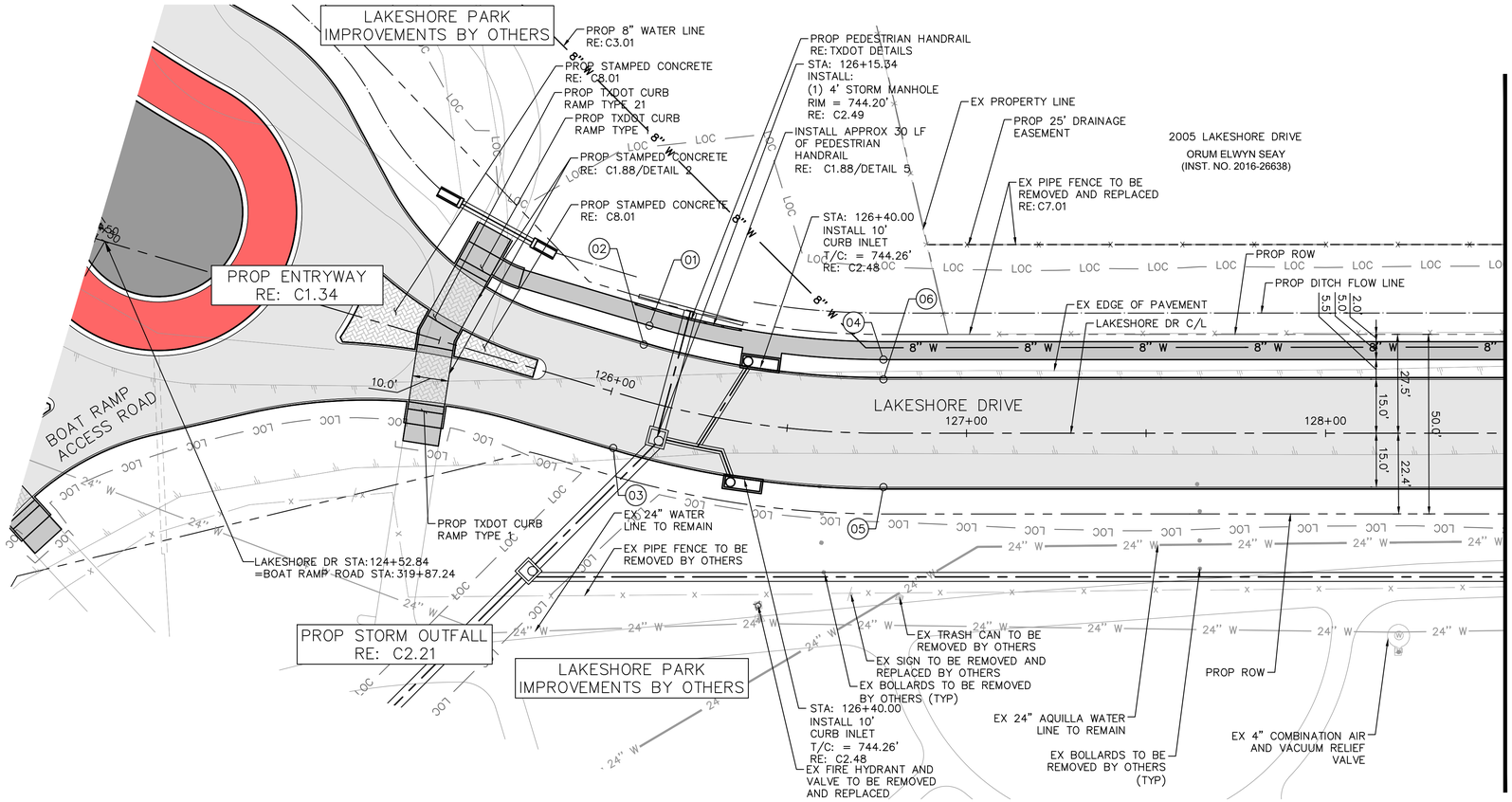
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 120+00 TO STA 123+00

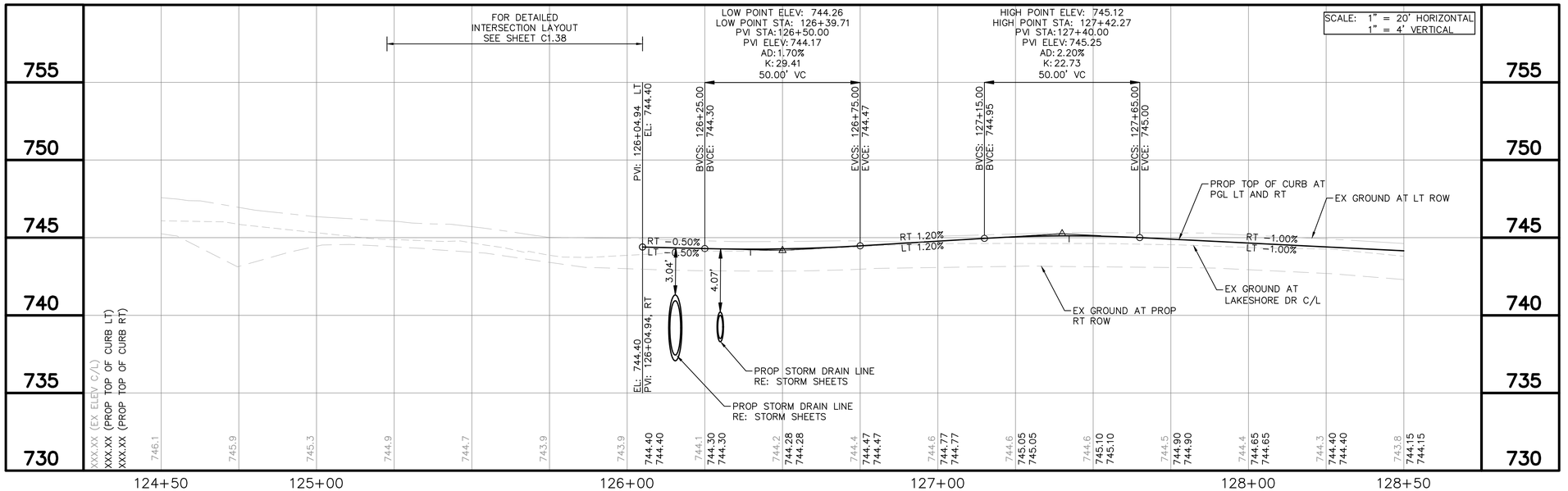
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.14

Plotted, By: 2026-04-16 18:21:33, Salinas, Rene
Last Saved: 2026-04-10 10:45:16 (Layout1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p 216+00 to end.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP TRUCK APRON
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

NOTES:

1. ALL REMOVALS WITHIN THE LOC LIMITS SHALL BE PAID FOR UNDER GENERAL PREPARATION. ITEMS BEYOND LOC LIMITS SHALL BE REMOVED BY OTHERS
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4. CONTRACTOR TO USE FLEXBASE INSTEAD OF LIME IN AREAS WHERE THE STORM LINE IS WITHIN THE SUBGRADE.

POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	126+04.89	20.50' LT	TS–PT	744.50
02	126+04.89	15.00' LT	TC–PC	744.40
03	126+04.89	15.00' RT	TC–PC	744.40
04	126+76.86	20.50' LT	TS–PC	744.60
05	126+76.86	15.00' LT	TC–PT	744.50
06	126+76.86	15.00' LT	TC–PT	744.50

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	By	Date	Revision

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

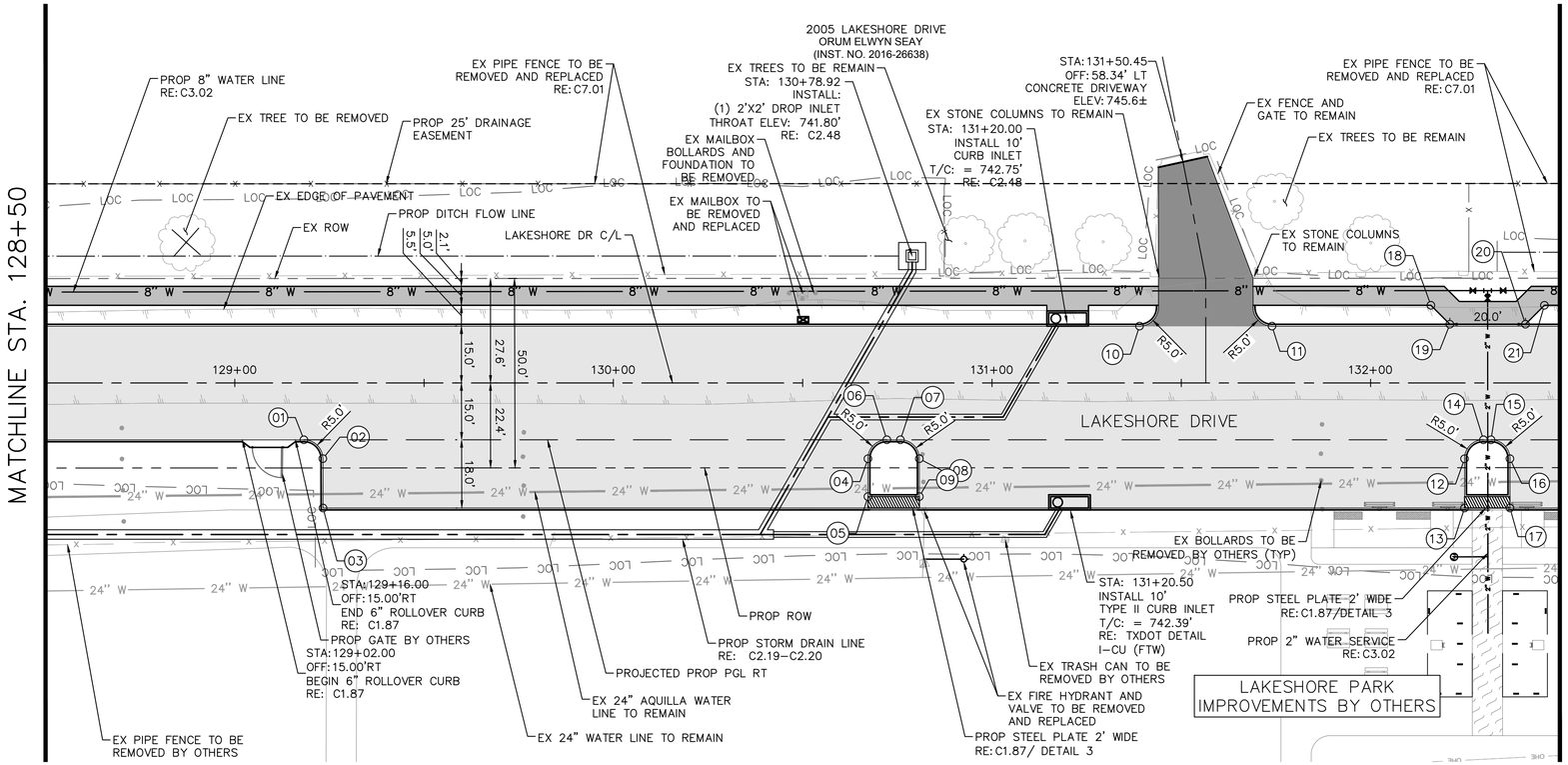
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 124+50 TO STA 128+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.15

Plotted, By: 2026-04-17 13:28:53, Lopez, Ivan
Last Saved: 2026-04-17 13:23:06 (BEGIN TO STA 4+00)
k:\fw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving p&p begin to sta 116+00.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

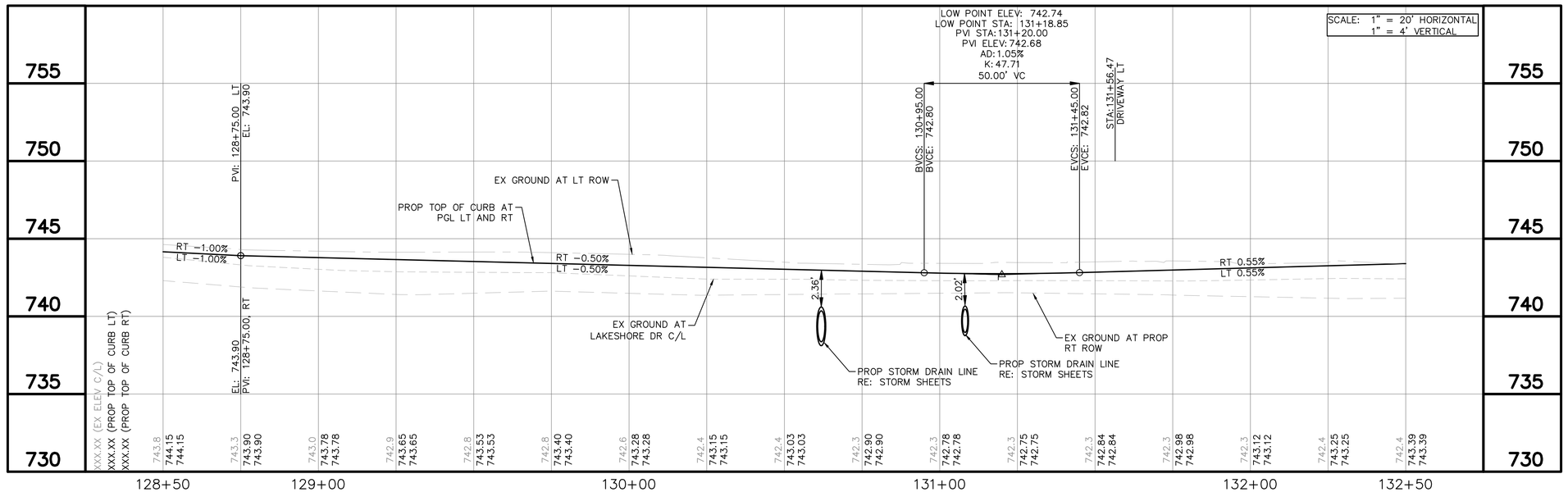
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	129+18.27	15.00' RT	TC–PC	743.69
02	129+23.27	19.98' RT	TC–PT	743.54
03	129+23.31	33.00' RT	TC–PI	743.30
04	130+67.25	20.00' RT	TC–PC	742.79
05	130+67.25	30.00' RT	TC–PI	742.62
06	130+72.25	15.00' RT	TC–PT	742.92
07	130+75.82	15.00' RT	TC–PC	742.90
08	130+80.82	20.00' RT	TC–PT	742.75
09	130+80.82	30.00' RT	TC–PI	742.56
10	131+38.97	15.00' LT	TC–PC	742.79
11	131+73.97	15.00' LT	TC–PT	742.98
12	132+24.82	20.01' RT	TC–PC	743.13
13	132+24.83	33.00' RT	TC–PI	742.90
14	132+29.82	15.00' RT	TC–PT	743.28
15	132+31.82	15.00' RT	TC–PC	743.29
16	132+36.82	20.00' RT	TC–PT	743.16
17	132+36.83	33.00' RT	TC–PI	742.97
18	132+15.95	20.50' LT	TS–PI	744.31
19	132+20.95	15.50' LT	TS–PI	744.23
20	132+40.92	15.50' LT	TS–PI	744.34
21	132+45.92	20.50' LT	TS–PI	744.47

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
106647
LICENSED
PROFESSIONAL ENGINEER

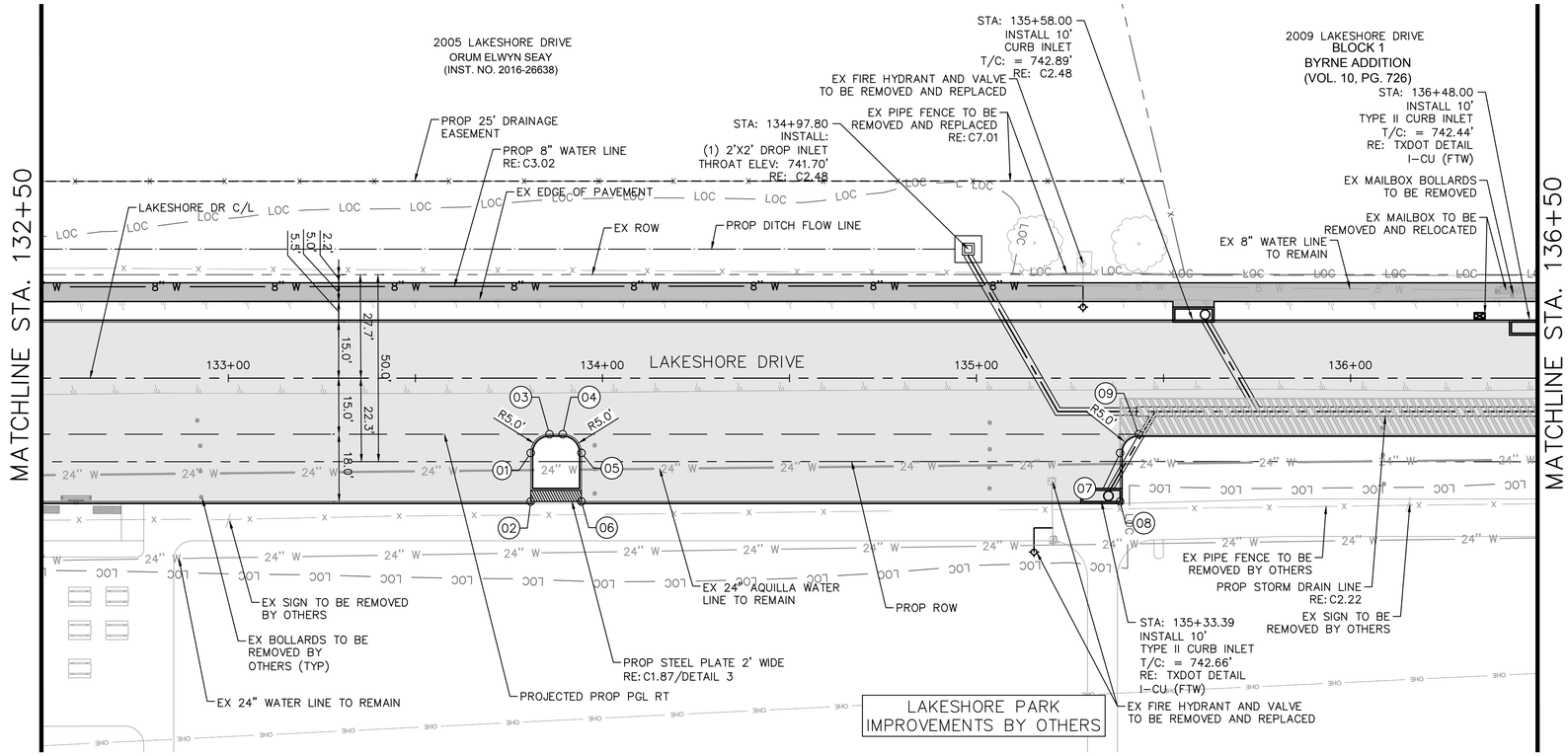
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

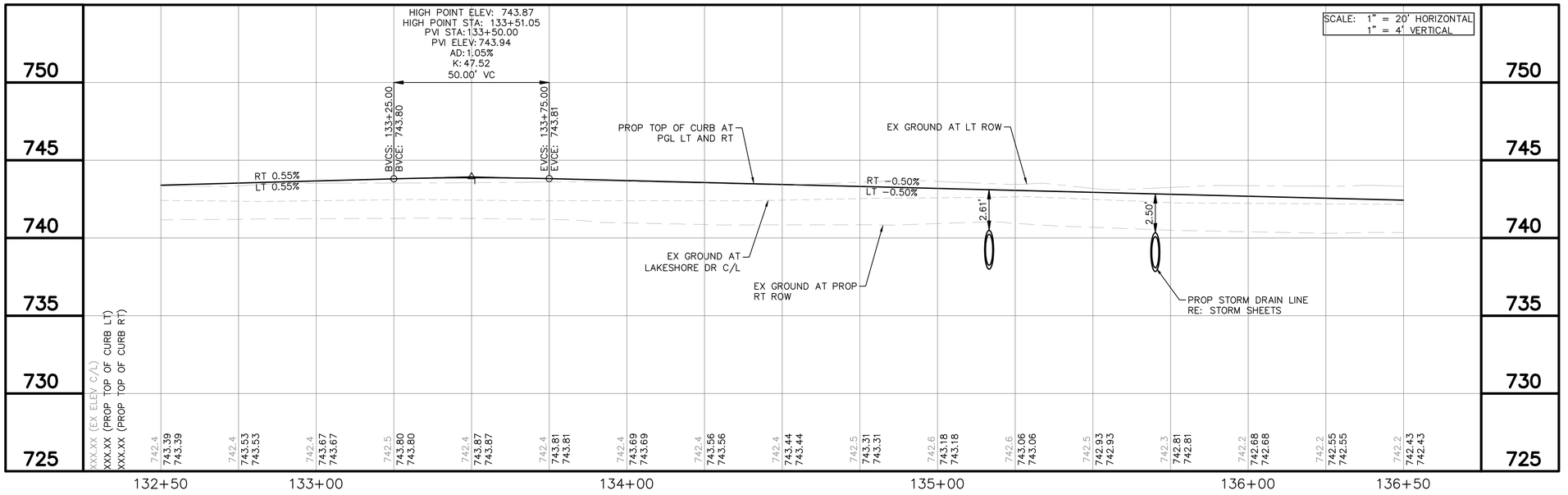
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 128+50 TO STA 132+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.16

Plotted, By: 2026-04-17 13:30:34, Lopez, Ivan
Last Saved: 2026-04-17 13:23:06 (STA 4+00 TO STA 8+00)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p begin to sta 116+00.dwg





POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	133+80.82	20.00' RT	TC-PC	743.63
02	133+80.82	33.00' RT	TC-PI	743.43
03	133+85.82	15.00' RT	TC-PT	743.76
04	133+89.39	15.00' RT	TC-PC	743.74
05	133+94.39	20.00' RT	TC-PT	743.60
06	133+94.40	33.00' RT	TC-PI	743.36
07	135+38.39	20.00' RT	TC-PC	742.84
08	135+38.39	33.00' RT	TC-PI	742.63
09	135+43.39	15.00' RT	TC-PC	742.97

GRAPHIC SCALE
20 0 10 20 40
ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

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STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

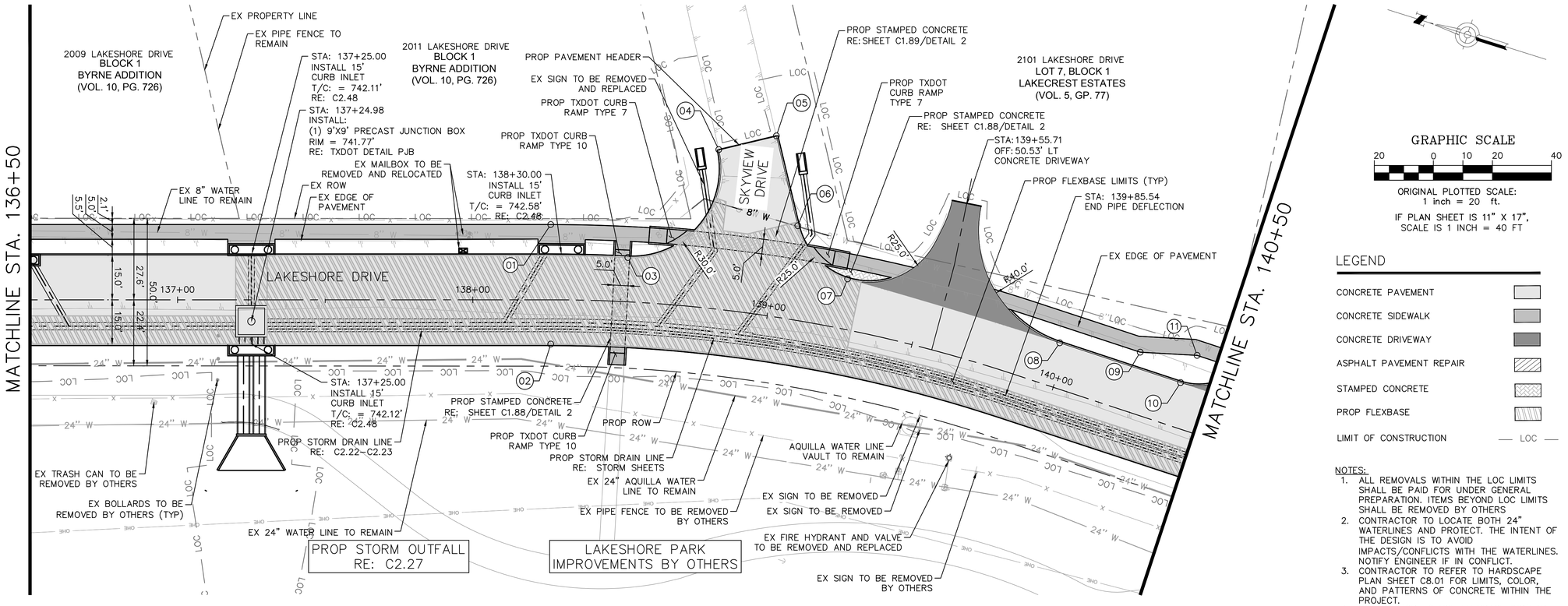
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA
132+50 TO STA 136+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.17

Plotted, By: 2026-04-17 13:32:31, Lopez, Ivan
Last Saved: 2026-04-17 13:23:06 (STA 8+00 TO STA 12+00)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving p&p begin to sta 116+00.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

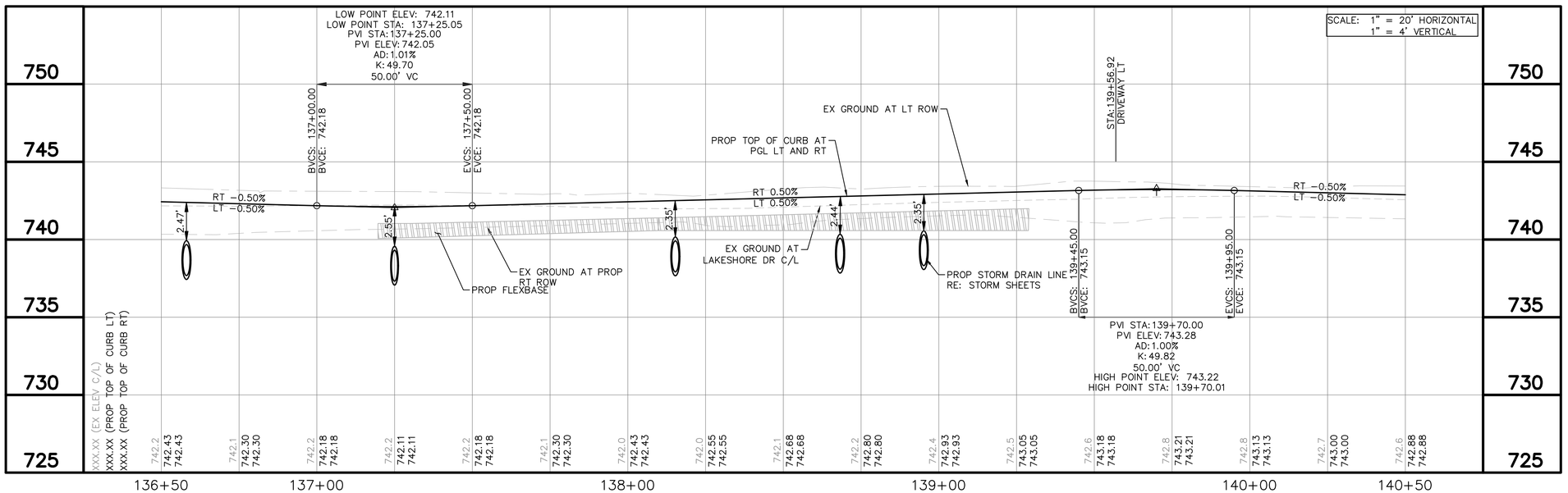
IF PLAN SHEET IS 11" X 17",
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LEGEND

- CONCRETE PAVEMENT
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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	138+26.40	25.50' LT	TS–PT	742.69
02	138+26.40	15.00' RT	TC–PC	742.56
03	138+51.76	15.00' LT	TC–PC	742.69
04	138+77.87	53.80' LT	TP–ME	745.22
05	138+94.75	60.78' LT	TP–ME	744.97
06	139+05.45	31.75' LT	TC–PC	743.53
07	139+24.28	16.96' LT	TC–PCC	743.28
08	139+97.39	15.00' LT	TC–PT	743.14
09	140+24.26	20.50' LT	TS–PI	743.11
10	140+40.48	15.00' LT	TC–PC	742.93
11	140+42.92	25.50' LT	TS–PI	742.98

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

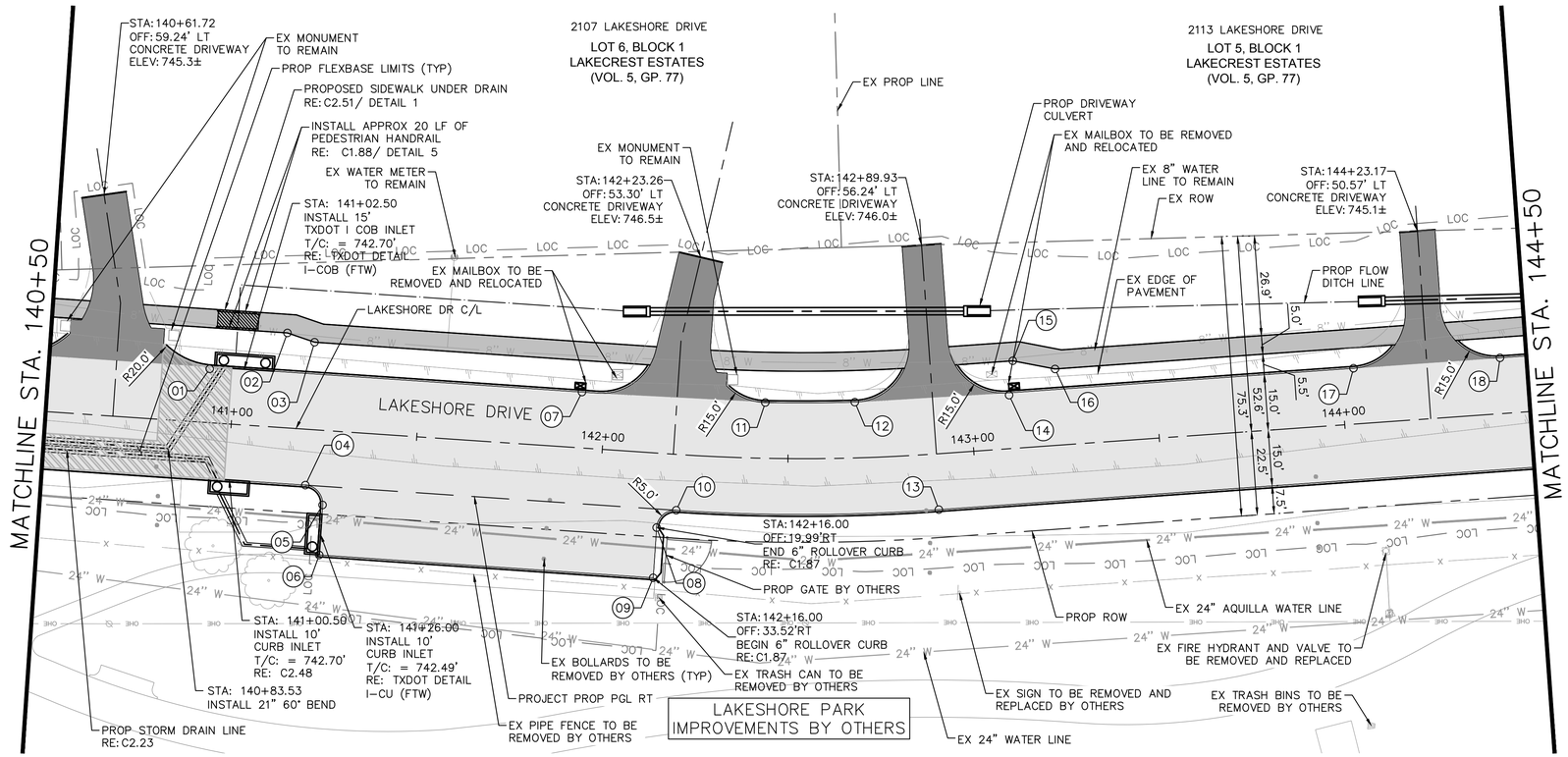
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

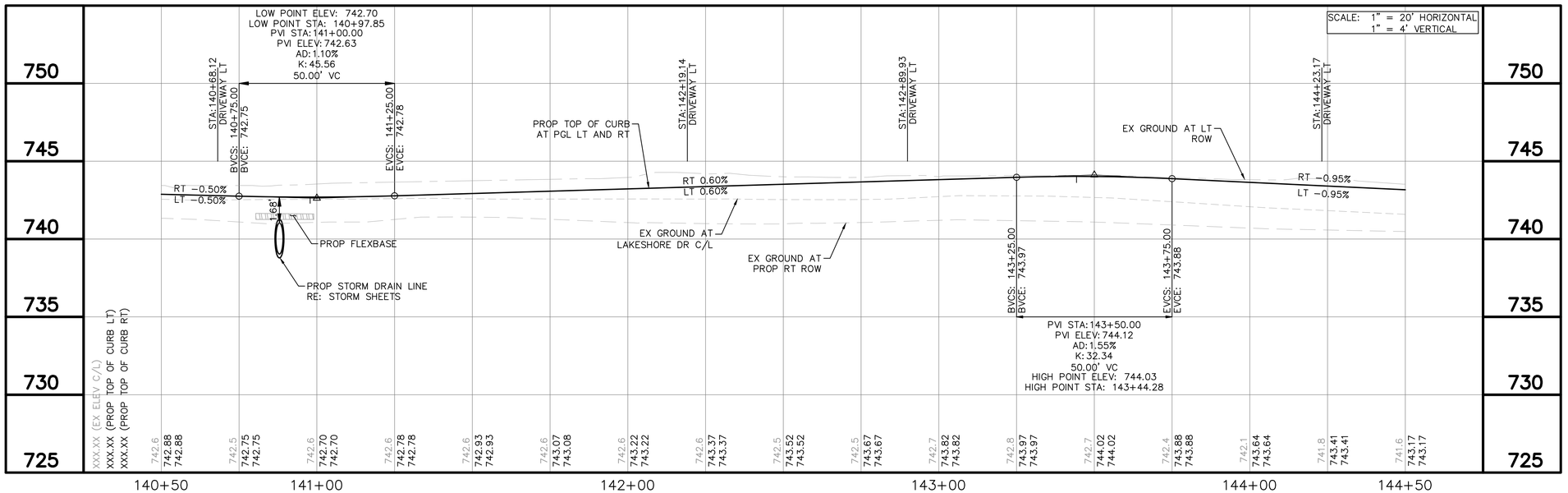
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA
136+50 TO STA 140+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.18

Plotted By: 2026-04-16 18:24:21, Salinas, Rene
Last Saved: 2026-04-16 17:32:08 (STA 12+00 TO STA 16+00)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving p&p begin to sta 116+00.dwg





POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	140+93.76	15.00' LT	TC-PT	742.70
02	141+13.42	25.50' LT	TS-PI	743.42
03	141+20.89	23.50' LT	TS-PI	743.41
04	141+21.00	15.00' RT	TC-PC	742.76
05	141+26.00	20.00' RT	TC-PT	742.62
06	141+26.00	33.48' RT	TC-PI	742.38
07	141+93.53	15.00' LT	TC-PC	743.19
08	142+16.00	19.99' RT	TC-PC	743.20
09	142+16.00	33.52' RT	TC-PI	742.94
10	142+20.92	14.99' RT	TC-PT	743.35
11	142+43.60	15.00' LT	TC-PT	743.55
12	142+68.41	15.00' LT	TC-PC	743.63
13	142+89.52	15.00' RT	TC-PT	743.76
14	143+10.18	15.00' LT	TC-PT	743.88
15	143+12.18	23.50' LT	TS-PI	744.55
16	143+23.38	20.50' LT	TS-PI	744.56
17	144+03.42	15.00' LT	TC-PC	743.61
18	144+42.92	15.00' LT	TC-PT	743.24

GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
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LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
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- LIMIT OF CONSTRUCTION — LOC —

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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

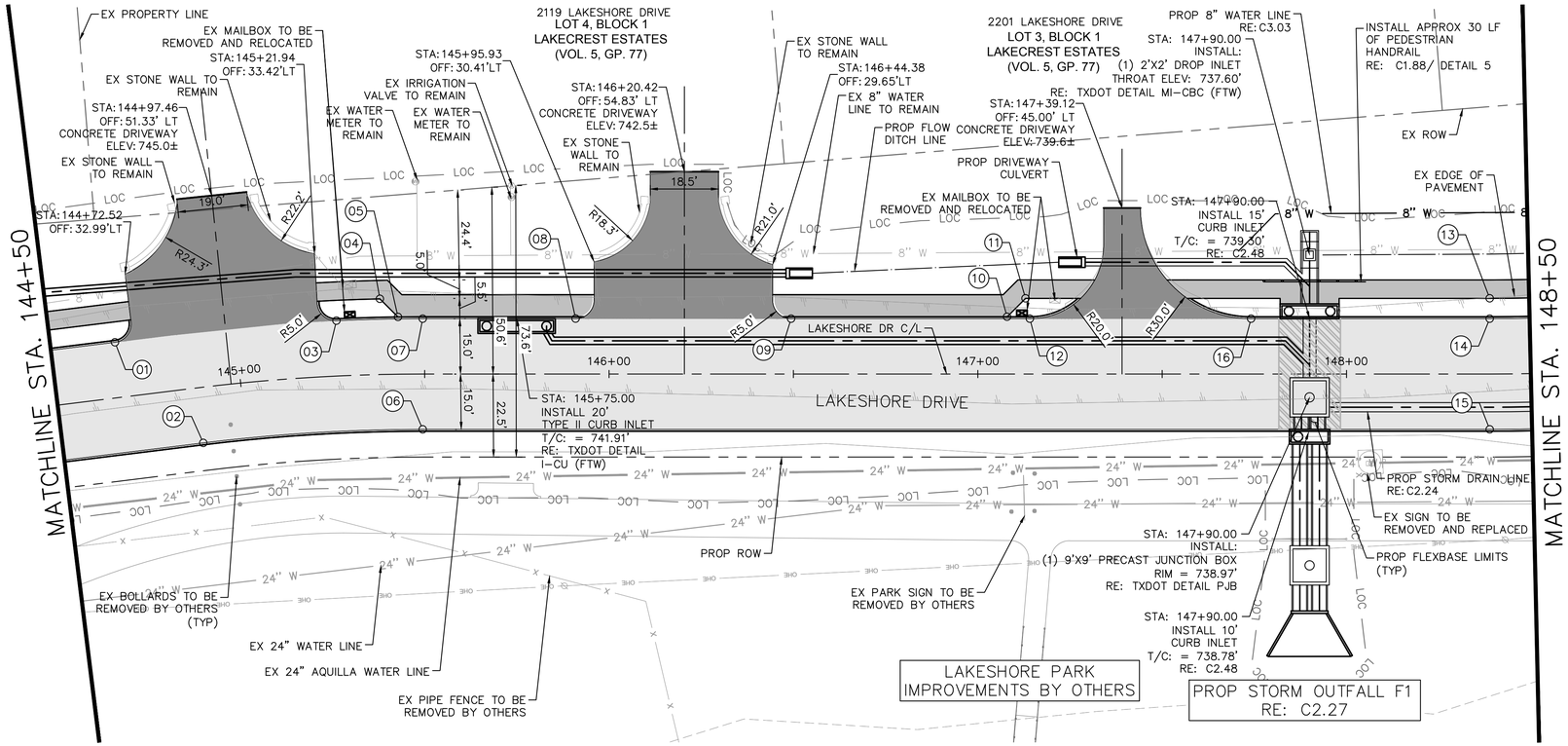
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 140+50 TO STA 144+50

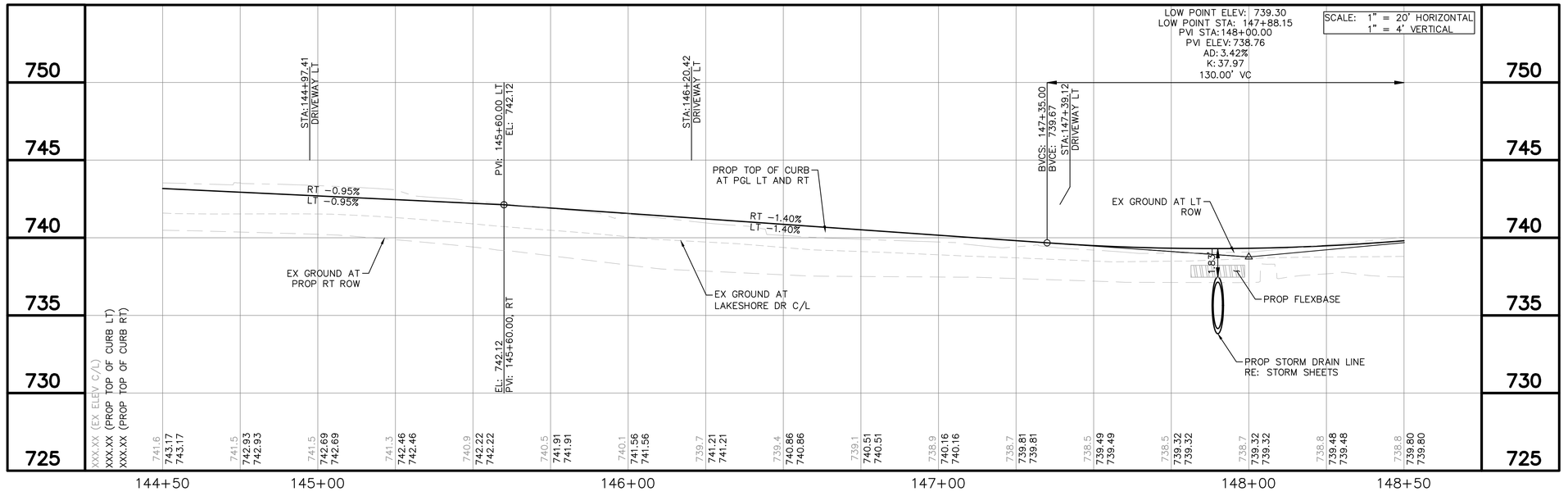
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

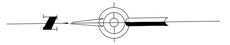
SHEET NUMBER

C1.19

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Last Saved: 2026-04-16 17:33:00 (Layout1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p sta 116+00 to sta 132+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	144+67.52	15.00' LT	TC–PC	743.00
02	144+87.95	15.00' RT	TC–PC	742.81
03	145+26.74	15.00' LT	TC–PT	742.44
04	145+38.31	20.50' LT	TS–PI	742.93
05	145+42.97	15.50' LT	TS–PI	742.78
06	145+49.46	15.00' RT	TC–PT	742.22
07	145+49.46	15.00' LT	TC–PT	742.22
08	145+90.93	15.00' LT	TC–PC	741.69
09	146+49.38	15.00' LT	TC–PT	740.87
10	147+07.95	15.50' LT	TS–PI	740.55
11	147+12.95	20.50' LT	TS–PI	740.58
12	147+14.12	15.00' LT	TC–PC	739.97
13	148+38.84	20.50' LT	TS–PC	740.24
14	148+38.84	15.00' LT	TC–PC	739.64
15	148+38.84	15.00' RT	TC–PC	739.64
16	147+74.12	15.00' LT	TC–PT	739.33

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

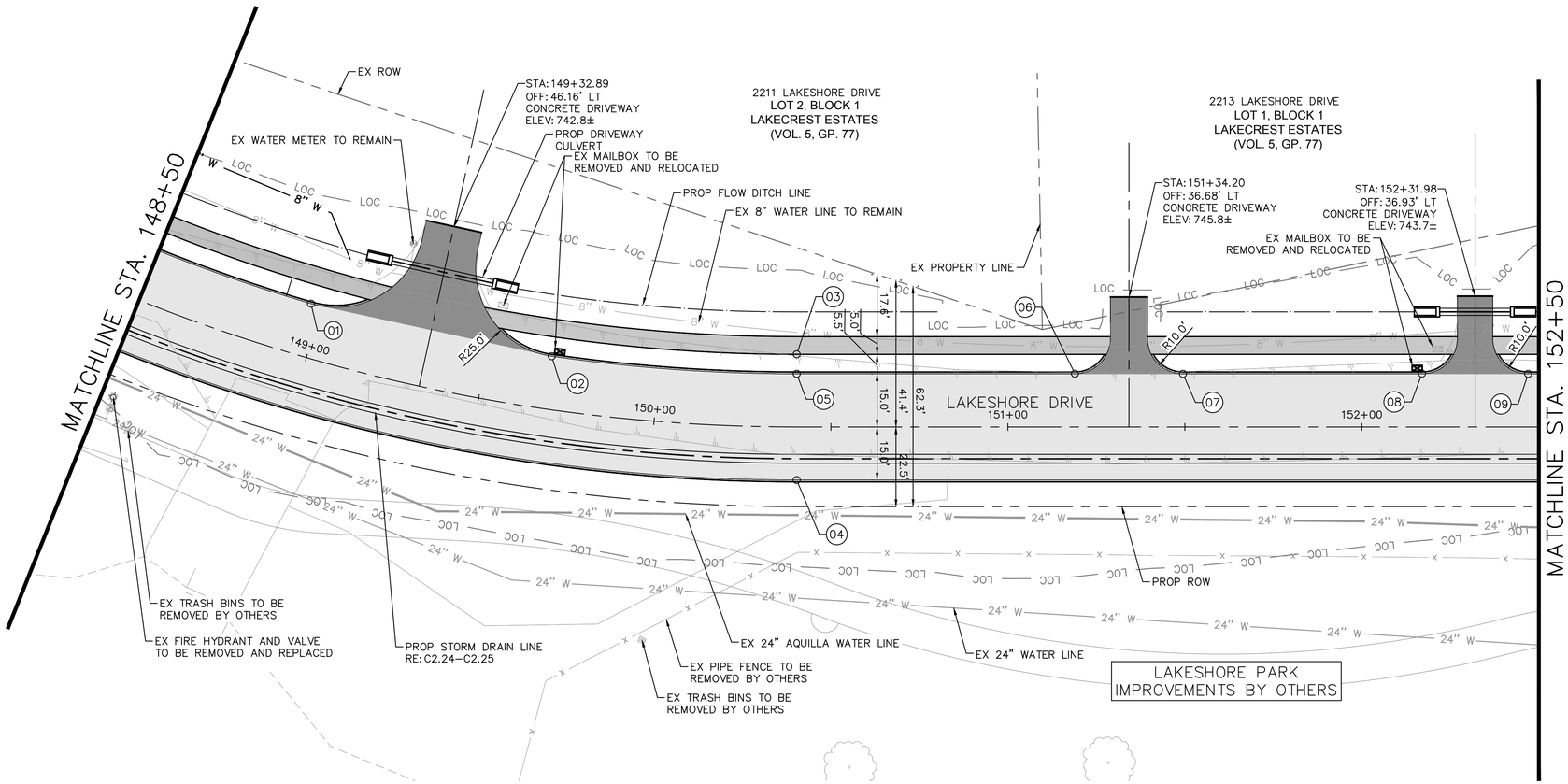
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 144+50 TO STA 148+50

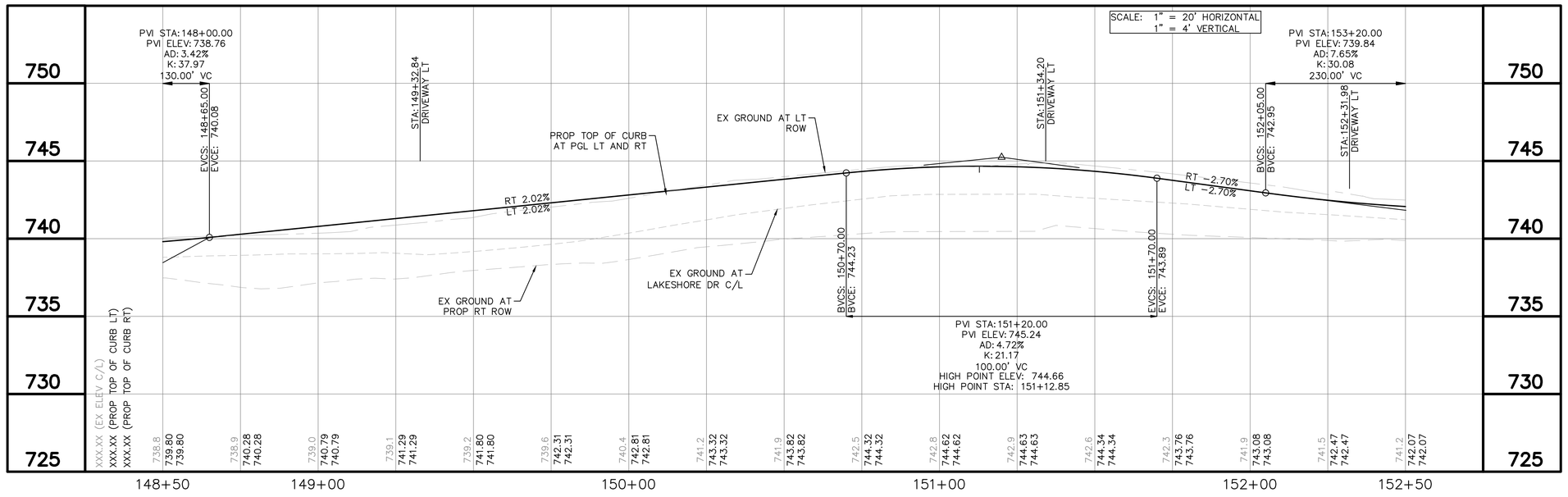
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.20

Plotted By: 2026-04-16 18:25:46, Salinas, Rene
Last Saved: 2026-04-16 17:33:00 (Layout1 (2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\paving p&p sta 116+00 to sta 132+00.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
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- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	148+96.94	15.00' LT	TC–PC	740.73
02	149+68.74	15.00' LT	TC–PT	742.18
03	150+40.34	20.50' LT	TS–PT	744.23
04	150+40.34	15.00' RT	TC–PT	743.63
05	150+40.34	15.00' LT	TC–PT	743.63
06	151+18.95	15.00' LT	TC–PC	744.65
07	151+49.45	15.00' LT	TC–PT	744.35
08	152+16.98	15.08' LT	TC–PC	742.73
09	152+46.98	15.00' LT	TC–PT	742.10

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

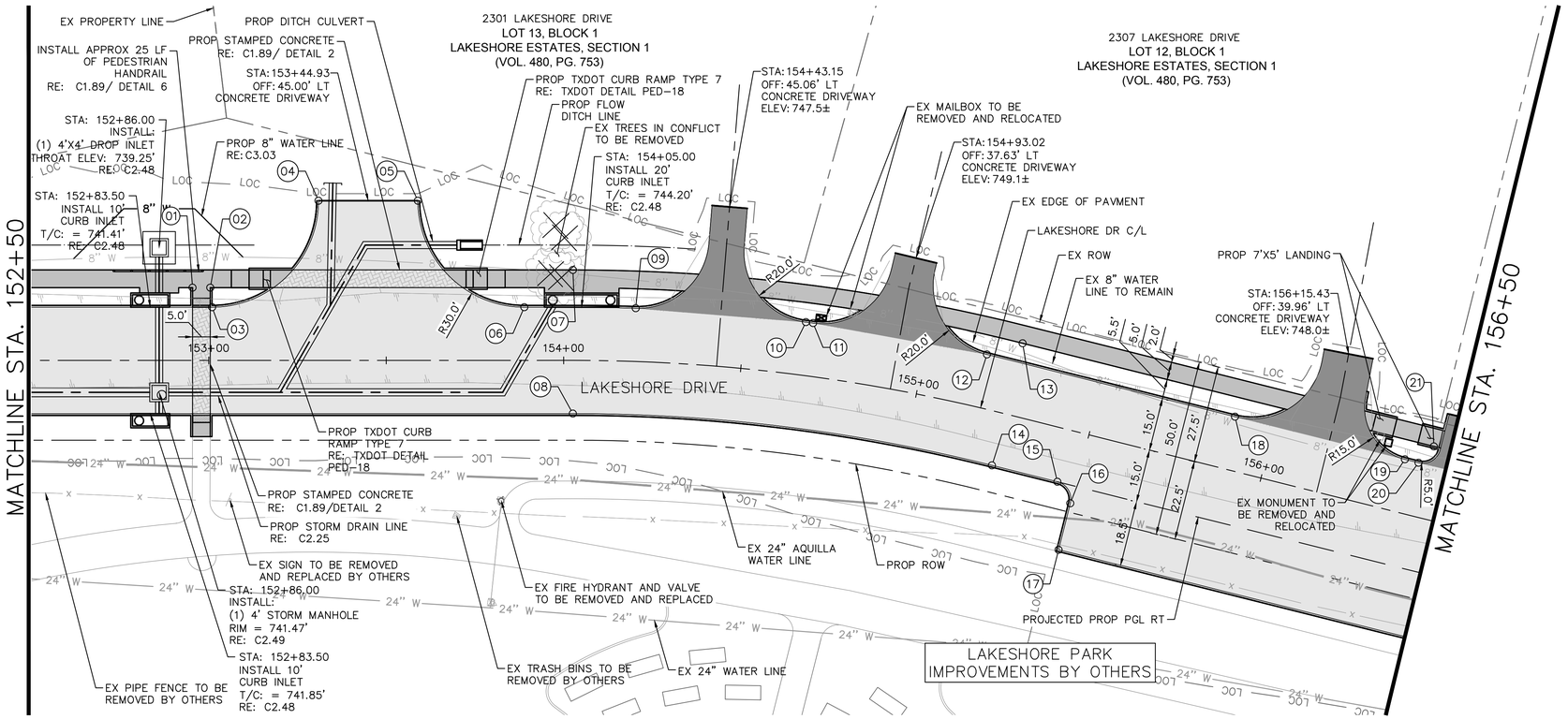
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

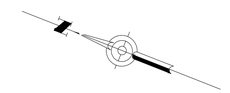
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 148+50 TO STA 152+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.21

Plotted By: 2026-04-16 18:26:09, Salinas, Rene
Last Saved: 2026-04-16 17:33:00 (Layout1 (3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p sta 116+00 to sta 132+00.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE: 1 inch = 20 ft.

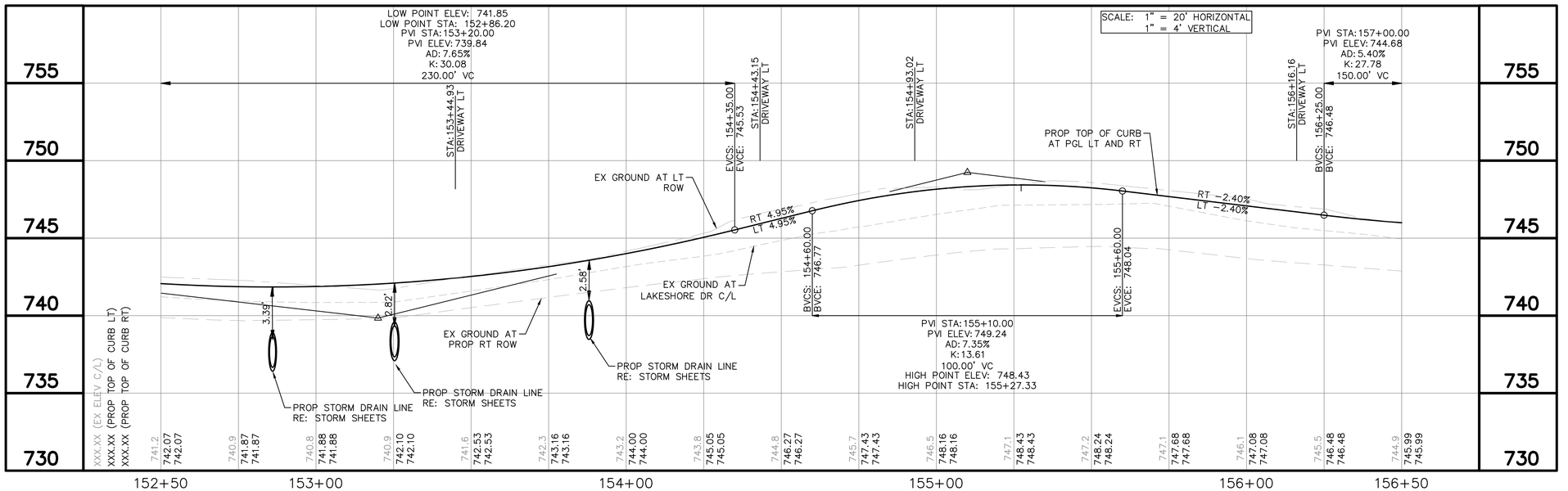
IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	152+95.43	20.50' LT	TS–PI	742.28
02	153+00.43	20.50' LT	TS–PI	742.30
03	153+00.93	15.00' LT	TC–PC	741.88
04	153+30.93	45.00' LT	TP–ME	743.00±
05	153+58.93	45.00' LT	TP–ME	743.71±
06	153+88.93	15.00' LT	TC–PT	743.60
07	154+02.60	25.50' LT	TS–PC	744.78
08	154+02.60	15.00' RT	TC–PC	744.10
09	154+19.80	15.00' LT	TC–PC	744.82
10	154+66.55	15.00' LT	TC–PRC	747.07
11	154+68.51	15.00' LT	TC–PRC	747.16
12	155+16.88	15.08' LT	TC–PT	748.88
13	155+25.59	20.50' LT	TS–PT	749.03
14	155+25.59	15.00' RT	TC–PT	748.43
15	155+44.61	15.00' RT	TC–PC	748.31
16	155+49.61	20.00' RT	TC–PT	748.16
17	155+49.61	33.50' RT	TC–PI	747.88
18	155+88.67	15.00' LT	TC–PC	747.35
19	156+38.05	15.00' LT	TC–PT	746.20
20	156+42.01	15.00' LT	TC–PC	746.12
21	156+45.08	20.50' LT	TS–PC	746.43

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

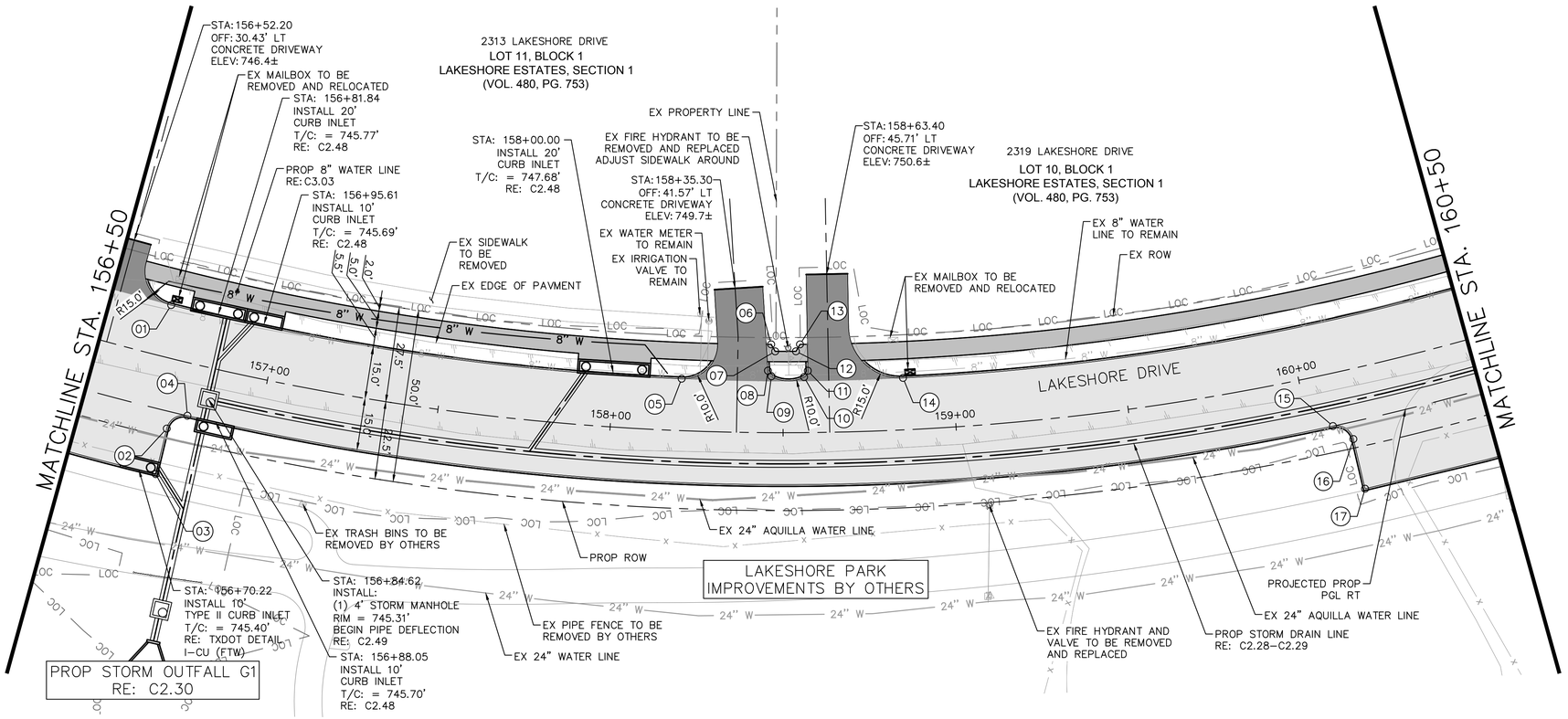
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 152+50 TO STA 156+50

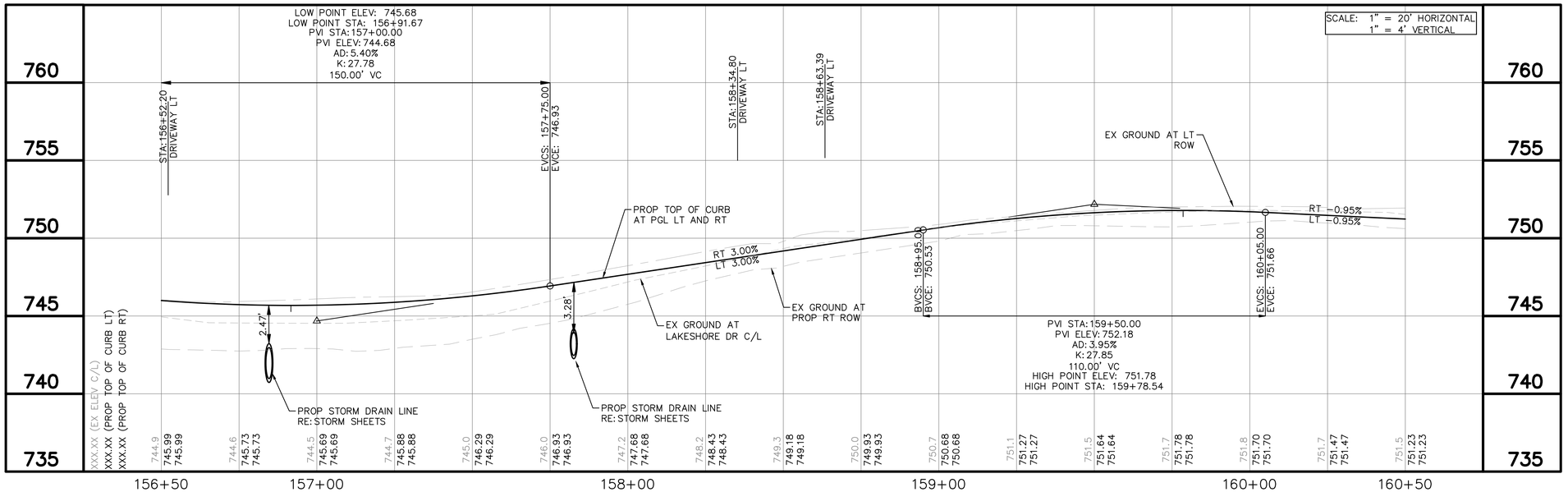
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.22

Plotted, By: 2026-04-16 18:26:28, Salinas, Rene
Last Saved: 2026-04-16 17:33:00 (Layout1 (4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\paving p&p sta 116+00 to sta 132+00.dwg





POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	156+67.74	15.00' LT	TC–PT	745.78
02	156+75.00	19.95' RT	TC–PC	745.58
03	156+75.00	33.50' RT	TC–PI	745.35
04	156+79.83	14.97' RT	TC–PT	745.71
05	158+20.09	15.00' LT	TC–PC	748.28
06	158+46.44	25.50' LT	TS–PI	748.911
07	158+47.65	23.50' LT	TS–PI	748.97'
08	158+45.51	17.90' LT	TC–PC	749.13)
09	158+46.55	16.29' LT	TC–PCC	749.20)
10	158+56.19	16.05' LT	TC–PCC	749.51
11	158+57.33	17.86' LT	TC–PT	749.57
12	158+53.84	23.50' LT	TS–PI	749.63
13	158+55.05	25.50' LT	TS–PI	749.70
14	158+85.37	15.00' LT	TC–PT	750.24
15	160+06.87	14.98' RT	TC–PC	751.64
16	160+11.72	19.90' RT	TC–PT	751.49
17	160+11.90	34.64' RT	TC–PI	751.20

GRAPHIC SCALE
20 0 10 20 40
ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
04/10/2026

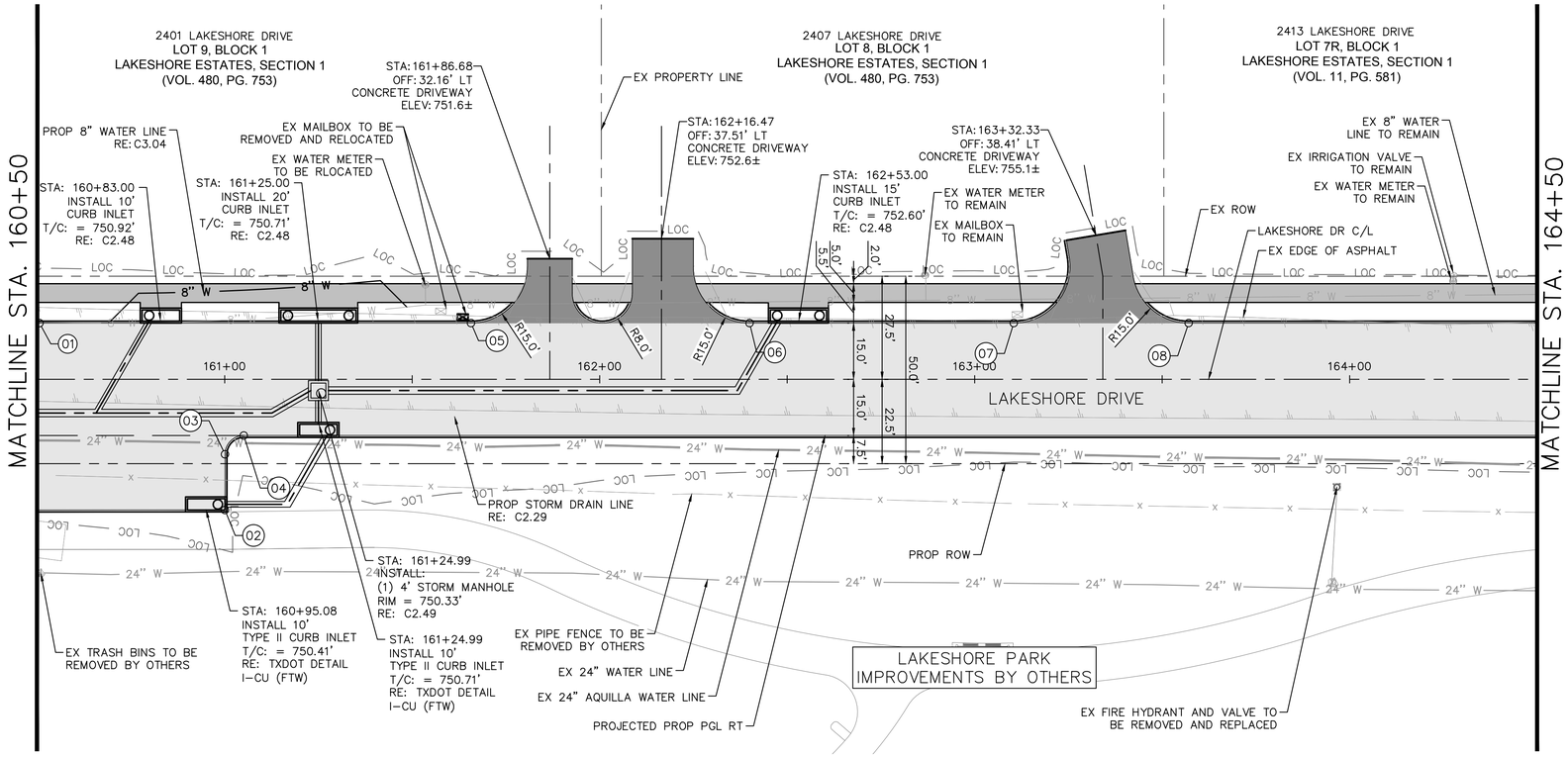
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 156+50 TO STA 160+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.23

Plotted, By: 2026-04-16 20:40:11, Lopez, Ivan
Last Saved: 2026-04-16 17:30:39 (Layout1)
k:\fw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving p&p sta 132+00 to 148+00.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

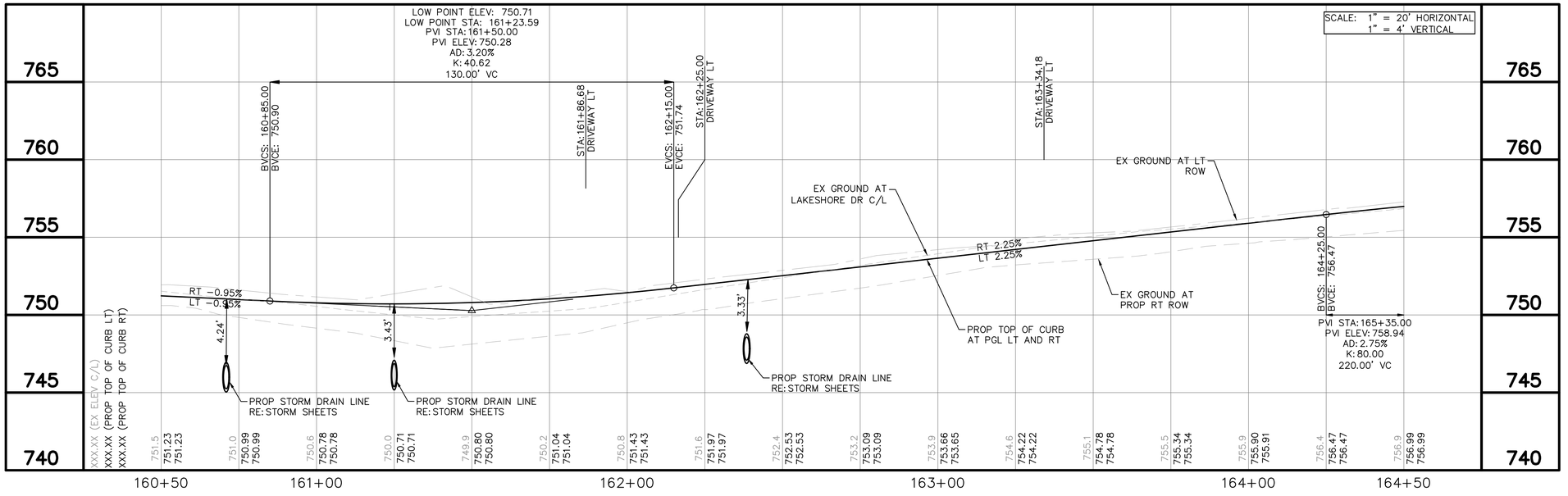
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

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- CONCRETE SIDEWALK
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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	160+50.62	15.00' LT	TC-PT	751.22
02	161+00.08	34.86' RT	TC-PI	750.35
03	161+00.10	19.99' RT	TC-PC	750.62
04	161+05.10	15.00' RT	TC-PT	750.76
05	161+65.71	15.00' LT	TC-PC	750.93
06	162+39.99	15.00' LT	TC-PT	752.30
07	163+10.44	15.00' LT	TC-PC	753.89
08	163+57.08	15.00' LT	TC-PT	754.94

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PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

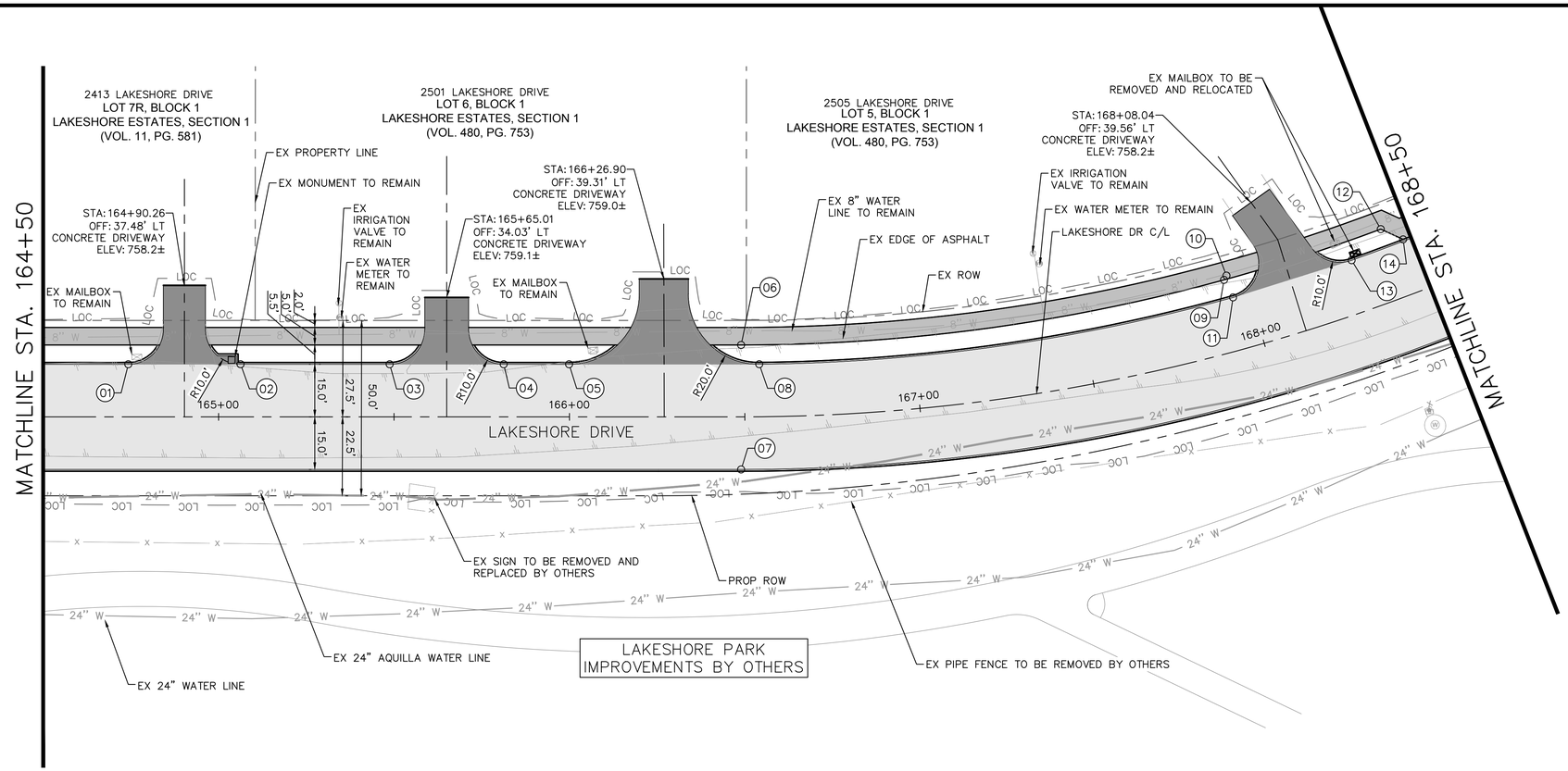
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA
160+50 TO STA 164+50

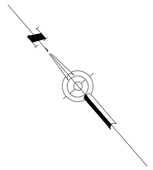
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.24

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Last Saved: 2026-04-16 17:30:39 (Layout1 (2))
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dr\cadd\sheets\paving p&p sta 132+00 to 148+00.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

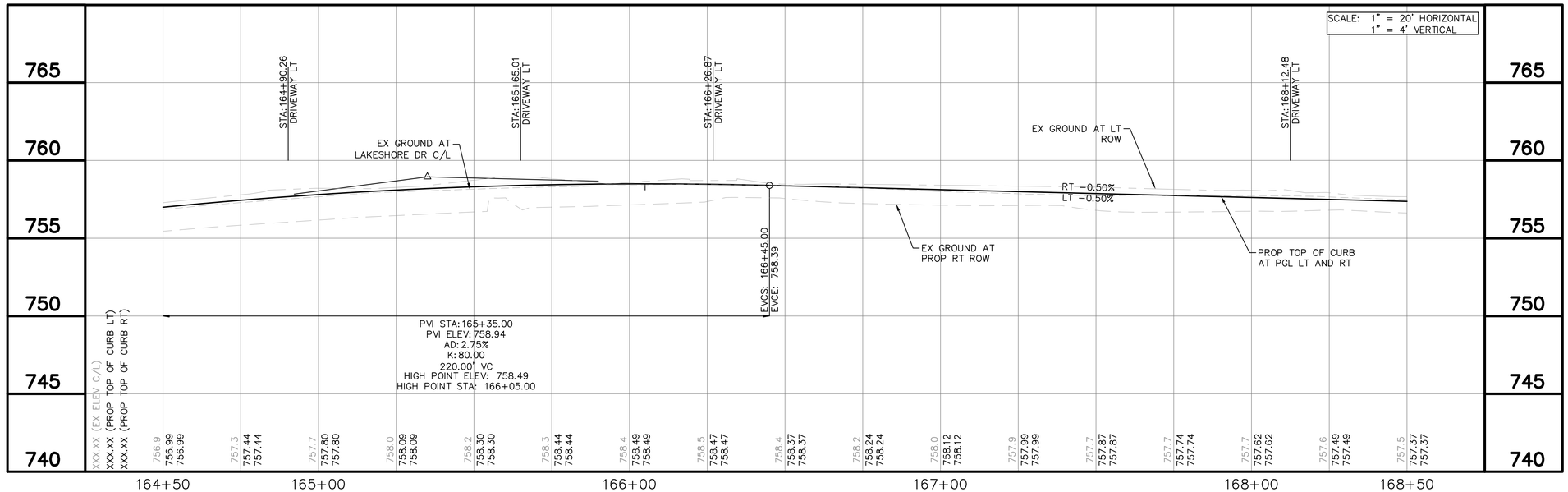
IF PLAN SHEET IS 11" X 17",
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- CONCRETE SIDEWALK
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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	164+74.28	15.00' LT	TC–PC	757.42
02	165+06.28	15.00' LT	TC–PT	757.88
03	165+48.78	15.00' LT	TC–PC	758.29
04	165+81.28	15.00' LT	TC–PT	758.46
05	165+99.91	15.00' LT	TC–PC	758.49
06	166+48.95	20.50' LT	TS–PC	758.34
07	166+48.95	15.00' RT	TC–PC	758.37
08	166+54.26	15.00' LT	TC–PCC	758.35
09	167+93.74	20.50' LT	TS–PI	757.58
10	167+94.77	21.50' LT	TS–PI	757.77
11	167+94.93	15.00' LT	TC–PCC	757.64
12	168+42.57	20.50' LT	TS–PI	757.52
13	168+31.36	15.00' LT	TC–PT	757.46
14	168+47.66	15.50' LT	TS–PI	756.97

Kimley»Horn
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04/10/2026

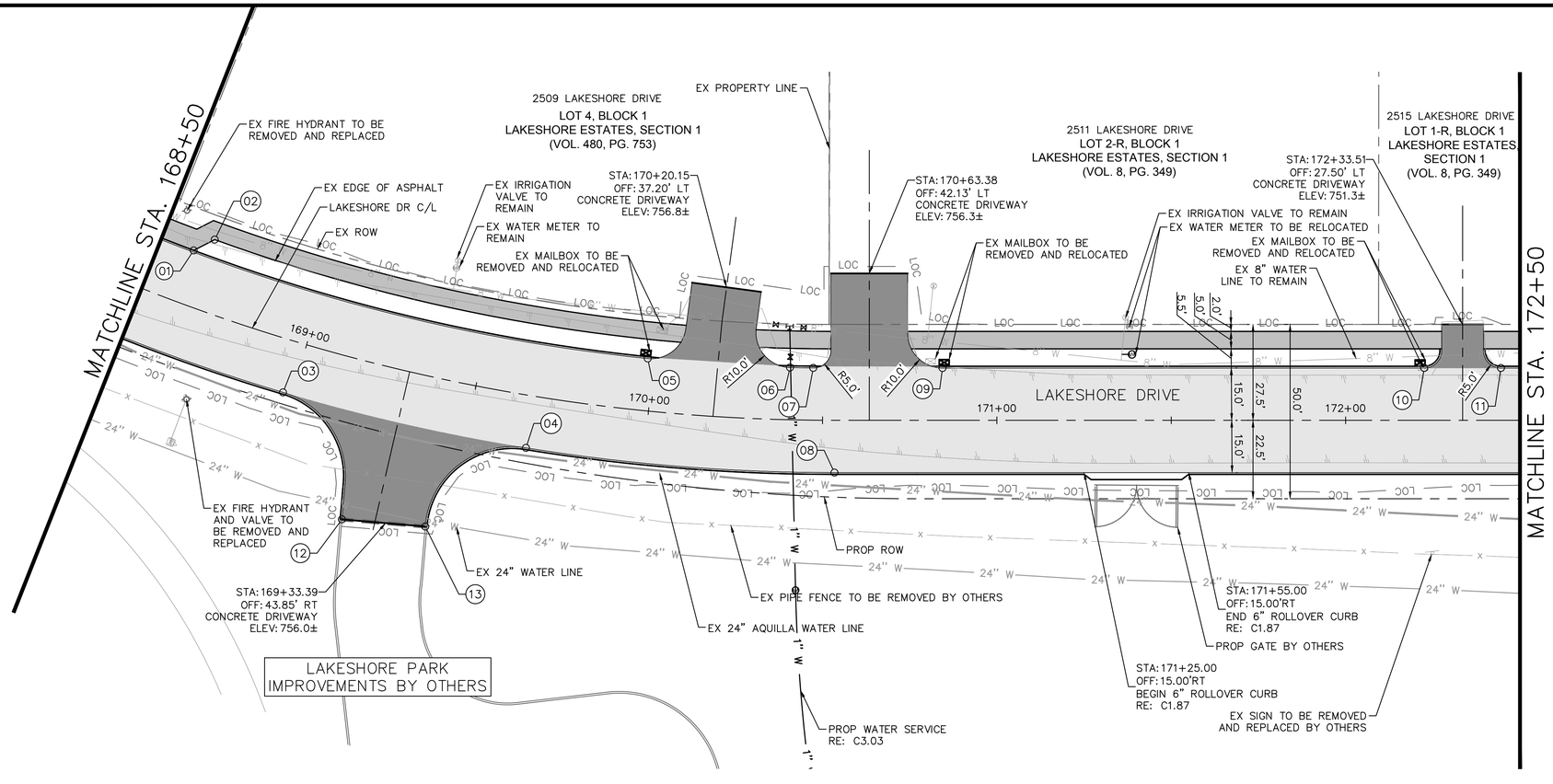
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

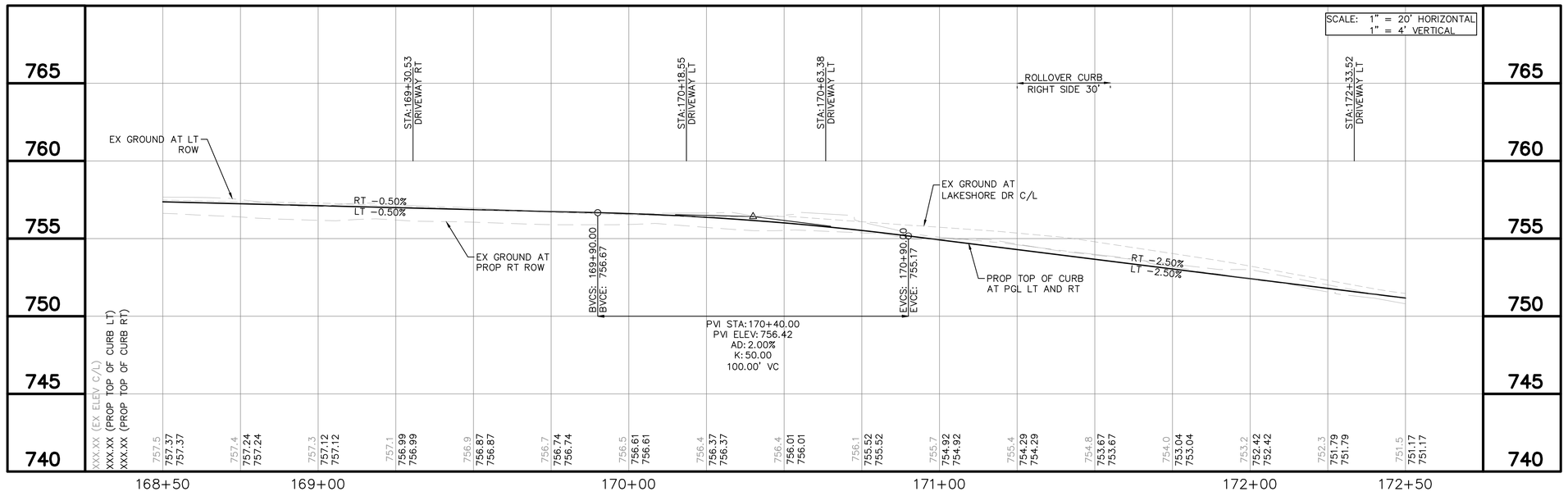
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA
164+50 TO STA 168+50

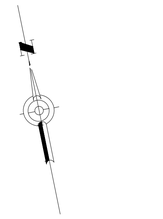
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.25

Plotted, By: 2026-04-16 18:28:17, Salinas, Rene
Last Saved: 2026-04-16 17:30:39 (Layout1 (3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p sta 132+00 to 148+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	168+60.15	15.50' LT	TS–PI	757.32
02	168+64.90	20.50' LT	TS–PI	757.39
03	168+97.41	15.00' RT	TC–PRC	757.24
04	169+86.99	15.00' RT	TC–PRC	756.90
05	169+98.26	15.00' LT	TC–PCC	756.62
06	170+40.31	15.00' LT	TC–PCC	756.16
07	170+47.17	15.00' LT	TC–PCC	756.05
08	170+53.43	15.00' RT	TC–PT	755.95
09	170+84.40	15.00' LT	TC–PT	755.30
10	172+22.54	15.00' LT	TC–PC	751.85
11	172+44.54	15.00' LT	TC–PT	751.30
12	169+21.92	45.70' RT	TC	756.83
13	169+43.87	42.40' RT	TC	756.50

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140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

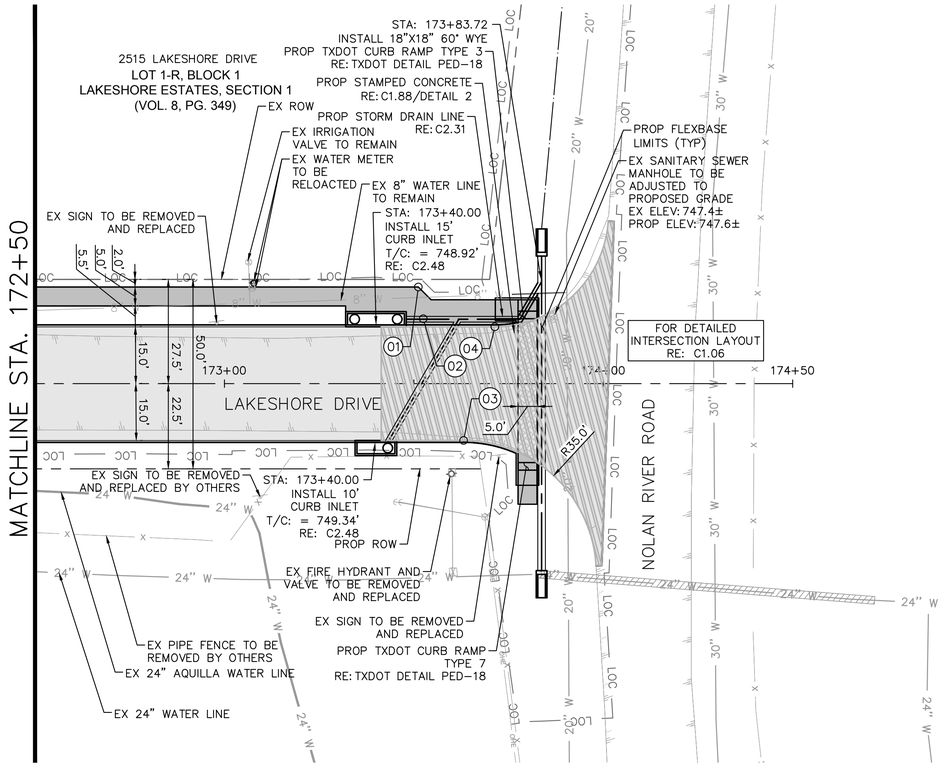
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 168+50 TO STA 172+50

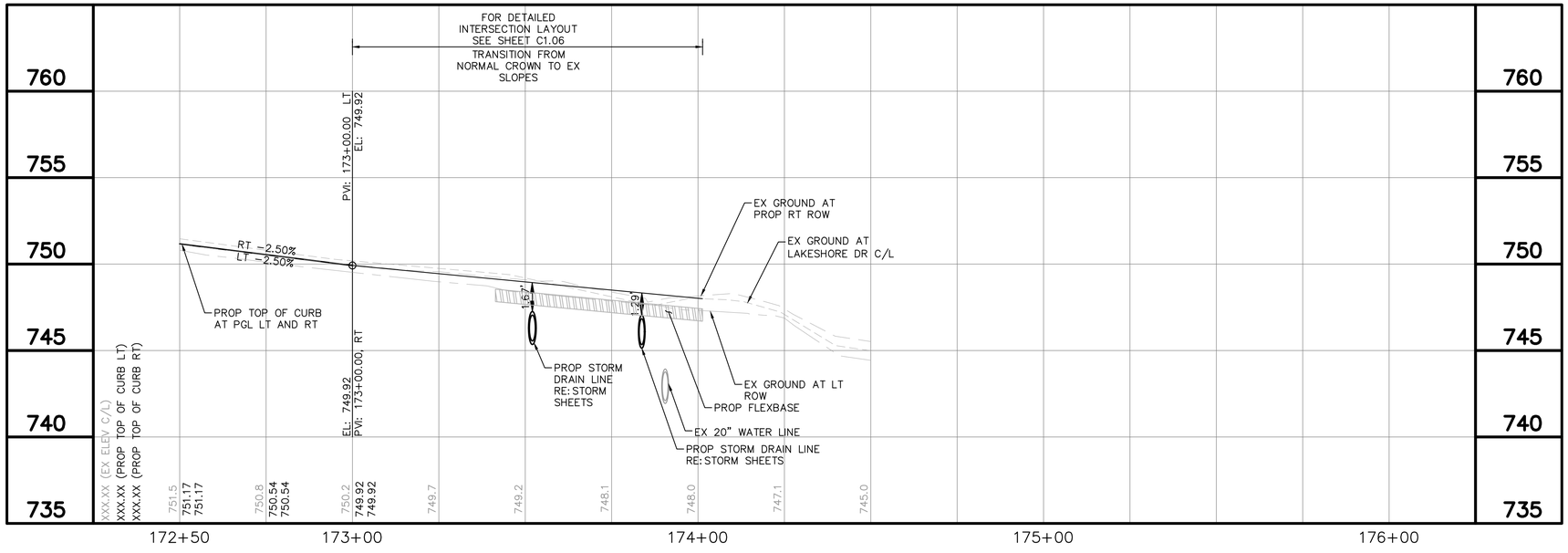
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.26

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Last Saved: 2026-04-16 17:30:39 (Layout1 (4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\paving p&p sta 132+00 to 148+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	173+51.19	25.50' LT	TS-PI	748.46
02	173+52.49	17.13' LT	TS-PI	748.50
03	173+63.15	15.00' RT	TC-PC	748.86
04	173+71.39	15.00' LT	TC-PC	748.26

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LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

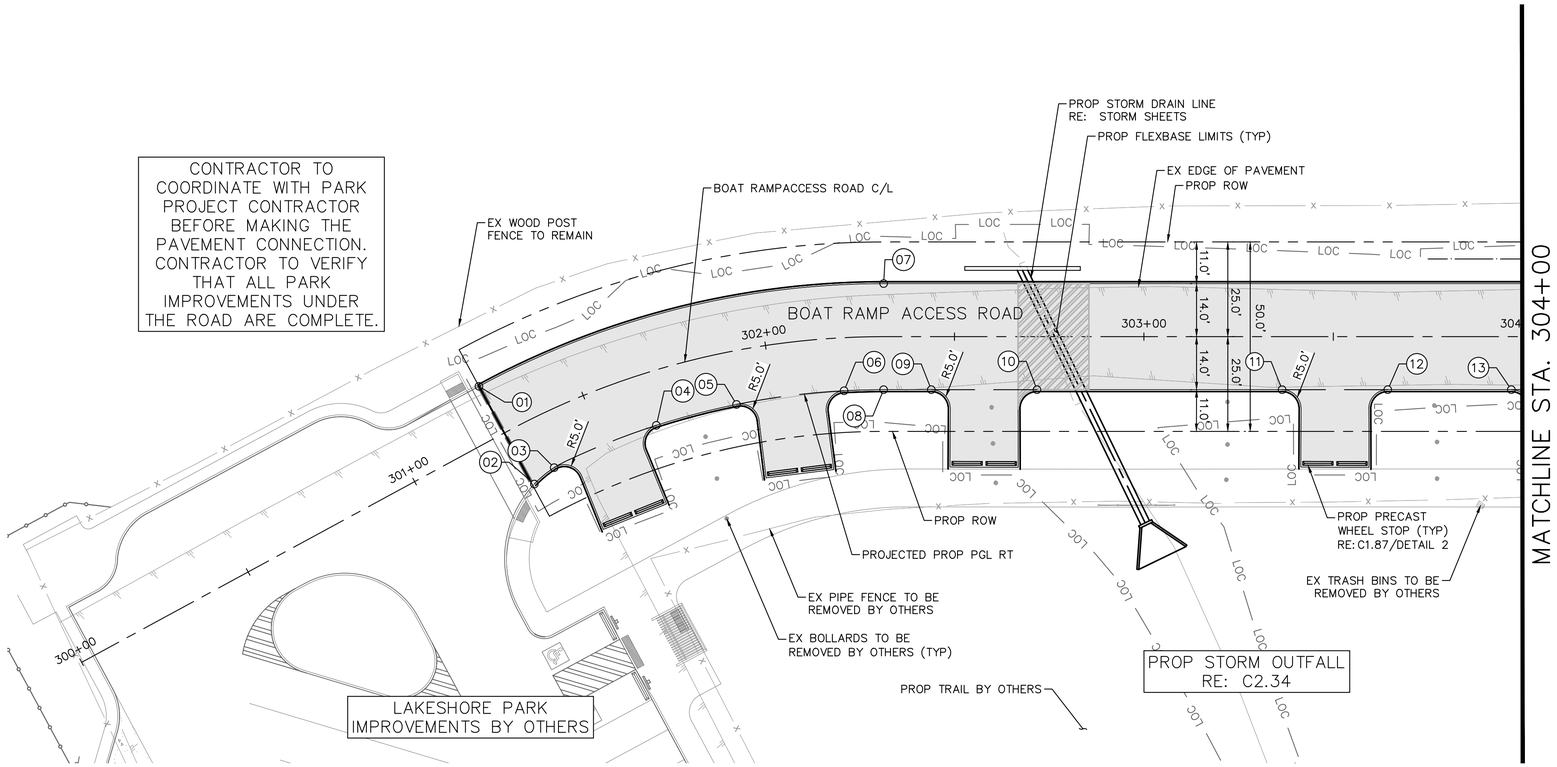
PAVING PLAN AND PROFILE
LAKESHORE DRIVE - STA 172+50 TO END

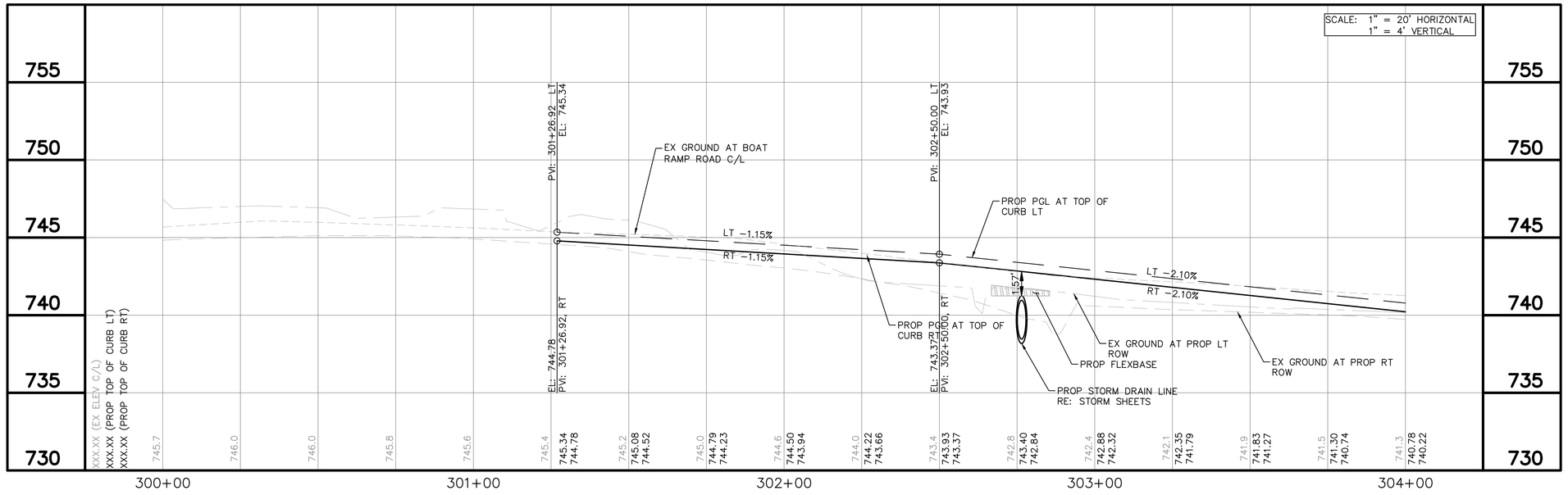
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.27

Plotted, By: 2026-04-16 20:41:57, Lopez, Ivan
Last Saved: 2026-04-16 17:30:39 (Layout1 (5))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p sta 132+00 to 148+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

NOTES:
1. ALL REMOVALS WITHIN THE LOC LIMITS SHALL BE PAID FOR UNDER GENERAL PREPARATION. ITEMS BEYOND LOC LIMITS SHALL BE REMOVED BY OTHERS
2. CONTRACTOR TO LOCATE BOTH 24" WATERLINES AND PROTECT. THE INTENT OF THE DESIGN IS TO AVOID IMPACTS/CONFLICTS WITH THE WATERLINES. NOTIFY ENGINEER IF IN CONFLICT.
3. CONTRACTOR TO REFER TO HARDSCAPE PLAN SHEET C8.01 FOR LIMITS, COLOR, AND PATTERNS OF CONCRETE WITHIN THE PROJECT.
4. CONTRACTOR TO USE FLEXBASE INSTEAD OF LIME IN AREAS WHERE THE STORM LINE IS WITHIN THE SUBGRADE.

POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	301+26.92	14.00' LT	TC-PI	745.34
02	301+27.50	15.65' RT	TC-PI	745.33
03	301+34.65	14.21' RT	TC-PCC	745.20
04	301+65.98	14.00' RT	TC-PCC	744.34
05	301+89.43	14.00' RT	TC-PCC	744.07
06	302+20.13	14.00' RT	TC-PCC	743.71
07	302+31.31	14.00' LT	TC-PT	744.14
08	302+31.31	14.00' RT	TC-PT	743.58
09	302+43.90	14.00' RT	TC-PC	743.44
10	302+71.79	14.00' RT	TC-PT	742.91
11	303+36.50	14.00' RT	TC-PC	???
12	303+64.39	14.00' RT	TC-PT	???
13	303+97.01	14.00' RT	TC-TP	740.31

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

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140647
LICENSED PROFESSIONAL ENGINEER

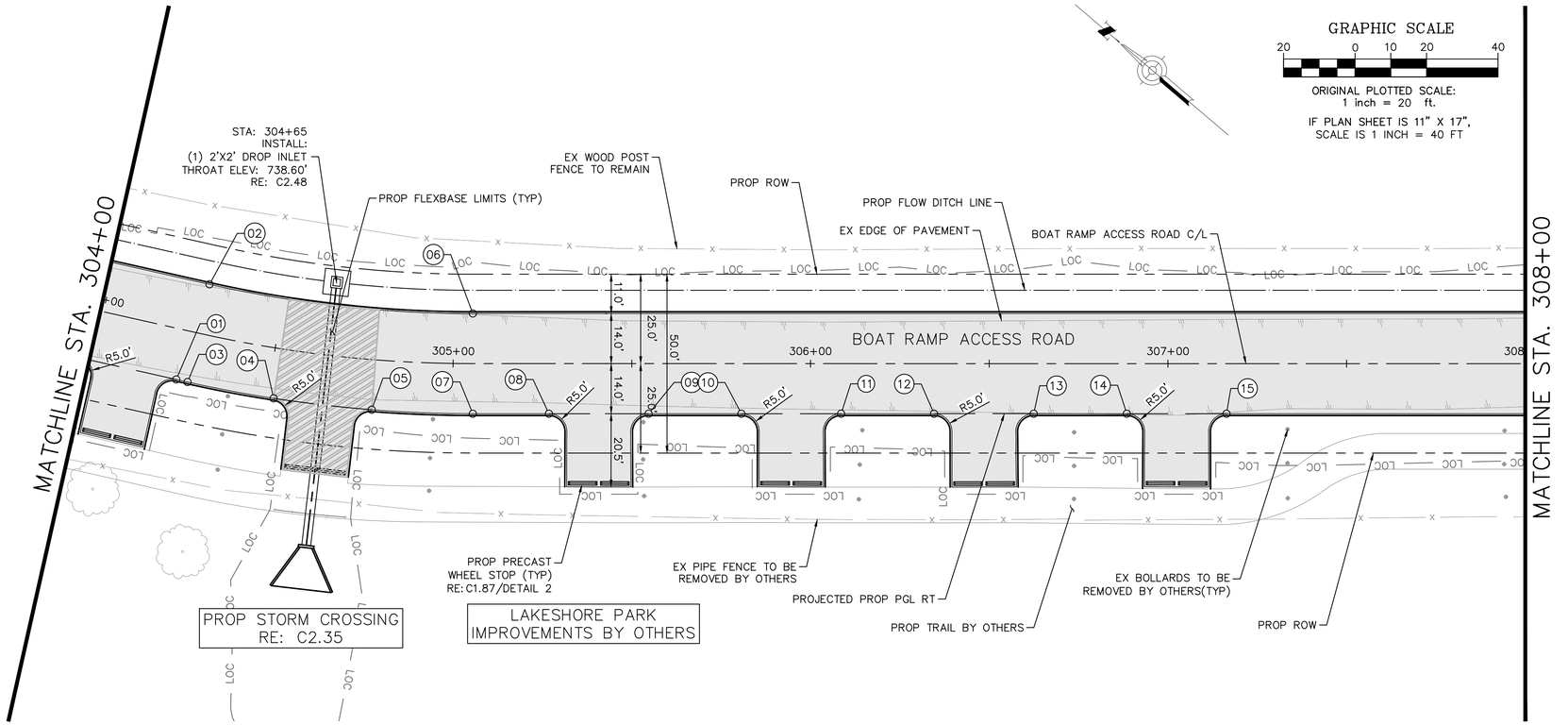
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PAVING PLAN AND PROFILE
BOAT RAMP ACCESS ROAD - BEGIN TO STA 304+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.28

Plotted, By: 2026-04-16 18:29:51, Salinas, Rene
Last Saved: 2026-04-09 10:25:02 (Layout1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p begin to 316+00.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

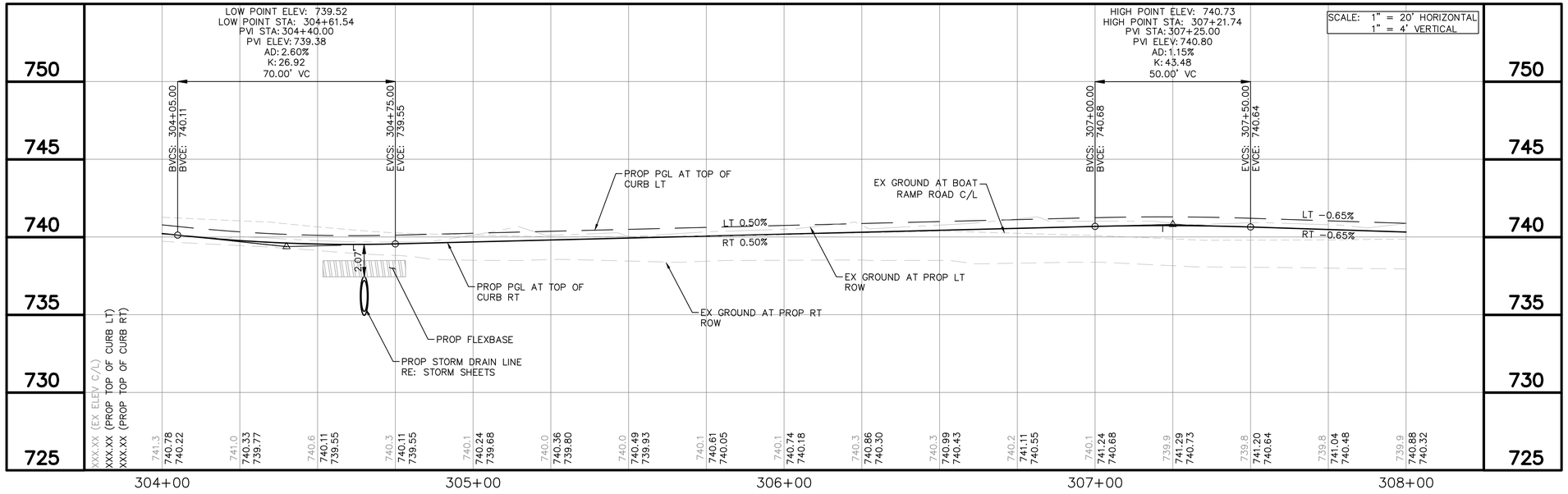
LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE				
No.	STATION	OFFSET	DESC	ELEV
01	304+24.91	14.00' RT	TC–PT	739.77
02	304+28.14	14.00' LT	TC–PC	740.29
03	304+28.14	14.00' RT	TC–PC	739.73
04	304+51.72	14.00' RT	TC–PRC	739.61
05	304+78.28	14.00' RT	TC–PRC	739.62
06	305+05.51	14.00' LT	TC–PT	740.27
07	305+05.51	14.00' RT	TC–PT	739.71
08	305+26.81	14.00' RT	TC–PC	739.81
09	305+54.70	14.00' RT	TC–PT	739.95
10	305+80.67	14.00' RT	TC–PC	740.08
11	306+08.56	14.00' RT	TC–PT	740.22
12	306+34.55	14.00' RT	TC–PC	740.35
13	306+62.45	14.00' RT	TC–PT	740.49
14	306+88.49	14.00' RT	TC–PC	740.62
15	307+16.39	14.00' RT	TC–PT	740.73



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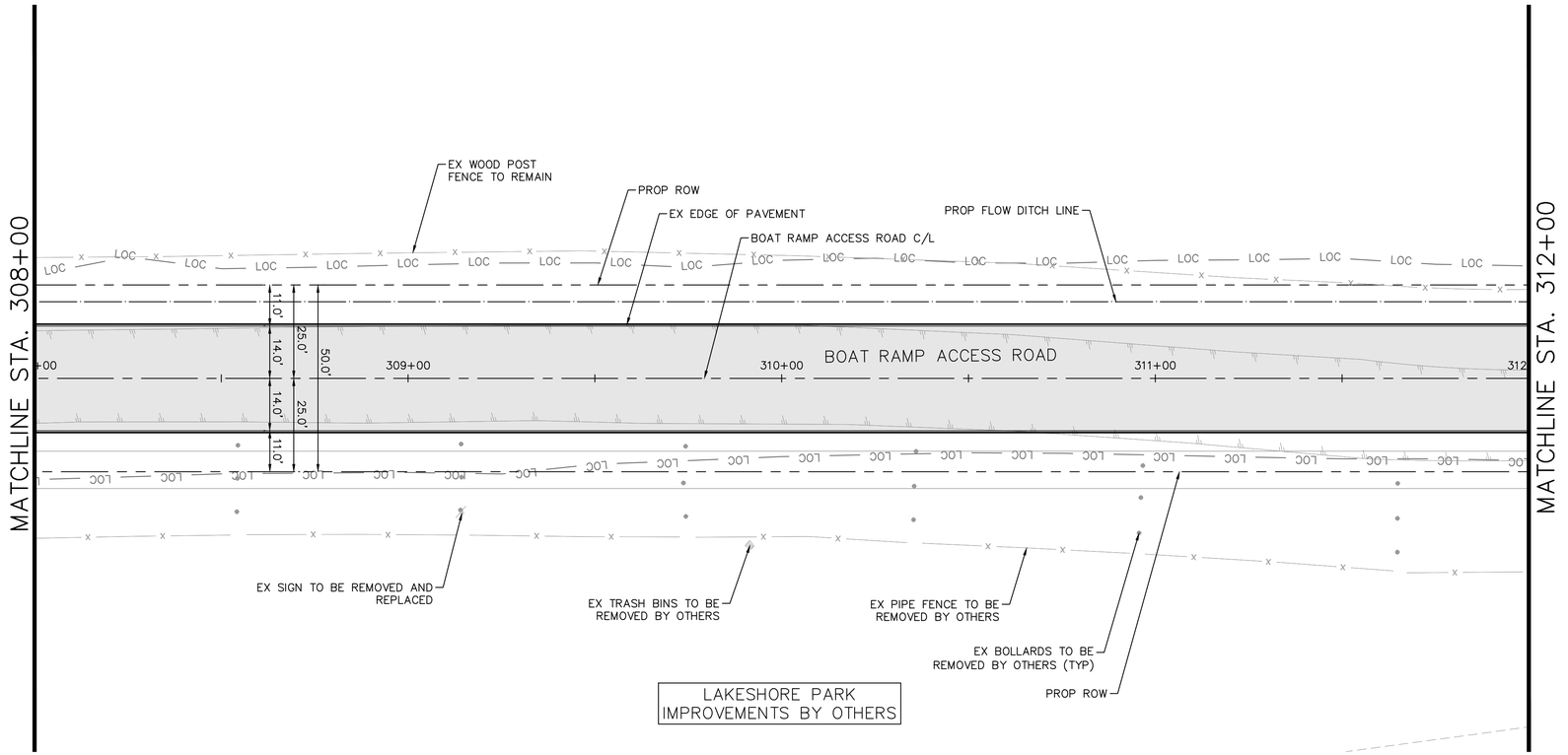
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

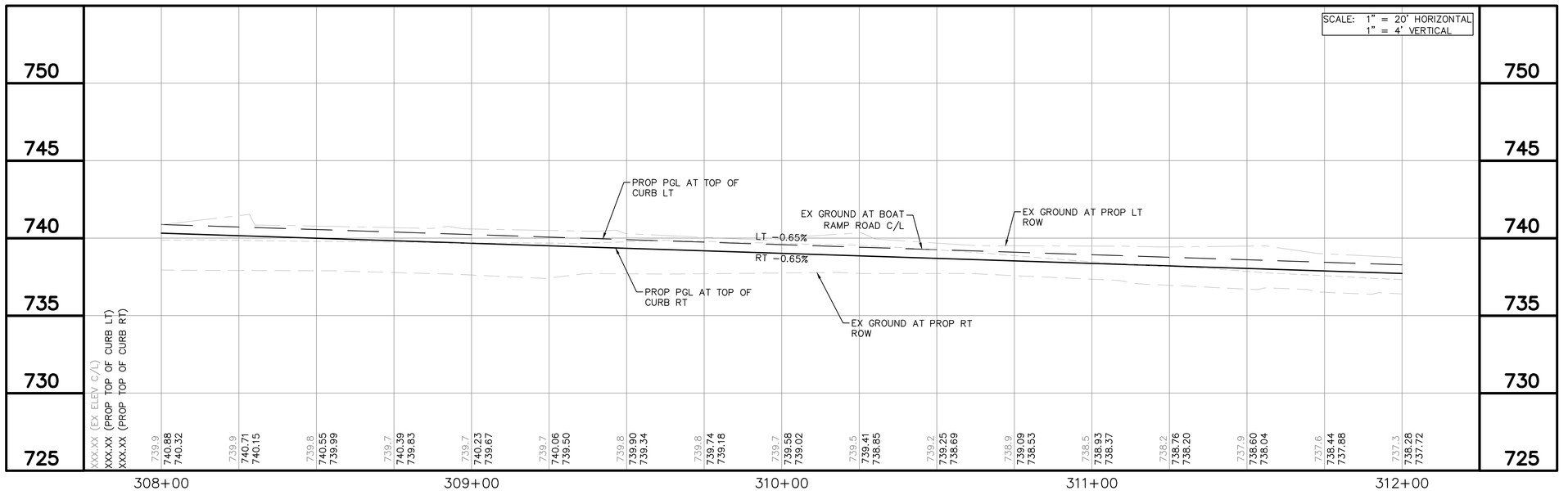
PAVING PLAN AND PROFILE
BOAT RAMP ACCESS
ROAD - STA 304+00 TO
STA 308+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.29

Plotted, By: 2026-04-16 18:30:04, Salinas, Rene
Last Saved: 2026-04-09 10:25:02 (Layout1 (3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p begin to 316+00.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

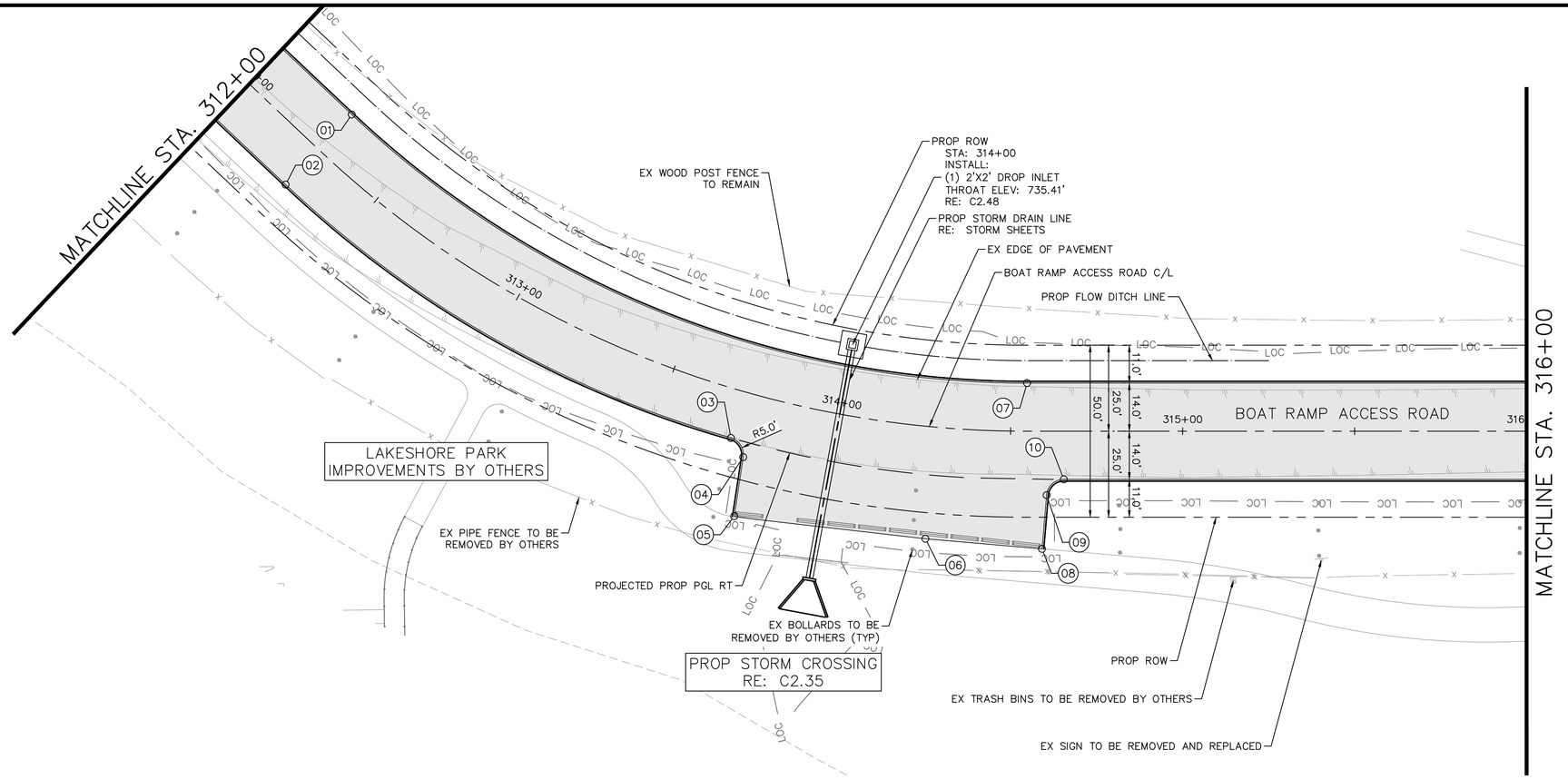
PAVING PLAN AND PROFILE BOAT RAMP ACCESS ROAD - STA 308+00 TO STA 312+00

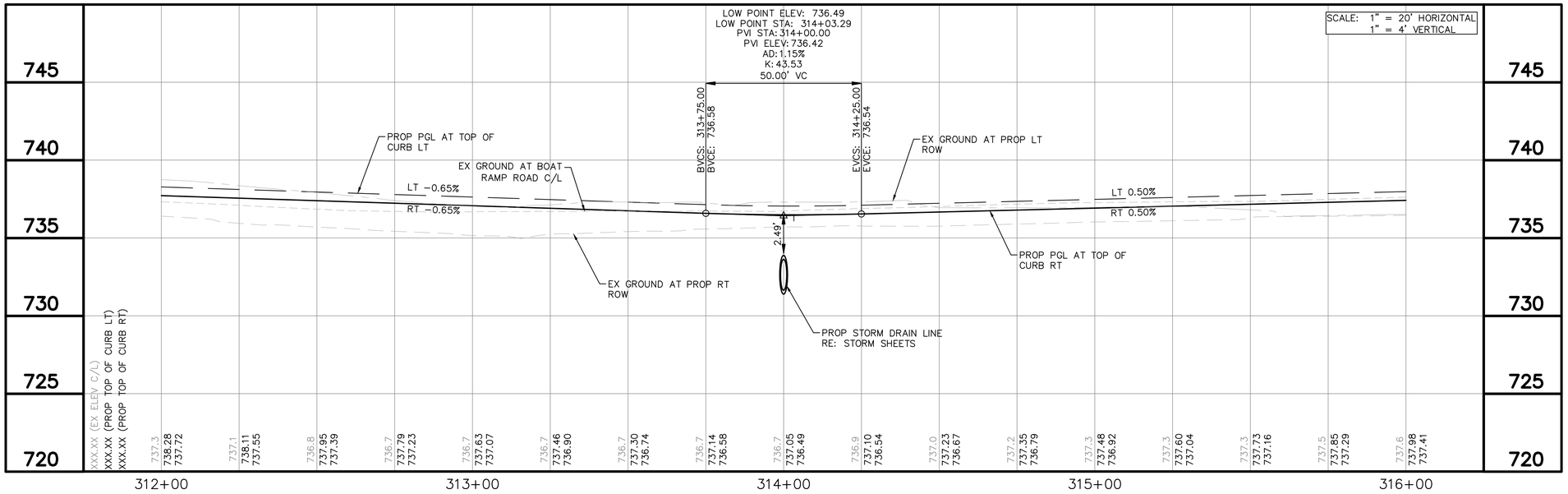
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DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.30

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GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
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- STAMPED CONCRETE
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	312+27.76	14.00' LT	TC-PC	738.10
02	312+27.76	14.00' RT	TC-PC	737.54
03	313+71.45	14.00' RT	TC-PRC	736.66
04	313+76.12	18.41' RT	TC-PT	736.51
05	313+77.84	35.67' RT	TP-PI	735.67
06	314+28.07	32.57' RT	TP-PI	735.69
07	314+54.78	14.00' LT	TC-PT	737.25
08	314+59.11	34.19' RT	TP-PI	735.80
09	314+60.46	18.57' RT	TC-PC	736.60
10	314+65.44	14.00' RT	TC-PT	736.74

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140647
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PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

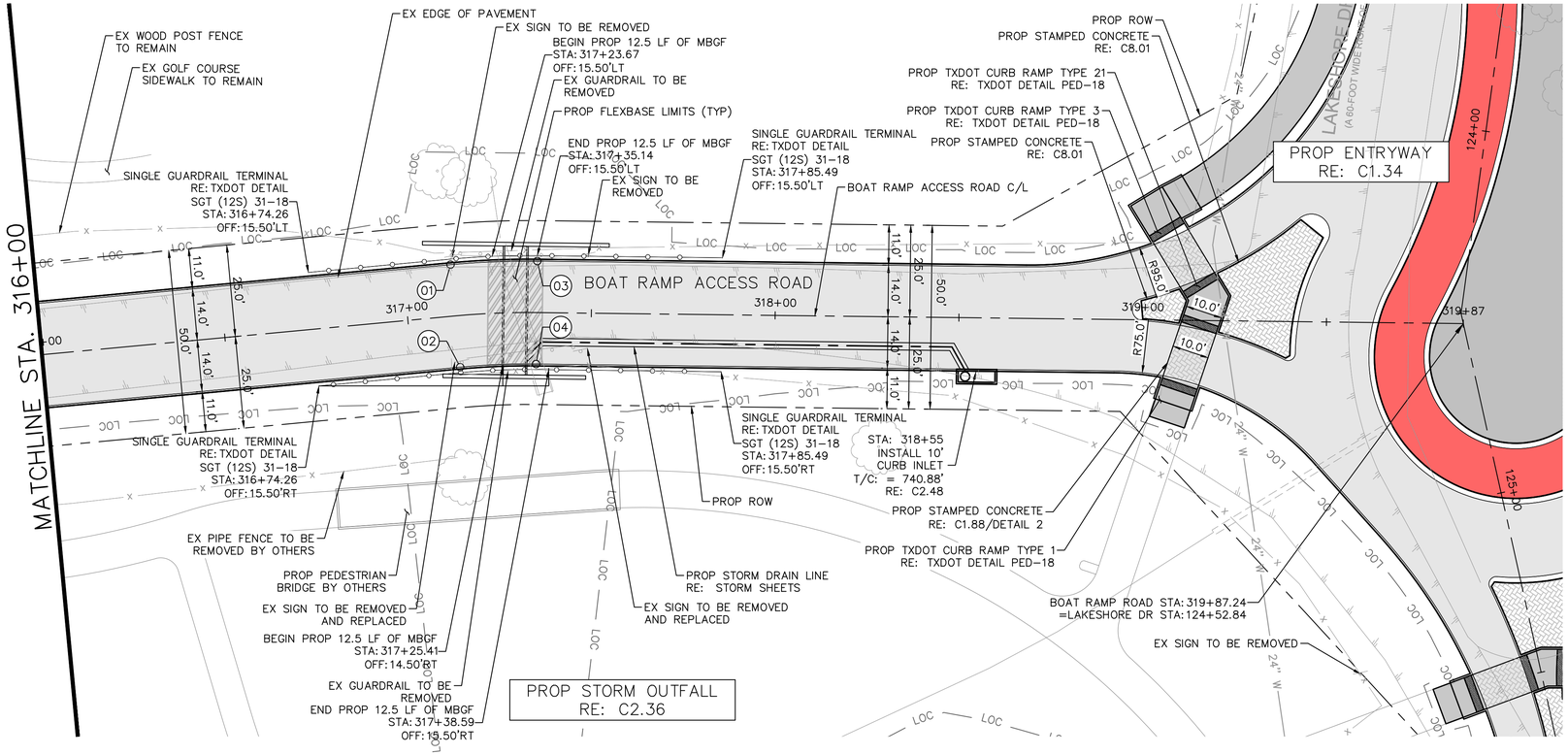
PAVING PLAN AND PROFILE
BOAT RAMP ACCESS ROAD - STA 312+00 TO STA 316+00

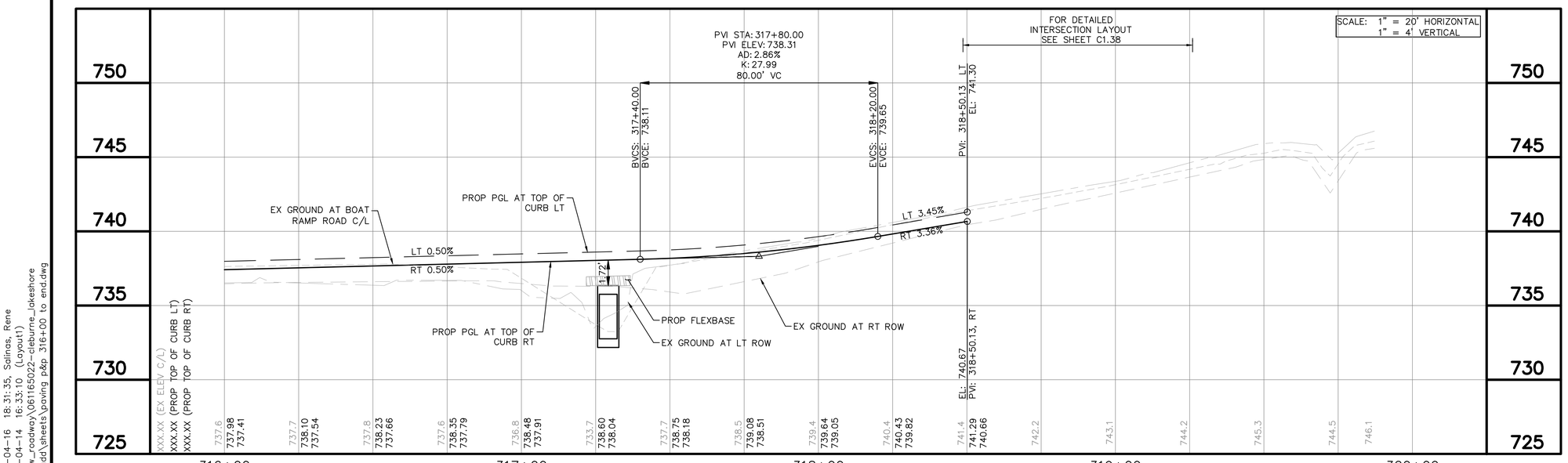
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.31

Plotted, By: 2026-04-16 18:30:27, Salinas, Rene
Last Saved: 2026-04-09 10:25:02 (Layout! (2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\paving p&p begin to 316+00.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE: 1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP TRUCK APRON
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	317+12.98	14.00' LT	TC-PC	738.54
02	317+12.98	14.00' RT	TC-PC	737.98
03	317+35.14	14.00' LT	TC-PT	738.65
04	317+35.14	14.00' RT	TC-PT	738.09

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	By	Date	Revision

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

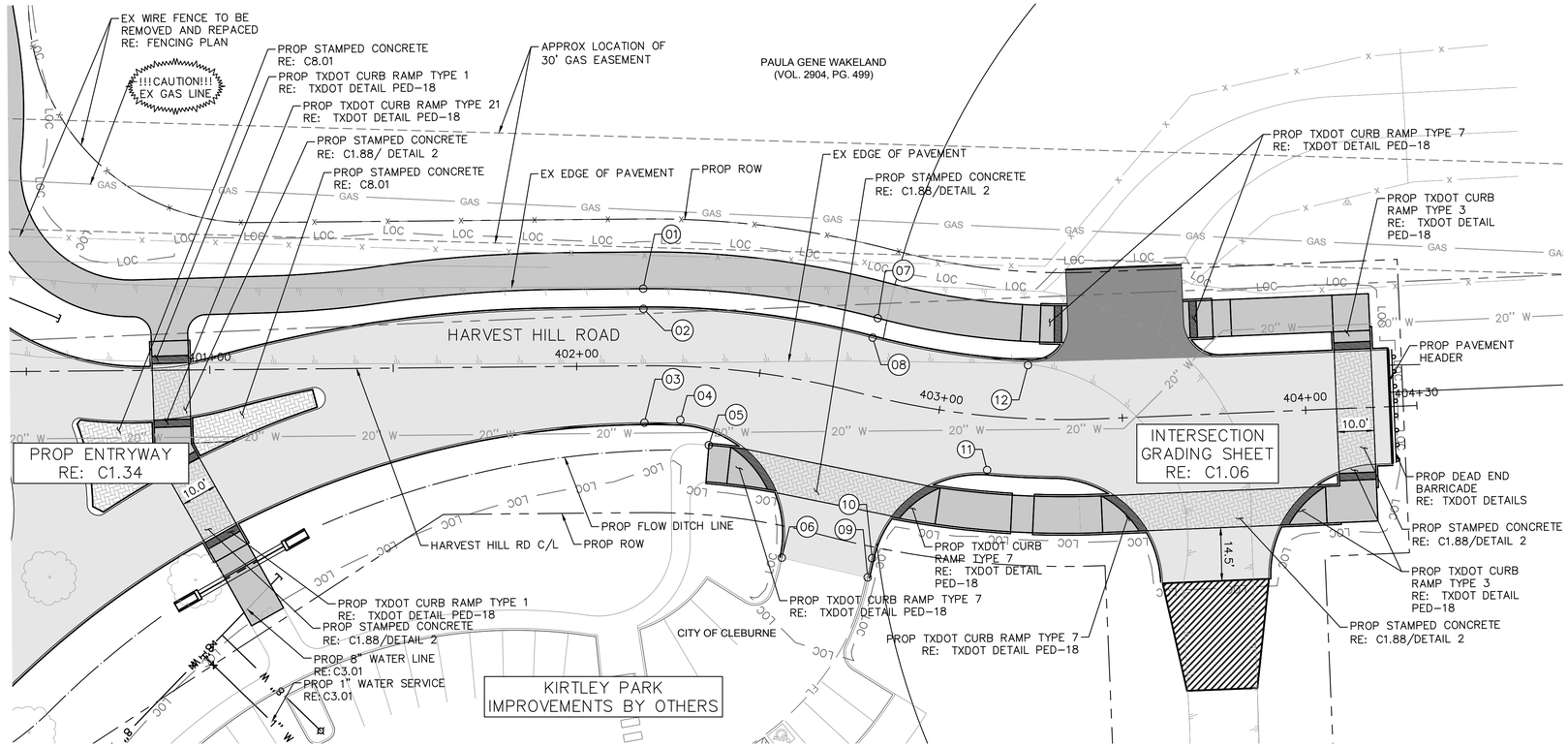
PAVING PLAN AND PROFILE BOAT RAMP ACCESS ROAD - STA 316+00 TO END

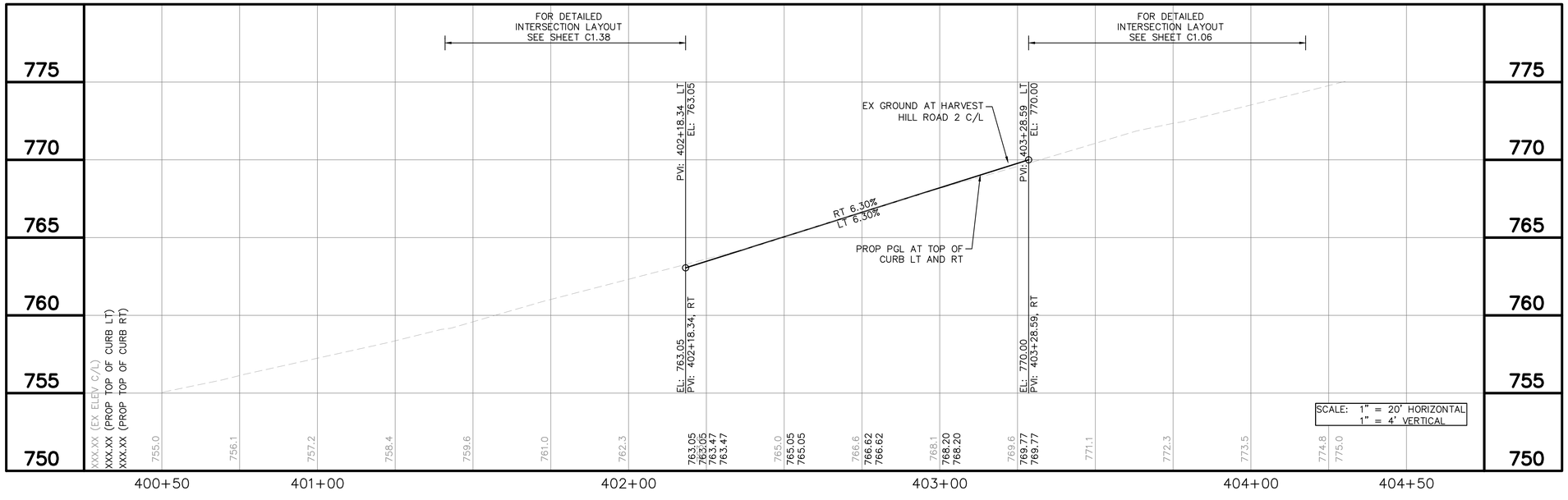
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.32

Plotted, By: 2026-04-16 18:31:35, Salinas, Rene
Last Saved: 2026-04-14 16:33:10 (Layout1)
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GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP TRUCK APRON
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	402+18.34	21.00' LT	TS–PC	762.70
02	402+18.34	15.50' LT	TC–PC	763.05
03	402+18.34	15.50' RT	TC–PCC	763.05
04	402+28.34	15.50' RT	TC–PCC	763.68
05	402+37.71	21.00' RT	TS–PI	763.65
06	402+66.34	48.58' RT	TC–PI	763.48
07	402+77.34	21.00' LT	TS–PRC	767.01
08	402+77.34	15.50' LT	TC–PRC	766.77
09	402+89.99	48.42' RT	TC–PI	765.44
10	402+90.09	43.08' RT	TC–PC	766.07
11	403+15.00	15.50' RT	TC–PRC	769.14
12	403+23.98	15.50' LT	TC–PCC	769.71

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04/10/2026

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PROFESSIONAL ENGINEER

CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PAVING PLAN AND PROFILE HARVEST HILL ROAD - BEGIN TO END

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.33

Plotted, By: 2026-04-16 18:32:04, Salinas, Rene
Last Saved: 2026-04-14 16:33:10 (Layout1 (2))
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POINT TABLE

No.	STATION	OFFSET	DESC	ELEV
01	502+45.12	0.00'	TC–PRC	751.17
02	502+18.38	33.34' RT	TC	751.85
03	501+90.42	38.85' RT	TC	751.02
04	501+66.15	0.00'	TP–PRC	747.64

LEGEND

- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- ASPHALT PAVEMENT REPAIR
- STAMPED CONCRETE
- PROP TRUCK APRON
- PROP FLEXBASE
- LIMIT OF CONSTRUCTION — LOC —

GRAPHIC SCALE

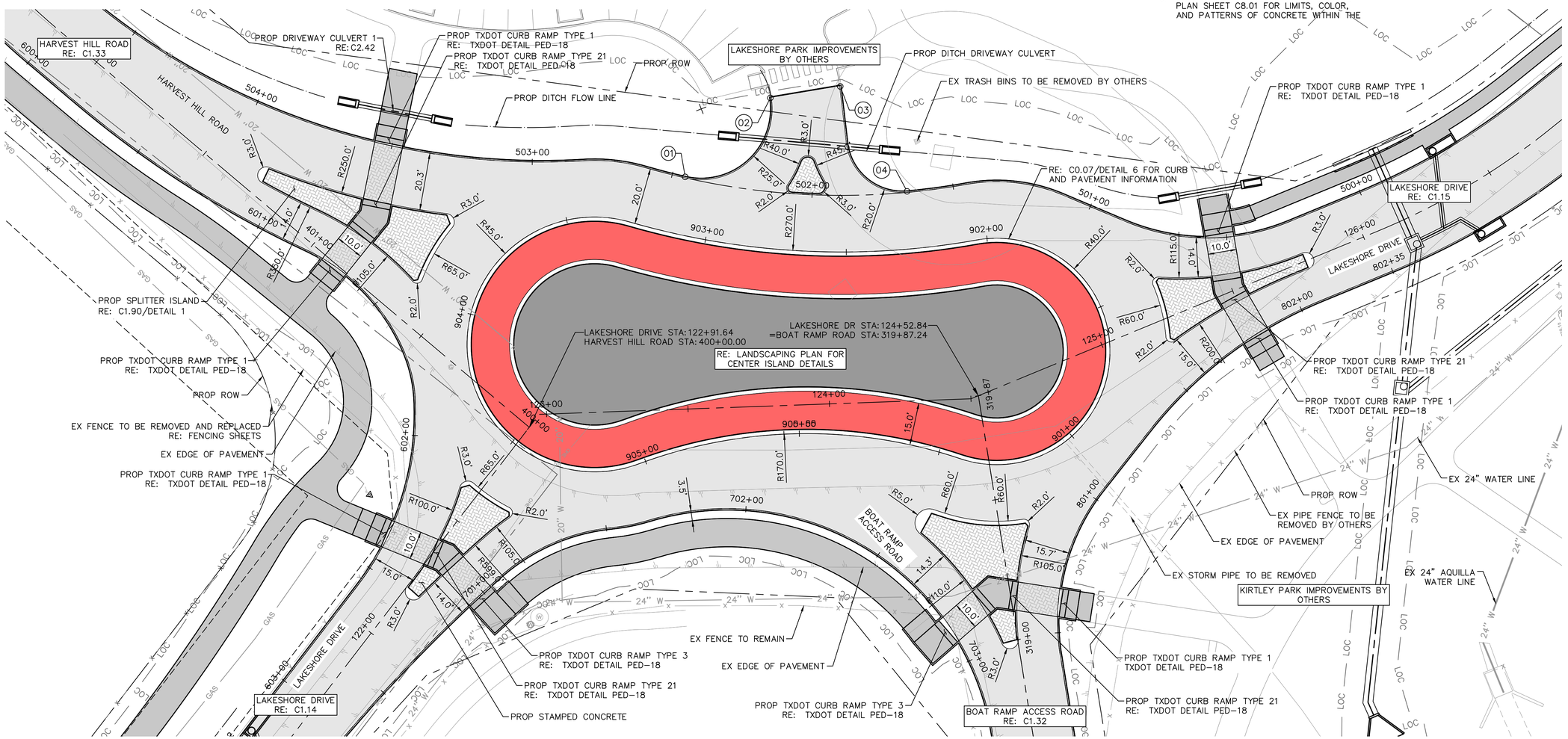
20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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Last Saved: 2026-04-09 08:29:16 (PLAN VIEW)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p roundabout.dwg

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

ENTRYWAY PAVING PLAN

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

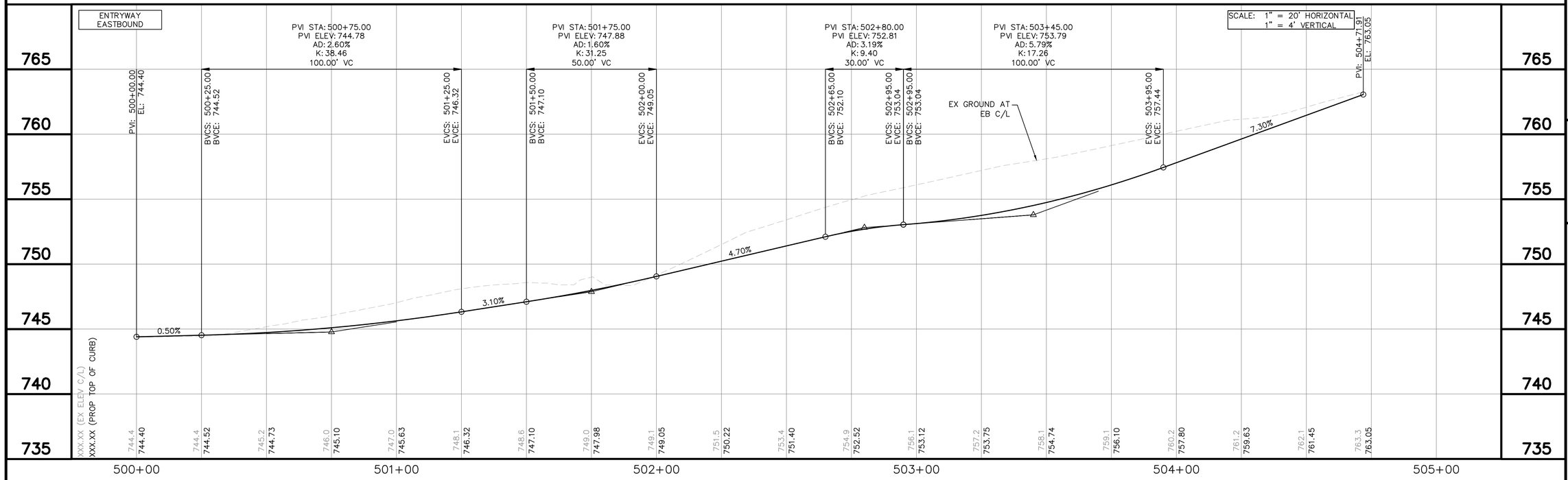
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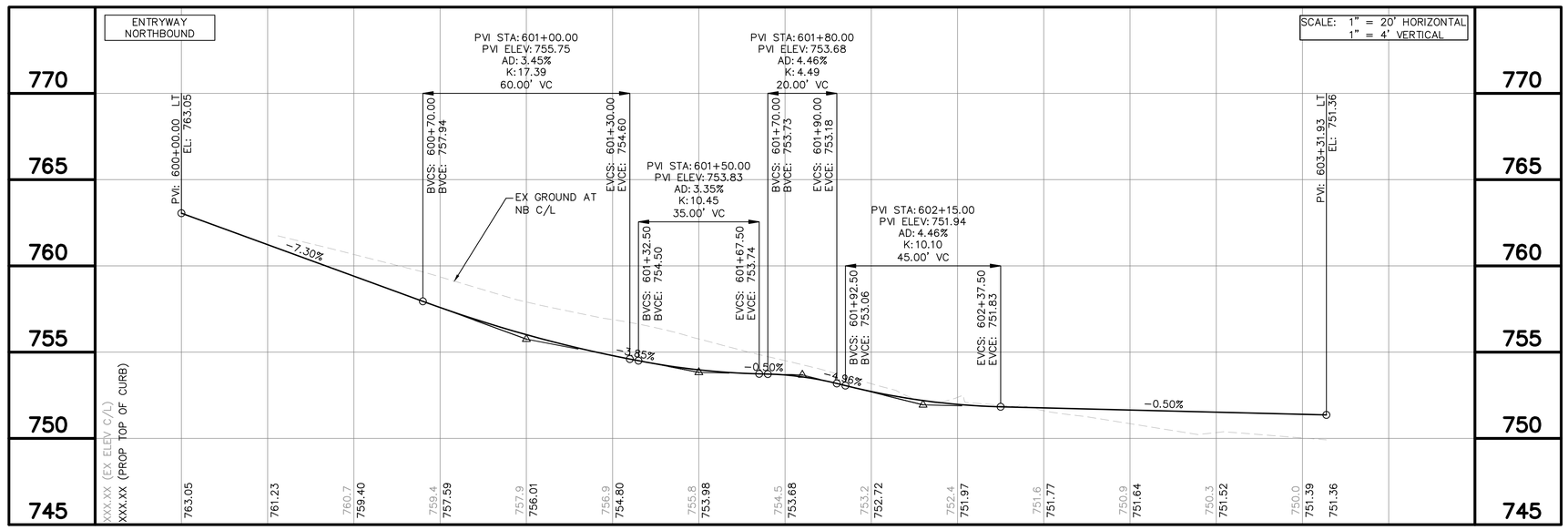
GRAPHIC SCALE

20 0 10 20 40

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Plotted, By: 2026-04-16 18:33:20, Salinas, Rene
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Filename: k:\tw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p roundabout.dwg

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STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

ENTRYWAY PROFILES
(SHEET 1 OF 3)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

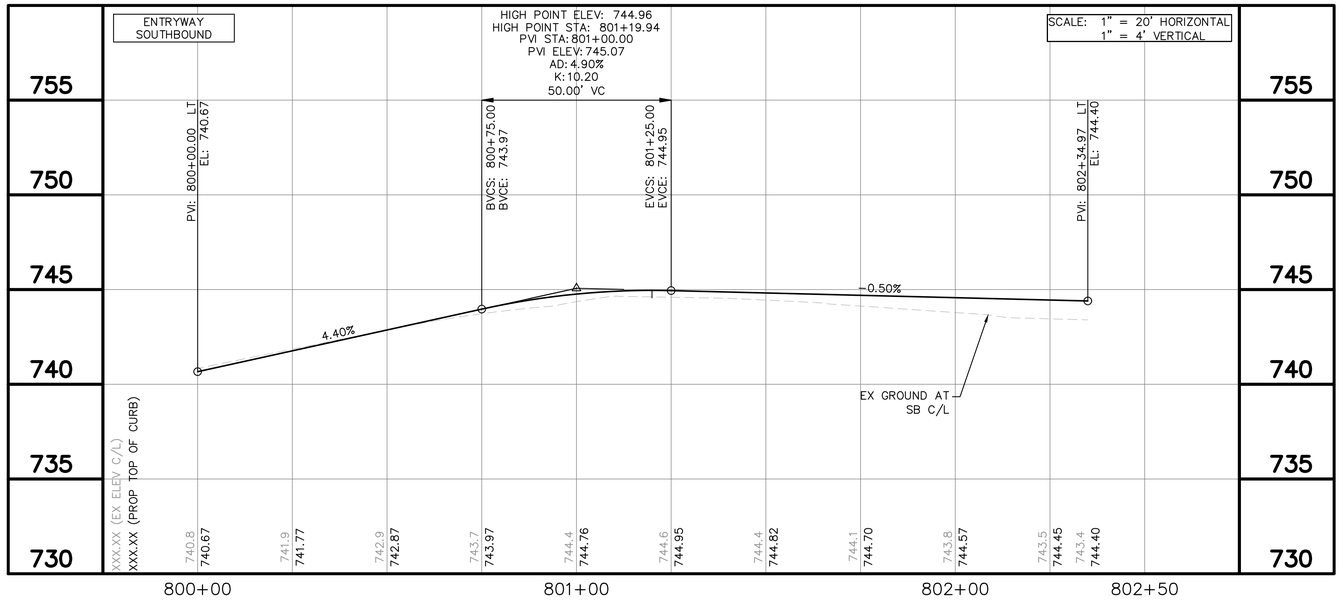
C1.35

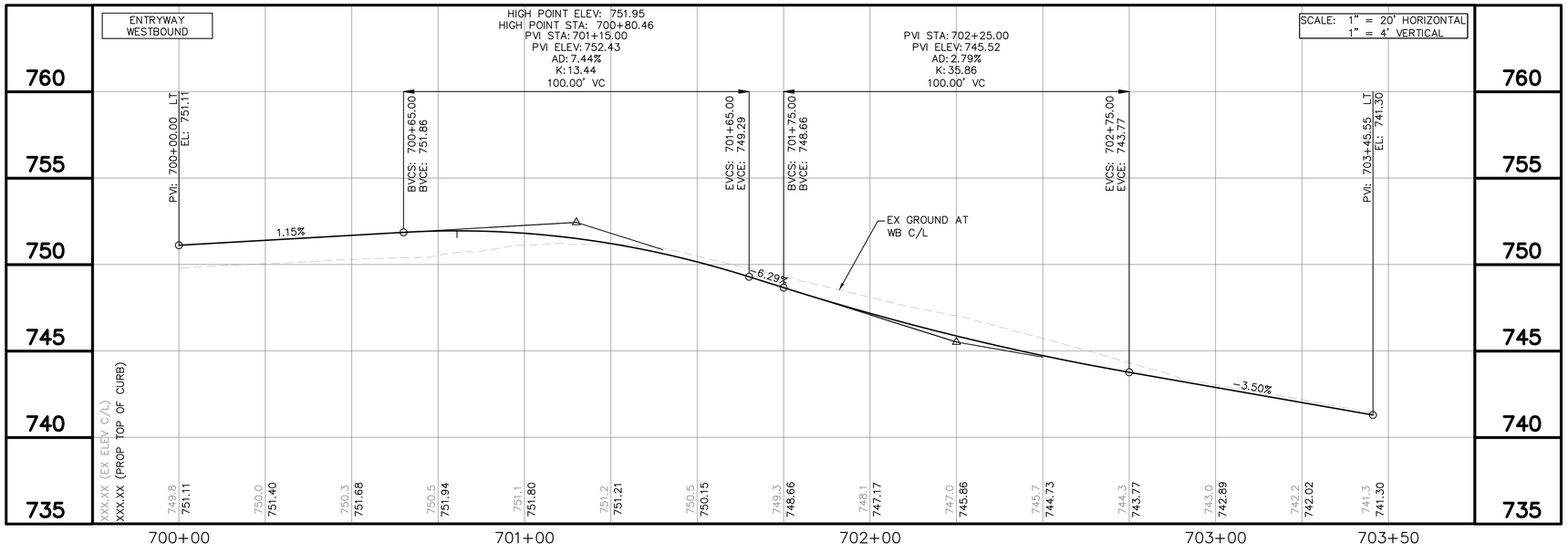
GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT





Plotted, By: 2026-04-16 18:33:28, Salinas, Rene
Last Saved: 2026-04-09 08:29:16 (PROFILE VIEW (2 OF 3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p roundabout.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

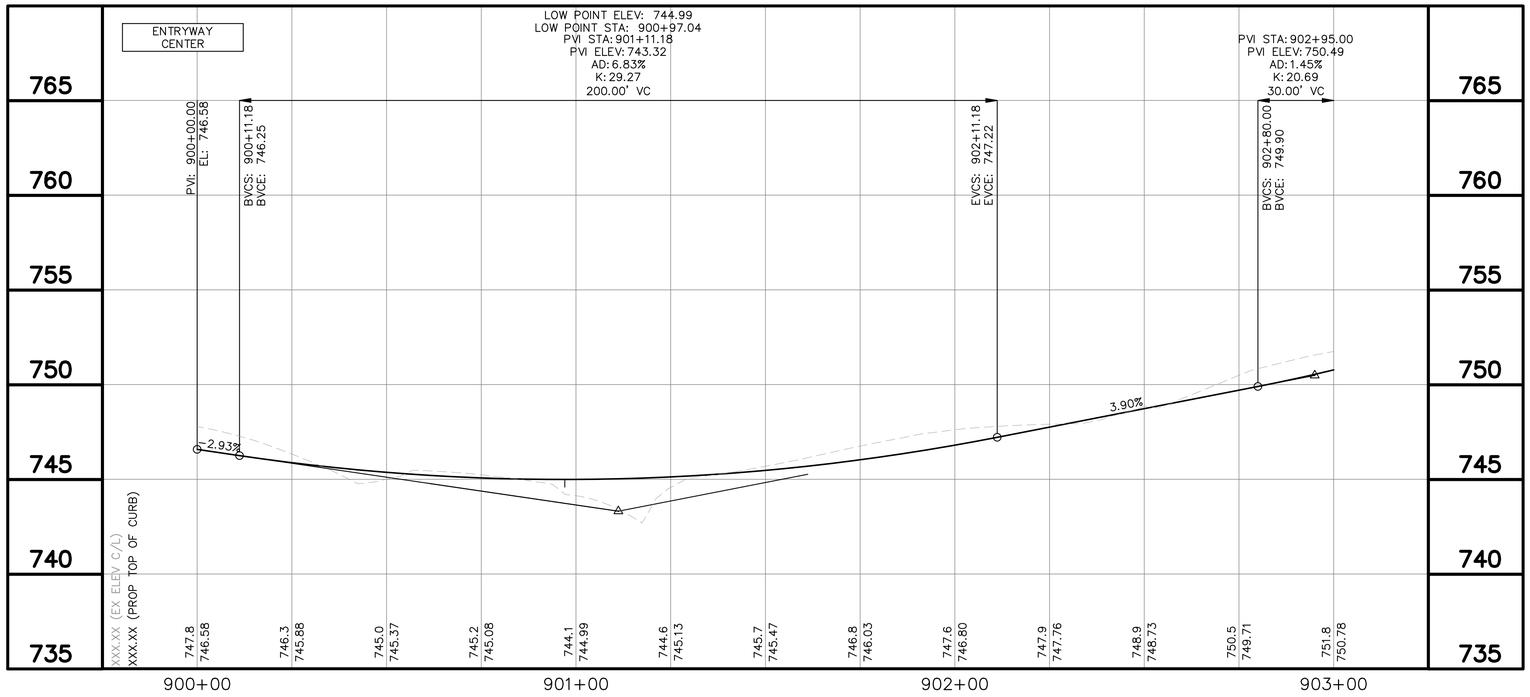
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

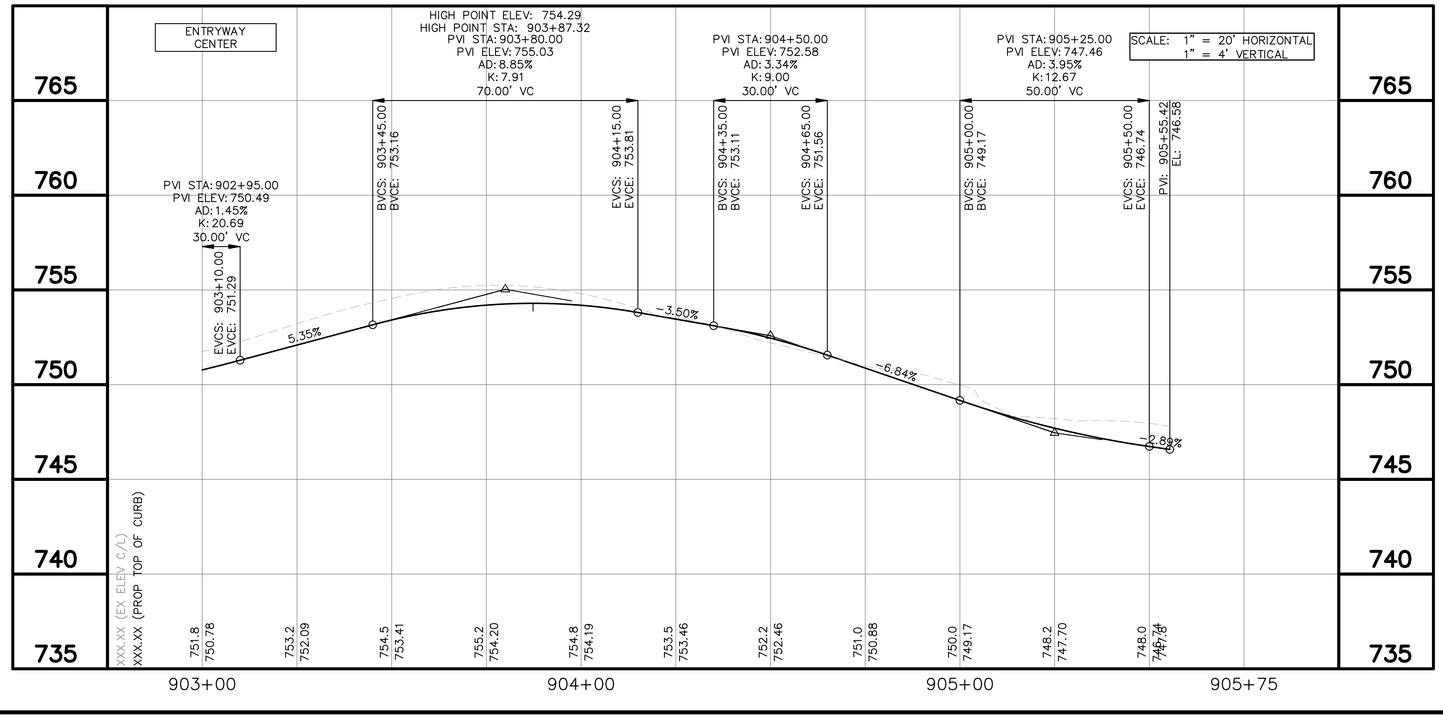
ENTRYWAY PROFILES
(SHEET 2 OF 3)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.36





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

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No.	Revision	By	Date

04/10/2026

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CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

ENTRYWAY PROFILES
(SHEET 3 OF 3)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

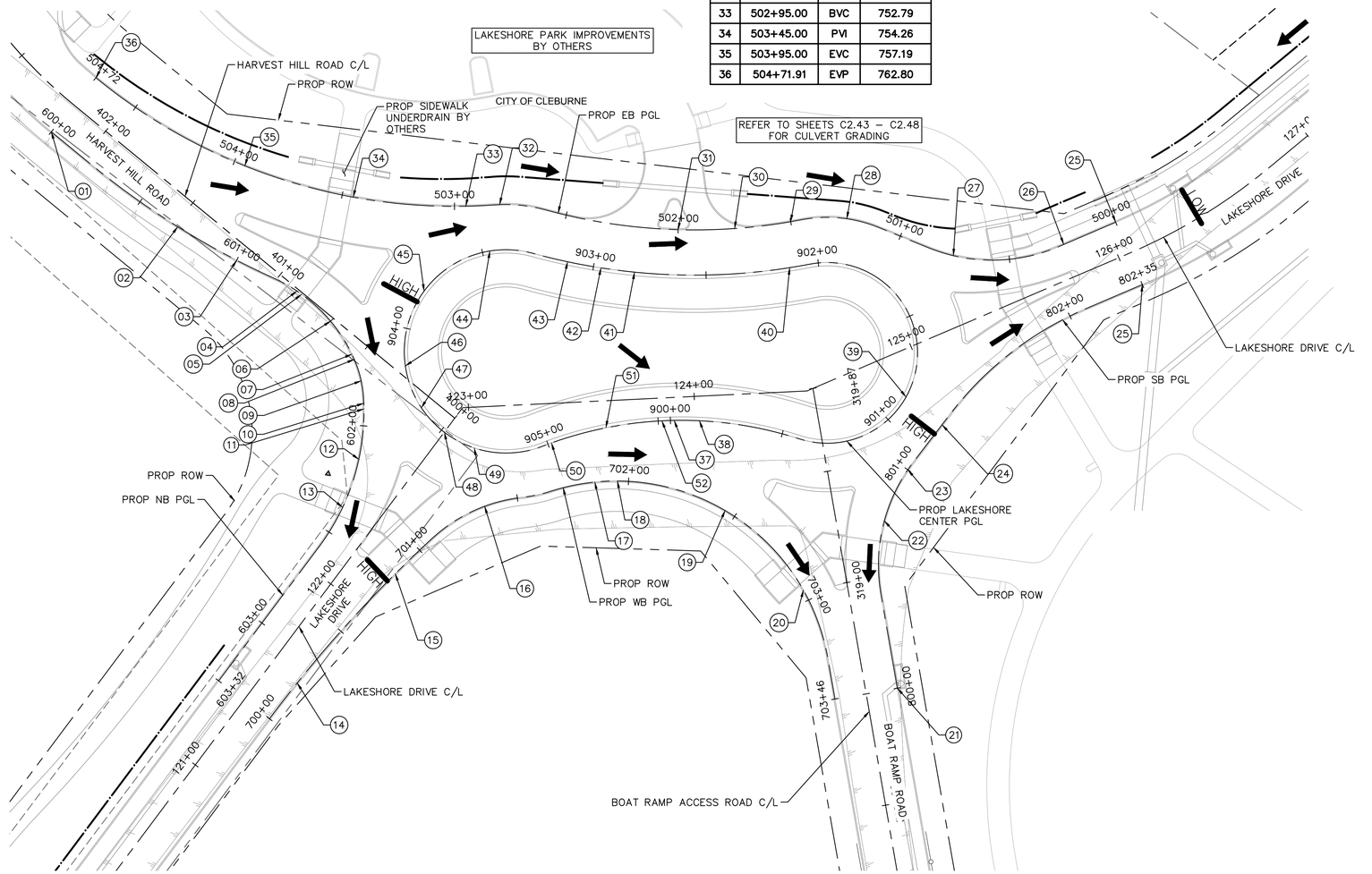
C1.37

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Last Saved: 2026-04-09 08:29:16 (PROFILE VIEW (3 OF 3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving p&p roundabout.dwg

CENTRAL LAKESHORE DRIVE			
No.	C/L STA	DESC	T/C ELEV
37	900+01.66	BVP	746.57
38	900+12.84	BVC	746.20
39	901+12.84	PVI	745.03
40	902+12.84	EVC	747.28
41	902+81.66	BVC	749.97
42	902+96.66	PVI	750.62
43	903+11.66	EVC	751.38
44	903+46.66	BVC	753.25
45	903+81.66	PVI	754.27
46	904+16.66	EVC	753.75
47	904+36.66	BVC	753.05
48	904+51.66	PVI	752.37
49	904+66.66	EVC	751.45
50	905+01.66	BVC	749.06
51	905+26.66	PVI	747.63
52	905+51.66	EVC	746.69

NB LAKESHORE DRIVE			
No.	C/L STA	DESC	T/C ELEV
01	600+00.00	BVP	762.80
02	600+70.00	BVC	757.69
03	601+00.00	PVI	755.76
04	601+30.00	EVC	754.35
05	601+32.50	BVC	754.25
06	601+50.00	PVI	753.73
07	601+67.50	EVC	753.49
08	601+70.00	BVC	753.48
09	601+80.00	PVI	753.32
10	601+90.00	EVC	752.93
11	601+92.50	BVC	752.81
12	602+15.00	PVI	751.95
13	602+37.50	EVC	751.58

EB LAKESHORE DRIVE			
No.	C/L STA	DESC	T/C ELEV
25	500+00.00	EVP	744.15
26	500+25.00	BVC	744.28
27	500+75.00	PVI	744.85
28	501+25.00	EVC	746.08
29	501+50.00	BVC	746.85
30	501+75.00	PVI	747.73
31	502+00.00	EVC	748.80
32	502+80.00	PVI	752.44
33	502+95.00	BVC	752.79
34	503+45.00	PVI	754.26
35	503+95.00	EVC	757.19
36	504+71.91	EVP	762.80



SB LAKESHORE DRIVE			
No.	C/L STA	DESC	T/C ELEV
21	800+00.00	BVP	740.42
22	800+75.00	BVC	743.72
23	801+00.00	PVI	744.51
24	801+25.00	EVC	744.70
25	802+34.97	EVP	744.15

WB LAKESHORE DRIVE			
No.	C/L STA	DESC	T/C ELEV
14	700+20.05	BVP	751.09
15	700+85.05	BVC	751.69
16	701+35.05	PVI	750.59
17	701+85.05	EVC	747.79
18	701+95.05	BVC	747.21
19	702+45.05	PVI	744.69
20	702+95.05	EVC	742.81

GRAPHIC SCALE

30 0 15 30 60

ORIGINAL PLOTTED SCALE:
1 inch = 30 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 60 FT

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

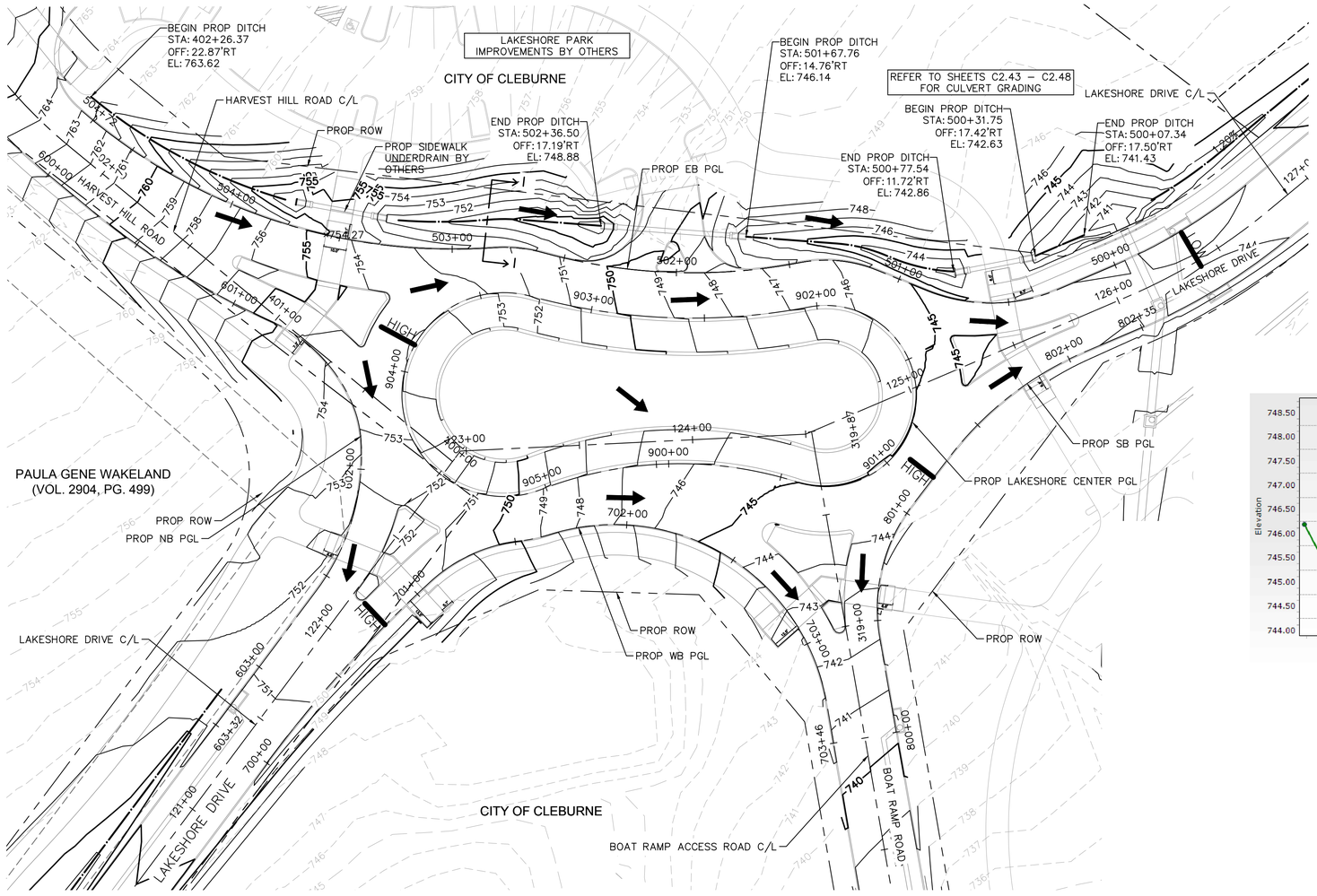
ENTRYWAY
GRADING PLAN

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.38

Plotted, By: 2026-04-16 18:34:44, Salinas, Rene
Last Saved: 2026-04-09 08:44:40 (ENTRYWAY GRADING)
K:\fw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\grading plan.dwg



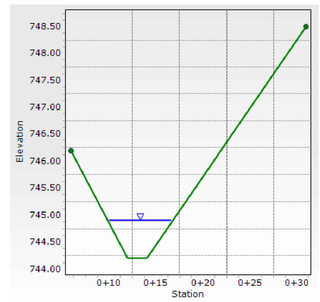
GRAPHIC SCALE

30 0 15 30 60

ORIGINAL PLOTTED SCALE:
1 inch = 30 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 60 FT

SECTION 1–1



50–YEAR
DEVELOPED
FLOW
C=0.58
Q_{50} = 16.69 CFS
Q_{CAP} = 192.17 CFS
V_{50} = 5.86 FPS
DEPTH = 0.67 FT
MANNINGS = 0.03

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IMPROVEMENTS

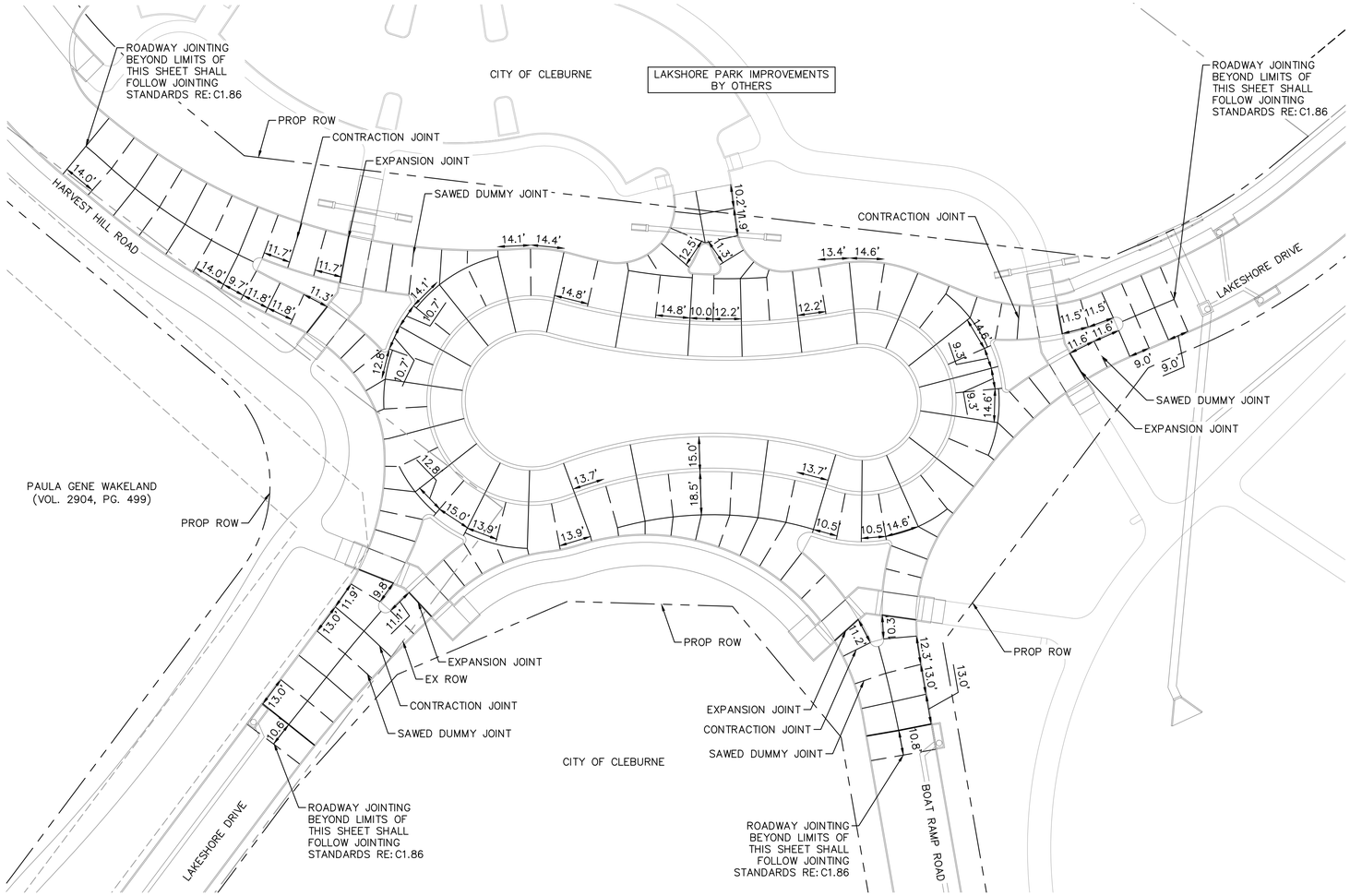
ENTRYWAY
CONTOURS PLAN

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.39

Plotted, By: 2026-04-16 18:35:33, Salinas, Rene
Last Saved: 2026-04-09 10:10:51 (SHEET 6 OF 6)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\contours plan.dwg



GRAPHIC SCALE

30 0 15 30 60

ORIGINAL PLOTTED SCALE:
1 inch = 30 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 60 FT

LEGEND

CONTRACTION JOINT

EXPANSION JOINT

SAWED DUMMY JOINT

NOTE:
1. ROADWAY JOINTING BEYOND THE LIMITS OF THIS SHEET SHALL FOLLOW THE JOINTING STANDARDS FOUND ON SHEET C1.86.

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

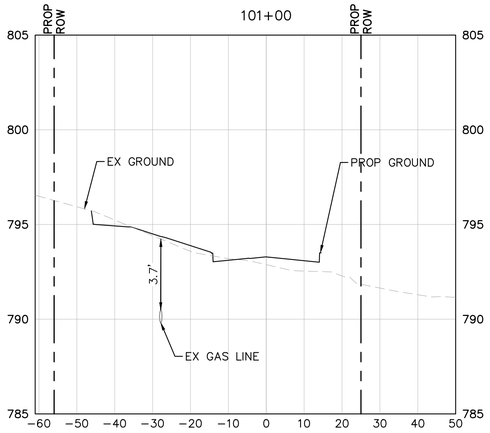
ENTRYWAY JOINTING PLAN

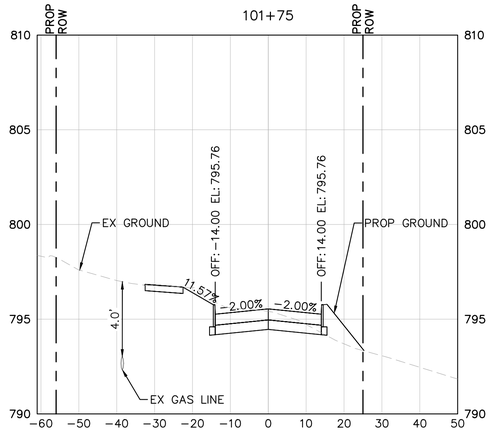
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

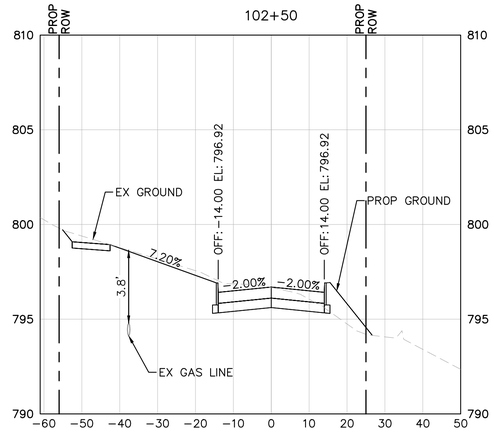
SHEET NUMBER

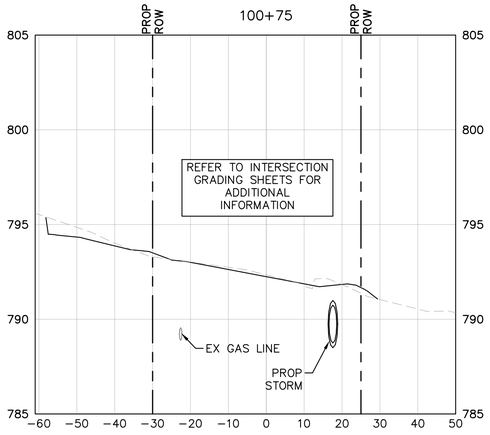
C1.40

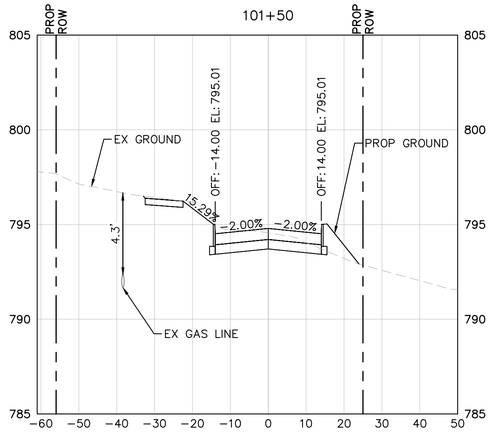
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Last Saved: 2025-04-17 15:51:49 (ENTRYWAY JOINTING PLAN)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\jointing plan.dwg

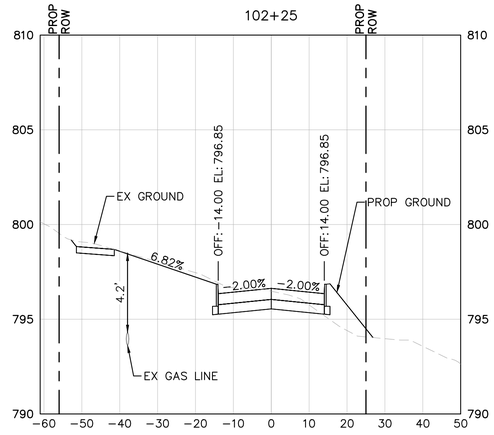


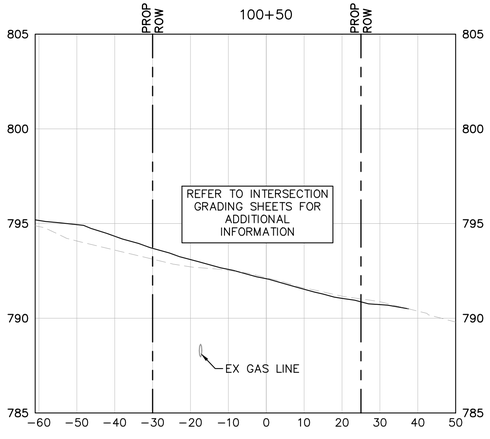


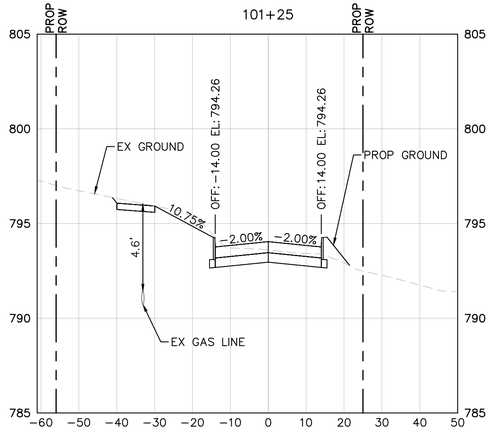


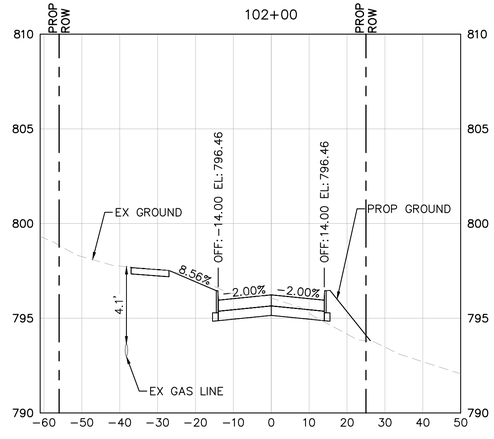












Plotted, By: 2026-04-16 18:36:58, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (35))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

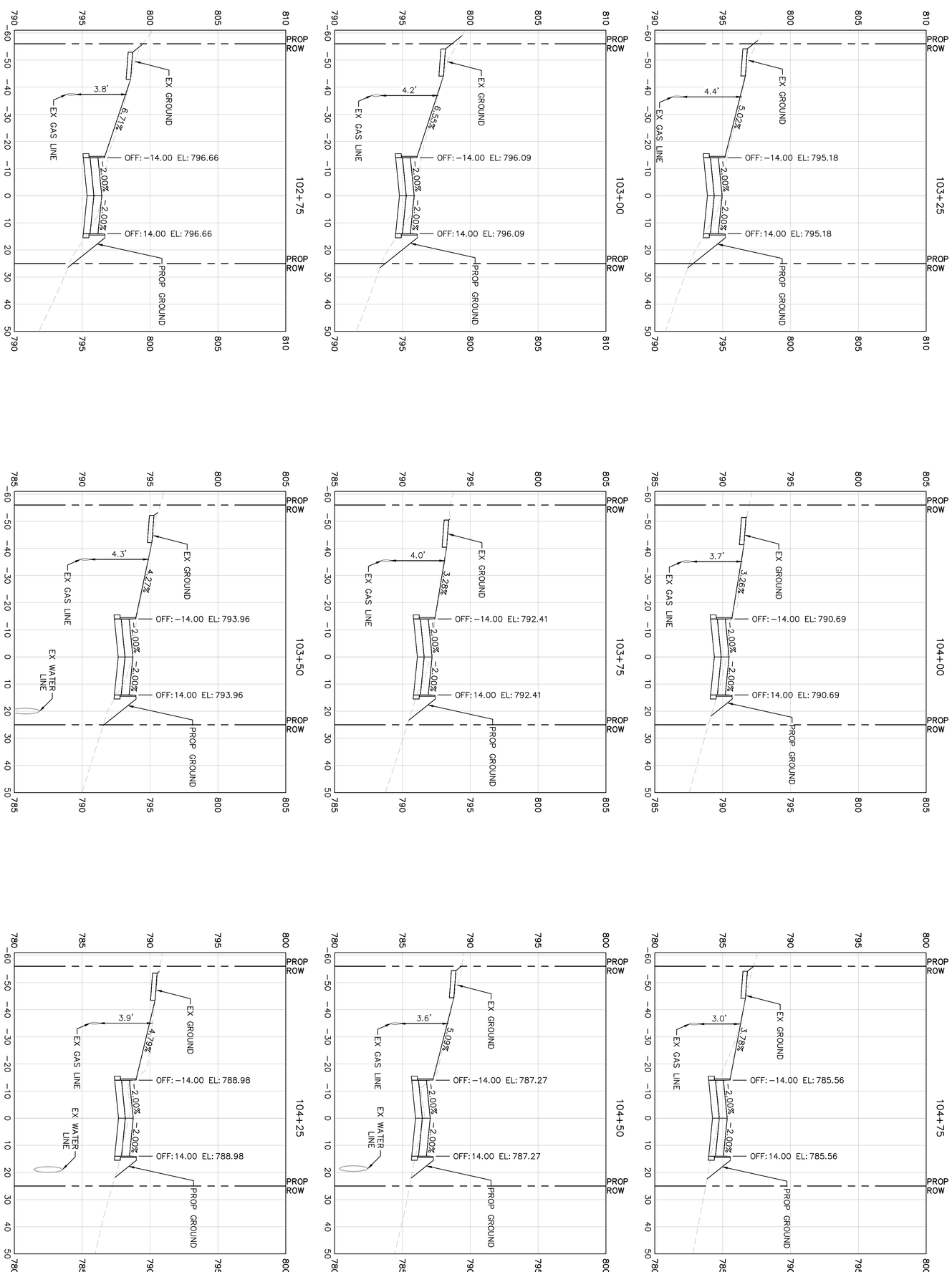
CROSS SECTIONS
LAKESHORE DRIVE
BEGIN TO STA 102+50

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.41

2026-04-16 18:37:04, Salinas, Rene
Plotted, By: 2026-03-31 17:29:35 (Layout1 (36))
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Filename: dr\cadd\sheets\cross sections.dwg



C1.42
SHEET NUMBER

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

CROSS SECTIONS
LAKESHORE DRIVE STA
102+75 TO STA 104+75

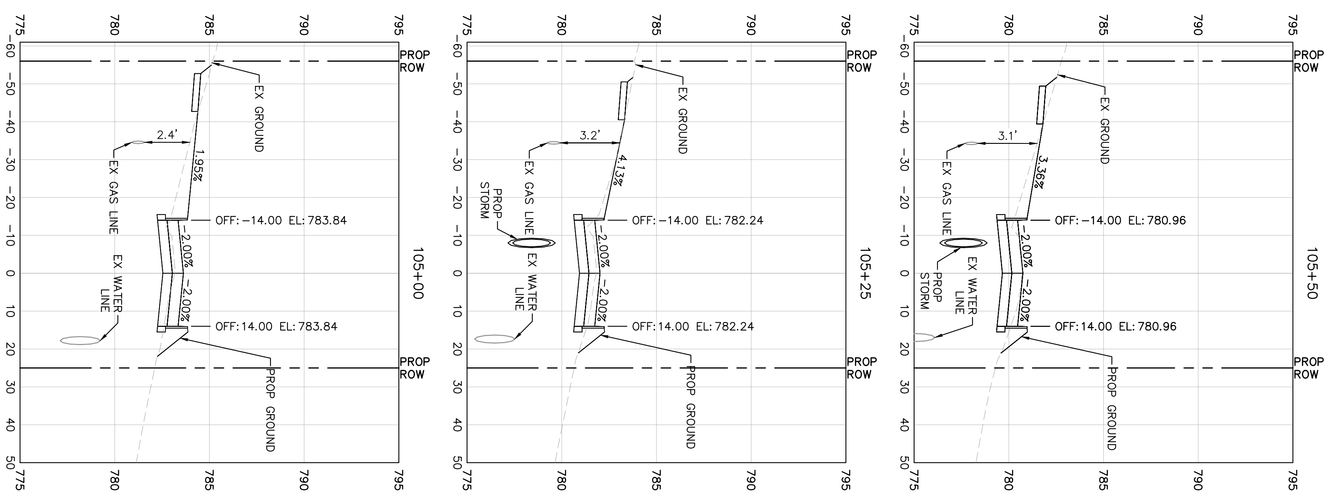
CITY OF CLEBURN
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

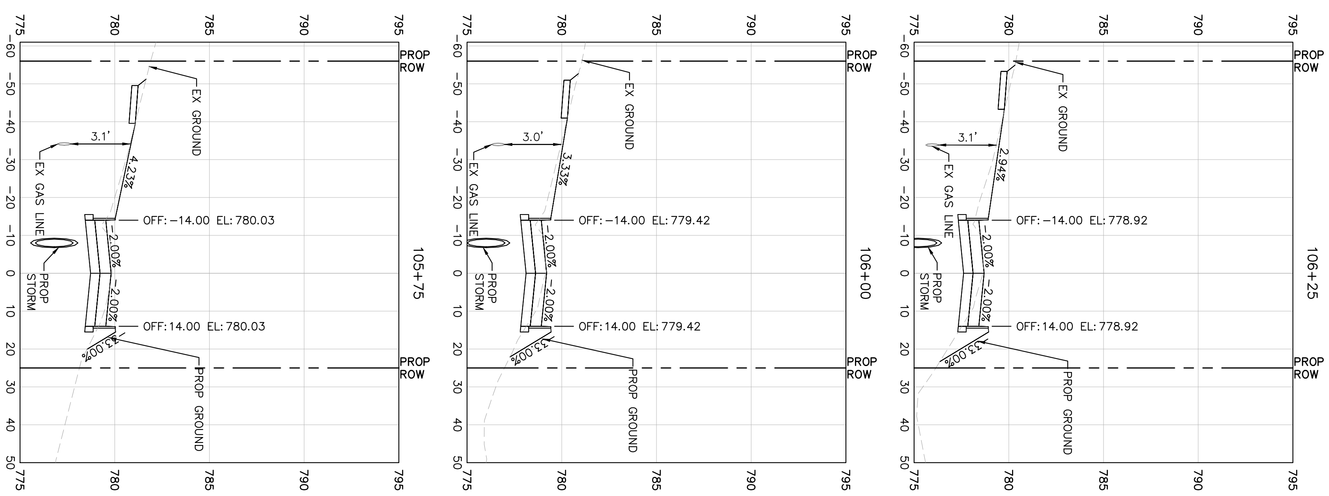
IVAN L. OSEZ
140547
LICENSED PROFESSIONAL ENGINEER
4/10/2026

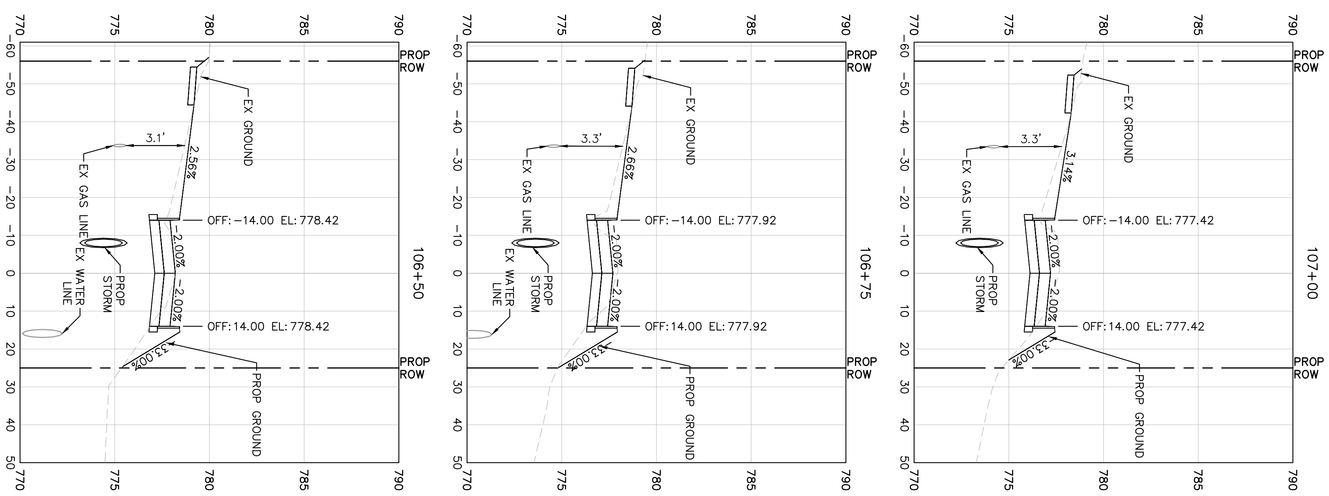
Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

2026-04-16 18:37:10, Salinas, Rene
Plotted, By: 2026-03-31 17:29:35 (Layout1 (37))
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg







C1.43
SHEET NUMBER

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

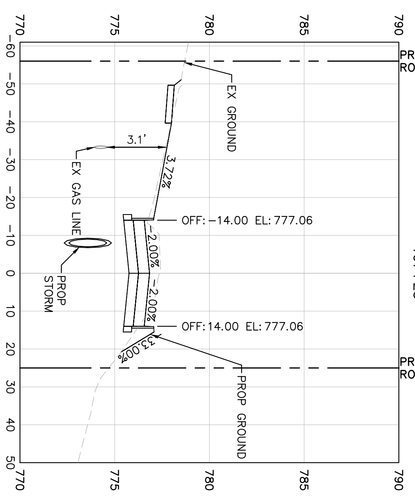
CROSS SECTIONS
LAKESHORE DRIVE STA
105+00 TO STA 107+00

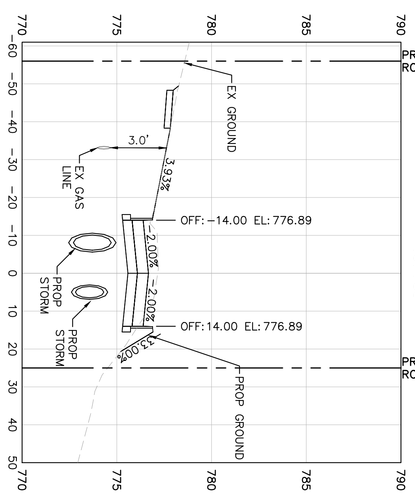
CITY OF CLEBURN
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

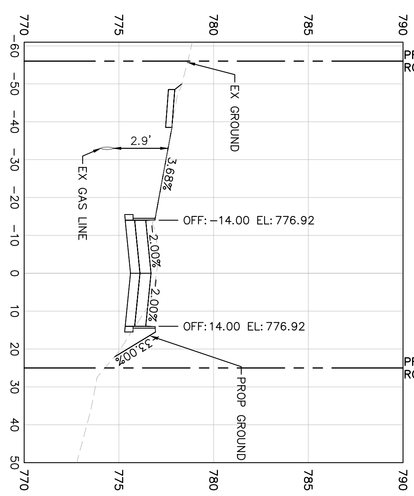
Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

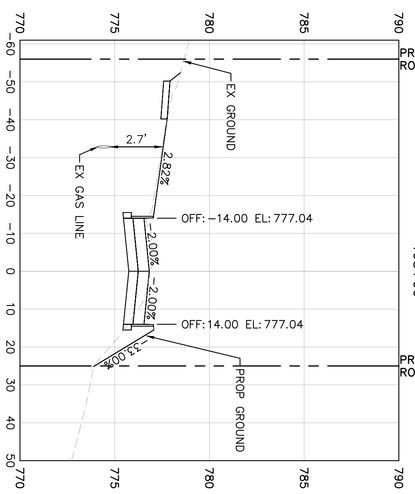
No.	Revision	By	Date

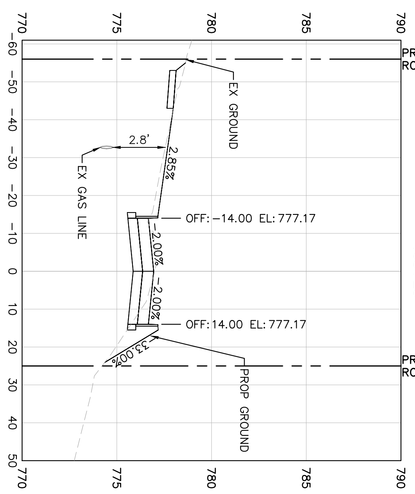
2026-04-16 18:37:17, Salinas, Rene
Plotted, By: 2026-03-31 17:29:35 (Layout1 (38))
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg

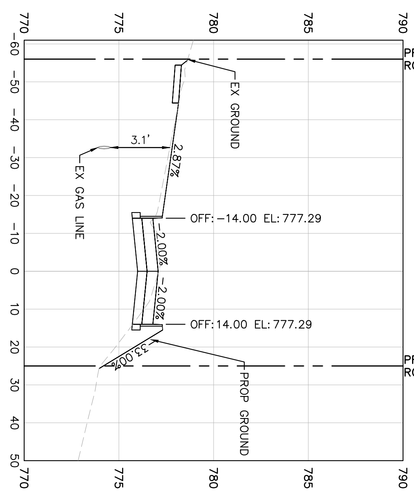


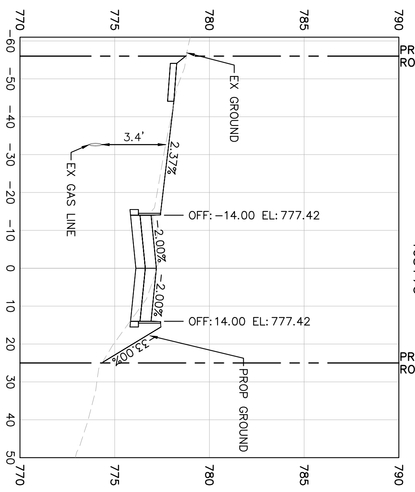


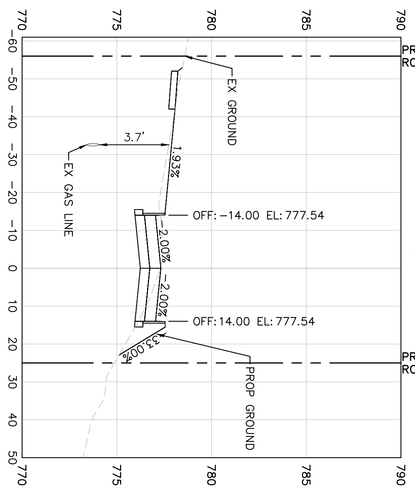


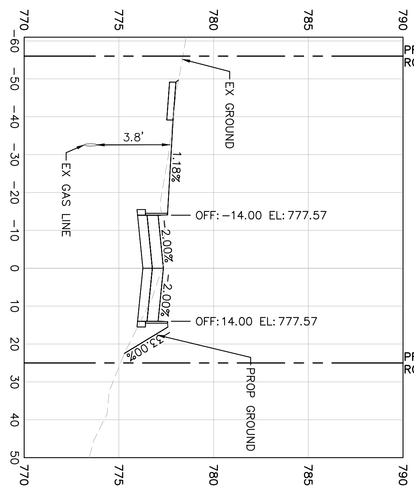












C1.44
SHEET NUMBER

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

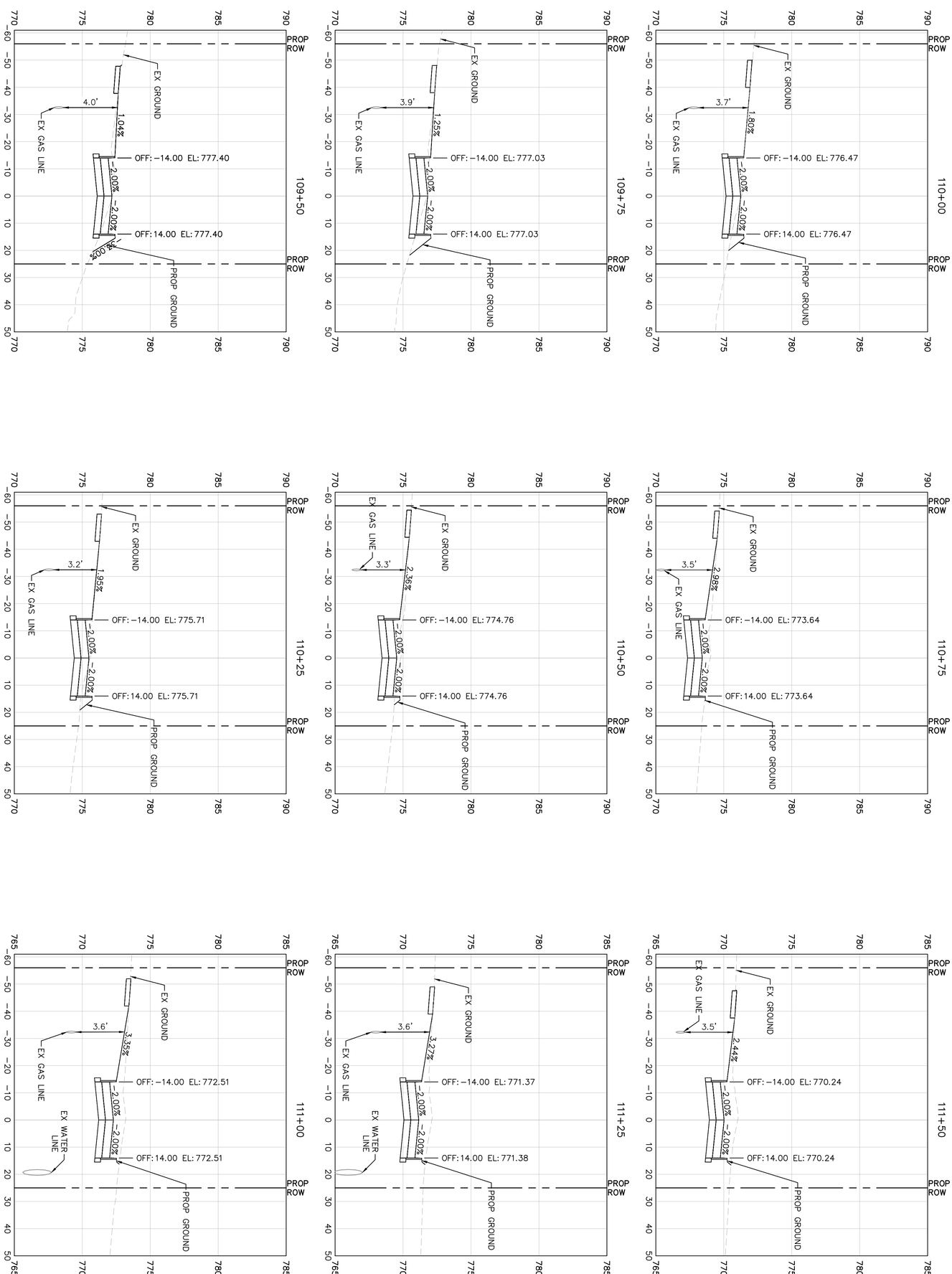
CROSS SECTIONS
LAKESHORE DRIVE
STA 107+25 TO STA 109+25

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

2026-04-16 18:37:23, Salinas, Rene
Plotted, By: 2026-03-31 17:29:35 (Layout1 (39))
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
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C1.45
SHEET NUMBER

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

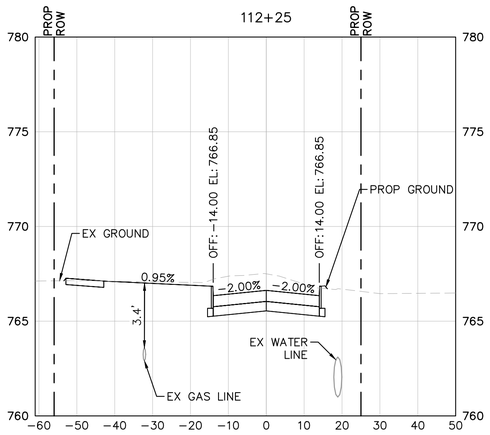
CROSS SECTIONS
LAKESHORE DRIVE STA
109+50 TO STA 111+50

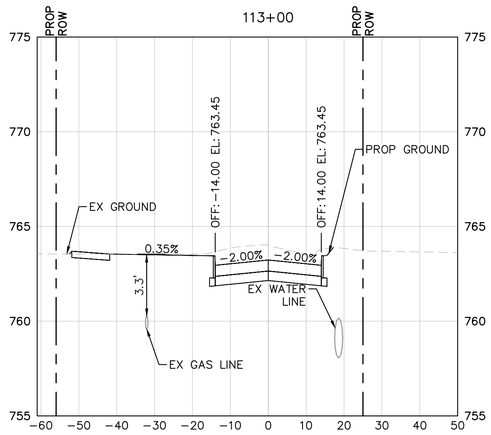
CITY OF CLEBURN
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

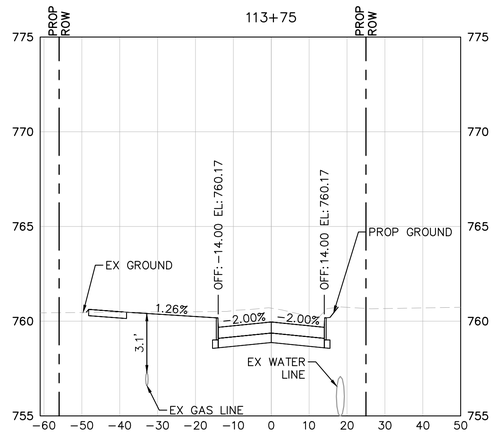
IVAN I. LOPEZ
140547
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

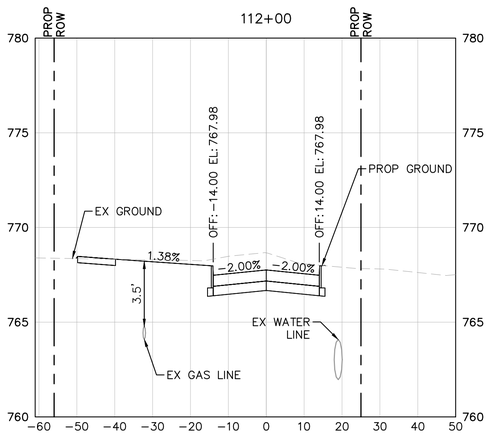
Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

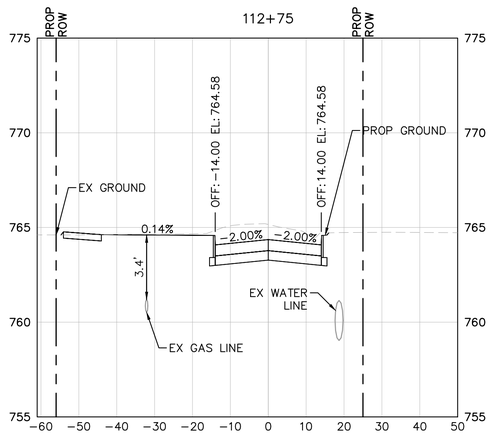
No.	Revision	By	Date

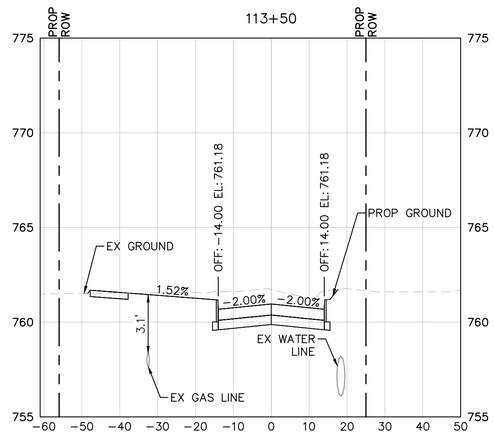


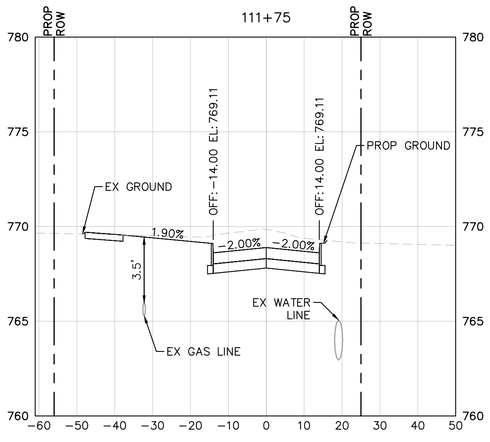


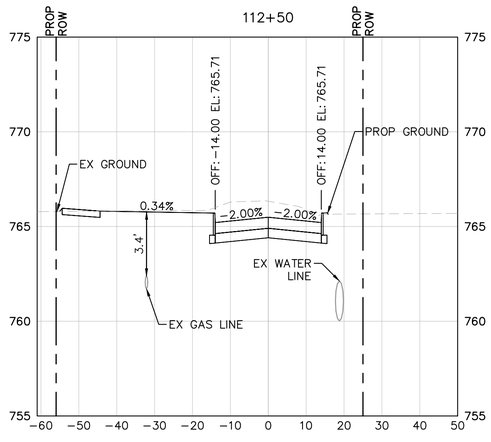


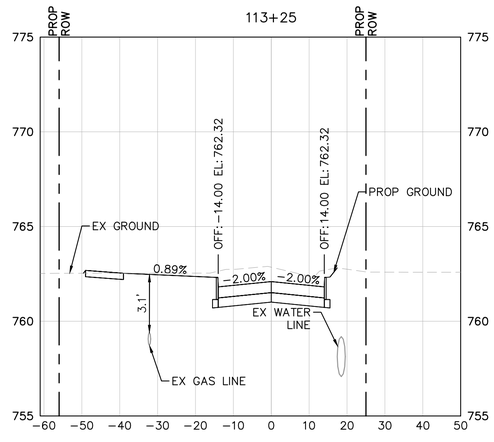












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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

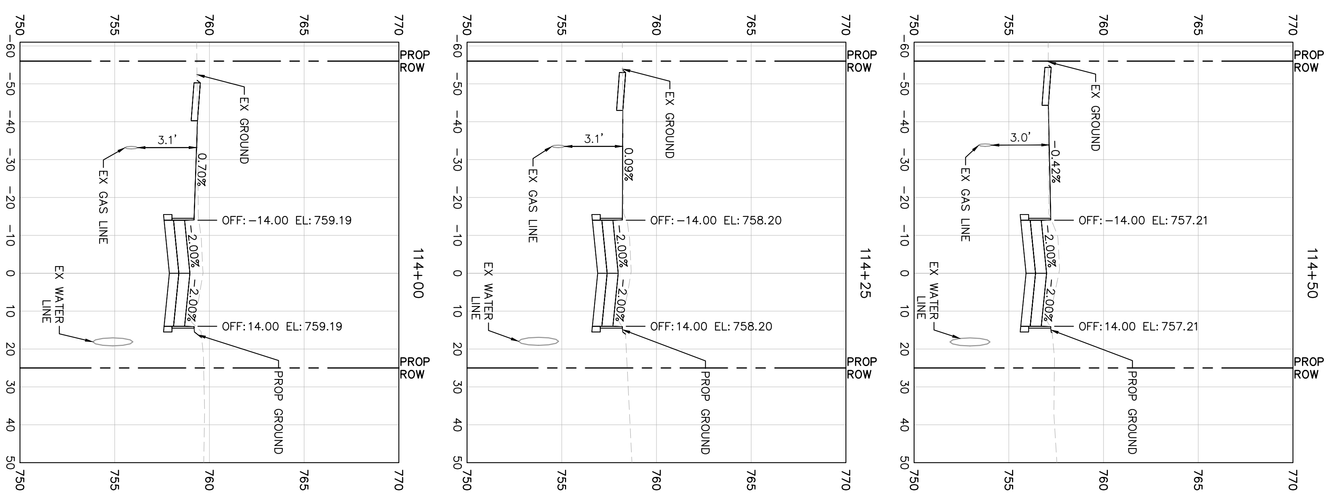
CROSS SECTIONS
LAKESHORE DRIVE
STA 111+75 TO STA
113+75

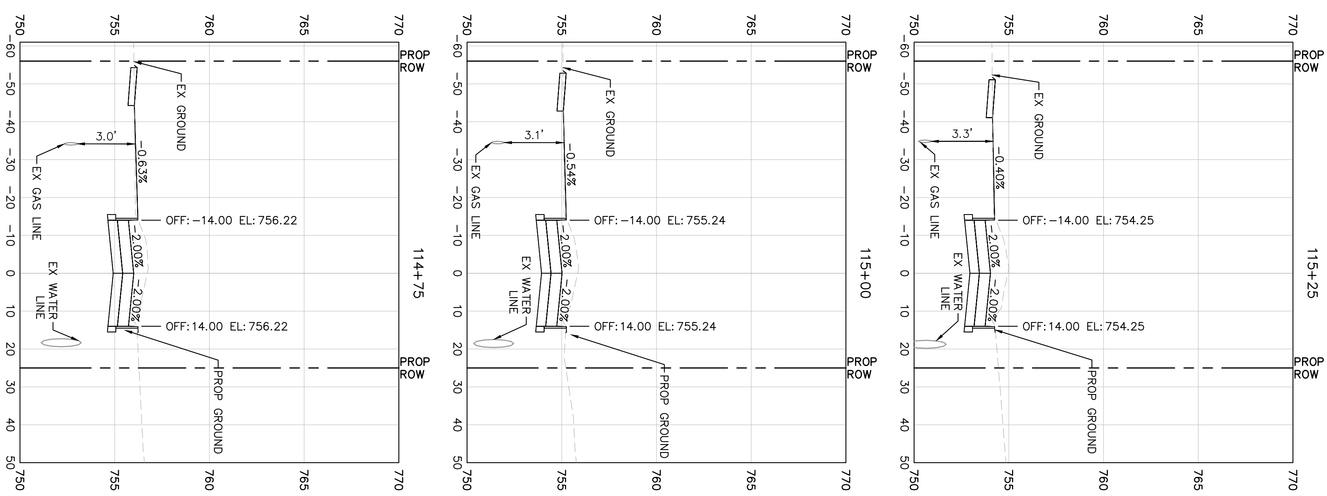
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DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

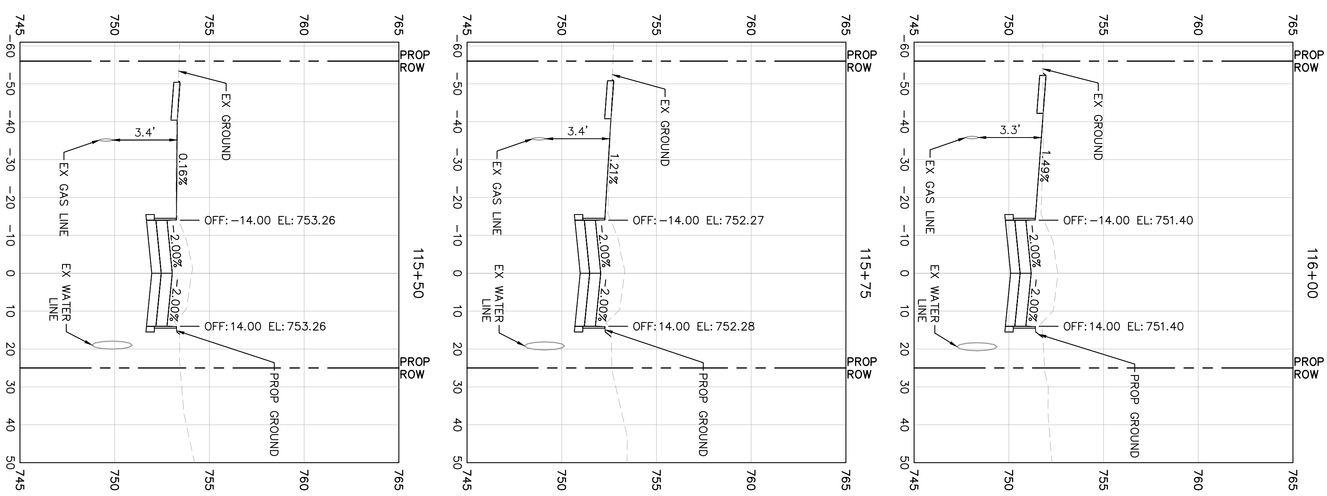
SHEET NUMBER

C1.46

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Filename: dr\cadd\sheets\cross sections.dwg







DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

C1.47
SHEET NUMBER

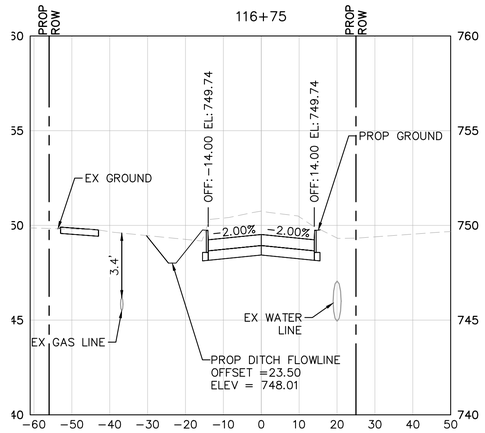
CROSS SECTIONS
LAKESHORE DRIVE
STA 114+00 TO STA 116+00

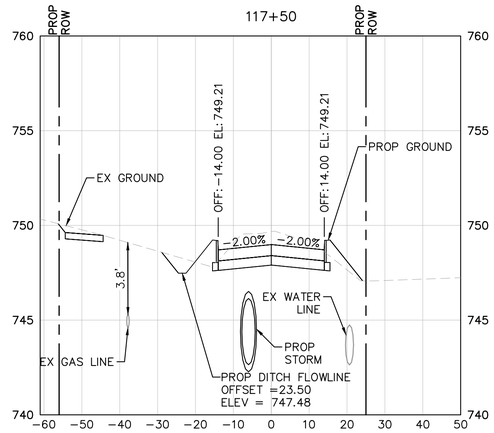
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

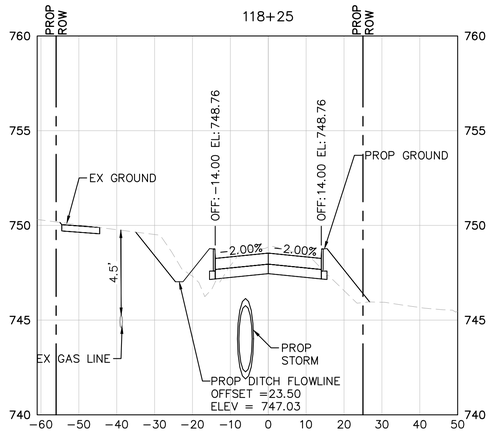
IVAN I. LOPEZ
140547
LICENSED PROFESSIONAL ENGINEER
04/10/2026

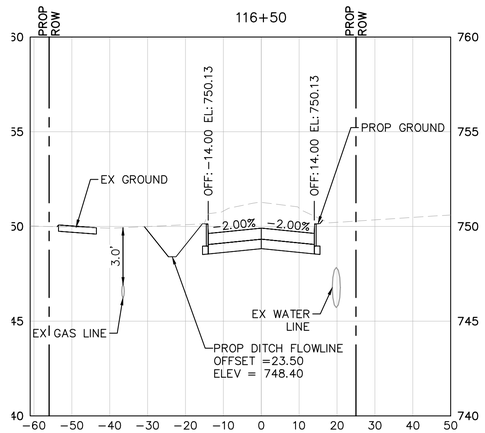
Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

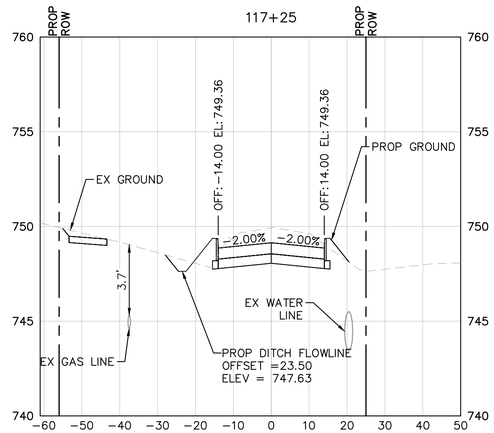
No.	Revision	By	Date

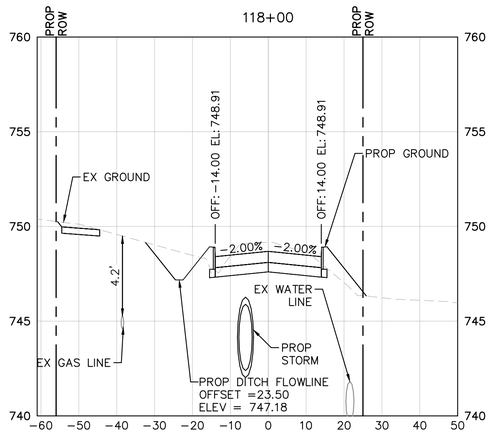


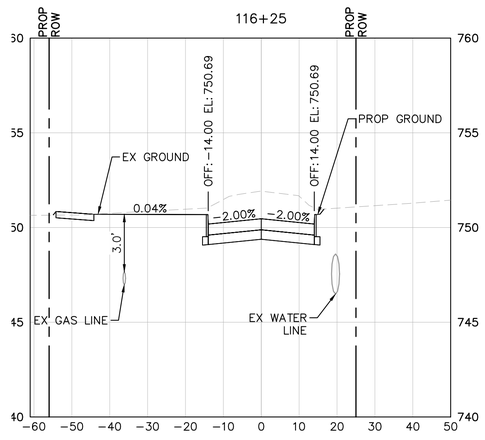


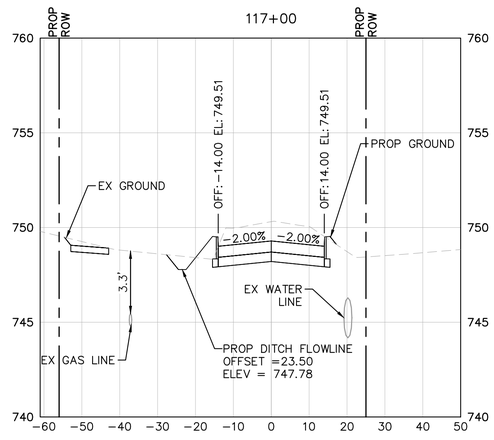


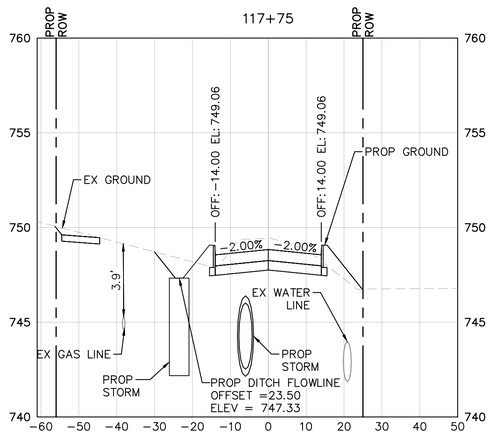












Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

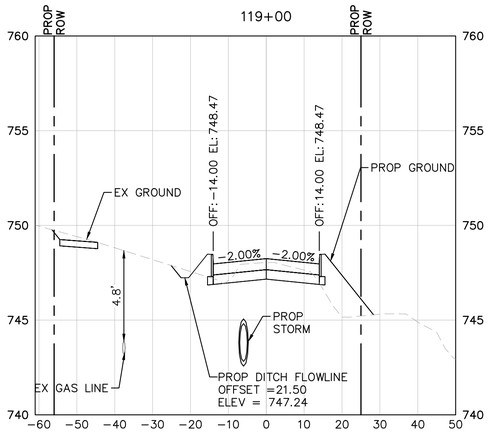
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

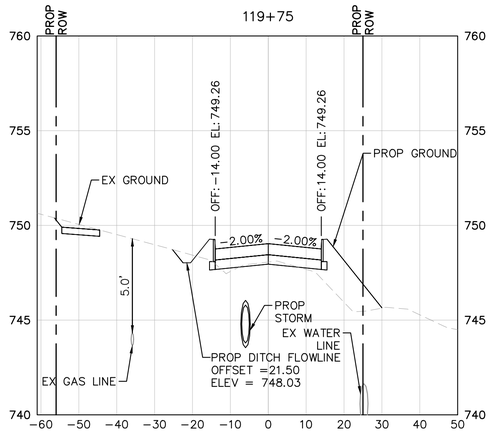
CROSS SECTIONS
LAKESHORE DRIVE
STA 116+25 TO STA
118+25

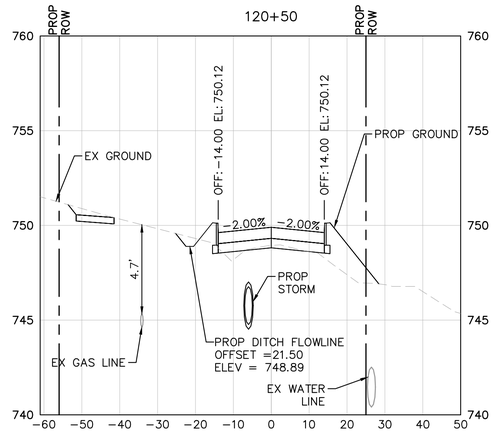
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

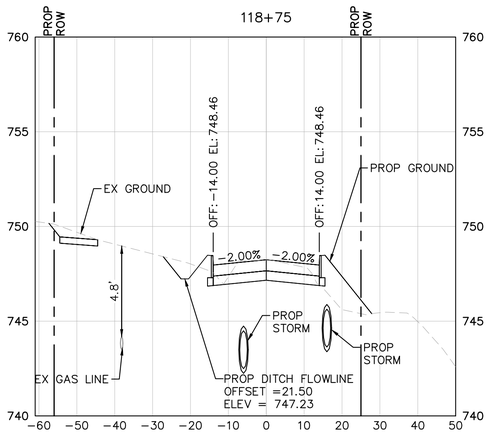
SHEET NUMBER
C1.48

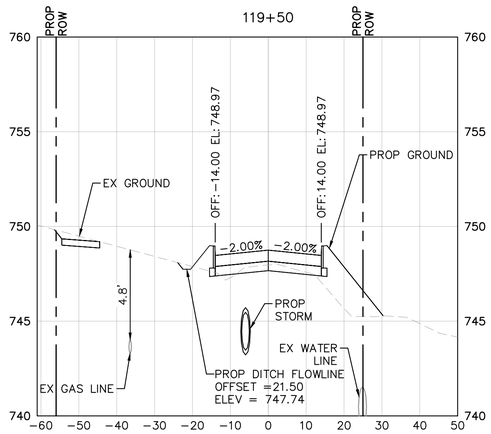
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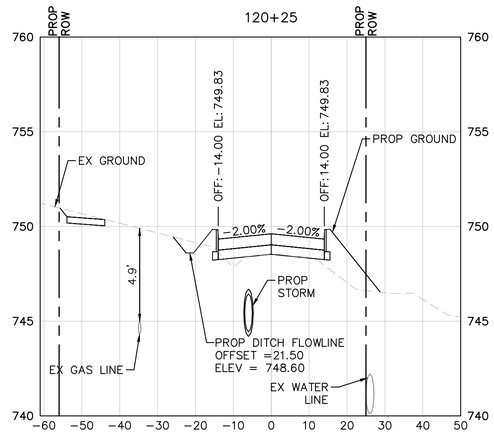


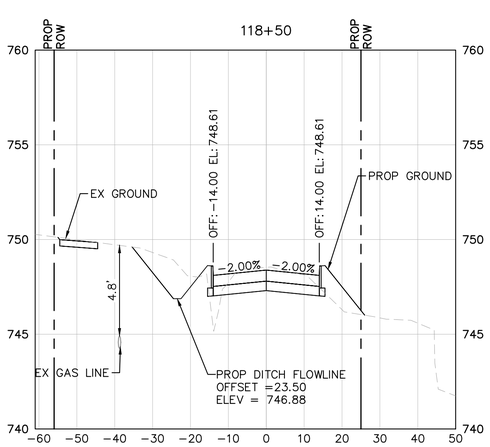


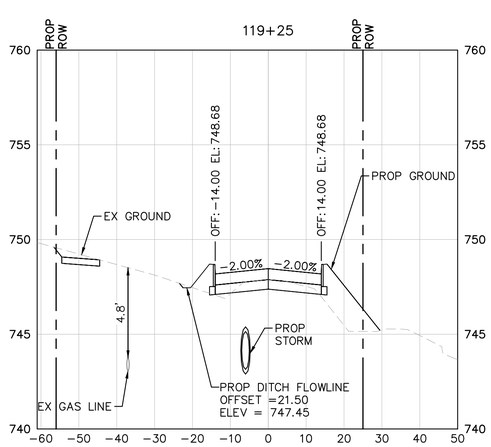


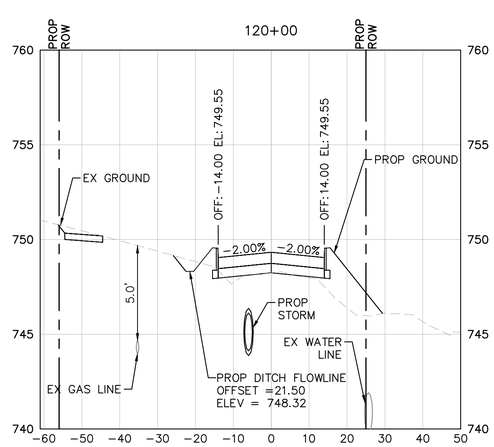












Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

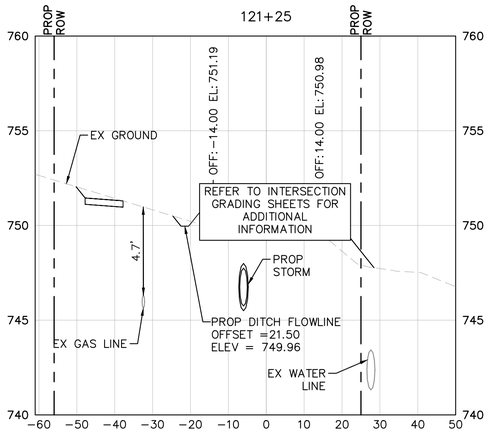
CROSS SECTIONS
LAKESHORE DRIVE
STA 118+50 TO STA 120+50

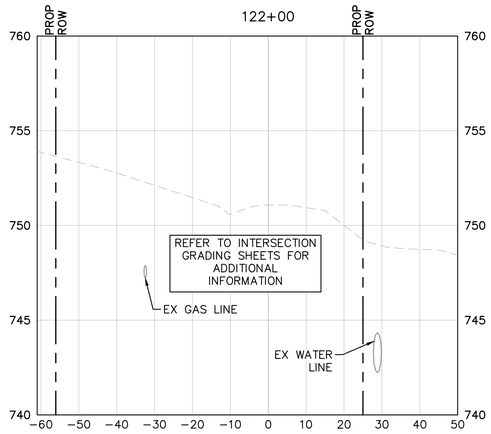
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DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

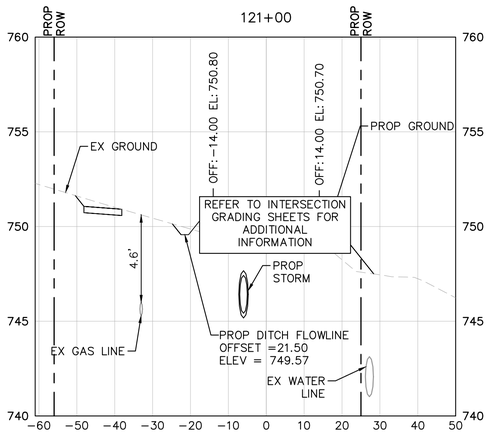
SHEET NUMBER

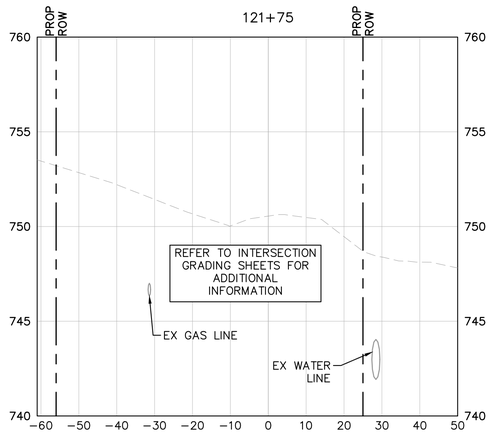
C1.49

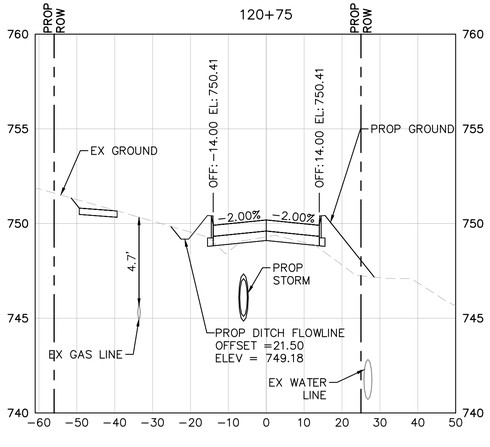
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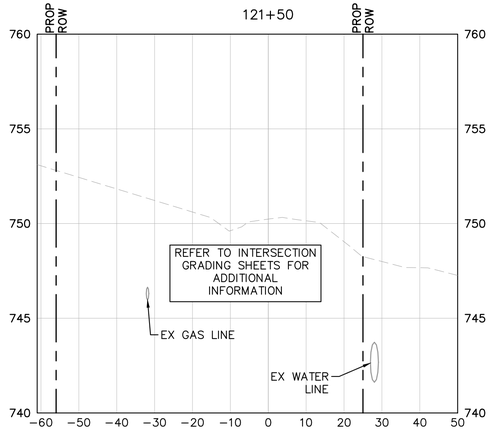












Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

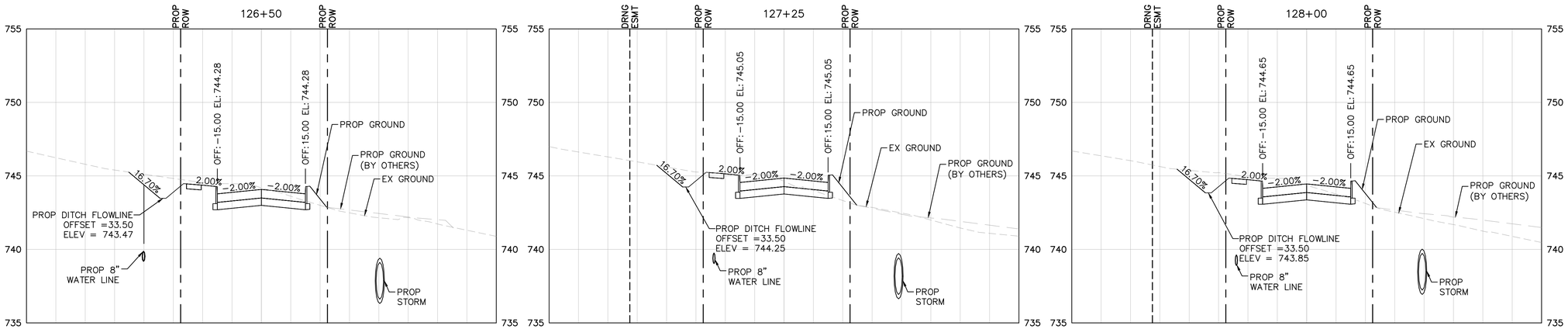
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 120+75 TO STA
122+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.50

Plotted, By: 2026-04-16 18:37:55, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (44))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg



Plotted, By: 2026-04-16 18:38:06, Salinas, Rene
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

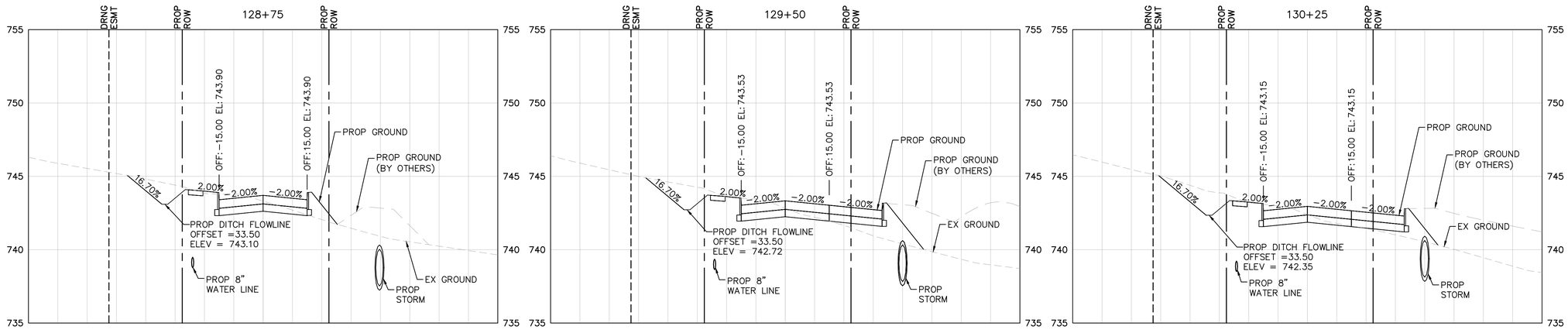
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 126+00 TO STA 128+00

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.51



Plotted, By: 2026-04-16 18:38:18, Salinas, Rene
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

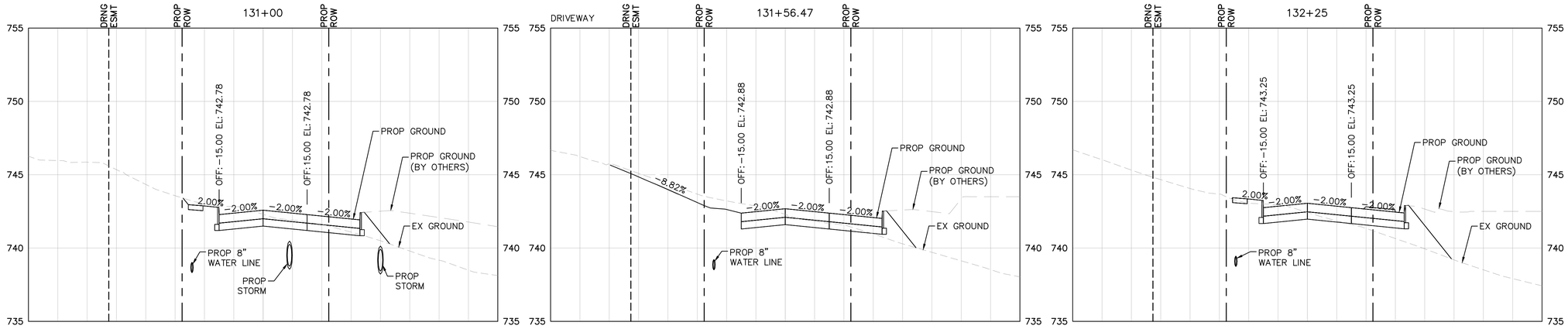
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

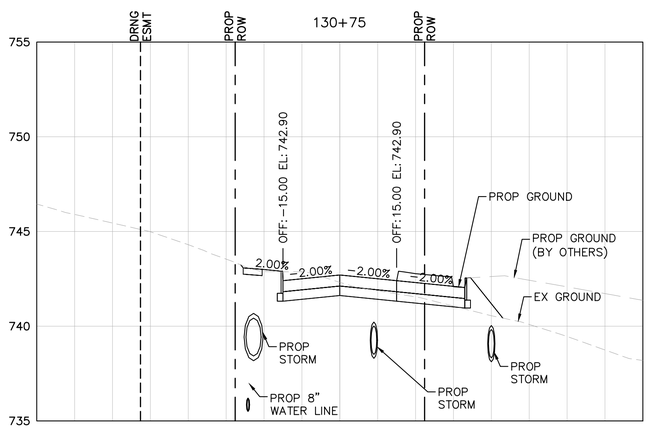
CROSS SECTIONS
LAKESHORE DRIVE
STA 128+25 TO STA 130+25

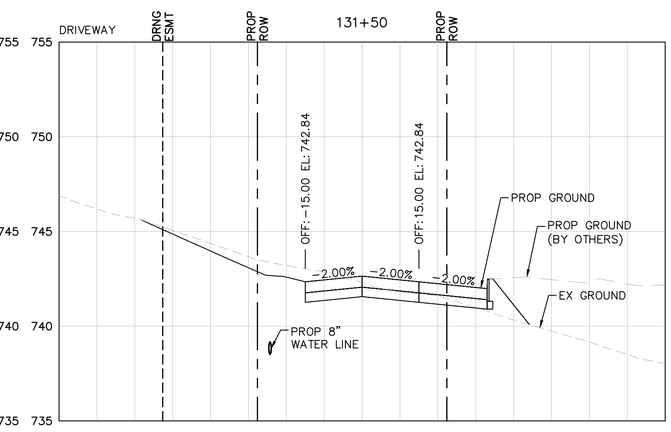
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

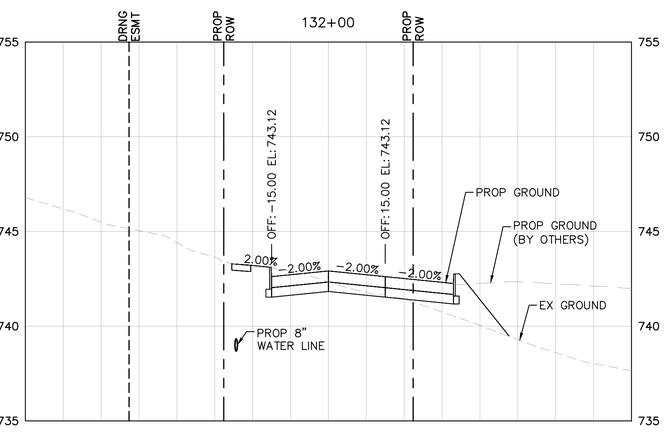
SHEET NUMBER

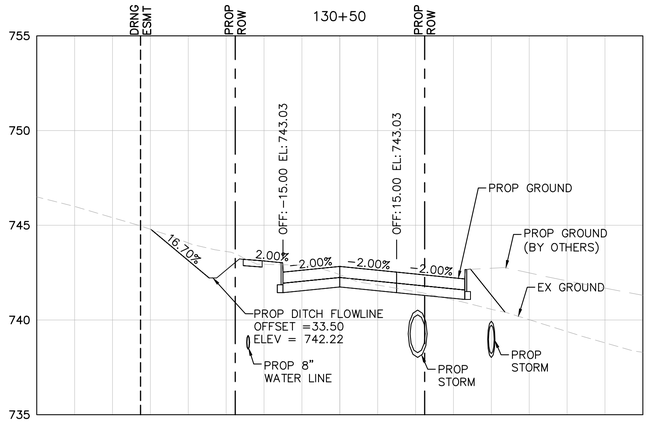
C1.52

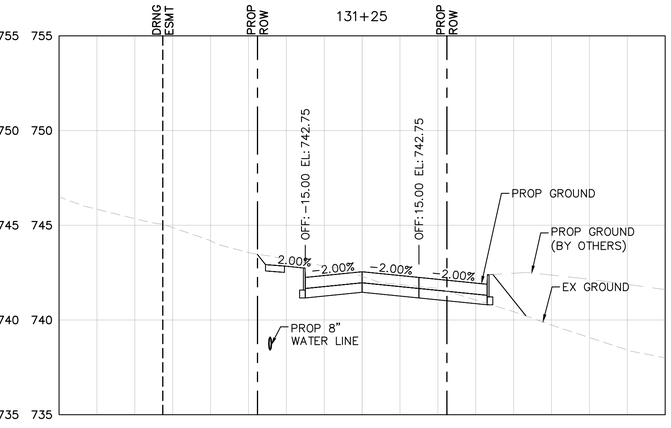


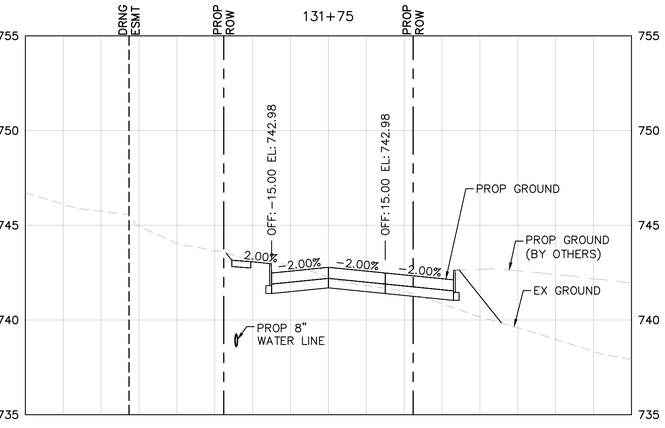












Plotted, By: 2026-04-16 18:38:30, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (13))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

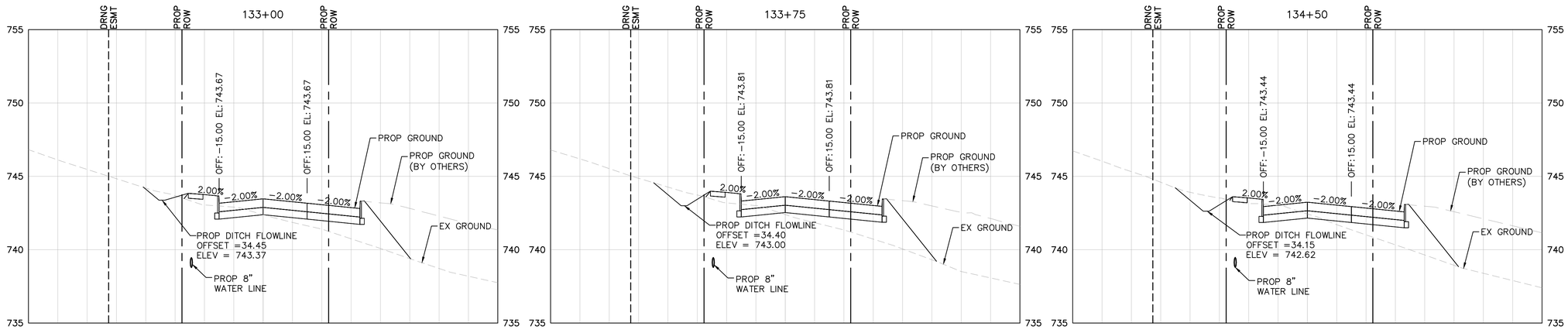
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

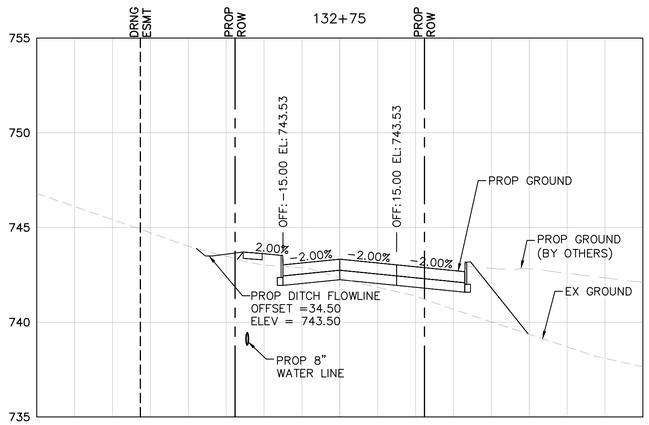
CROSS SECTIONS
LAKESHORE DRIVE
STA 130+50 TO STA
132+25

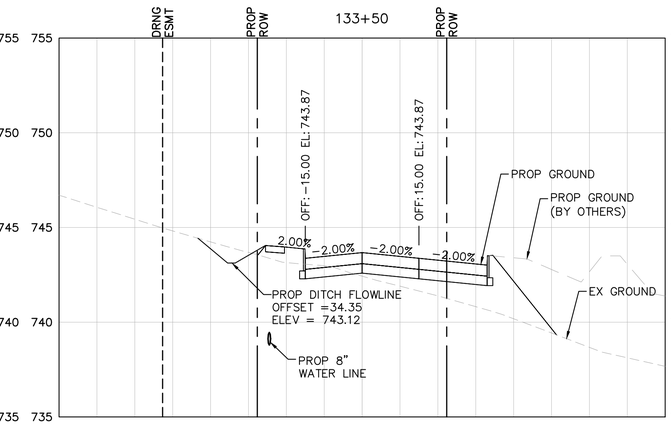
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

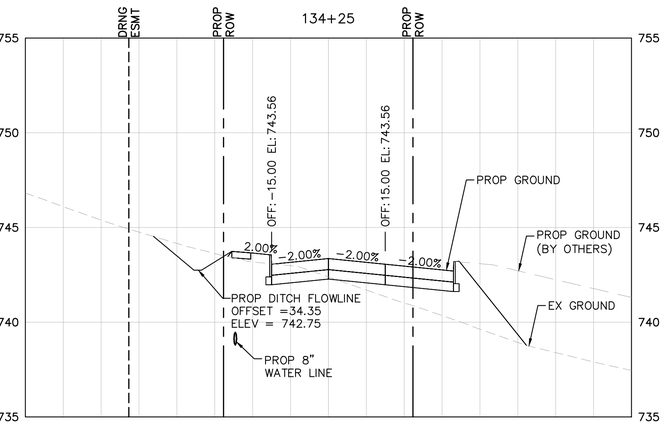
SHEET NUMBER

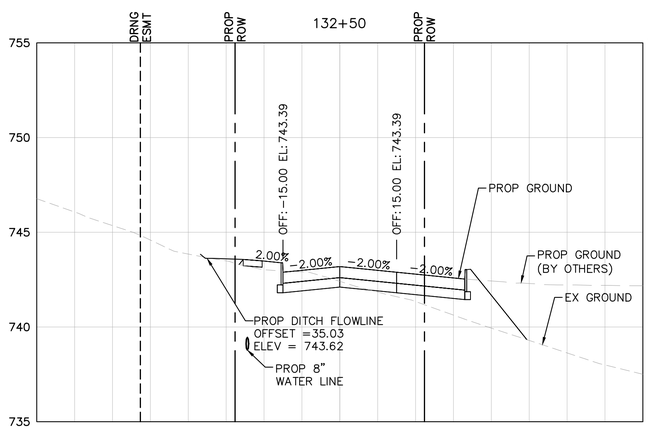
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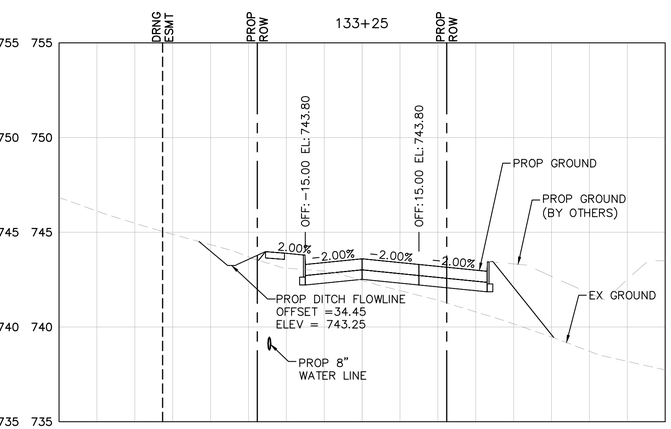


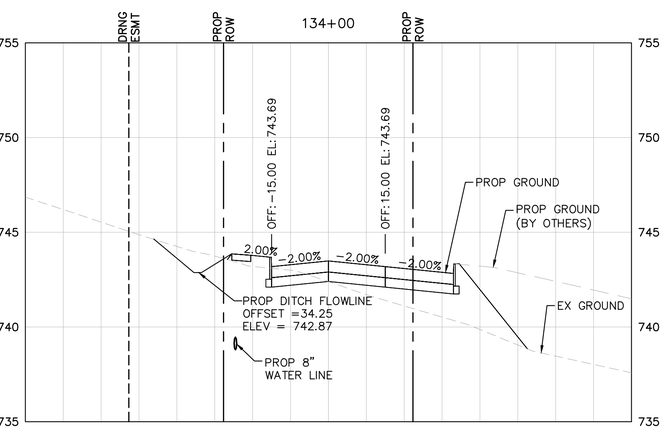












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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

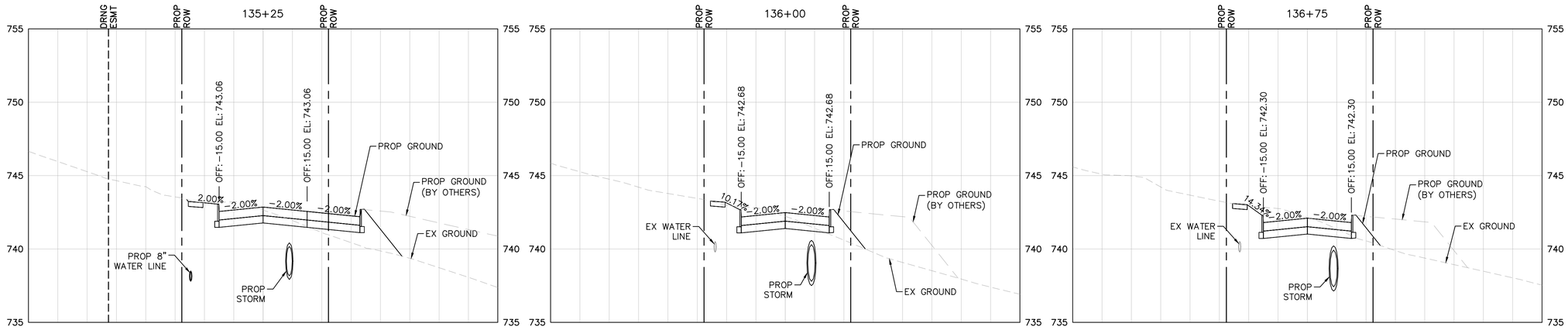
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

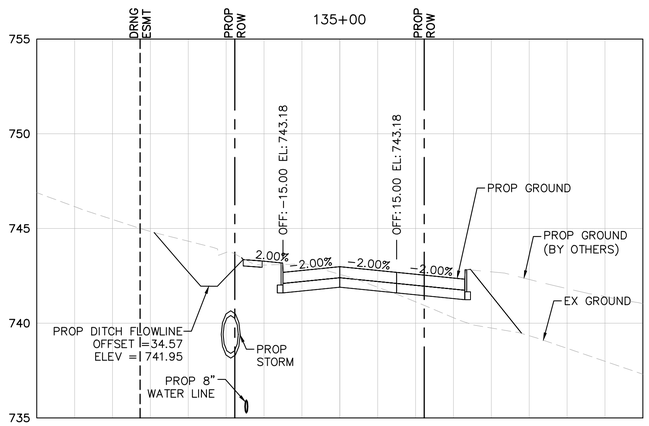
CROSS SECTIONS
LAKESHORE DRIVE
STA 132+50 TO STA
134+50

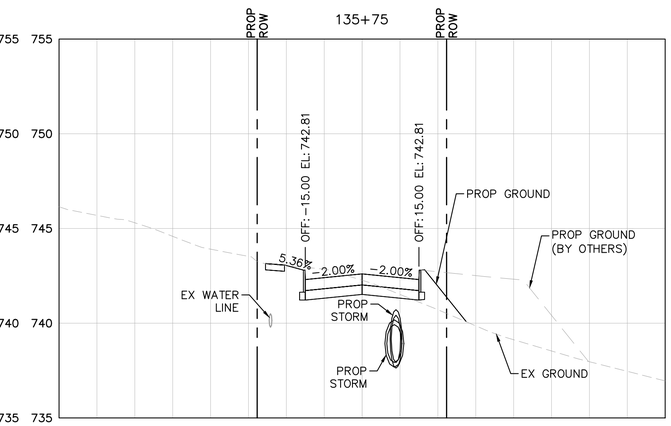
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

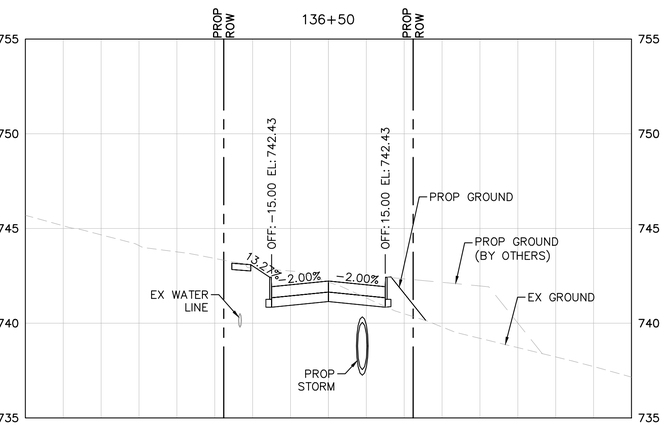
SHEET NUMBER

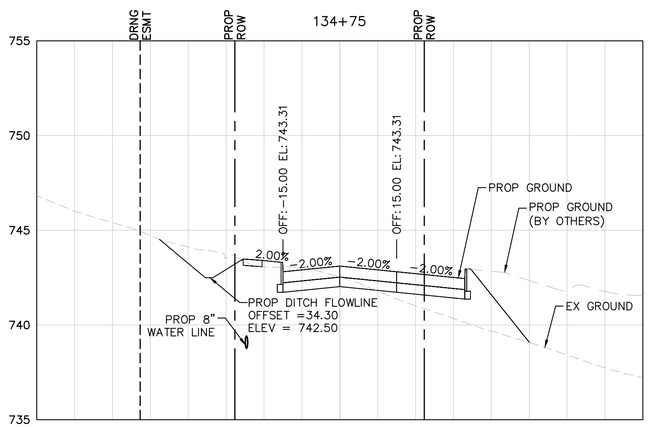
C1.54

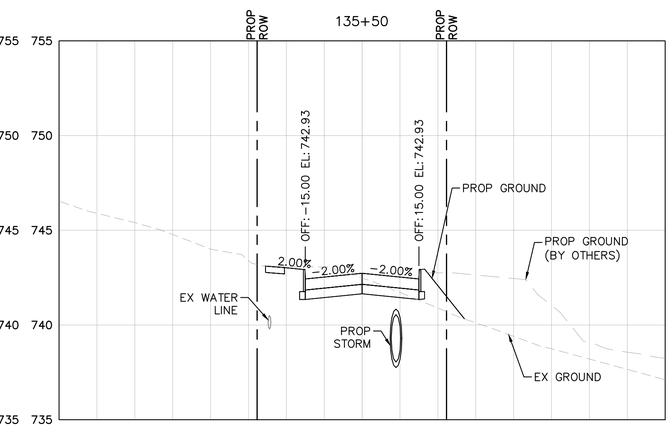


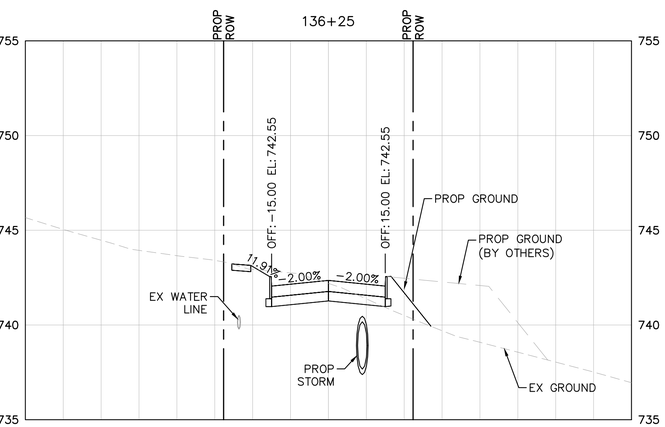












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Last Saved: 2026-03-31 17:29:35 (Layout1 (15))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\odd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

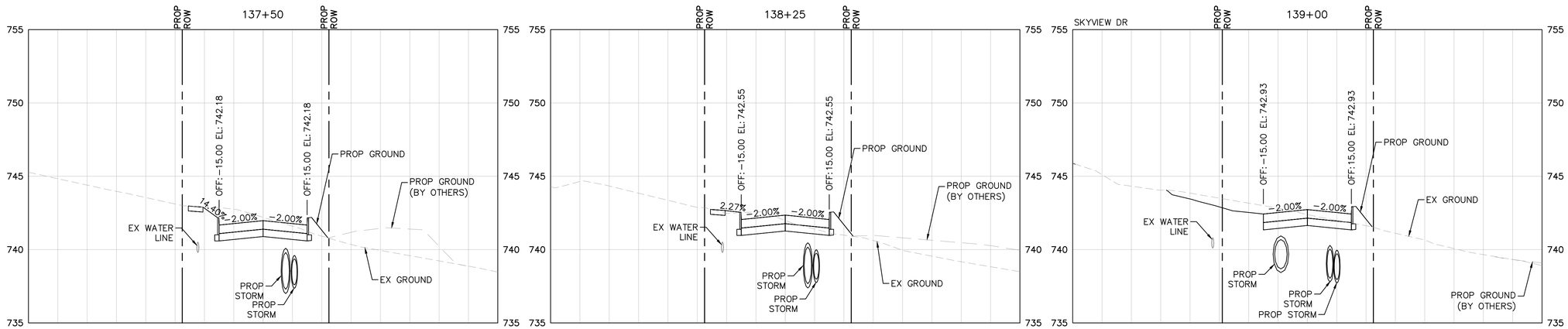
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 134+75 TO STA
136+75

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.55



Plotted, By: 2026-04-16 18:39:04, Salinas, Rene
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

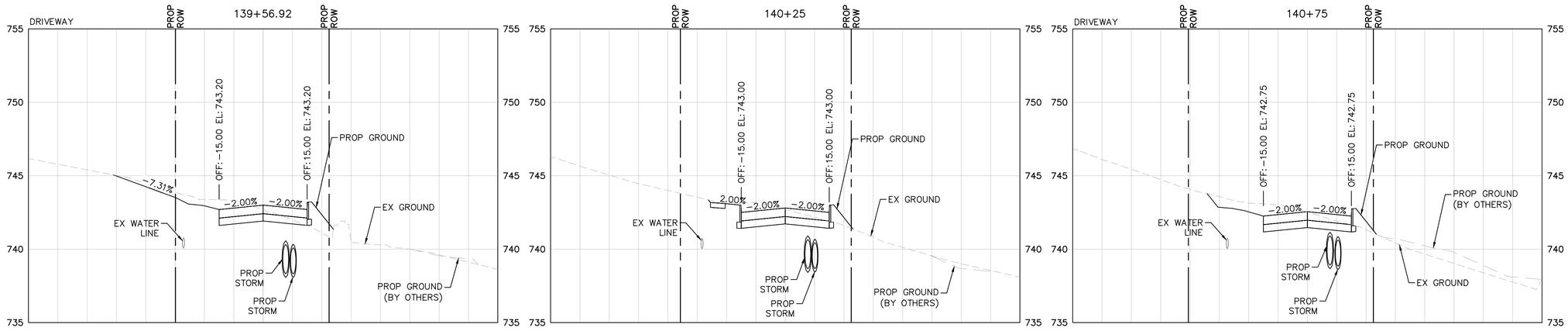
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 137+00 TO STA
139+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.56



Plotted, By: 2026-04-16 18:39:15, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (17))
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

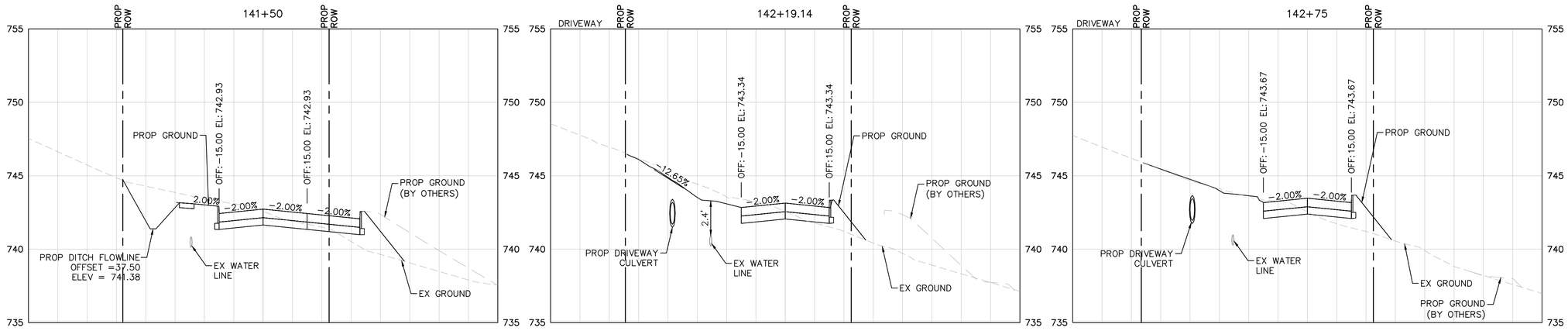
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

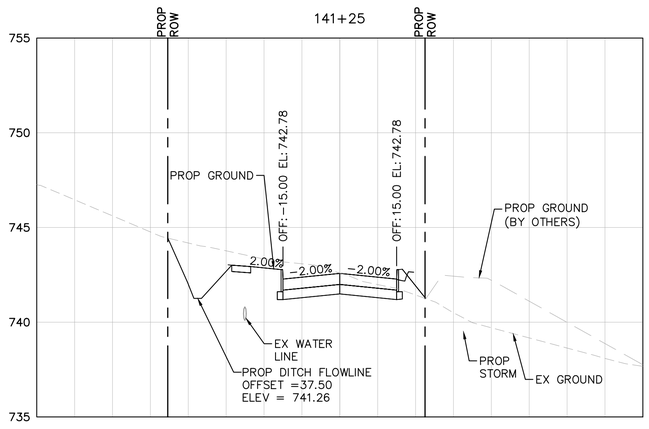
CROSS SECTIONS
LAKESHORE DRIVE
STA 139+25 TO STA 140+75

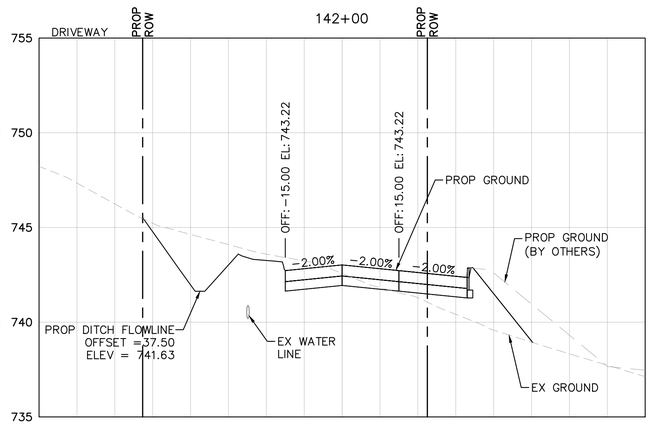
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

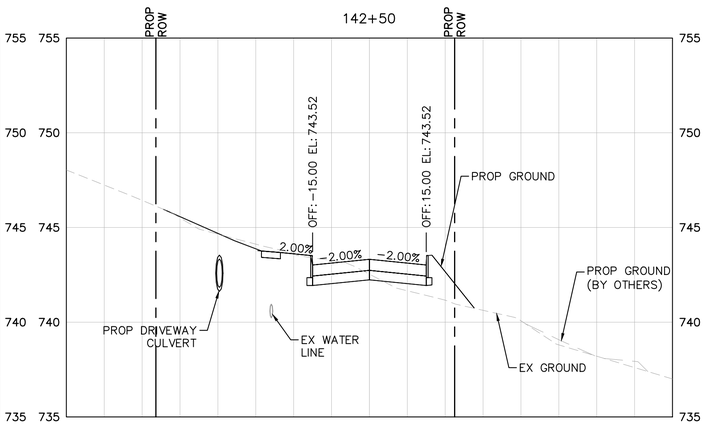
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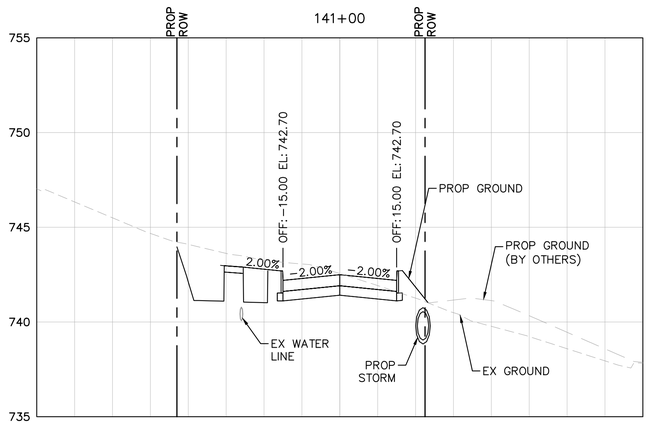
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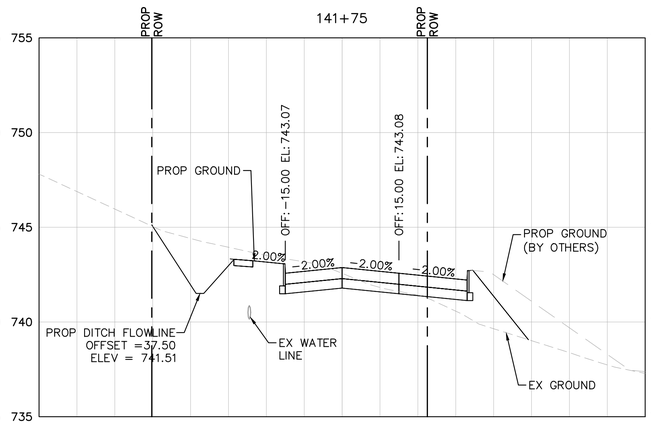


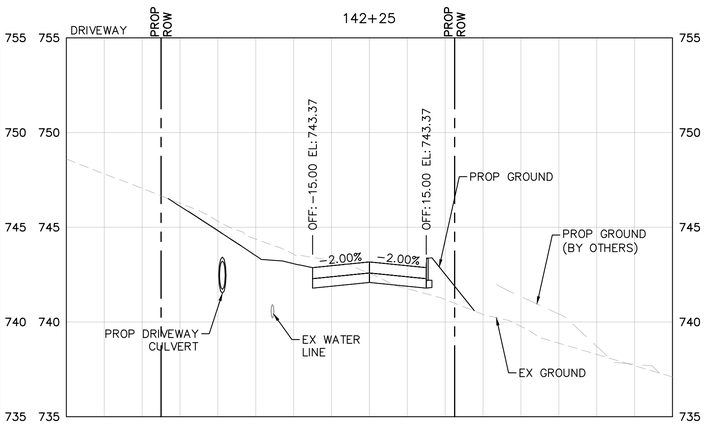












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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

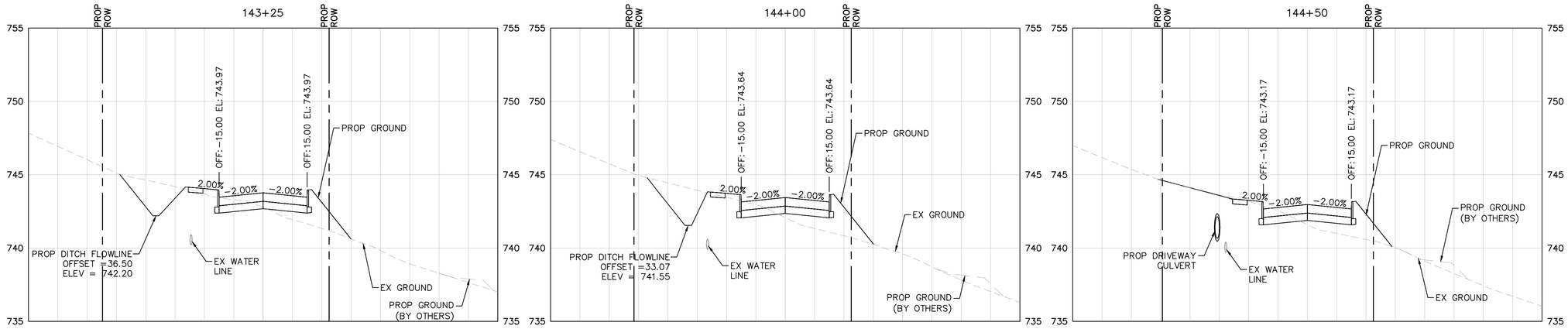
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

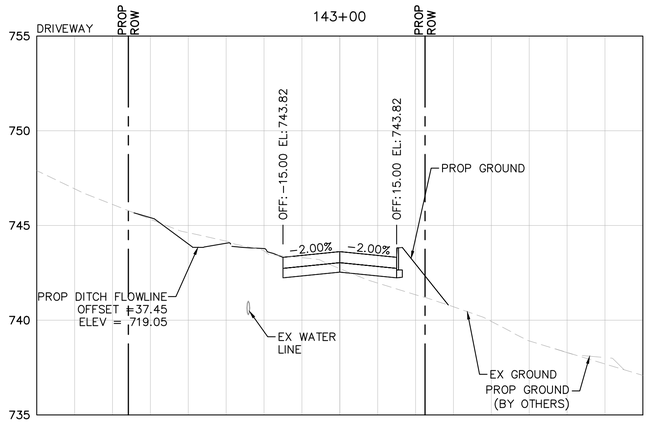
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

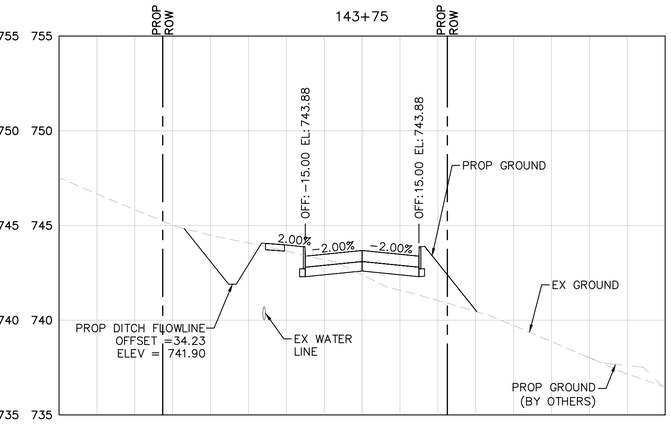
CROSS SECTIONS
LAKESHORE DRIVE
STA 141+00 TO STA
142+75

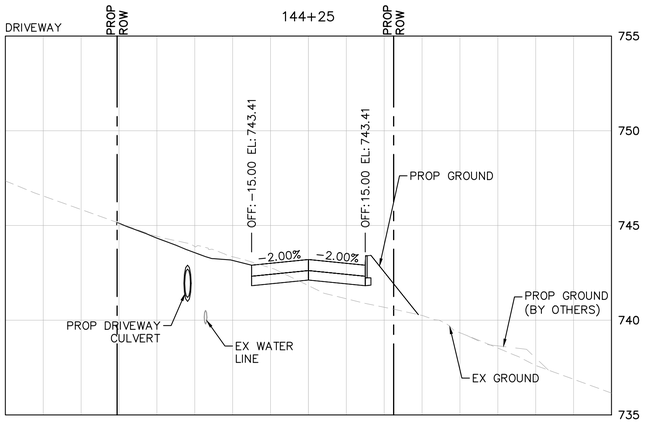
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

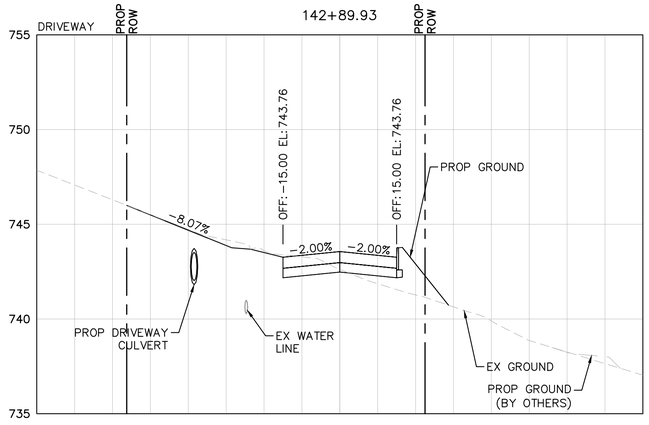
SHEET NUMBER
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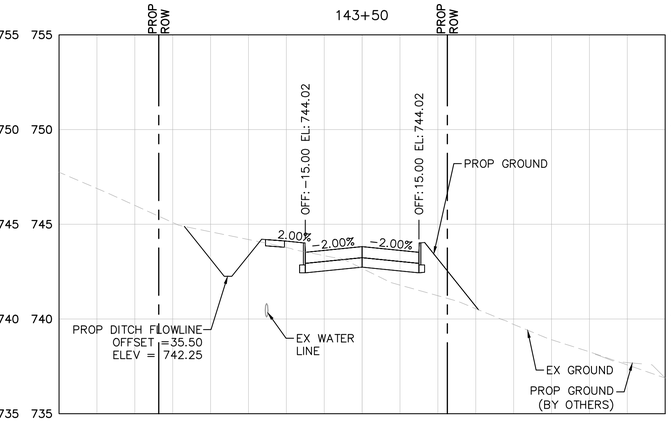


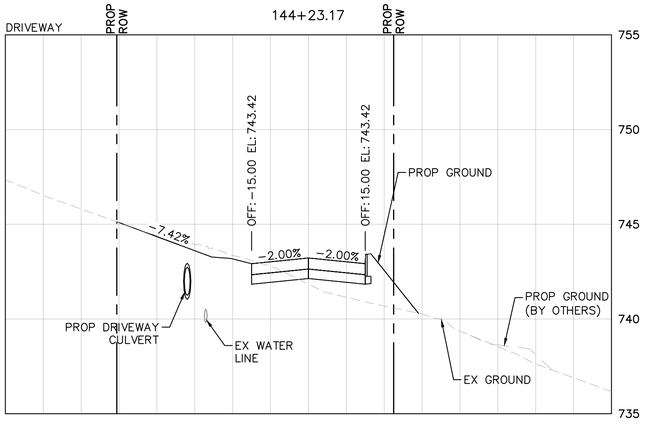












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Filename: d:\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

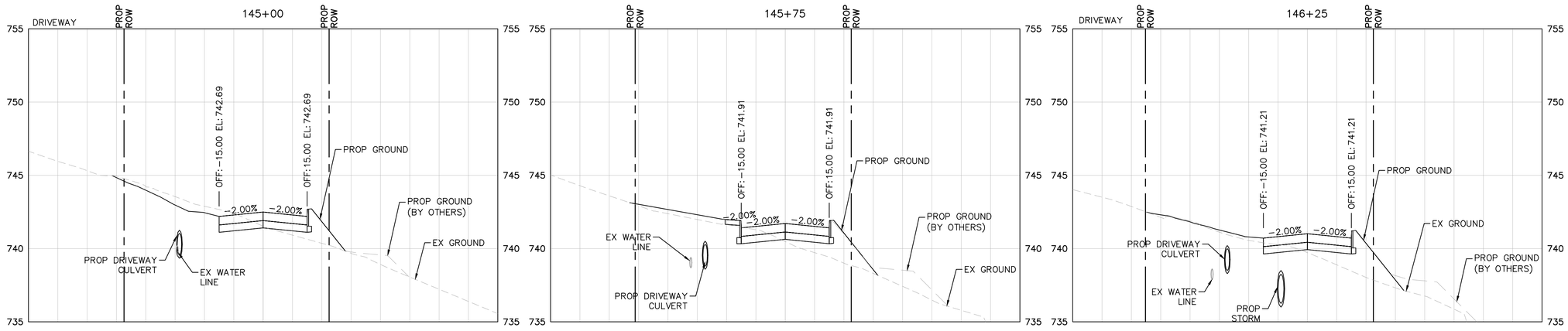
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

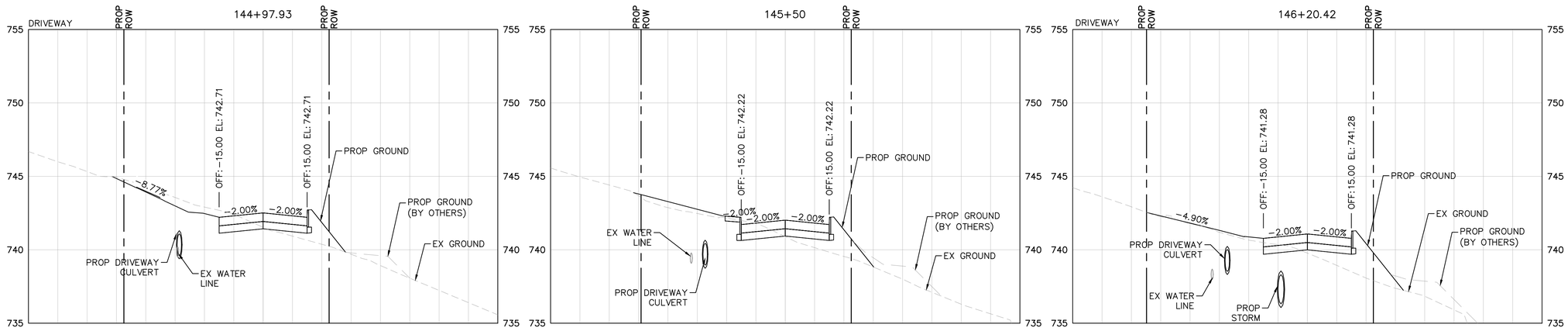
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

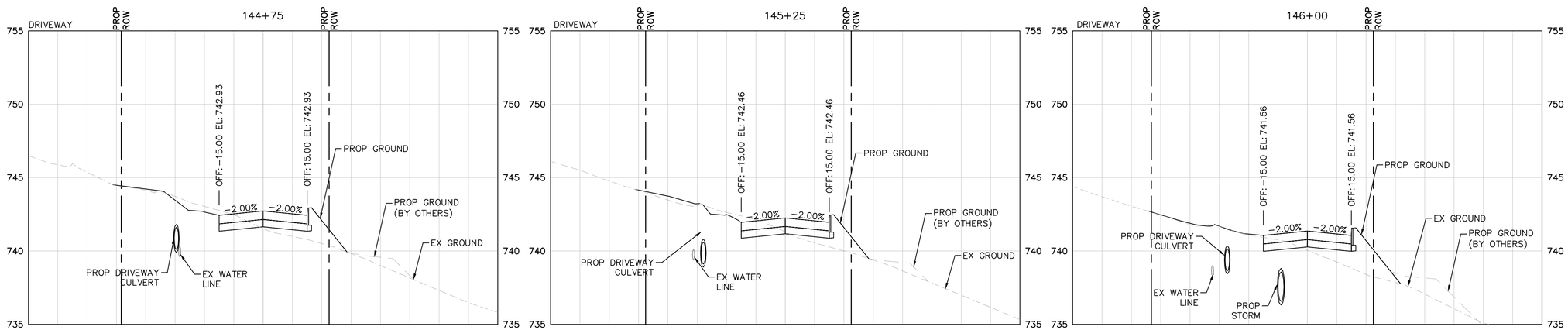
CROSS SECTIONS
LAKESHORE DRIVE
STA 142+89 TO STA
144+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.59







Plotted, By: 2026-04-16 18:39:50, Salinas, Rene
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

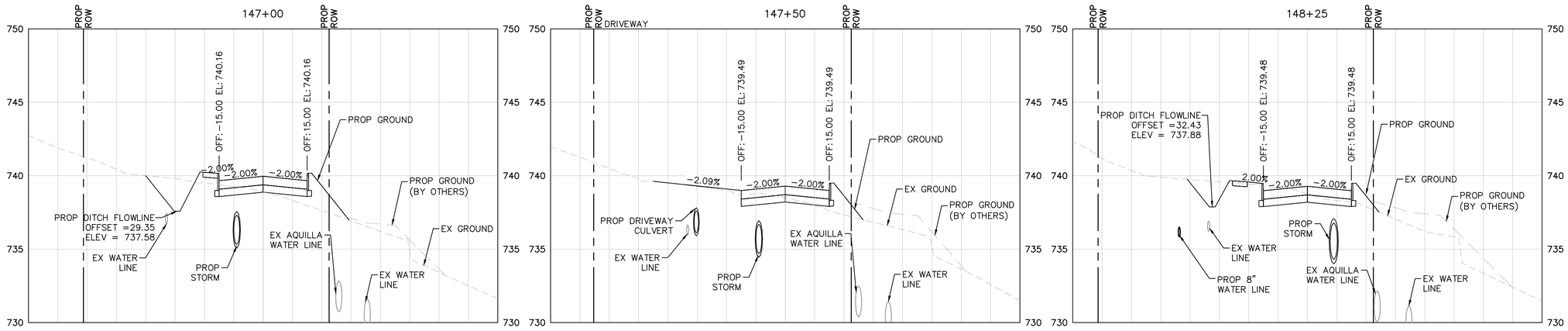
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

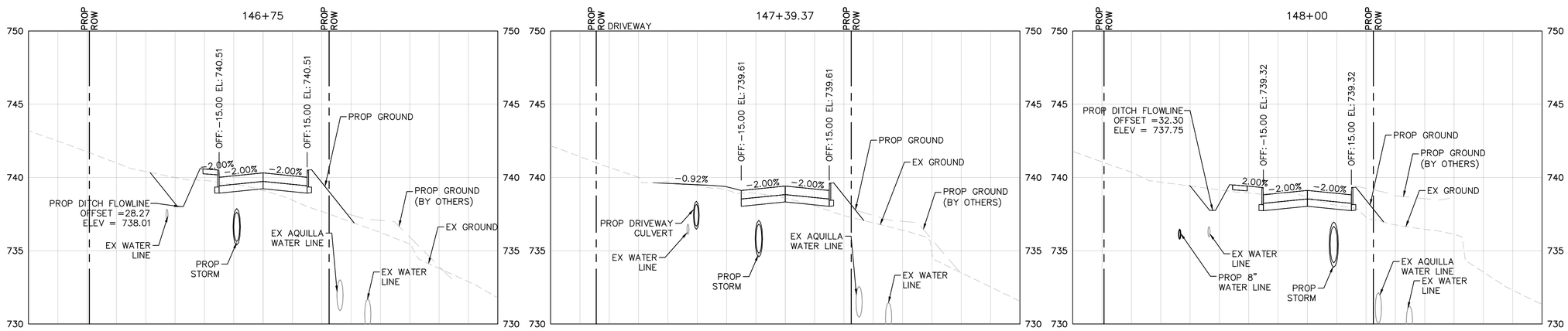
CROSS SECTIONS
LAKESHORE DRIVE
STA 144+75 TO STA 146+25

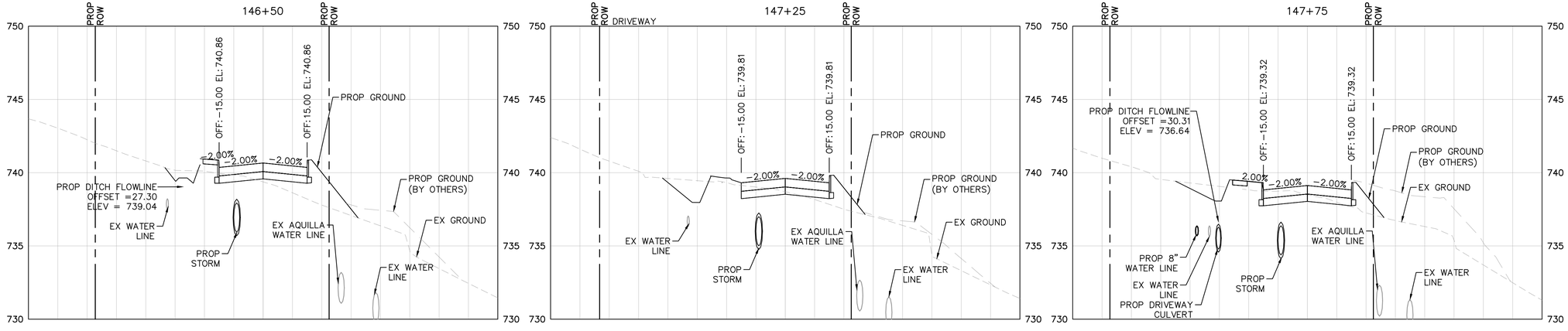
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DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.60







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Filename: dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

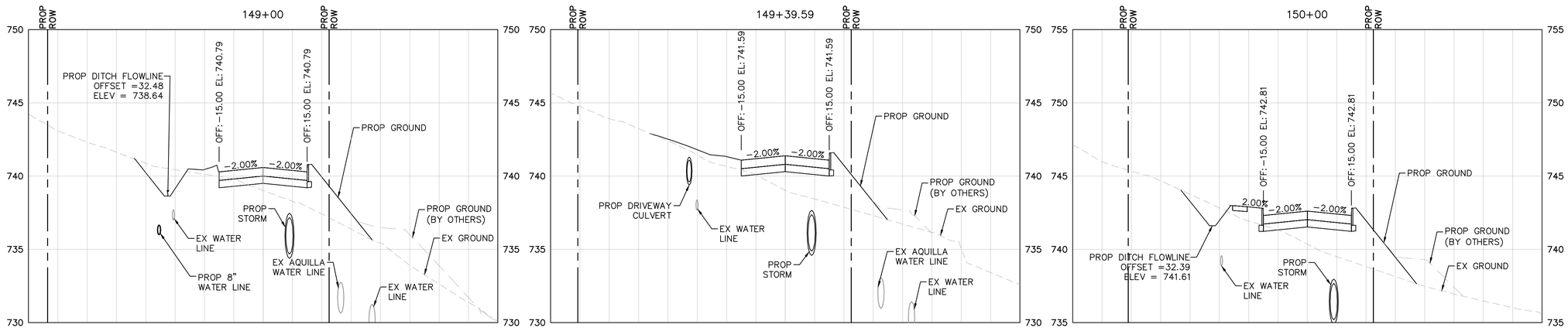
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 146+50 TO STA 148+25

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.61



Plotted, By: 2026-04-16 18:40:13, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (22))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

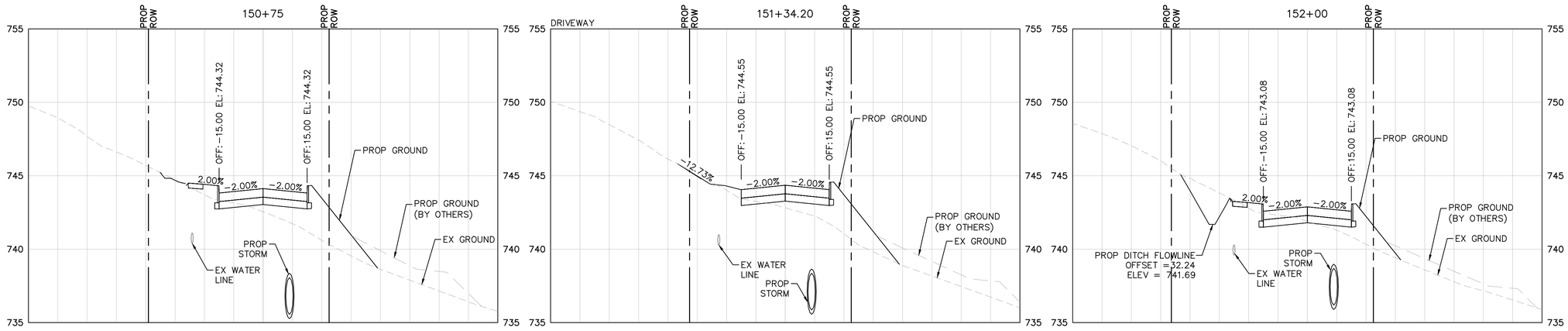
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

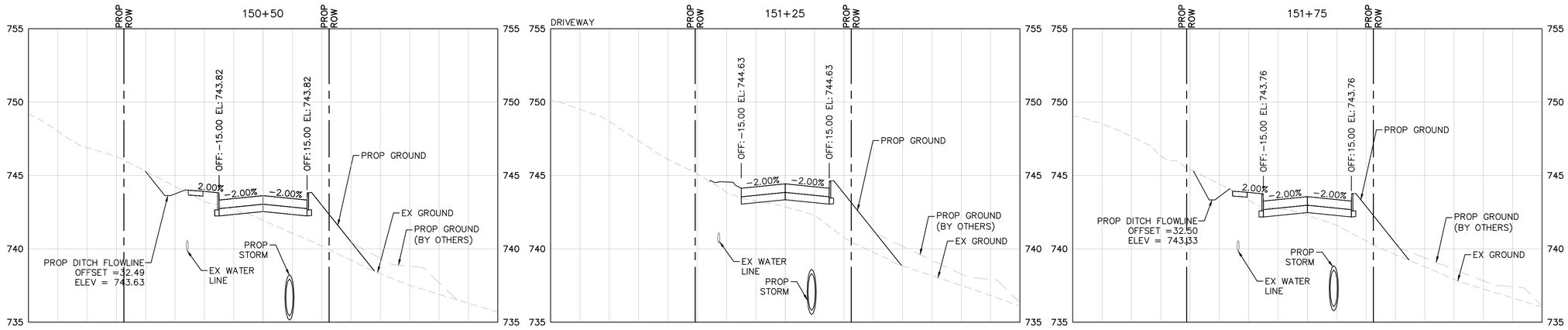
CROSS SECTIONS
LAKESHORE DRIVE
STA 148+50 TO STA 150+00

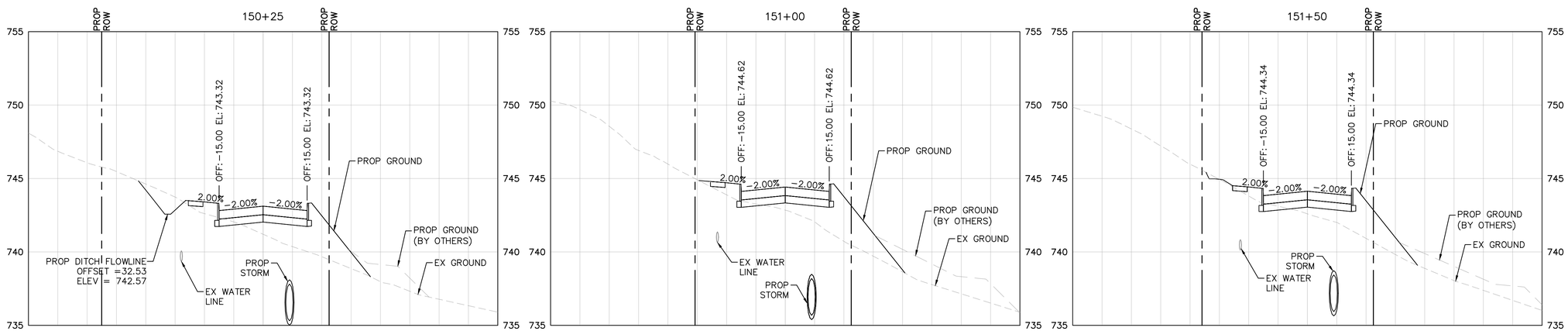
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.62







Plotted, By: 2026-04-16 18:40:24, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (23))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore\dr\cadd\sheets\cross sections\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

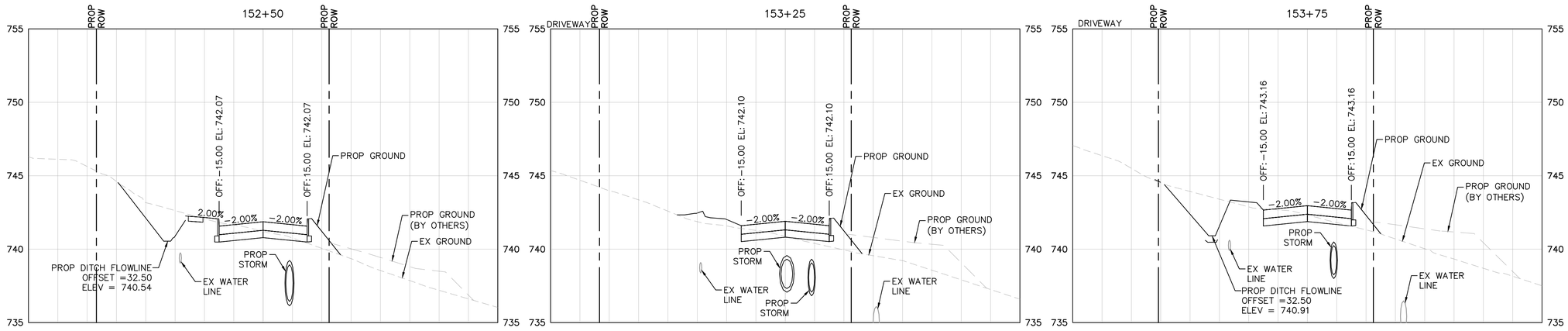
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 150+25 TO STA
152+00

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.63



Plotted By: 2026-04-16 18:40:36, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (24))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cad\sheets\cross sections\lakeshore_sections.dwg

Kimley»Horn
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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

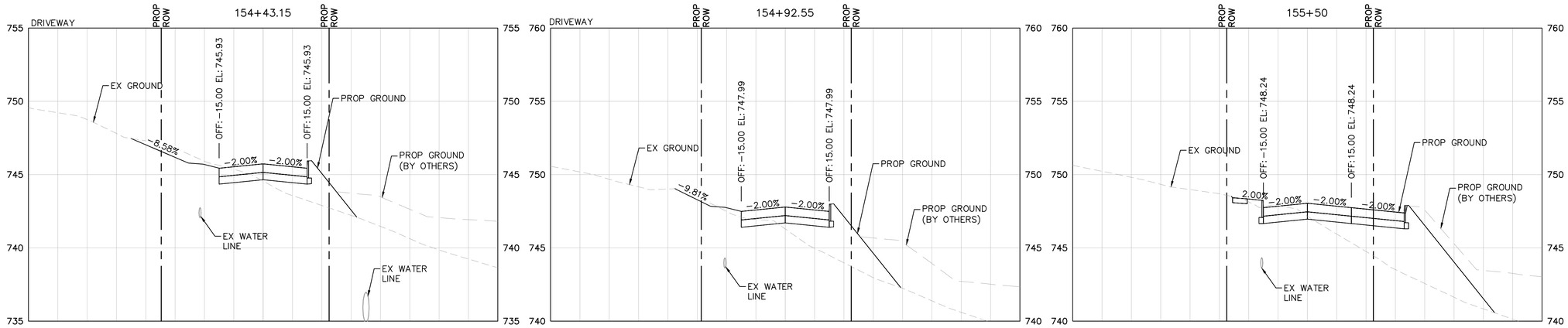
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 152+25 TO STA 153+75

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.64



2026-04-16 18:40:47, Salinas, Rene
Plotted, By:
2026-03-31 17:29:35 (Layout1 (25))
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross-sections.dwg

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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

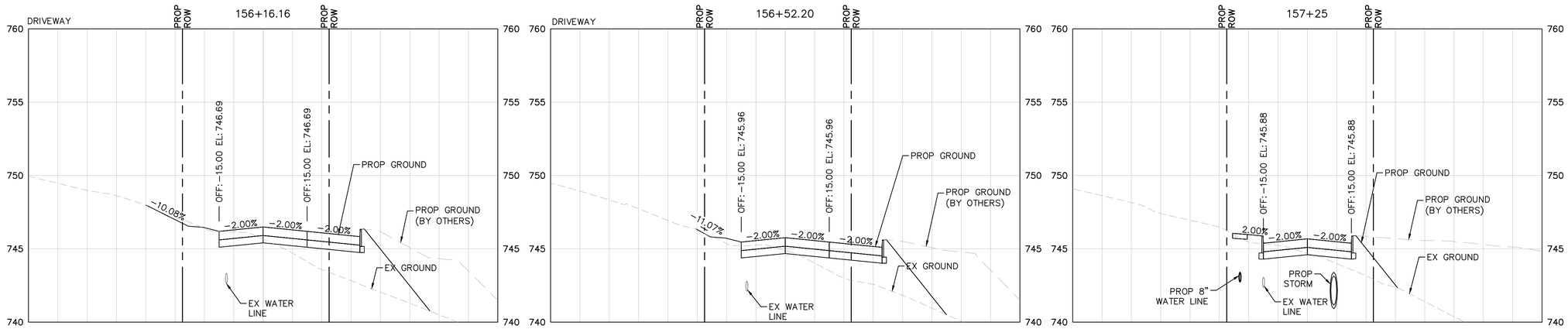
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 154+00 TO STA 155+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.65



Plotted, By: 2026-04-16 18:40:59, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (26))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
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No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
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LICENSED
PROFESSIONAL ENGINEER

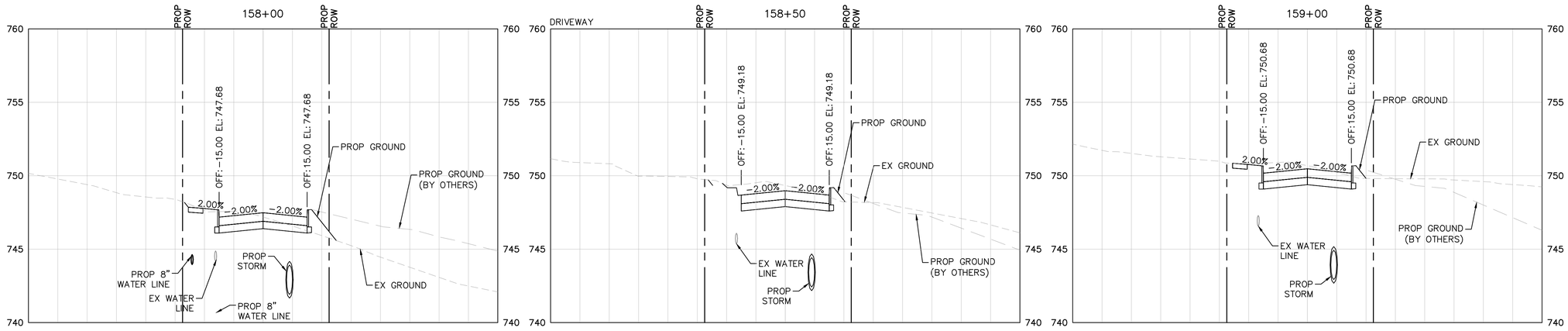
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

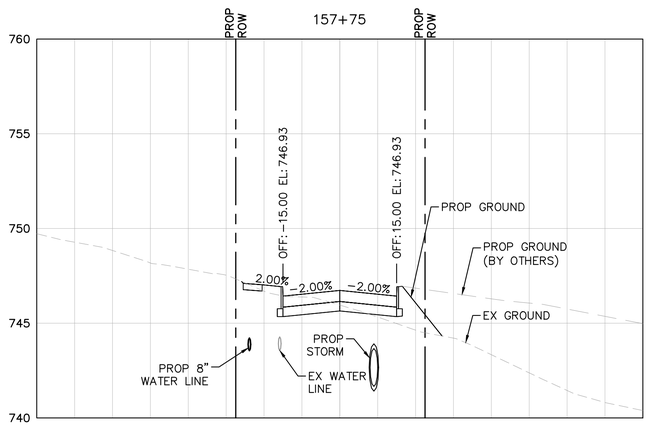
CROSS SECTIONS
LAKESHORE DRIVE
STA 155+75 TO STA 157+25

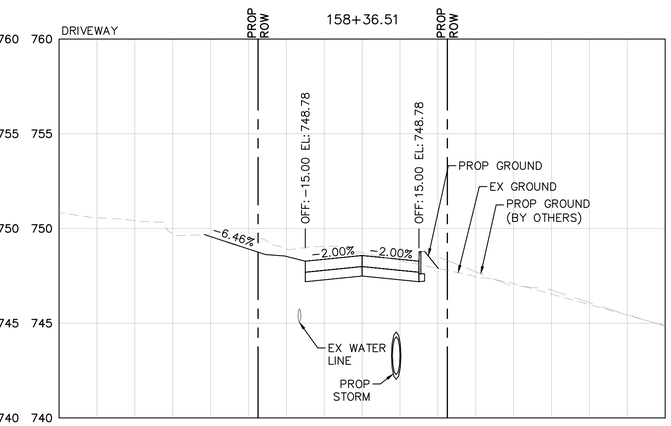
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

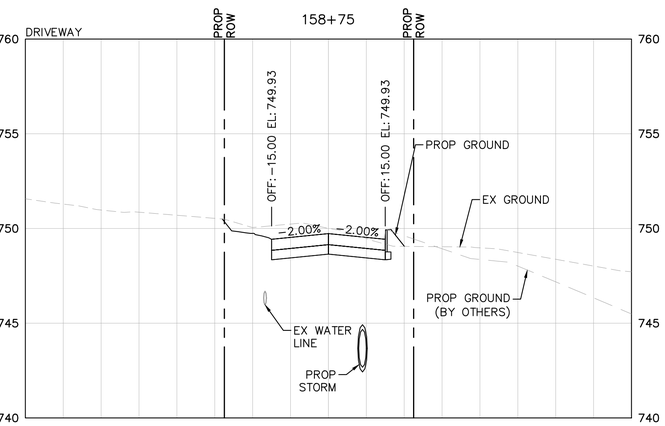
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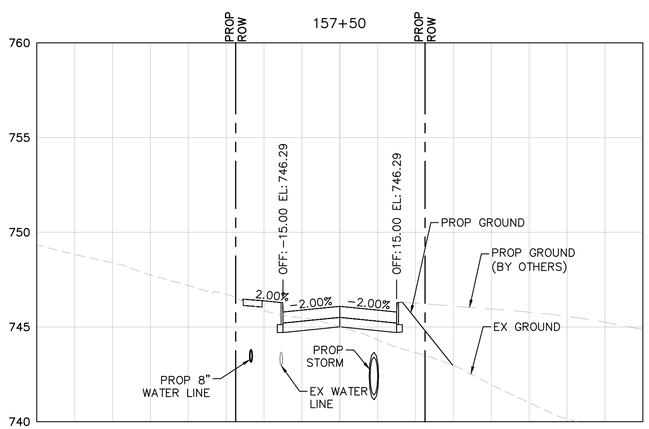
C1.66

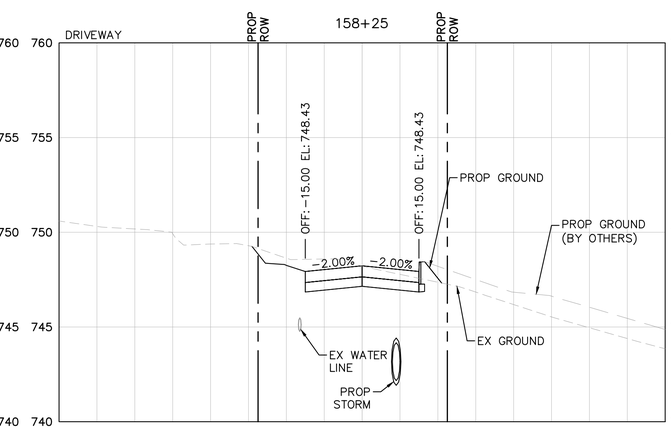


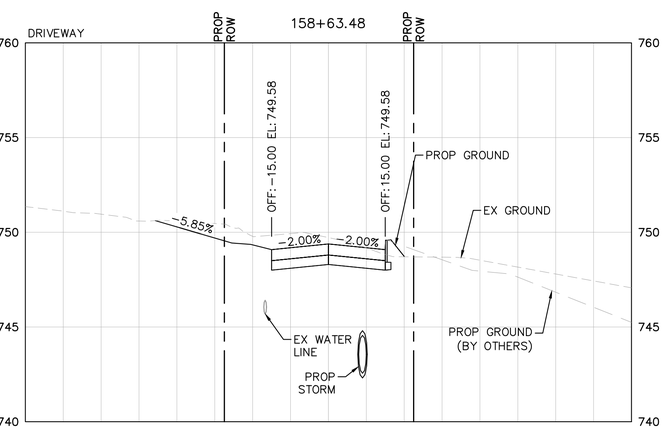












Plotted By: 2026-04-16 18:41:10, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (27))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

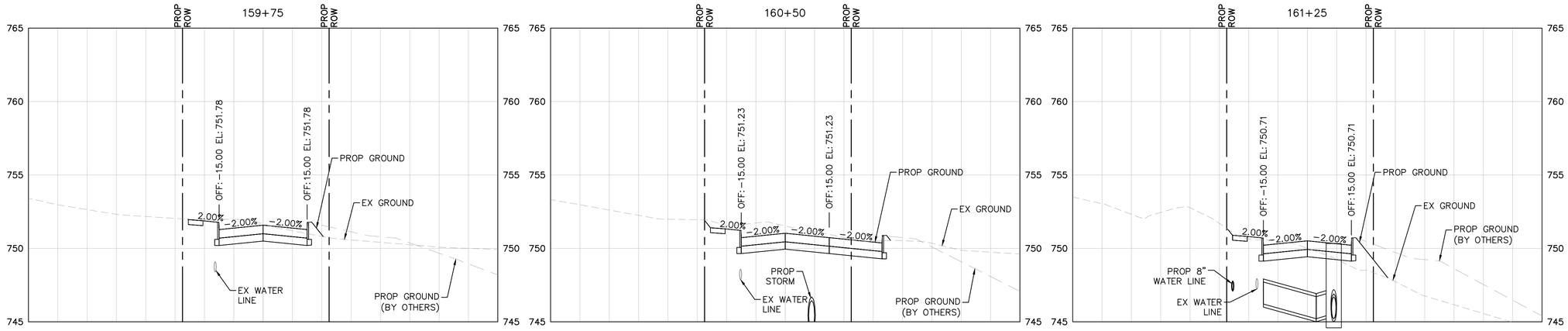
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 157+50 TO STA 159+00

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.67



Kimley»Horn
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No.	Revision	By	Date

04/10/2026

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140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

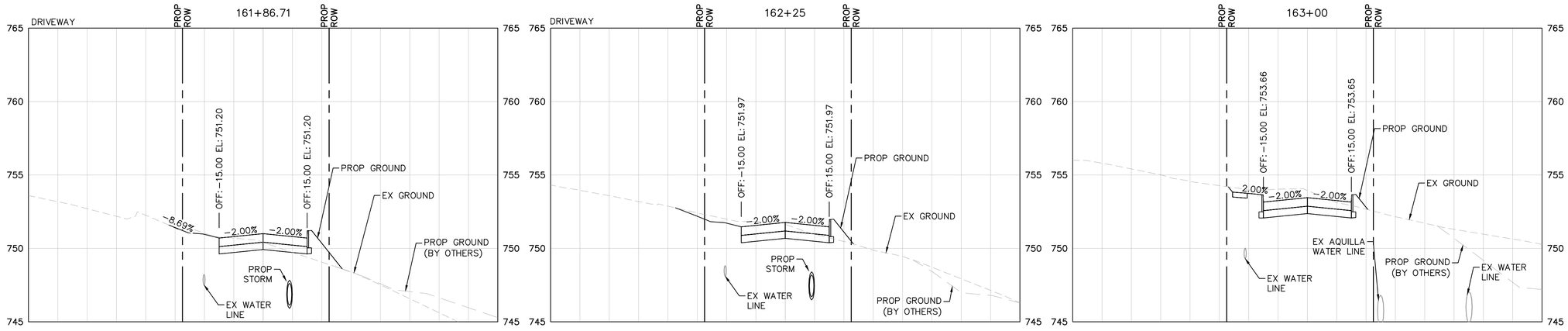
CROSS SECTIONS
LAKESHORE DRIVE
STA 159+25 TO STA
161+25

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.68

Plotted, By: 2026-04-16 18:41:22, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (28))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cad\sheets\cross sections.dwg



Plotted By: 2026-04-16 18:41:33, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (29))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
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No.	Revision	By	Date

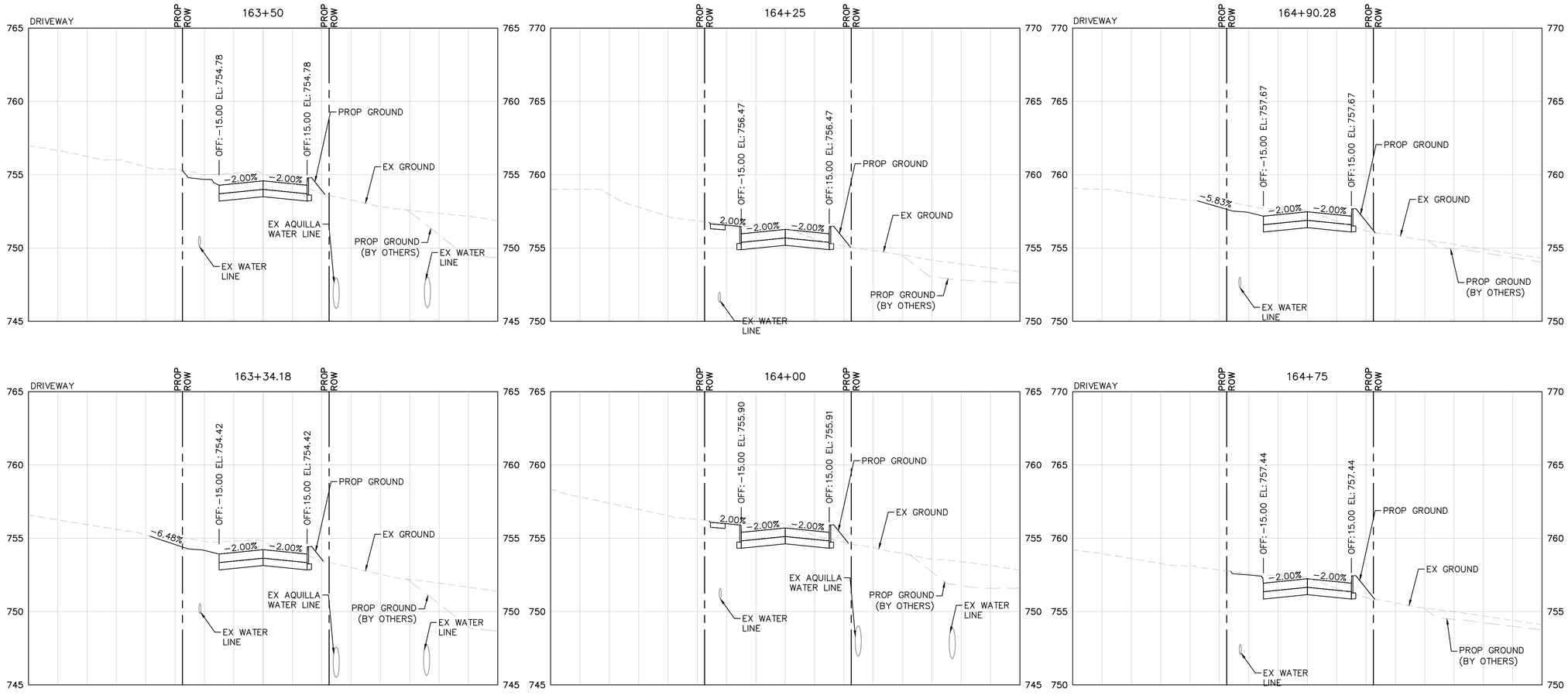
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 161+50 TO STA 163+00

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C1.69



Plotted, By: 2026-04-16 18:41:45, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (30))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

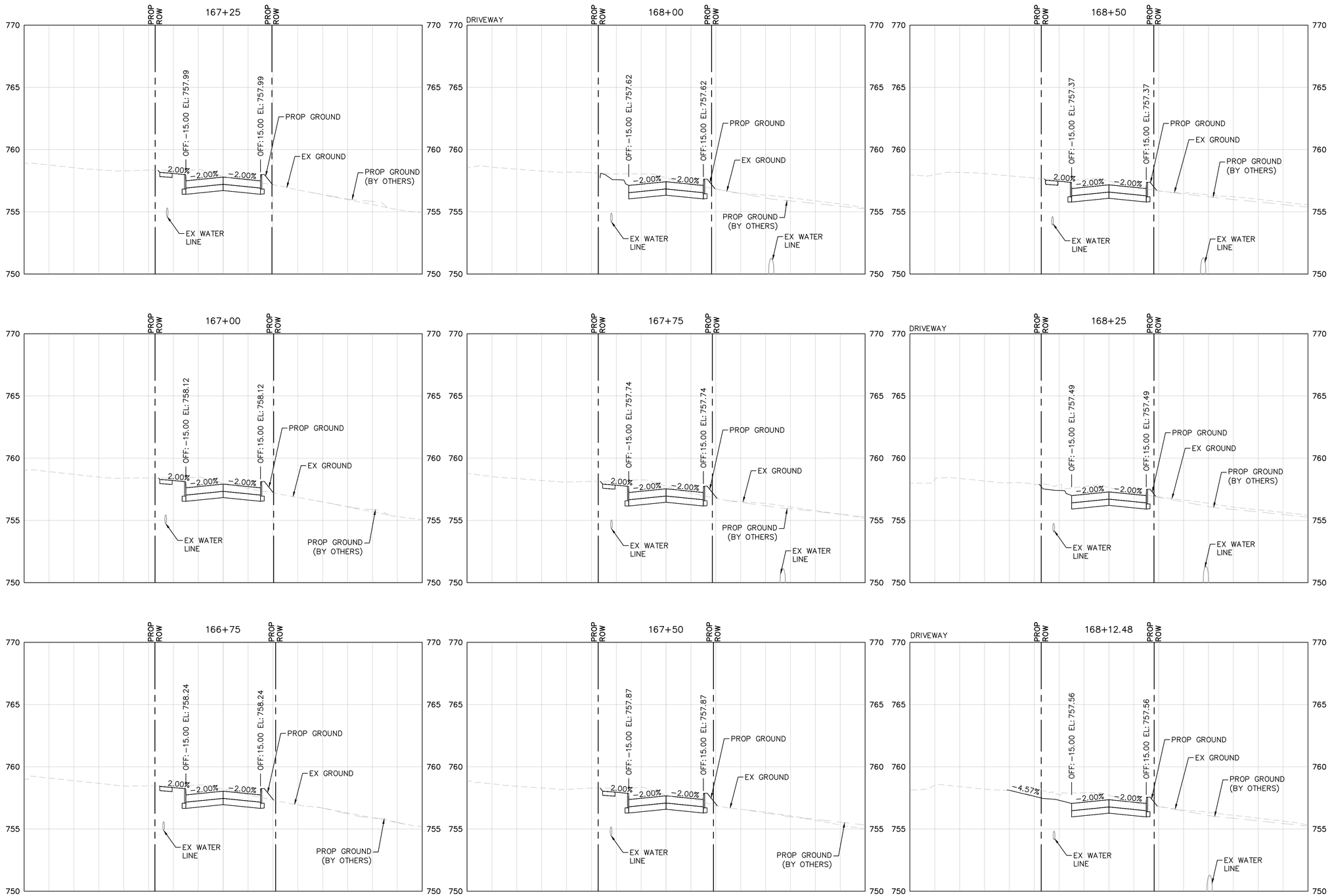
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 163+25 TO STA 164+90

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.70



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

IVAN LOPEZ
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LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

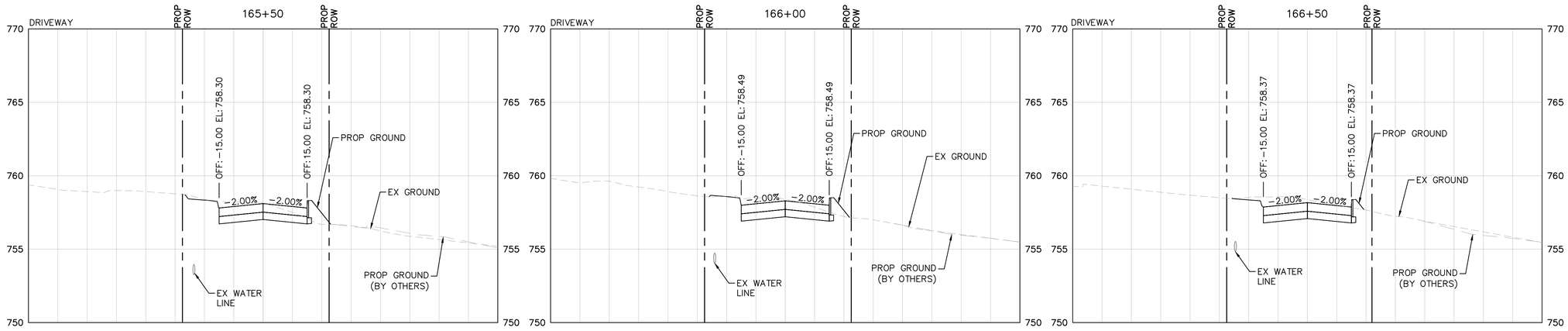
CROSS SECTIONS
LAKESHORE DRIVE
STA 165+00 TO STA
166+50

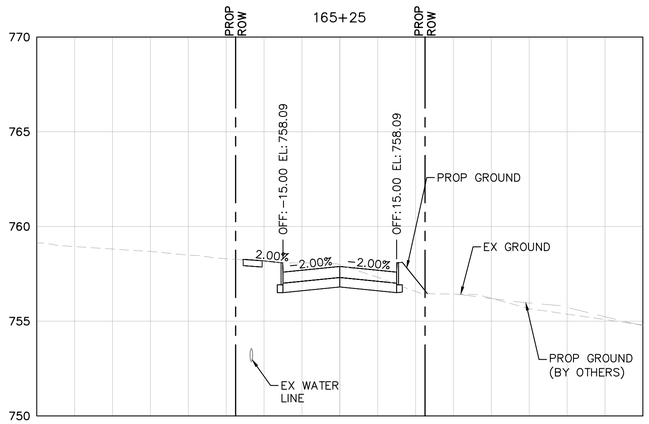
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

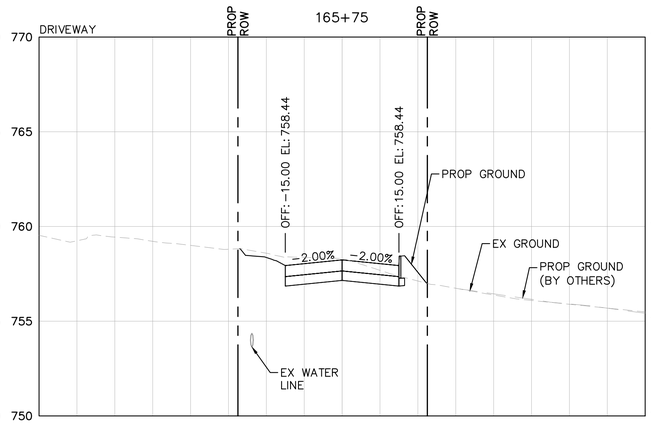
SHEET NUMBER

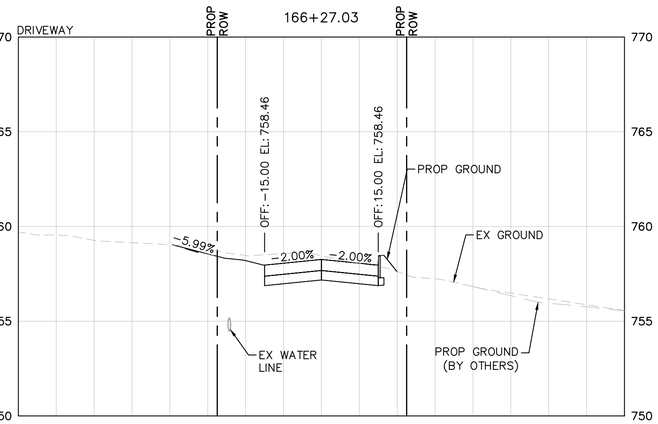
C1.71

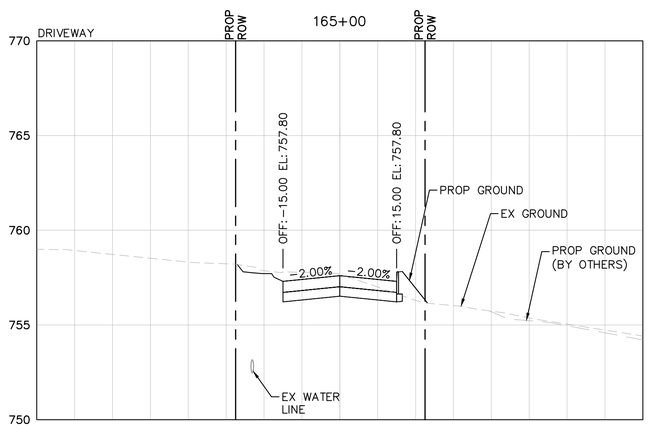
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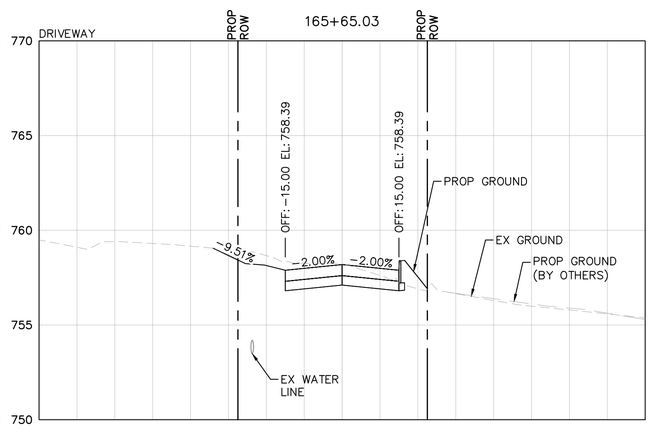


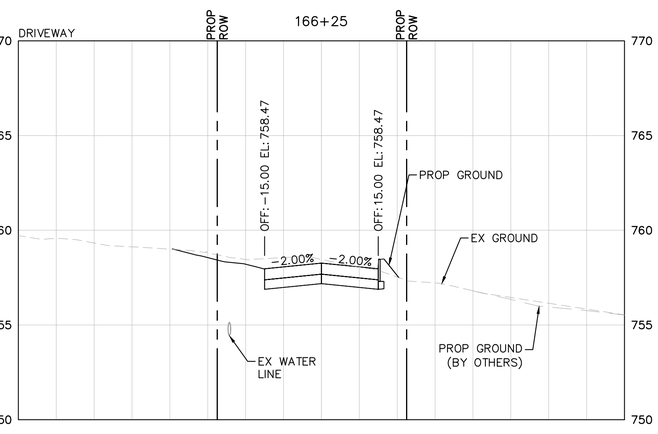












Plotted, By: 2026-04-16 18:42:08, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (31))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

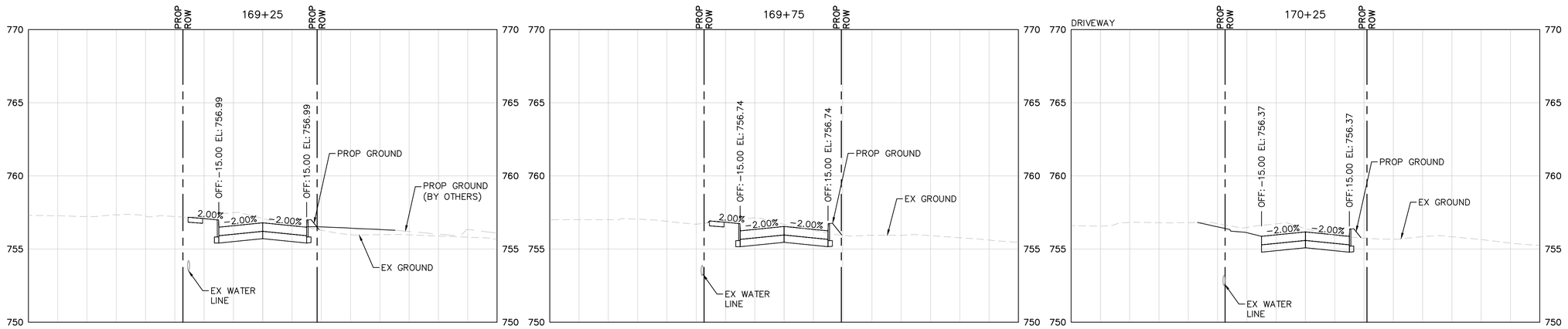
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

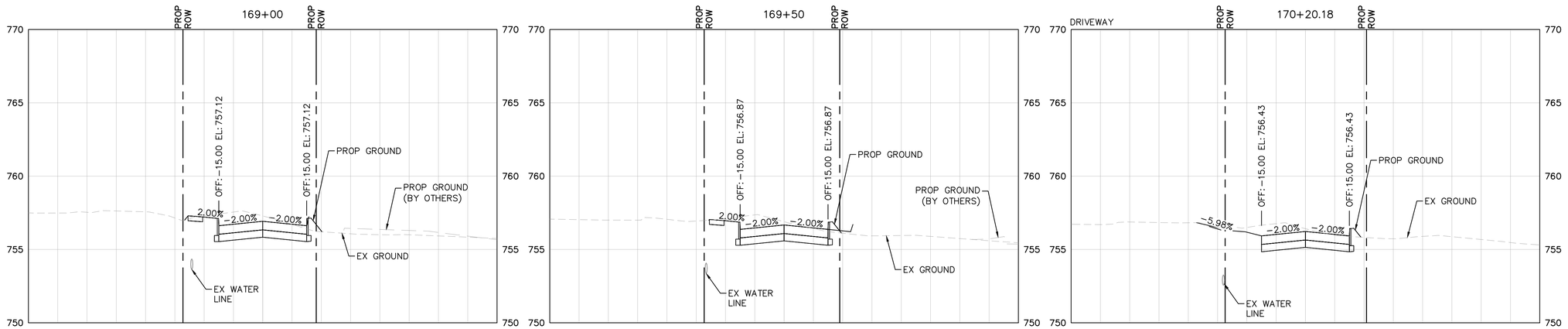
CROSS SECTIONS
LAKESHORE DRIVE
STA 166+75 TO STA
168+50

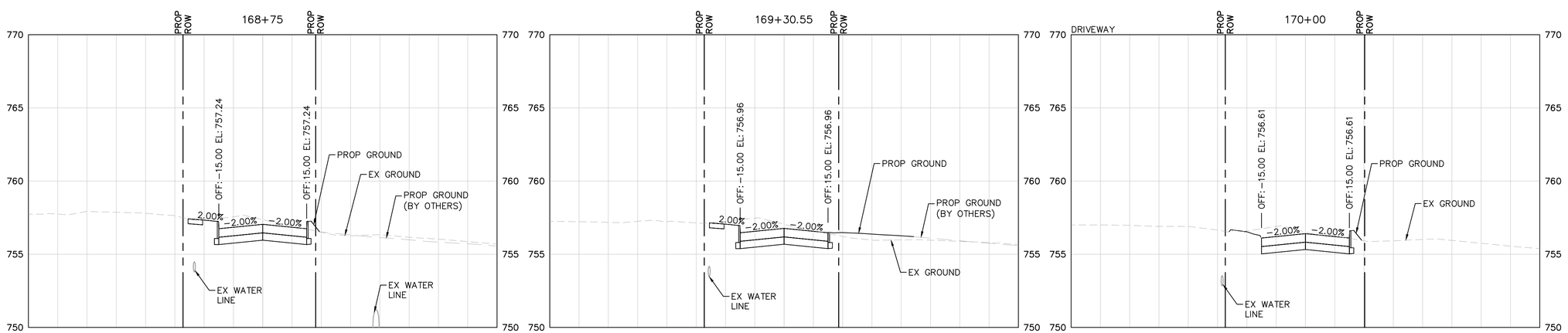
DATE:	APRIL 2026
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DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.72







Plotted, By: 2026-04-16 18:42:20, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (Layout1 (33))
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
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PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

CROSS SECTIONS
LAKESHORE DRIVE
STA 168+75 TO STA 170+25

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C1.73

2026-04-16 18:42:31, Salinas, Rene
Plotted, By: 2026-03-31 17:29:35 (Layout1 (34))
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg

Kimley»Horn
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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

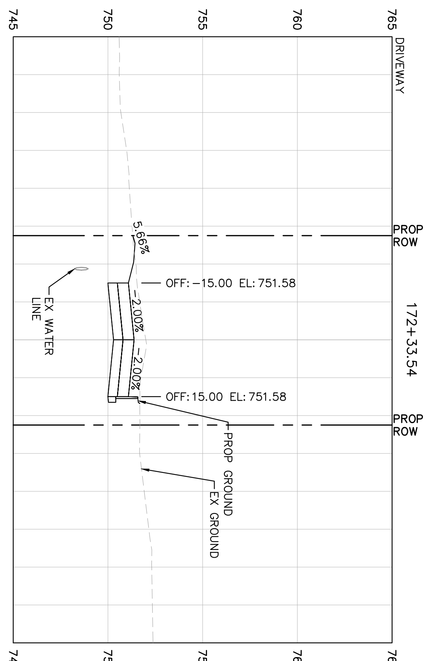
CROSS SECTIONS
LAKESHORE DRIVE
STA 170+50 TO STA 172+25

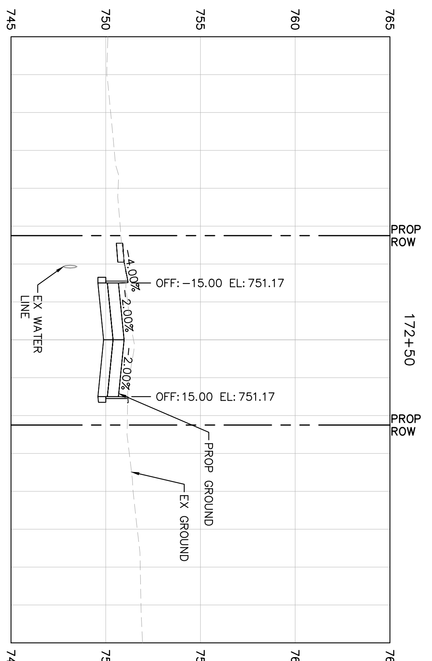
DATE: APRIL 2026
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DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

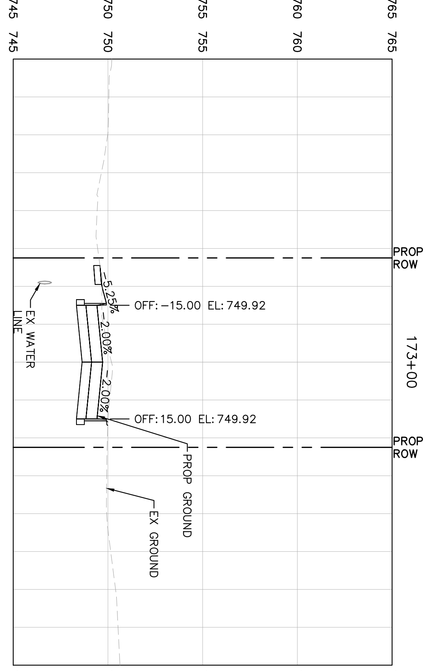
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Plotted, By: 2026-03-31 17:29:35 (Layout1 (46))
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Filename: dr\cadd\sheets\cross sections.dwg









C1.75	SHEET NUMBER	
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DESIGN: IL		
DRAWN: MBC		
CHECKED: MDC		
KHA NO.: 061165022		

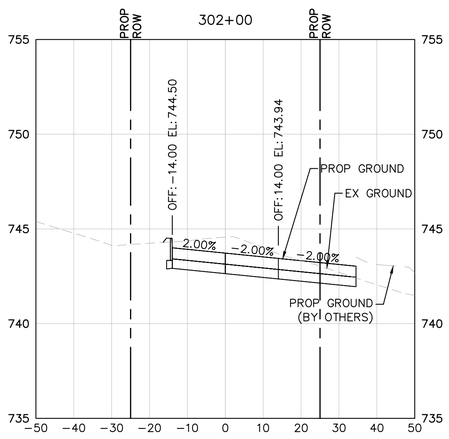
CROSS SECTIONS
LAKESHORE DRIVE
STA 172+33 TO END

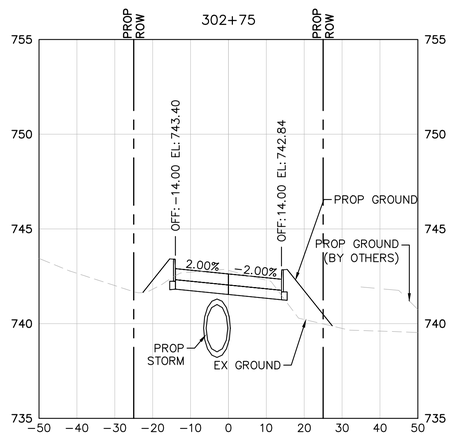
CITY OF CLEBURN
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

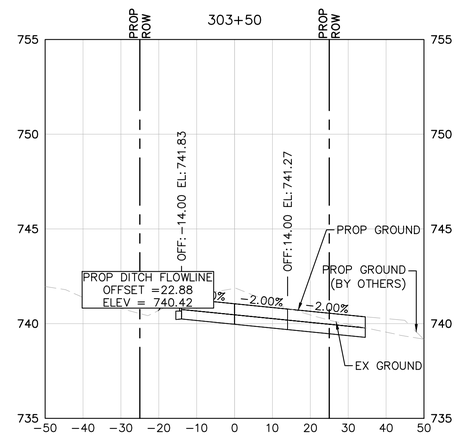


Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

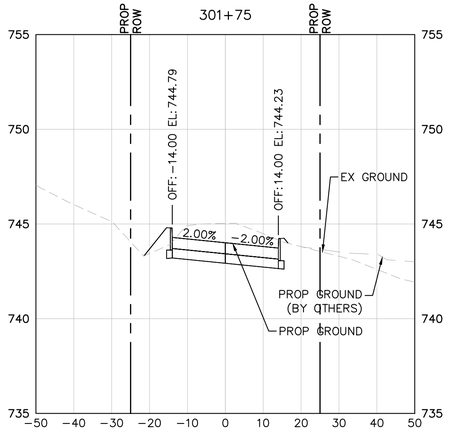
No.	Revision	By	Date

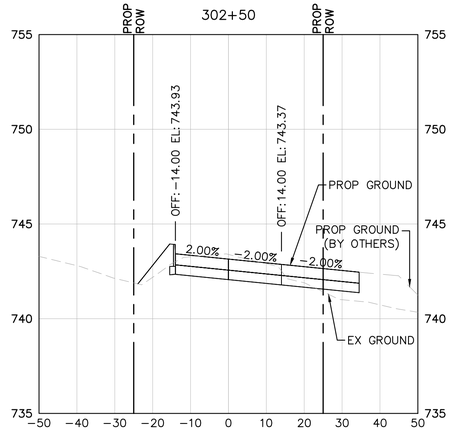


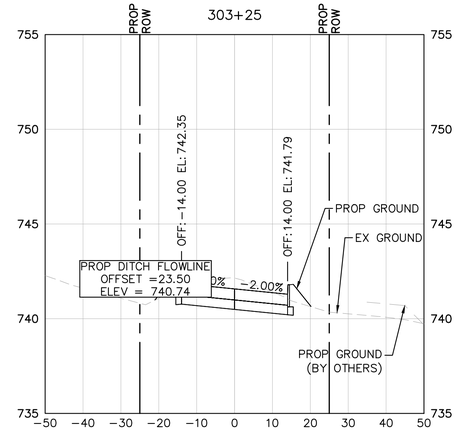


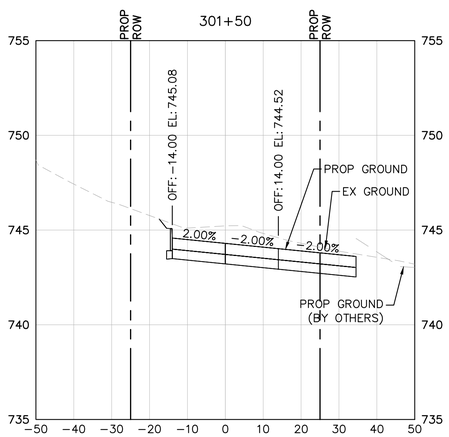


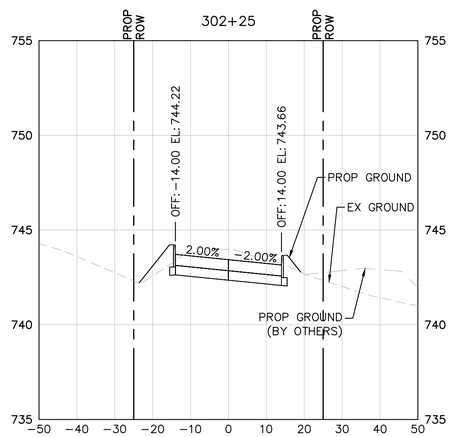
NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

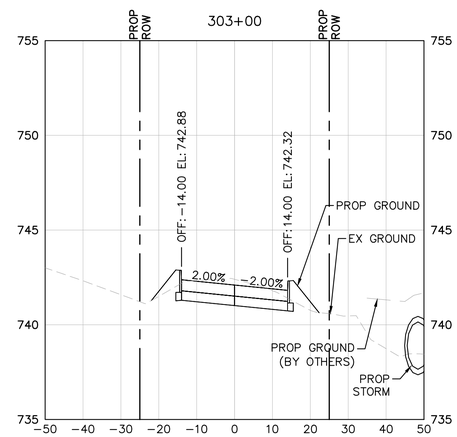












Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

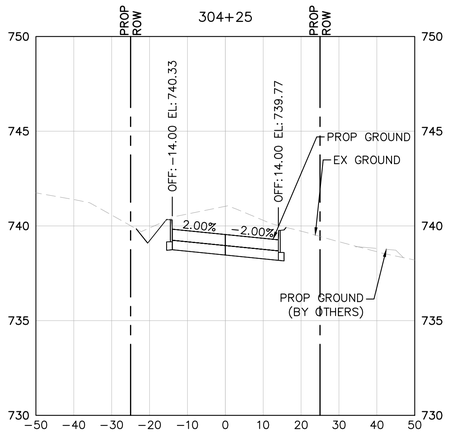
CROSS SECTIONS
BOAT RAMP ROAD
BEGIN TO STA 303+50

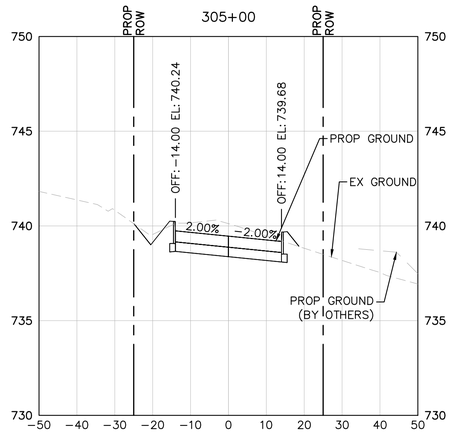
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

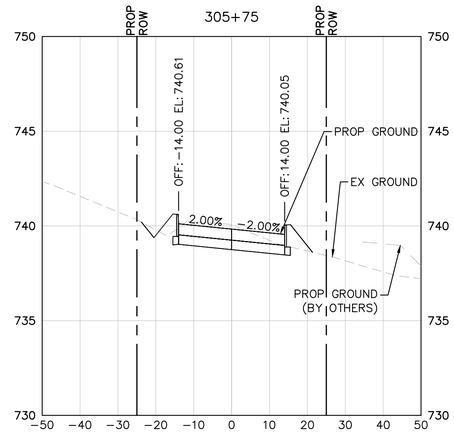
SHEET NUMBER

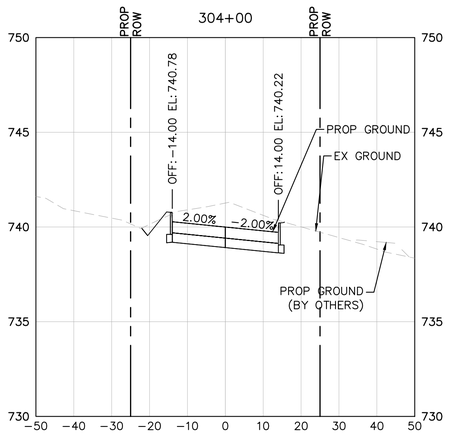
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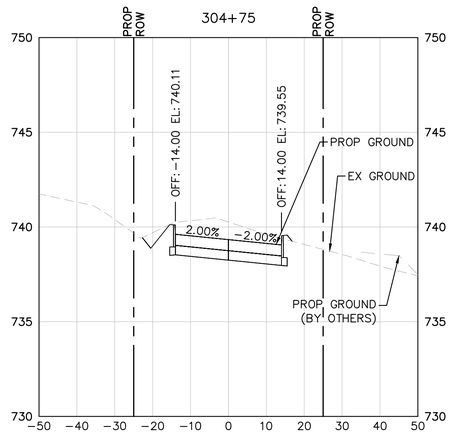
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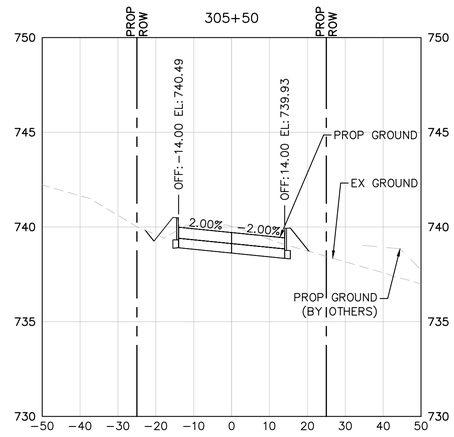


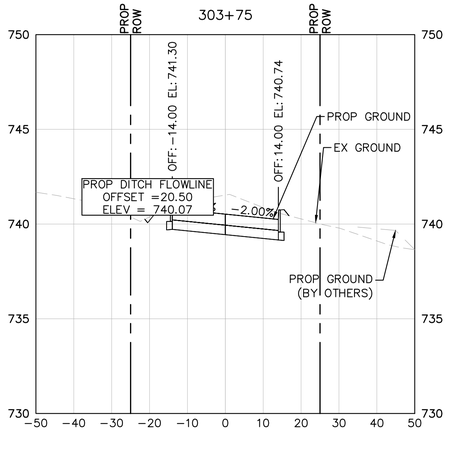


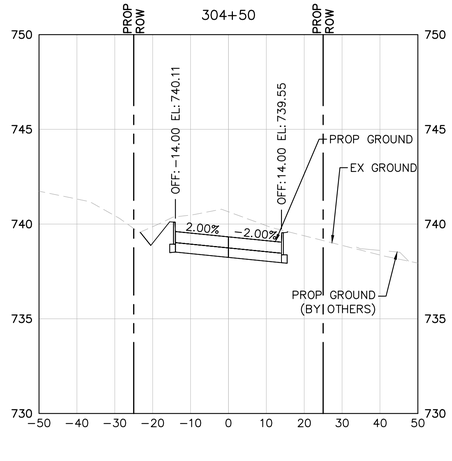


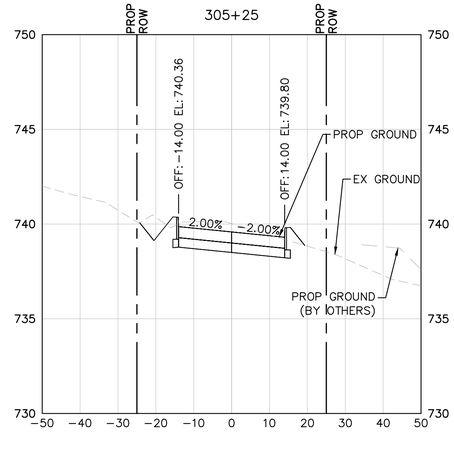












NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

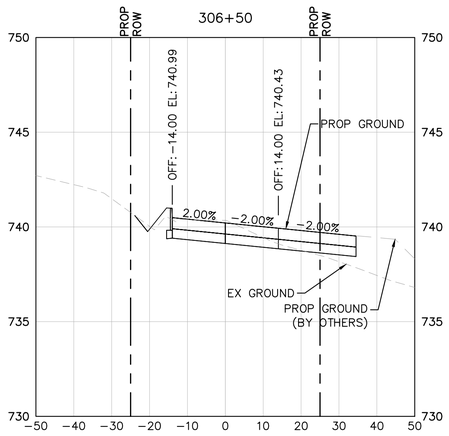
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

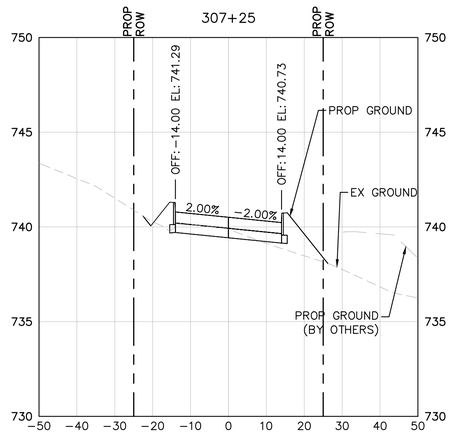
CROSS SECTIONS
BOAT RAMP ROAD STA 303+75 TO STA 305+75

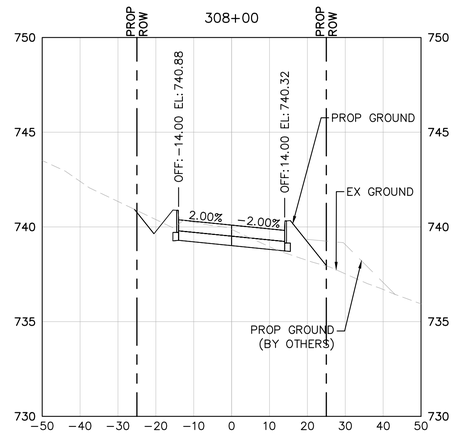
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DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.77

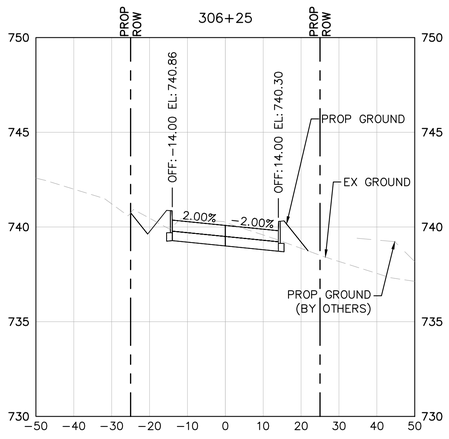
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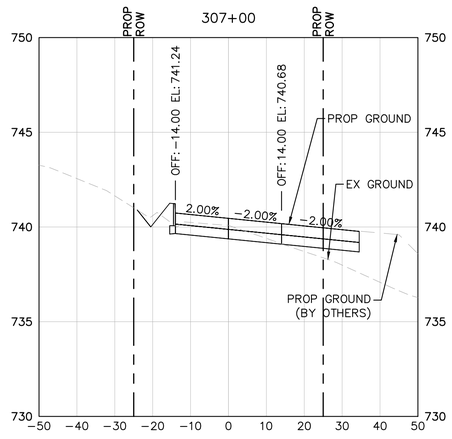


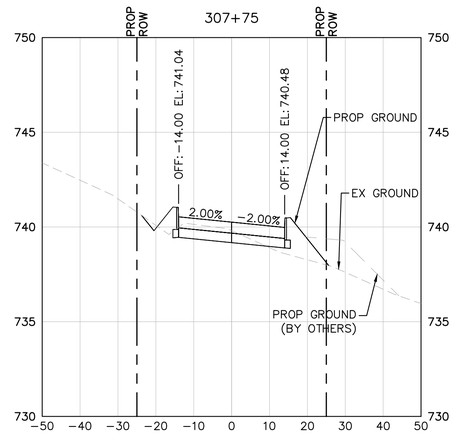


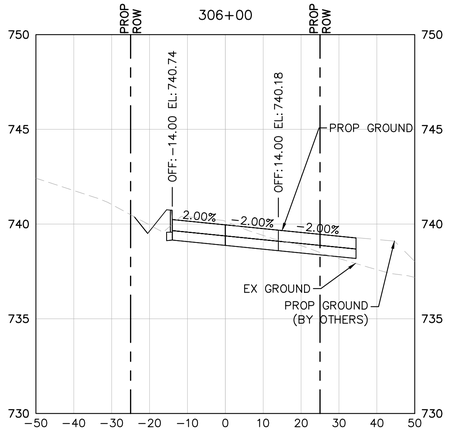


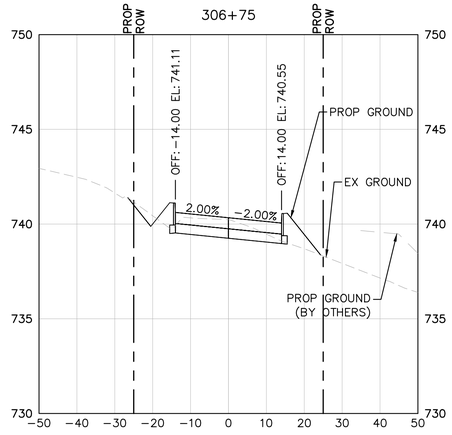
NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

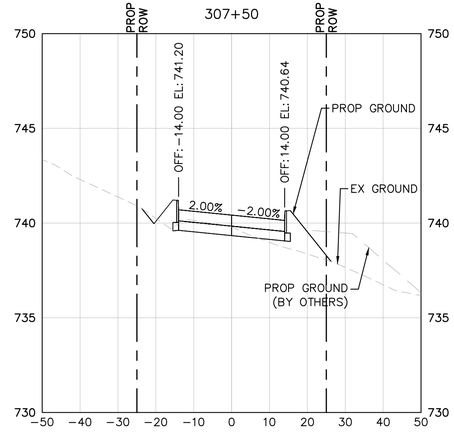












Kimley»Horn
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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

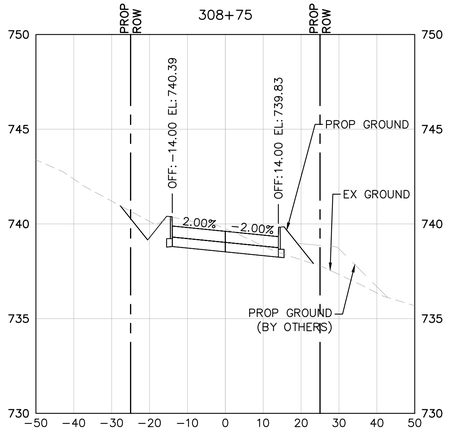
CROSS SECTIONS
BOAT RAMP ROAD
306+00 TO STA 308+00

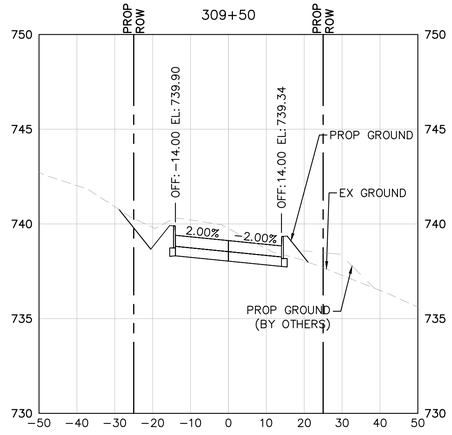
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

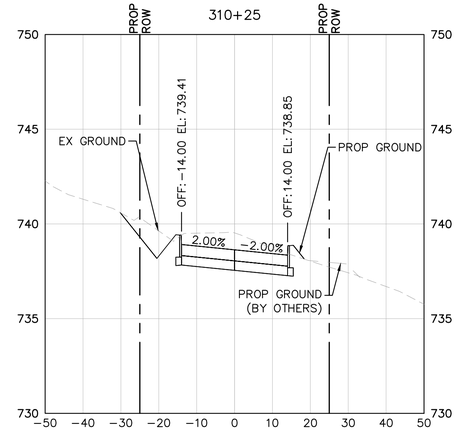
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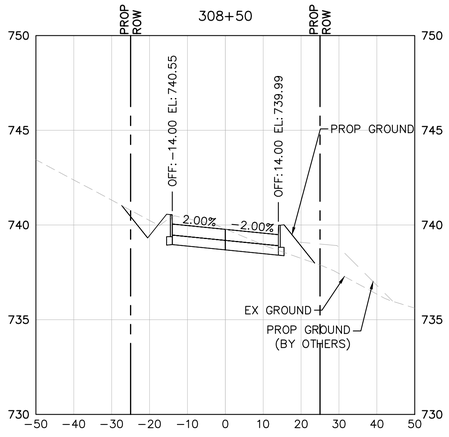
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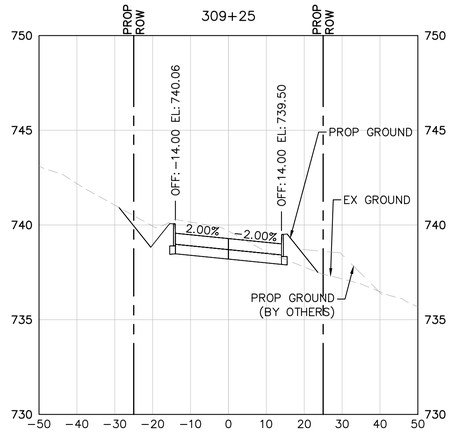
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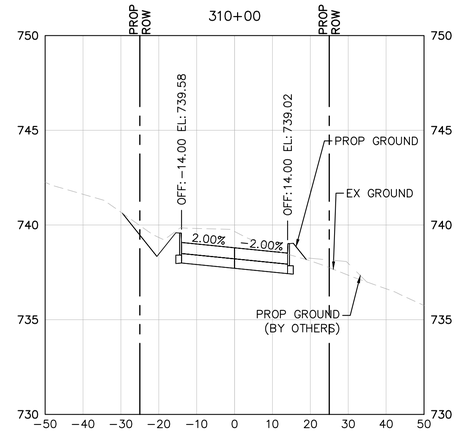


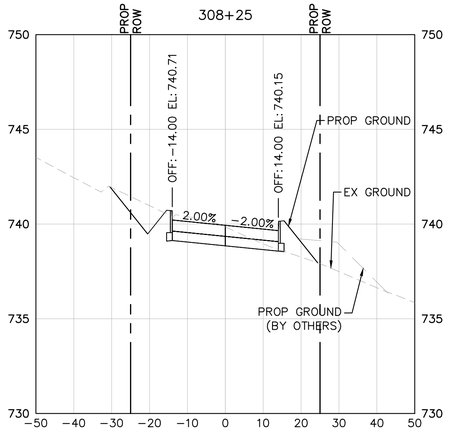


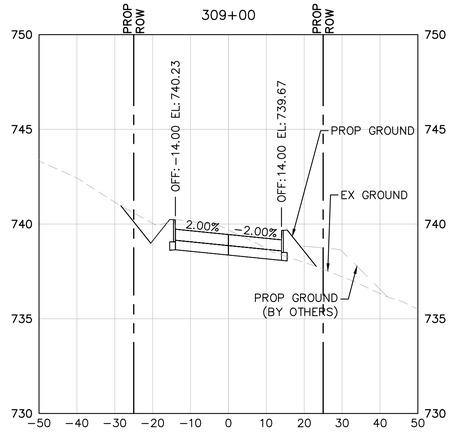


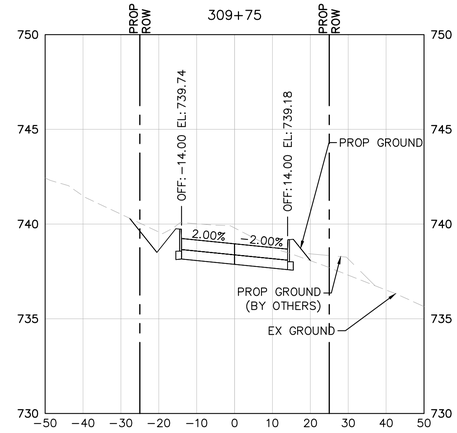












NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

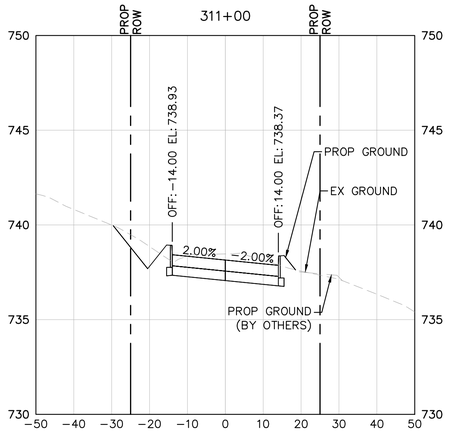
CROSS SECTIONS
BOAT RAMP ROAD
308+25 TO STA 310+25

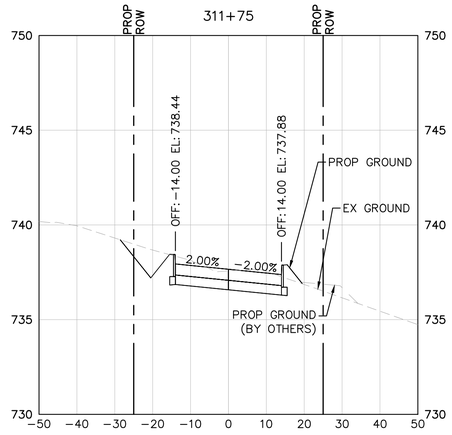
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DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

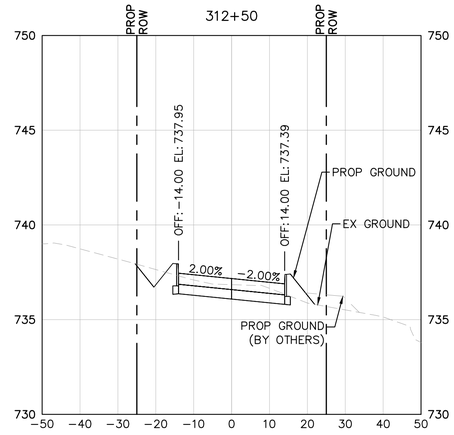
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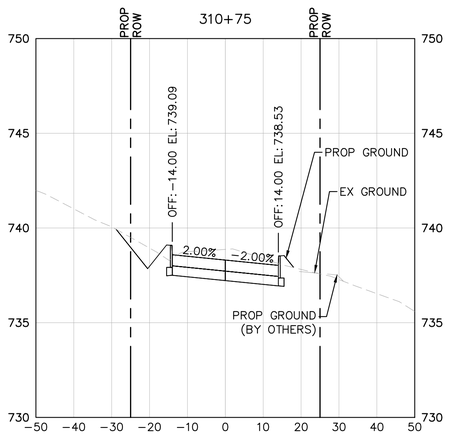
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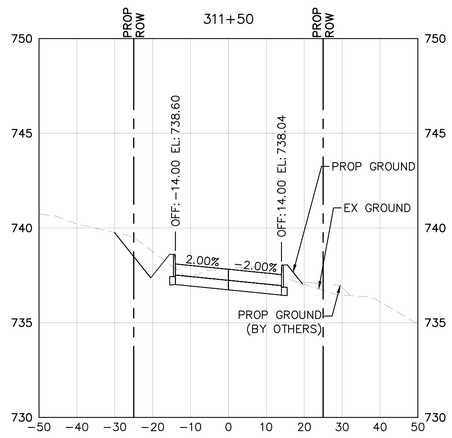
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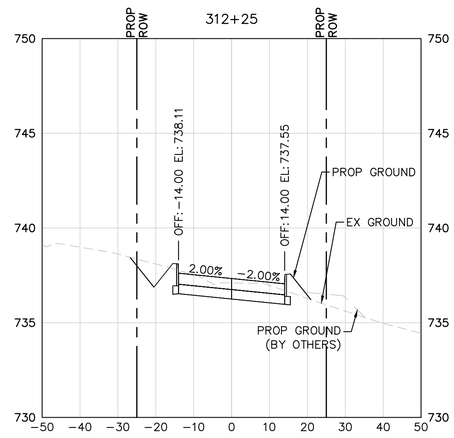


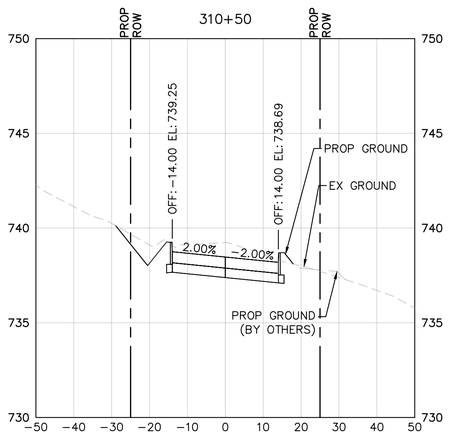


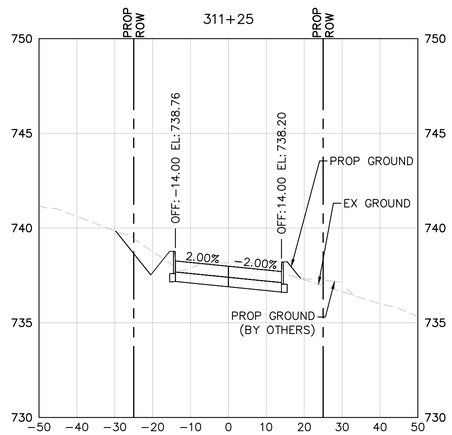


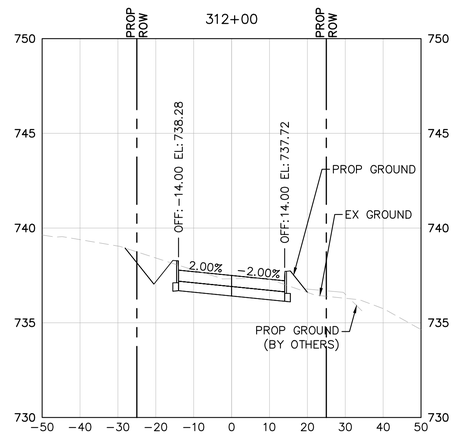












NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

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801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

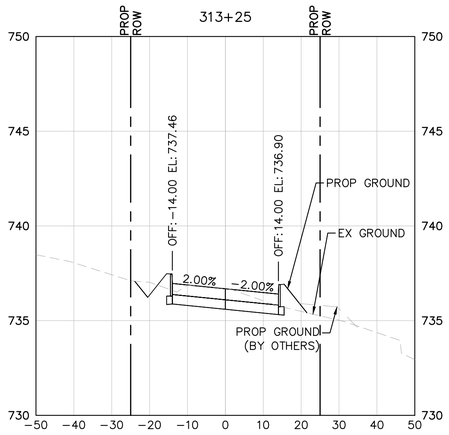
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

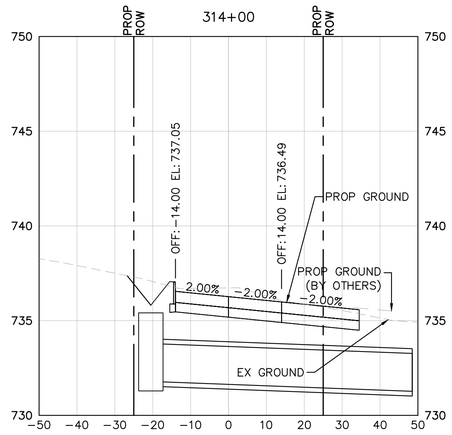
CROSS SECTIONS
BOAT RAMP ROAD
310+50 TO STA 312+50

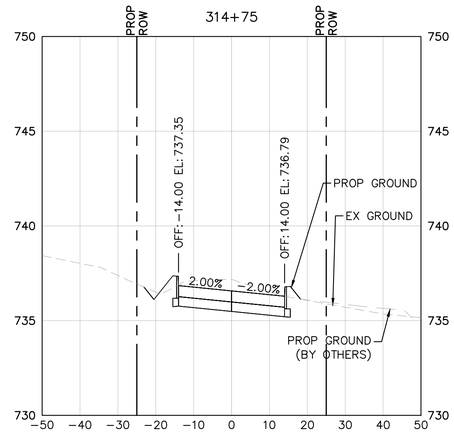
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
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KHA NO.: 061165022

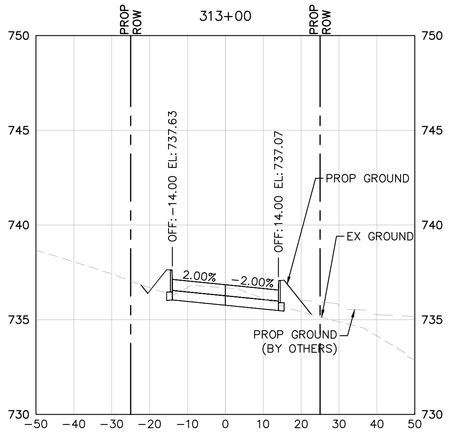
SHEET NUMBER
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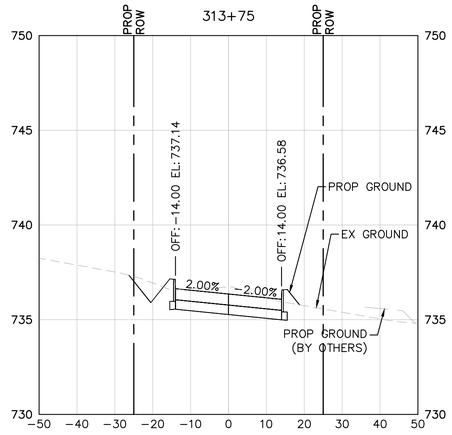
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Last Saved: 2026-03-31 17:29:35 (Layout1 (5))
k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\cross sections.dwg
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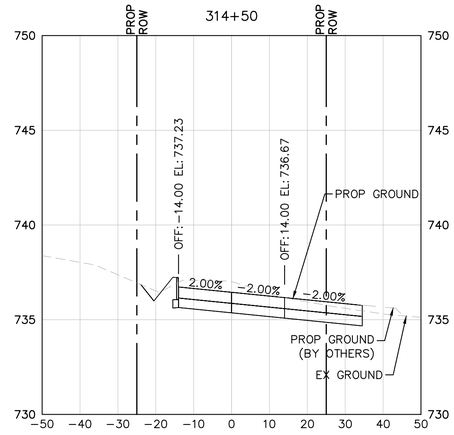


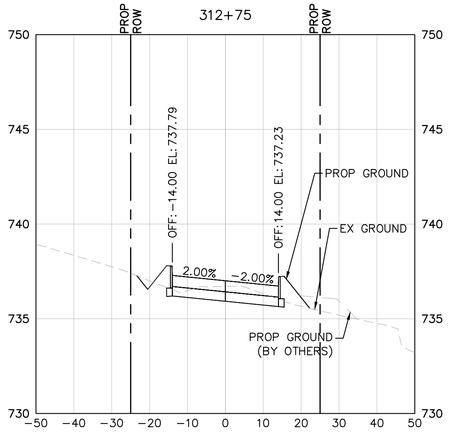


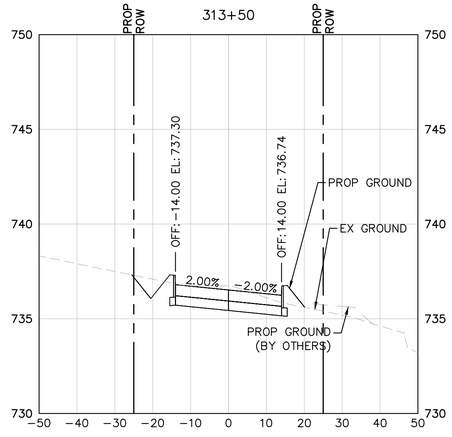


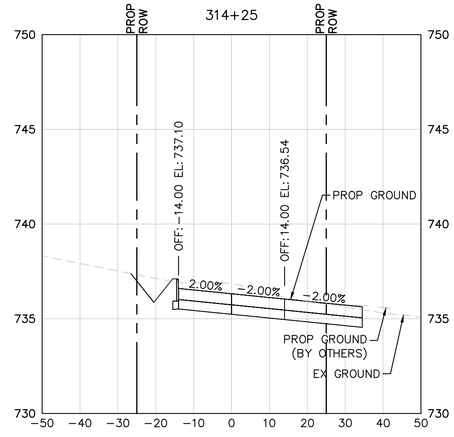












NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
106647
LICENSED
PROFESSIONAL ENGINEER

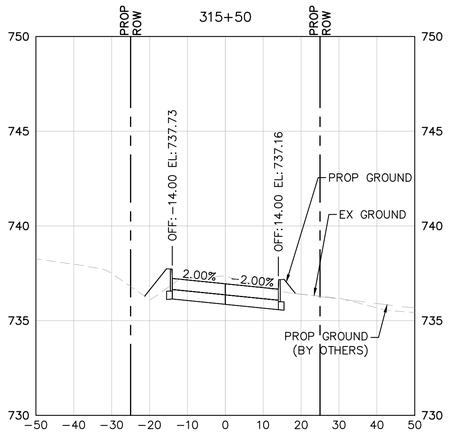
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

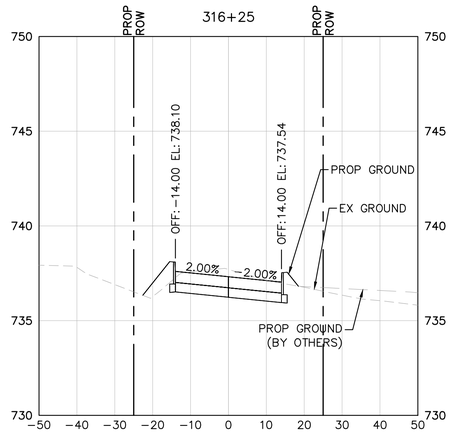
CROSS SECTIONS
BOAT RAMP ROAD
312+75 TO STA 314+75

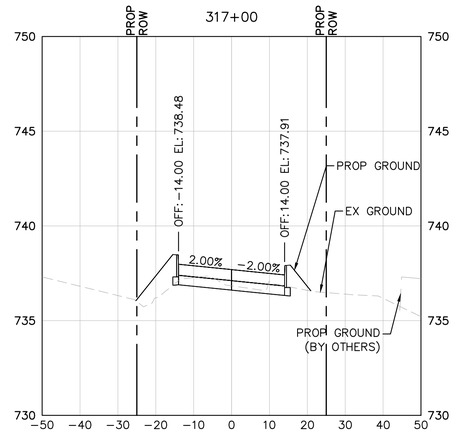
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DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.81

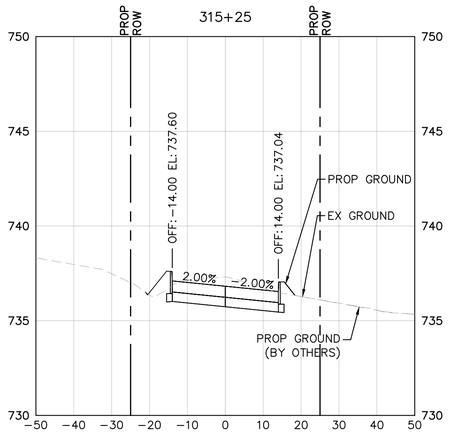
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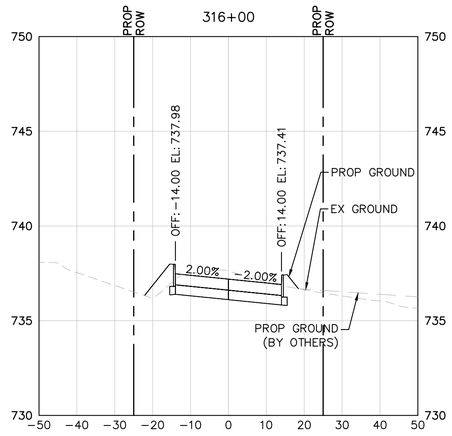


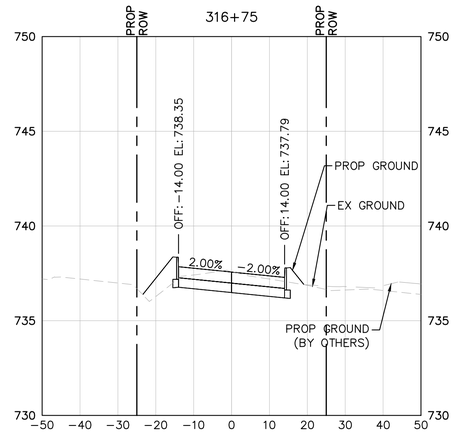


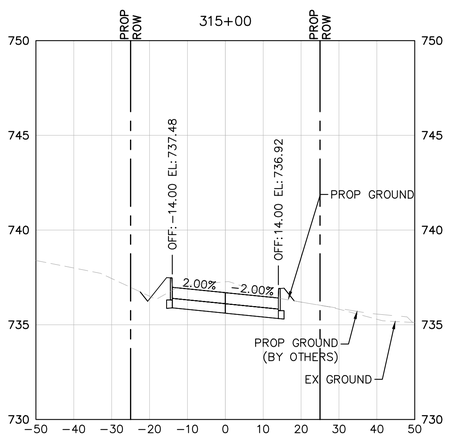


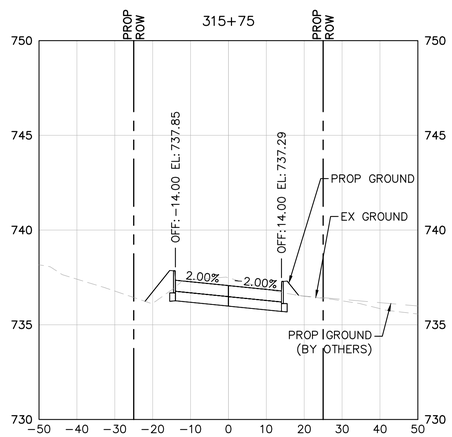
NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

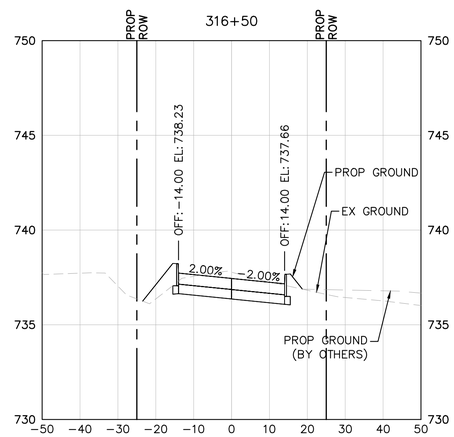












Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

CROSS SECTIONS
BOAT RAMP ROAD
315+00 TO STA 317+00

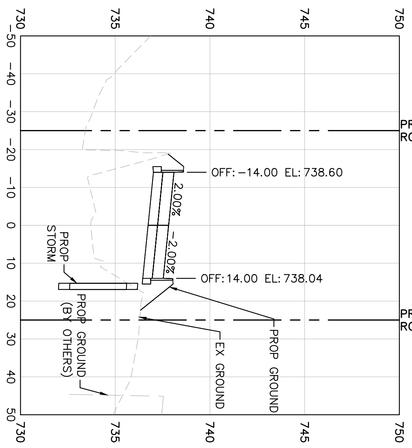
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

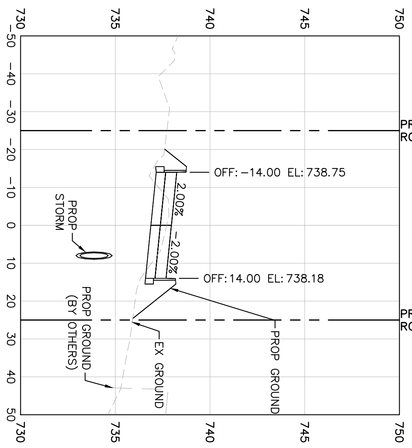
SHEET NUMBER

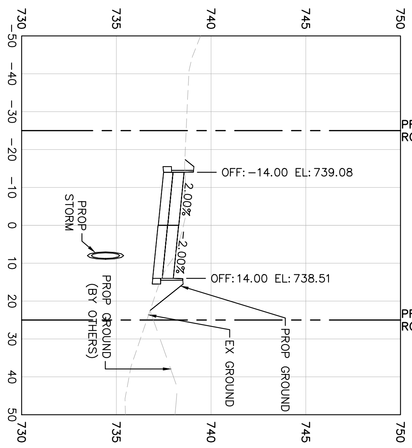
C1.82

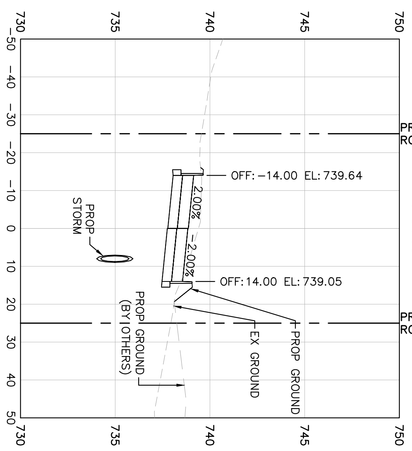
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Filename: dr\cadd\sheets\cross sections.dwg

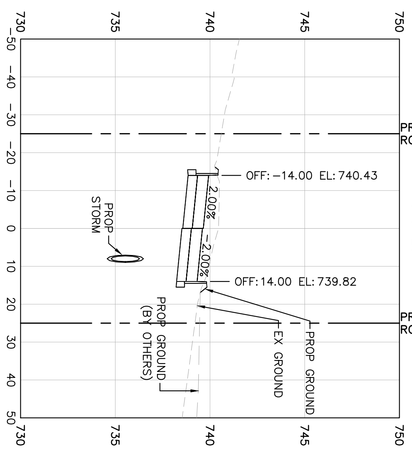
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NOTE:
PROP DITCH GRADING TO EXTEND PAST PROP ROW INTO GOLF COURSE AREA.

C1.83
SHEET NUMBER

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

CROSS SECTIONS
BOAT RAMP ROAD
317+25 TO END

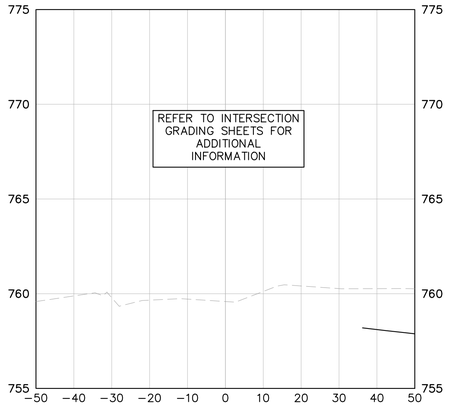
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

IVAN I. LOPEZ
140547
LICENSED PROFESSIONAL ENGINEER
04/10/2026

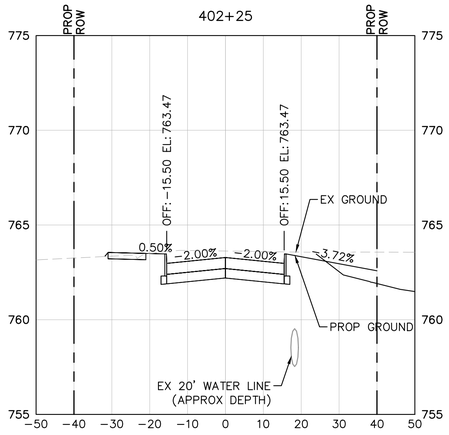
Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

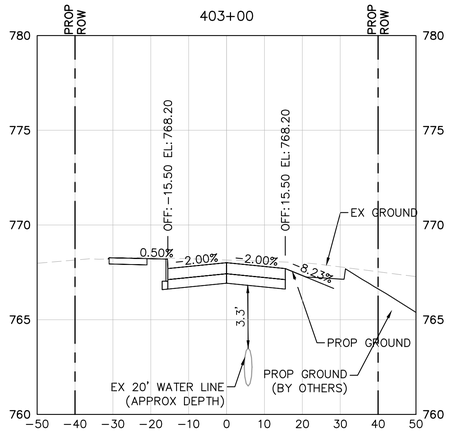
401+50



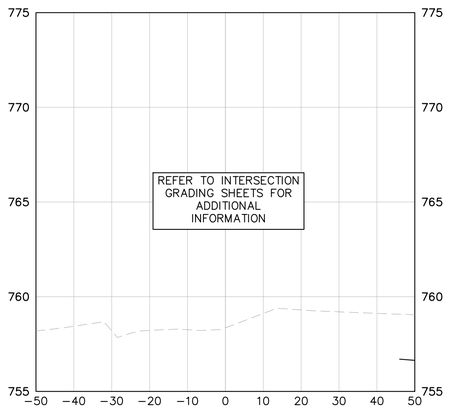
402+25



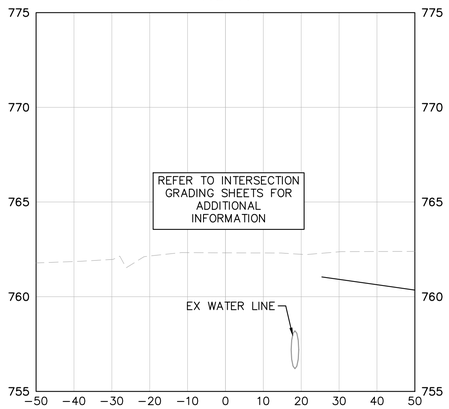
403+00



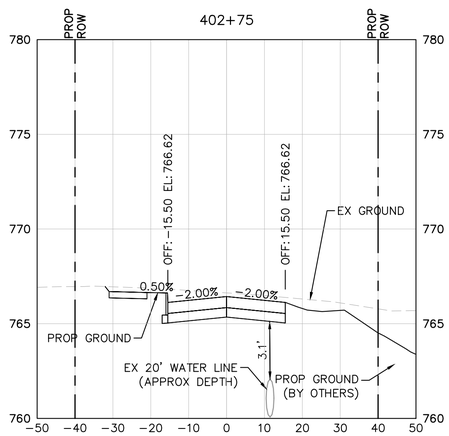
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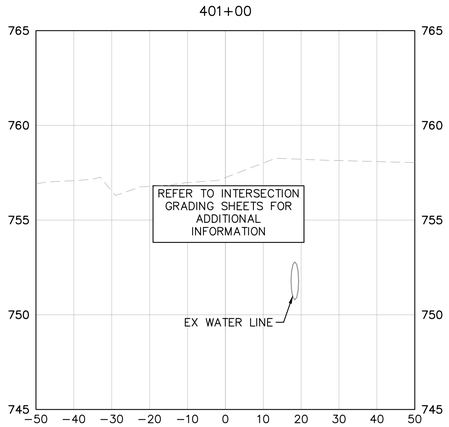
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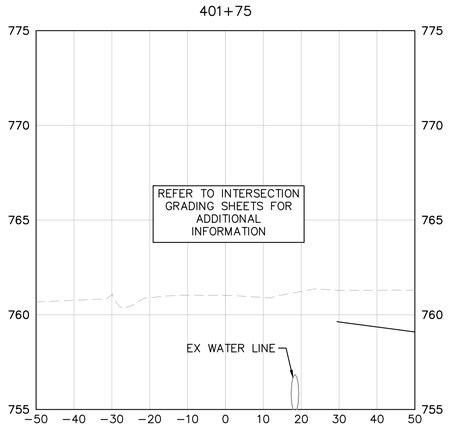
402+75



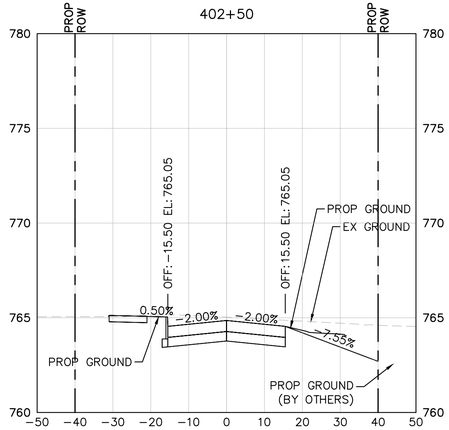
401+00



401+75



402+50



Plotted By: 2026-04-16 18:44:27, Salinas, Rene
Last Saved: 2026-03-31 17:29:35 (SHEET 1 OF 2)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\cross sections.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

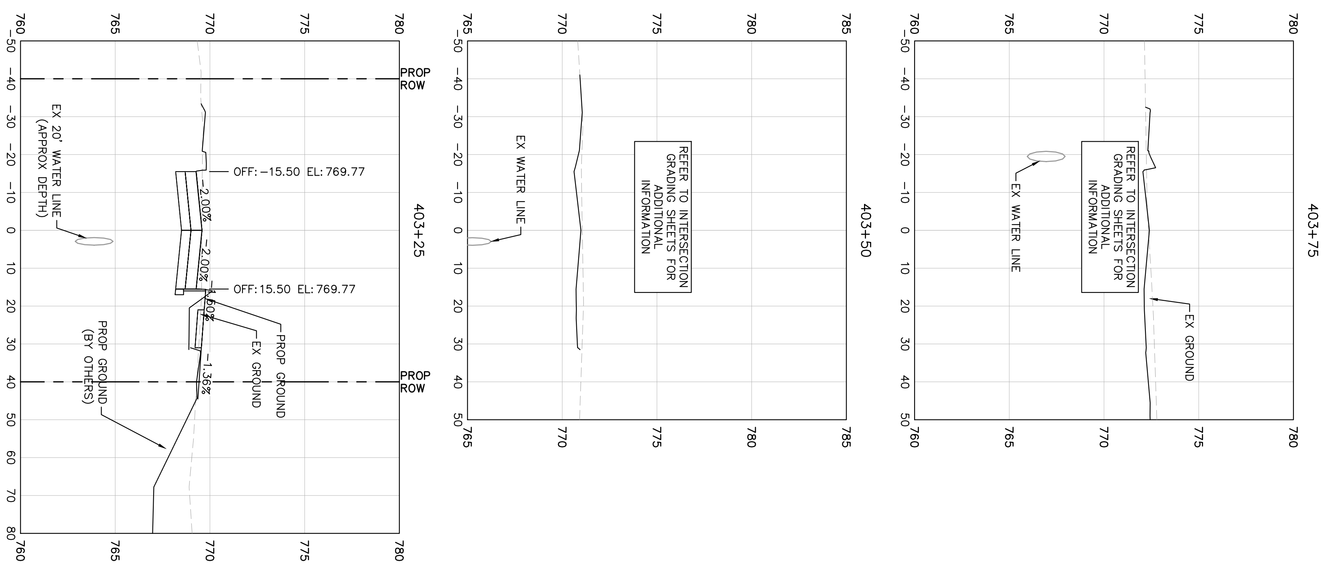
CROSS SECTIONS
HARVEST HILL ROAD
BEGIN TO STA 403+00

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C1.84

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C1.85
SHEET NUMBER

DATE:	APRIL 2026
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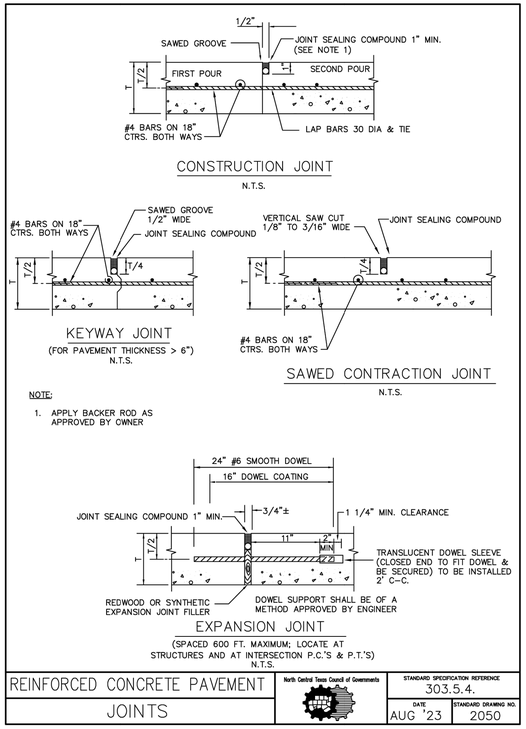
CROSS SECTIONS
HARVEST HILL ROAD
403+25 TO END

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

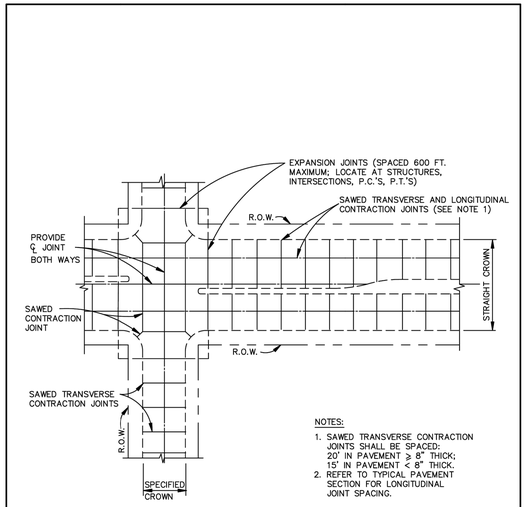


REINFORCED CONCRETE PAVEMENT	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 303.5.4.	
JOINTS		DATE AUG '23	STANDARD DRAWING NO. 2050

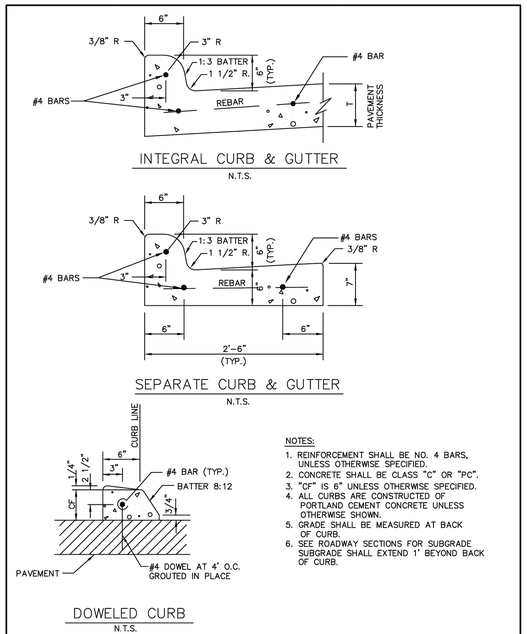
GENERAL NOTES:

1. REINFORCED CONCRETE PAVEMENT:
   - A. ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT UNLESS OTHERWISE APPROVED BY THE OWNER.
   - B. CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE PAVEMENT.
   - C. BAR LAPS SHALL BE 30 DIAMETERS.
   - D. REINFORCING BARS SHALL BE SUPPORTED BY CHAIRS OR OTHER DEVICES APPROVED BY THE OWNER.
2. SUBGRADE: (UNLESS OTHERWISE SPECIFIED BY OWNER)
   - A. SUBGRADE UNDER ALL PAVEMENTS SHALL BE STABILIZED TO MINIMUM DEPTH OF 6" FOR 2 LANE RESIDENTIAL ROAD AND 8" FOR ALL OTHERS. IF THE P.I. IS 15 OR GREATER, LIME SHALL BE USED, IF THE P.I. IS LESS THAN 15, CEMENT SHALL USED OR AS RECOMMENDED BY A GEOTECH ENGINEER. LABORATORY TESTS MUST BE PERFORMED TO DETERMINE THE AMOUNT OF CEMENT REQUIRED TO LOWER THE P.I. TO 15 OR BELOW SATURATION P.I. (PH≥ 12.4) WILL BE THE LIMIT WHEN A SOIL'S P.I. CANNOT BE BROUGHT TO 15 OR LOWER.
   - B. WHERE THE IN PLACE MATERIAL HAS A P.I. OF LESS THAN 15, THE SUBGRADE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6" AND RECOMPACTED.
   - C. WHERE SULFATES ARE PRESENT, CONSULT A GEOTECHNICIAL ENGINEER FOR RECOMMEND SUBGRADE TREATMENT.
3. IF THE ROADWAY IS A DESIGNATED BIKE ROUTE OR BIKE USAGE IS ANTICIPATED, REFER TO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES (2012, 4TH EDITION) AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD): https://mutcd.fhwa.dot.gov/resources/state_info/texas/tx.htm

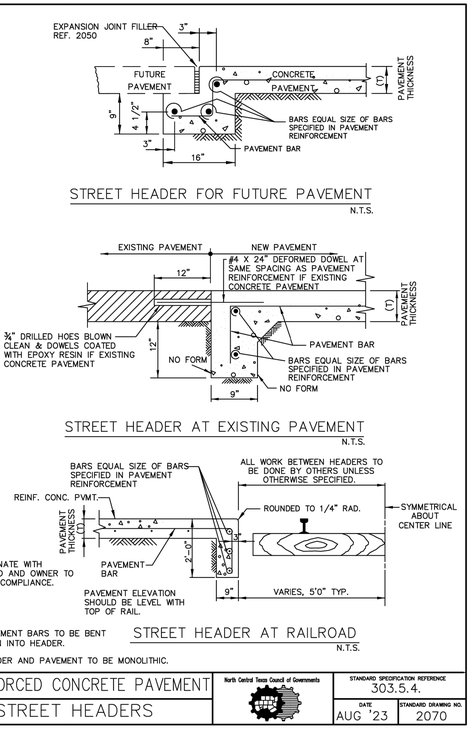
PAVEMENT SYSTEMS	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 301. 302. 303.	
GENERAL NOTES		DATE AUG '23	STANDARD DRAWING NO. 2110



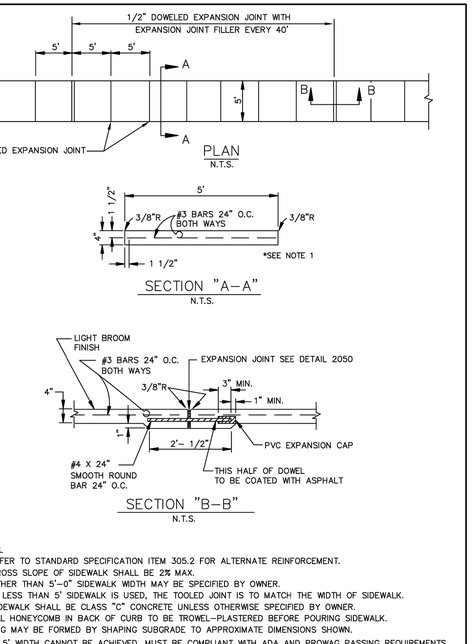
REINFORCED CONCRETE PAVEMENT	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 303.5.4.	
TRANSVERSE JOINT SPACING		DATE AUG '23	STANDARD DRAWING NO. 2060



CONCRETE CURB & GUTTER	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 305.1	
INTEGRAL, SEPARATE, & DOWELED		DATE AUG '23	STANDARD DRAWING NO. 2120



REINFORCED CONCRETE PAVEMENT	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 303.5.4.	
STREET HEADERS		DATE AUG '23	STANDARD DRAWING NO. 2070



REINFORCED CONCRETE SIDEWALKS	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 305.2	
JOINTS AND SPACING		DATE AUG '23	STANDARD DRAWING NO. 2170

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

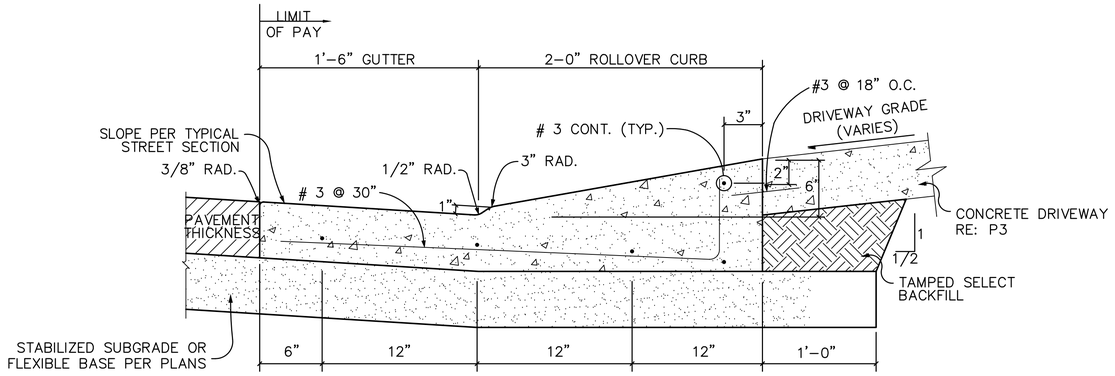
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PAVING DETAILS (SHEET 1 0F 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.86

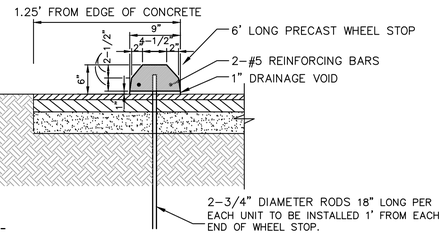
Plotted, By: 2026-04-16 18:44:54, Salinas, Rene
Last Saved: 2026-04-09 12:24:31 (PAVING DETAILS (SHEET 1 OF 4))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving details.dwg



NOTES:

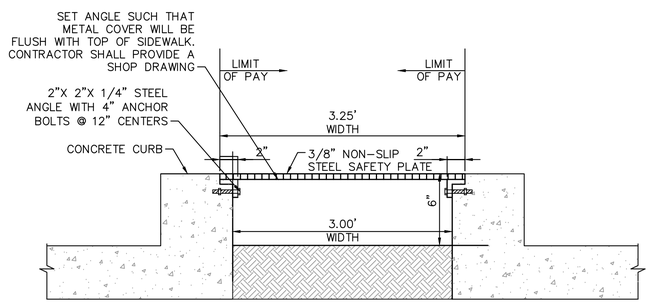
- IN THE TRANSITION AREA THE 6" ROLLOVER CURB AND 18" GUTTER WILL TRANSITION TO A 6" VERTICAL CURB AND 18" GUTTER (SEE PLANS FOR SPECIFIC AREAS)

1 C1.87 **6" ROLLOVER CURB OVER 24" AND 18" GUTTER** N.T.S.



NOTE:
UNLESS OTHERWISE SHOWN, ALL SITE DIMENSIONS ARE TO FACE OF CURB WHERE PRECAST CONC. WHEEL STOP IS SPECIFIED.

2 C1.87 **PRECAST WHEEL STOP DETAIL** N.T.S.

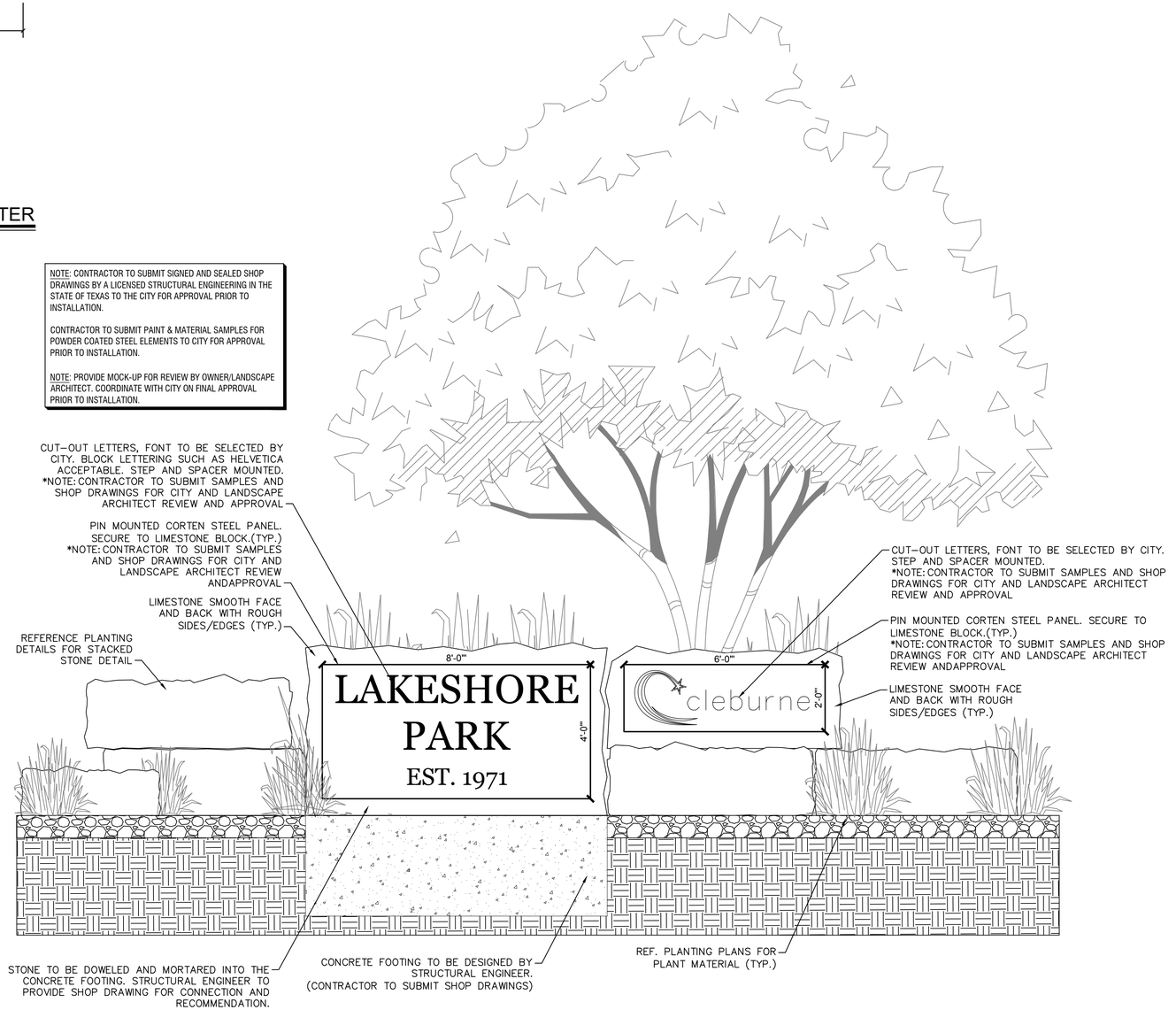


3 C1.87 **PROPOSED STEEL PLATE DETAIL FOR PARKING MEDIANS** N.T.S.

NOTE: CONTRACTOR TO SUBMIT SIGNED AND SEALED SHOP DRAWINGS BY A LICENSED STRUCTURAL ENGINEERING IN THE STATE OF TEXAS TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.

CONTRACTOR TO SUBMIT PAINT & MATERIAL SAMPLES FOR POWDER COATED STEEL ELEMENTS TO CITY FOR APPROVAL PRIOR TO INSTALLATION.

NOTE: PROVIDE MOCK-UP FOR REVIEW BY OWNER/LANDSCAPE ARCHITECT. COORDINATE WITH CITY ON FINAL APPROVAL PRIOR TO INSTALLATION.



4 C1.87 **ENTRY SIGN DETAIL** N.T.S.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PAVING DETAILS
(SHEET 2 OF 5)

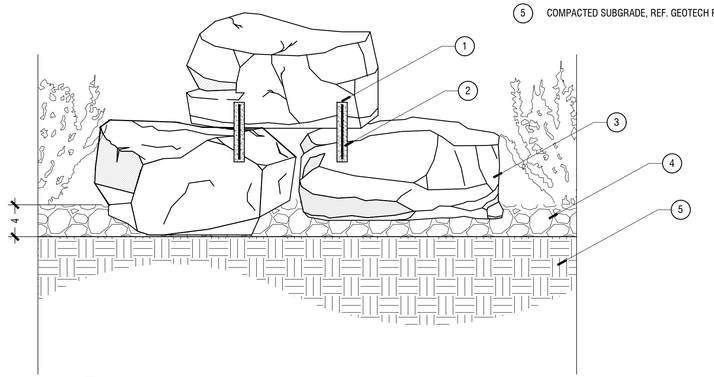
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.87

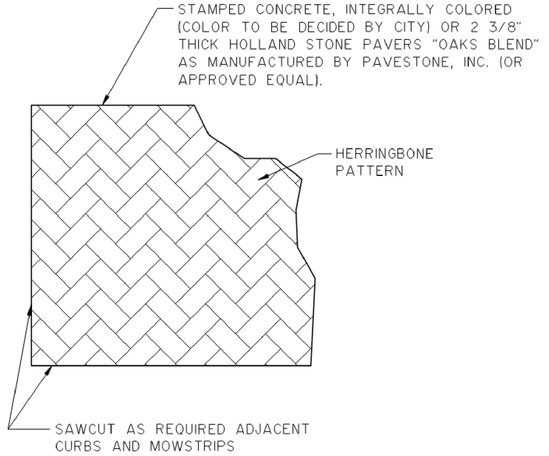
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Last Saved: 2026-04-09 12:24:31 (PAVING DETAILS (SHEET 2 OF 4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore
dr\cadd\sheets\paving details.dwg

NOTE: LEDGESTONE BLOCKS OF VARYING SIZE TO BE SET IN RANDOM ASHLAR PATTERN (WITHIN DIMENSIONAL CONSTRAINTS PROVIDED) WITH VARYING OFFSET WIDTH FOR ALL LIMITS SHOWN ON PLAN SHEET C1.88. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT AND THE CITY OF CLEBURNE PARKS DEPARTMENT PRIOR TO AND DURING INSTALLATION OF LEDGESTONE BLOCKS. LEDGESTONE BLOCKS SHALL BE PROVIDED BY MEZGER ENTERPRISES, INC. CONTACT CLINTON HART WITH MEZGER ENTERPRISES, INC. (214-998-1067) FOR MORE INFORMATION. (OR APPROVED EQUAL).

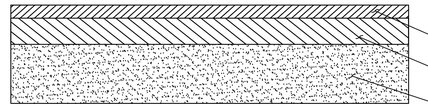
1. MIN. #4 DOWEL @ POINTS WHERE BOULDERS OVERLAP.
2. MORTAR
3. NATURAL LEDGESTONE BOULDER.
4. REFERENCE PLANTING PLANS
5. COMPACTED SUBGRADE, REF. GEOTECH REPORT



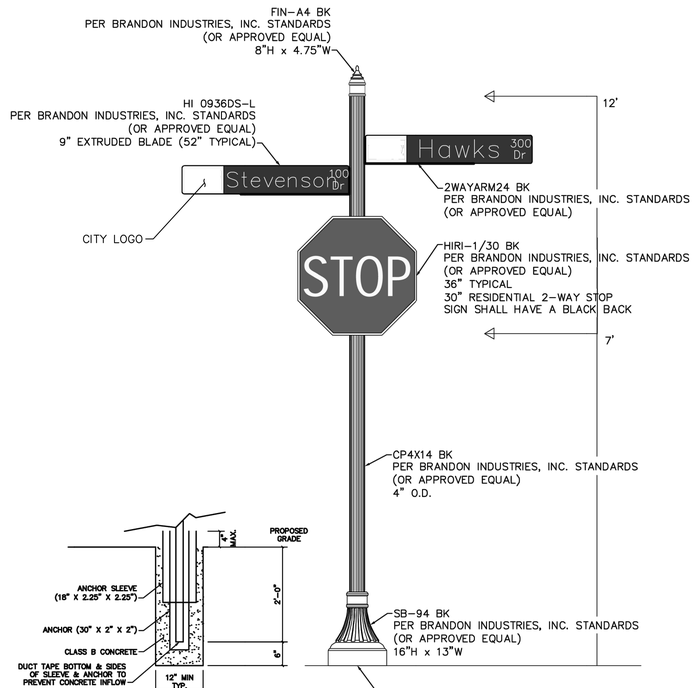
1 C1.88 STACKED STONE IN LANDSCAPE DETAIL
SCALE: N.T.S.



2 C1.88 CONCRETE PATTERN FOR CROSSWALKS (STAMPED)
N.T.S.

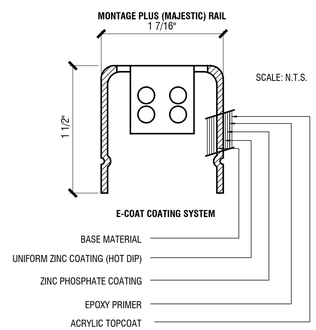


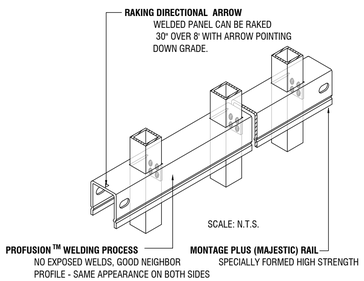
3 C1.88 ASPHALT REPAIR
SCALE: N.T.S.

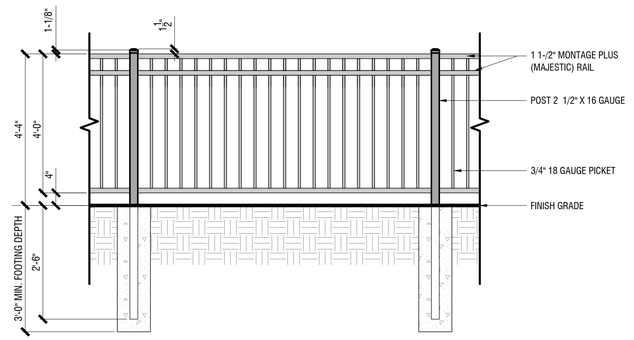


FOUNDATION DETAIL

4 C1.88 STREET SIGN POLE AND FOUNDATION DETAIL
SCALE: N.T.S.







NOTES:
1) POST SIZE DEPENDS ON FENCE HEIGHT AND WIND LOADS. SEE MONTAGE PLUS™ SPECIFICATIONS FOR POST SIZING CHART.
2) FORTH RAIL OPTIONAL

5 C1.88 PROPOSED PEDESTRIAN HANDRAIL
SCALE: N.T.S.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

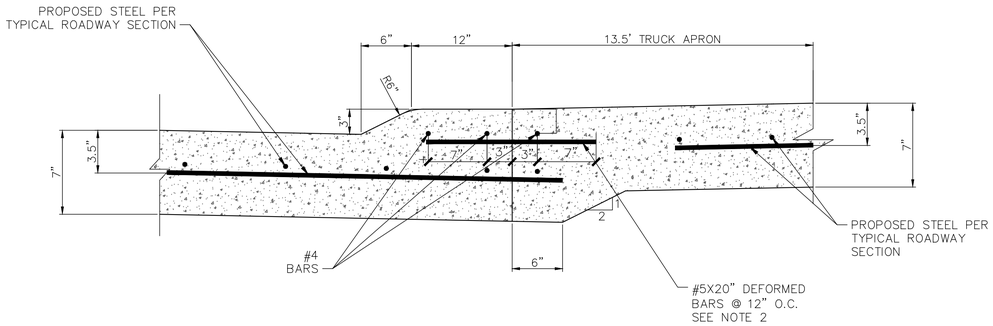
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PAVING DETAILS
(SHEET 3 0F 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

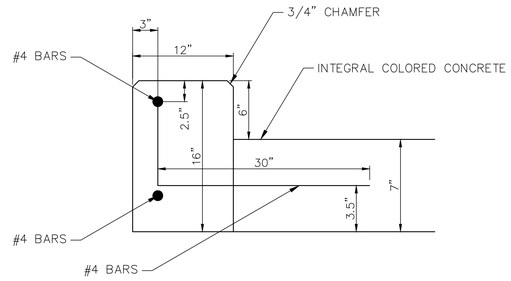
SHEET NUMBER
C1.88

Plotted By: 2026-04-16 18:45:02, Salinas, Rene
Last Saved: 2026-04-09 12:24:31 (PAVING DETAILS (SHEET 3 OF 4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving details.dwg



1 / C1.89 — 3" MOUNTABLE MONOLITHIC CURB

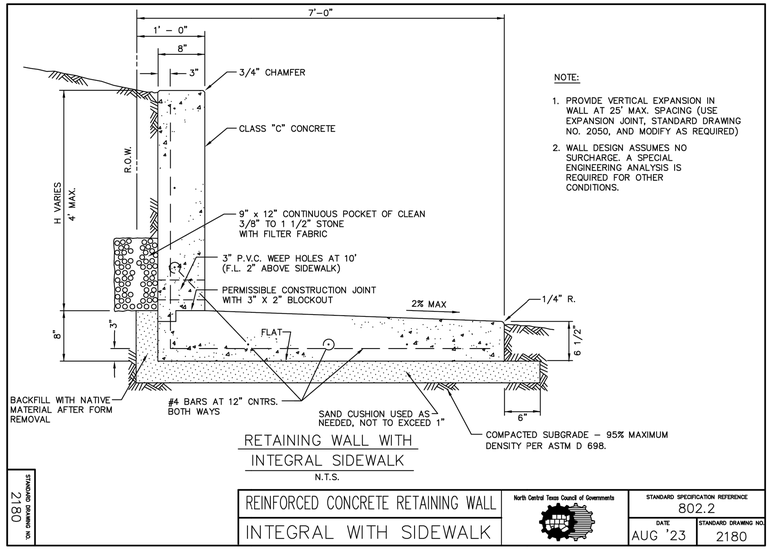
N.T.S.



NOTES:
1. REFER TO PAVEMENT STEEL REINFORCING GENERAL LAYOUT SHEET FOR LONGITUDINAL AND TRANSVERSE STEEL SIZES AND LAYOUT
2. LONGITUDINAL BARS SHALL BE CENTERED BETWEEN TRANSVERSE STEEL BARS
3. CONCRETE FOR RETAINING WALL SHALL BE CLASS P2, 4500 PSI.

2 / C1.89 — 12"X13" RETAINING WALL DETAIL

N.T.S.



NOTE:

1. PROVIDE VERTICAL EXPANSION IN WALL AT 25' MAX. SPACING (USE EXPANSION JOINT, STANDARD DRAWING NO. 2050, AND MODIFY AS REQUIRED)
2. WALL DESIGN ASSUMES NO SURCHARGE. A SPECIAL ENGINEERING ANALYSIS IS REQUIRED FOR OTHER CONDITIONS.

RETAINING WALL WITH INTEGRAL SIDEWALK

N.T.S.

CDN DRAWING DESIGNATION: 2180	REINFORCED CONCRETE RETAINING WALL INTEGRAL WITH SIDEWALK	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE: 802.2 DATE: AUG '23 — STANDARD DRAWING NO.: 2180

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

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04/10/2026

STATE OF TEXAS — IVAN LOPEZ — 140647 — LICENSED PROFESSIONAL ENGINEER

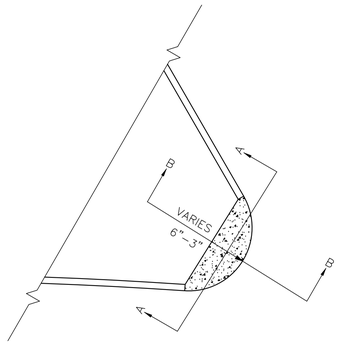
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

PAVING DETAILS (SHEET 4 0F 5)

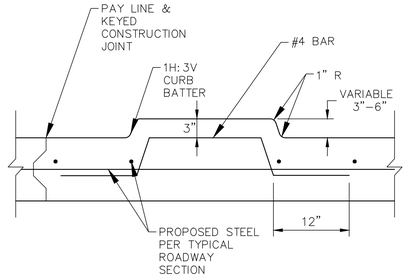
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.89

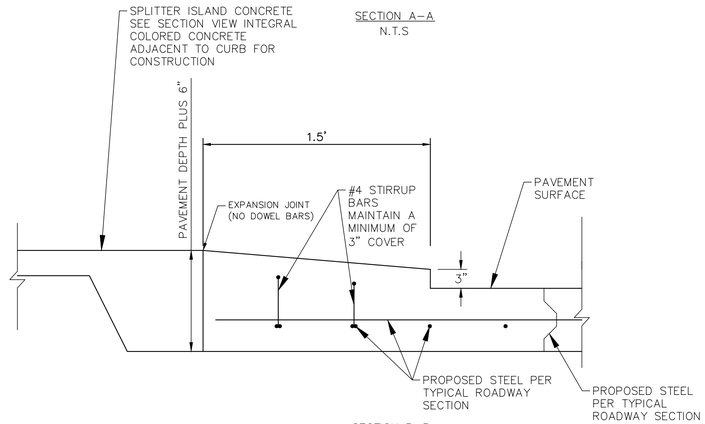
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Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\paving details.dwg



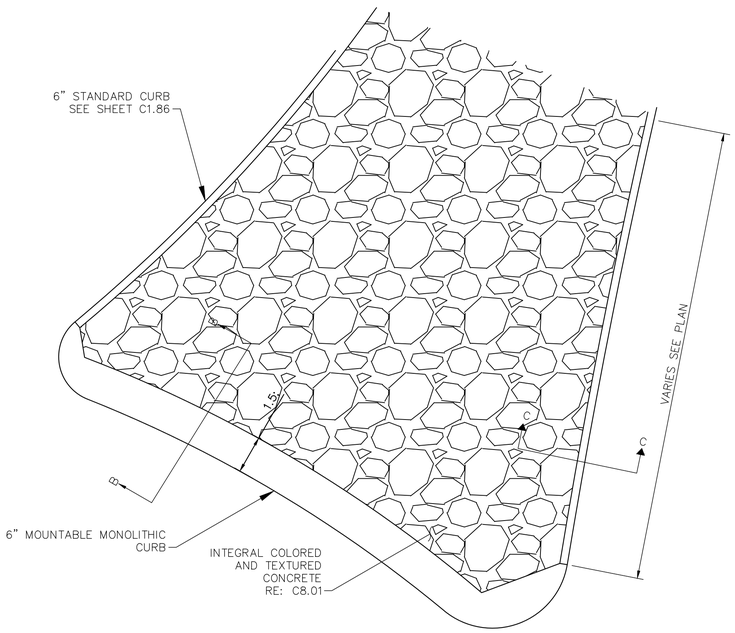
MONOLITHIC MEDIAN NOSE
N.T.S

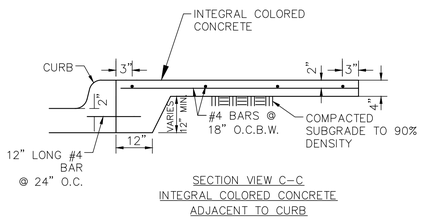


SECTION A-A
N.T.S



SECTION B-B
N.T.S





SECTION VIEW C-C
INTEGRAL COLORED CONCRETE
ADJACENT TO CURB

NOTES:

1) SPLITTER ISLANDS SHALL 4" CLASS "P2", 4500 PSI CONCRETE PAVEMENT REINFORCED WITH #4 BARS @ 18" SPACING.

1
C1.90
SPLITTER ISLAND DETAIL
N.T.S.

Plotted, By: 2026-04-16 18:45:07, Salinas, Rene
Last Saved: 2026-04-09 12:24:31 (PAVING DETAILS (SHEET 5 OF 5))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\paving details.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PAVING DETAILS
(SHEET 5 0F 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C1.90



LEGEND

- XX / X.XX — DRAINAGE AREA NAME & INLET NAME / DRAINAGE AREA (Acres)
- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW DIRECTION

GRAPHIC SCALE

250 0 125 250 500

ORIGINAL PLOTTED SCALE:
1 inch = 250 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 500 FT

NOTE:
1. CONTOURS SHOWN ARE FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) 2-FT CONTOURS. ONSITE CONTOURS ARE BASED UPON THE TOPOGRAPHIC SURVEY PREPARED BY KIMLEY-HORN 2023.

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04/10/2026

STATE OF TEXAS
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140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

EXISTING DRAINAGE AREA MAP

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.01

Plotted, By: 2026-04-16 18:29:17, Coleman, Matthew
Last Saved: 2025-04-17 10:11:31 (Ex DAM)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\existing dam.dwg

LEGEND

XX / X.XX — DRAINAGE AREA NAME & INLET NAME / DRAINAGE AREA (Acres)

DRAINAGE AREA BOUNDARY

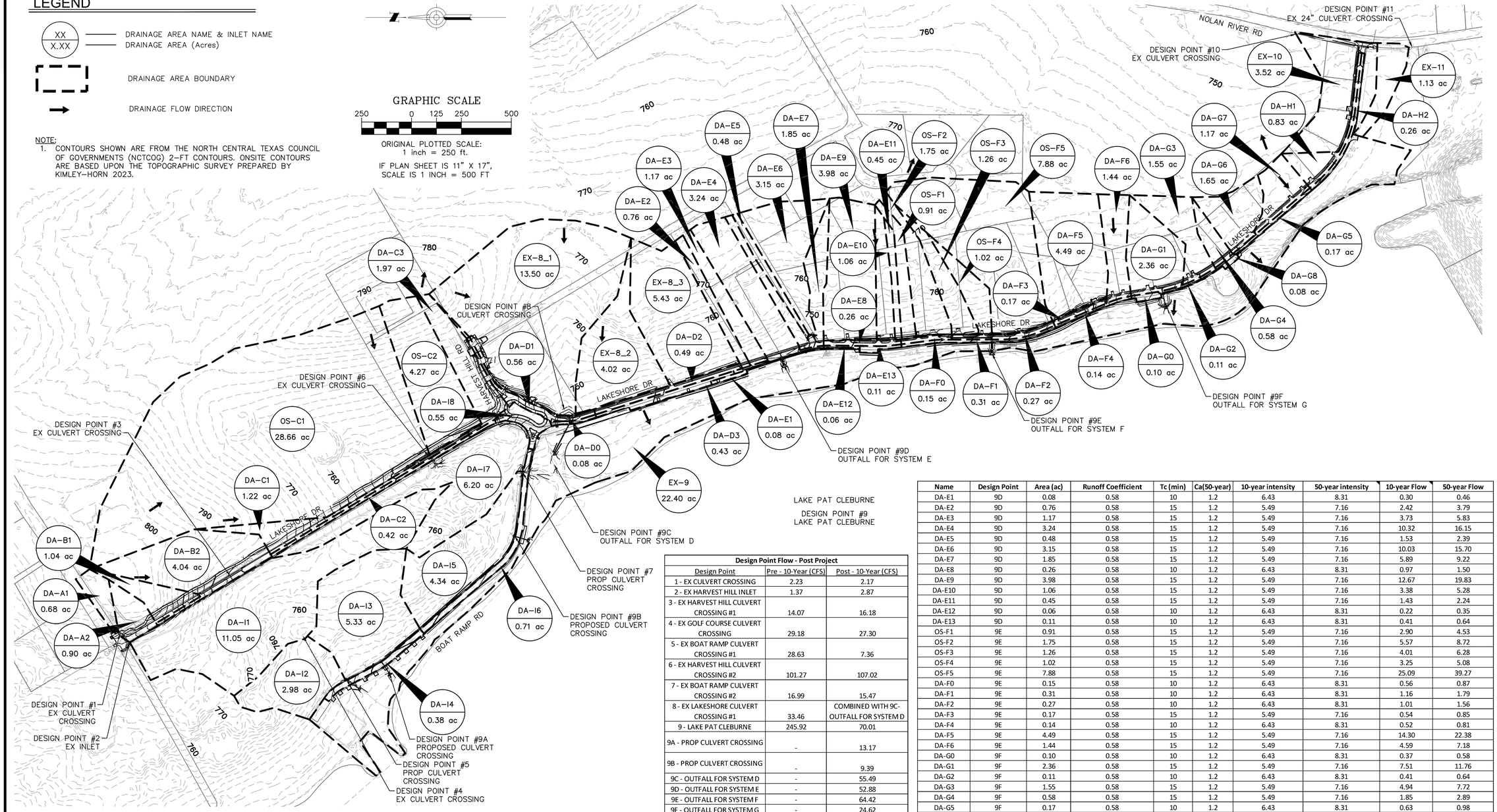
DRAINAGE FLOW DIRECTION

NOTE:
1. CONTOURS SHOWN ARE FROM THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) 2-FT CONTOURS. ONSITE CONTOURS ARE BASED UPON THE TOPOGRAPHIC SURVEY PREPARED BY KIMLEY-HORN 2023.

GRAPHIC SCALE
250 0 125 250 500

ORIGINAL PLOTTED SCALE:
1 inch = 250 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 500 FT



Design Point Flow - Post Project

Design Point	Pre - 10-Year (CFS)	Post - 10-Year (CFS)
1 - EX CULVERT CROSSING	2.23	2.17
2 - EX HARVEST HILL INLET	1.37	2.87
3 - EX HARVEST HILL CULVERT CROSSING #1	14.07	16.18
4 - EX GOLF COURSE CULVERT CROSSING	29.18	27.30
5 - EX BOAT RAMP CULVERT CROSSING #1	28.63	7.36
6 - EX HARVEST HILL CULVERT CROSSING #2	101.27	107.02
7 - EX BOAT RAMP CULVERT CROSSING #2	16.99	15.47
8 - EX LAKESHORE CULVERT CROSSING #1	33.46	COMBINED WITH 9C-OUTFALL FOR SYSTEM D
9 - LAKE PAT CLEBURNE	245.92	70.01
9A - PROP CULVERT CROSSING	-	13.17
9B - PROP CULVERT CROSSING	-	9.39
9C - OUTFALL FOR SYSTEM D	-	55.49
9D - OUTFALL FOR SYSTEM E	-	52.88
9E - OUTFALL FOR SYSTEM F	-	64.42
9F - OUTFALL FOR SYSTEM G	-	24.62
10 - EX NOLAN RIVER CULVERT CROSSING #1	15.98	14.82
11 - EX DRIVEWAY CULVERT CROSSING	2.94	2.79
TOTAL GOING TO LAKE	469.52	463.31

Name	Design Point	Area (ac)	Runoff Coefficient	Tc (min)	Ca(50-year)	10-year intensity	50-year intensity	10-year Flow	50-year Flow
DA-A1	1	0.68	0.58	15	1.2	5.49	7.16	2.17	3.39
DA-A2	2	0.90	0.58	15	1.2	5.49	7.16	2.87	4.49
DA-B1	3	1.04	0.58	15	1.2	5.49	7.16	3.31	5.18
DA-B2	3	4.04	0.58	15	1.2	5.49	7.16	12.86	20.13
DA-C1	6	1.22	0.58	10	1.2	6.43	8.31	4.55	7.06
DA-C2	6	0.42	0.58	10	1.2	6.43	8.31	1.57	2.43
DA-C3	6	1.97	0.58	10	1.2	6.43	8.31	7.35	11.39
OS-C1	6	28.66	0.58	20	1.2	4.81	6.32	79.96	126.07
OS-C2	6	4.27	0.58	15	1.2	5.49	7.16	13.60	21.28
DA-D0	9C	0.08	0.58	10	1.2	6.43	8.31	0.30	0.46
DA-D1	9C	0.56	0.58	10	1.2	6.43	8.31	2.09	3.24
DA-D2	9C	0.49	0.58	10	1.2	6.43	8.31	1.83	2.83
DA-D3	9C	0.43	0.58	10	1.2	6.43	8.31	1.60	2.49

Name	Design Point	Area (ac)	Runoff Coefficient	Tc (min)	Ca(50-year)	10-year intensity	50-year intensity	10-year Flow	50-year Flow
DA-E1	9D	0.08	0.58	10	1.2	6.43	8.31	0.30	0.46
DA-E2	9D	0.76	0.58	15	1.2	5.49	7.16	2.42	3.79
DA-E3	9D	1.17	0.58	15	1.2	5.49	7.16	3.73	5.83
DA-E4	9D	3.24	0.58	15	1.2	5.49	7.16	10.32	16.15
DA-E5	9D	0.48	0.58	15	1.2	5.49	7.16	1.53	2.39
DA-E6	9D	3.15	0.58	15	1.2	5.49	7.16	10.03	15.70
DA-E7	9D	1.85	0.58	15	1.2	5.49	7.16	5.89	9.22
DA-E8	9D	0.26	0.58	10	1.2	6.43	8.31	0.97	1.50
DA-E9	9D	3.98	0.58	15	1.2	5.49	7.16	12.67	19.83
DA-E10	9D	1.06	0.58	15	1.2	5.49	7.16	3.38	5.28
DA-E11	9D	0.45	0.58	15	1.2	5.49	7.16	1.43	2.24
DA-E12	9D	0.06	0.58	10	1.2	6.43	8.31	0.22	0.35
DA-E13	9D	0.11	0.58	10	1.2	6.43	8.31	0.41	0.64
OS-F1	9E	0.91	0.58	15	1.2	5.49	7.16	2.90	4.53
OS-F2	9E	1.75	0.58	15	1.2	5.49	7.16	5.57	8.72
OS-F3	9E	1.26	0.58	15	1.2	5.49	7.16	4.01	6.28
OS-F4	9E	1.02	0.58	15	1.2	5.49	7.16	3.25	5.08
OS-F5	9E	7.88	0.58	15	1.2	5.49	7.16	25.09	39.27
DA-F0	9E	0.15	0.58	10	1.2	6.43	8.31	0.56	0.87
DA-F1	9E	0.31	0.58	10	1.2	6.43	8.31	1.16	1.79
DA-F2	9E	0.27	0.58	10	1.2	6.43	8.31	1.01	1.56
DA-F3	9E	0.17	0.58	15	1.2	5.49	7.16	0.54	0.85
DA-F4	9E	0.14	0.58	10	1.2	6.43	8.31	0.52	0.81
DA-F5	9E	4.49	0.58	15	1.2	5.49	7.16	14.30	22.38
DA-F6	9E	1.44	0.58	15	1.2	5.49	7.16	4.59	7.18
DA-G0	9F	0.10	0.58	10	1.2	6.43	8.31	0.37	0.58
DA-G1	9F	2.36	0.58	15	1.2	5.49	7.16	7.51	11.76
DA-G2	9F	0.11	0.58	10	1.2	6.43	8.31	0.41	0.64
DA-G3	9F	1.55	0.58	15	1.2	5.49	7.16	4.94	7.72
DA-G4	9F	0.58	0.58	15	1.2	5.49	7.16	1.85	2.89
DA-G5	9F	0.17	0.58	10	1.2	6.43	8.31	0.63	0.98
DA-G6	9F	1.65	0.58	15	1.2	5.49	7.16	5.25	8.22
DA-G7	9F	1.17	0.58	15	1.2	5.49	7.16	3.73	5.83
DA-G8	9F	0.08	0.58	10	1.2	6.43	8.31	0.30	0.46
DA-H1	10	0.83	0.58	15	1.2	5.49	7.16	2.64	4.14
DA-H2	10	0.26	0.58	10	1.2	6.43	8.31	0.97	1.50
DA-I1	4	11.05	0.45	15	1.2	5.49	7.16	27.30	42.72
DA-I2	5	2.98	0.45	15	1.2	5.49	7.16	7.36	11.52
DA-I3	9A	5.33	0.45	15	1.2	5.49	7.16	13.17	20.61
DA-I4	9	0.38	0.58	10	1.2	6.43	8.31	1.42	2.20
DA-I5	9B	4.34	0.45	20	1.2	4.81	6.32	9.39	14.81
DA-I6	9	0.71	0.58	10	1.2	6.43	8.31	2.65	4.11
DA-I7	7	6.20	0.45	20	1.2	4.81	6.32	13.42	21.16
DA-I8	7	0.55	0.58	10	1.2	6.43	8.31	2.05	3.18
EX-8_1	9C	13.50	0.45	20	1.2	4.81	6.32	29.22	46.07
EX-8_2	9C	4.02	0.45	20	1.2	4.81	6.32	8.70	13.72
EX-8_3	9C	5.43	0.45	20	1.2	4.81	6.32	11.75	18.53
EX-9	9	22.79	0.45	10	1.2	6.43	8.31	65.94	102.27
EX-10	10	3.52	0.58	15	1.2	5.49	7.16	11.21	17.54
EX-11	11	1.13	0.45	15	1.2	5.49	7.16	2.79	4.37
FUT F	9E	0.25	0.58	10	1.2	6.43	8.31	0.93	1.45

Plotted, By: 2026-04-16 18:30:09, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (Prop DAM)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

PROPOSED
DRAINAGE AREA MAP

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.02

ON-GRADE INLETS

Inlet		Drainage Areas																													
Design Point	Inlet No.	Area No.	Areas (acres)	Runoff "c"	Conc. Time (min.)	10-year Intensity (in/hr)	10-year Runoff (cfs)	10-year Carryover Flow (cfs)	10-year Total Gutter Q (cfs)	"So" Street Long Slope (ft/ft) U/S (Sag)	"So" Street Long Slope (ft/ft) D/S (Sag)	Street Section (type)	F/F Pavement Width (ft)	S_x Cross Slope (ft/ft)	Manning's coefficient for pavement "n"	Street Capacity (cfs) U/S (Sags)	Street Capacity (cfs) D/S (Sags)	Street Name	Right-of-Way Capacity (cfs)	Design Storm	Depth of Flow "Yo" (ft)	Spread of Flow (Sp) (ft) U/S (Sags)	Spread of Flow (Sp) (ft) D/S (Sags)	Allowable Spread (ft)	Pickup Per Foot Qo/Lo (cfs/ft)	Length required "Lo" (ft)	Length Provided "L" (ft)[3]	L/Lo	Inlet Efficiency	Inlet Interception (cfs)	10-year Carryover Flow "q" (cfs)	Bypass Target	Comments
1	2	4	5	6	7	8	9	10	11	12		13	14	15	16	17		18	19	20	21	22		22	23	24	25	26	27	28	29	30	31
	INLET A2	DA-A2	0.90	0.58	15.00	5.49	2.87	0.00	2.87	0.0300		CROWN	28	0.02	0.013	26.93		LAKESHORE DR	40.52	10	0.16	8.1		9.0	0.21	13.67	15	1.10	100.0%	2.87	0.00		
	INLET B1	DA-B1	1.04	0.58	15.00	5.49	3.31	0.00	3.31	0.0685		CROWN	28	0.02	0.013	40.70		LAKESHORE DR	40.52	10	0.15	7.3		9.0	0.19	17.83	20	1.12	100.0%	3.31	0.00		
	INLET C3	DA-C3	1.97	0.58	10.00	6.43	7.35	0.00	7.35	0.0120		CROWN	28	0.02	0.013	17.03		LAKESHORE DR	40.52	10	0.27	13.6		9.0	0.37	19.88	20	1.01	100.0%	7.35	0.00		
	INLET I8	DA-I8	0.55	0.58	10.00	6.43	2.05	0.00	2.05	0.0450		CROWN	28	0.02	0.013	32.99		BOAT RAMP ROAD	52.23	10	0.13	6.6		9.0	0.17	12.36	10	0.81	94.9%	1.95	0.10		
	INLET E1	DA-E1	0.08	0.58	10.00	6.43	0.30	0.00	0.30	0.0050		CROWN	30	0.02	0.013	11.80		LAKESHORE DR	41.48	10	0.10	4.8		10.0	0.12	2.58	10	3.88	100.0%	0.30	0.00		
	INLET E2	DA-E2	0.76	0.58	15.00	5.49	2.42	0.00	2.42	0.0050		CROWN	30	0.02	0.013	11.80		LAKESHORE DR	41.48	10	0.21	10.6		10.0	0.29	8.45	10	1.18	100.0%	2.42	0.00		
	INLET E3	DA-E3	1.17	0.58	15.00	5.49	3.73	0.00	3.73	0.0050		CROWN	30	0.02	0.013	11.80		LAKESHORE DR	41.48	10	0.25	12.5		10.0	0.34	10.98	10	0.91	98.7%	3.68	0.05		
	INLET E7	DA-E7	1.85	0.58	15.00	5.49	5.89	0.00	5.89	0.0090		CROWN	30	0.02	0.013	15.83		LAKESHORE DR	41.48	10	0.26	13.2		10.0	0.36	16.38	15	0.92	98.8%	5.82	0.07		
	INLET E13	DA-E13	0.11	0.58	10.00	6.43	0.41	0.00	0.41	0.0060		CROWN	30	0.02	0.013	12.92		LAKESHORE DR	41.48	10	0.11	5.3		10.0	0.13	3.19	5	1.57	100.0%	0.41	0.00		
	INLET F6	DA-F6	1.44	0.58	15.00	5.49	4.59	0.00	4.59	0.0495		CROWN	30	0.02	0.013	37.12		LAKESHORE DR	41.48	10	0.18	8.8		10.0	0.23	20.08	20	1.00	100.0%	4.59	0.00		
	INLET F0	DA-F0	1.90	0.58	15.00	5.49	6.05	0.00	6.05	0.0140		CROWN	30	0.02	0.013	19.74		LAKESHORE DR	41.48	10	0.25	12.3		10.0	0.33	18.23	20	1.10	100.0%	6.05	0.00		
	INLET G0	DA-G0	0.10	0.58	10.00	6.43	0.37	0.00	0.37	0.0050		CROWN	30	0.02	0.013	11.80		LAKESHORE DR	41.48	10	0.11	5.3		10.0	0.13	2.90	5	1.73	100.0%	0.37	0.00		
	INLET G3	DA-G3	1.55	0.58	15.00	5.49	4.94	0.00	4.94	0.0280		CROWN	30	0.02	0.013	27.92		LAKESHORE DR	41.48	10	0.20	10.0		10.0	0.27	18.60	20	1.08	100.0%	4.94	0.00		
	INLET G4	DA-G4	0.58	0.58	15.00	5.49	1.85	0.00	1.85	0.0095		CROWN	30	0.02	0.013	16.26		LAKESHORE DR	41.48	10	0.17	8.5		10.0	0.22	8.23	10	1.21	100.0%	1.85	0.00		
	INLET G7	DA-G7	1.17	0.58	15.00	5.49	3.73	0.00	3.73	0.0235		CROWN	30	0.02	0.013	25.58		LAKESHORE DR	41.48	10	0.19	9.3		10.0	0.25	15.15	15	0.99	100.0%	3.72	0.00		
	INLET G8	DA-G8	0.08	0.58	10.00	6.43	0.30	0.00	0.30	0.0095		CROWN	30	0.02	0.013	16.26		LAKESHORE DR	41.48	10	0.09	4.3		10.0	0.10	3.04	5	1.64	100.0%	0.30	0.00		
	INLET H1	DA-H1	0.83	0.58	15.00	5.49	2.64	0.00	2.64	0.0255		CROWN	30	0.02	0.013	26.65		LAKESHORE DR	41.48	10	0.16	8.1		10.0	0.21	12.59	15	1.19	100.0%	2.64	0.00		
	INLET H2	DA-H2	0.26	0.58	10.00	6.43	0.97	0.00	0.97	0.0255		CROWN	30	0.02	0.013	26.65		LAKESHORE DR	41.48	10	0.11	5.5		10.0	0.14	7.17	10	1.39	100.0%	0.97	0.00		

SAG INLETS

Inlet		Drainage Areas																													
Design Point	Inlet No.	Area No.	Areas (acres)	Runoff "c"	Conc. Time (min.)	50-year Intensity (in/hr)	50-year Runoff (cfs)	50-year Carryover Flow (cfs)	50-year Total Gutter Q (cfs)	"So" Street Long Slope (ft/ft) U/S (Sag)	"So" Street Long Slope (ft/ft) D/S (Sag)	Street Section (type)	F/F Pavement Width (ft)	S_x Cross Slope (ft/ft)	Manning's coefficient for pavement "n"	Street Capacity (cfs) U/S (Sags)	Street Capacity (cfs) D/S (Sags)	Street Name	Right-of-Way Capacity (cfs)	Design Storm	Depth of Flow "Yo" (ft)	Spread of Flow (Sp) (ft) U/S (Sags)	Spread of Flow (Sp) (ft) D/S (Sags)	Allowable Spread (ft)	Pickup Per Foot Qo/Lo (cfs/ft)	Length required "Lo" (ft)	Length Provided "L" (ft)[3]	L/Lo	Inlet Efficiency	Inlet Interception (cfs)	50-year Carryover Flow "q" (cfs)	Bypass Target	Comments
1	2	4	5	6	7	8	9	10	11	12		13	14	15	16	17		18	19	20	21	22		22	23	24	25	26	27	28	29	30	31
	INLET B2	DA-B2	4.04	0.58	15.00	7.16	20.97	0.00	20.97	0.0200	0.0050	CROWN	28	0.02	0.013	21.99	11.00	LAKESHORE DR	40.52	50	0.37	18.4	23.8	9.0	0.50	41.77	40	0.96	99.7%	20.90	0.07		THIS IS SPLIT INTO INLETS B2_1 & B2_2
	INLET C1	DA-C1	1.22	0.58	10.00	8.31	7.35	0.00	7.35	0.0060	0.0115	CROWN	28	0.02	0.013	12.04	16.68	LAKESHORE DR	40.52	50	0.31	15.5	13.7	9.0	0.43	17.25	20	1.16	100.0%	7.35	0.00		
	INLET C2	DA-C2	0.42	0.58	10.00	8.31	2.53	0.00	2.53	0.0060	0.0115	CROWN	28	0.02	0.013	12.04	16.68	LAKESHORE DR	40.52	50	0.21	10.4	9.2	9.0	0.28	9.02	15	1.66	100.0%	2.53	0.00		
	INLET D0	DA-D0	0.08	0.58	10.00	8.31	0.48	0.00	0.48	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.12	5.8	5.8	10.0	0.15	3.32	10	3.01	100.0%	0.48	0.00		
	INLET D1	DA-D1	0.56	0.58	10.00	8.31	3.37	0.00	3.37	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.24	12.0	12.0	10.0	0.33	10.34	10	0.97	99.8%	3.37	0.01		
	INLET D2	DA-D2	0.49	0.58	10.00	8.31	2.95	0.00	2.95	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.23	11.4	11.4	10.0	0.31	9.53	10	1.05	100.0%	2.95	0.00		
	INLET D3	DA-D3	0.43	0.58	10.00	8.31	2.59	0.00	2.59	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.22	10.9	10.9	10.0	0.29	8.81	10	1.14	100.0%	2.59	0.00		
	INLET E4	DA-E4	3.24	0.58	15.00	7.16	16.82	0.00	16.82	0.0050	0.0090	CROWN	30	0.02	0.013	11.80	15.83	LAKESHORE DR	41.48	50	0.44	21.9	19.6	10.0	0.62	27.33	30	1.10	100.0%	16.82	0.00		THIS IS SPLIT INTO INLETS E4_1 & E4_2
	INLET E8	DA-E8	0.26	0.58	10.00	8.31	1.57	0.00	1.57	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.18	9.0	9.0	10.0	0.24	6.51	10	1.54	100.0%	1.57	0.00		
	INLET E12	DA-E12	0.06	0.58	10.00	8.31	0.36	0.00	0.36	0.0050	0.0050	CROWN	30	0.02	0.013	11.80	11.80	LAKESHORE DR	41.48	50	0.10	5.2	5.2	10.0	0.13	2.85	5	1.75	100.0%	0.36	0.00		
	INLET F1	DA-F1	0.31	0.58	10.00	8.31	1.87	0.00	1.87	0.0240	0.0280	CROWN	30	0.02	0.013	25.85	27.92	LAKESHORE DR	41.48	50	0.14	7.2	7.0	10.0	0.18	10.16	15	1.48	100.0%	1.87	0.00		
	INLET F2	DA-F2	0.27	0.58	10.00	8.31	1.63	0.00	1.63	0.0240	0.0280	CROWN	30	0.02	0.013	25.85	27.92	LAKESHORE DR	41.48	50	0.14	6.8	6.6	10.0	0.17	9.39	10	1.06	100.0%	1.63	0.00		
	INLET F3	DA-F3	0.17	0.58	15.00	7.16	0.88	0.00	0.88	0.0270	0.0495	CROWN	30	0.02	0.013	27.42	37.12	LAKESHORE DR	41.48	50	0.11	5.3	4.7	10.0	0.13	6.92	10	1.45	100.0%	0.88	0.00		
	INLET F4	DA-F4	0.14	0.58	10.00	8.31	0.84	0.00	0.84	0.0270	0.0495	CROWN	30	0.02	0.013	27.42	37.12	LAKESHORE DR	41.48	50	0.10	5.2	4.6	10.0	0.12	6.75	10	1.48	100.0%	0.84	0.00		
	INLET G1	DA-G1	2.36	0.58	15.00	7.16	12.25	0.00	12.25	0.0240	0.0280	CROWN	30	0.02	0.013	25.85	27.92	LAKESHORE DR	41.48	50	0.29	14.5	14.1	10.0	0.39	31.30	30	0.96	99.7%	12.21	0.04		THIS IS SPLIT INTO INLETS G1_1 & G1_2
	INLET G2	DA-G2	0.11	0.58	10.00	8.31	0.66	0.00	0.66	0.0240	0.0280	CROWN	30	0.02	0.013	25.85	27.92	LAKESHORE DR	41.48	50	0.10	4.9	4.7	10.0	0.11	5.78	10	1.73	100.0%	0.66	0.00		
	INLET G5	DA-G5	0.17	0.58	10.00	8.31	1.02	0.00	1.02	0.0095	0.0235	CROWN	30	0.02	0.013	16.26	25.58	LAKESHORE DR	41.48	50	0.14	6.8	5.7	10.0	0.17	5.86	10	1.71	100.0%	1.02	0.00		
	INLET G6	DA-G6	1.65	0.58	15.00	7.16	8.57	1.00	9.57	0.0095	0.0235	CROWN	30	0.02	0.013	16.26	25.58	LAKESHORE DR	41.48	50	0.31	15.7	13.3	10.0	0.43	22.25	20	0.90	98.4%	9.41	0.15		

DROP INLETS

Drop inlet calculations - 50 year		
EX-8_2		
A	4.02	acres
Q50	13.72	cfs
Size	2	ft
WEIR	Q=CPd^2/3	
C	3	
P	8	ft
d	1	ft
Q	24	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	4	sf
g	32.2	ft/s^2
d	1	ft
Q	21.5	CFS

Drop inlet calculations - 50 year		
EX-8_3		
A	5.43	acres
Q50	18.53	cfs
Size	2	ft
WEIR	Q=CPd^2/3	
C	3	
P	8	ft
d	1	ft
Q	24	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	4	sf
g	32.2	ft/s^2
d	1	ft
Q	21.5	CFS

Drop inlet calculations - 50 year		
DA-F0		
A	0.15	acres
Q50	0.87	cfs
Size	5	ft
WEIR	Q=CPd^2/3	
C	3	
P	20	ft
d	1	ft
Q	60	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	10	sf
g	32.2	ft/s^2
d	1	ft
Q	53.8	CFS

Drop inlet calculations - 50 year		
DA-F5		
A	4.49	acres
Q50	22.38	cfs
Size	2	ft
WEIR	Q=CPd^2/3	
C	3	
P	8	ft
d	1	ft
Q	24	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	4	sf
g	32.2	ft/s^2
d	1	ft
Q	21.5	CFS

Drop inlet calculations - 50 year		
CULVERT I2		
A	5.33	acres
Q50	17.17	cfs
Size	2	ft
WEIR	Q=CPd^2/3	
C	3	
P	8	ft
d	1	ft
Q	24	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	4	sf
g	32.2	ft/s^2
d	1	ft
Q	21.5	CFS

Drop inlet calculations - 50 year		
DA-I5		
A	4.34	acres
Q50	14.81	cfs
Size	2	ft
WEIR	Q=CPd^2/3	
C	3	
P	8	ft
d	1	ft
Q	24	cfs
ORIFICE	Q=CA*SQRT(2*g*d)	
C	0.67	
A	4	sf
g	32.2	ft/s^2
d	1	ft
Q	21.5	CFS

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

INLET CALCULATIONS

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.03

Plotted, By: 2026-04-16 18:30:11, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (Inlet Calcs)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

SYSTEM A

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area				Inlet	Travel	Total											U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
			No.	Area																														
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	In.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
STA 0+85.73, 0.02' RT INSTALL (1) TYPE II (4:1) PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	STA 0+00.00, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 791.94'	85.73	DA-A1	0.68	0.68	0.58	0.39	0.39	15.00	2.19	17.19	5.19	6.79	2.05	2.68	-	10	2.05	24.00	0.013	0.0001	792.17	790.30	-	0.652	-	0.007	0.50	-	0.10	792.27	791.89	788.30	
INLET A2 STA 100+90.00, 14.00' RT INSTALL 15' CURB INLET T/C: = 793.10'	STA 0+00.00, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 791.94'	17.83	DA-A2	0.90	0.90	0.58	0.52	0.52	15.00	0.33	15.33	5.49	7.16	2.87	3.74	-	10	2.87	24.00	0.013	0.0002	790.30	790.30	-	0.912	-	0.013	1.25	-	0.10	790.40	789.10	788.30	793.10

SYSTEM B

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area				Inlet	Travel	Total											U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
			No.	Area																														
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	In.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE B3																																		
INLET B2_1 STA 107+60.00, 14.00' LT INSTALL 20' CURB INLET T/C: = 776.88'	STA 107+49.95, 8.00' LT INSTALL 24" 60° BEND	7.51	B2	3.03	3.03	0.58	1.76	1.76	15.00	0.04	15.04	5.49	7.16	9.65	12.58	-	10	9.65	24.00	0.013	0.0018	775.12	775.10	-	3.071	-	0.146	1.25	-	0.18	775.30	772.88	772.70	776.88
STA 107+49.95, 8.00' LT INSTALL 24" 60° BEND	STA 107+42.50, 8.00' LT INSTALL 24"X24" 60° WYE	7.45	-	-	3.03	-	-	1.76	15.04	0.04	15.08	5.49	7.16	9.65	12.58	-	10	9.65	24.00	0.013	0.0018	775.00	774.99	3.071	3.071	0.146	0.146	0.60	0.09	0.10	775.10	772.70	772.66	
INLET B2_2 STA 107+60.00, 14.00' RT INSTALL 20' TYPE II CURB INLET T/C: = 776.88'	STA 107+42.50, 8.00' LT INSTALL 24"X24" 60° WYE	21.94	B2	1.01	1.01	0.58	0.59	0.59	15.00	0.36	15.36	5.49	7.16	3.22	4.19	-	10	3.22	24.00	0.013	0.0002	774.99	774.99	-	1.024	-	0.016	1.25	-	0.10	775.09	772.88	772.66	776.88
STA 107+42.50, 8.00' LT INSTALL 24"X24" 60° WYE	STA 0+42.30, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 777.39'	59.97	-	-	4.04	-	-	2.34	15.36	0.24	15.60	5.49	7.16	12.86	16.78	-	10	12.86	24.00	0.013	0.0032	774.82	774.62	3.071	4.095	0.146	0.260	0.60	0.09	0.17	774.99	772.66	772.37	
LINE B2																																		
INLET B1 STA 105+00.00, 14.00' LT INSTALL 20' CURB INLET T/C: = 783.84'	STA 105+11.40, 8.00' LT INSTALL 24" 60° BEND	7.51	B1	1.04	1.04	0.58	0.60	0.60	15.00	0.12	15.12	5.49	7.16	3.31	4.32	-	10	3.31	24.00	0.013	0.0002	779.58	778.30	-	1.054	-	0.017	1.25	-	0.10	779.68	779.34	777.84	783.84
STA 105+11.40, 8.00' LT INSTALL 24" 60° BEND	STA 0+42.30, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 777.39'	171.13	-	-	1.04	-	-	0.60	15.12	2.86	17.98	5.19	6.79	3.13	4.10	-	10	3.13	24.00	0.013	0.0002	778.20	774.62	1.054	0.997	0.017	0.015	0.60	0.01	0.10	778.30	777.84	772.37	
LINE B1																																		
STA 0+42.30, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 777.39'	STA 0+15.30, 0.00' INSTALL: (1) 4' DROP INLET RIM = 776.91'	27.00	-	-	5.08	-	-	2.95	15.60	0.09	15.69	5.49	7.16	16.18	21.10	-	10	16.18	24.00	0.013	0.0051	774.37	774.23	4.095	5.149	0.260	0.412	0.60	0.16	0.26	774.62	772.37	772.23	

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 1 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.04

Plotted, By: 2026-04-16 18:30:14, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\proposed dam.dwg

SYSTEM C

From	To	Pipe Length	Drainage Area Incremental No.	Drainage Area Incremental Area	Drainage Area Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration Inlet	Time of Concentration Travel	Time of Concentration Total	10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	Width	Heigth	R	n	Sf	HGL U/S	HGL D/S	Head Loss Calculations V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk	Design HGL	Invert Elev. From	Invert Elev. To	T/C Elev.
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	In.	ft	ft			ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20a	20b	20c	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE C1																																					
INLET C3 STA 121+50.00, 14.00' LT INSTALL 10' TYPE II CURB INLET T/C: = 751.28'	STA 121+39.52, 6.00' LT INSTALL 24" 60° BEND	5.77	C3	1.97	1.97	0.58	1.14	1.14	10.00	0.04	10.04	6.43	8.31	7.35	9.50	-	10	7.35	24.00				0.013	0.0011	746.89	746.79	-	2.339	-	0.085	1.25	-	0.11	747.00	746.43	745.99	751.43
STA 121+39.52, 6.00' LT INSTALL 24" 60° BEND	STA 118+61.54, 6.00' LT INSTALL 24" 45 BEND	264.37	-	-	1.97	-	-	1.14	10.04	1.95	11.99	6.21	8.04	7.10	9.19	-	10	7.10	24.00				0.013	0.0010	746.69	744.15	2.339	2.259	0.085	0.079	0.60	0.05	0.10	746.79	745.99	742.56	
INLET C1 STA 118+90.82, 14.00' LT INSTALL 20' TYPE II CURB INLET T/C: = 748.45'	STA 118+79.62, 6.00' LT INSTALL 24"X24" 60° WYE	5.77	C1	1.22	1.22	0.58	0.71	0.71	10.00	0.07	10.07	6.43	8.31	4.55	5.88	-	10	4.55	24.00				0.013	0.0004	744.25	744.25	-	1.448	-	0.033	1.25	-	0.10	744.35	743.44	742.56	748.44
STA 118+79.62, 6.00' LT INSTALL 24"X24" 60° WYE	STA 118+61.54, 6.00' LT INSTALL 24" 45 BEND	18.09	-	-	1.22	-	-	0.71	10.07	0.21	10.27	6.43	8.31	4.55	5.88	-	10	4.55	24.00				0.013	0.0004	744.15	744.15	1.448	1.448	0.033	0.033	0.60	0.02	0.10	744.25	742.56	742.32	
STA 118+61.54, 6.00' LT INSTALL 24" 45 BEND	CULVERT C1 STA: 0+97.20, 0.00' CONNECT TO 3'X6' BOX	15.40	-	-	3.19	-	-	1.85	11.99	0.07	12.06	6.01	7.80	11.12	14.43	-	10	11.12	24.00				0.013	0.0024	744.00	743.96	2.259	3.540	0.079	0.195	0.60	0.05	0.15	744.15	742.32	742.12	
INLET C2 STA 118+90.00, 14.00' RT INSTALL 15' CURB INLET T/C: = 748.44'	STA 118+61.54, 6.00' LT INSTALL 24" 45° BEND	21.29	C2	0.42	0.42	0.58	0.24	0.24	10.00	0.71	10.71	6.43	8.31	1.57	2.02	-	10	1.57	24.00				0.013	0.0000	744.18	743.93	-	0.499	-	0.004	1.25	-	0.10	744.28	743.94	743.11	748.44
STA 118+61.54, 6.00' LT INSTALL 24" 45° BEND	CULVERT C1 STA: 0+75.20, 0.00' CONNECT TO 3'X6' BOX	15.40	-	-	0.42	-	-	0.24	10.71	0.53	11.24	6.21	8.04	1.51	1.96	-	10	1.51	24.00				0.013	0.0000	743.83	743.82	0.499	0.482	0.004	0.004	0.60	0.00	0.10	743.93	743.11	742.51	
LINE C2																																					
STA 117+27.82, 23.50' LT INSTALL: (1) 4' DROP INLET RIM = 747.61'	STA 117+36.89, 6.00' LT INSTALL 36" 60° BEND	17.32	OS-C1	24.07	24.07	0.58	13.96	13.96	20.00	0.04	20.04	4.81	6.32	67.16	88.25	-	10	67.16	42.00				0.013	0.0045	747.03	746.95	-	6.981	-	0.757	1.25	-	0.95	747.97	743.11	742.43	747.61
STA 117+36.89, 6.00' LT INSTALL 36" 60° BEND	STA 118+39.76, 6.00' LT INSTALL 42" ARCH PIPE 45° BEND	46.90	-	-	24.07	-	-	13.96	20.04	0.11	20.15	4.81	6.32	67.16	88.25	-	10	67.16	42.00				0.013	0.0045	746.65	746.44	6.981	6.981	0.757	0.757	0.60	0.45	0.30	746.95	742.43	742.20	
STA 117+74.82, 23.50' LT INSTALL: (1) 4' DROP INLET RIM = 747.33'	STA 117+83.78, 6.00' LT INSTALL 42"X24" ARCH PIPE 60° WYE	17.32	OS-C1	2.46	2.46	0.58	1.43	1.43	20.00	0.13	20.13	4.81	6.32	6.88	9.03	-	10	6.88	24.00				0.013	0.0009	746.46	746.44	-	2.189	-	0.074	1.25	-	0.10	746.56	743.33	742.95	747.33
STA 117+83.78, 6.00' LT INSTALL 42"X24" ARCH PIPE 60° WYE	STA 118+39.76, 6.00' LT INSTALL 42" ARCH PIPE 45° BEND	55.97	-	-	26.54	-	-	15.39	20.13	0.12	20.25	4.81	6.32	74.04	97.28	-	10	74.04	42.00				0.013	0.0054	745.97	745.67	6.981	7.695	0.757	0.920	0.60	0.45	0.47	746.44	742.48	742.20	
STA 118+39.76, 6.00' LT INSTALL 42" ARCH PIPE 45° BEND	CULVERT C1 STA: 0+86.31, 0.00' CONNECT TO 7'X3' BOX	15.40	-	-	26.54	-	-	15.39	20.25	0.03	20.29	4.81	6.32	74.04	97.28	-	10	74.04	42.00				0.013	0.0054	745.21	743.96	6.981	7.695	0.757	0.920	0.60	0.45	0.47	745.67	742.20	742.12	
CULVERT C1																																					
CULVERT C1 STA: 1+14.70, 0.18' RT INSTALL: (1) 4' DROP INLET RIM = 747.74'	CULVERT C1 STA: 0+86.31, 0.00' CONNECT TO 7'X3' BOX	28.39	OS-C1	6.39	6.39	0.58	3.71	3.71	20.00	0.56	20.56	4.81	6.32	17.83	23.43	-	10	17.83		7.00	3.00	1.05	0.013	0.0001	743.96	743.96	-	0.849	-	0.011	1.25	-	0.10	744.06	742.26	742.12	746.88
CULVERT C1 STA: 0+86.31, 0.00' CONNECT TO 7'X3' BOX	CULVERT C1 STA: 0+64.31, 0.00' CONNECT TO 7'X3' BOX	22.00			36.12	-	-	20.95	20.56	0.08	20.63	4.81	6.32	100.77	132.40	-	10	100.77		7.00	3.00	1.05	0.013	0.0017	743.86	743.82	7.695	4.798	0.920	0.358	0.60	0.55	0.10	743.96	742.12	742.01	
CULVERT C1 STA: 0+64.31, 0.00' CONNECT TO 7'X3' BOX	CULVERT C1 STA: 0+56.21, 0.00' INSTALL 7'X3' 45° BEND	8.10			36.54	-	-	21.19	20.63	0.03	20.66	4.81	6.32	101.94	133.94	-	10	101.94		7.00	3.00	1.05	0.013	0.0017	743.67	743.66	4.798	4.854	0.358	0.366	0.60	0.21	0.15	743.82	742.01	741.97	
CULVERT C1 STA: 0+56.21, 0.00' INSTALL 7'X3' 45° BEND	CULVERT C1 STA: 0+42.49, 0.00' INSTALL (1) TYPE CH-PW-0 HEADWALL RE: TXDOT DETAILS	13.72			36.54	-	-	21.19	20.66	0.05	20.71	4.81	6.32	101.94	133.94	-	10	101.94		7.00	3.00	1.05	0.013	0.0017	743.51	743.49	4.854	4.854	0.366	0.366	0.60	0.22	0.15	743.66	741.97	741.90	

THE STARTING HGL FOR SYSTEM C IS BASED ON NORMAL FLOW IN THE PIPE.

Plotted By: 2026-04-16 18:30:16, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 2 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.05

SYSTEM D

From	To	Pipe Length	Drainage Area		Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	Width	Heigth	R	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental No.	Incremental Area					Inlet	Travel	Total														U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.	ft	ft			ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20a	20b	20c	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
INLET D2 STA 131+20.00, 15.01' LT INSTALL 10' CURB INLET T/C: = 742.68'	STA 131+02.96, 9.00' RT INSTALL 18" 60° BEND	28.29	D2	0.49	0.49	0.58	0.28	0.28	10.00	0.46	10.46	6.43	8.31	1.83	2.36	-	10	1.83	18.00				0.013	0.0003	739.96	739.96	-	1.034	-	0.017	1.25	-	0.10	740.06	739.18	738.96	742.68
STA 131+02.96, 9.00' RT INSTALL 18" 60° BEND	STA 130+56.67, 9.00' RT INSTALL: 24"x18" 60 WYE	46.29		-	0.49	-	-	0.28	10.46	0.77	11.23	6.21	8.04	1.76	2.28	-	10	1.76	18.00				0.013	0.0003	739.86	739.84	1.034	0.999	0.017	0.015	0.60	0.01	0.10	739.96	738.96	738.58	
STA 130+79.16, 29.97' LT INSTALL: (1) 4' DROP INLET RIM = 741.72'	STA 130+56.67, 9.00' RT INSTALL: 24"x18" 60 WYE	45.00	EX-8_2	4.02	4.02	0.45	1.81	1.81	20.00	0.27	20.27	4.81	6.32	8.70	11.43	-	10	8.70	24.00				0.013	0.0015	739.91	739.84	-	2.770	-	0.119	1.25	-	0.15	740.06	738.47	738.33	
STA 130+56.67, 9.00' RT INSTALL: 24"x18" 60 WYE	STA 130+38.78, 40.00' RT INSTALL: 30" X24" 60 WYE	35.23		-	4.51	-	-	2.09	20.27	0.18	20.45	4.81	6.32	10.07	13.23	-	10	10.07	24.00				0.013	0.0020	739.69	739.50	0.999	3.205	0.015	0.159	0.60	0.01	0.15	739.84	738.33	738.23	
INLET D3 STA 131+18.00, 33.00' RT INSTALL 5' TYPE II CURB INLET T/C: = 742.39'	STA 131+13.96, 40.00' RT INSTALL 18" 60° BEND	7.50	D3	0.43	0.43	0.58	0.25	0.25	10.00	0.14	10.14	6.43	8.31	1.60	2.07	-	10	1.60	18.00				0.013	0.0002	739.62	739.62	-	0.907	-	0.013	1.25	-	0.10	739.72	738.89	738.83	742.39
STA 131+13.96, 40.00' RT INSTALL 18" 60° BEND	STA 130+38.78, 40.00' RT INSTALL: 30" X24" 60 WYE	74.02		-	0.43	-	-	0.25	10.14	1.41	11.55	6.21	8.04	1.55	2.01	-	10	1.55	18.00				0.013	0.0002	739.52	739.50	0.907	0.876	0.013	0.012	0.60	0.01	0.10	739.62	738.83	738.23	
STA 130+38.78, 40.00' RT INSTALL: 30" X24" 60 WYE	STA 2+340.41, 0.68' INSTALL: (1) 4' STORM MANHOLE RIM = 741.88'	461.60		-	4.94	-	-	2.34	20.45	3.68	24.13	4.38	5.79	10.26	13.56	-	10	10.26	30.00				0.013	0.0006	739.40	738.31	3.205	2.090	0.159	0.068	0.60	0.10	0.10	739.50	738.23	736.84	
LINE D1																																					
INLET D0 STA 126+40.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 744.26'	STA 126+33.12, 8.99' RT INSTALL 30"X18" 60° WYE	7.57	D0	0.08	0.08	0.58	0.05	0.05	10.00	0.75	10.75	6.43	8.31	0.30	0.39	-	10	0.30	18.00				0.013	0.0000	739.34	738.67	-	0.169	-	0.000	1.25	-	0.10	739.44	739.26	737.89	744.26
STA 126+33.12, 8.99' RT INSTALL 30"X18" 60° WYE	STA 126+26.56, 9.00' RT INSTALL 30"X18" 60° WYE	6.80		0.00	0.08		-	0.05	10.75	0.70	11.44	6.21	8.04	0.29	0.37	-	10	0.29	18.00				0.013	0.0000	738.57	738.57	0.169	0.163	0.000	0.000	0.60	0.00	0.10	738.67	737.89	737.78	
INLET D1 STA 126+40.00, 15.00' LT INSTALL 10' CURB INLET T/C: = 744.26'	STA 126+26.56, 9.00' RT INSTALL 30"X18" 60° WYE	26.32	D1	0.56	0.56	0.58	0.32	0.32	10.00	0.37	10.37	6.43	8.31	2.09	2.70	-	10	2.09	18.00				0.013	0.0004	740.03	738.57	-	1.182	-	0.022	1.25	-	0.10	740.13	739.76	737.78	744.26
STA 126+26.56, 9.00' RT INSTALL 30"X18" 60° WYE	STA 2+91.95, 0.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 743.96' BEGIN PIPE DEFLECTION	11.61		0.00	0.64		-	0.37	11.44	0.15	11.59	6.21	8.04	2.31	2.98	-	10	2.31	18.00				0.013	0.0005	738.47	738.46	1.182	1.304	0.022	0.026	0.60	0.01	0.10	738.57	737.78	737.61	

THE STARTING HGL FOR SYSTEM D IS BASED ON NORMAL FLOW IN THE PIPE.

Plotted, By: 2026-04-16 18:30:20, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (3))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dom.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 3 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.06

SYSTEM D CONTINUED

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	Width	Heigth	R	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area				Inlet	Travel	Total																V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk				
			No.	Area																					U/S	D/S								From	To	
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.	ft	ft			ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20a	20b	20c	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CULVERT D																																					
STA 3+28.23, 0.00' LT INSTALL (1) TYPE PW-1 HEADWALL RE: TXDOT DETAILS	STA 2+91.95, 0.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 743.96' BEGIN PIPE DEFLECTION	36.28	EX-8_1	13.50	13.50	0.45	6.08	6.08	20.00	0.20	20.20	4.81	6.32	29.22	38.39	-	10	29.22	42.00				0.013	0.0008	740.71	738.46	-	3.037	-	0.143	1.25	-	0.18	740.89	740.01	736.61	
STA 2+91.95, 0.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 743.96' BEGIN PIPE DEFLECTION	STA 2+340.41, 0.68' INSTALL: (1) 4' STORM MANHOLE RIM = 741.88'	51.55		-	14.14	-	-	6.45	20.20	0.27	20.47	4.81	6.32	31.01	40.74	-	10	31.01	42.00				0.013	0.0009	738.36	738.31	3.037	3.223	0.143	0.161	0.60	0.09	0.10	738.46	736.61	736.34	
STA 2+340.41, 0.68' INSTALL: (1) 4' STORM MANHOLE RIM = 741.88'	STA 1+28.92, 0.00' INSTALL 42" 30° BEND	111.48		-	19.08	-	-	8.79	24.13	0.46	24.60	4.38	5.79	38.49	50.89	-	10	38.49	42.00				0.013	0.0015	738.16	737.71	3.223	4.001	0.161	0.249	0.60	0.10	0.15	738.31	736.34	735.79	
STA 1+28.92, 0.00' INSTALL 42" 30° BEND	STA 1+23.92, 0.00' INSTALL (1) TYPE CH-FW-0 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	5.00		-	19.08	-	-	8.79	24.60	0.02	24.62	4.38	5.79	38.49	50.89	-	10	38.49	42.00				0.013	0.0015	737.61	736.68	4.001	4.001	0.249	0.249	0.60	0.15	0.10	737.71	735.79	735.76	

THE STARTING HGL FOR SYSTEM D IS BASED ON NORMAL FLOW IN THE PIPE.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 4 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.07

Plotted, By: 2026-04-16 18:30:23, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS D CONT.)
Filename: k:\fw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

SYSTEM E

From	To	Pipe Length	Drainage Area		Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area			Inlet	Travel	Total											U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft	No.	Area acres	acres			min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE E1																																		
STA 134+97.80, 34.50' LT INSTALL: (1) 2'X2' DROP INLET RIM = 741.70	STA 135+21.75, 8.94' RT INSTALL 24" 60° BEND	47.96	EX-8_3	5.43	5.43	0.45	2.44	2.44	20.00	0.21	20.21	4.81	6.32	11.75	15.44	-	10	11.75	24.00	0.013	0.0027	740.57	740.44	-	3.741	-	0.217	1.25	-	0.27	740.84	738.44	738.20	
STA 135+21.75, 8.94' RT INSTALL 24" 60° BEND	STA 135+47.78, 8.94' RT INSTALL 30"X18" 60° WYE	26.03	-	-	5.43	-	-	2.44	20.21	0.12	20.33	4.81	6.32	11.75	15.44	-	10	11.75	24.00	0.013	0.0027	740.34	740.27	3.741	3.741	0.217	0.217	0.60	0.13	0.10	740.44	738.20	738.07	
INLET E1 STA 135+35.00, 29.50' RT INSTALL 5' TYPE II CURB INLET T/C: = 742.65'	STA 135+47.78, 8.94' RT INSTALL 30"X18" 60° WYE	24.32	E1	0.08	0.08	0.58	0.05	0.05	10.00	2.57	12.57	6.01	7.80	0.28	0.36	-	10	0.28	18.00	0.013	0.0000	740.27	740.27	-	0.158	-	0.000	1.25	-	0.10	740.37	738.65	738.57	742.65
STA 135+47.78, 8.94' RT INSTALL 30"X18" 60° WYE	STA 135+75.24, 8.94' RT INSTALL 24"X24" 60° WYE	27.46	-	-	5.51	-	-	2.49	20.33	0.19	20.52	4.81	6.32	11.98	15.74	-	10	11.98	30.00	0.013	0.0009	740.17	740.15	3.741	2.440	0.217	0.092	0.60	0.13	0.10	740.27	738.07	737.93	
INLET E2 STA 135+58.00, 15.00' LT INSTALL 10' CURB INLET T/C: = 742.90'	STA 135+75.24, 8.94' RT INSTALL 24"X24" 60° WYE	28.21	E2	0.76	0.76	0.58	0.44	0.44	15.00	0.61	15.61	5.49	7.16	2.42	3.16	-	10	2.42	24.00	0.013	0.0001	740.15	740.15	-	0.770	-	0.009	1.25	-	0.10	740.25	738.40	738.18	742.90
STA 135+75.24, 8.94' RT INSTALL 24"X24" 60° WYE	STA 136+63.23, 8.94' RT INSTALL 24"X24" 60° WYE	87.98	-	-	6.27	-	-	2.93	20.52	0.52	21.04	4.69	6.17	13.74	18.08	-	10	13.74	30.00	0.013	0.0011	740.05	739.95	2.440	2.800	0.092	0.122	0.60	0.06	0.10	740.15	737.93	737.49	
INLET E3 STA 136+48.00, 15.00' LT INSTALL 10' TYPE II CURB INLET T/C: = 742.44'	STA 136+63.23, 8.94' RT INSTALL 24"X24" 60° WYE	24.17	E3	1.17	1.17	0.58	0.68	0.68	15.00	0.34	15.34	5.49	7.16	3.73	4.86	-	10	3.73	24.00	0.013	0.0003	739.96	739.95	-	1.186	-	0.022	1.25	-	0.10	740.06	737.94	737.49	742.44
STA 136+63.23, 8.94' RT INSTALL 24"X24" 60° WYE	CULVERT E1 STA:137+24.98, 7.29' RT = INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 741.77'	61.77	-	-	7.44	-	-	3.61	21.04	0.30	21.34	4.69	6.17	16.93	22.27	-	10	16.93	30.00	0.013	0.0017	739.84	739.73	2.800	3.448	0.122	0.185	0.60	0.07	0.11	739.95	737.49	737.18	
LINE E2 - BOTTOM																																		
INLET E13 STA 141+26.00, 30.48' RT INSTALL 5' TYPE II CURB INLET T/C: = 742.42'	STA 141+05.78, 31.98' RT INSTALL 18" 60° BEND	20.21	E13	0.11	0.11	0.58	0.06	0.06	10.00	1.50	11.50	6.21	8.04	0.40	0.51	-	10	0.40	18.00	0.013	0.0000	740.05	740.05	-	0.224	-	0.001	1.25	-	0.10	740.15	739.42	739.28	742.42
STA 141+05.78, 31.98' RT INSTALL 18" 60° BEND	INLET E12 STA 140+98.00, 15.00' RT INSTALL 5' CURB INLET T/C: = 742.70'	15.56		-	0.11	-	-	0.06	11.50	1.20	12.70	6.01	7.80	0.38	0.50	-	10	0.38	18.00	0.013	0.0000	739.95	739.95	0.224	0.217	0.001	0.001	0.60	0.00	0.10	740.05	739.28	739.20	
INLET E12 STA 140+98.00, 15.00' RT INSTALL 5' CURB INLET T/C: = 742.70'	STA 140+94.16, 9.92' RT INSTALL 18" 60° BEND	6.44	E12	0.06	0.17	0.58	0.03	0.10	12.70	0.33	13.03	5.82	7.57	0.57	0.75	-	10	0.57	18.00	0.013	0.0000	739.85	739.85	-	0.325	-	0.002	1.25	-	0.10	739.95	739.20	738.99	742.70
STA 140+94.16, 9.92' RT INSTALL 18" 60° BEND	CULVERT E1 STA:137+24.98, 7.29' RT = INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 741.77'	360.69	-	-	0.28	-	-	0.16	13.03	16.52	29.55	3.96	5.25	0.64	0.85	-	10	0.64	18.00	0.013	0.0000	739.75	739.73	0.217	0.364	0.001	0.002	0.60	0.00	0.10	739.85	738.99	737.18	
LINE E2 - TOP																																		
INLET E8 STA 141+00.00, 15.00' LT INSTALL 10' TXDOT I COB INLET T/C: = 742.70'	STA 0+01.50, 0.00' INSTALL 21" 60° BEND	26.78	E8	4.24	4.24	0.58	2.46	2.46	15.00	0.21	15.21	5.49	7.16	13.50	17.61	-	10	6.75	24.00	0.013	0.0009	742.08	742.06	-	2.149	-	0.072	1.25	-	0.10	742.18	739.20	738.94	742.70
STA 0+01.50, 0.00' INSTALL 21" 60° BEND	STA 139+85.54, 7.70' RT END PIPE DEFLECTION	97.99	-	-	4.24	-	-	2.46	15.21	0.76	15.97	5.49	7.16	13.50	17.61	-	10	6.75	24.00	0.013	0.0009	741.96	741.87	2.149	2.149	0.072	0.072	0.60	0.04	0.10	742.06	738.94	738.45	
STA 139+85.54, 7.70' RT END PIPE DEFLECTION	STA 138+90.88, 7.70' RT INSTALL 30"X24" 60° WYE	93.20		-	4.24	-	-	2.46	15.97	0.37	16.34	5.33	6.97	13.11	17.14	-	10	13.11	24.00	0.013	0.0034	741.64	741.33	2.149	4.172	0.072	0.270	0.60	0.04	0.23	741.87	738.45	737.98	

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 5 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.08

Plotted By: 2026-04-16 18:30:25, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

SYSTEM E CONTINUED

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area				Inlet	Travel	Total											U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft	No.	acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
STA 139+04.37, 50.21' LT INSTALL (1) TYPE II PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	STA 139+10.34, 29.64' LT INSTALL 24" 30° BEND	21.56	E6	3.15	3.15	0.58	1.83	1.83	15.00	0.11	15.11	5.49	7.16	10.03	13.08	-	10	10.03	24.00	0.013	0.0020	741.75	741.52	-	3.193	-	0.158	1.25	-	0.20	741.95	741.23	739.50	
STA 139+10.34, 29.64' LT INSTALL 24" 30° BEND	STA 138+90.88, 7.70' RT INSTALL 30"X24" 60° WYE	42.30	-	-	3.15	-	-	1.83	15.11	0.22	15.33	5.49	7.16	10.03	13.08	-	10	10.03	24.00	0.013	0.0020	741.42	741.33	3.193	3.193	0.158	0.158	0.60	0.09	0.10	741.52	739.50	737.98	
STA 138+90.88, 7.70' RT INSTALL 30"X24" 60° WYE	STA 138+63.39, 7.70' RT INSTALL 30"X24" 60° WYE	27.09	-	-	7.39	-	-	4.29	16.34	0.10	16.44	5.33	6.97	22.85	29.87	-	10	22.85	30.00	0.013	0.0031	741.04	740.95	2.149	4.654	0.072	0.336	0.60	0.04	0.29	741.33	737.98	737.85	
STA 138+73.44, 46.88' LT INSTALL (1) TYPE II PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	STA 138+79.81, 19.56' LT INSTALL 24" 30° BEND	28.15	E5	0.48	0.48	0.58	0.28	0.28	15.00	0.96	15.96	5.49	7.16	1.53	1.99	-	10	1.53	24.00	0.013	0.0000	741.10	741.06	-	0.487	-	0.004	1.25	-	0.10	741.20	740.90	738.64	
STA 138+79.81, 19.56' LT INSTALL 24" 30° BEND	STA 138+63.39, 7.70' RT INSTALL 30"X24" 60° WYE	31.92	-	-	0.48	-	-	0.28	15.96	1.16	17.12	5.19	6.79	1.44	1.89	-	10	1.44	24.00	0.013	0.0000	740.96	740.95	0.487	0.460	0.004	0.003	0.60	0.00	0.10	741.06	738.64	737.85	
STA 138+63.39, 7.70' RT INSTALL 30"X24" 60° WYE	STA 138+26.80, 9.00' RT BEGIN PIPE DEFLECTION	36.42	-	-	7.87	-	-	4.56	17.12	0.13	17.25	5.19	6.79	23.69	30.99	-	10	23.69	30.00	0.013	0.0033	740.79	740.67	4.654	4.826	0.336	0.362	0.60	0.20	0.16	740.95	737.85	737.66	
STA 138+26.80, 9.00' RT BEGIN PIPE DEFLECTION	STA 138+10.77, 7.70' RT INSTALL 30"X24" 60° WYE	15.63	-	-	7.87	-	-	4.56	17.25	0.05	17.30	5.19	6.79	23.69	30.99	-	10	23.69	30.00	0.013	0.0033	740.53	740.48	4.826	4.826	0.362	0.362	0.60	0.22	0.14	740.67	737.66	737.59	
INLET E7 STA 138+30.00, 15.04' LT INSTALL 15' CURB INLET T/C: = 742.58'	STA 138+10.77, 7.70' RT INSTALL 30"X24" 60° WYE	28.43	E7	1.85	1.85	0.58	1.07	1.07	15.00	0.25	15.25	5.49	7.16	5.89	7.68	-	10	5.89	24.00	0.013	0.0007	740.50	740.48	-	1.875	-	0.055	1.25	-	0.10	740.60	738.58	737.59	742.58
STA 138+10.77, 7.70' RT INSTALL 30"X24" 60° WYE	CULVERT E1 STA:137+24.98, 7.29' RT = INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 741.77'	80.45	-	-	9.72	-	-	5.64	17.30	0.22	17.53	5.19	6.79	29.26	38.28	-	10	29.26	30.00	0.013	0.0051	740.14	739.73	4.826	5.961	0.362	0.552	0.60	0.22	0.33	740.48	737.59	737.18	
CULVERT E																																		
INLET E4_1 STA 1+60.49, 0.00' RT INSTALL 15' CURB INLET T/C: = 742.12'	CULVERT E1 STA:137+24.98, 7.29' RT = INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 741.77'	23.94	E4	3.08	3.08	0.58	1.79	1.79	15.00	0.13	15.13	5.49	7.16	9.80	12.78	-	10	9.80	24.00	0.013	0.0019	739.78	739.73	-	3.120	-	0.151	1.25	-	0.19	739.97	737.55	737.18	742.05
CULVERT E1 STA:137+24.98, 7.29' RT = INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 741.77'	INLET E4_2 STA 1+30.53, 0.00' RT INSTALL 15' CURB INLET T/C: = 742.12'	6.02	-	-	20.52	-	-	11.19	21.34	0.02	21.36	4.69	6.17	52.50	69.07	-	10	52.50	42.00	0.013	0.0027	739.60	739.59	5.961	5.457	0.552	0.462	0.60	0.33	0.13	739.73	737.18	737.15	742.05
INLET E4_2 STA 1+30.53, 0.00' RT INSTALL 15' CURB INLET T/C: = 742.12'	CULVERT E1 STA:1+00.00, 0.00' = LAKESHORE DR STA:137+24.95, 45.49' RT INSTALL (1) TYPE CH-FW-0 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	26.53	E4	0.16	20.68	0.58	0.09	11.29	21.36	0.08	21.44	4.69	6.17	52.94	69.65	-	10	52.94	42.00	0.013	0.0028	739.39	737.91	5.457	5.503	0.462	0.470	0.60	0.28	0.19	739.59	737.15	737.00	

THE STARTING HGL FOR SYSTEM E IS BASED ON NORMAL FLOW IN THE PIPE.

Plotted, By: 2026-04-16 18:30:30, Coleman, Matthew
Last Saved: k:\ltw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\proposed dam.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

HYDRAULIC CALCULATIONS (SHEET 6 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.09

SYSTEM F

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental		Total Area				Inlet	Travel	Total											U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft	No.	acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE F1																																		
INLET F6 STA 154+05.00, 15.00' LT INSTALL 20' CURB INLET T/C: = 744.20'	STA 153+82.81, 9.00' RT INSTALL 24" 60° BEND	28.29	DA-F6	1.44	1.44	0.58	0.84	0.84	15.00	0.25	15.25	5.49	7.16	4.59	5.98	-	10	4.59	24.00	0.013	0.0007	739.66	739.04	-	1.904	-	0.056	1.25	-	0.10	739.76	739.20	738.46	744.20
STA 153+82.81, 9.00' RT INSTALL 24" 60° BEND	STA 153+20.13, 9.00' RT INSTALL 24"X24" 60° WYE	62.69		-	1.44	-	-	0.84	15.25	0.55	15.80	5.49	7.16	4.59	5.98	-	10	4.59	24.00	0.013	0.0007	738.94	738.41	1.904	1.904	0.056	0.056	0.60	0.03	0.10	739.04	738.46	736.99	
STA 153+70.93, 32.50' LT INSTALL (1) TYPE II (4:1) PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	STA 153+44.09, 32.50' LT INSTALL 24" 60° BEND	26.84	DA-F5	1.03	1.03	0.58	0.60	0.60	15.00	0.33	15.33	5.49	7.16	3.29	4.29	-	10	3.29	24.00	0.013	0.0004	740.12	739.22	-	1.365	-	0.029	1.25	-	0.10	740.22	739.76	738.76	
STA 153+44.09, 32.50' LT INSTALL 24" 60° BEND	STA 153+34.27, 15.50' LT INSTALL 24"X24" 30° WYE	19.63		-	1.03	-	-	0.60	15.33	0.24	15.57	5.49	7.16	3.29	4.29		10	3.29	24.00	0.013	0.0004	739.12	738.51	1.365	1.365	0.029	0.029	0.60	0.02	0.10	739.22	738.76	738.04	
STA 153+35.08, 56.07' LT INSTALL 24" PLUG RE: TXDOT DETAIL MDD (FTW) (SUBSIDIARY)	STA 153+34.27, 15.50' LT INSTALL 24"X24" 30° WYE	40.58	FUT F	0.25	0.25	0.58	0.15	0.15	10.00	1.82	11.82	6.21	8.04	0.90	1.17	-	10	0.90	24.00	0.013	0.0000	739.72	738.51	-	0.371	-	0.002	1.25	-	0.10	739.82	739.54	738.04	
STA 153+34.27, 15.50' LT INSTALL 24"X24" 30° WYE	STA 153+20.13, 9.00' RT INSTALL 24"X24" 60° WYE	28.29		-	1.28	-	-	0.15	15.57	1.50	17.07	5.19	6.79	0.75	0.98	-	10	0.75	24.00	0.013	0.0000	738.41	738.41	1.365	0.313	0.029	0.002	0.60	0.02	0.10	738.51	738.04	736.99	
STA 153+20.13, 9.00' RT INSTALL 24"X24" 60° WYE	STA 152+86.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 741.47'	34.13		-	2.72	-	-	0.98	17.07	0.27	17.34	5.19	6.79	5.09	6.66	-	10	5.09	24.00	0.013	0.0009	738.31	738.28	1.904	2.119	0.056	0.070	0.60	0.03	0.10	738.41	736.99	736.17	
STA 152+86.00, 31.75' LT INSTALL: (1) 4' DROP INLET RIM = 739.25	INLET F3 STA 152+86.00, 15.50' LT INSTALL 10' CURB INLET T/C: = 741.41'	10.17	DA-F5	4.49	4.49	0.58	2.60	2.60	15.00	0.03	15.03	5.49	7.16	14.30	18.65	-	10	14.30	24.00	0.013	0.0068	738.79	738.72	-	5.935	-	0.547	1.25	-	0.68	739.48	736.34	736.29	
INLET F3 STA 152+86.00, 15.50' LT INSTALL 10' CURB INLET T/C: = 741.41'	STA 152+86.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 741.47'	24.50	DA-F3	0.17	4.66	0.58	0.10	2.70	15.03	0.07	15.09	5.49	7.16	14.84	19.35	-	10	14.84	24.00	0.013	0.0073	738.46	738.28	5.935	6.160	0.547	0.589	0.60	0.33	0.26	738.72	736.29	736.17	741.41
INLET F4 STA 152+86.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 741.85'	STA 152+86.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 741.47'	6.00	DA-F4	0.14	0.14	0.58	0.08	0.08	10.00	0.26	10.26	6.43	8.31	0.52	0.67	-	10	0.52	18.00	0.013	0.0000	738.28	738.28	-	0.382	-	0.002	1.25	-	0.10	738.38	737.35	736.17	741.85
STA 152+86.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 741.47'	STA 150+40.34, 9.00' RT END PIPE DEFLECTION	245.66		-	7.52	-	-	3.76	17.34	0.81	18.15	5.05	6.62	19.01	24.92	-	10	19.01	30.00	0.013	0.0037	738.18	737.28	6.160	5.076	0.589	0.400	0.60	0.35	0.10	738.28	736.17	734.94	
STA 150+40.34, 9.00' RT END PIPE DEFLECTION	STA 148+38.84, 9.00' RT BEGIN PIPE DEFLECTION	205.13		-	7.52	-	-	3.76	18.15	0.67	18.82	5.05	6.62	19.01	24.92	-	10	19.01	30.00	0.013	0.0037	737.12	736.36	5.076	5.076	0.400	0.400	0.60	0.24	0.16	737.28	734.94	733.92	
STA 148+38.84, 9.00' RT BEGIN PIPE DEFLECTION	STA 147+90.00, 6.33' RT INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 738.97'	49.47		-	7.52	-	-	3.76	18.82	0.16	18.98	5.05	6.62	19.01	24.92	-	10	19.01	30.00	0.013	0.0037	736.20	736.02	5.076	5.076	0.400	0.400	0.60	0.24	0.16	736.36	733.92	733.67	

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 7 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.10

Plotted, By: 2026-04-16 18:30:34, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (6))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

SYSTEM F CONTINUED

From	To	Pipe Length	Drainage Area Incremental No.	Drainage Area Incremental Area	Drainage Area Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration Inlet	Time of Concentration Travel	Time of Concentration Total	10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL U/S	HGL D/S	Head Loss Calculations V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk	Design HGL	Invert Elev. From	Invert Elev. To	T/C Elev.
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE F2																																		
INSTALL (1) TYPE II (4:1) PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	LAKESHORE DR STA:147+83.44, 30.30' LT = DWAY CULVERT 9 STA:0+74.91, 0.00' INSTALL 24" 45° BEND	54.32	OS-F1	2.17	2.17	0.58	1.26	1.26	15.00	0.18	15.18	5.49	7.16	6.91	9.01	-	10	6.91	18.00	0.013	0.0074	738.38	737.98	-	5.100	-	0.404	1.25	-	0.50	738.88	737.19	734.47	
LAKESHORE DR STA:147+83.44, 30.30' LT = DWAY CULVERT 9 STA:0+74.91, 0.00' INSTALL 24" 45° BEND	CULVERT F1 STA:1+25.02, 0.01' RT = LAKESHORE DR STA:147+90.01, 23.73' LT CONNECT TO 4'x2' RCB	9.29		-	2.17	-	-	1.26	15.18	0.03	15.21	5.49	7.16	6.91	9.01	-	10	6.91	18.00	0.013	0.0074	737.82	737.75	5.100	5.100	0.404	0.404	0.60	0.24	0.16	737.98	734.47	734.22	
CULVERT F1 STA:1+33.59, 0.00' RT = LAKESHORE DR STA:147+90.00, 32.30' LT INSTALL: (1) 2'X2' DROP INLET FL ELEV = 737.60' RE: C2.45	CULVERT F1 STA:1+25.02, 0.01' RT = LAKESHORE DR STA:147+90.01, 23.73' LT CONNECT TO 4'x2' RCB	8.57	OS-F4	8.90	11.07	0.58	5.16	6.42	15.00	0.02	15.02	5.49	7.16	35.25	45.97	-	10	35.25		0.013	0.0043	737.65	737.61	5.100	5.746	0.404	0.513	1.25	0.50	0.10	737.75	734.29	734.24	
CULVERT F1 STA:1+25.02, 0.01' RT = LAKESHORE DR STA:147+90.01, 23.73' LT CONNECT TO 4'x2' RCB	INLET F1 STA 1+16.29, 0.00' INSTALL 15' CURB INLET T/C: = 739.30'	4.73		-	11.07	-	-	6.42	15.21	0.01	15.22	5.49	7.16	35.25	45.97	-	10	35.25		0.013	0.0043	737.34	737.32	5.100	5.746	0.404	0.513	0.60	0.24	0.27	737.61	734.24	734.22	
INLET F1 STA 1+16.29, 0.00' INSTALL 15' CURB INLET T/C: = 739.30'	CULVERT F1 STA:1+03.72, 0.00' = LAKESHORE DR STA:147+90.00, 2.43' LT INSTALL 36"X24" 45° WYE	12.57	DA-F1	0.31	11.38	0.58	0.18	6.60	15.22	0.03	15.25	5.49	7.16	36.24	47.26	-	10	36.24	36.00	0.013	0.0050	737.22	737.16	5.746	6.686	0.513	0.694	1.25	0.64	0.10	737.32	734.22	734.16	739.30
INLET OS-F0 STA 145+80.00, 15.00' LT INSTALL 20' CURB INLET T/C: = 741.84' RE: C2.45	STA 145+89.99, 9.00' LT INSTALL 24" 60° BEND	7.51	DA-F0	1.90	1.90	0.58	1.10	1.10	15.00	0.05	15.05	5.49	7.16	6.05	7.89	-	10	6.05	24.00	0.013	0.0012	737.80	737.69	-	2.512	-	0.098	1.25	-	0.12	737.92	737.34	736.97	741.84
STA 145+89.99, 9.00' LT INSTALL 24" 60° BEND	STA 147+83.43, 9.00' LT INSTALL 24" 60° BEND	191.57		-	1.90	-	-	1.10	15.05	1.31	16.36	5.33	6.97	5.87	7.68	-	10	5.87	24.00	0.013	0.0012	737.59	737.27	2.512	2.445	0.098	0.093	0.60	0.06	0.10	737.69	736.97	734.29	
STA 147+83.43, 9.00' LT INSTALL 24" 60° BEND	CULVERT F1 STA:1+03.72, 0.00' = LAKESHORE DR STA:147+90.00, 2.43' LT INSTALL 36"X24" 45° WYE	9.29		-	1.90	-	-	1.10	16.36	0.06	16.42	5.33	6.97	5.87	7.68	-	10	5.87	24.00	0.013	0.0012	737.17	737.16	2.445	2.445	0.093	0.093	0.60	0.06	0.10	737.27	734.29	734.16	
CULVERT F1 STA:1+03.72, 0.00' = LAKESHORE DR STA:147+90.00, 2.43' LT INSTALL 36"X24" 45° WYE	STA 147+90.00, 6.33' RT INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 738.97'	8.76		-	13.28	-	-	7.70	16.42	0.02	16.44	5.33	6.97	41.05	53.69	-	10	41.05	36.00	0.013	0.0065	736.32	736.02	2.445	7.595	0.093	0.896	0.60	0.06	0.84	737.16	734.16	734.11	
STA 147+90.00, 6.33' RT INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 738.97'	INLET F2 STA 147+90.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 738.78'	8.67		-	20.80	-	-	11.47	18.98	0.03	19.01	4.93	6.47	56.53	74.19	-	10	28.27	36.00	0.013	0.0031	735.92	735.89	6.686	5.248	0.694	0.428	0.60	0.42	0.10	736.02	734.11	734.07	738.78
INLET F2 STA 147+90.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 738.78'	INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 738.57' RE: TXDOT DETAIL PJB	30.86		-	20.80	-	-	11.47	19.01	0.10	19.11	4.93	6.47	56.53	74.19	-	10	28.27	36.00	0.013	0.0031	735.72	732.88	5.248	5.248	0.428	0.428	0.60	0.26	0.17	735.89	734.07	733.92	
INSTALL: (1) 9' PRECAST JUNCTION BOX RIM = 738.57' RE: TXDOT DETAIL PJB	CULVERT F1 STA:0+39.08, 0.00' = LAKESHORE DR STA:147+90.00, 62.21' RT INSTALL (1) TYPE CH-FW-0 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	12.34	DA-F2	0.27	21.07	0.58	0.16	11.62	19.11	0.04	19.15	4.93	6.47	57.30	75.20	-	10	28.65	36.00	0.013	0.0032	732.70	732.66	5.248	5.319	0.428	0.439	0.60	0.26	0.18	732.88	731.20	731.08	

THE STARTING HGL FOR SYSTEM F IS BASED ON NORMAL FLOW IN THE PIPE.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

HYDRAULIC CALCULATIONS (SHEET 8 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.11

Plotted, By: 2026-04-16 18:30:39, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (7))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg

SYSTEM G

From	To	Pipe Length	Drainage Area			Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Design Frequenc	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental No.	Incremental Area	Total Area				Inlet	Travel	Total												U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	Years	cfs	cfs	cfs		cfs	In.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE G1																																		
INLET G7 STA 162+48.00, 15.00' LT INSTALL 15' CURB INLET T/C: = 752.48'	STA 162+28.23, 9.00' RT INSTALL 24" 60° BEND	28.29	DA-G7	1.17	1.17	0.58	0.68	0.68	15.00	0.40	15.40	5.49	7.16	10	3.73	4.86	-	10	3.73	24.00	0.013	0.0003	748.46	747.29	-	1.186	-	0.022	1.25	-	0.10	748.56	748.10	746.71	752.60
STA 162+28.23, 9.00' RT INSTALL 24" 60° BEND	STA 161+25.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 750.33'	108.24	-	-	1.17	-	-	0.68	15.40	1.57	16.96	5.33	6.97	10	3.62	4.73	-	10	3.62	24.00	0.013	0.0003	747.19	746.18	1.186	1.151	0.022	0.021	0.60	0.01	0.10	747.29	746.71	745.19	
INLET G6 STA 161+25.00, 15.00' LT INSTALL 20' CURB INLET T/C: = 750.71'	STA 161+25.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 750.33'	24.00	DA-G6	1.65	1.65	0.58	0.96	0.96	15.00	0.24	15.24	5.49	7.16	10	5.25	6.85	-	10	5.25	24.00	0.013	0.0005	748.21	746.18	-	1.672	-	0.043	1.25	-	0.10	748.31	746.21	746.20	750.71
INLET G8 STA 160+97.58, 34.86' RT INSTALL 5' TYPE II CURB INLET T/C: = 750.40'	STA 161+16.73, 33.34' RT INSTALL 24" 60° BEND	16.65	DA-G8	0.08	0.08	0.58	0.05	0.05	10.00	1.70	11.70	6.21	8.04	10	0.29	0.37	-	10	0.29	18.00	0.013	0.0000	746.54	746.38	-	0.163	-	0.000	1.25	-	0.10	746.64	746.40	746.05	750.40
STA 161+16.73, 33.34' RT INSTALL 24" 60° BEND	INLET G5 STA 161+25.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 750.71'	16.65	-	0.00	0.08	-	-	0.05	11.70	1.82	13.52	5.82	7.57	10	0.27	0.35	-	10	0.27	18.00	0.013	0.0000	746.28	746.28	0.163	0.153	0.000	0.000	0.60	0.00	0.10	746.38	746.05	745.71	
INLET G5 STA 161+25.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 750.71'	STA 161+25.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 750.33'	6.00	DA-G5	0.17	0.25	0.58	0.10	0.15	13.52	0.21	13.73	5.82	7.57	10	0.84	1.10	-	10	0.84	18.00	0.013	0.0001	746.18	746.18	0.153	0.478	0.000	0.004	1.25	0.00	0.10	746.28	745.71	746.20	750.71
STA 161+25.00, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 750.33'	STA 160+65.73, 9.00' RT INSTALL 24"X18" 60° WYE	59.26	-	-	3.07	-	-	1.78	16.96	0.34	17.30	5.19	6.79	10	9.24	12.09	-	10	9.24	24.00	0.013	0.0017	746.07	745.69	1.672	2.942	0.043	0.134	0.60	0.03	0.11	746.18	745.19	744.60	
INLET G4 STA 160+83.00, 15.00' LT INSTALL 10' CURB INLET T/C: = 750.92'	STA 160+65.73, 9.00' RT INSTALL 24"X18" 60° WYE	28.29	DA-G4	0.58	0.58	0.58	0.34	0.34	15.00	0.45	15.45	5.49	7.16	10	1.85	2.41	-	10	1.85	18.00	0.013	0.0003	746.49	745.69	-	1.045	-	0.017	1.25	-	0.10	746.59	746.20	744.85	750.70
STA 160+65.73, 9.00' RT INSTALL 24"X18" 60° WYE	STA 160+50.62, 9.00' RT END PIPE DEFLECTION	15.11	-	-	3.65	-	-	2.12	17.30	0.07	17.37	5.19	6.79	10	10.99	14.37	-	10	10.99	24.00	0.013	0.0024	745.58	745.51	2.942	3.497	0.134	0.190	0.60	0.08	0.11	745.69	744.60	744.45	
STA 160+50.62, 9.00' RT END PIPE DEFLECTION	STA 157+77.49, 9.00' RT INSTALL 24"X18" 60° WYE	276.45	-	-	3.65	-	-	2.12	17.37	1.35	18.73	5.05	6.62	10	10.69	14.01	-	10	10.69	24.00	0.013	0.0022	745.41	744.04	3.497	3.403	0.190	0.180	0.60	0.11	0.10	745.51	744.45	741.69	
INLET G3 STA 158+00.00, 15.00' LT INSTALL 20' CURB INLET T/C: = 747.68'	STA 157+77.49, 9.00' RT INSTALL 24"X18" 60° WYE	28.46	DA-G3	1.55	1.55	0.58	0.90	0.90	15.00	0.17	15.17	5.49	7.16	10	4.94	6.44	-	10	4.94	18.00	0.013	0.0022	744.11	744.04	-	2.793	-	0.121	1.25	-	0.15	744.26	743.36	741.94	747.86
STA 157+77.49, 9.00' RT INSTALL 24"X18" 60° WYE	CULVERT G1 STA:2+00.01, 0.00' = LAKESHORE DR STA:156+84.62, 9.00' RT INSTALL: (1) 4' STORM MANHOLE RIM = 745.43' BEGIN PIPE DEFLECTION	94.00	-	-	5.20	-	-	3.02	18.73	0.33	19.06	4.93	6.47	10	14.87	19.51	-	10	14.87	24.00	0.013	0.0043	743.80	743.40	3.403	4.733	0.180	0.348	0.60	0.11	0.24	744.04	741.69	740.75	
LINE G2																																		
INLET G1_2 STA 2+24.13, 13.27' RT INSTALL 10' CURB INLET T/C: = 745.69'	CULVERT G1 STA:2+11.40, 0.01' LT = LAKESHORE DR STA:156+84.62, 2.39' LT INSTALL 24"X18" 60° WYE	15.14	DA-G1	1.18	1.18	0.58	0.68	0.68	15.00	0.21	15.21	5.49	7.16	10	3.76	4.90	-	10	3.76	24.00	0.013	0.0003	743.51	743.51	-	1.196	-	0.022	1.25	-	0.10	743.61	741.70	741.00	745.70
INLET G1_1 STA 2+23.93, 2.73' LT INSTALL 20' CURB INLET T/C: = 745.70'	CULVERT G1 STA:2+11.40, 0.01' LT = LAKESHORE DR STA:156+84.62, 2.39' LT INSTALL 24"X18" 60° WYE	12.61	DA-G1	1.18	1.18	0.58	0.68	0.68	15.00	0.18	15.18	5.49	7.16	10	3.76	4.90	-	10	3.76	24.00	0.013	0.0003	743.51	743.51	-	1.196	-	0.022	1.25	-	0.10	743.61	741.70	741.00	745.70

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

HYDRAULIC CALCULATIONS
(SHEET 9 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.12

Plotted, By: 2026-04-16 18:30:44, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (8))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dsm.dwg

SYSTEM G CONTINUED

From	To	Pipe Length	Drainage Area Incremental No.	Drainage Area Incremental Area	Drainage Area Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration Inlet	Time of Concentration Travel	Time of Concentration Total	10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	n	Sf	HGL U/S	HGL D/S	Head Loss Calculations V1 (in)	Head Loss Calculations V2 (out)	Head Loss Calculations $V1^2/2g$	Head Loss Calculations $V2^2/2g$	Head Loss Calculations Kj	Head Loss Calculations $KjV1^2/2G$	Head Loss Calculations Hk	Design HGL	Invert Elev. From	Invert Elev. To	T/C Elev.
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.		ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CULVERT G1 STA:2+11.40, 0.01' LT = LAKESHORE DR STA:156+84.62, 2.39' LT INSTALL 24"X18" 60° WYE	STA 2+00.01, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 745.43' BEGIN PIPE DEFLECTION	11.39	-	-	2.36	-	-	1.37	15.21	0.08	15.29	5.49	7.16	7.51	9.80	-	10	7.51	24.00	0.013	0.0011	743.41	743.40	1.196	2.392	0.022	0.089	0.60	0.01	0.10	743.51	741.00	740.75	
STA 2+00.01, 0.00' INSTALL: (1) 4' STORM MANHOLE RIM = 745.43' BEGIN PIPE DEFLECTION	INLET G2 STA 1+94.01, 0.01' LT INSTALL 10' CURB INLET T/C: = 745.72'	6.00	-	-	7.56	-	-	4.38	19.06	0.01	19.07	4.93	6.47	21.62	28.37	-	10	21.62	24.00	0.013	0.0091	742.87	742.82	4.733	6.881	0.348	0.735	0.60	0.21	0.53	743.40	740.75	740.72	
INLET G2 STA 1+94.01, 0.01' LT INSTALL 10' CURB INLET T/C: = 745.72'	CULVERT G1 STA:1+67.51, 0.00' = LAKESHORE DR STA:156+84.62, 41.51' RT INSTALL 24"X18" 60° WYE	22.51	DA-G2	0.11	7.67	0.58	0.06	4.45	19.07	0.05	19.13	4.93	6.47	21.93	28.78	-	10	21.93	24.00	0.013	0.0094	742.72	738.47	6.881	6.981	0.735	0.757	1.25	0.92	0.10	742.82	740.72	740.60	745.72
INLET G0 STA 156+72.13, 33.49' RT INSTALL 5' TYPE II CURB INLET T/C: = 744.90'	CULVERT G1 STA:1+67.51, 0.00' = LAKESHORE DR STA:156+84.62, 41.51' RT INSTALL 24"X18" 60° WYE	14.21	DA-G0	0.10	0.10	0.58	0.06	0.06	10.00	2.13	12.13	6.01	7.80	0.35	0.45	-	10	0.35	24.00	0.013	0.0000	740.87	738.47	-	0.111	-	0.000	1.25	-	0.10	740.97	740.67	740.60	744.90
CULVERT G1 STA:1+67.51, 0.00' = LAKESHORE DR STA:156+84.62, 41.51' RT INSTALL 24"X18" 60° WYE	CULVERT G1 STA:1+37.76, 0.00' = LAKESHORE DR STA:156+84.62, 71.25' RT INSTALL: 4' MANHOLE	29.74	-	-	7.77	-	-	4.51	19.13	0.07	19.20	4.93	6.47	22.22	29.16	-	10	22.22	24.00	0.013	0.0096	741.74	738.47	6.981	7.072	0.757	0.777	0.60	0.45	0.32	742.07	740.60	739.86	
CULVERT G1 STA:1+37.76, 0.00' = LAKESHORE DR STA:156+84.62, 71.25' RT INSTALL: 4' MANHOLE	CULVERT G1 STA:1+41.10, 0.01' LT = LAKESHORE DR STA:156+84.62, 67.92' RT INSTALL (1) TYPE CH-FW-0 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	10.00	-		7.77	-	-	4.51	19.20	0.02	19.22	4.93	6.47	22.22	29.16	-	10	22.22	24.00	0.013	0.0096	738.16	738.06	7.072	7.072	0.777	0.777	0.60	0.47	0.31	738.47	736.24	736.06	

THE STARTING HGL FOR SYSTEM G IS BASED ON NORMAL FLOW IN THE PIPE.

SYSTEM H

From	To	Pipe Length	Drainage Area Incremental No.	Drainage Area Incremental Area	Drainage Area Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration Inlet	Time of Concentration Travel	Time of Concentration Total	10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	Width	Heigth	R	n	Sf	HGL U/S	HGL D/S	Head Loss Calculations V1 (in)	Head Loss Calculations V2 (out)	Head Loss Calculations $V1^2/2g$	Head Loss Calculations $V2^2/2g$	Head Loss Calculations Kj	Head Loss Calculations $KjV1^2/2G$	Head Loss Calculations Hk	Design HGL	Invert Elev. From	Invert Elev. To	T/C Elev.
		ft		acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	ln.	ft	ft			ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20a	20b	20c	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE H1																																					
INLET H1 STA 173+40.00, 15.00' LT INSTALL 15' CURB INLET T/C: = 748.92' RE: C2.45	STA 173+61.88, 17.00' LT INSTALL 18"X18" 60° WYE	13.88	DA-H1	0.83	0.83	0.58	0.48	0.48	15.00	0.15	15.15	5.49	7.16	2.64	3.45	-	10	2.64	18.00				0.013	0.0006	746.72	746.71	-	1.496	-	0.035	1.25	-	0.10	746.82	745.42	745.23	749.42
INLET H2 STA 173+40.00, 15.00' RT INSTALL 10' CURB INLET T/C: = 749.42' RE: C2.45	STA 173+61.88, 17.00' LT INSTALL 18"X18" 60° WYE	37.53	DA-H2	0.26	0.26	0.58	0.15	0.15	10.00	1.18	11.18	6.21	8.04	0.94	1.21	-	10	0.94	18.00				0.013	0.0001	746.72	746.71	-	0.530	-	0.004	1.25	-	0.10	746.82	745.42	745.23	748.92
STA 173+61.88, 17.00' LT INSTALL 18"X18" 60° WYE	STA 173+78.00, 17.00 LT' INSTALL 18" 60° BEND	16.12		-	1.09	-	-	0.63	15.15	0.14	15.29	5.49	7.16	3.47	4.53	-	10	3.47	18.00				0.013	0.0011	746.61	746.60	1.496	1.964	0.035	0.060	0.60	0.02	0.10	746.71	745.23	745.01	
STA 173+78.00, 17.00 LT' INSTALL 18" 60° BEND	LINE H2 STA:3+06.89, 0.03' RT = LAKESHORE DR STA:173+83.72, 26.91' LT INSTALL 18"X18" 60° WYE	11.45	-	-	1.09	-	-	0.63	15.29	0.10	15.39	5.49	7.16	3.47	4.53	-	10	3.47	18.00				0.013	0.0011	746.50	746.48	1.964	1.964	0.060	0.060	0.60	0.04	0.10	746.60	745.01	744.85	
CULVERT H																																					
LINE H2 STA:3+83.14, 0.01' RT = LAKESHORE DR STA:173+83.72, 49.34' RT INSTALL (1) TYPE II (4:1) PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	LINE H2 STA:3+06.89, 0.03' RT = LAKESHORE DR STA:173+83.72, 26.91' LT INSTALL 18"X18" 60° WYE	76.26	EX-11	1.13	1.13	0.45	0.51	0.51	15.00	0.80	15.80	5.49	7.16	2.79	3.64	-	10	2.79	18.00				0.013	0.0007	746.68	746.48	-	1.580	-	0.039	1.25	-	0.10	746.78	746.23	744.85	
LINE H2 STA:3+06.89, 0.03' RT = LAKESHORE DR STA:173+83.72, 26.91' LT INSTALL 18"X18" 60° WYE	LINE H2 STA:3+00.13, 0.03' RT = LAKESHORE DR STA:173+83.72, 33.67' LT INSTALL (1) TYPE II (4:1) PRECAST SAFETY END TREATMENT RE: TXDOT DETAILS	6.75	-	-	2.22	-	-	1.14	15.39	0.03	15.42	5.49	7.16	6.26	8.17	-	10	6.26	18.00				0.013	0.0036	746.32	746.30	1.964	3.544	0.060	0.195	0.60	0.04	0.16	746.48	744.85	744.80	

Plotted, By: 2026-04-16 18:30:48, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (9))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dsm.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

HYDRAULIC CALCULATIONS (SHEET 10 OF 11)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.13

SYSTEM I4

From	To	Pipe Length	Drainage Area		Total Area	Runoff "c"	Incr. cA	Total cA	Time of Concentration			10-year Intensity	50-year Intensity	Q10 Runoff	Q50 Runoff	Inlet bypass	Design Storm	Q pipe	Pipe Size Diameter	Width	Heigth	R	n	Sf	HGL		Head Loss Calculations							Design HGL	Invert Elev.		T/C Elev.
			Incremental						Inlet	Travel	Total														U/S	D/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2G$	Hk		From	To	
		ft	No.	Area acres	acres				min.	min.	min.	in/hr	in/hr	cfs	cfs	cfs		cfs	In.	ft	ft			ft/ft	Elev.	Elev.	ft/s	ft/s	ft	ft		ft	ft	Elev.	ft	ft	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20a	20b	20c	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
LINE I1																																					
INLET I8 STA 318+55.00, 14.00' RT INSTALL 10' CURB INLET T/C: = 740.86'	STA 318+48.20, 8.00' RT INSTALL 24" 60° BEND	7.51	I8	0.55	0.55	0.58	0.32	0.32	10.00	0.19	10.19	6.43	8.31	2.05	2.65	-	10	2.05	24.00				0.013	0.0001	736.58	735.69	-	0.653	-	0.007	1.25	-	0.10	736.68	736.38	735.29	740.88
STA 318+48.20, 8.00' RT INSTALL 24" 60° BEND	STA 317+36.60, 8.00' RT INSTALL 24" 45° BEND	111.59		-	0.55	-		0.32	10.19	3.15	13.34	5.82	7.57	1.86	2.41	-	10	1.86	24.00				0.013	0.0001	735.59	734.32	0.653	0.591	0.007	0.005	0.60	0.00	0.10	735.69	735.29	732.84	
STA 317+36.60, 8.00' RT INSTALL 24" 45° BEND	STA 1+42.25, 0.00' CONNECT TO 6'x3' RCB	10.41		-	0.55	-		0.32	13.34	0.29	13.63	5.82	7.57	1.86	2.41	-	10	1.86	24.00				0.013	0.0001	734.22	734.22	0.591	0.591	0.005	0.005	0.60	0.00	0.10	734.32	732.84	732.61	
CULVERT I																																					
STA 1+68.25, 0.00' INSTALL (1) TYPE PW-1 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	STA 1+42.25, 0.00' CONNECT TO 6'x3' RCB	33.36	I7	42.74	42.74	0.45	19.23	19.23	20.00	0.10	20.10	4.81	6.32	92.51	121.55	-	10	92.51		6.00	3.00	1.00	0.013	0.0023	734.35	734.22	-	5.523	-	0.474	1.25	-	0.59	734.94	732.94	732.61	
STA 1+42.25, 0.00' CONNECT TO 6'x3' RCB	STA 1+33.25, 0.00' INSTALL (1) TYPE PW-1 HEADWALL HEAD WALL SHALL HAVE A SURFACE TREATMENT - HEADWALL CLADDING - OKLAHOMA BUILDERS STONE VENEER RE: TXDOT DETAILS	1.64		-	43.29			19.55	20.10	0.00	20.11	4.81	6.32	94.05	123.57	-	10	94.05		6.00	3.00	1.00	0.013	0.0024	734.02	734.00	5.523	5.608	0.474	0.488	0.60	0.28	0.20	734.22	732.61	732.59	

THE STARTING HGL FOR SYSTEM I4 IS BASED ON NORMAL POOL IN THE PIPE.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

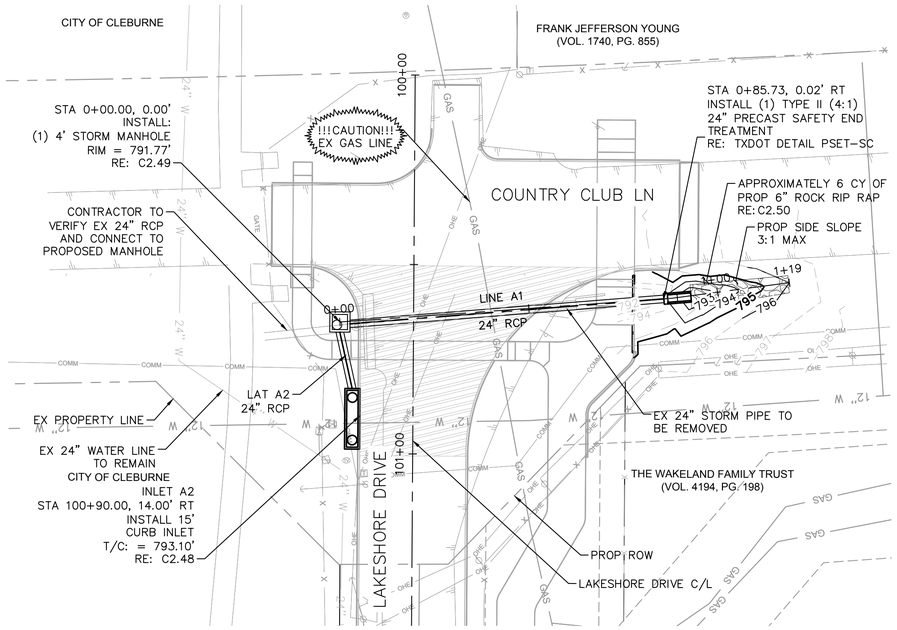
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

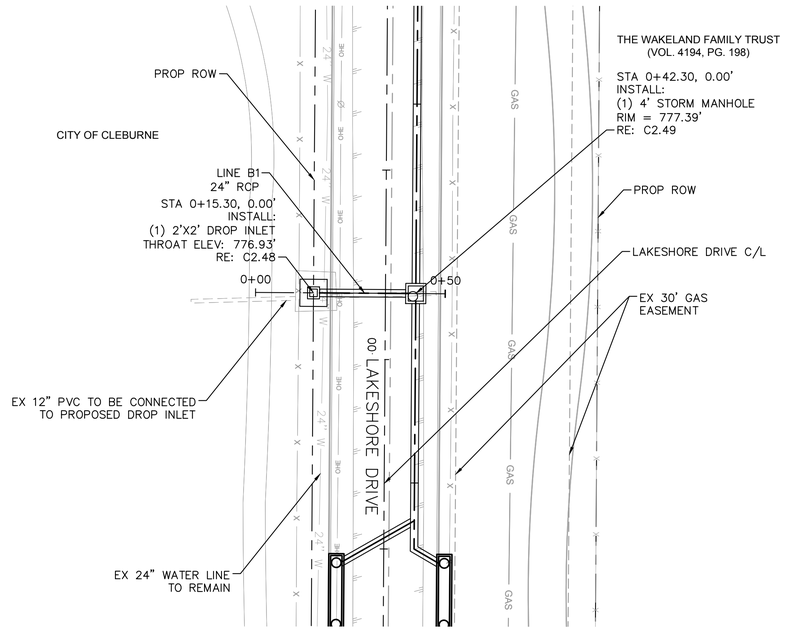
HYDRAULIC CALCULATIONS
(SHEET 11 OF 11)

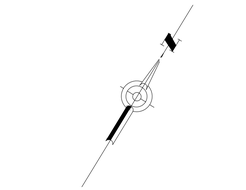
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.14

Plotted, By: 2026-04-16 18:30:53, Coleman, Matthew
Last Saved: 2026-04-14 17:35:59 (HGL CALCS (10))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\proposed dam.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

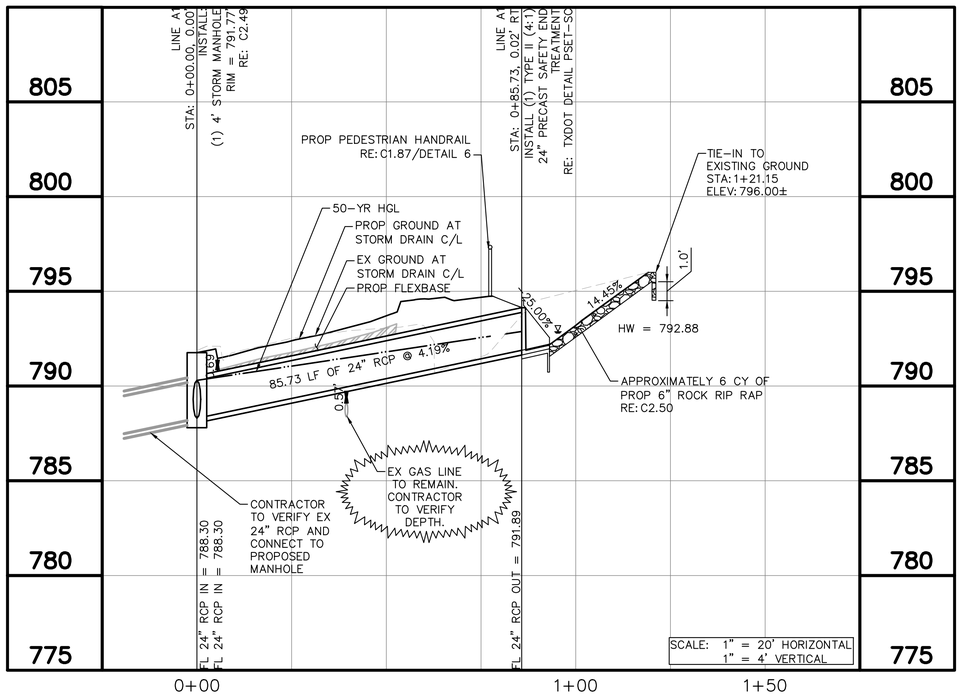
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING WATER LINES PRIOR TO CONSTRUCTION (SUBSIDIARY). CONTRACTOR SHALL TAKE CAUTION WHEN WORKING OVER WATER LINES.
2. CONTRACTOR MAY INSTALL STORM PIPE REDUCERS IN LIEU OF CONCRETE PIPE COLLARS. CONTRACTOR TO ASK CITY FOR PREFERENCE.

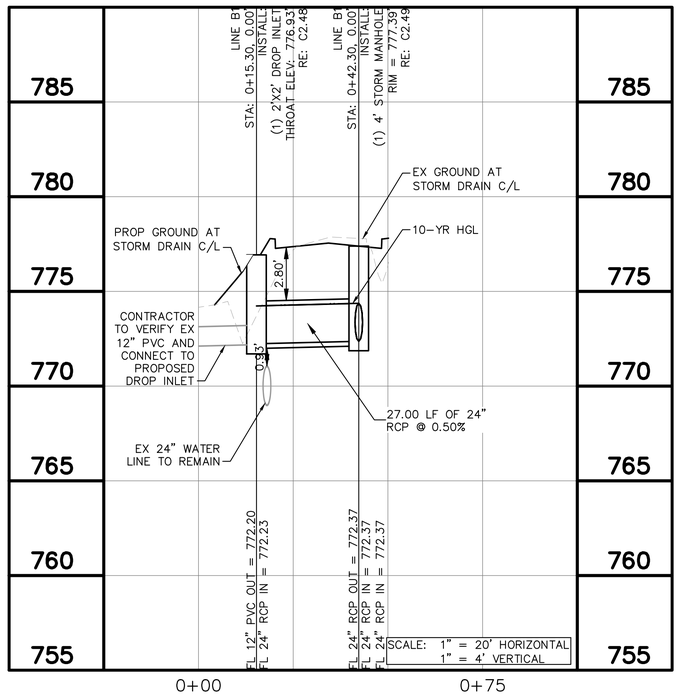
LEGEND

FLEXBASE

LINE A1



LINE B1



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

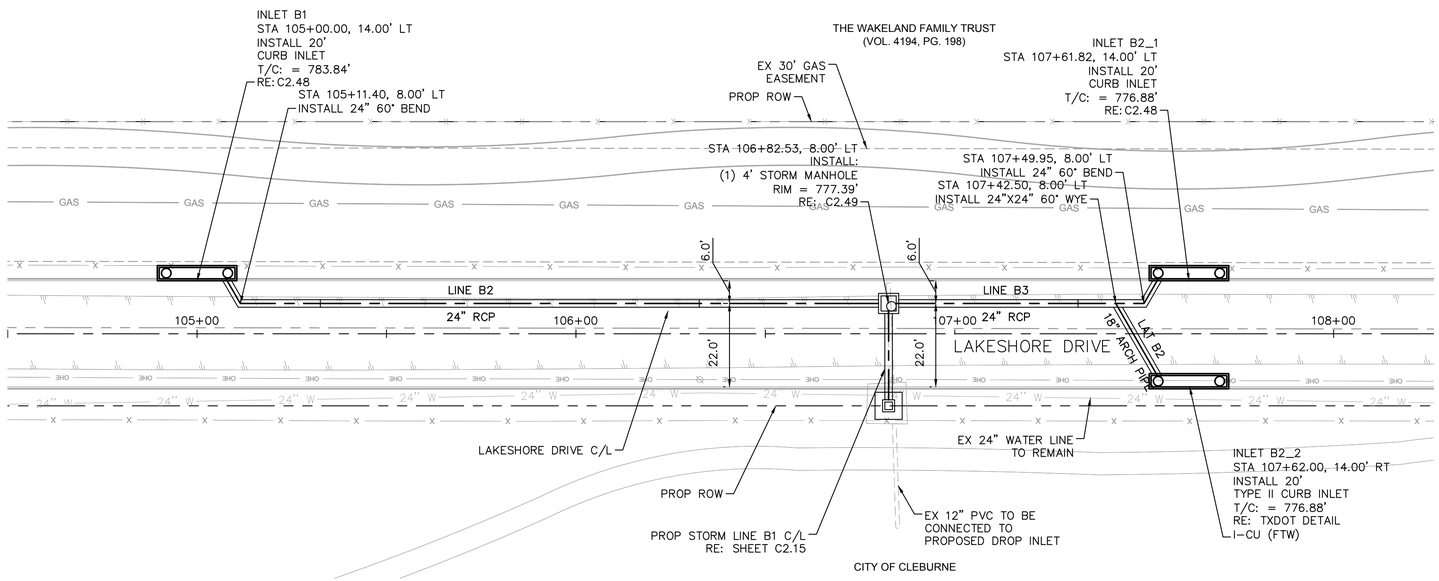
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

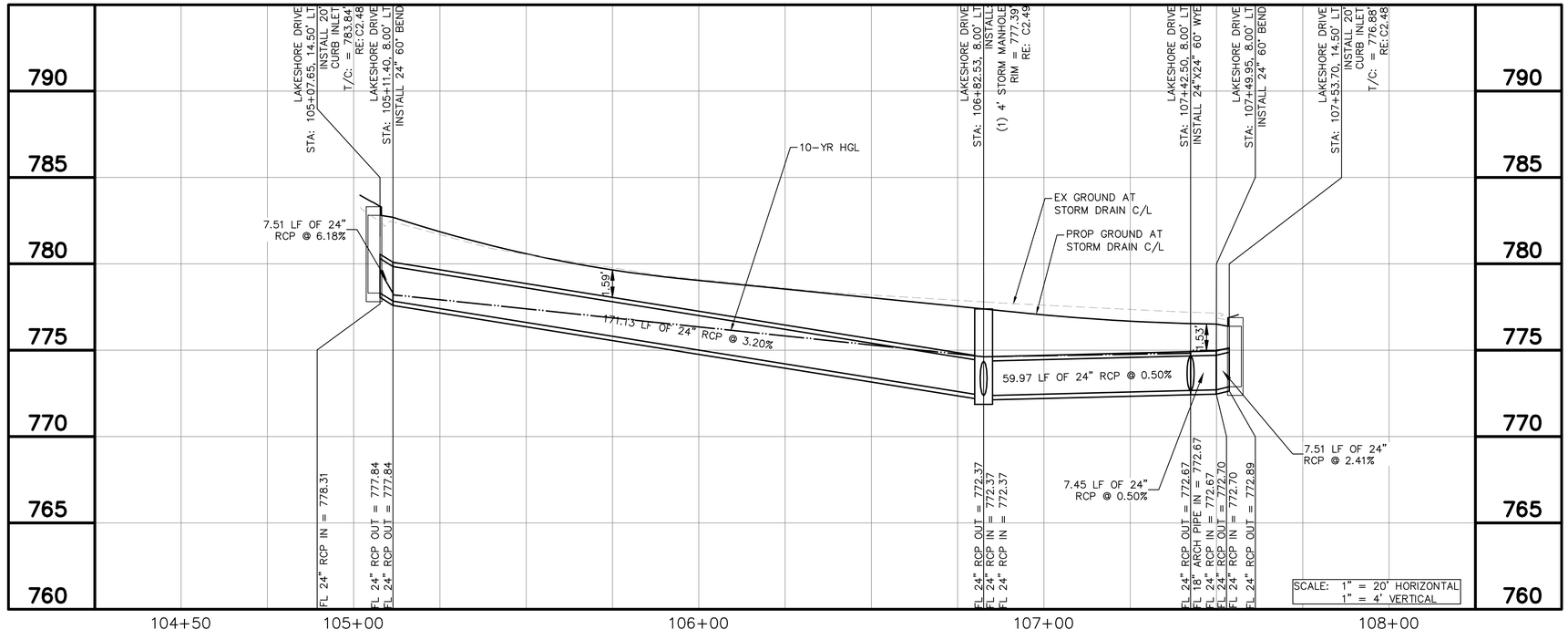
STORM DRAIN LINE
A1 & B1

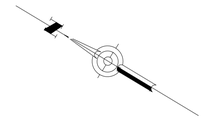
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.15

Plotted By: 2026-04-16 18:31:27, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (STORM DRAIN LINE A1 & B1)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system_2.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
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Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

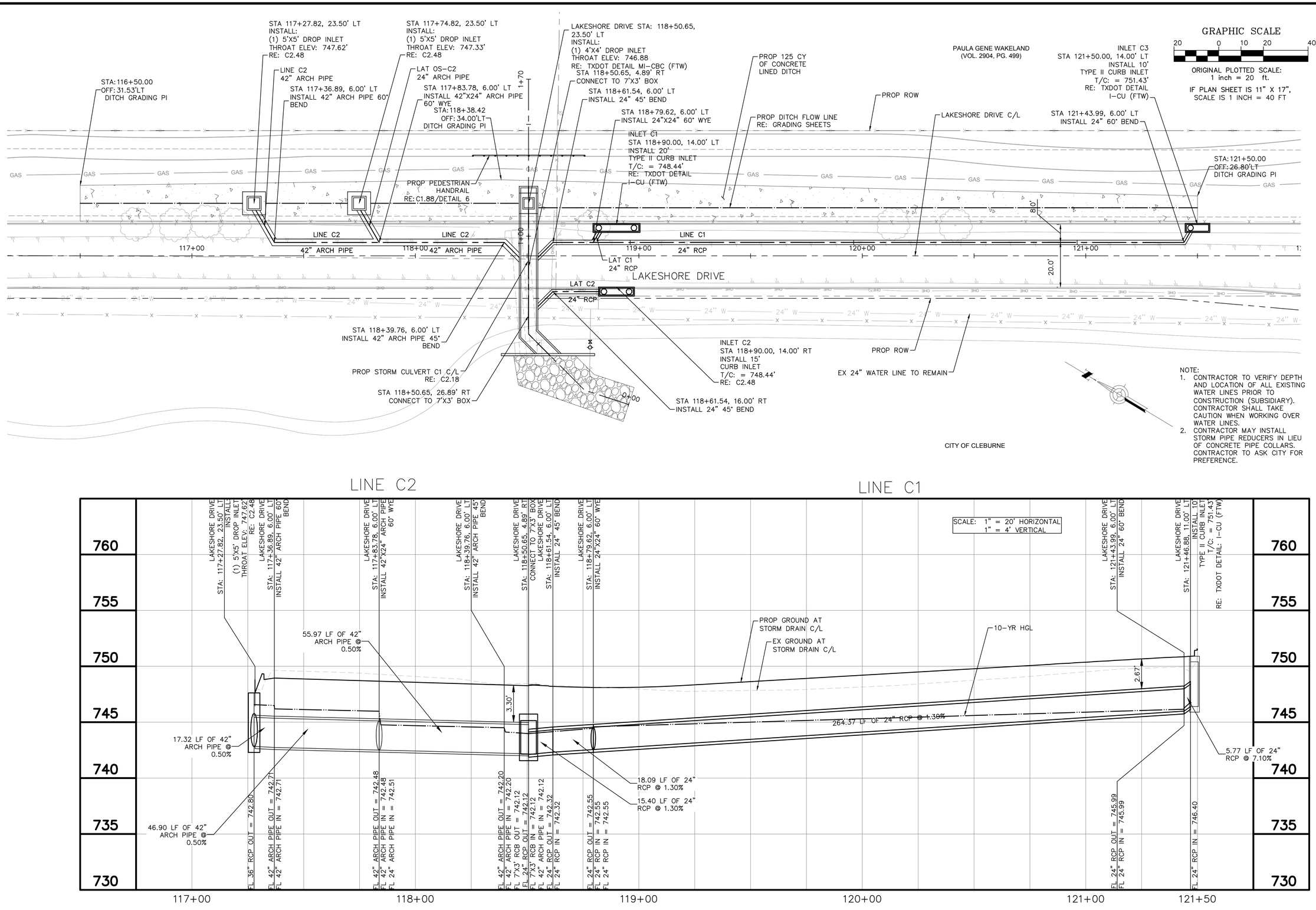
STORM DRAIN LINE B2 & B3

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.16

Plotted By: 2026-04-16 18:31:42, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (STORM SYSTEM B2 & B3)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\storm system_2.dwg



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STATE OF TEXAS
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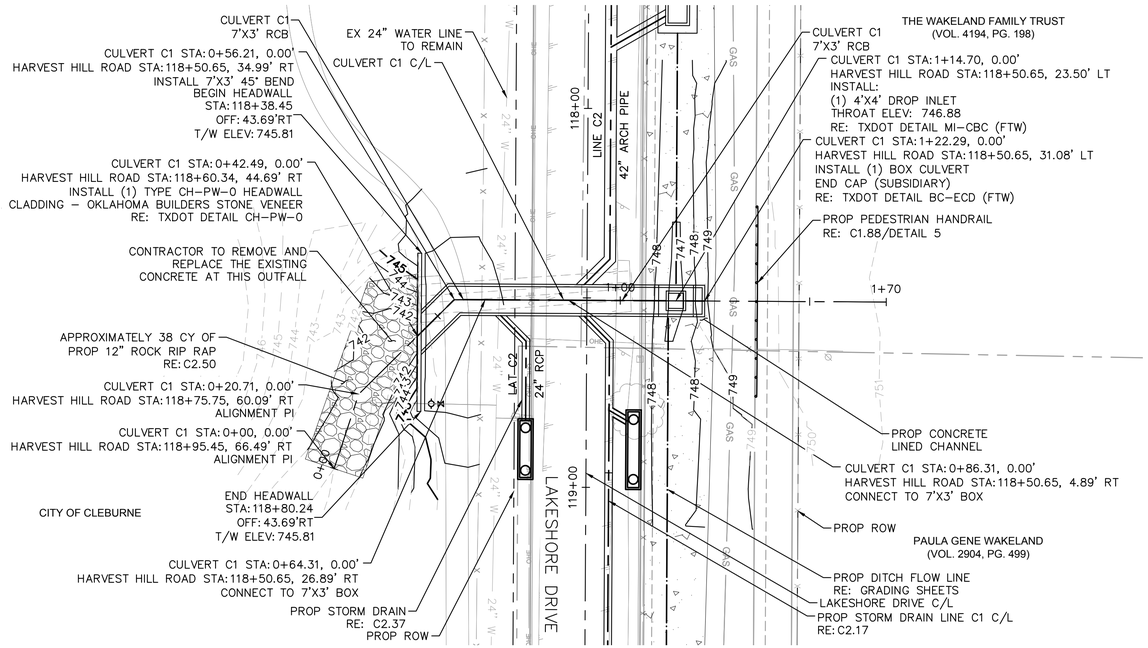
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

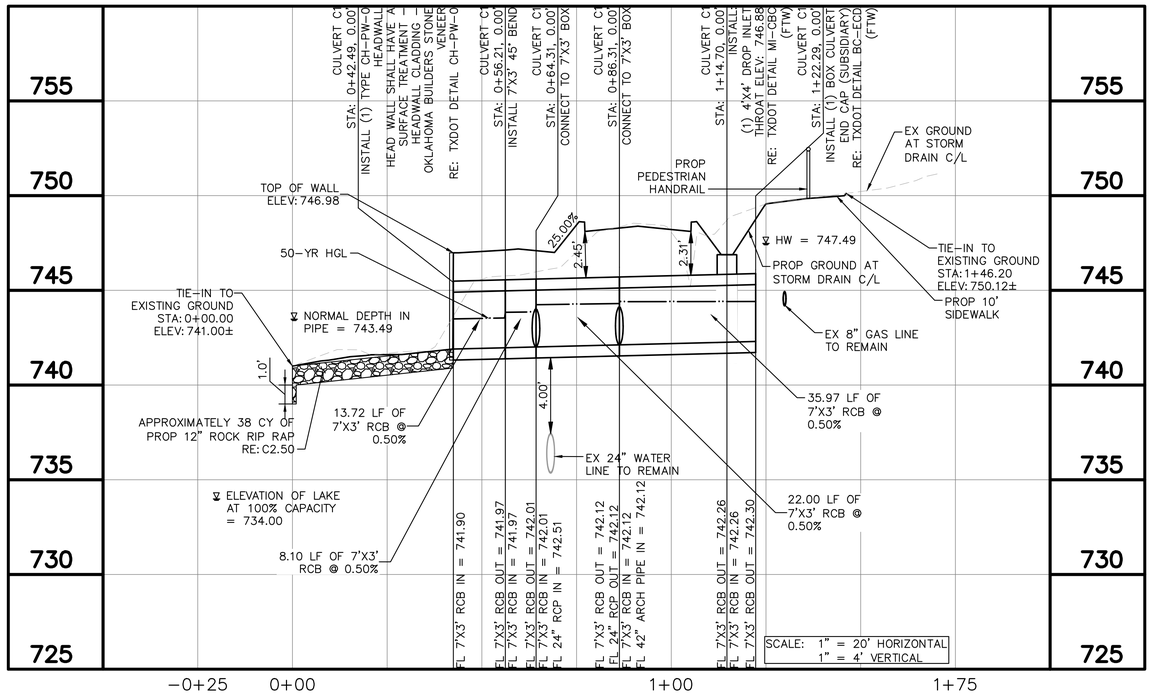
STORM DRAIN LINE C1 & C2

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.17

Plotted By: 2026-04-16 18:31:57, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (STORM SYSTEM C)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system_2.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
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PROFESSIONAL ENGINEER
04/10/2026

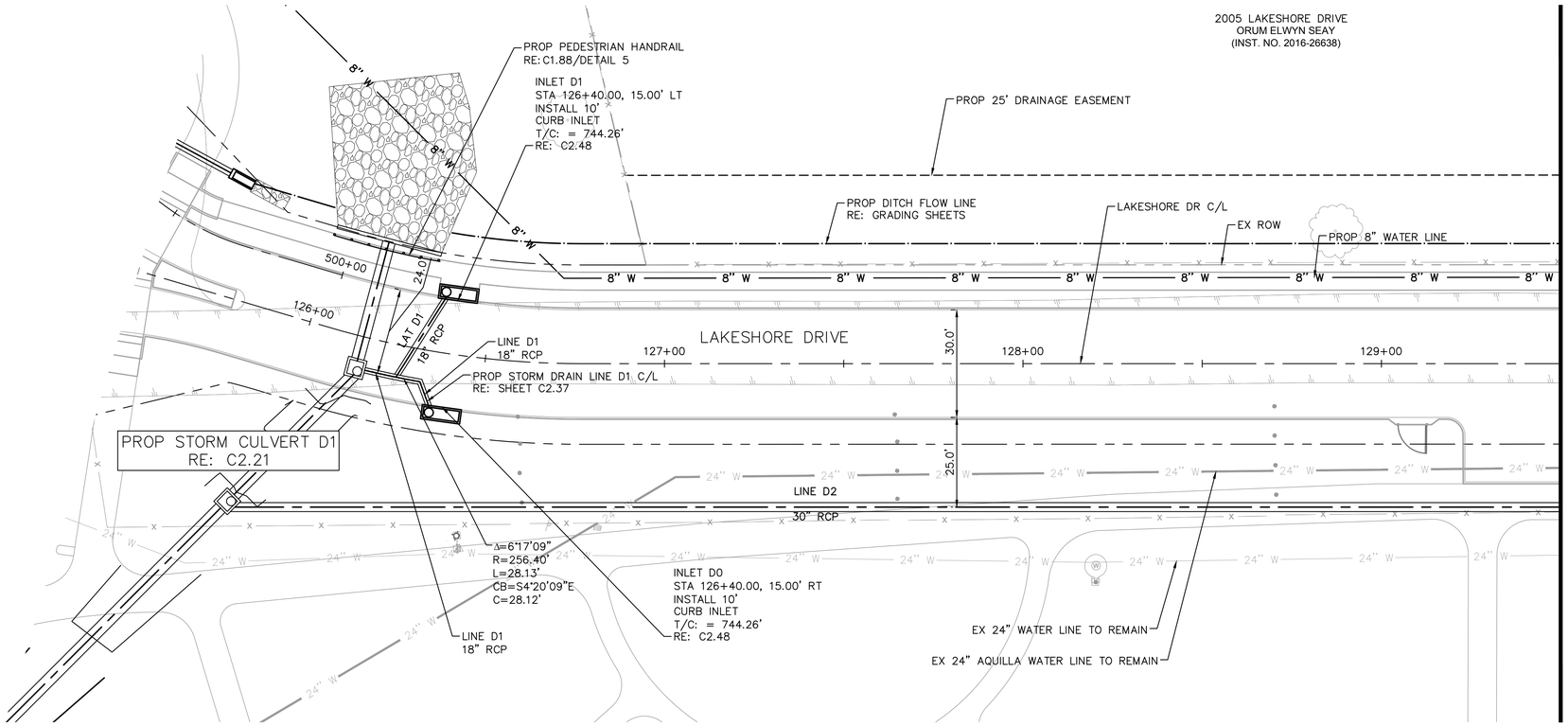
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

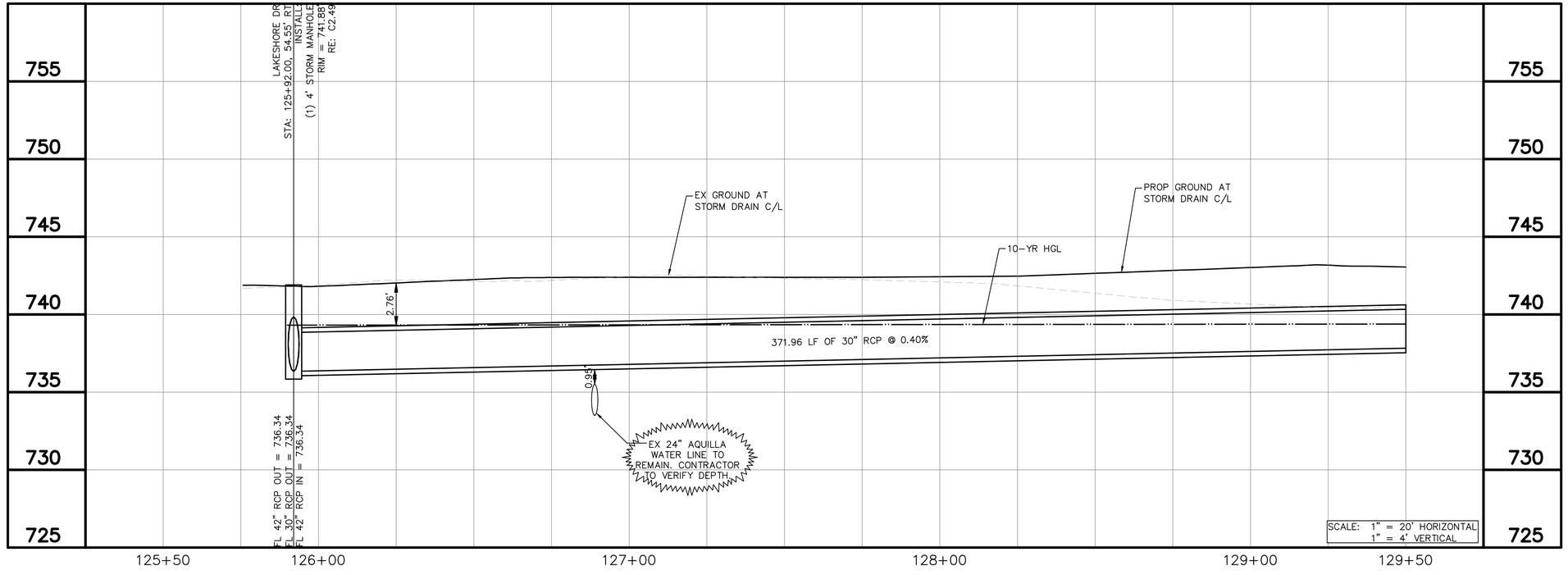
STORM DRAIN
CULVERT C1

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.18

Plotted, By: 2026-04-16 18:32:12, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (CULVERT C1)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system_2.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

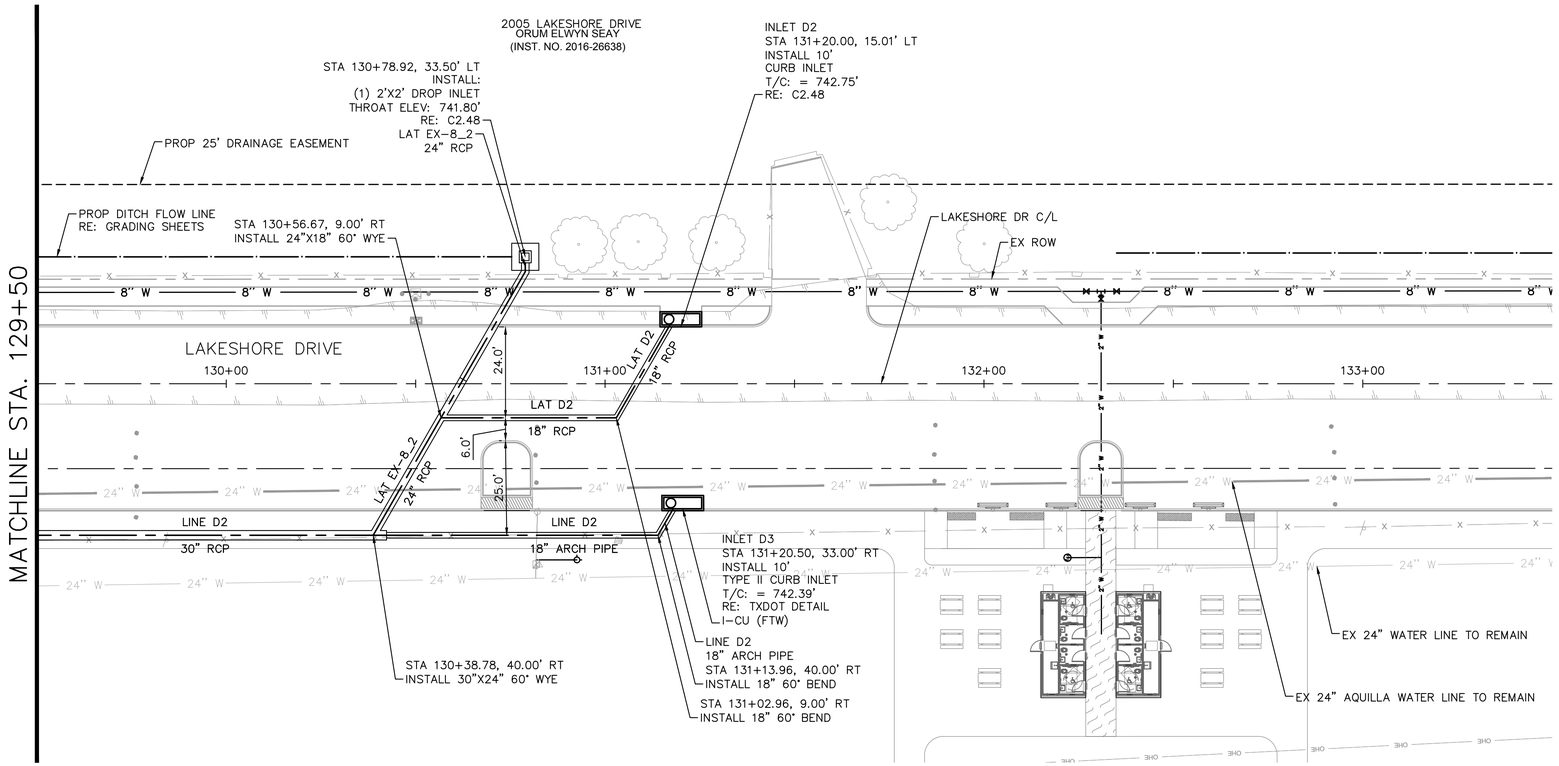
STORM DRAIN LINE D2 (SHEET 1 OF 2)

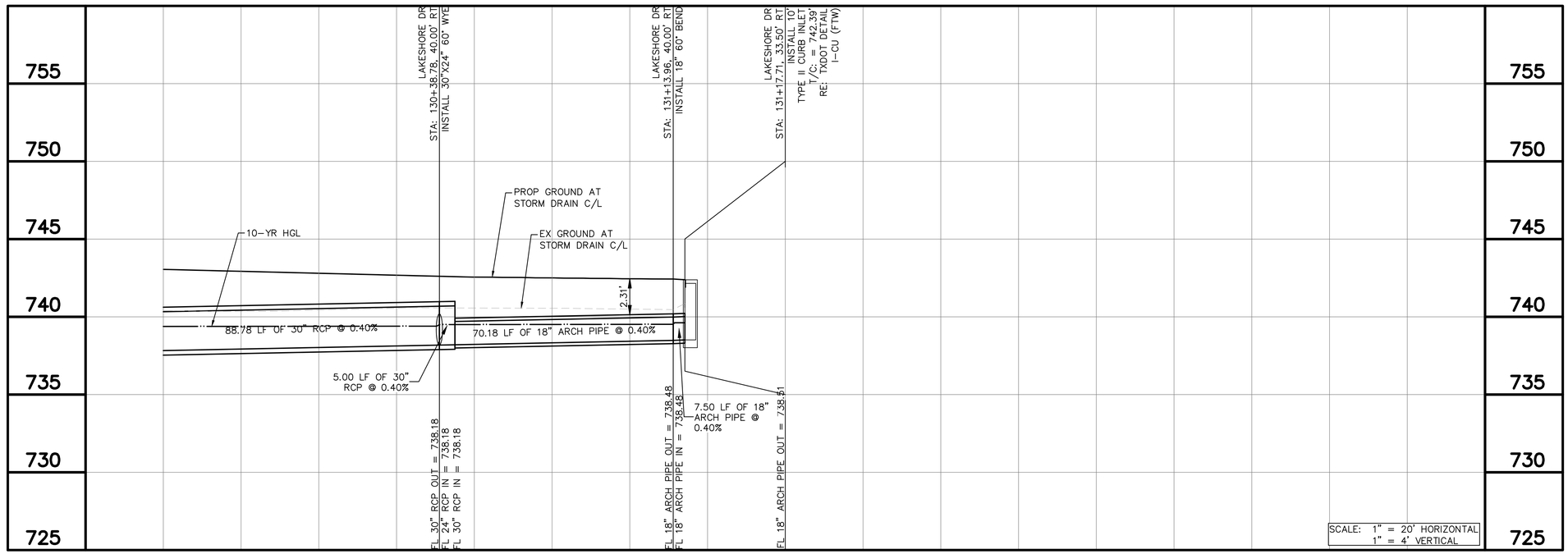
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C2.19

Plotted, By: 2026-04-16 18:32:27, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (STORM SYSTEM D2 (SHEET 1 OF 2))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system_2.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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04/10/2026

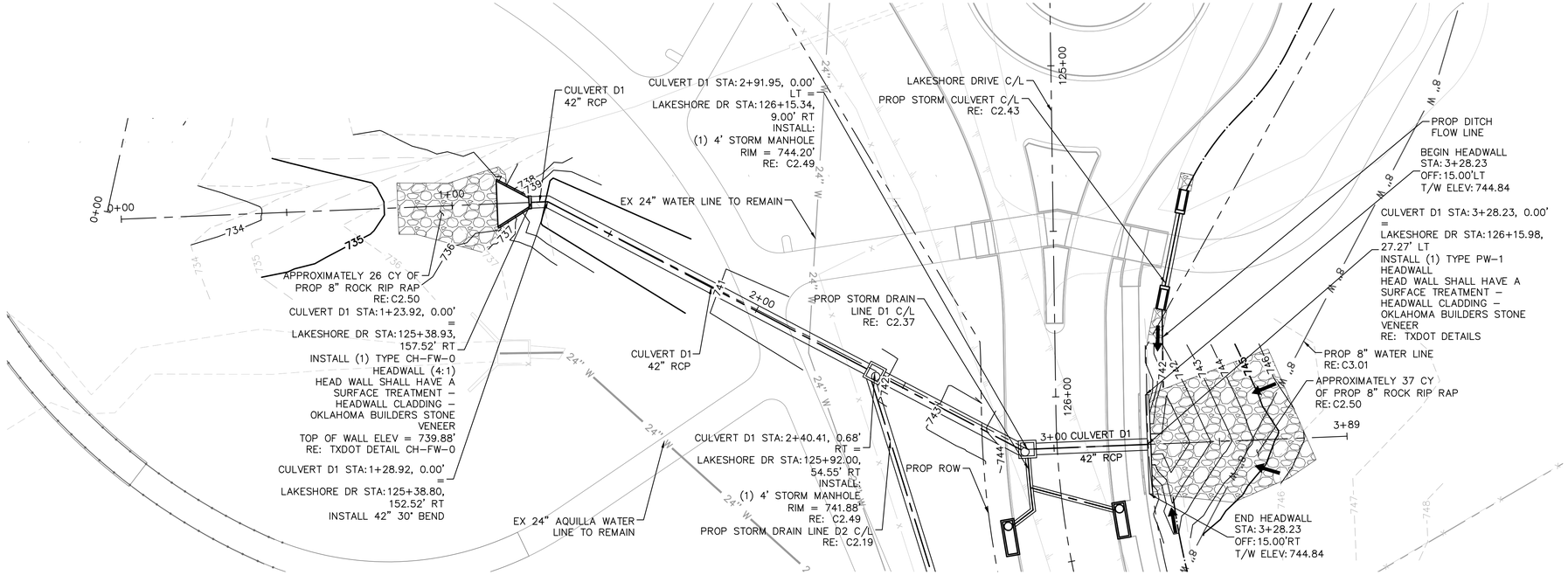
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STORM DRAIN LINE
D2 (SHEET 2 OF 2)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.20

Plotted, By: 2026-04-16 18:32:41, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (STORM SYSTEM D2 (SHEET 2 OF 2))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system_2.dwg



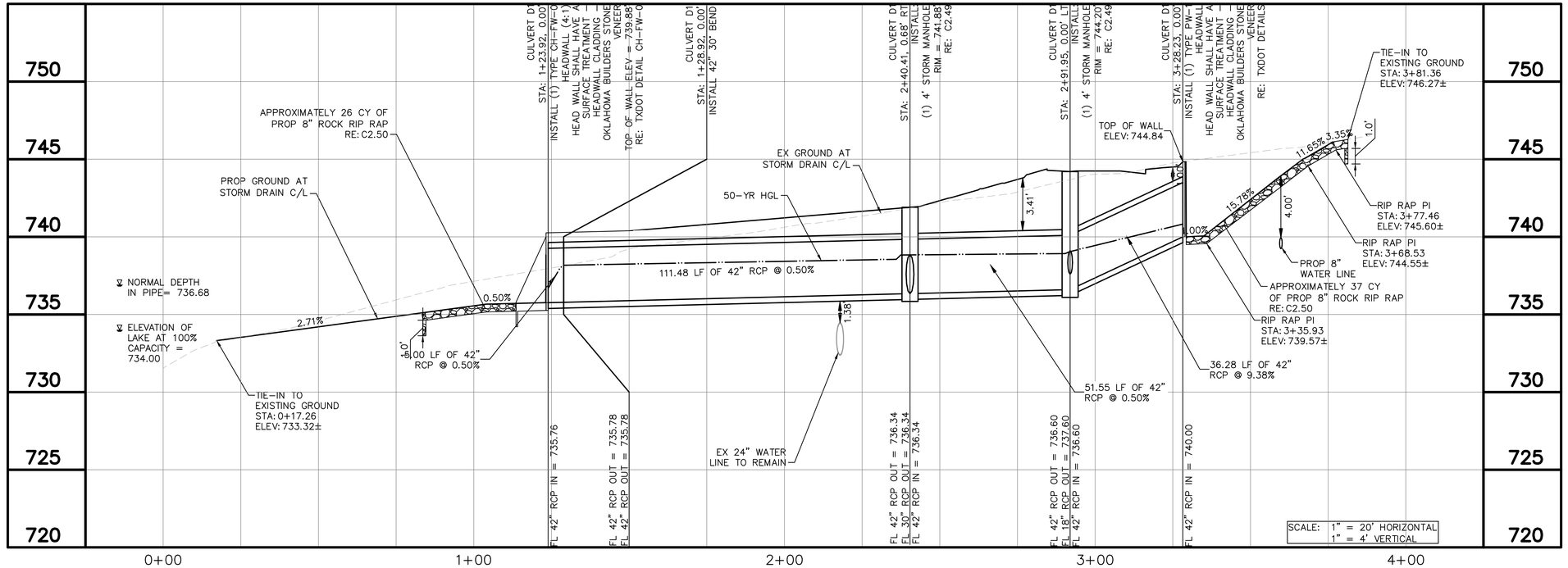
GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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Plotted, By: 2026-04-16 18:33:00, Coleman, Matthew
Last Saved: 2026-04-16 18:24:59 (CULVERT D1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\p&p_outfall_b1 to e1.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

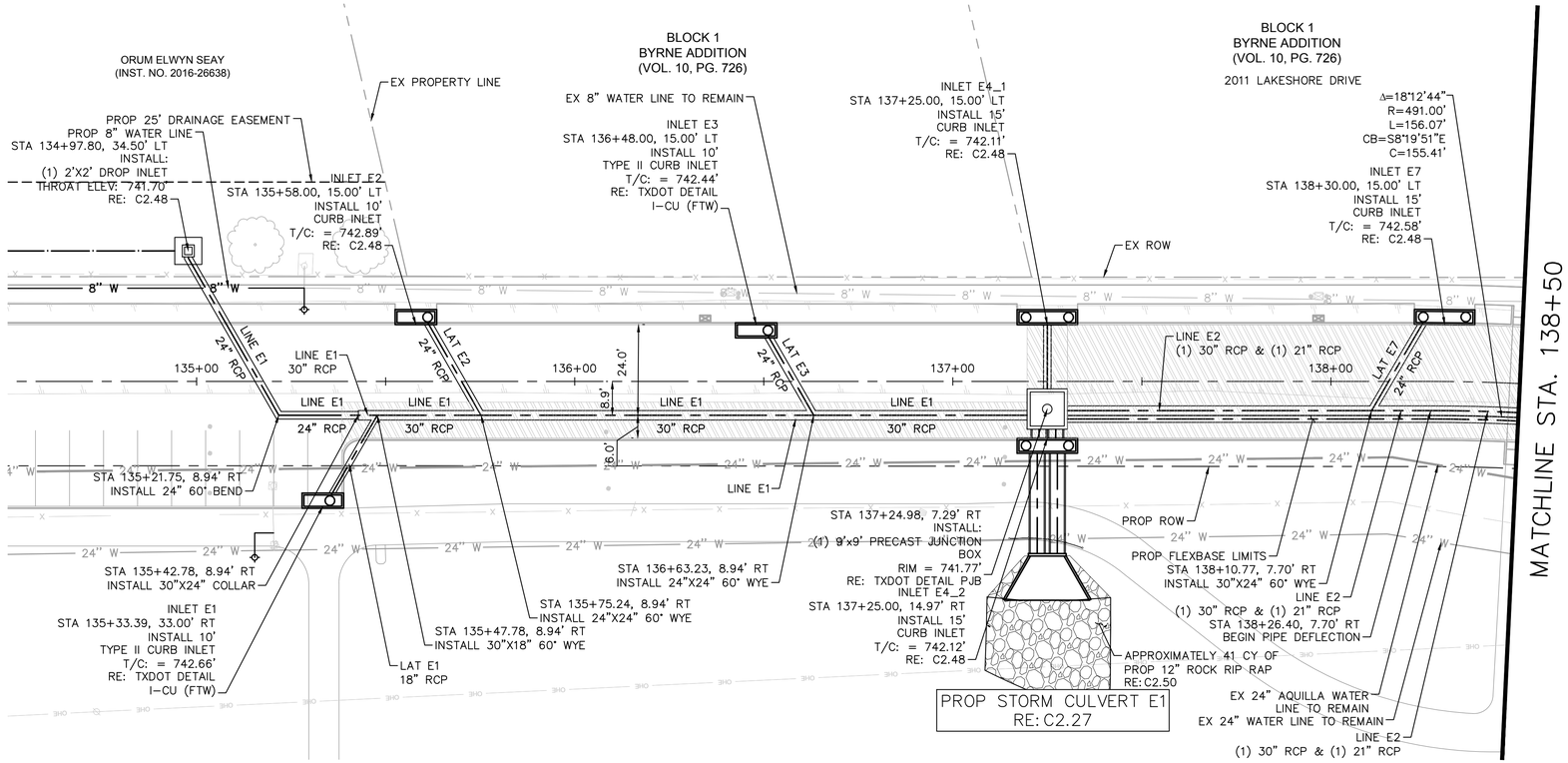
STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

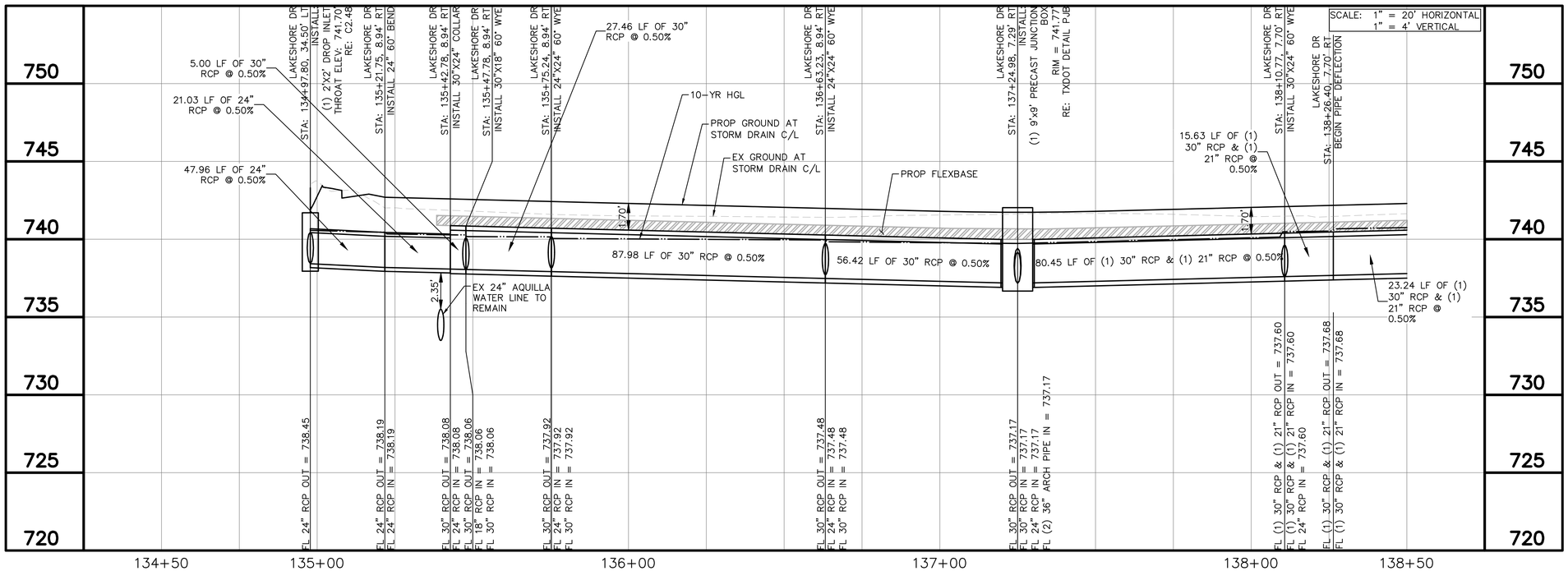
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STORM DRAIN CULVERT D1

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.21





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

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NOTE:
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LEGEND

FLEXBASE

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140647
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04/10/2026

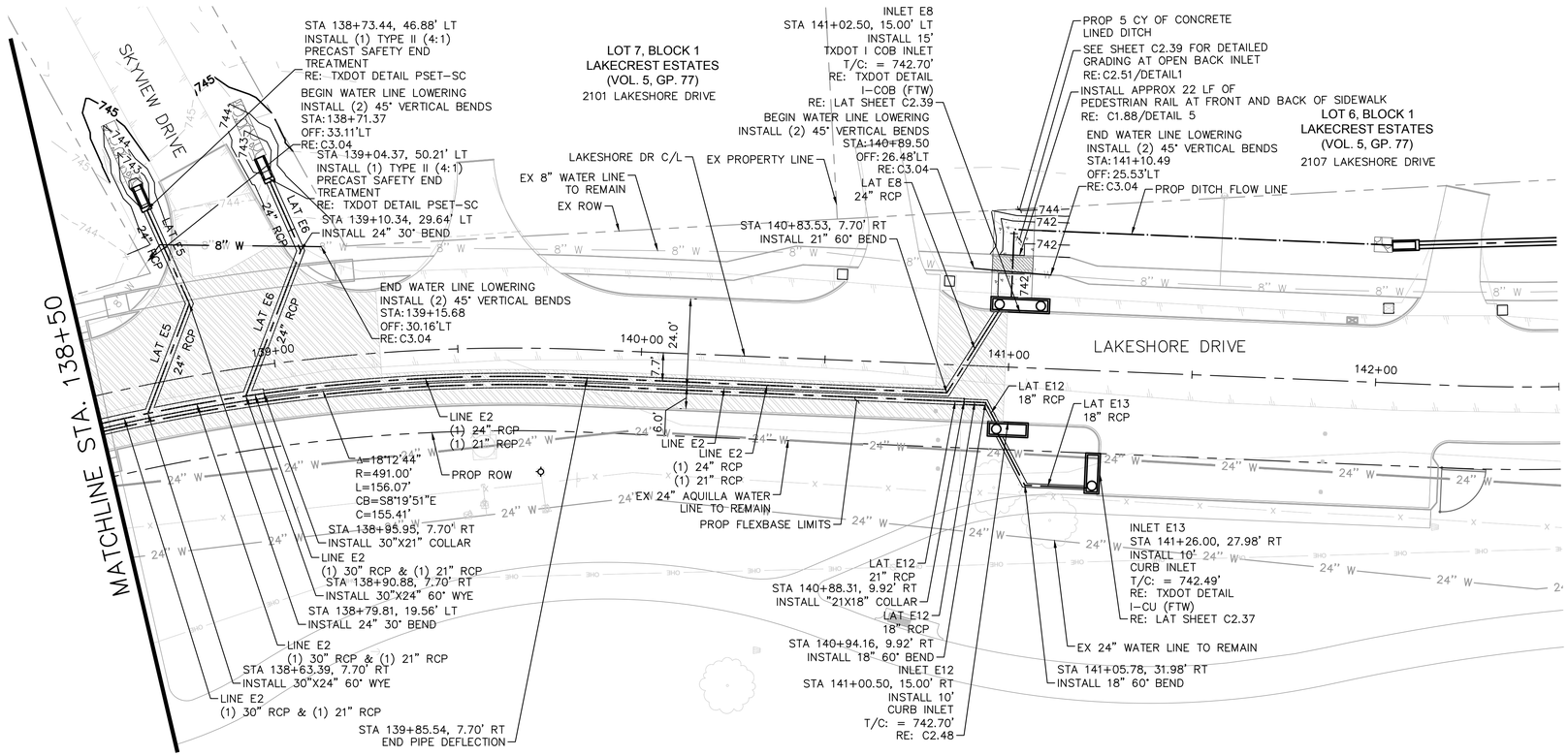
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

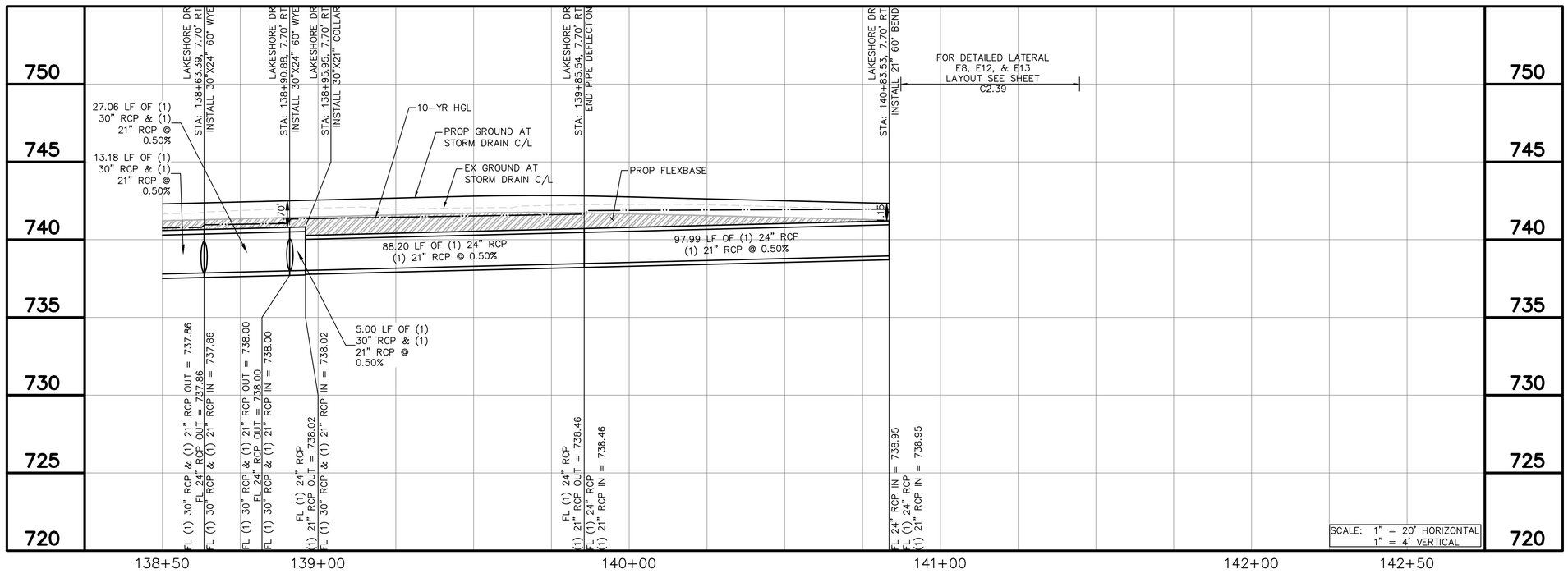
STORM DRAIN LINE E1

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.22

Plotted, By: 2026-04-16 18:34:12, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM E)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
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NOTE:
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LEGEND

FLEXBASE

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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
106647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

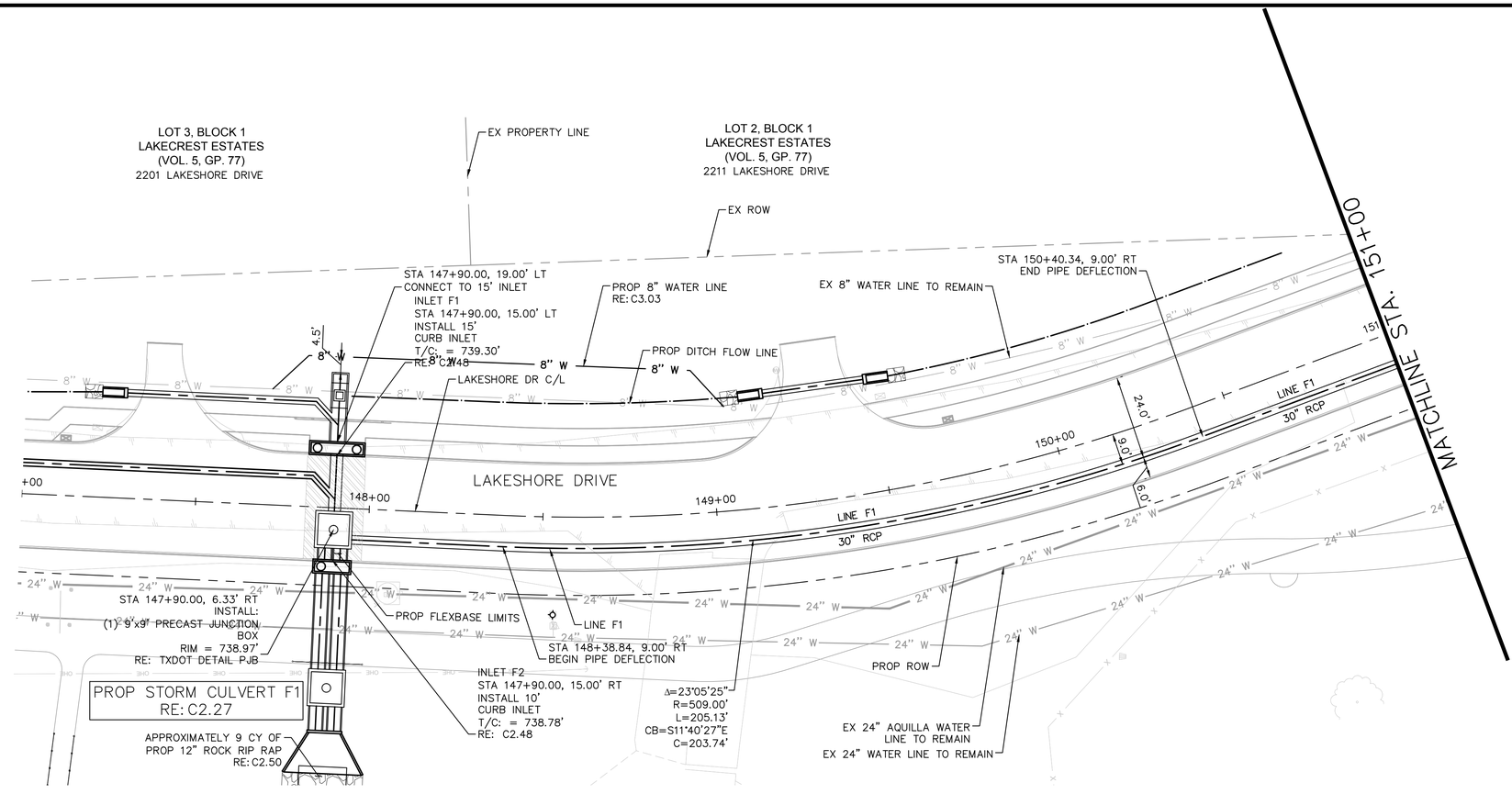
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STORM DRAIN LINE E2

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.23

Plotted, By: 2026-04-16 18:34:40, Coleman, Matthew
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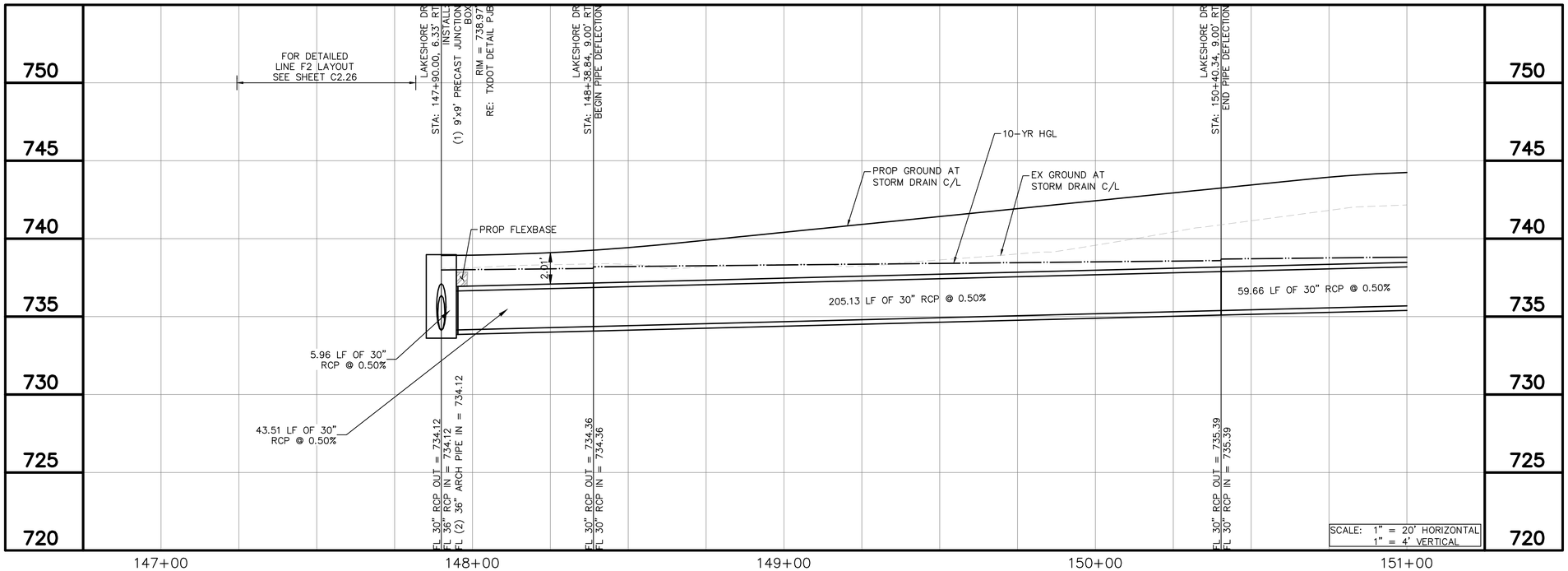
GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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04/10/2026
STATE OF TEXAS
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140647
LICENSED
PROFESSIONAL ENGINEER

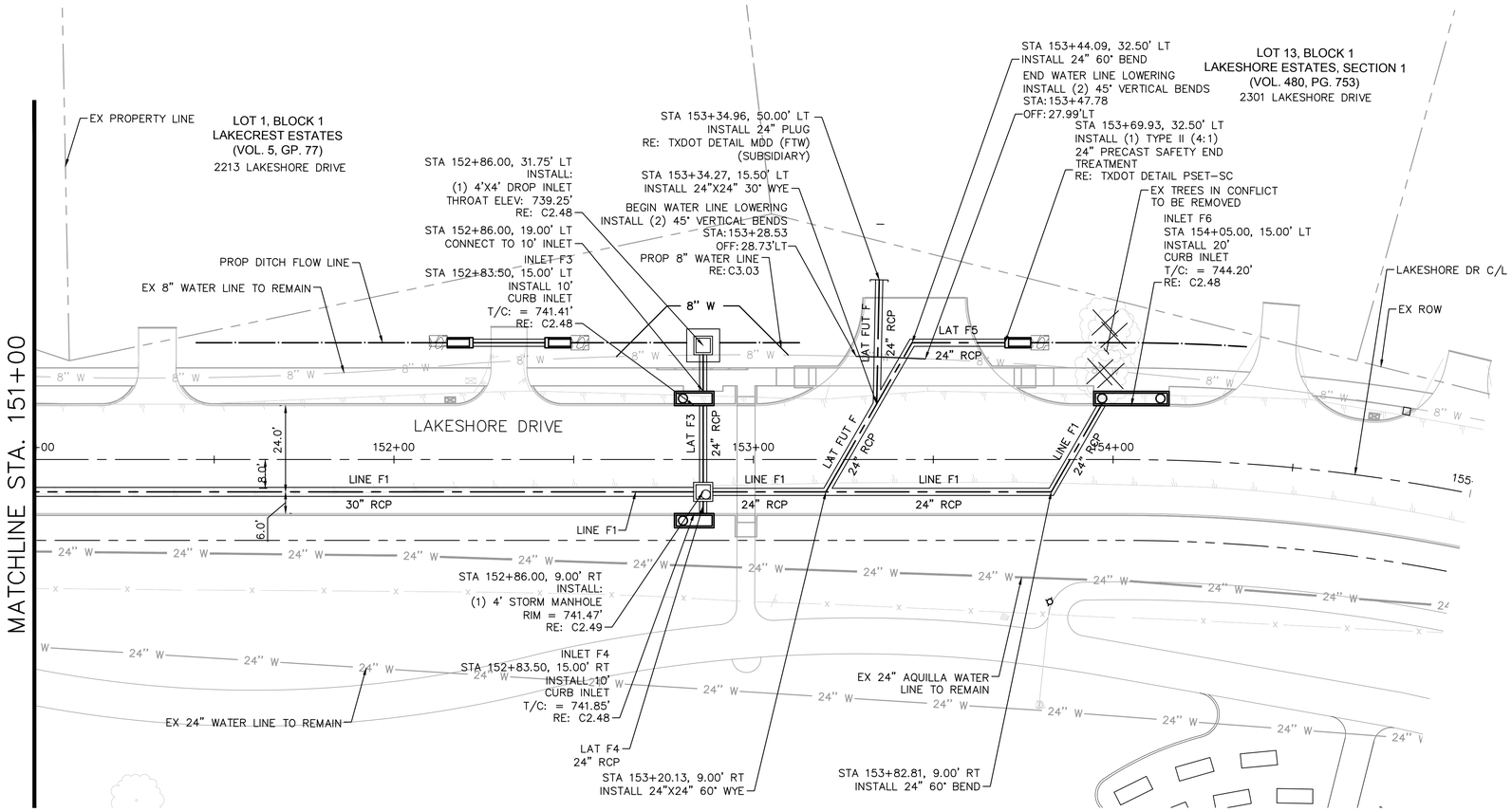
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

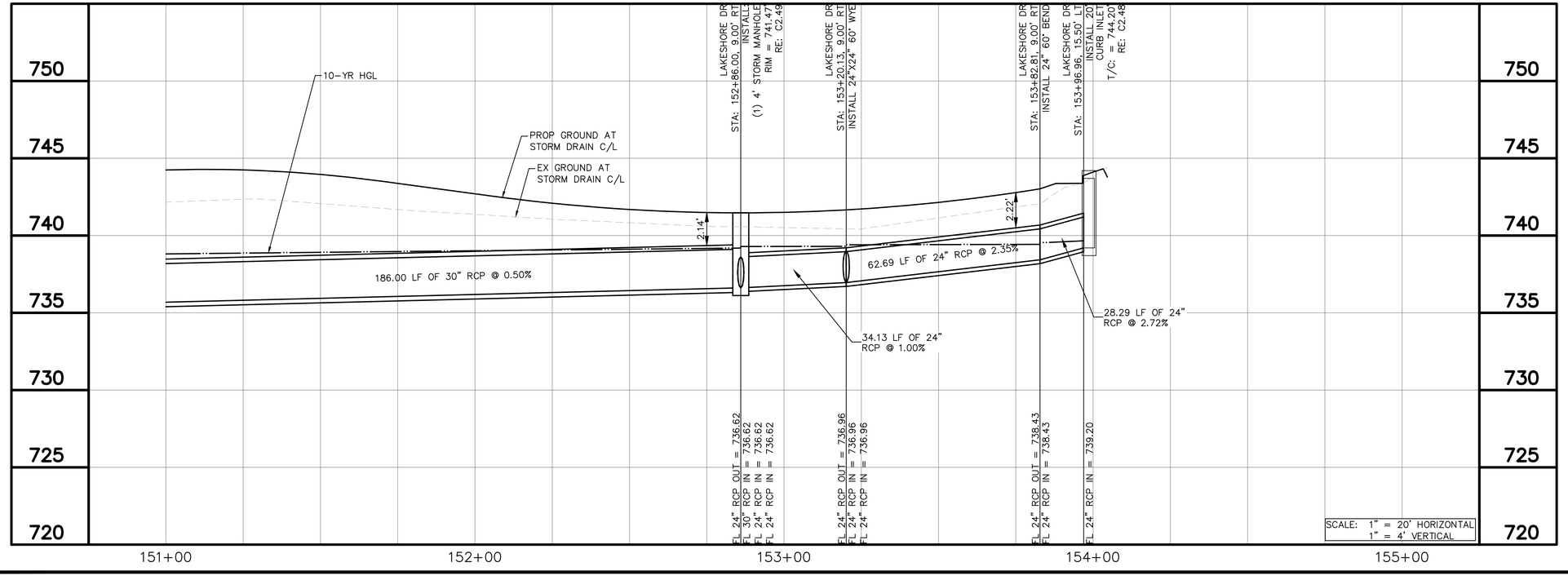
STORM DRAIN LINE F1 (SHEET 1 OF 2)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.24

Plotted, By: 2026-04-16 18:34:58, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM F1 (SHEET 1 OF 2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
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PROFESSIONAL ENGINEER
04/10/2026

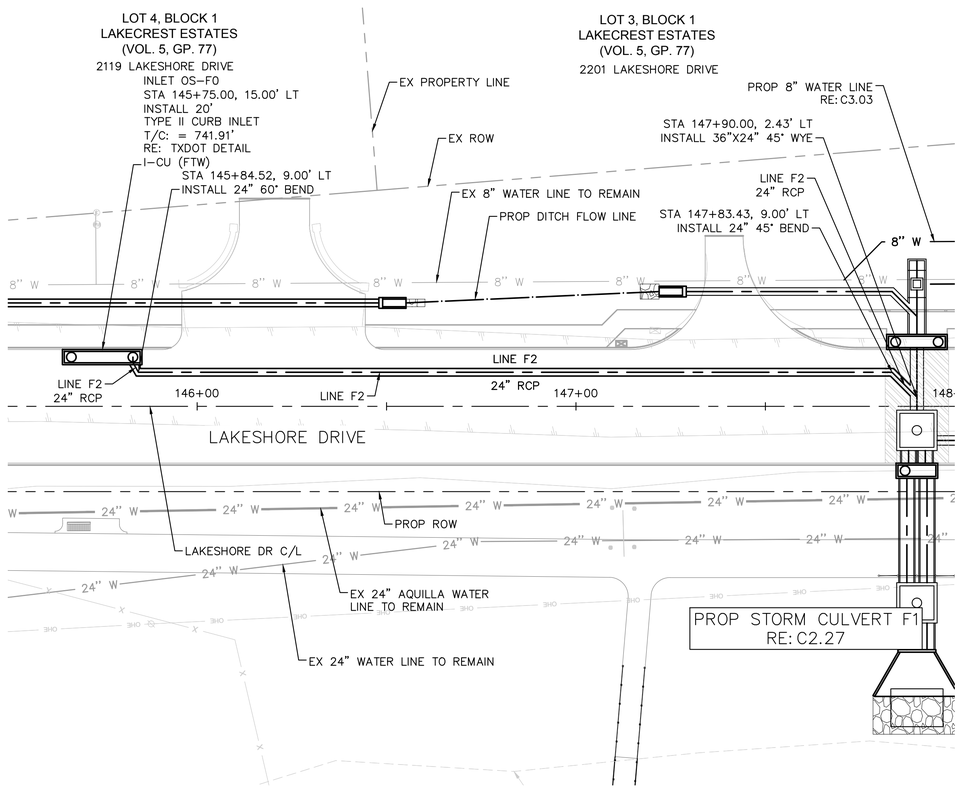
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

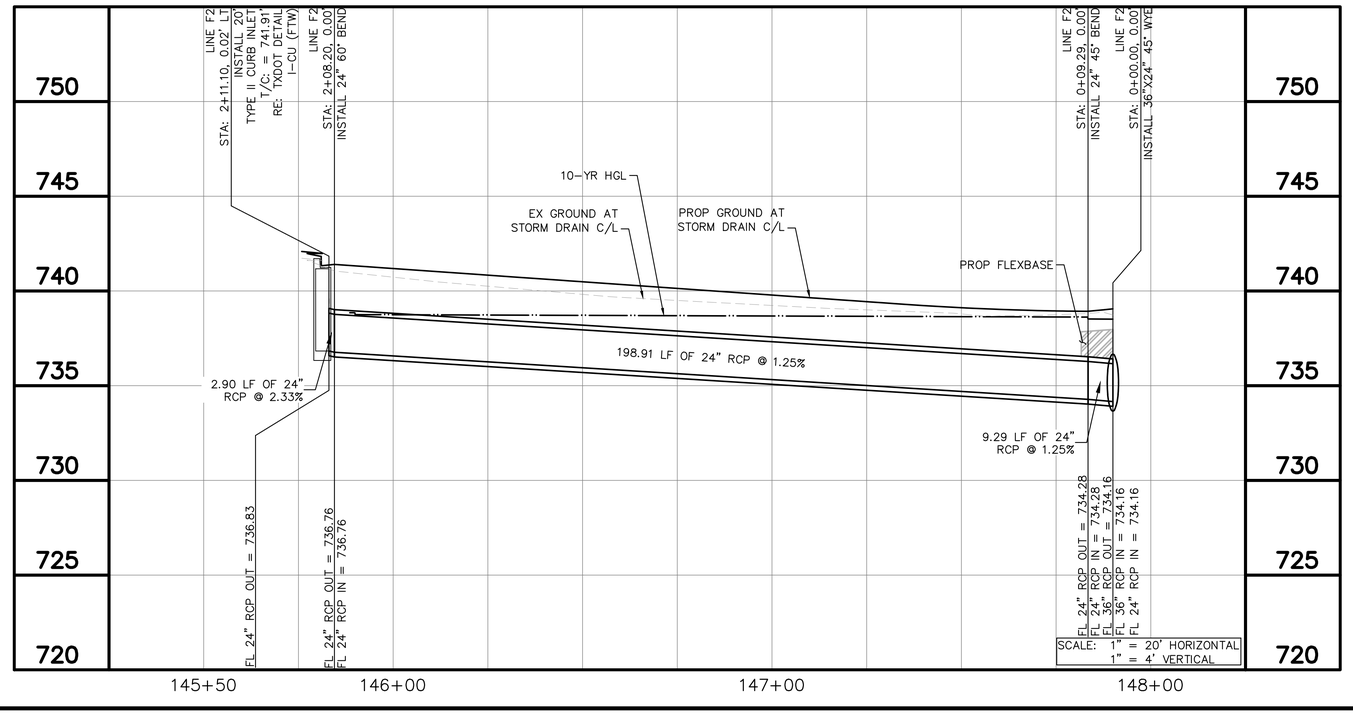
STORM DRAIN LINE F1
(SHEET 2 OF 2)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.25

Plotted By: 2026-04-16 18:35:17, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM F1 (SHEET 2 OF 2))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system.dwg





GRAPHIC SCALE

20 0 10 20 40

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LEGEND

FLEXBASE

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04/10/2026

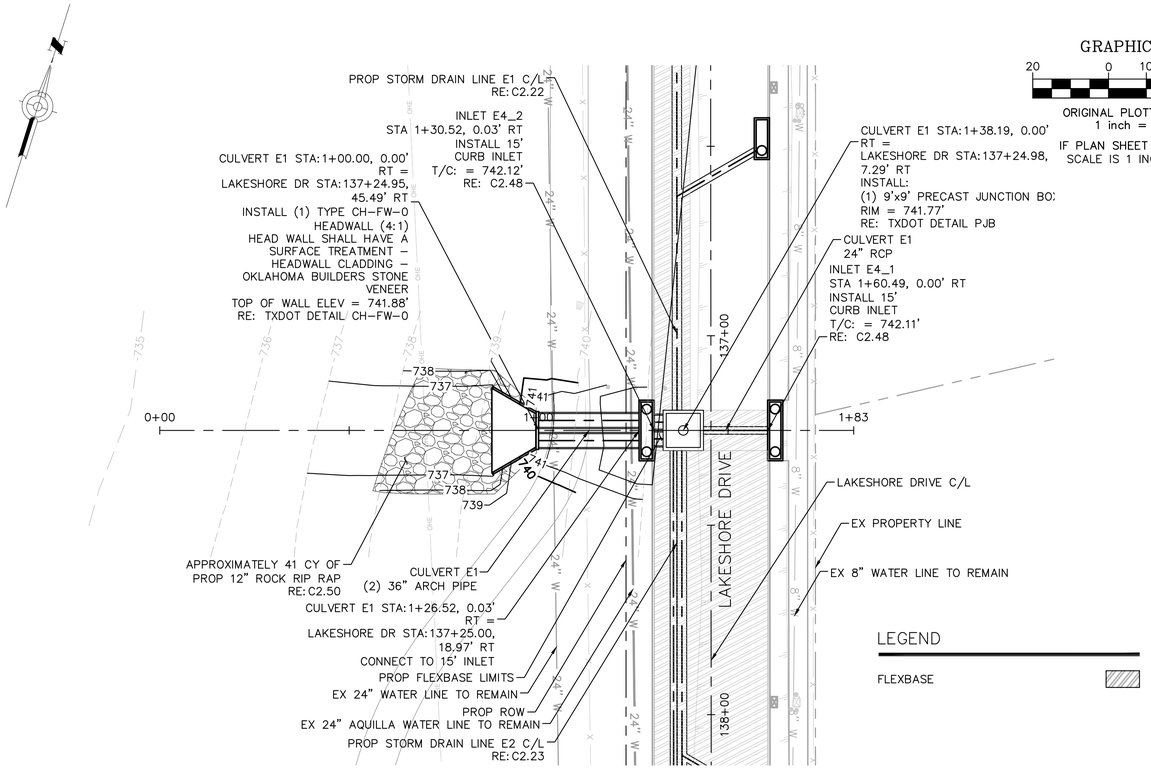
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STORM DRAIN LINE
F2

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.26

Plotted, By: 2026-04-16 18:35:42, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM F2)
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GRAPHIC SCALE

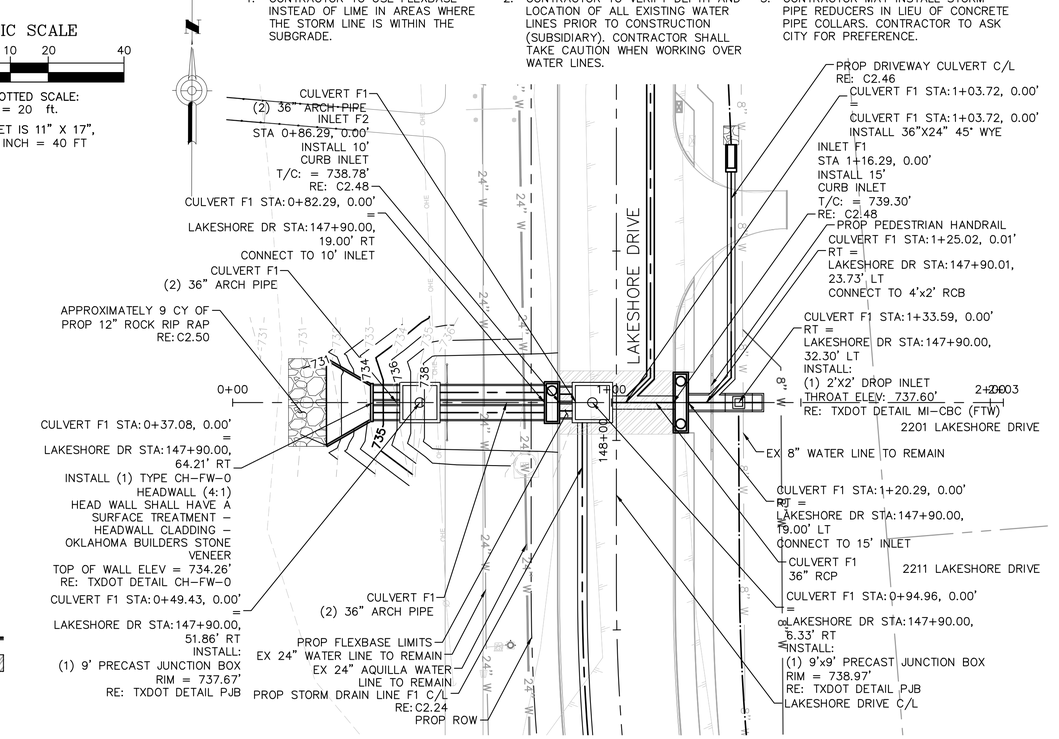
20 0 10 20 40

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IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

NOTE:

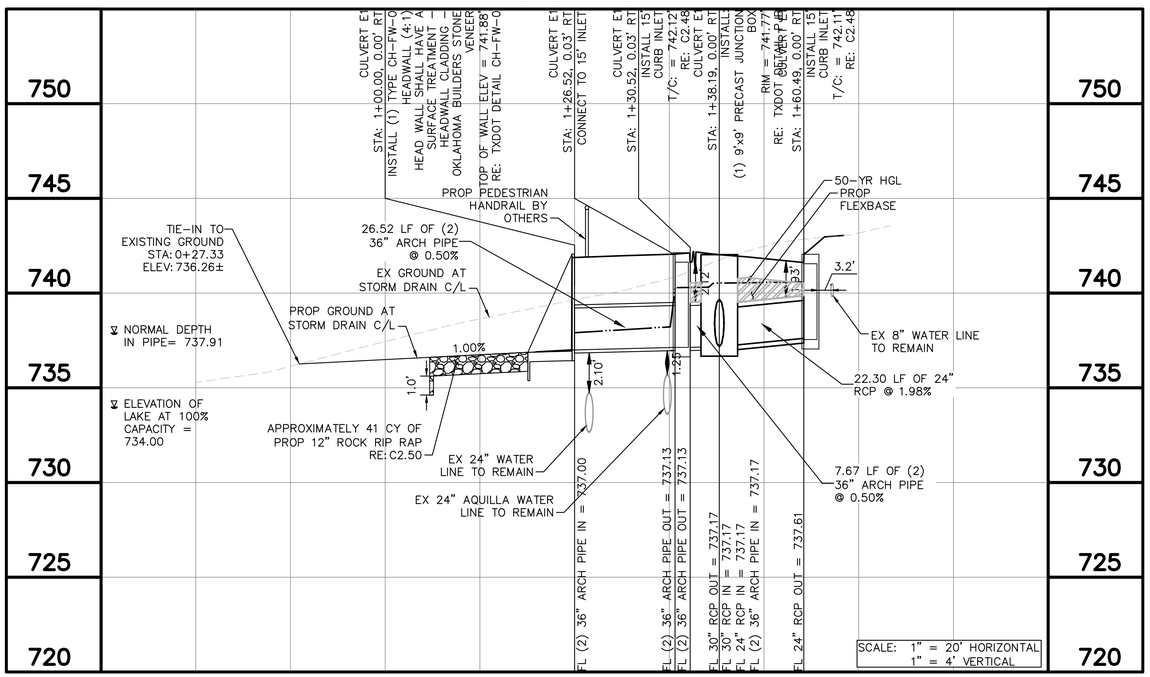
1. CONTRACTOR TO USE FLEXBASE INSTEAD OF LIME IN AREAS WHERE THE STORM LINE IS WITHIN THE SUBGRADE.
2. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING WATER LINES PRIOR TO CONSTRUCTION (SUBSIDIARY). CONTRACTOR SHALL TAKE CAUTION WHEN WORKING OVER WATER LINES.
3. CONTRACTOR MAY INSTALL STORM PIPE REDUCERS IN LIEU OF CONCRETE PIPE COLLARS. CONTRACTOR TO ASK CITY FOR PREFERENCE.



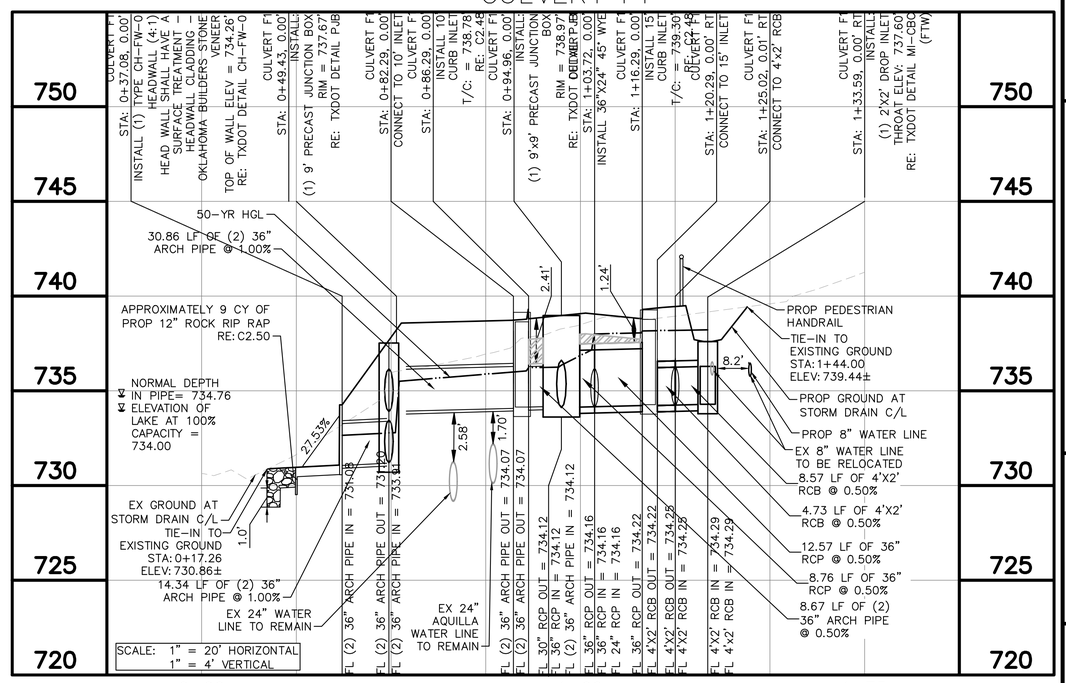
LEGEND

FLEXBASE

CULVERT E1



CULVERT F1



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

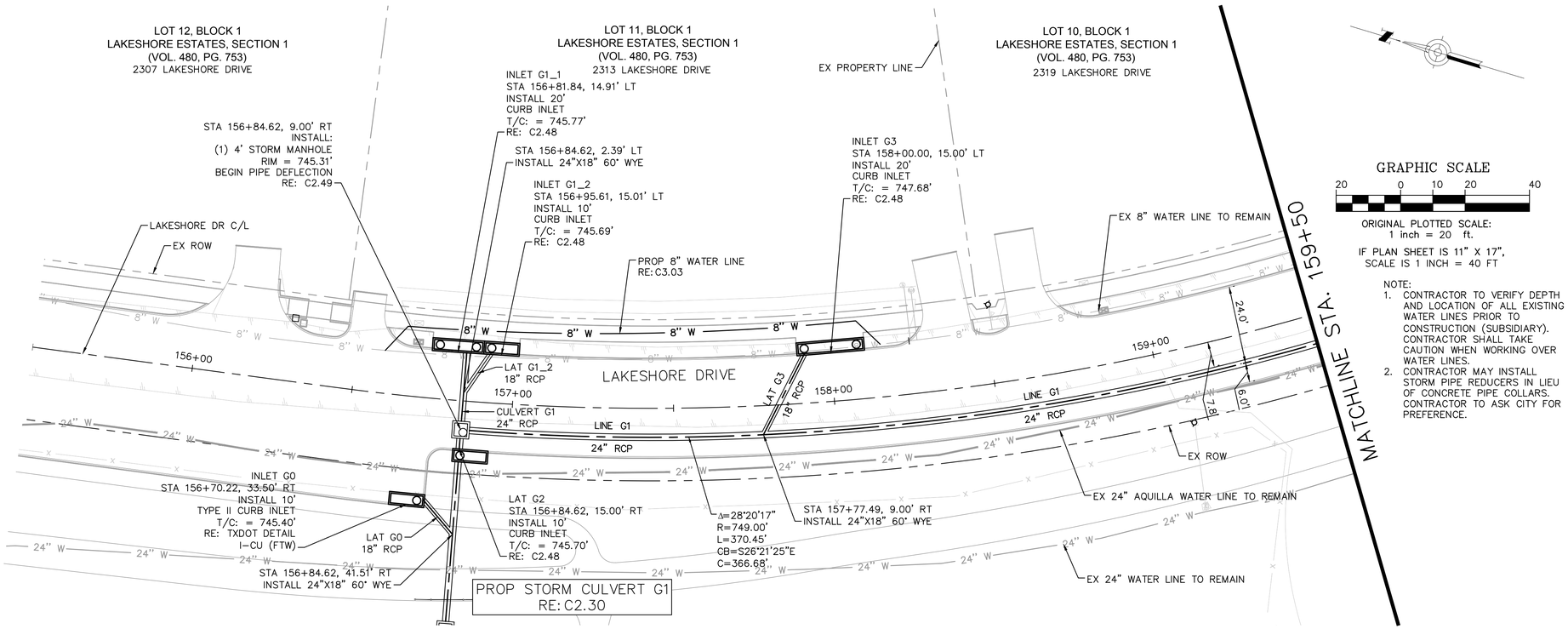
STORM DRAIN
CULVERT E1 & F1

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C2.27

Plotted By: 2026-04-16 18:36:23, Coleman, Matthew
Last Saved: 2026-04-16 18:24:59 (CULVERT E1 & F1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\p&p_outfall_b1 to e1.dwg



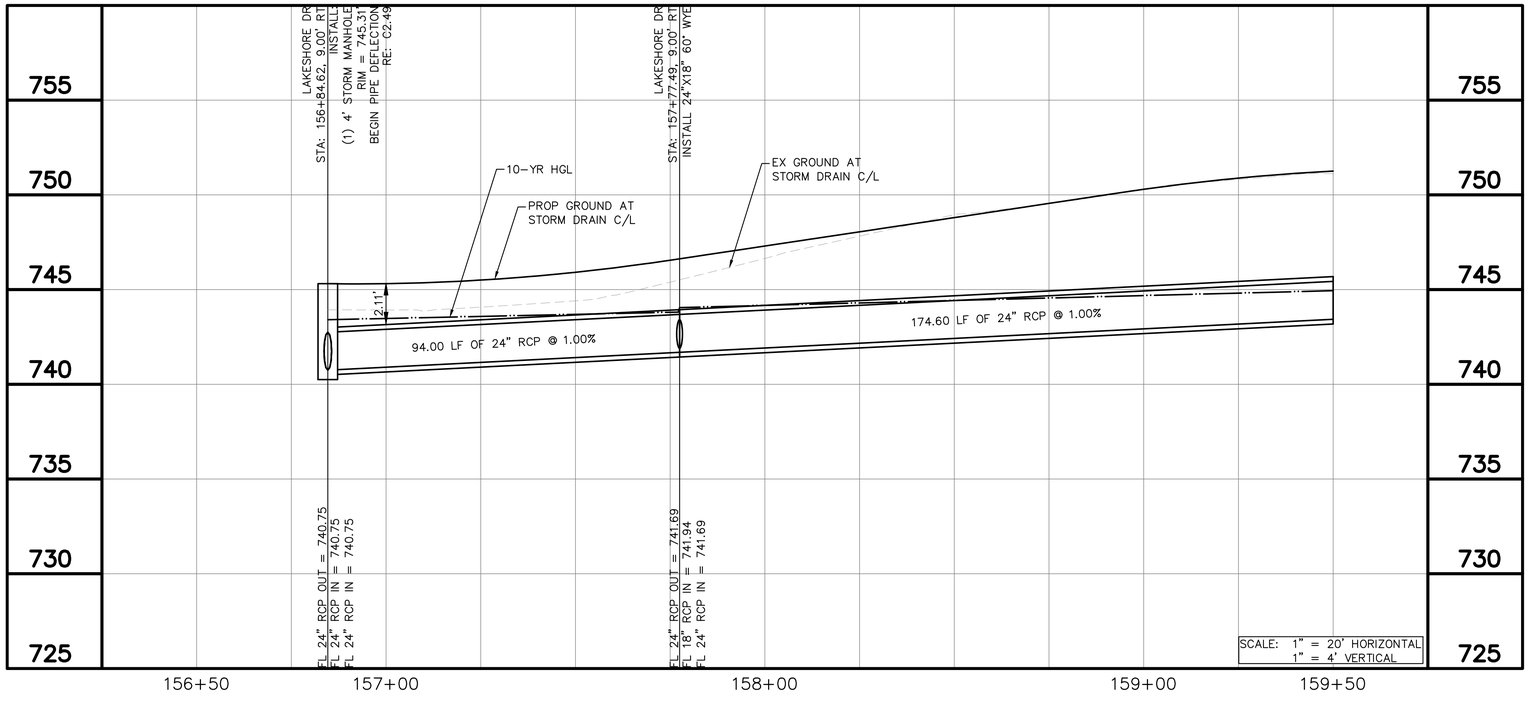
GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING WATER LINES PRIOR TO CONSTRUCTION (SUBSIDIARY). CONTRACTOR SHALL TAKE CAUTION WHEN WORKING OVER WATER LINES.
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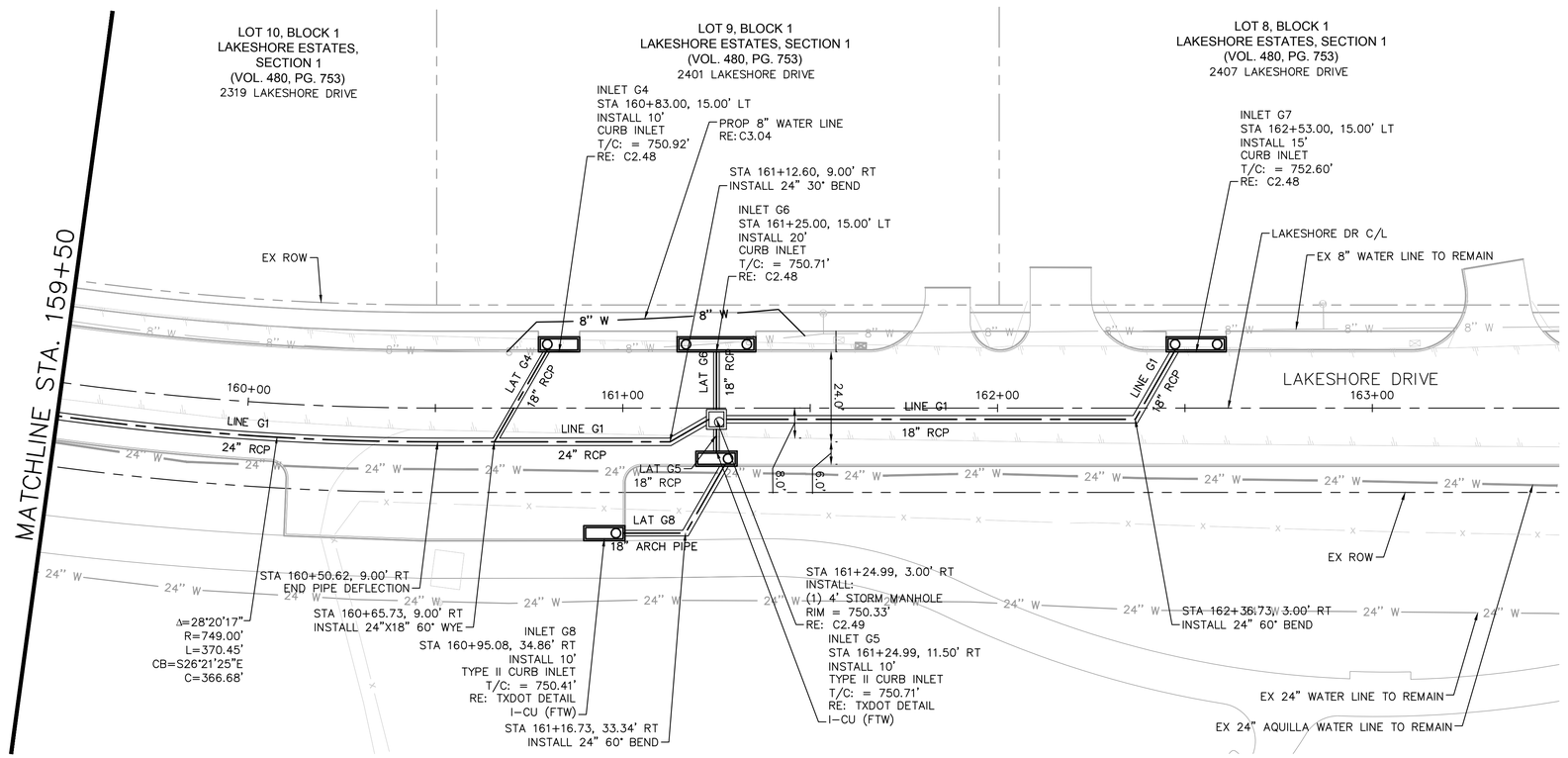
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

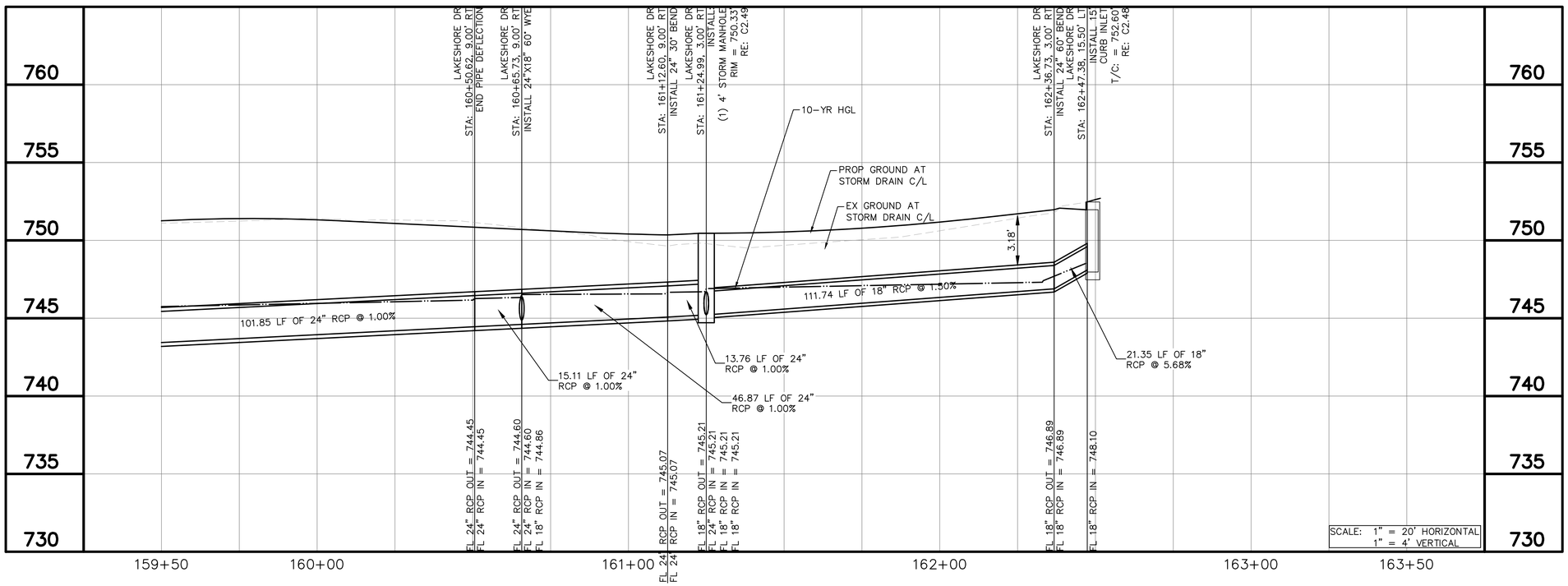
STORM DRAIN LINE
G1 (SHEET 1 OF 2)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.28

Plotted By: 2026-04-16 18:37:26, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM G1)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
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PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

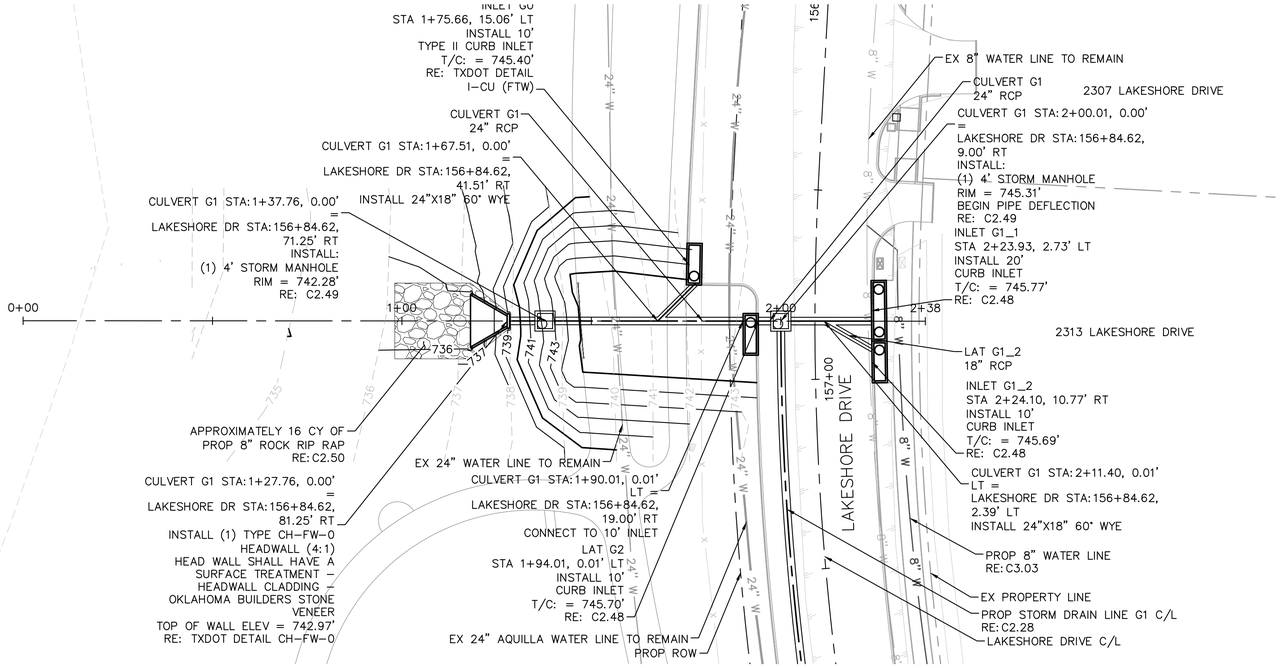
STROM DRAIN LINE G1 (SHEET 2 OF 2)

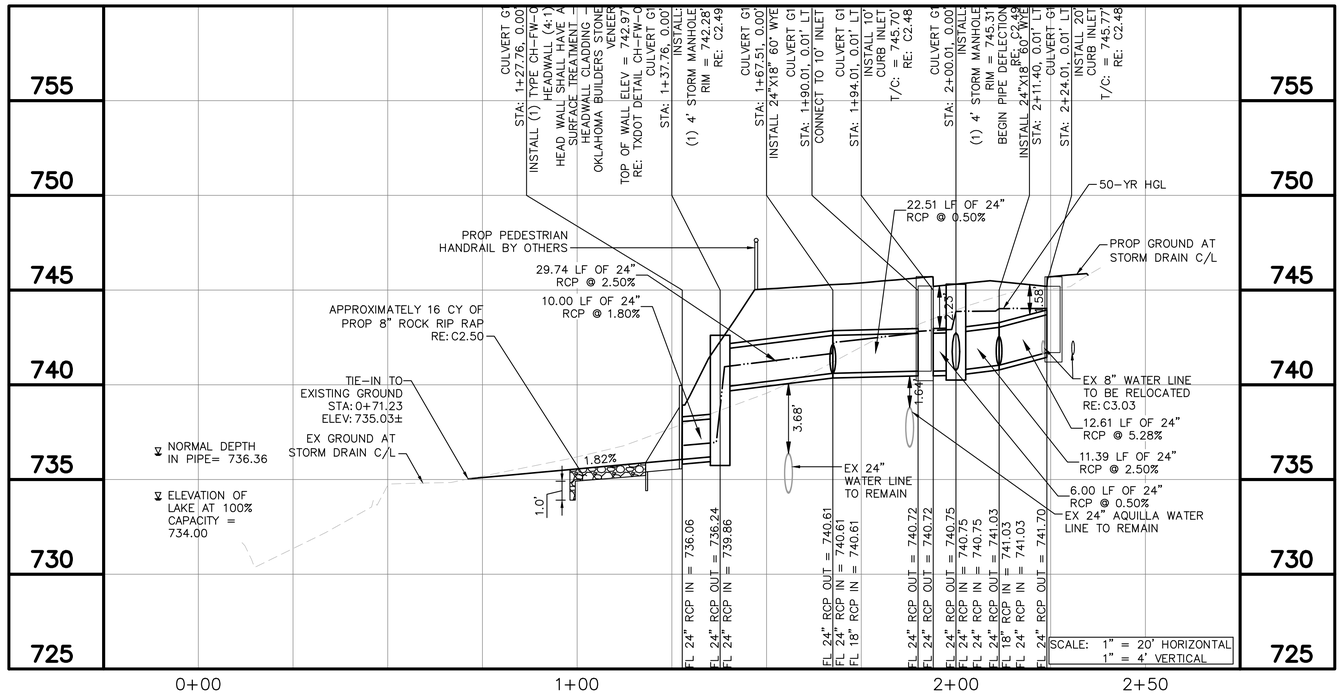
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C2.29

Plotted, By: 2026-04-16 18:37:43, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM SYSTEM G2)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
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04/10/2026

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IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

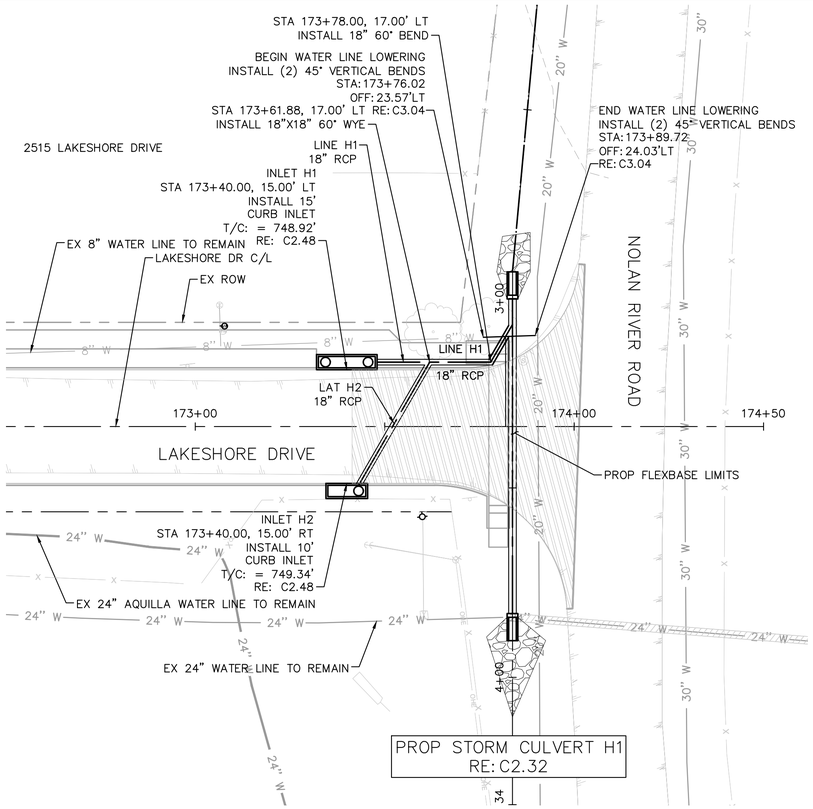
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

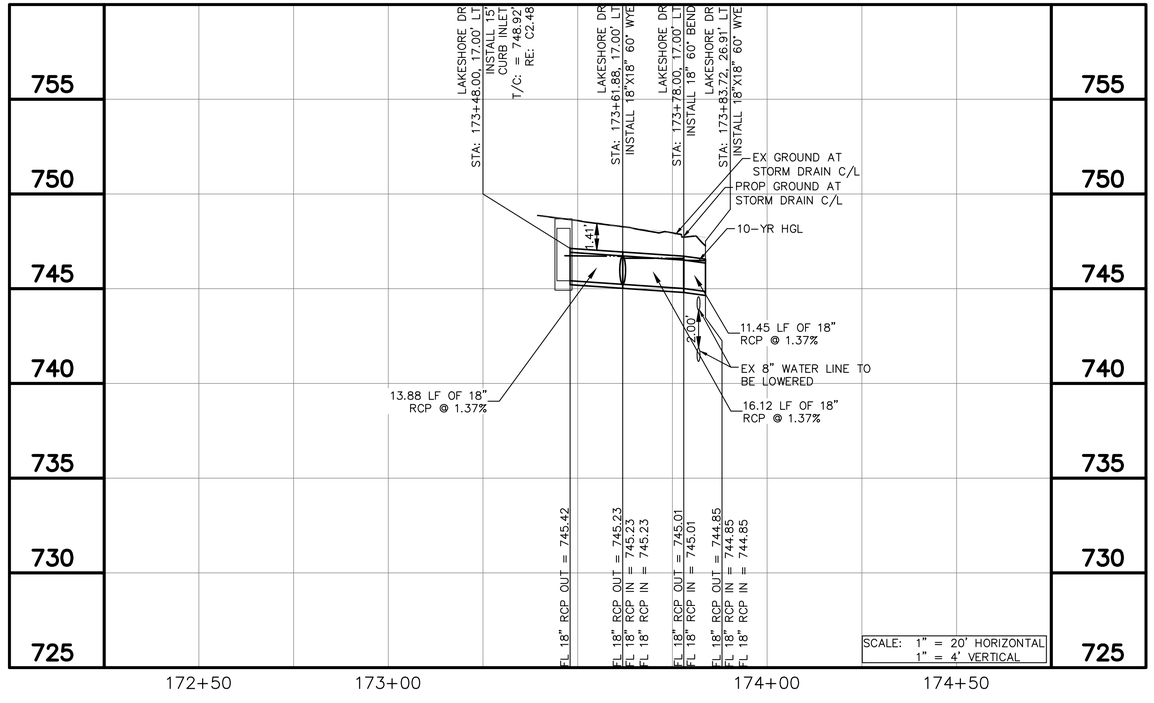
STORM DRAIN CULVERT G1

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.30

Plotted By: 2026-04-16 18:38:04, Coleman, Matthew
Last Saved: 2026-04-16 18:24:59 (CULVERT G1)
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Filename: dr\cadd\sheets\p&p_outfall_b1 to e1.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
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LEGEND

FLEXBASE

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
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140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

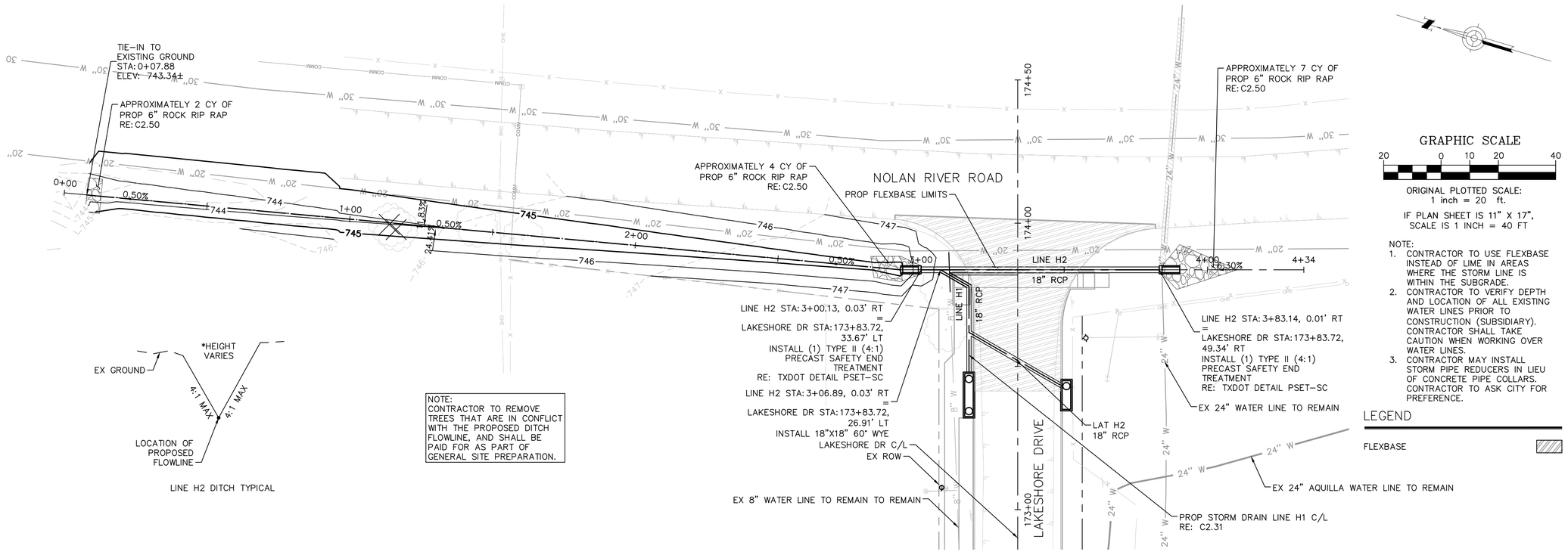
STROM DRAIN LINE H1

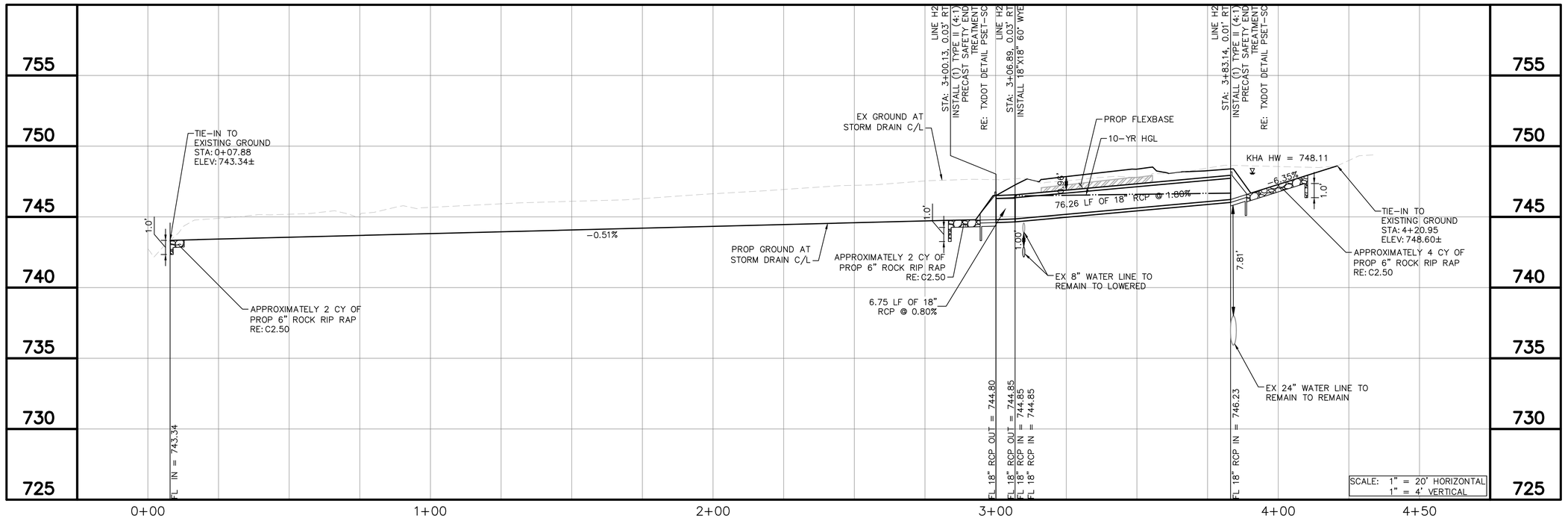
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CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C2.31

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Plotted, By: 2026–04–16 18:39:36, Coleman, Matthew
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Kimley»Horn
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No.	Revision	By	Date

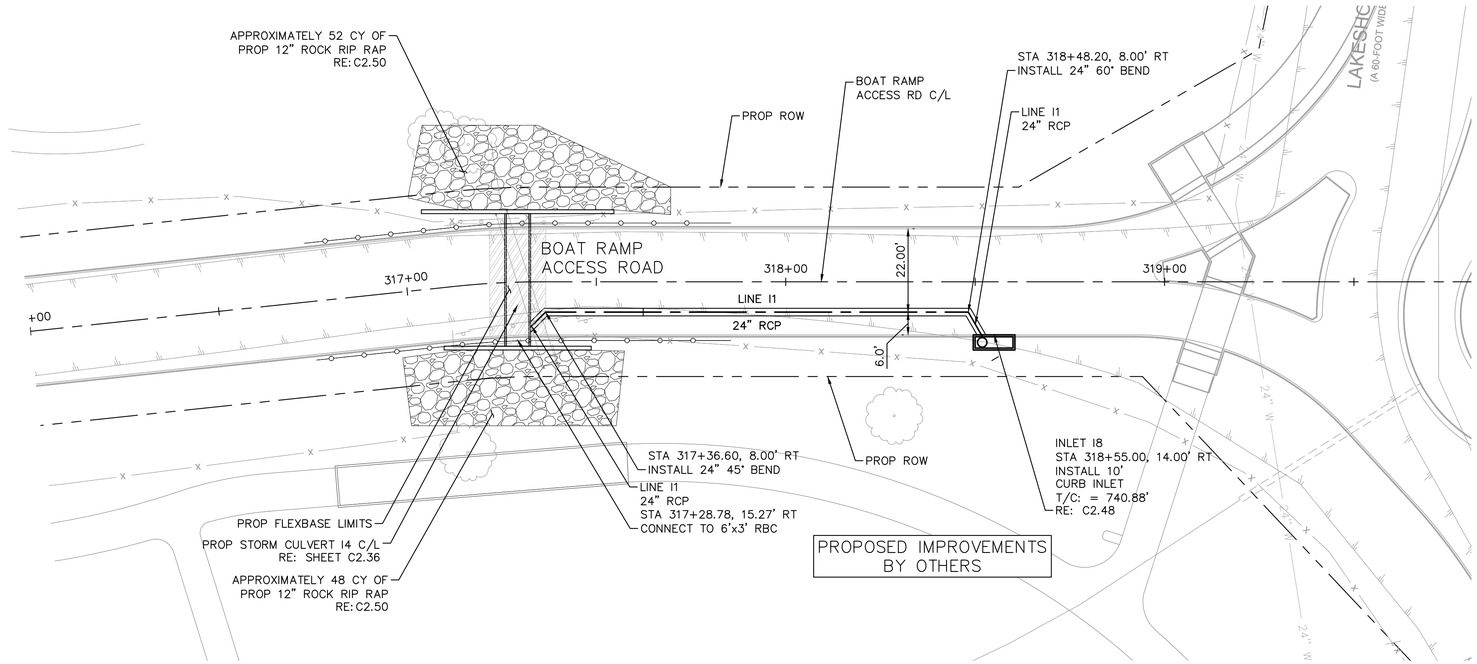
STATE OF TEXAS
IVAN LOPEZ
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04/10/2026

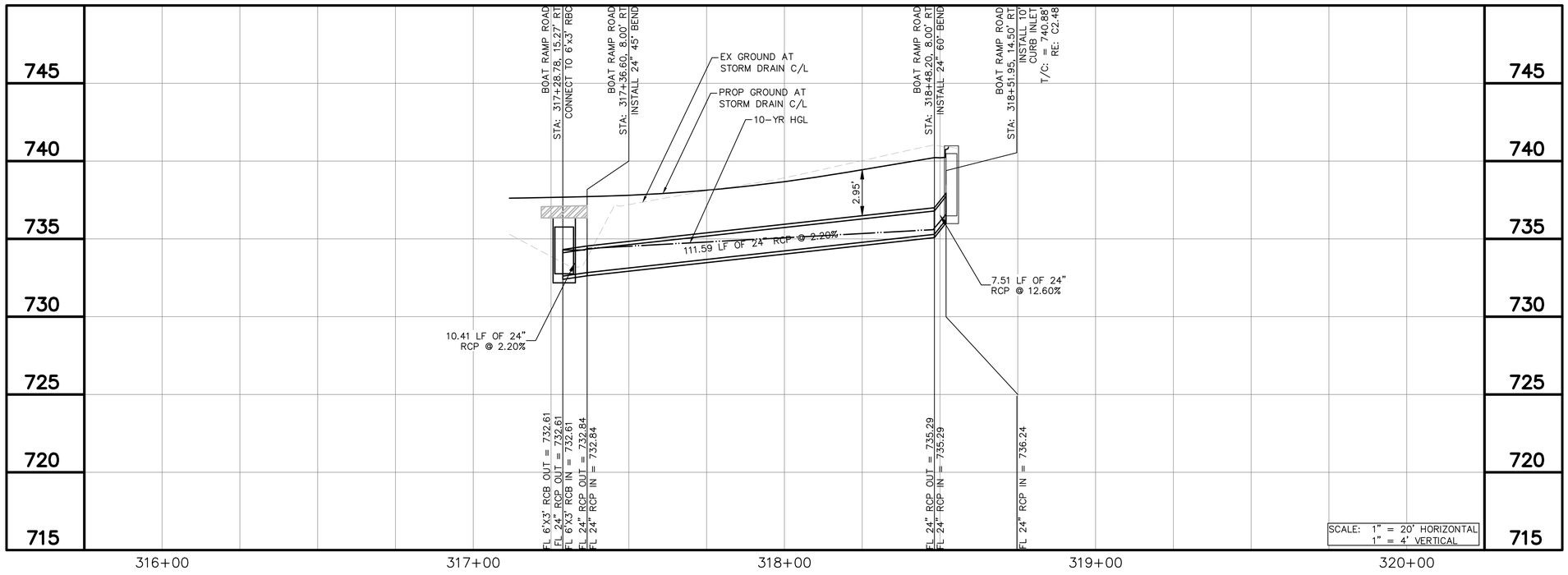
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

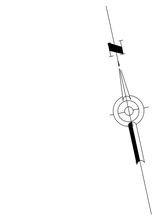
STORM DRAIN CULVERT H1

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.32







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. CONTRACTOR TO USE FLEXBASE INSTEAD OF LIME IN AREAS WHERE THE STORM LINE IS WITHIN THE SUBGRADE.

LEGEND

FLEXBASE

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

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04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

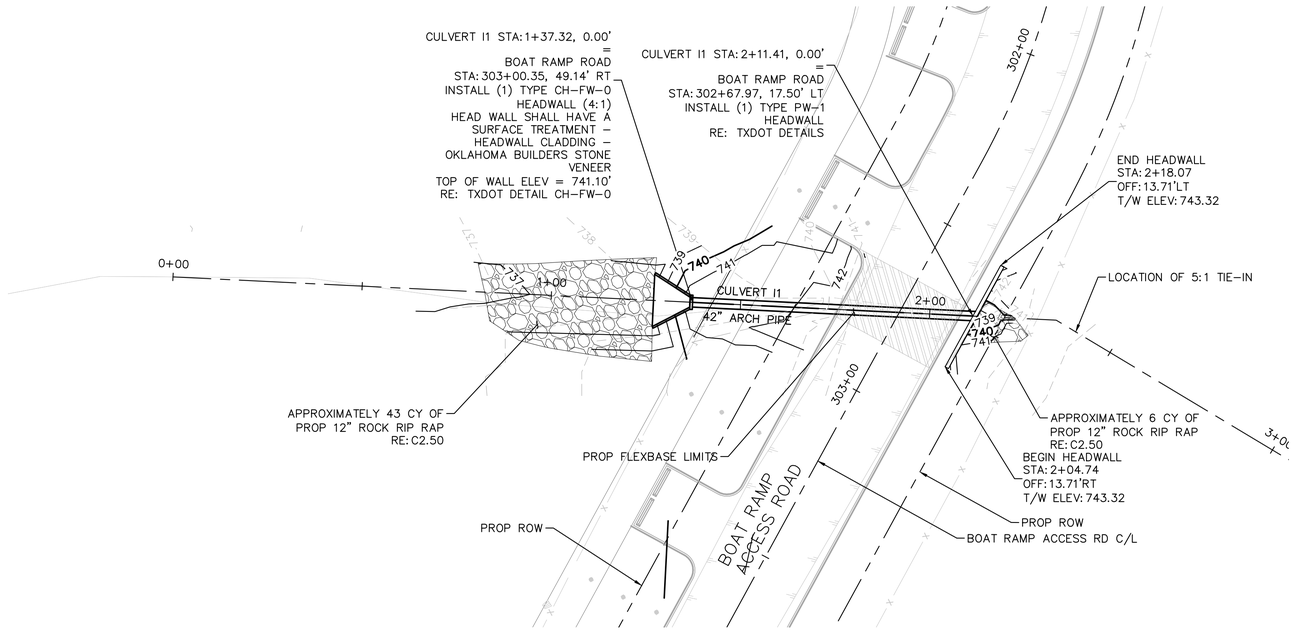
STORM DRAIN LINE I1

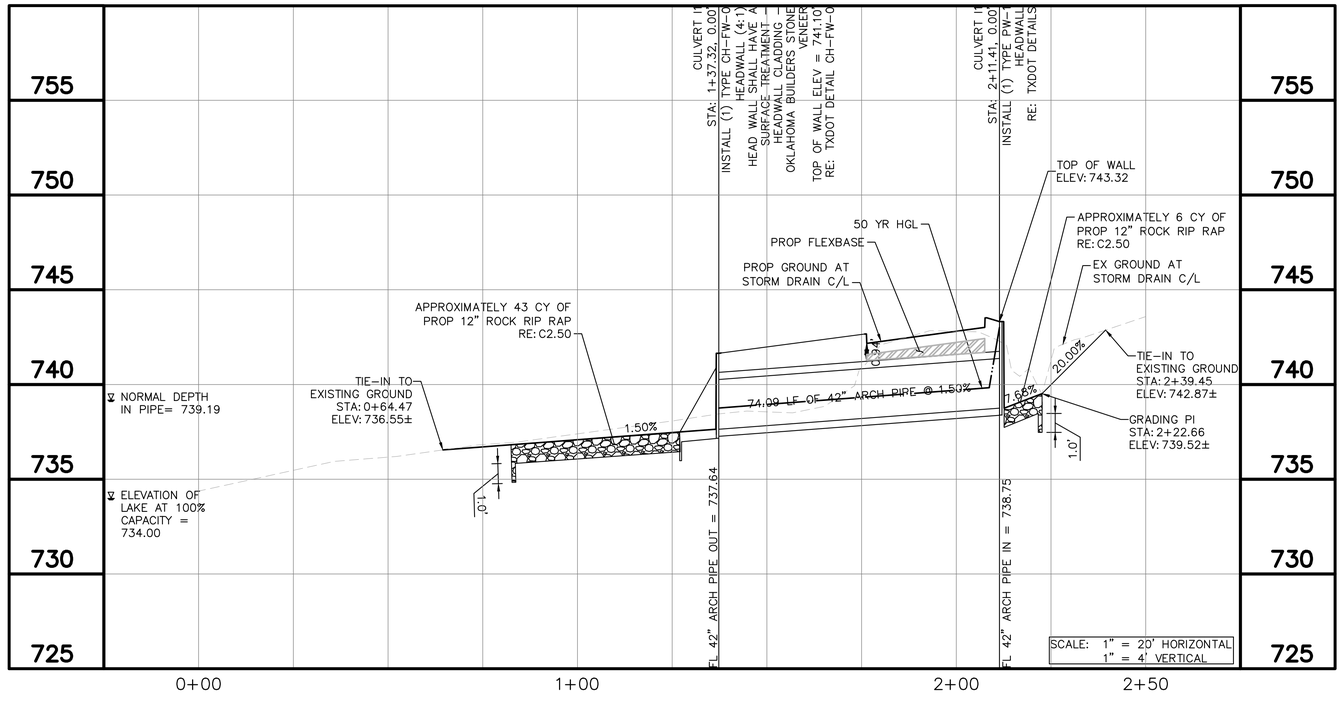
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

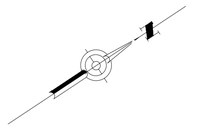
SHEET NUMBER

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Filename: dr\cadd\sheets\storm system_2.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
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NOTE:
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LEGEND

FLEXBASE

Kimley»Horn
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04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STORM DRAIN
CULVERT I1

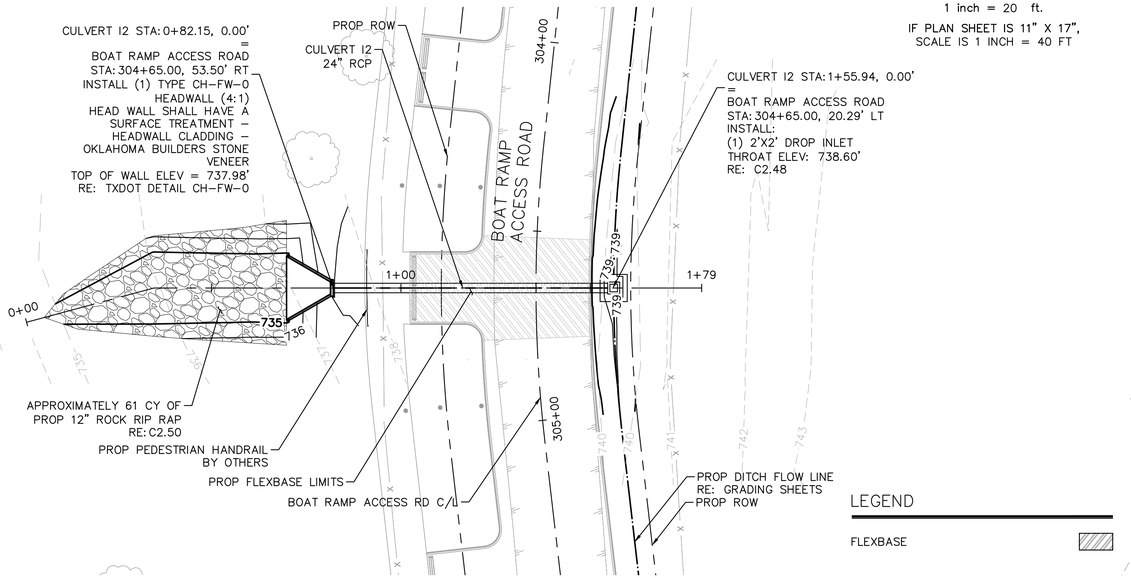
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CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.34

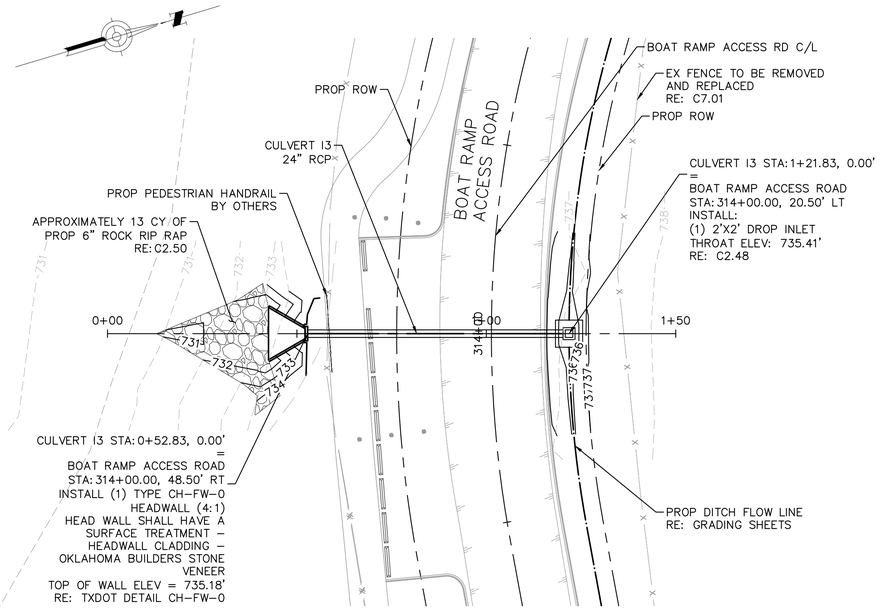
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Last Saved: 2026-04-16 18:24:59 (CULVERT I1)
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Filename: dr\cadd\sheets\p&p_outfall_b1 to e1.dwg

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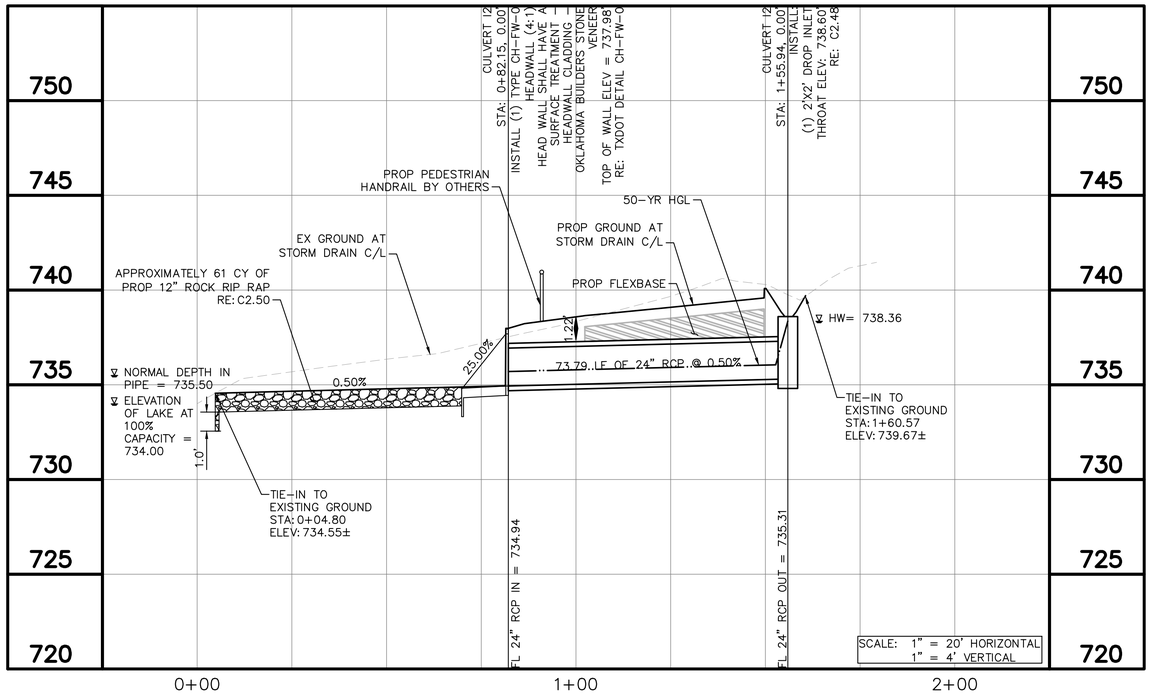
GRAPHIC SCALE
20 0 10 20 40
ORIGINAL PLOTTED SCALE: 1 inch = 20 ft.
IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT



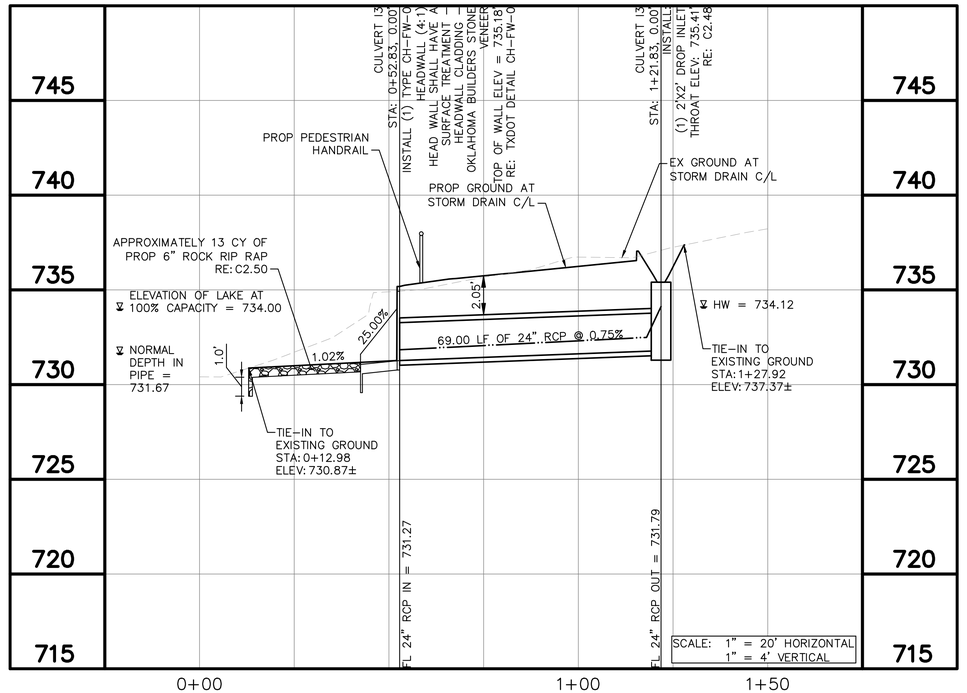
LEGEND
FLEXBASE



CULVERT I2



CULVERT I3



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

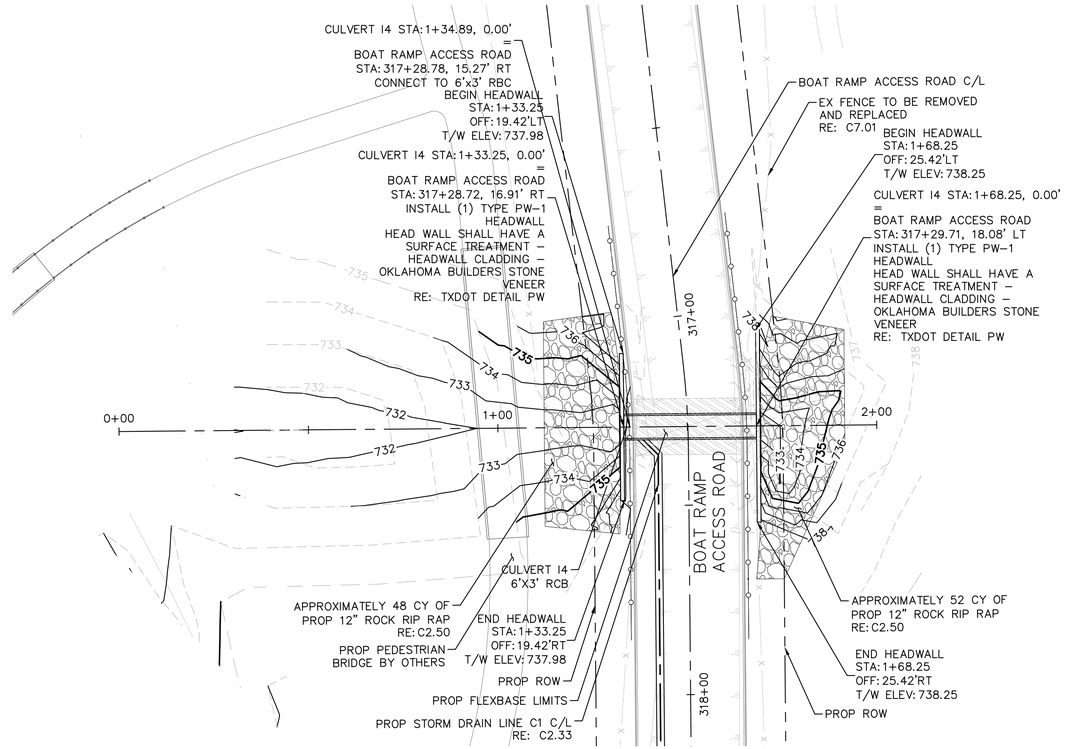
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

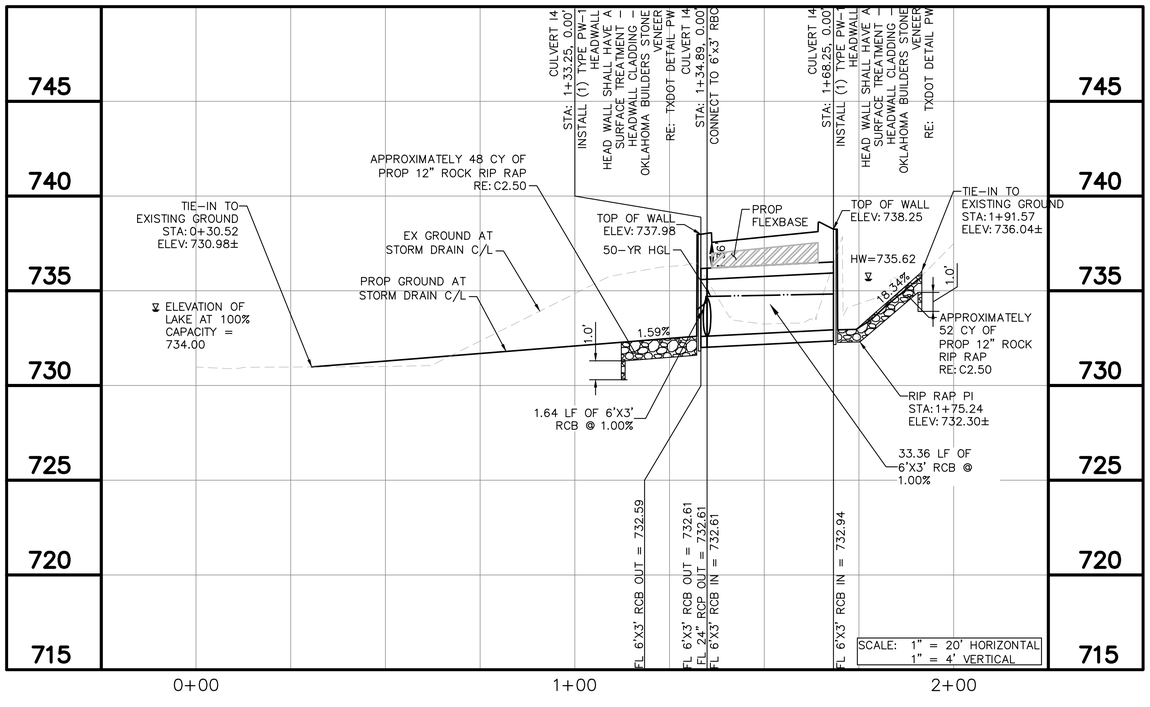
STORM DRAIN
CULVERT I2 & I3

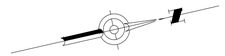
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CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
C2.35

Plotted By: 2026-04-16 18:40:49, Coleman, Matthew
Last Saved: 2026-04-16 18:24:09 (CULVERT I2 & I3)
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Filename: d:\cadd\sheets\storm system_2.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
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NOTE:
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LEGEND

FLEXBASE

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

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LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STORM DRAIN CULVERT I4

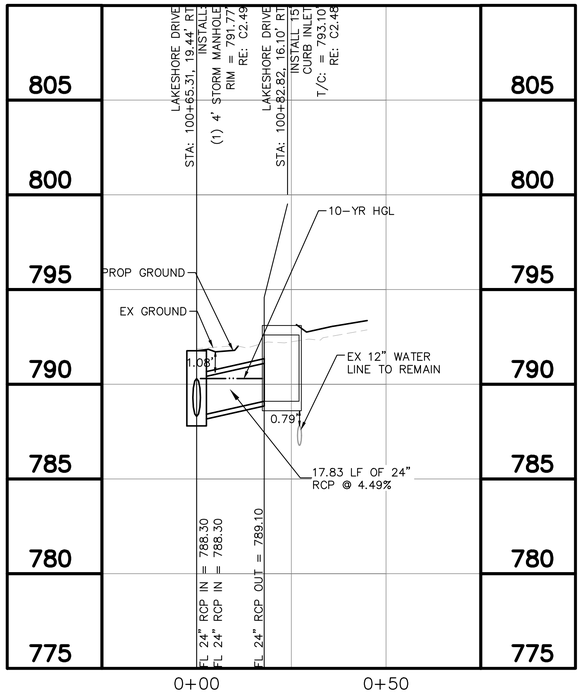
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

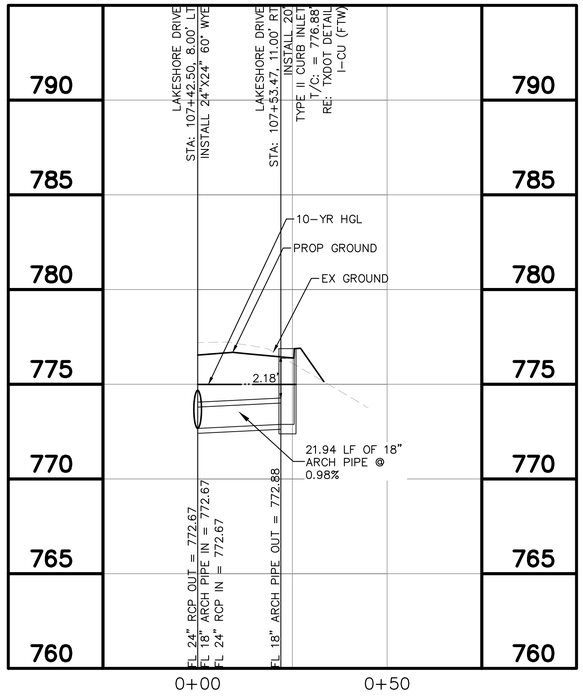
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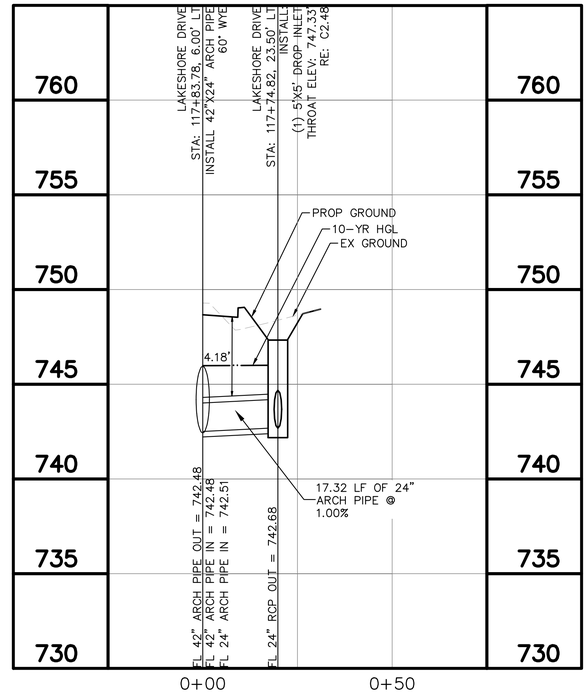
LAT A2



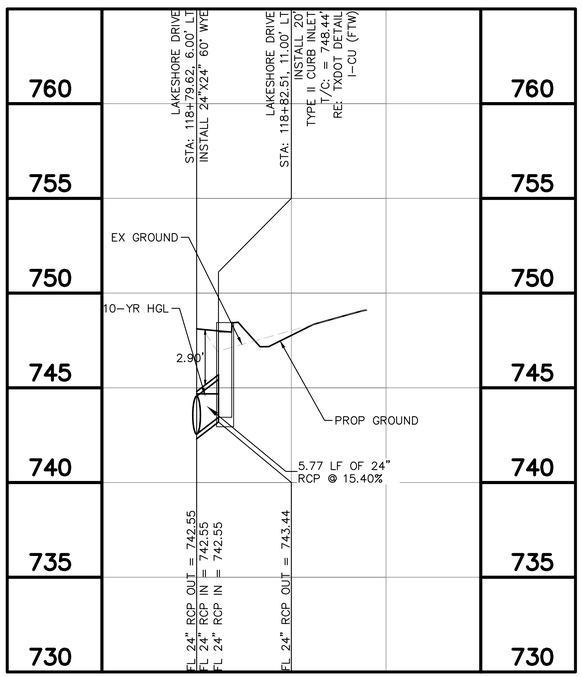
LAT B2



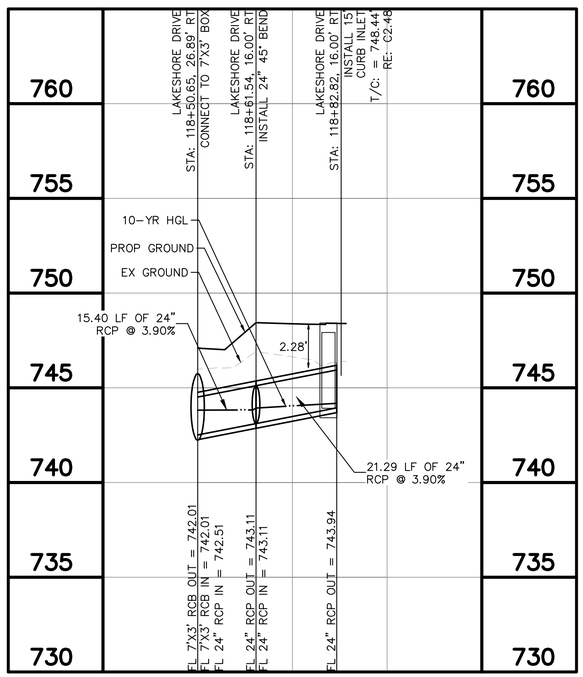
LAT OS-C2



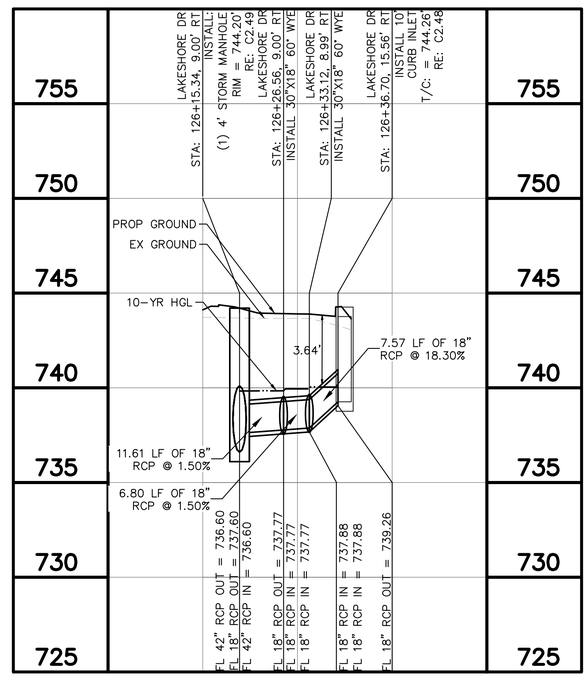
LAT C1



LAT C2



LINE D1



Plotted, By: 2026-04-16 18:42:07, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM LATERALS (SHEET 1 OF 4))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

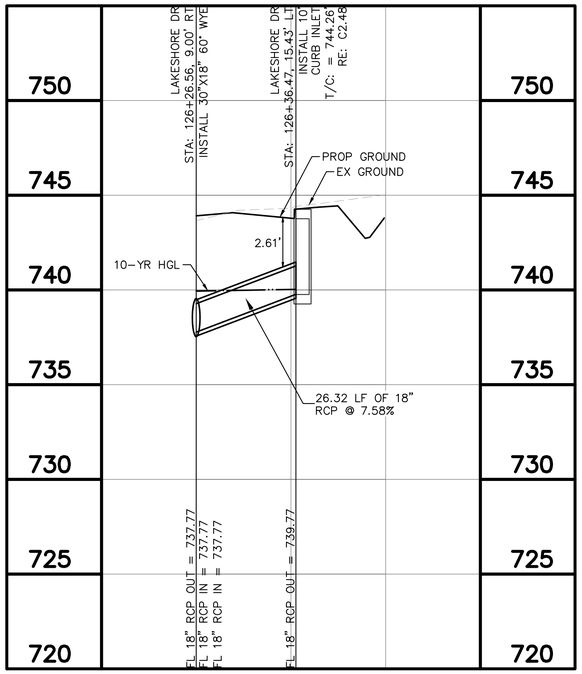
STORM DRAIN
LATERALS (SHEET 1
OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

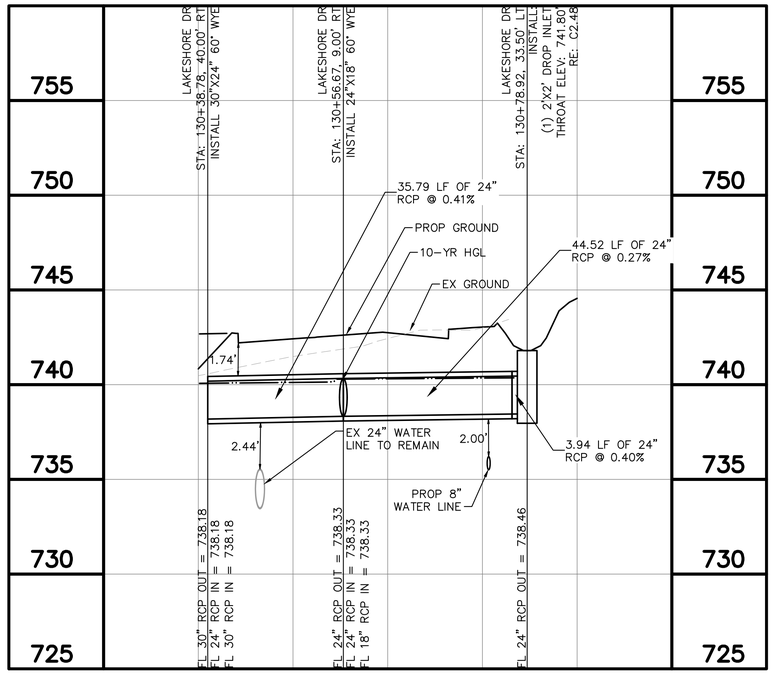
SHEET NUMBER

C2.37

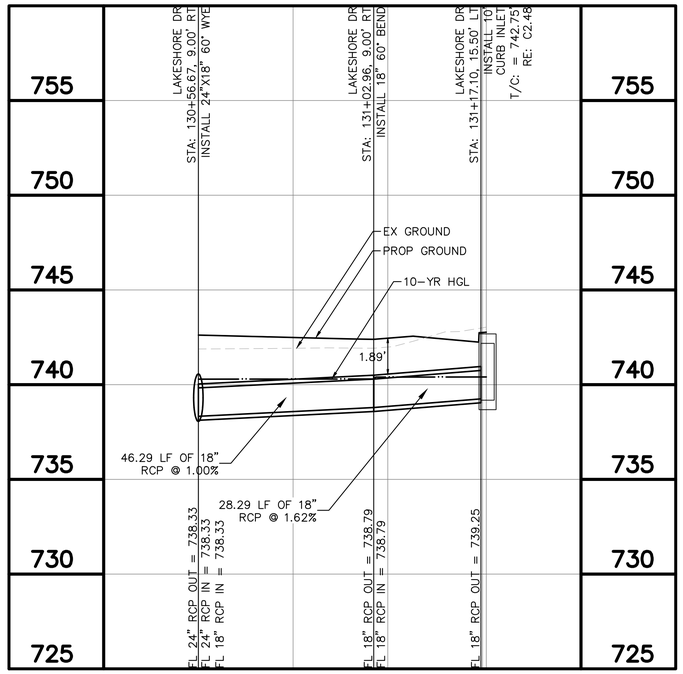
LAT D1



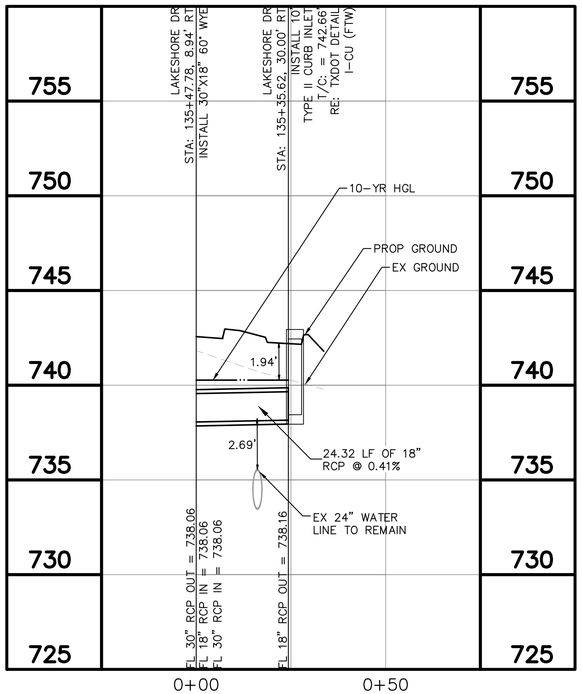
LAT EX-8_2



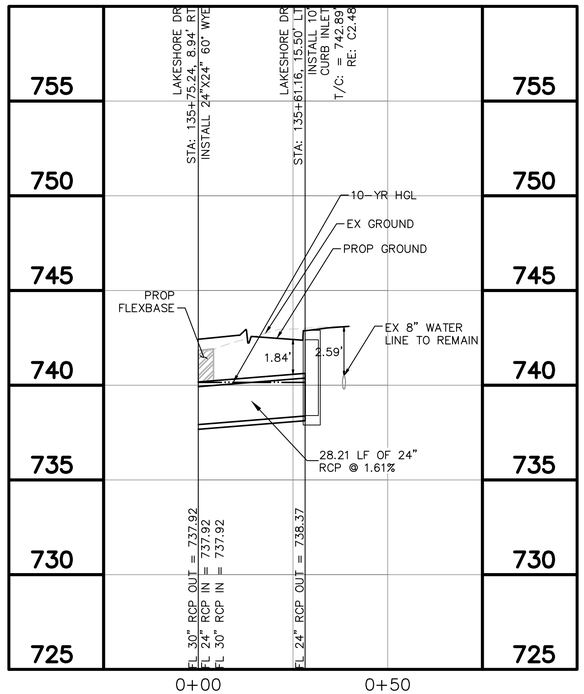
LAT D2



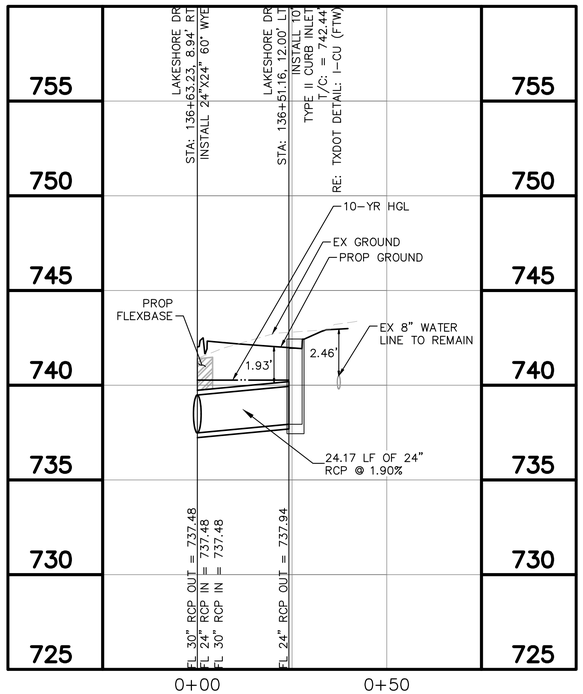
LAT E1



LAT E2



LAT E3



Plotted By: 2026-04-16 18:42:15, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM LATERALS (SHEET 2 OF 4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system.dwg

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No.	Revision	By	Date

04/10/2026

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140647
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CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

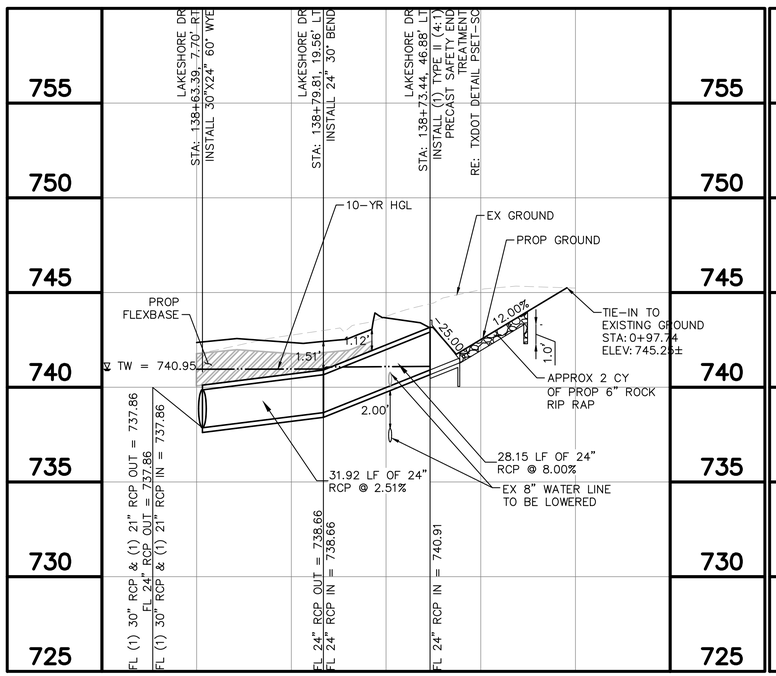
STORM DRAIN
LATERALS (SHEET 2
OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

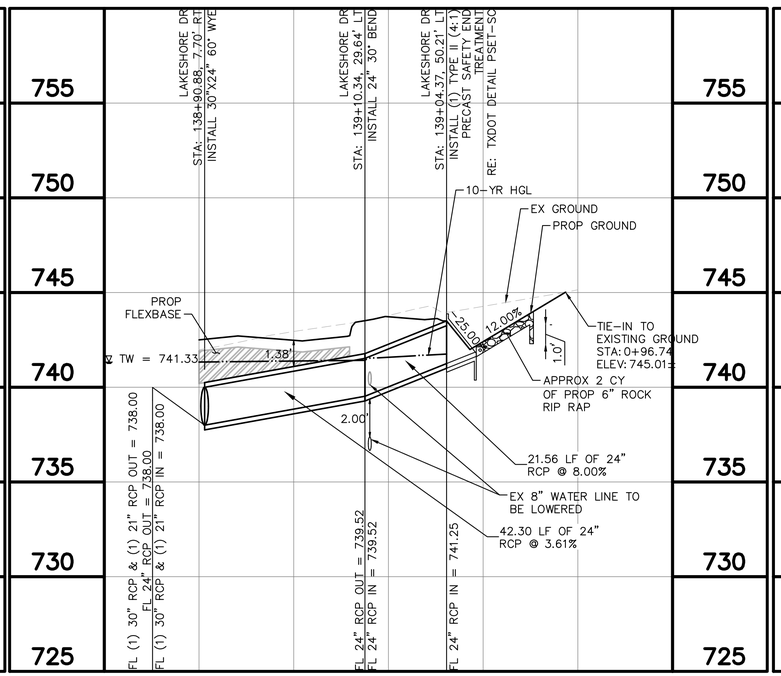
SHEET NUMBER

C2.38

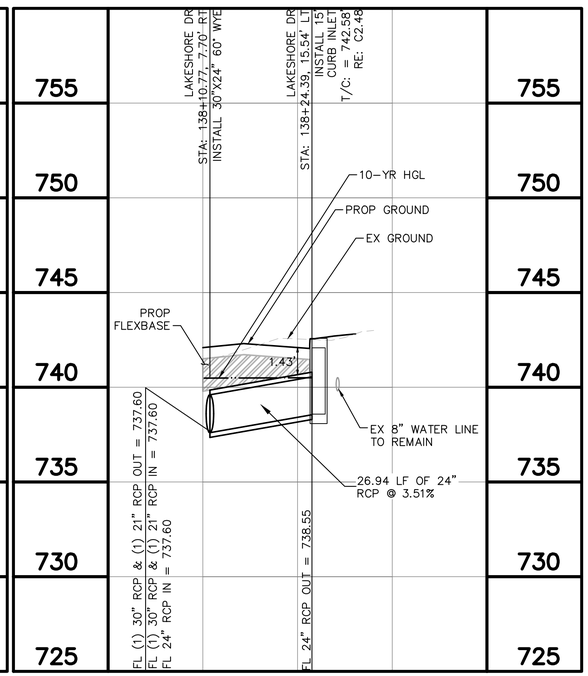
LAT E5



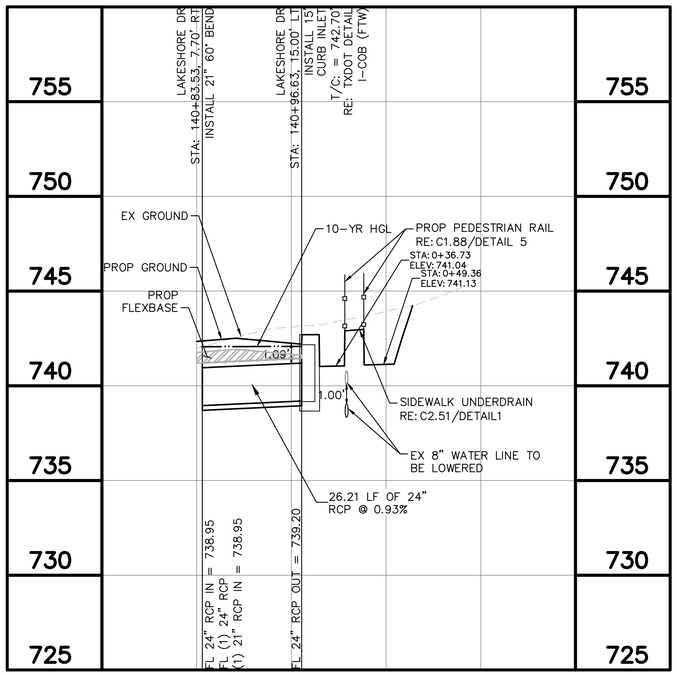
LAT E6



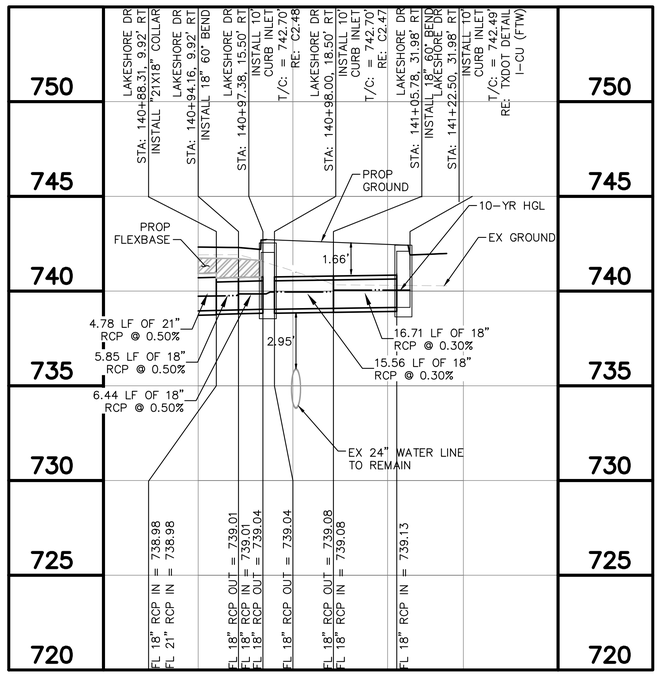
LAT E7



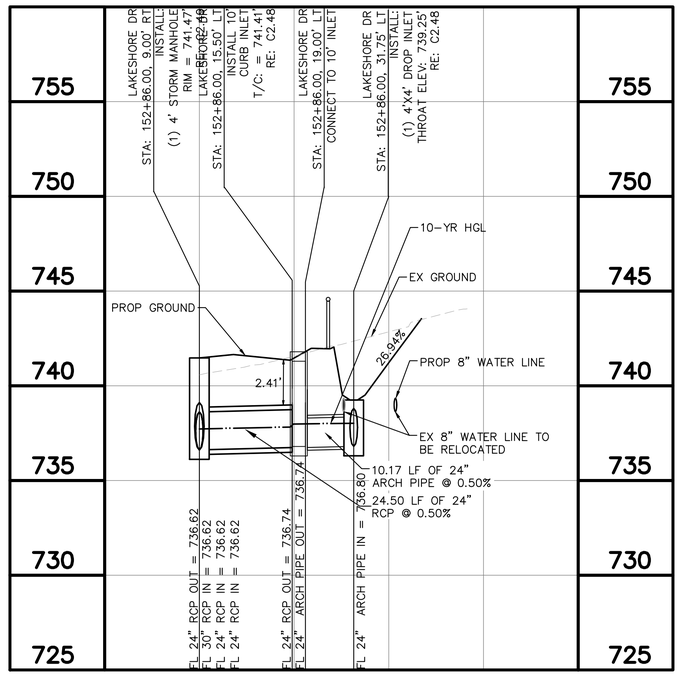
LAT E8



LAT E12 AND E13



LAT F3



Plotted, By: 2026-04-16 18:42:24, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM LATERALS (SHEET 3 OF 4))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system.dwg

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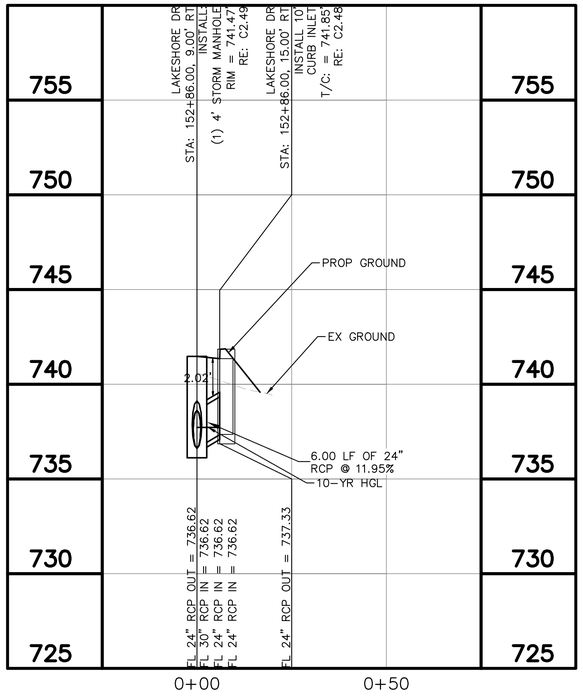
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STORM DRAIN
LATERALS (SHEET 3
OF 5)

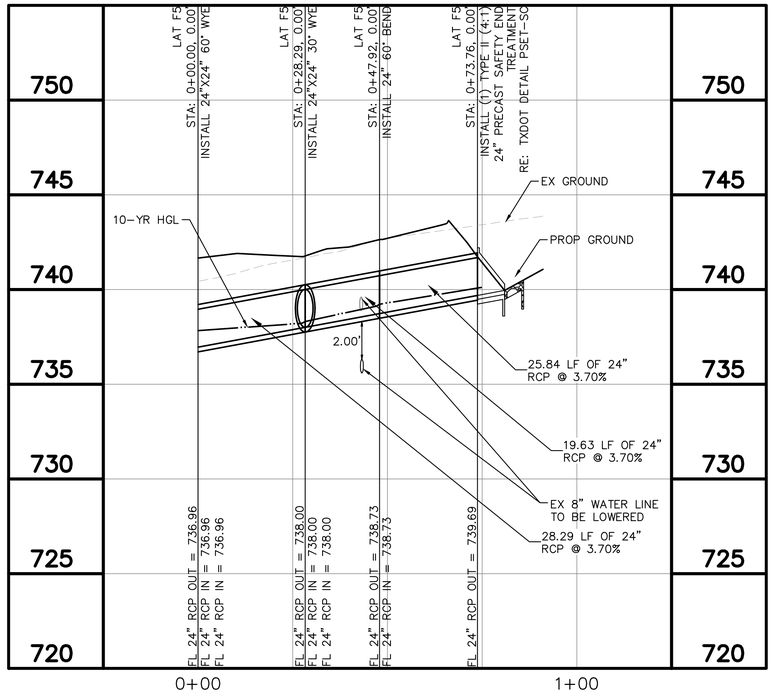
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER
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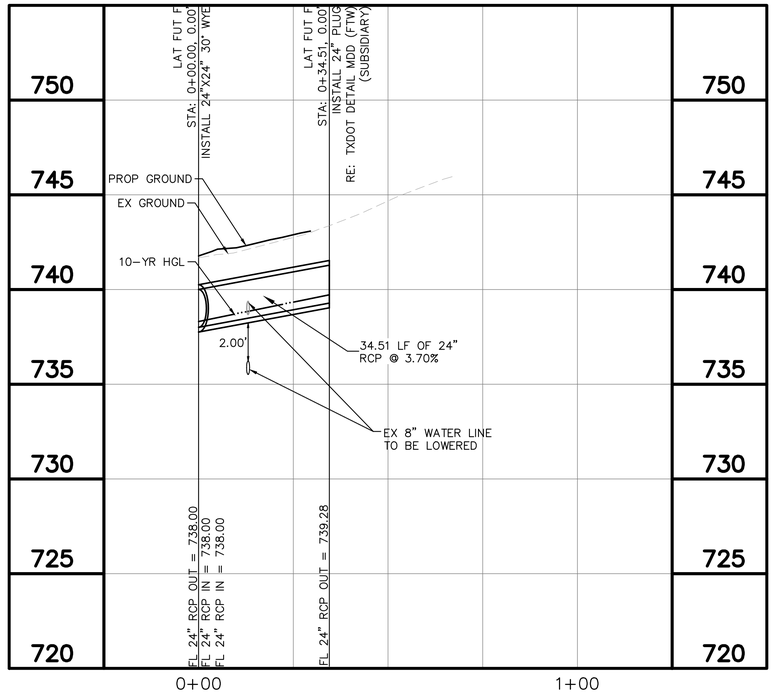
LAT F4



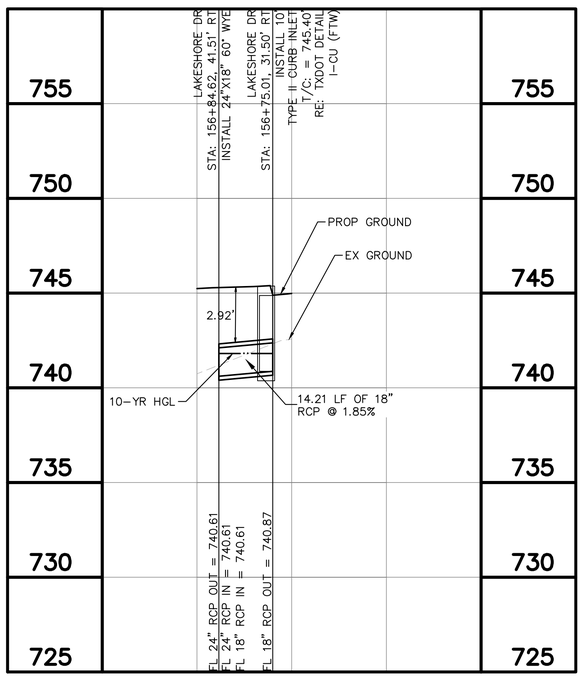
LAT F5



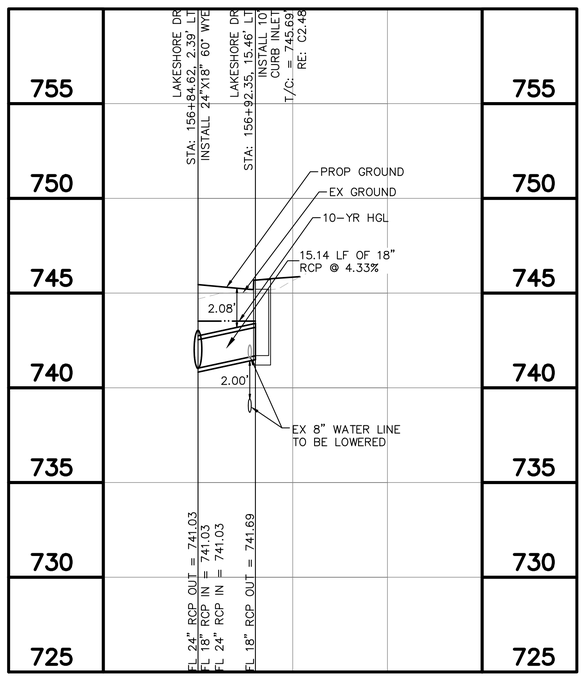
LAT FUT F



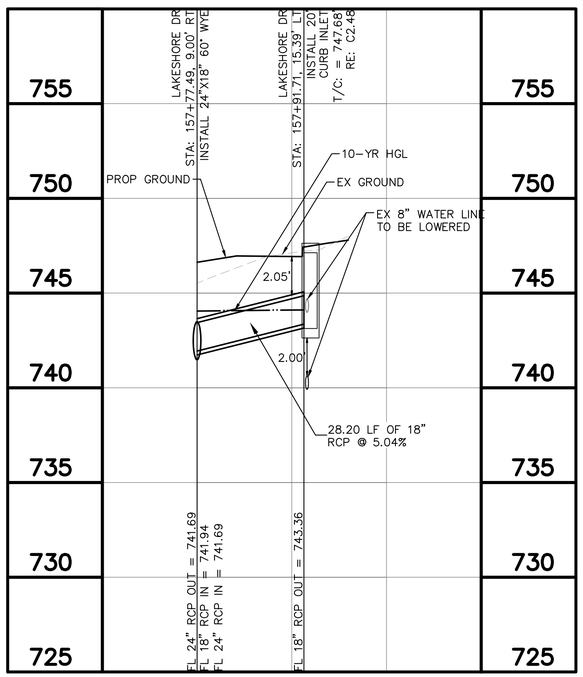
LAT G0



LAT G1_2



LAT G3



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CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STORM DRAIN
LATERALS (SHEET 4
OF 5)

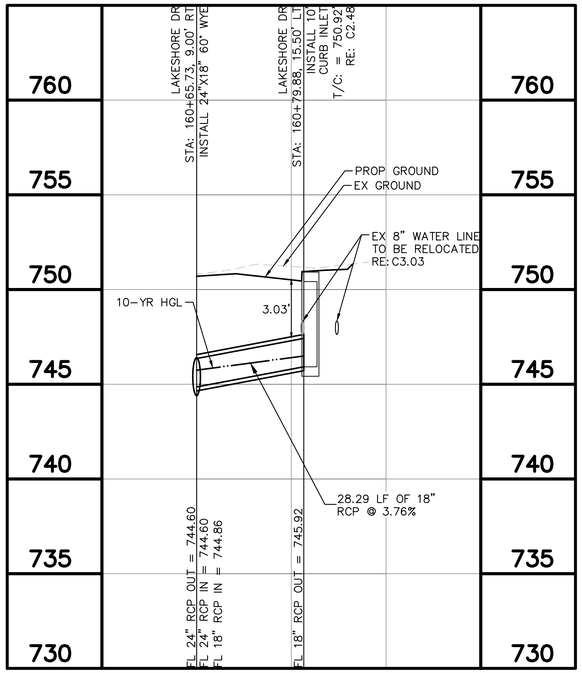
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

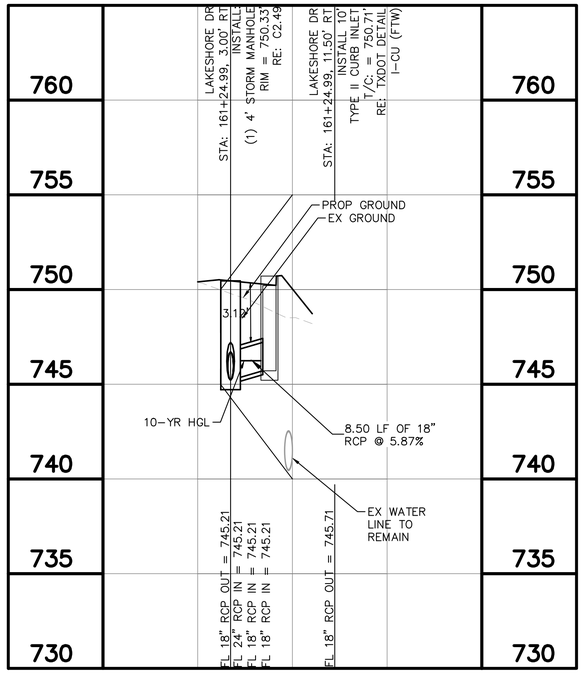
C2.40

Plotted, By: 2026-04-16 18:42:32, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM LATERALS (SHEET 4 OF 4))
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\storm system.dwg

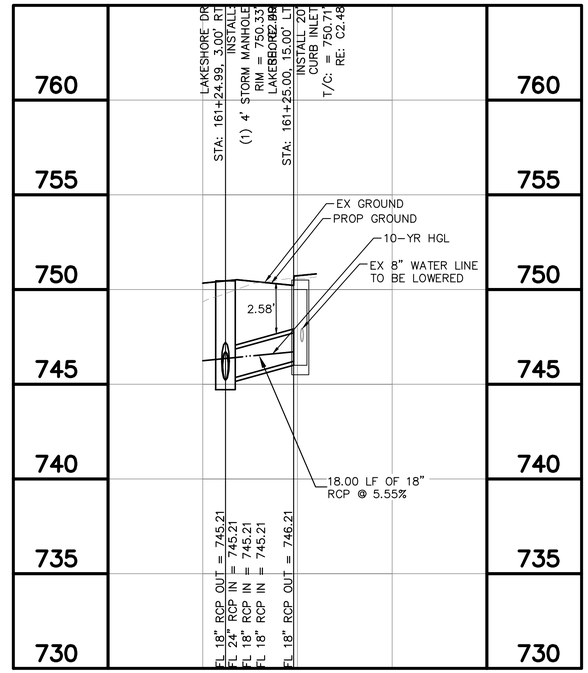
LAT G4



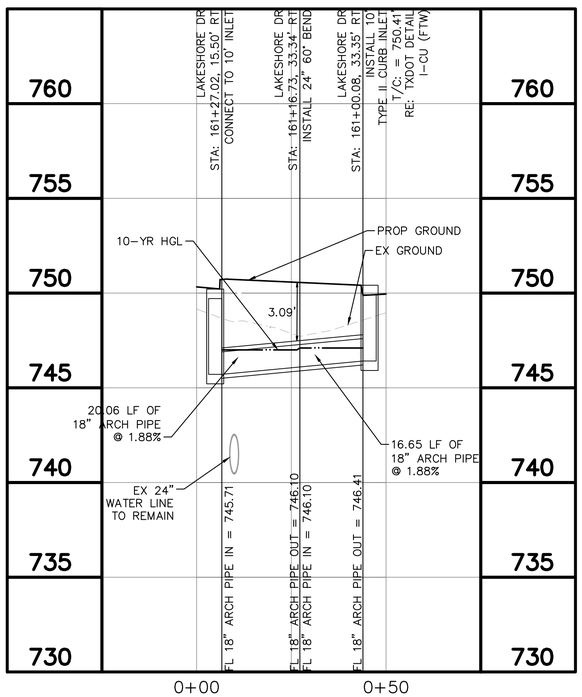
LAT G5



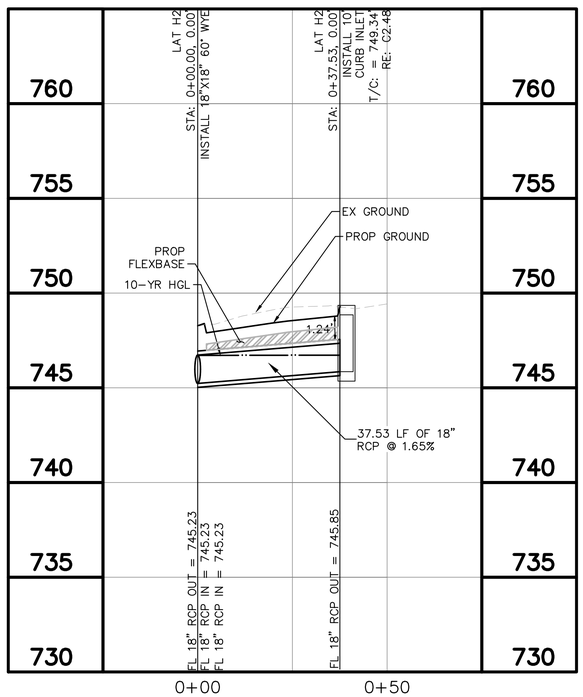
LAT G6



LAT G8



LAT H2



Plotted, By: 2026-04-16 18:42:41, Coleman, Matthew
Last Saved: 2026-04-16 18:03:04 (STORM LATERALS (SHEET 5 OF 5))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\storm system.dwg

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER

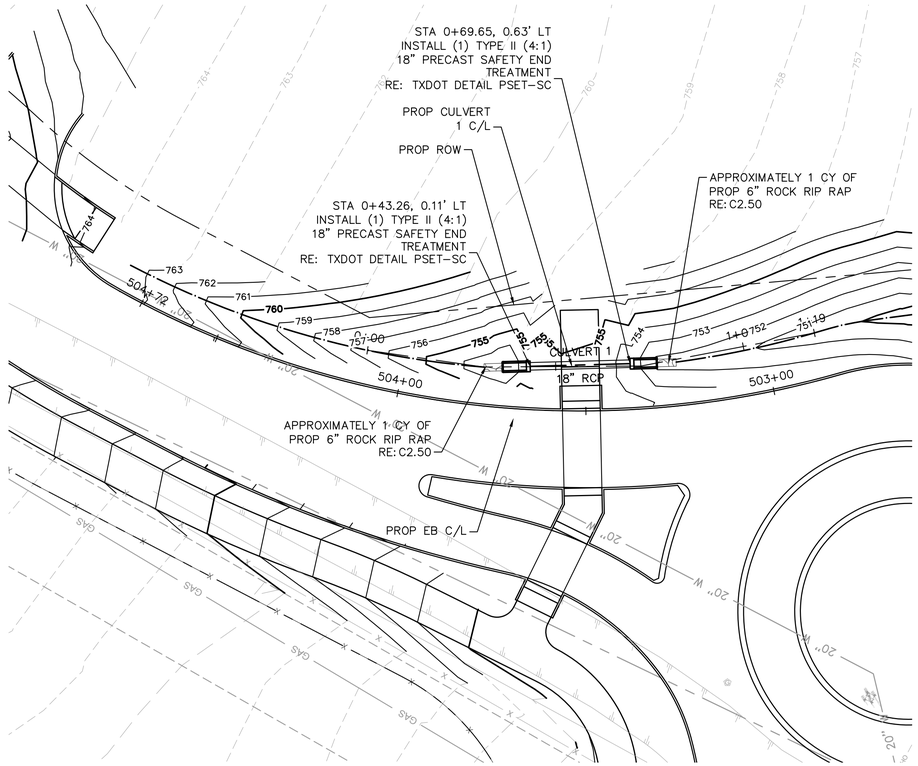
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

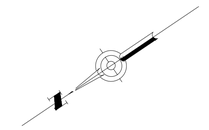
STORM DRAIN LATERALS (SHEET 5 OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C2.41





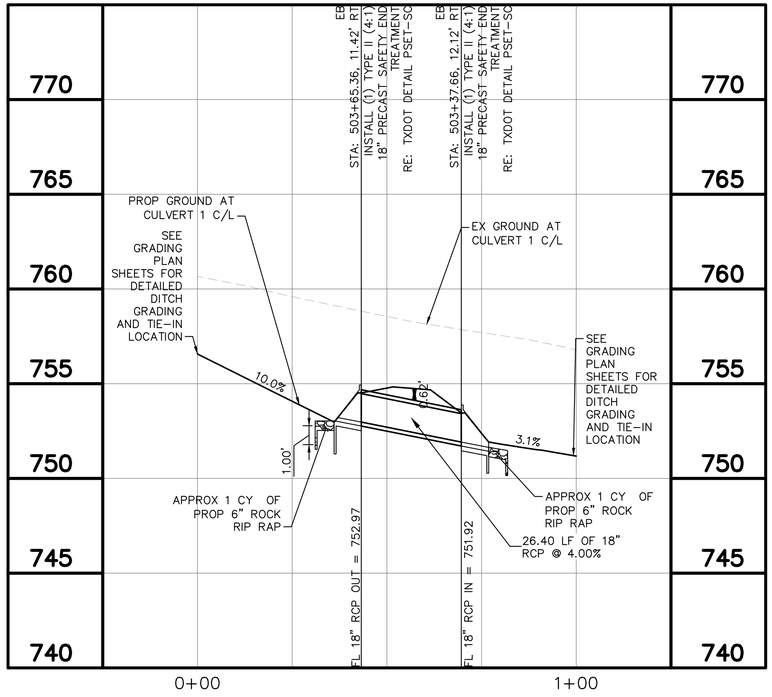
GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

CULVERT 1



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LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

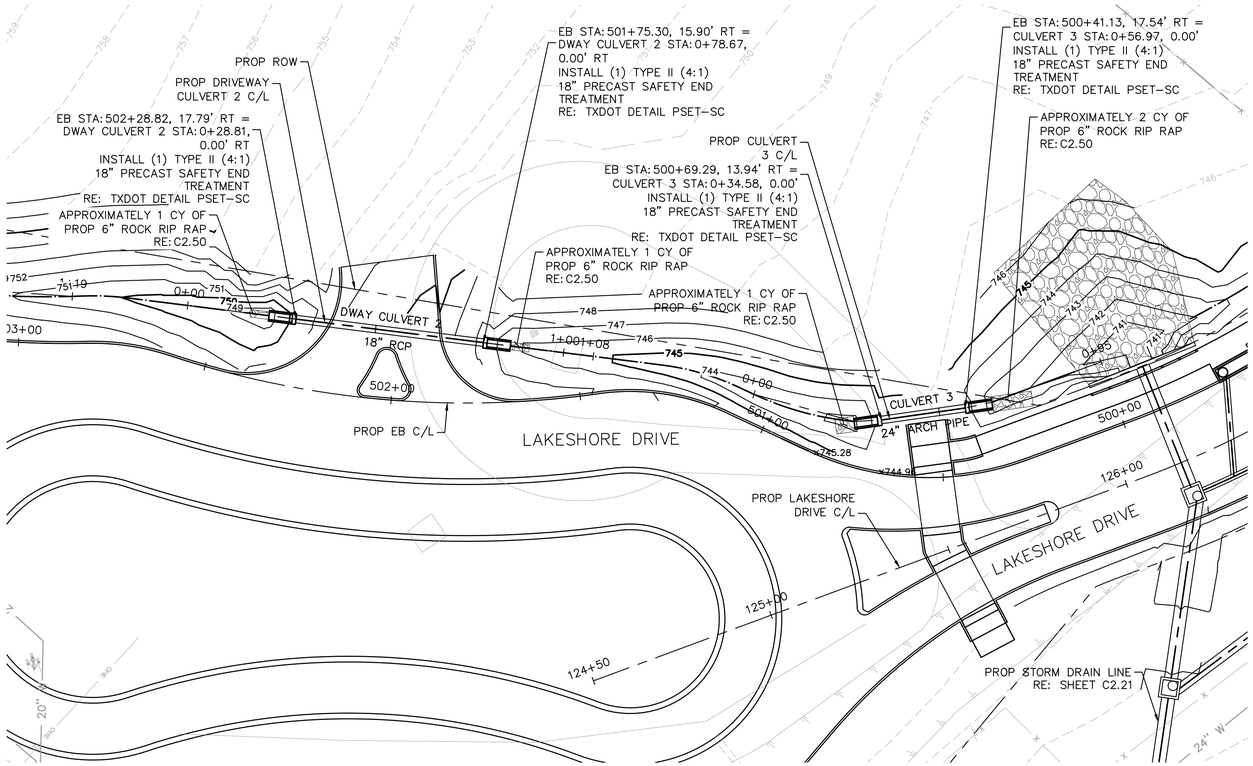
DRIVEWAY CULVERTS
(SHEET 1 OF 7)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

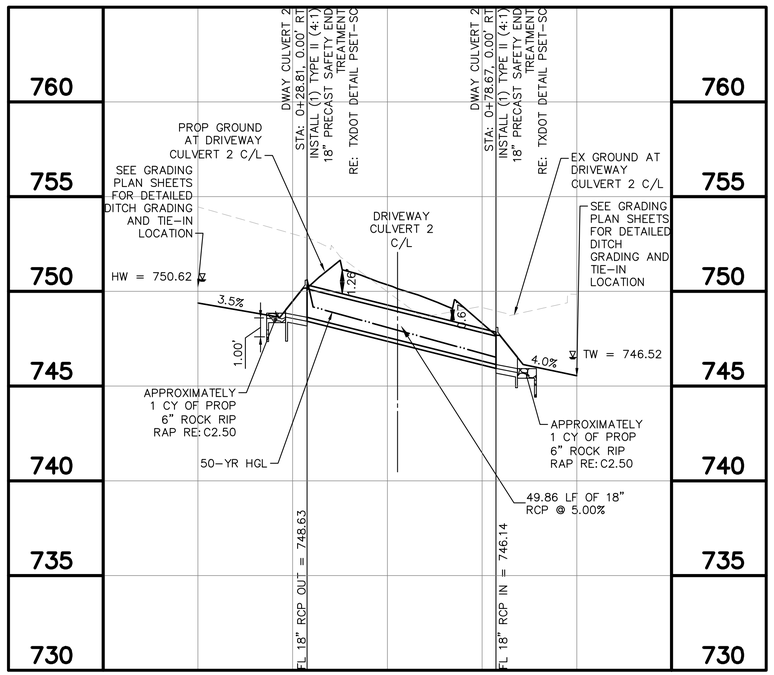
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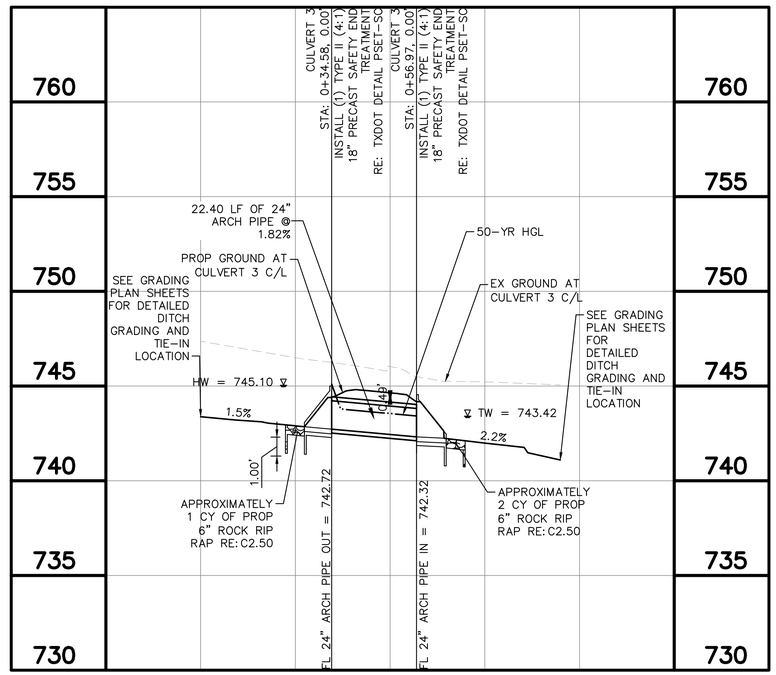
Plotted, By: 2026-04-16 18:43:24, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 (DWAY CULVERTS 1)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg



DRIVEWAY CULVERT 2



CULVERT 3



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE: 1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE-IN LOCATION.

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1406647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

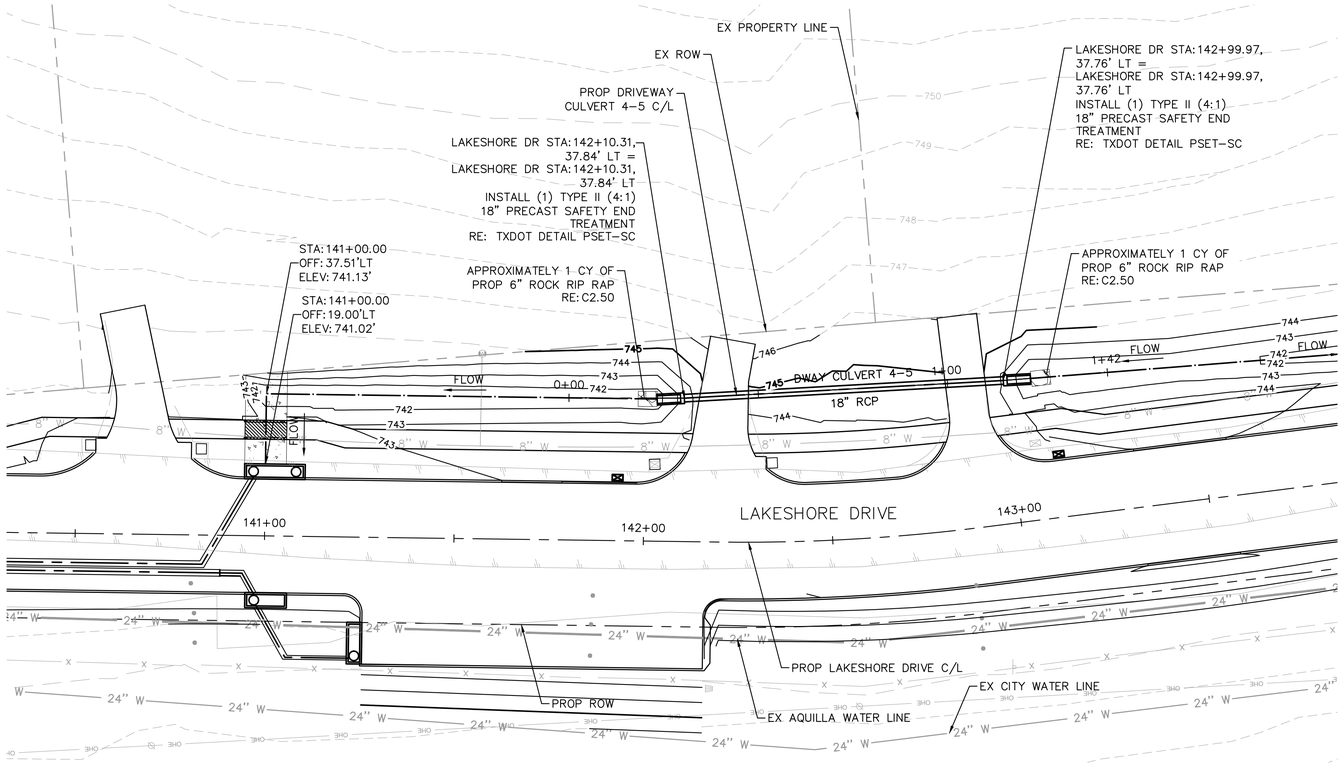
CITY OF CLEBURNE LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

DRIVEWAY CULVERTS (SHEET 2 OF 7)

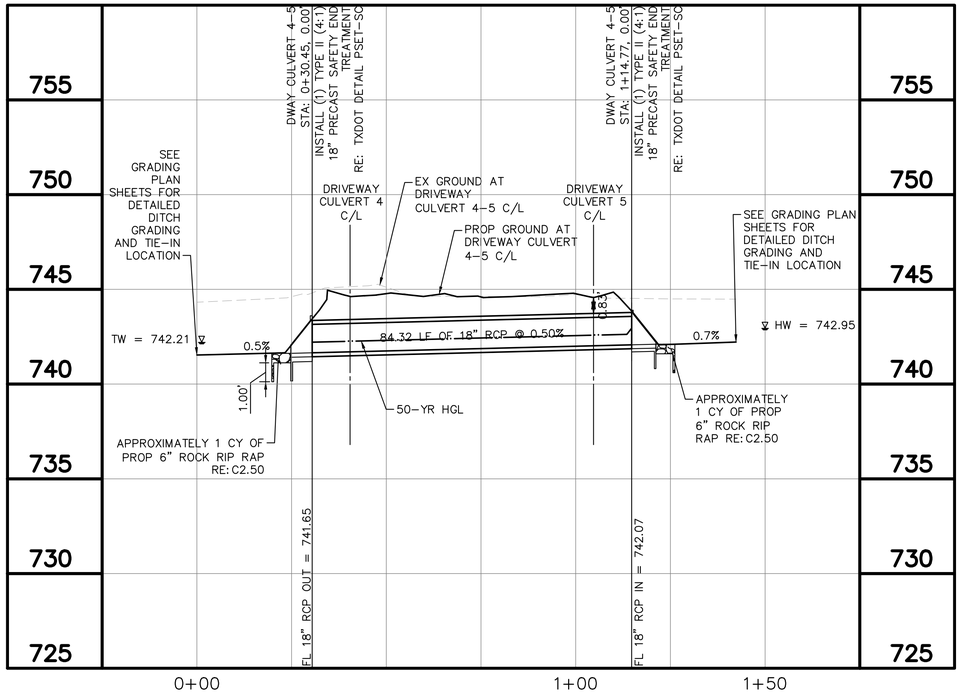
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.43

Plotted, By: 2026-04-16 18:43:31, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 {DWAY CULVERTS 2&3}
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg



DRIVEWAY CULVERT 4–5



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE–IN LOCATION.

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1406647
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04/10/2026

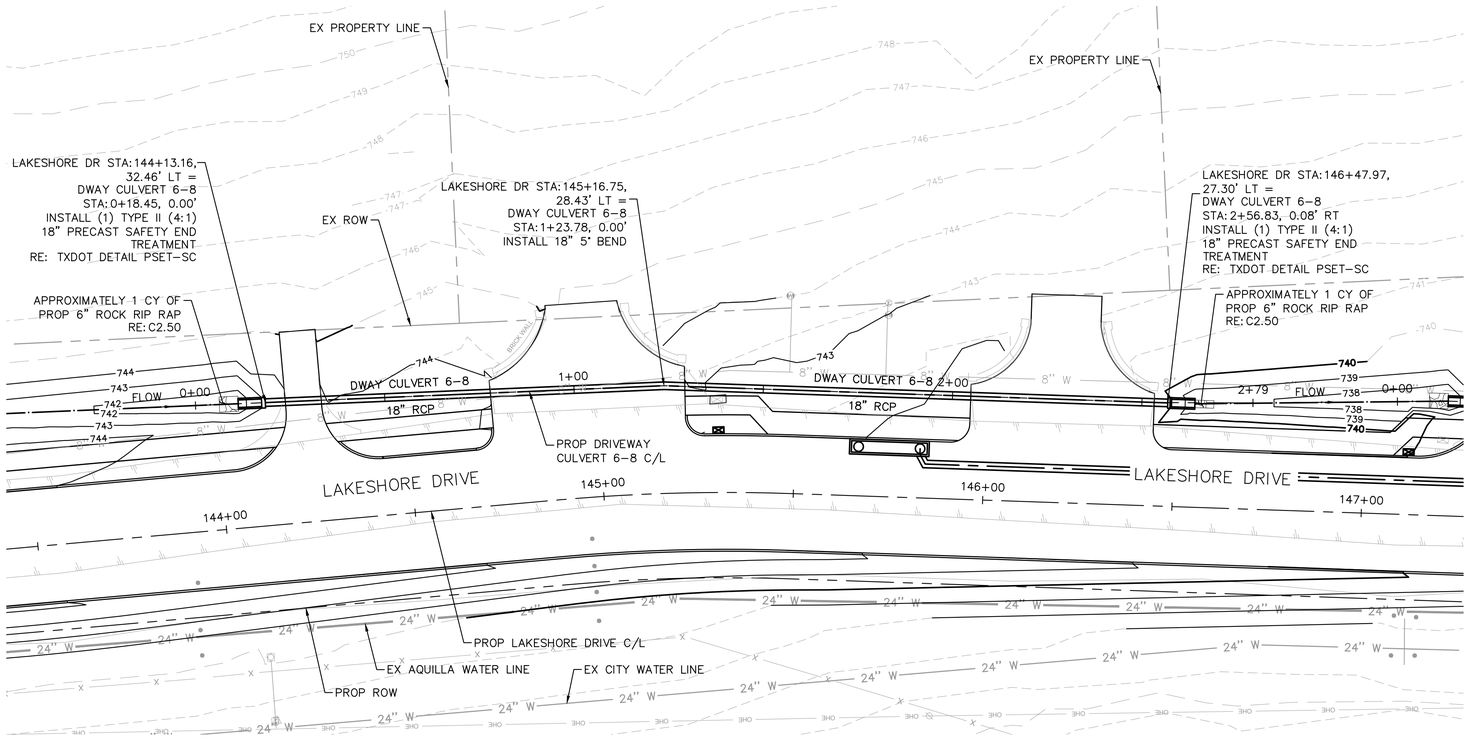
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

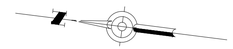
DRIVEWAY CULVERTS (SHEET 3 OF 7)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C2.44

Plotted, By: 2026-04-16 18:43:39, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 (DWAY CULVERTS 4&5)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg





GRAPHIC SCALE

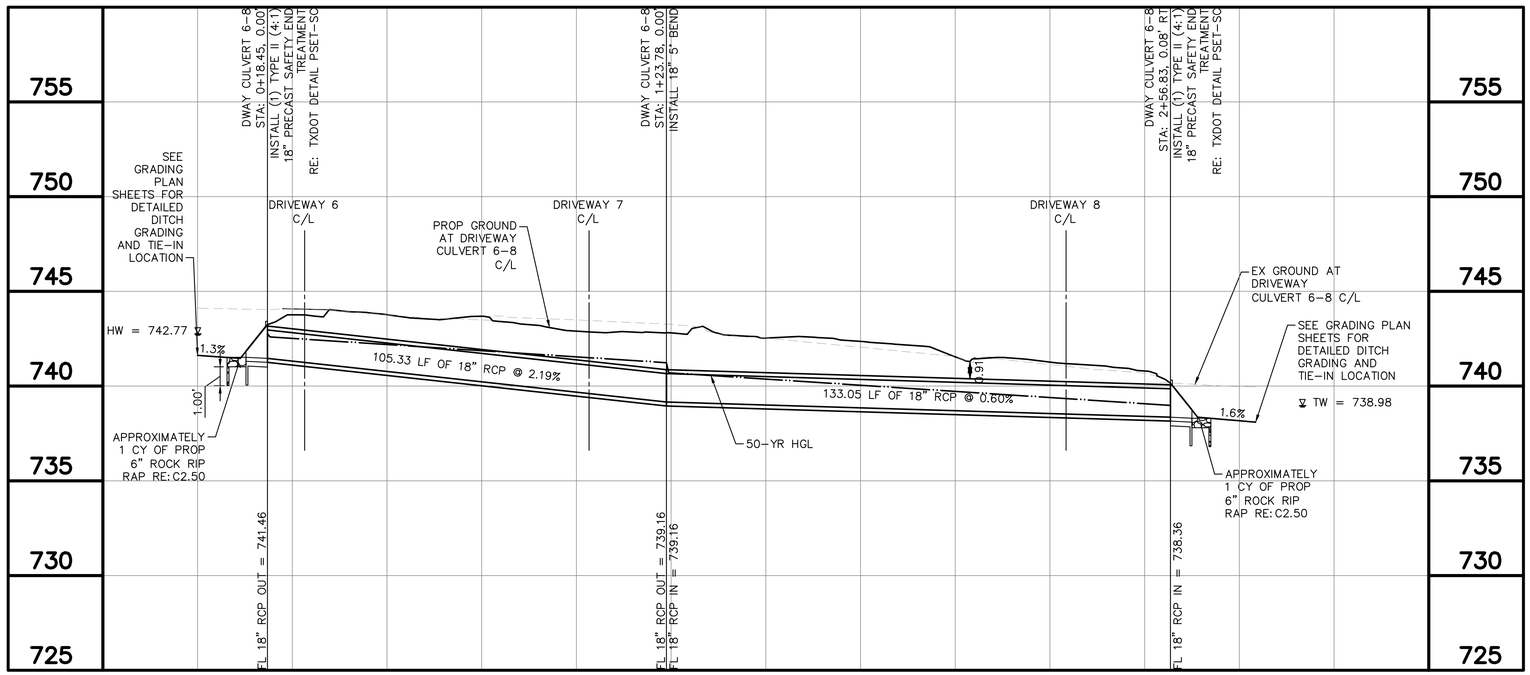
20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE-IN LOCATION.

DRIVEWAY CULVERT 6-8



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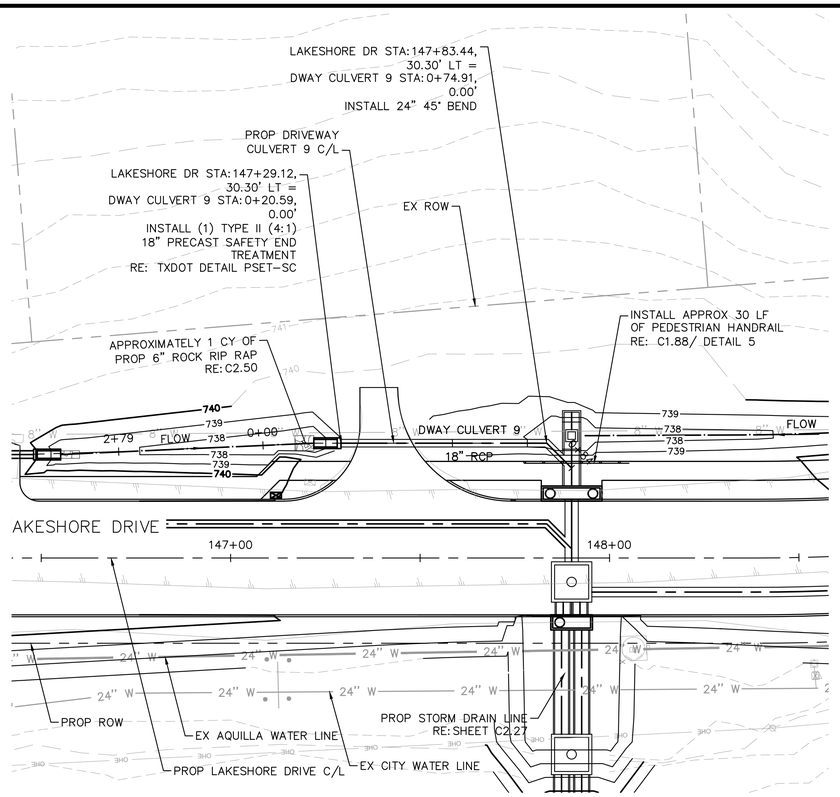
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

DRIVEWAY CULVERTS (SHEET 4 OF 7)

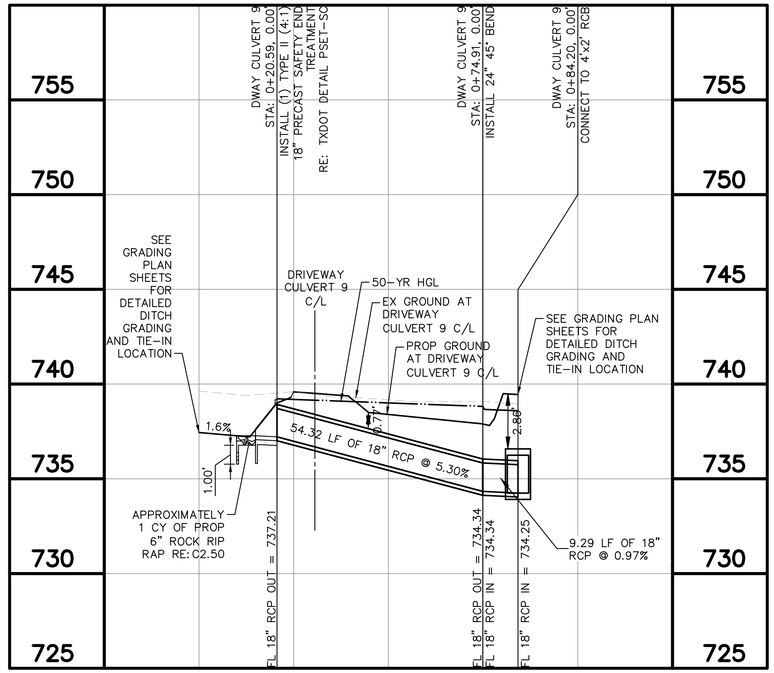
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

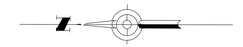
SHEET NUMBER
C2.45

Plotted, By: 2026-04-16 18:43:46, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 k:\ftw_roadway\061165022-cleburne_lakeshore\(DWAY CULVERTS 6-8)
Filename: dr\cadd\sheets\driveway storm culverts.dwg



DRIVEWAY CULVERT 9





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE-IN LOCATION.

Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

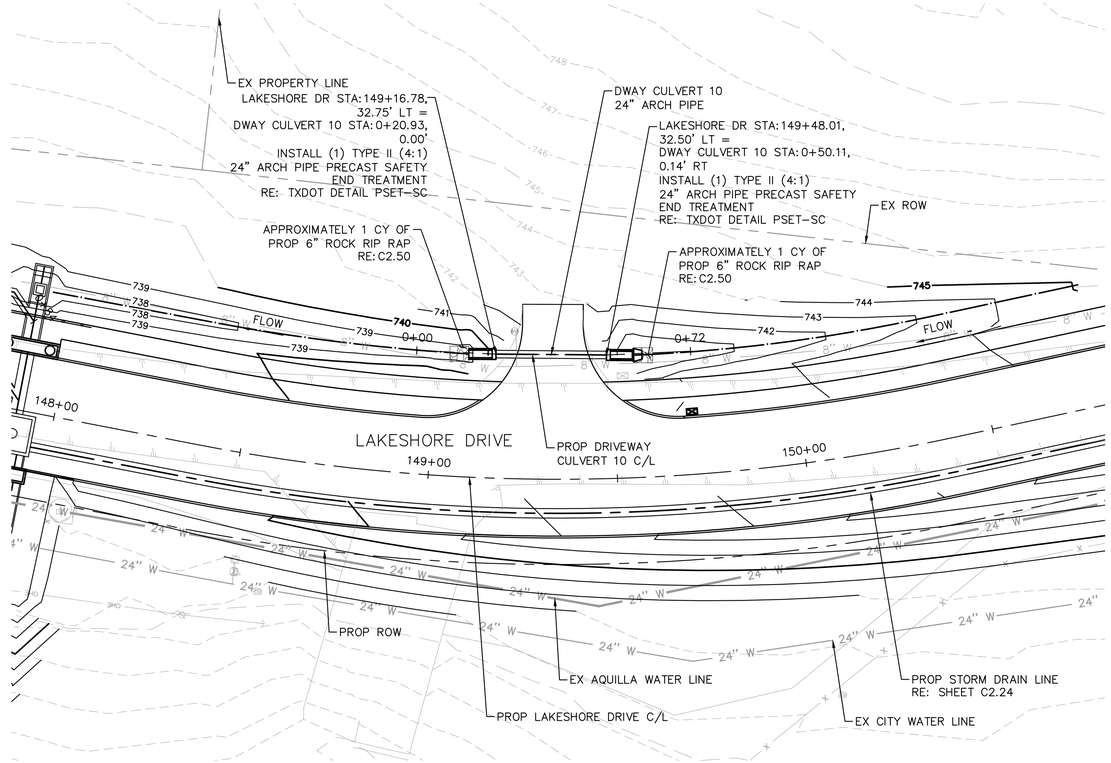
DRIVEWAY CULVERTS
(SHEET 5 OF 7)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

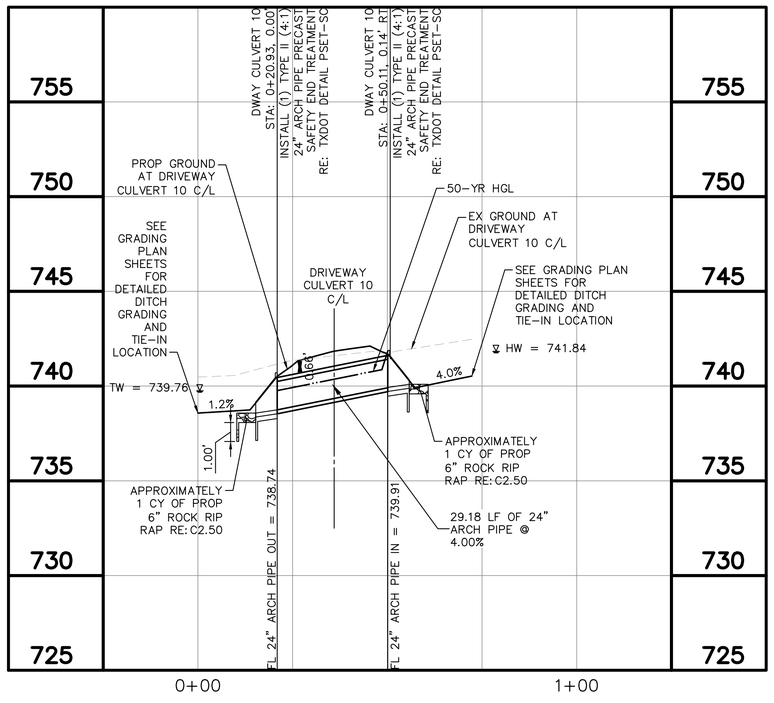
SHEET NUMBER

C2.46

Plotted, By: 2026-04-16 18:43:54, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 (DWAY CULVERTS 9)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg



DRIVEWAY CULVERT 10



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE-IN LOCATION.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

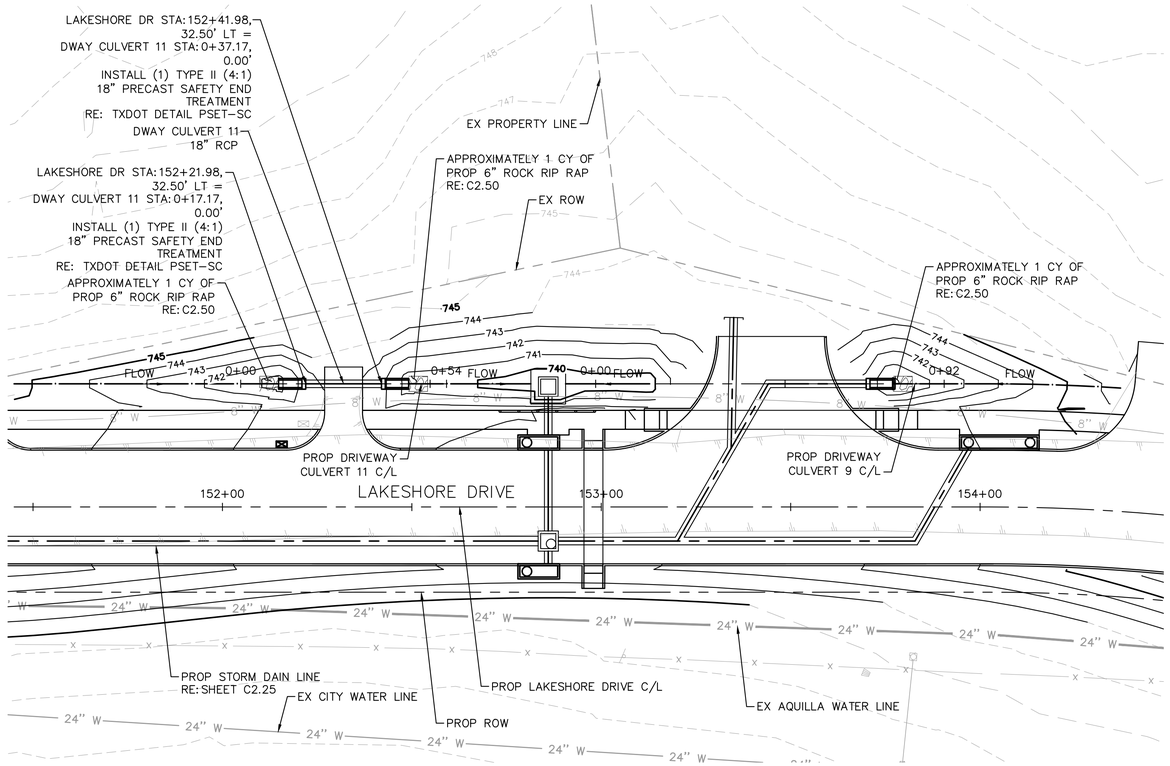
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

DRIVEWAY CULVERTS (SHEET 6 OF 7)

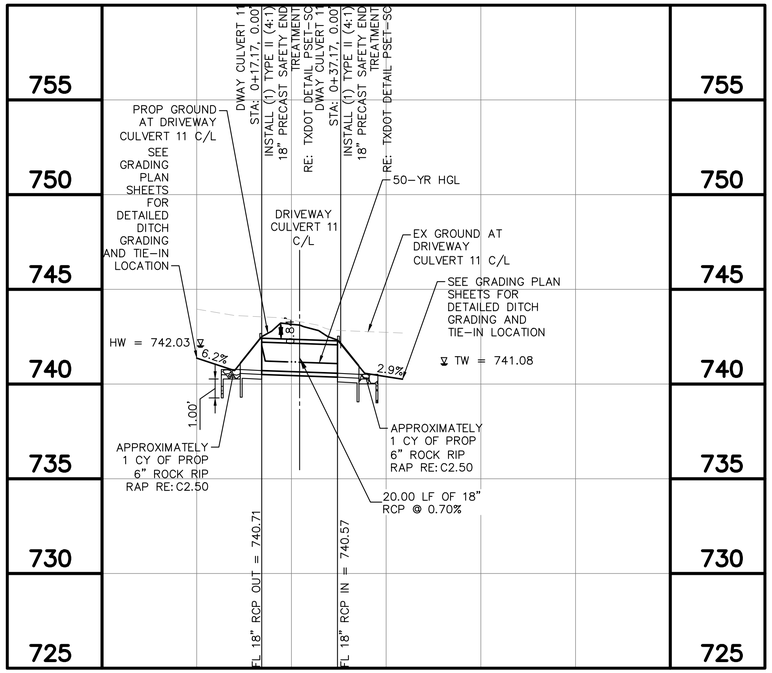
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

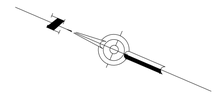
SHEET NUMBER
C2.47

Plotted, By: 2026-04-16 18:44:00, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 (DWAY CULVERTS 10)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg



DRIVEWAY CULVERT 11





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTE:
1. SEE GRADING PLAN SHEETS FOR DETAILED DITCH GRADING AND TIE-IN LOCATION.

Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

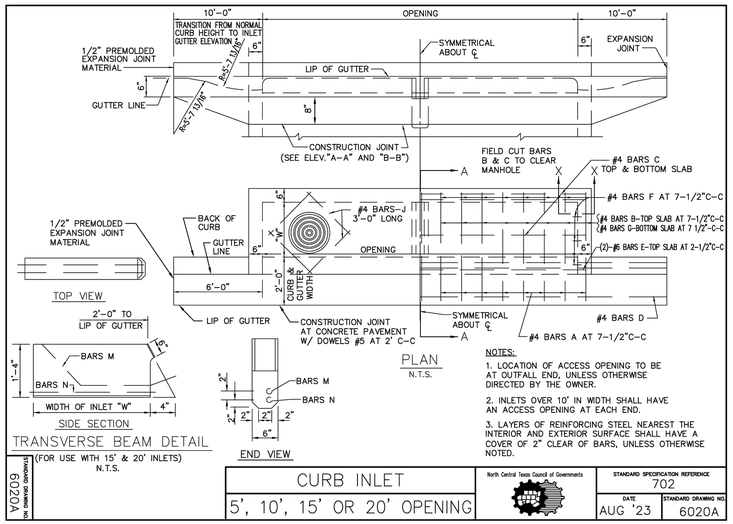
DRIVEWAY CULVERTS (SHEET 7 OF 7)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C2.48

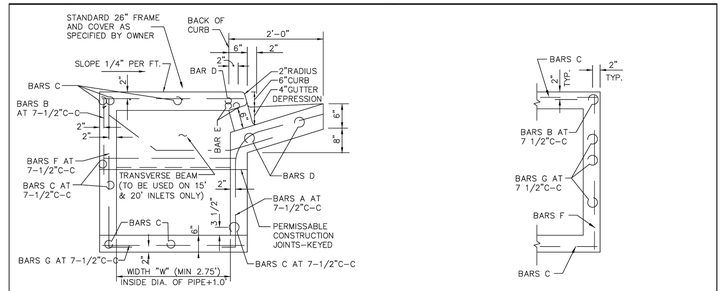
Plotted, By: 2026-04-16 18:44:07, Coleman, Matthew
Last Saved: 2026-04-10 10:32:54 (DWAY CULVERTS 11&12)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\driveway storm culverts.dwg



NOTES:

1. LOCATION OF ACCESS OPENING TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE OWNER.
2. INLETS OVER 10' IN WIDTH SHALL HAVE AN ACCESS OPENING AT EACH END.
3. LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACE SHALL HAVE A COVER OF 2" CLEAR OF BARS, UNLESS OTHERWISE NOTED.

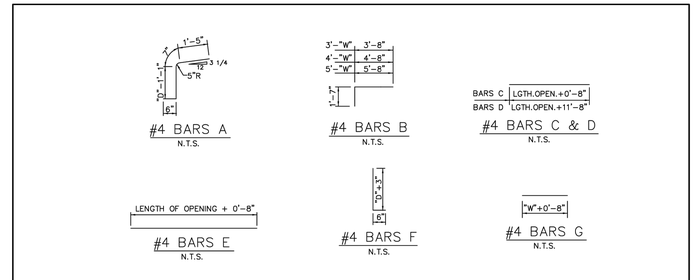
STANDARD DRAWING NO.	CURB INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
6020A	5', 10', 15' OR 20' OPENING		DATE AUG '23	STANDARD DRAWING NO. 6020A



GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "C" CONCRETE.
2. REINFORCING BARS SHALL BE STANDARD GRADE STEEL, DEFORMED REINFORCING BARS OF A DIAMETER AND LENGTH AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO OUTSIDE EDGE OF BARS.
5. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMODATE STORM SEWER PIPE.
6. RING AND COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.
7. INLET OPENING SHALL BE 6" MIN. OR 8" MAX.
8. PRECAST PRODUCT MAY BE USED AT THE APPROVAL OF THE OWNER.
9. ALLOW 1" MIN. CLEAR SPACE BETWEEN OD OF PIPE OR BOX AND INSIDE WALL OF INLET (OD OF PIPE OR BOX SHOULD ACCOUNT FOR SKEWED CONDITIONS).
10. DEPTHS GREATER THAN 10' NEED TO BE STRUCTURALLY ENGINEERED.
11. KEYWAY JOINT TO BE MIN. 18" ABOVE FLOWLINE, UNLESS APPROVED BY ENGINEER.

STANDARD DRAWING NO.	CURB INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
6020B	CROSS SECTION & INLET THROAT		DATE AUG '23	STANDARD DRAWING NO. 6020B



STANDARD DRAWING NO.	CURB INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
6020C	REBAR		DATE AUG '23	STANDARD DRAWING NO. 6020C

BILL OF REINFORCING STEEL

DEPTH "D"	ALL LENGTHS	OPENING LENGTH "L" = 5ft Widths 3ft	4ft	5ft	"W"	OPENING LENGTH "L" = 10ft Widths 3ft	4ft	5ft	"W"	OPENING LENGTH "L" = 15 ft Widths 3ft	4ft	5ft	"W"	OPENING LENGTH "L" = 20 ft Widths 3ft	4ft	5ft	"W"
	BARS C	BARS D	BARS E	BARS J	BARS F	BARS A	BARS B	BARS G	BARS F	BARS A	BARS B	BARS G	BARS M	BARS N	BARS F	BARS A	BARS B	BARS G	BARS M	BARS N	BARS F	BARS A	BARS B	BARS G	BARS M	BARS N
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	44	"	"
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"

NOTES:

- FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.
- DEPTHS GREATER THAN 10' NEED TO BE STRUCTURALLY ENGINEERED.

STANDARD DRAWING NO.	CURB INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
6020D	BILL OF REINFORCING STEEL		DATE AUG '23	STANDARD DRAWING NO. 6020D

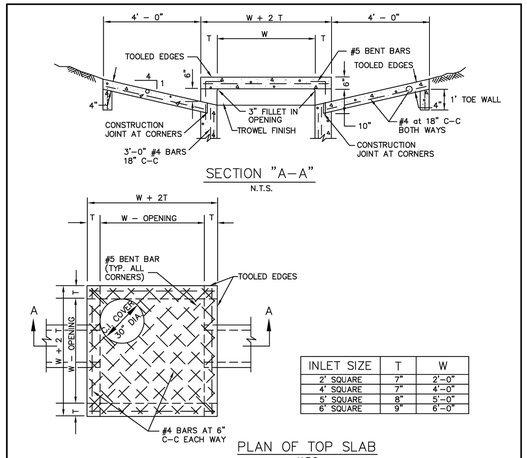
SUMMARY OF QUANTITIES FOR CURB INLETS

DEPTH "D"	5'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	10'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	15'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.	20'-0" OPENING WIDTH 3'-0" CONC C.Y.	STEEL LBS.	WIDTH 4'-0" CONC C.Y.	STEEL LBS.	WIDTH 5'-0" CONC C.Y.	STEEL LBS.
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.59	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.20	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

NOTE:

- FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.
- DEPTHS GREATER THAN 10' NEED TO BE STRUCTURALLY ENGINEERED.

STANDARD DRAWING NO.	CURB INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
6020E	SUMMARY OF QUANTITIES		DATE AUG '23	STANDARD DRAWING NO. 6020E



INLET SIZE	T	W
2' SQUARE	7"	2'-0"
4' SQUARE	7"	4'-0"
5' SQUARE	8"	5'-0"
6' SQUARE	9"	6'-0"

NOTES:

1. MATERIAL AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF NCTCOG STANDARD SPECIFICATIONS FOR STANDARD CONCRETE MANHOLES. MINIMUM CLASS "C" CONCRETE.
2. LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACES SHALL HAVE A COVER OF 2" CLEAR OF BARS, UNLESS OTHERWISE NOTED.
3. FOR DETAILS OF REINFORCING OF LOWER PORTION OF INLET SEE APPROPRIATE SQUARE MANHOLE DETAILS.
4. DEPTH OF DROP INLET FROM FINISHED GRADE TO FLOW LINE OF INLET IS VARIABLE. APPROXIMATE DEPTH WILL BE SHOWN ON PLANS AT LOCATION OF INLET.
5. ALL STANDARD DROP INLETS SHALL HAVE ONE OPENING ON EACH SIDE UNLESS OTHERWISE SHOWN ON PLANS.
6. TOP SLAB MAY BE REINFORCED SAME AS 4' SQUARE MANHOLE.
7. PRECAST PRODUCTS MAY BE USED AT THE APPROVAL OF THE OWNER.
8. ALLOW 1" MIN CLEAR SPACE BETWEEN OD OF PIPE OR BOX AND INSIDE WALL OF INLET (OD OF PIPE OR BOX SHOULD ACCOUNT FOR SKEWED CONDITIONS).
9. DEPTHS OF GREATER THAN 10' NEED TO BE STRUCTURALLY ENGINEERED.

DROP INLET	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 702	
2', 4', 5', OR 6' SQUARE		DATE AUG '23	STANDARD DRAWING NO. 6040

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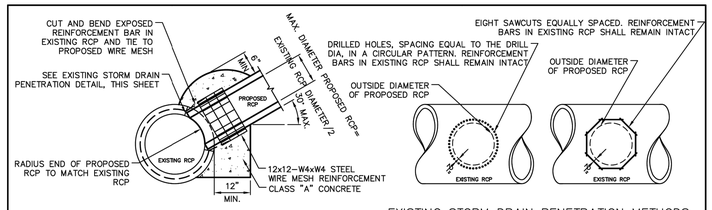
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STORM DETAILS (SHEET 1 OF 3)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

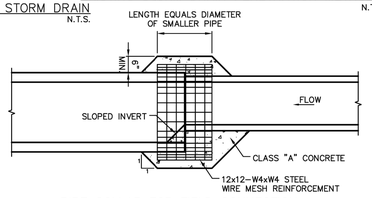
SHEET NUMBER
C2.49

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Last Saved: 2026-04-10 10:33:20 (Layout1 (2))
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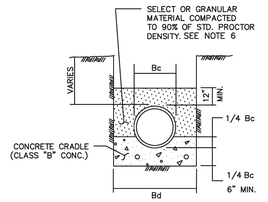
NOTES:

1. THE CONNECTION METHODS SHOWN ON THIS DETAIL SHALL ONLY BE EMPLOYED WHEN THE USE OF A PREFABRICATED RCP CONNECTION IS NOT POSSIBLE, AND WITH THE APPROVAL OF THE OWNER.
2. NO. 3 BARS ON 6" CTRS. MAY BE USED IN PLACE OF WIRE MESH REINFORCEMENT.
3. FOR OTHER PIPE MATERIALS, REFER TO MANUFACTURER'S DETAILS.



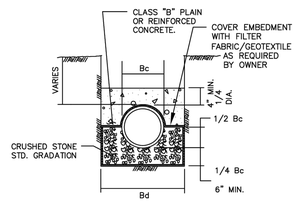
PIPE COLLAR FOR FIELD CONNECTION
N.T.S.

0809 STANDARD DRAWING NO.	STORM DRAIN PIPE COLLAR FOR FIELD CONNECTION	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 501, 702	DATE AUG '23	STANDARD DRAWING NO. 6080



CLASS "A"

CLASS "B" CONCRETE CRADLE
PLAIN CONC. LF 2.8
REINF. CONC. LF 3.4 P=0.4%
N.T.S



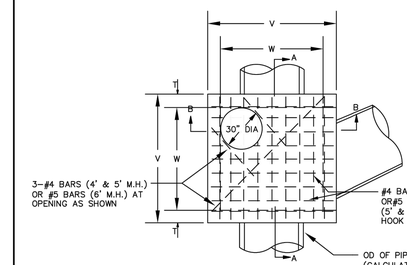
CLASS "A-1"

CLASS "B" CONCRETE CAP
PLAIN CONC. LF 2.8
REINF. CONC. LF 3.4 P=0.4%
REINF. CONC. LF 4.8 P=1.0%
N.T.S

NOTES:

1. LF = LOAD FACTOR TO BE USED TO DETERMINE 3 EDGE BEARING BASED ON TYPE OF EMBEDMENT.
2. FREE-FALL OF CONCRETE NOT TO EXCEED 5 FT. MAXIMUM.
3. P = Rho FOR STEEL %
4. Bc = OUTSIDE DIAMETER OF PIPE
5. Bd = TRENCH WIDTH
6. USE OF 95% DENSITY UNDER PAVED SURFACE AND 90% IN UNPAVED AREAS

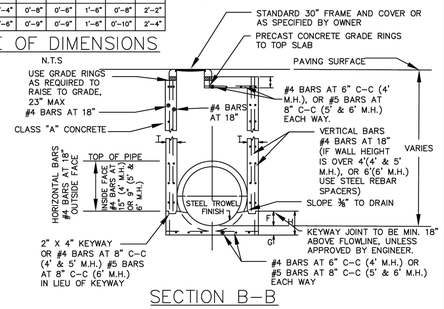
3010 STANDARD DRAWING NO.	EMBEDMENT CLASS "A" & "A-1"	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 504.5	DATE AUG '23	STANDARD DRAWING NO. 3010



M.H. SIZE (W)	V	T	E	F	G	H
4'-0"	5'-4"	0'-8"	0'-6"	1'-6"	0'-6"	2'-0"
5'-0"	6'-4"	0'-8"	0'-6"	1'-6"	0'-8"	2'-2"
6'-0"	7'-6"	0'-9"	0'-9"	1'-6"	0'-10"	2'-4"

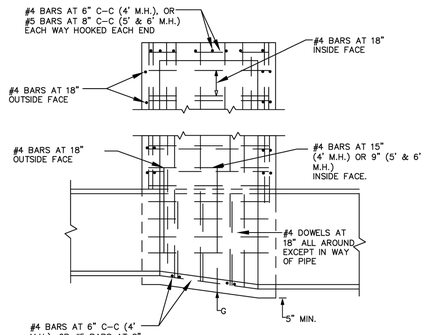
PLAN
N.T.S

TABLE OF DIMENSIONS
N.T.S



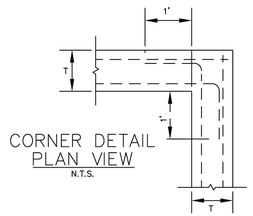
SECTION B-B
N.T.S

STORM WATER MANHOLE 4', 5', OR 6' SQUARE	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 502.1.4.1	DATE AUG '23	STANDARD DRAWING NO. 6010A



SECTION A-A
N.T.S.

*REFERENCE TABLE 6010A



CORNER DETAIL
PLAN VIEW
N.T.S.

NOTES:

1. SLOPE INVERT OF MANHOLE AS INDICATED ON PLAN-PROFILE SHEET.
2. LAYERS OF REINFORCING STEEL NEAREST THE INTERIOR AND EXTERIOR SURFACE SHALL HAVE A COVER OF 2" CLEAR OF BARS, UNLESS OTHERWISE NOTED.
3. CONCRETE SHALL BE CLASS "C".
4. PRECAST PRODUCTS MAY BE USED AT THE APPROVAL OF THE OWNER.

STORM WATER MANHOLE 4', 5', OR 6' SQUARE	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 502.1.4.1	DATE AUG '23	STANDARD DRAWING NO. 6010B

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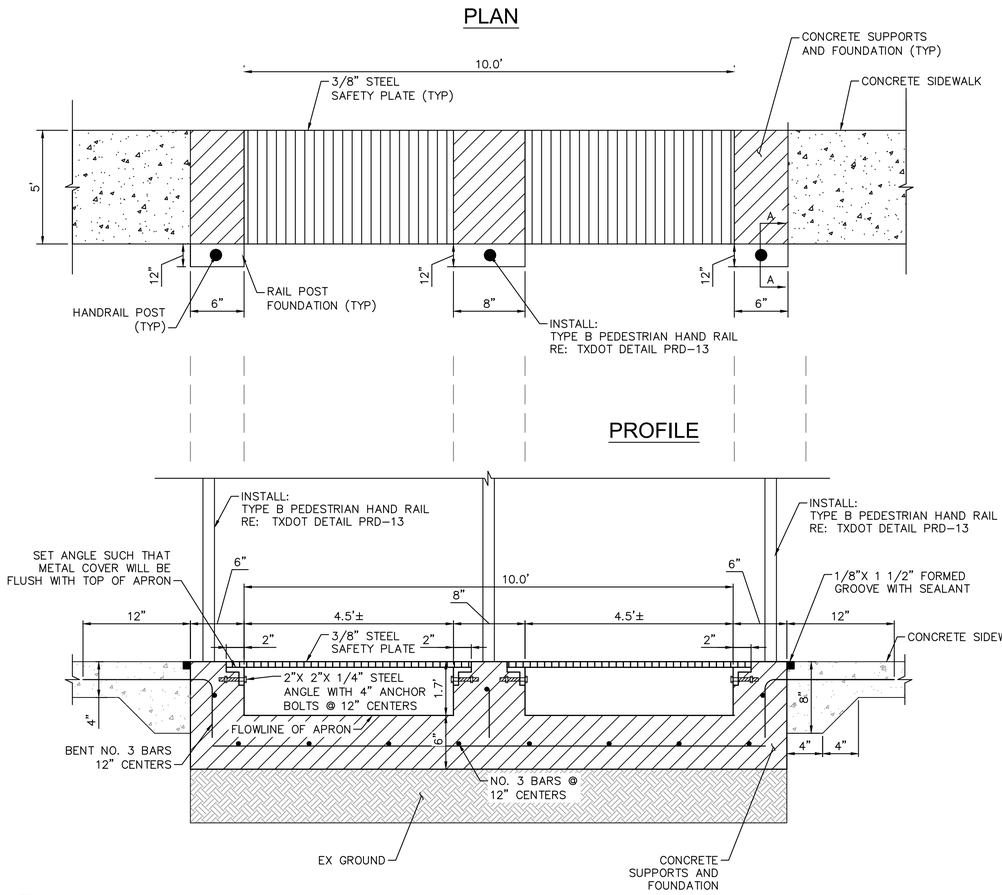
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STORM DETAILS (SHEET 2 OF 3)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

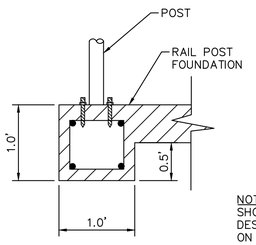
SHEET NUMBER
C2.50

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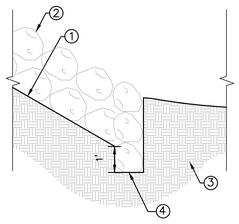
1 C2.51 SIDEWALK UNDERDRAIN DETAIL

SCALE: N.T.S.



SECTION A-A

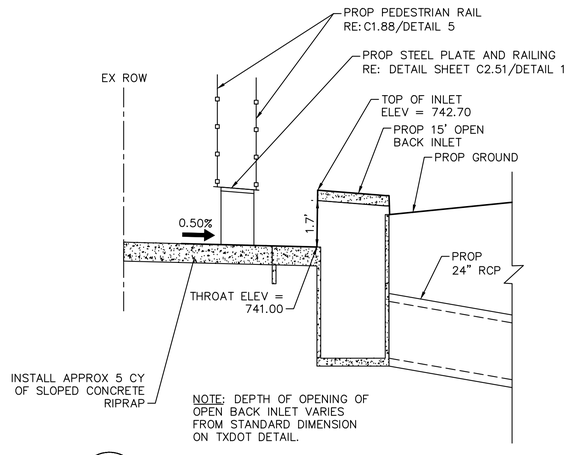
NOTE: THIS SECTION VIEW IS SHOWN TO COMMUNICATE DESIGN INTENT. FOR DETAILS ON INSTALLATION OF RAIL POSTS AND FOUNDATION SEE TXDOT DETAIL PRD-13



1. PROP FILTER FABRIC AND BEDDING
2. D50 RIP RAP SPECIFIED ON PLANS
3. NATIVE SOIL BACKFILL AND EXISTING SOIL
4. TOE WALLS SHALL BE PLACED ALONG ALL SIDES OF ROCK RIP RAP

2 C2.51 RIP RAP TO TOEWALL TRANSITION

SCALE: N.T.S.



NOTE: DEPTH OF OPENING OF OPEN BACK INLET VARIES FROM STANDARD DIMENSION ON TXDOT DETAIL.

3 C2.51 RIP RAP TO TOEWALL TRANSITION

SCALE: N.T.S.

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HARVEST HILL ROAD
IMPROVEMENTS

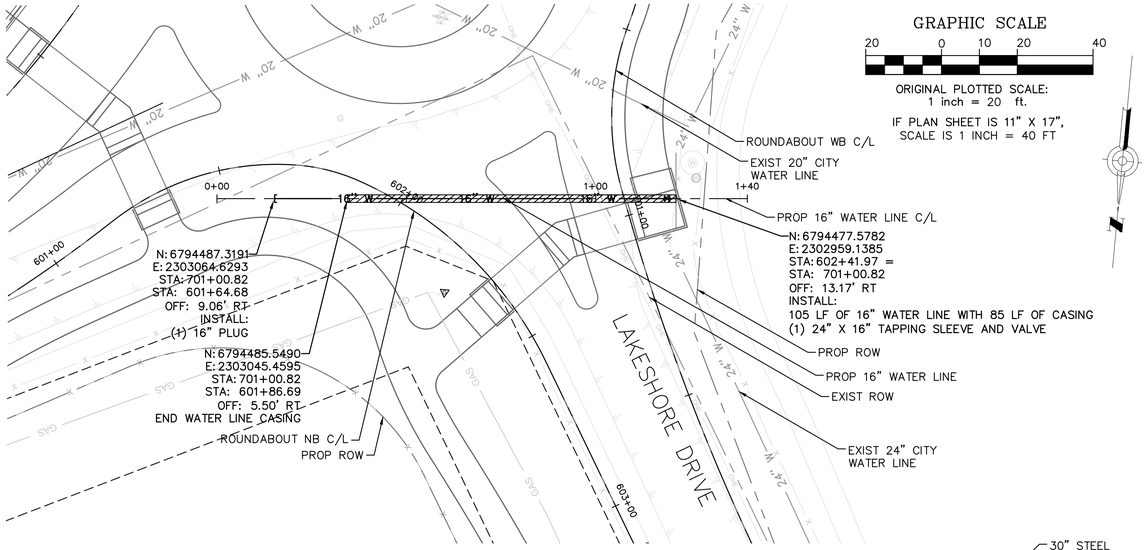
STORM DETAILS
(SHEET 3 OF 3)

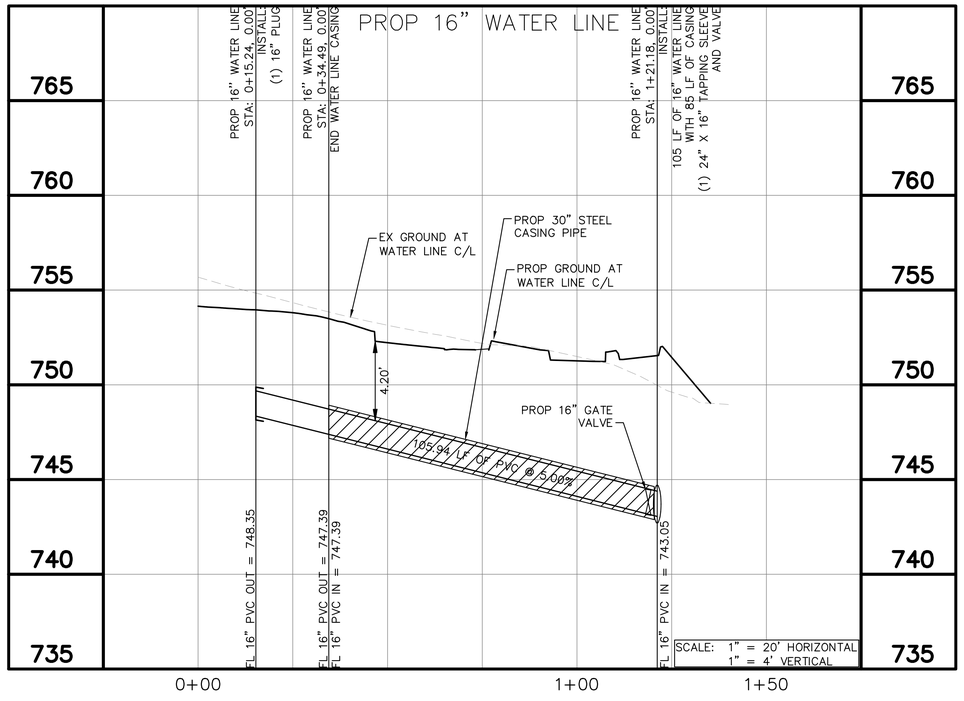
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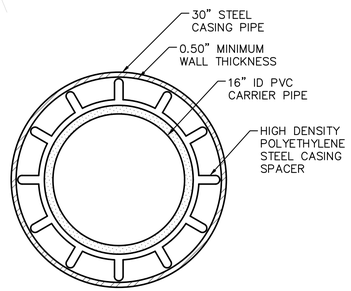
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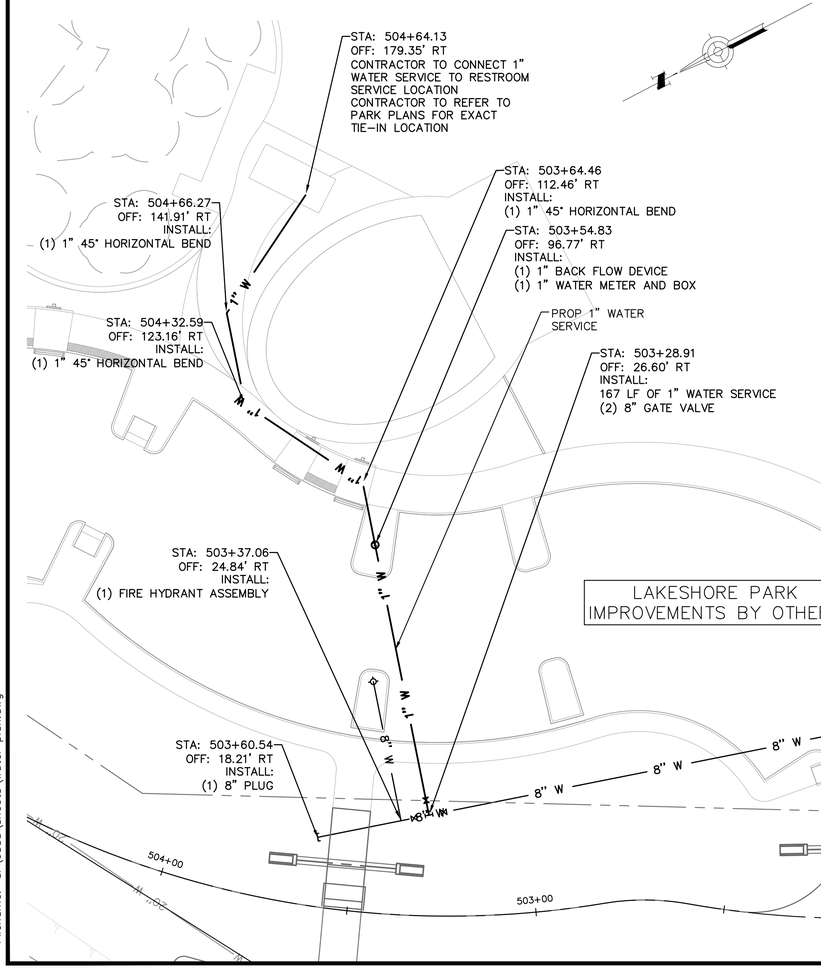




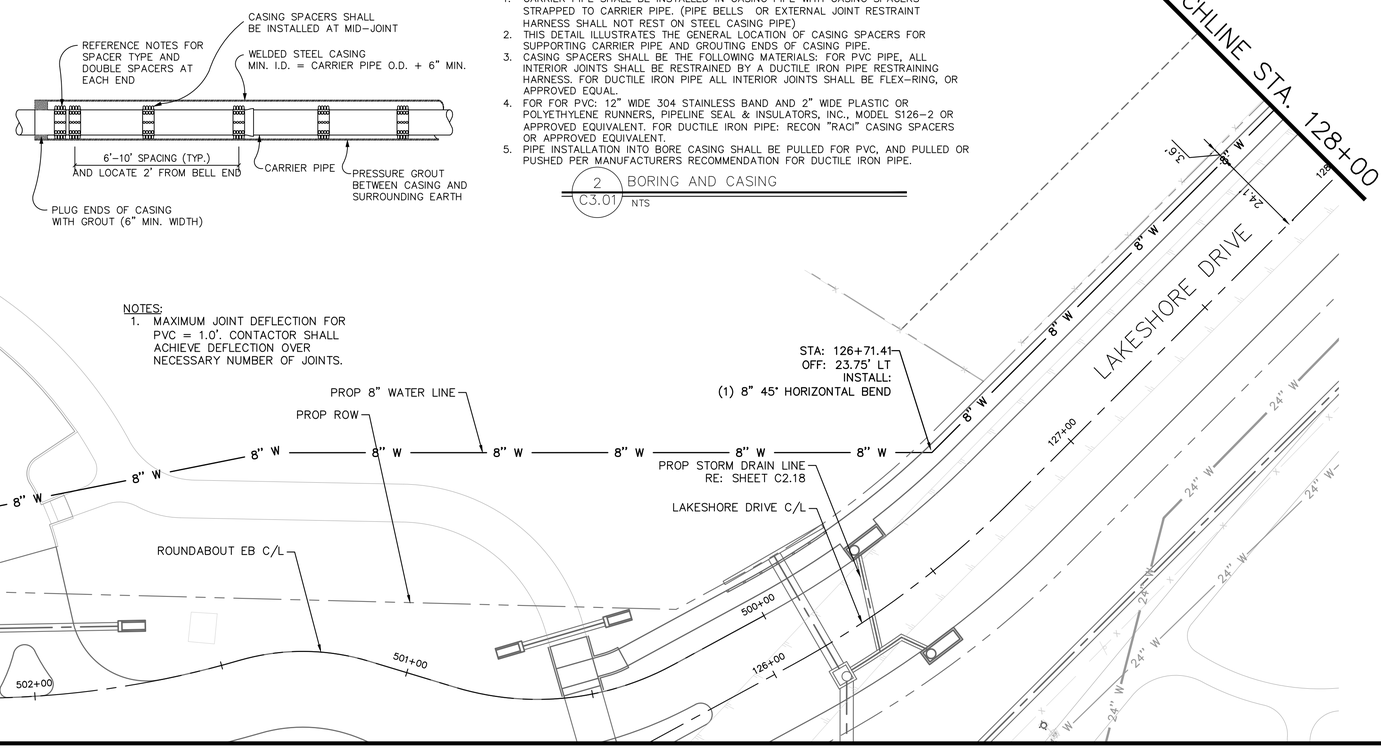


NOTES:
1. CARRIER PIPE SHALL BE INSTALLED IN CASING PIPE WITH CASING SPACERS STRAPPED TO CARRIER PIPE. (PIPE BELLS OR EXTERNAL JOINT RESTRAINT HARNESS SHALL NOT REST ON STEEL CASING PIPE)
2. THIS DETAIL ILLUSTRATES THE GENERAL LOCATION OF CASING SPACERS FOR SUPPORTING CARRIER PIPE AND GROUTING ENDS OF CASING PIPE.
3. CASING SPACERS SHALL BE THE FOLLOWING MATERIALS: FOR PVC PIPE, ALL INTERIOR JOINTS SHALL BE RESTRAINED BY A DUCTILE IRON PIPE RESTRAINING HARNESS. FOR DUCTILE IRON PIPE ALL INTERIOR JOINTS SHALL BE FLEX-RING, OR APPROVED EQUAL.
4. FOR FOR PVC: 12" WIDE 304 STAINLESS BAND AND 2" WIDE PLASTIC OR POLYETHYLENE RUNNERS, PIPELINE SEAL & INSULATORS, INC., MODEL S126-2 OR APPROVED EQUIVALENT. FOR DUCTILE IRON PIPE: RECON "RACI" CASING SPACERS OR APPROVED EQUIVALENT.
5. PIPE INSTALLATION INTO BORE CASING SHALL BE PULLED FOR PVC, AND PULLED OR PUSHED PER MANUFACTURERS RECOMMENDATION FOR DUCTILE IRON PIPE.

2 / C3.01 BORING AND CASING
NTS



NOTES:
1. MAXIMUM JOINT DEFLECTION FOR PVC = 1.0°. CONTACTOR SHALL ACHIEVE DEFLECTION OVER NECESSARY NUMBER OF JOINTS.



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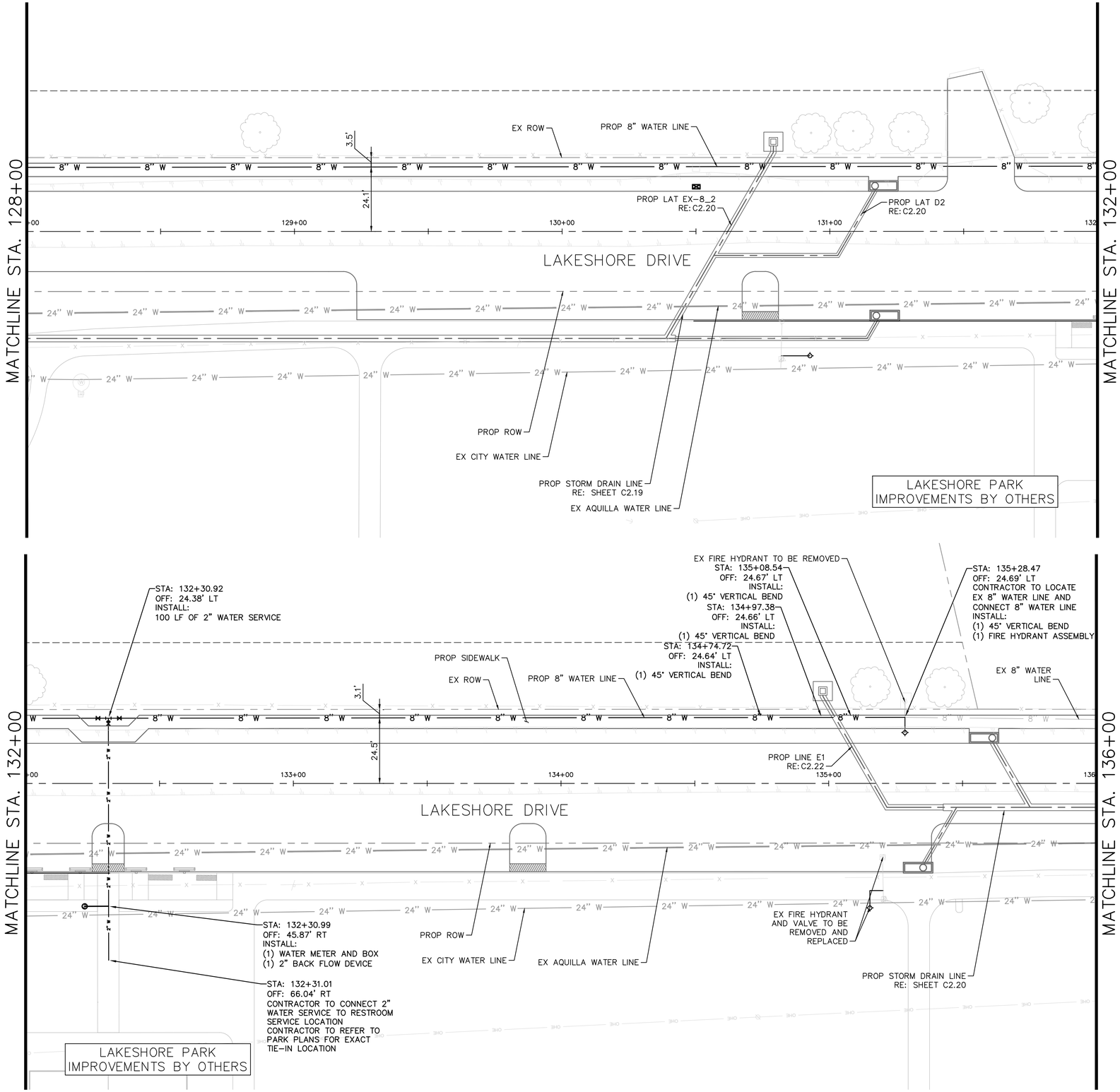
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

WATER LINE PLAN (SHEET 1 OF 4)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C3.01

Plotted, By: 2026-04-16 18:48:18, Salinas, Rene
Last Saved: 2026-04-10 11:07:03 (SHEET 1 OF 4)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\water plan.dwg



GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

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IMPROVEMENTS

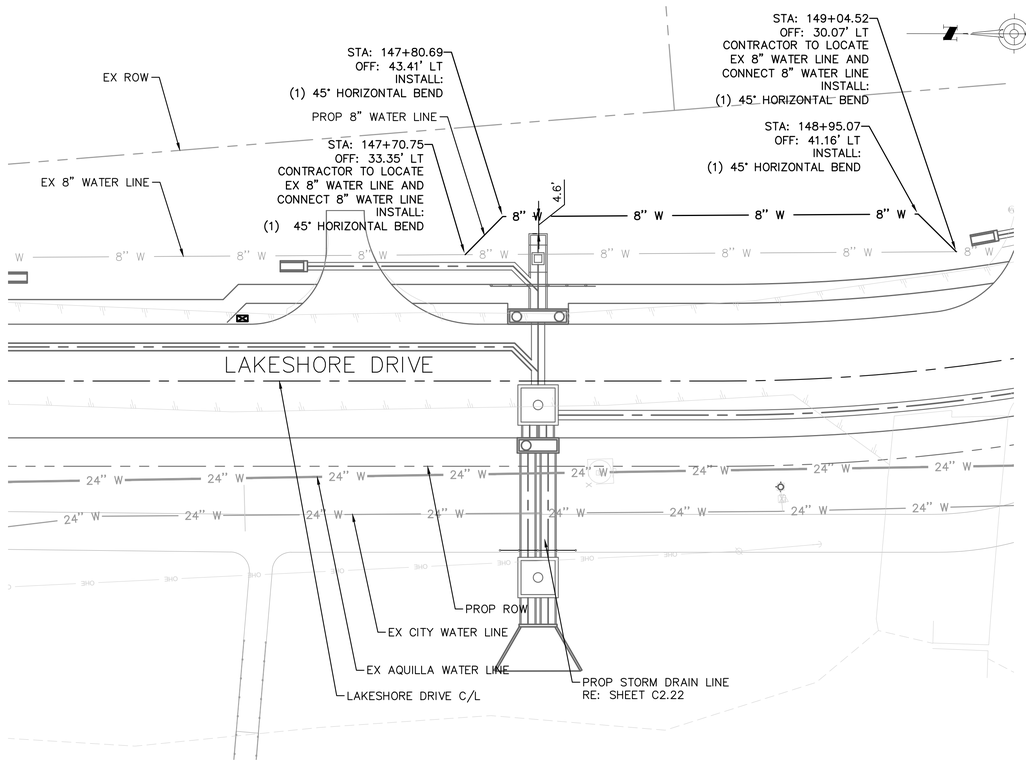
WATER LINE PLAN
(SHEET 2 OF 4)

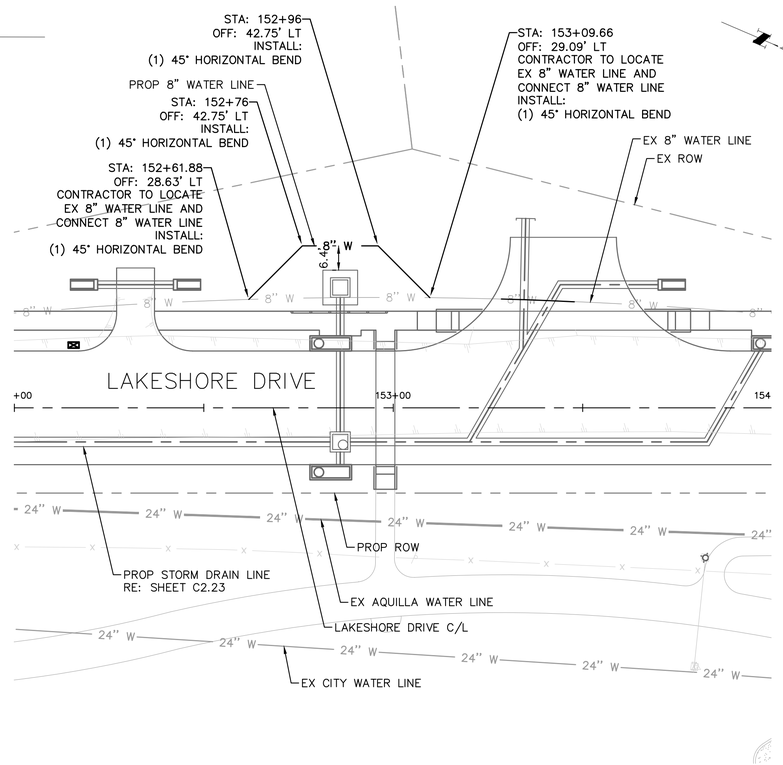
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KHA NO.:	061165022

SHEET NUMBER

C3.02

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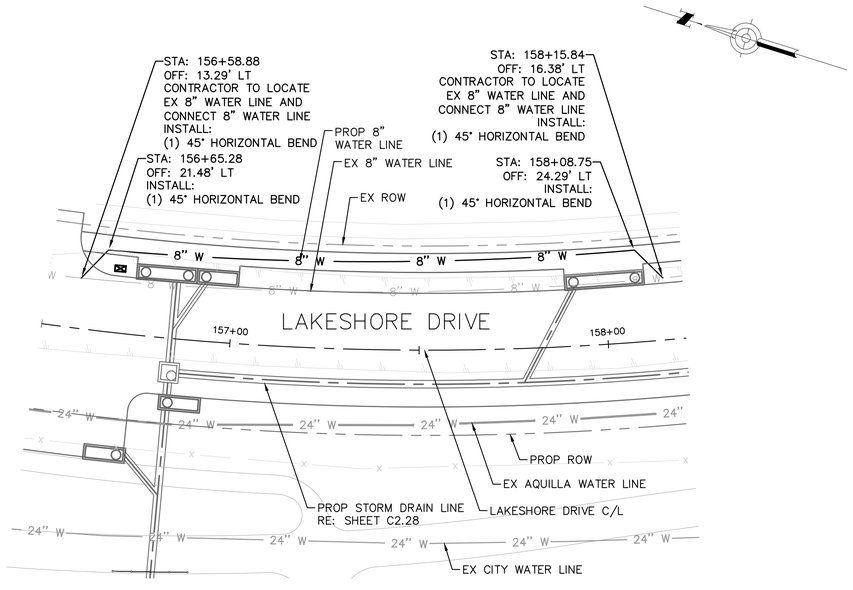


GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT



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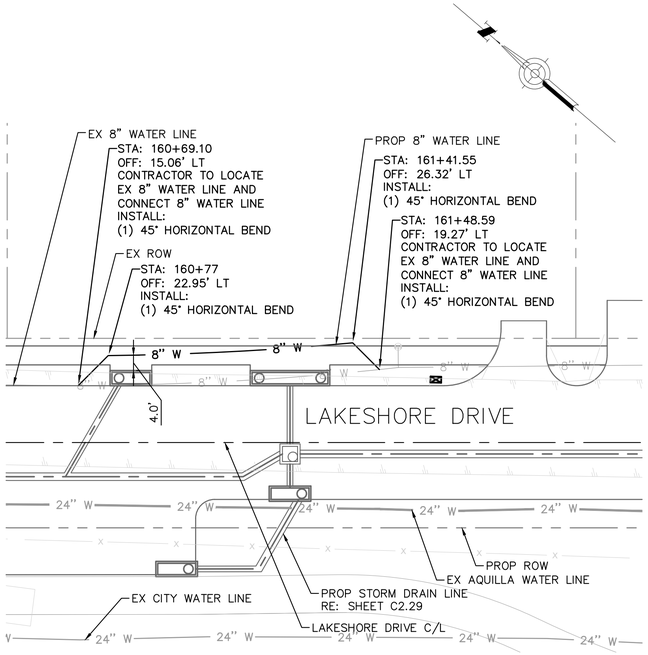
WATER LINE PLAN
(SHEET 3 OF 4)

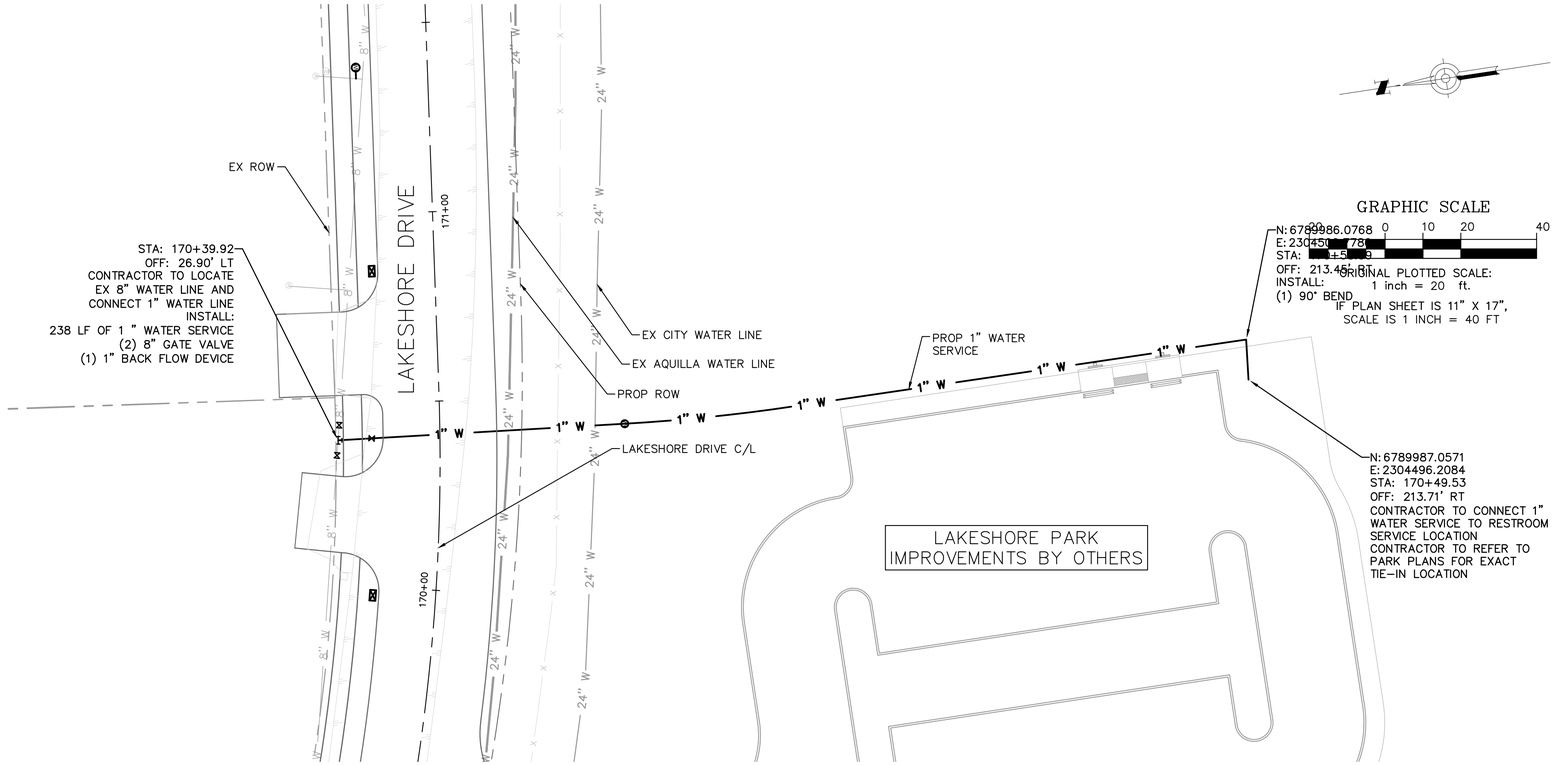
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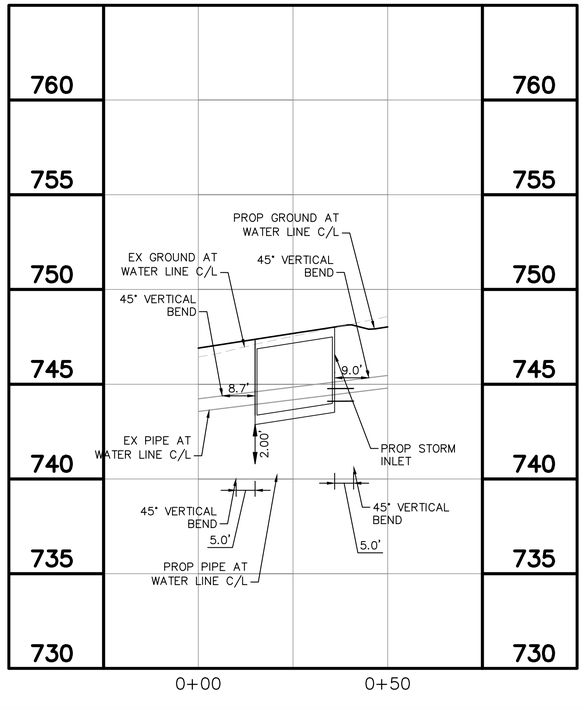
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k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\water plan.dwg





TYPICAL WATER LINE LOWERING DETAIL



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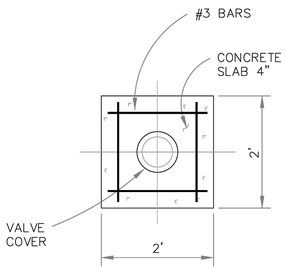
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

WATER LINE PLAN (SHEET 4 OF 4)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

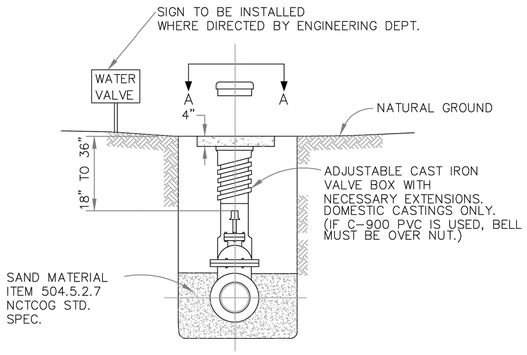
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VIEW A–A

N.T.S.

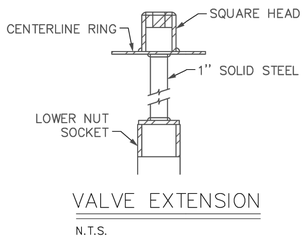


TYPICAL VALVE SETTING AND BOX 4" TO 12" GATE VALVE

N.T.S.

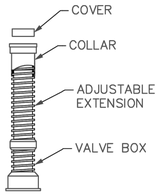
NOTES: WATER VALVE

1. ALL VALVES TO BE RESILIENT SEAT GATE VALVES WITH NON–RISING STEMS, COUNTER– CLOCKWISE OPENING.
2. VALVE STEM EXTENSIONS WITH ROCK GUARDS AND LOCK CLIPS SHALL BE INSTALLED WHERE NECESSARY TO PLACE OPERATING NUT NOT MORE THAN 36" BELOW FINISHED GRADE.
3. VALVES SHALL BE CLOW VALVES (OR APPROVED EQUAL) WITH STAINLESS STEEL HARDWARE (NUTS AND BOLTS). FLANGED WHERE APPLICABLE. MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH NCTCOG ITEM 502.6
4. ALL VALVES SHALL BE INSTALLED WITH 2'X2' CONCRETE PAD WITH VALVE COVERS IN CENTER OF PAD. THE CONCRETE PAD SHALL MATCH PAVEMENT THICKNESS WITHIN PAVEMENT, OR BE 4" THICK OUTSIDE PAVED AREAS. PADS SHALL BE REINFORCED WITH FOUR NO. 3 REBARS AROUND CONCRETE PADS.
5. VALVES SHALL BE INSTALLED IN CENTER OF LANES AND OUTSIDE NORMAL TIRE PATH OF LANE WHEN IN PAVED ROADWAYS.

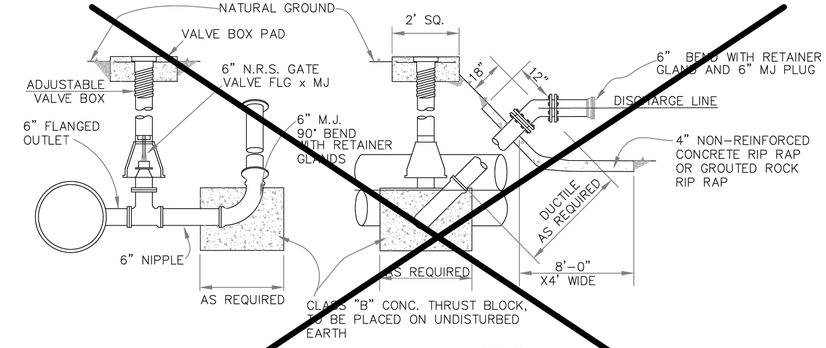


VALVE EXTENSION

N.T.S.



N.T.S.

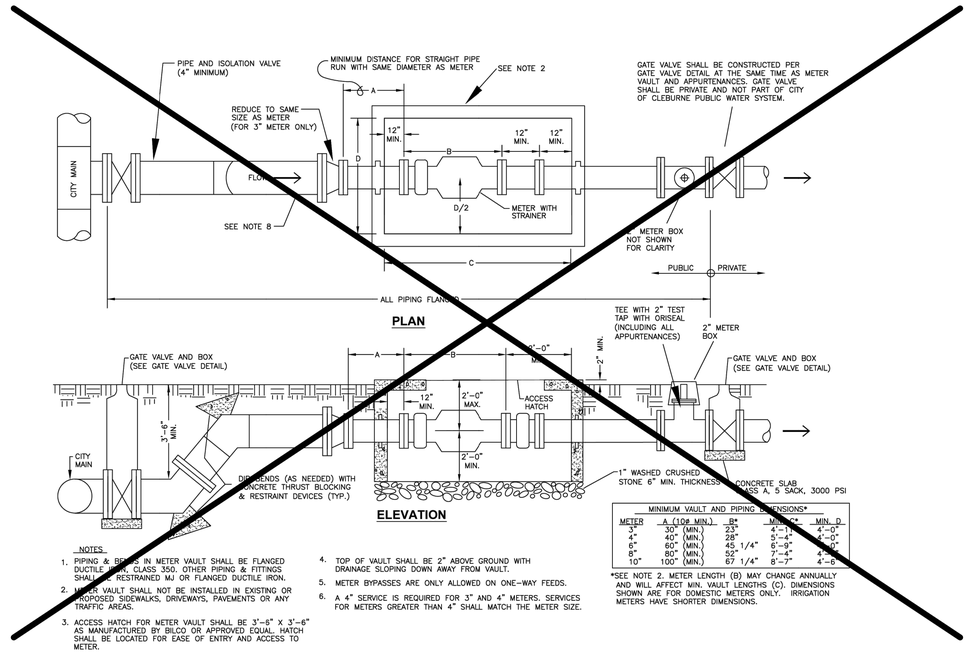


BLOW–OFF VALVE DETAIL

N.T.S.

NOTES:

1. MUST BE DISCHARGED INTO STORM SEWER, BRIDGE OR CULVERT.
2. USE APPROPRIATE BEND TO MAKE DISCHARGE END HORIZONTAL.
3. ALL FITTINGS SHALL BE RETAINED & DISCHARGE END SHALL BE CLOSED W/MJ PLUG.



NOTES

1. PIPING & FITTINGS IN METER VAULT SHALL BE FLANGED DUCTILE IRON CLASS 350. OTHER PIPING & FITTINGS SHALL BE RESTRAINED MJ OR FLANGED DUCTILE IRON.
2. METER VAULT SHALL NOT BE INSTALLED IN EXISTING OR PROPOSED SIDEWALKS, DRIVEWAYS, PAVEMENTS OR ANY TRAFFIC AREAS.
3. ACCESS HATCH FOR METER VAULT SHALL BE 3'–6" X 3'–6" AS MANUFACTURED BY BILCO OR APPROVED EQUAL. HATCH SHALL BE LOCATED FOR EASE OF ENTRY AND ACCESS TO METER.
4. TOP OF VAULT SHALL BE 2" ABOVE GROUND WITH DRAINAGE SLOPING DOWN AWAY FROM VAULT.
5. METER BYPASSES ARE ONLY ALLOWED ON ONE–WAY FEEDS.
6. A 4" SERVICE IS REQUIRED FOR 3" AND 4" METERS. SERVICES FOR METERS GREATER THAN 4" SHALL MATCH THE METER SIZE.

GATE VALVE SHALL BE CONSTRUCTED PER GATE VALVE DETAIL AT THE SAME TIME AS METER VAULT AND APPURTENANCES. GATE VALVE SHALL BE PRIVATE AND NOT PART OF CITY OF CLEBURNE PUBLIC WATER SYSTEM.

MINIMUM VAULT AND PIPING DIMENSIONS*

METER	A (10# MIN.)	B*	MIN. C*	MIN. D
3"	30" (MIN.)	23"	4'–6"	4'–0"
4"	40" (MIN.)	28"	5'–4"	4'–0"
6"	60" (MIN.)	45 1/4"	8'–9"	4'–0"
8"	80" (MIN.)	52"	7'–4"	4'–6"
10"	100" (MIN.)	67 1/4"	8'–7"	4'–6"

*SEE NOTE 2. METER LENGTH (B) MAY CHANGE ANNUALLY AND WILL AFFECT MIN. VAULT LENGTHS (C). DIMENSIONS SHOWN ARE FOR DOMESTIC METERS ONLY. IRRIGATION METERS HAVE SHORTER DIMENSIONS.

METER VAULT DETAIL

N.T.S.

cleburne
this is texas

DETAIL NAME / PROJECT NO.

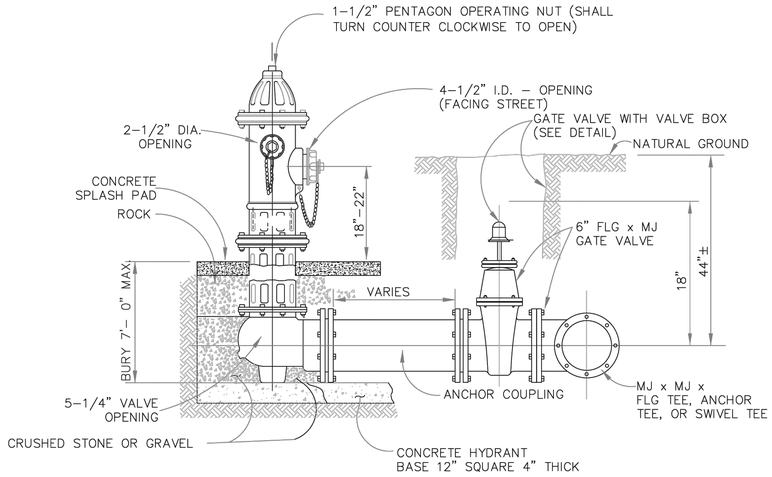
WATER DETAILS

ENGINEERING SERVICES DEPARTMENT

FILE: W–2

SCALE: NOT TO SCALE

DATE: 2020 VERSION

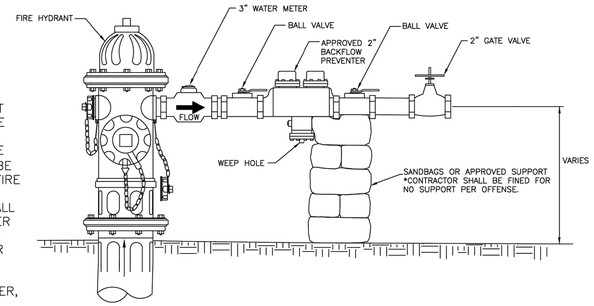


STANDARD FIRE HYDRANT DETAIL

N.T.S.

FIRE HYDRANT NOTES:

1. FIRE HYDRANT SHALL BE CLOW OR MUELLER.
2. CENTER OF F.H. BARREL SHALL BE NOT LESS THAN 2.5' OR MORE THAN 3.5' FROM BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE APPROVED BY THE ENGINEERING DEPARTMENT.
3. ON PRIVATE CONTRACTS, THE DEVELOPER'S ENGINEER WILL STAKE F.H. HORIZONTAL LOCATION AND FLANGE ELEVATION.
4. FIRE HYDRANTS SHALL BE INSTALLED PRIMED ONLY, PAINTED AFTER INSTALLATION.
5. FIRE HYDRANTS TO BE PAINTED BY BUILDER – SHERWIN WILLIAMS POLANE SILVER, PART #: F635L5 OR EQUIVALENT.
6. HYDRANT LEADS OR FIRE LINES IN EXCESS OF 200' REQUIRE DOUBLE-CHECK ASSEMBLY AT MAIN.
7. ALL HYDRANT EXTENSIONS SHALL HAVE BREAKAWAY FLANGE AND STEM COUPLING.
8. BLOCKING OF FIRE HYDRANT SHALL BE REQUIRED FOR EXTENSIONS ACROSS STREETS FROM MAINS OF LEADS LONGER THAN ONE JOINT OF PIPE. LAST JOINT OF PIPE CONNECTING TO HYDRANT MUST BE A FULL JOINT.
9. LOWER BARREL ON FIRE HYDRANT SHALL NOT EXCEED 7'-0". IF NECESSARY, RETAINED BENDS MAY BE USED TO ACHIEVE GRADE NEEDED WITHOUT EXCEEDING 7'-0" LOWER BARREL HEIGHT. ALL PIPING TO BE DUCTILE IRON.
10. PIPE WITH RETAINER GLANDS WILL ONLY BE PERMITTED FOR LEADS THAT EXCEED 36".
11. FIRE HYDRANTS SHALL NOT BE INSTALLED IN EXISTING OR PROPOSED SIDEWALKS.
12. FIRE HYDRANT SHALL BE LOCATED OUTSIDE OF CURB RETURNS AND A MINIMUM OF 4' FROM DRIVEWAYS APPROACH RADIUS.
13. HYDRANT VALVE SHALL FOLLOW GATE VALVE DETAIL.
14. ALL PIPING SHALL BE DUCTILE IRON WITH ALL BURIED VALVE, PIPE, AND FITTINGS TO BE POLY-WRAPPED.
15. HYDRANTS LOCATED IN PARKWAY MUST HAVE SPLASH PADS EXTENDED TO CURB.

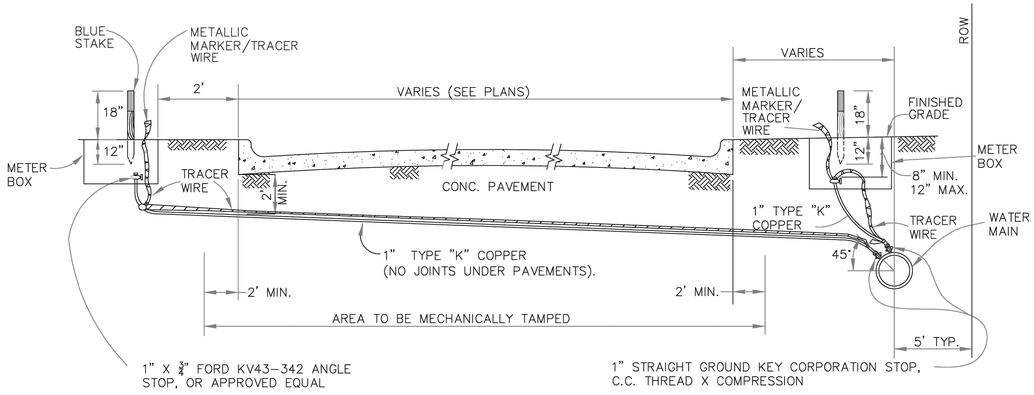


CONSTRUCTION WATER METER DETAIL

N.T.S.

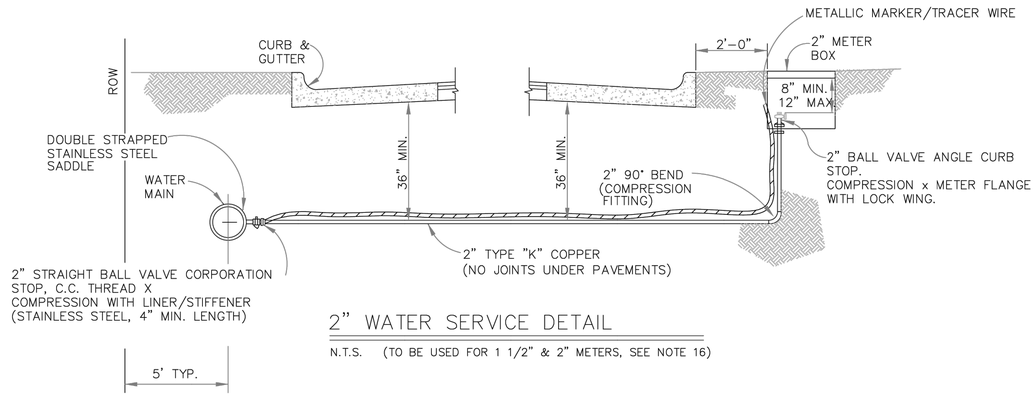
NOTES:

1. USE OF HYDRANT REQUIRES VALID WATER FIRE HYDRANT METER AGREEMENT. CONTACT WATER UTILITIES CUSTOMER SERVICE OFFICE FOR APPLICATION.
2. METER AND REDUCED BACKFLOW PRESSURE ZONE (RPZ) BACKFLOW ASSEMBLY SHALL BE FULLY SUPPORTED WHEN CONNECTED TO FIRE HYDRANT.
3. METER AND RPZ BACKFLOW ASSEMBLY SHALL BE APPROVED BY CITY OF CLEBURNE WATER UTILITIES. METER MUST BE OBTAINED FROM CITY OF CLEBURNE WATER UTILITIES. METER SHALL BE TESTED ANNUALLY BY CITY OF CLEBURNE WATER UTILITIES.
4. PRIOR TO ANY USE OF FIRE HYDRANT WATER, THE RPZ MUST BE TESTED BY A CITY-REGISTERED BACKFLOW PREVENTION ASSEMBLY TESTER (BPAT), AND A CURRENT AND PASSING TEST AND MAINTENANCE REPORT (TMR) FOR THE RPZ MUST BE SENT TO UTILITY BILLING AT (817) 645-0919. BACKFLOW ASSEMBLY SHALL BE TESTED ANNUALLY AND EACH TIME THE ASSEMBLY IS MOVED TO A DIFFERENT FIRE HYDRANT SITE. COPY OF TEST SHALL BE SENT TO CITY OF CLEBURNE WATER UTILITIES WATER RESOURCE SERVICES BEFORE USAGE WILL BE ALLOWED.
5. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO FIRE HYDRANT DURING USE.
6. SANDBAGS OR APPROVED SUPPORT SHALL NOT OBSTRUCT WEEP HOLE.



1" WATER SERVICE DETAIL

N.T.S. (TO BE USED FOR 3/4" & 1" METER, TO BE REDUCED AT METER)



2" WATER SERVICE DETAIL

N.T.S. (TO BE USED FOR 1 1/2" & 2" METERS, SEE NOTE 16)

WATER SERVICE NOTES:

1. TRACER WIRE IS REQUIRED ALONG CITY SIDE SERVICE CONNECTION FROM MAIN TO METER
2. TRACER WIRE IS REQUIRED ALONG ENTIRE LENGTH OF MAIN
3. METER BOX MUST BE BEDDED WITH AT LEAST 4" CRUSHED STONE OR PEA GRAVEL

cleburne
this is texas

DETAIL NAME / PROJECT NO.

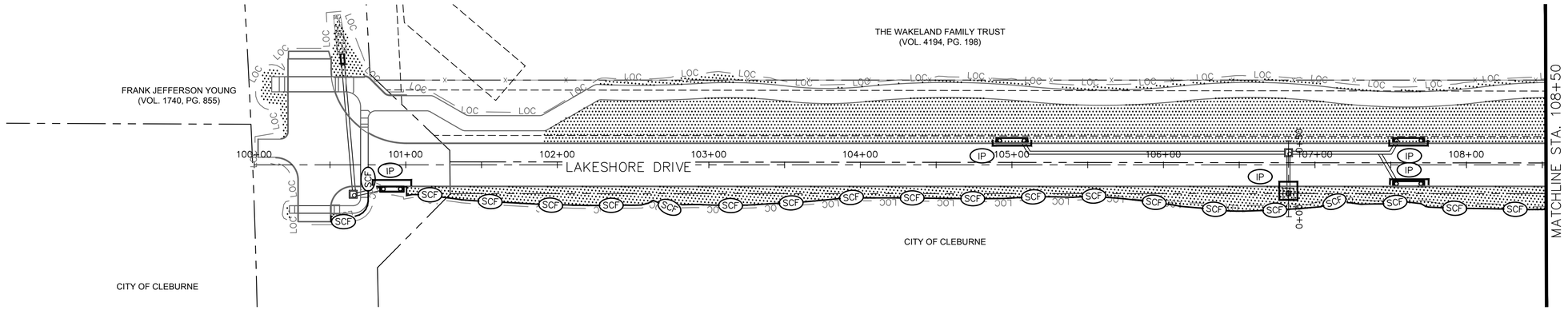
WATER DETAILS

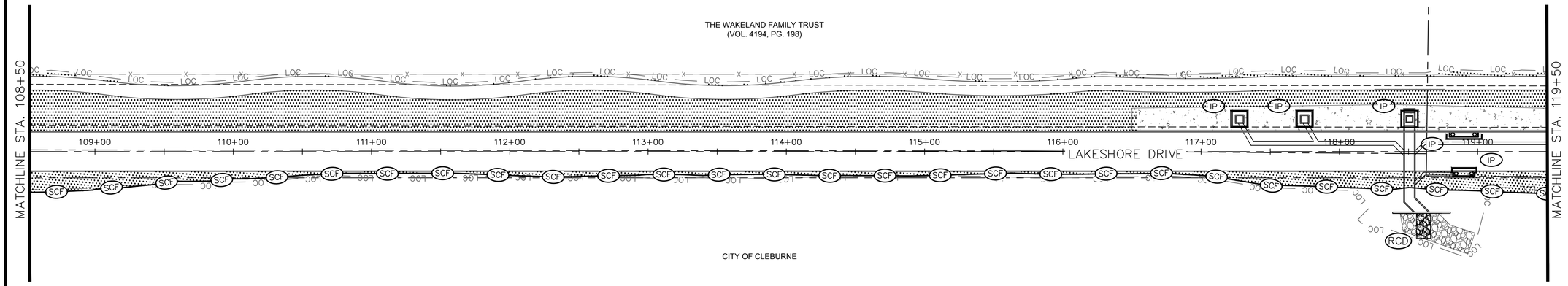
ENGINEERING SERVICES DEPARTMENT

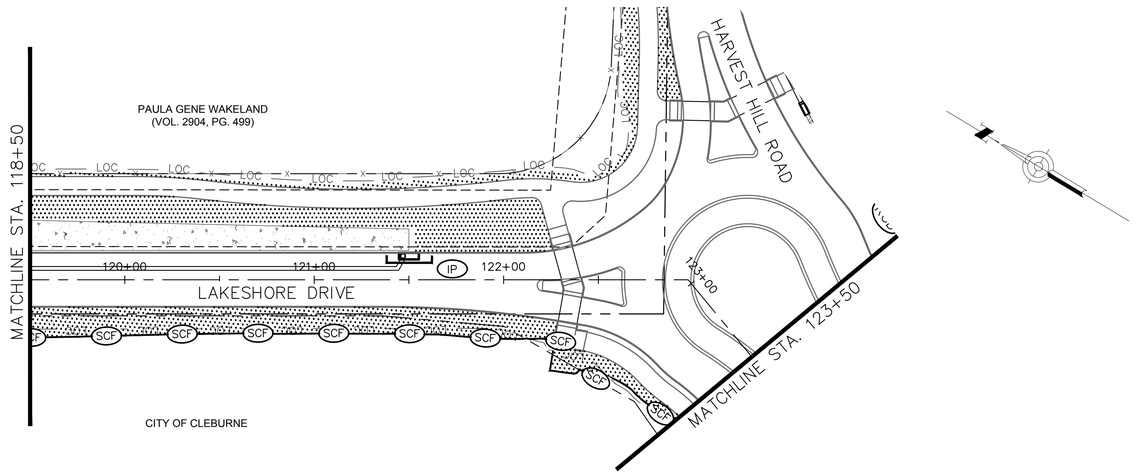
FILE: W-1

SCALE: NOT TO SCALE

DATE: 2020 VERSION







GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

LEGEND

SEDIMENT CONTROL FENCE	SCF
INLET PROTECTION	IP
PROPOSED SEED	
ROCK CHECK DAM	RCD
LIMITS OF CONSTRUCTION	LOC

NOTES:
1. SEEDING SHALL MATCH THE SEEDING USED ON THE PARK PROJECT. SEEDING SHALL BE TX-OK NATIVE ROADSIDE MIX.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

EROSION CONTROL PLAN (SHEET 1 OF 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C4.01

Plotted, By: 2026-04-16 18:49:33, Salinas, Rene
Last Saved: 2026-04-09 11:38:00 (SHEET 1 OF 5)
k:\fw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\erosion control.dwg

MATCHLINE STA. 123+50

BOAT RAMP ACCESS ROAD

LAKESHORE DRIVE

ORUM ELWYN SEAY
(INST. NO. 2016-26638)
2005 LAKESHORE DRIVE

LAKESHORE DRIVE

MATCHLINE STA. 134+50

GRAPHIC SCALE
40 0 20 40 80
ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.
IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

ORUM ELWYN SEAY
(INST. NO. 2016-26638)
2005 LAKESHORE DRIVE

BLOCK 1
BYRNE ADDITION
(VOL. 10, PG. 726)
2009 LAKESHORE DRIVE

BLOCK 1
BYRNE ADDITION
(VOL. 10, PG. 726)
2011 LAKESHORE DRIVE

SKYVIEW DRIVE

LOT 7, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2101 LAKESHORE DRIVE

LOT 6, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2107 LAKESHORE DRIVE

LOT 5, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2113 LAKESHORE DRIVE

LAKESHORE PARK
IMPROVEMENTS BY OTHERS

LAKESHORE DRIVE

MATCHLINE STA. 144+50

LOT 13, BLOCK 1
LAKESHORE ESTATES, SECTION 1
(VOL. 480, PG. 753)
2301 LAKESHORE DRIVE

MATCHLINE STA. 154+50

LOT 4, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2119 LAKESHORE DRIVE

LOT 3, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2201 LAKESHORE DRIVE

LOT 2, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2211 LAKESHORE DRIVE

LOT 1, BLOCK 1
LAKECREST ESTATES
(VOL. 5, GP. 77)
2213 LAKESHORE DRIVE

LAKESHORE DRIVE

MATCHLINE STA. 144+50

LEGEND

SEDIMENT CONTROL FENCE	SCF
INLET PROTECTION	IP
PROPOSED SEED	
ROCK CHECK DAM	RCD
LIMITS OF CONSTRUCTION	LOC

NOTES:
1. SEEDING SHALL MATCH THE SEEDING USED ON THE PARK PROJECT. SEEDING SHALL BE TX-OK NATIVE ROADSIDE MIX.

Kimley»Horn
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140647
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PROFESSIONAL ENGINEER

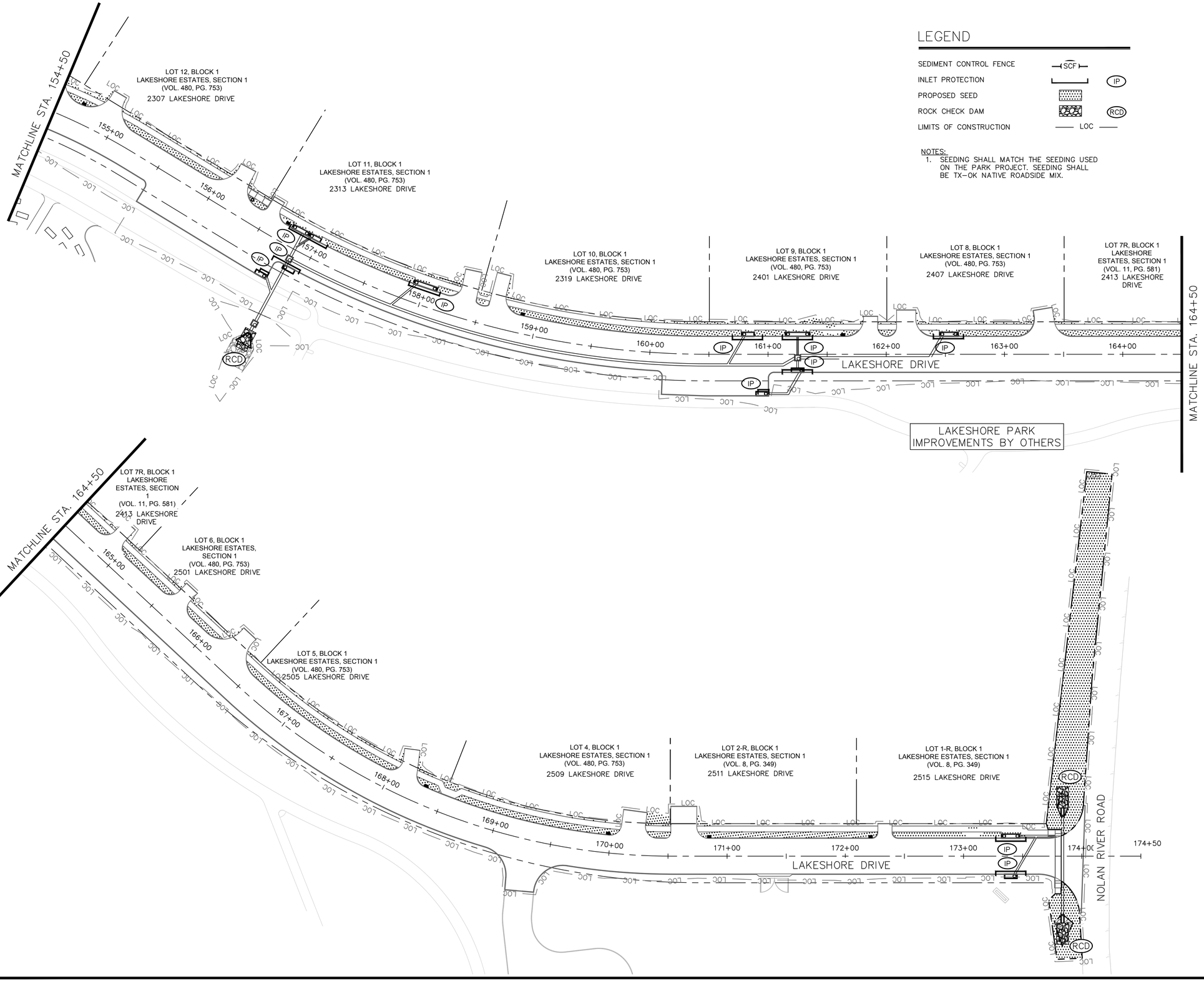
CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

EROSION CONTROL PLAN (SHEET 2 OF 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C4.02

Plotted, By: 2026-04-16 18:49:39, Salinas, Rene
Last Saved: 2026-04-09 11:38:00 (SHEET 2 OF 5)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\erosion control.dwg



Plotted By: 2026-04-16 18:49:43, Salinas, Rene
Last Saved: 2026-04-09 11:38:00 (SHEET 3 OF 5)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\erosion control.dwg

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No.	Revision	By	Date

04/10/2026

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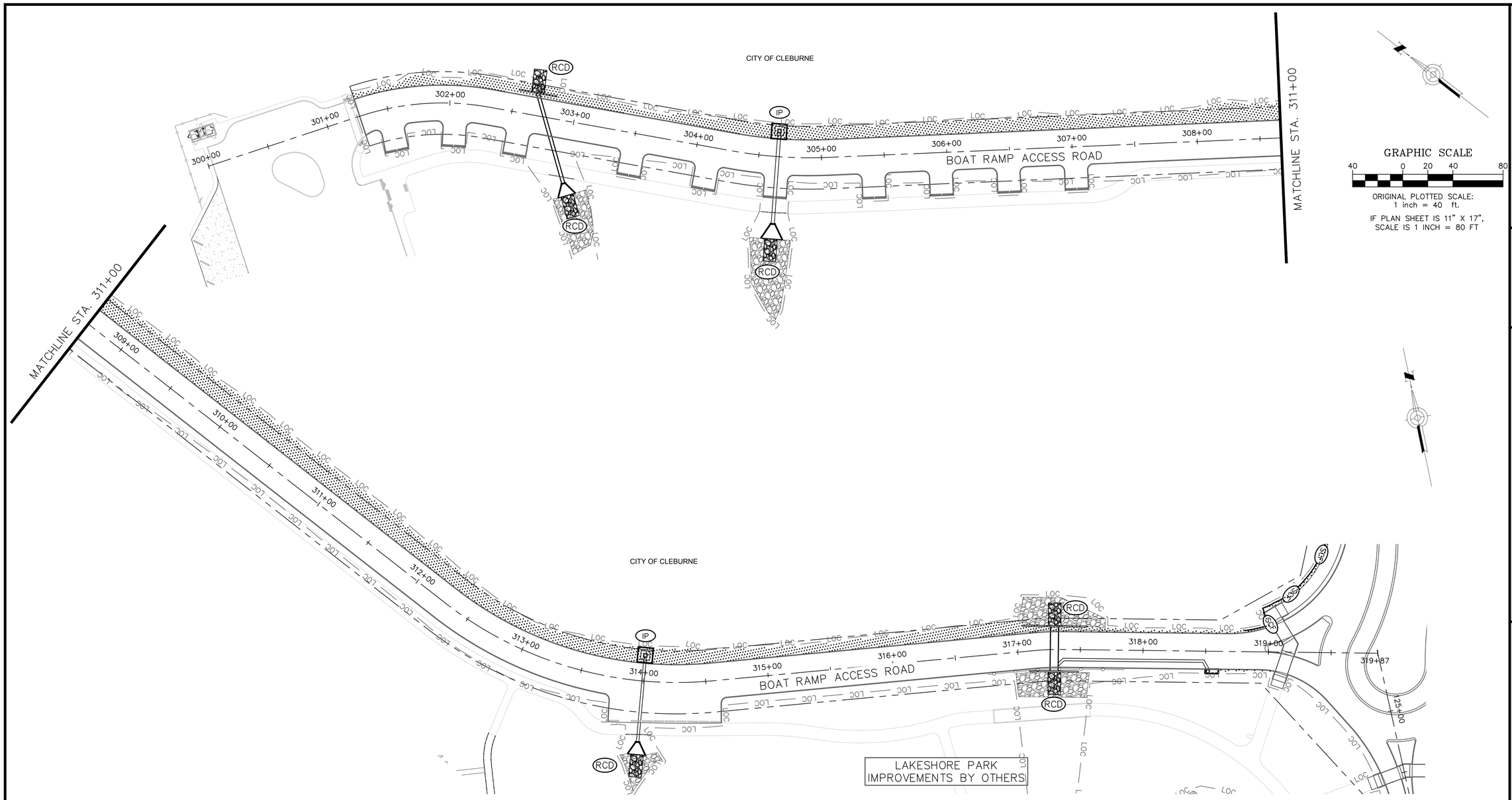
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

EROSION CONTROL PLAN
(SHEET 3 OF 5)

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C4.03



GRAPHIC SCALE

40 0 20 40 80

ORIGINAL PLOTTED SCALE:
1 inch = 40 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 80 FT

LEGEND

SEDIMENT CONTROL FENCE	SCF
INLET PROTECTION	IP
PROPOSED SEED	
ROCK CHECK DAM	RCD
LIMITS OF CONSTRUCTION	LOC

NOTES:
1. SEEDING SHALL MATCH THE SEEDING USED ON THE PARK PROJECT. SEEDING SHALL BE TX-OK NATIVE ROADSIDE MIX.

Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

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04/10/2026

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

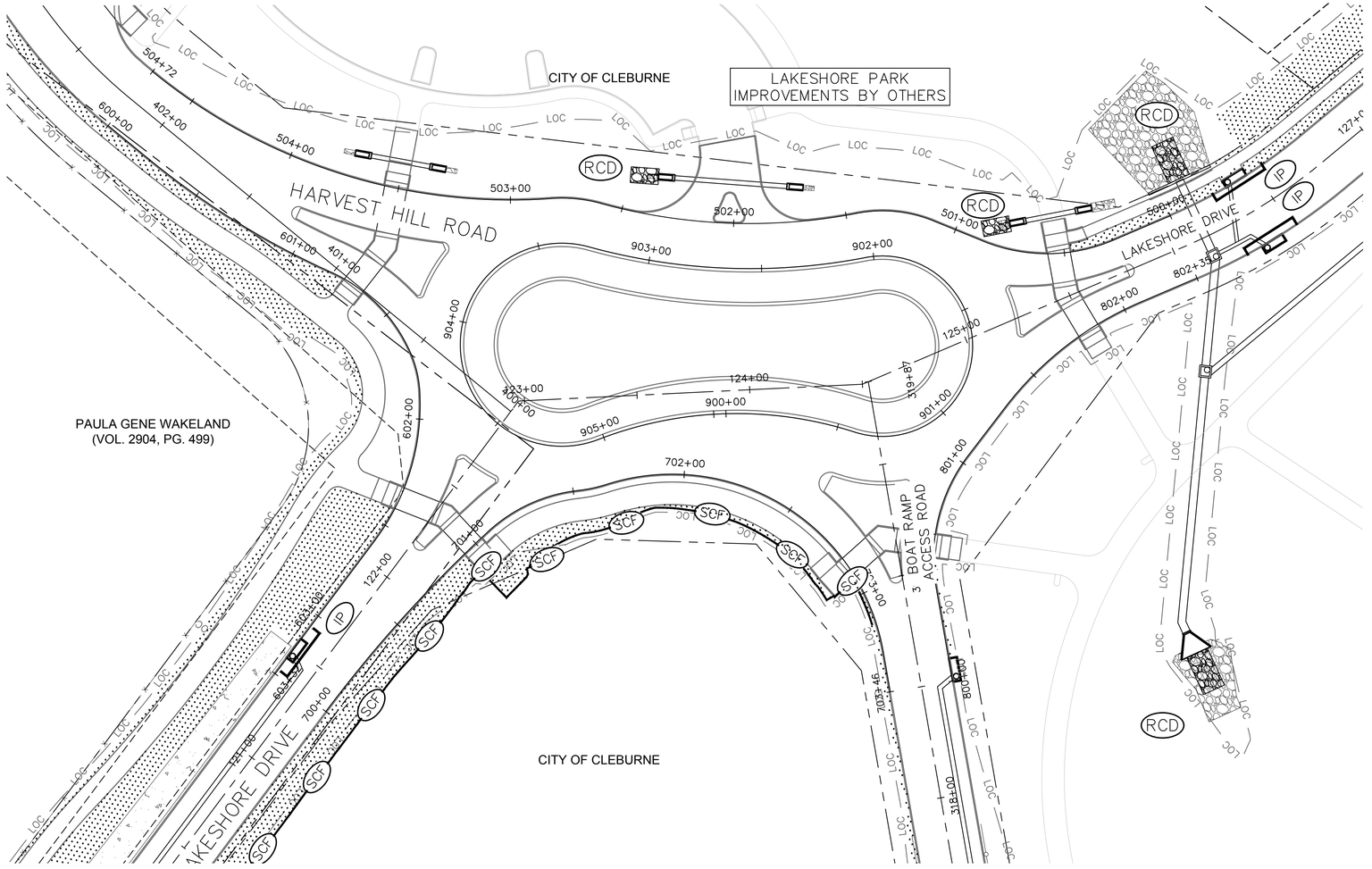
EROSION CONTROL PLAN (SHEET 4 OF 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C4.04

Plotted By: 2026-04-16 18:49:47, Salinas, Rene
Last Saved: 2026-04-09 11:38:00 (SHEET 4 OF 5)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\erosion control.dwg



GRAPHIC SCALE

30 0 15 30 60

ORIGINAL PLOTTED SCALE:
1 inch = 30 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 60 FT

LEGEND

SEDIMENT CONTROL FENCE	SCF
INLET PROTECTION	IP
PROPOSED SEED	
ROCK CHECK DAM	RCD
LIMITS OF CONSTRUCTION	LOC

NOTES:
1. SEEDING SHALL MATCH THE SEEDING USED ON THE PARK PROJECT. SEEDING SHALL BE TX-OK NATIVE ROADSIDE MIX.

Kimley»Horn
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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

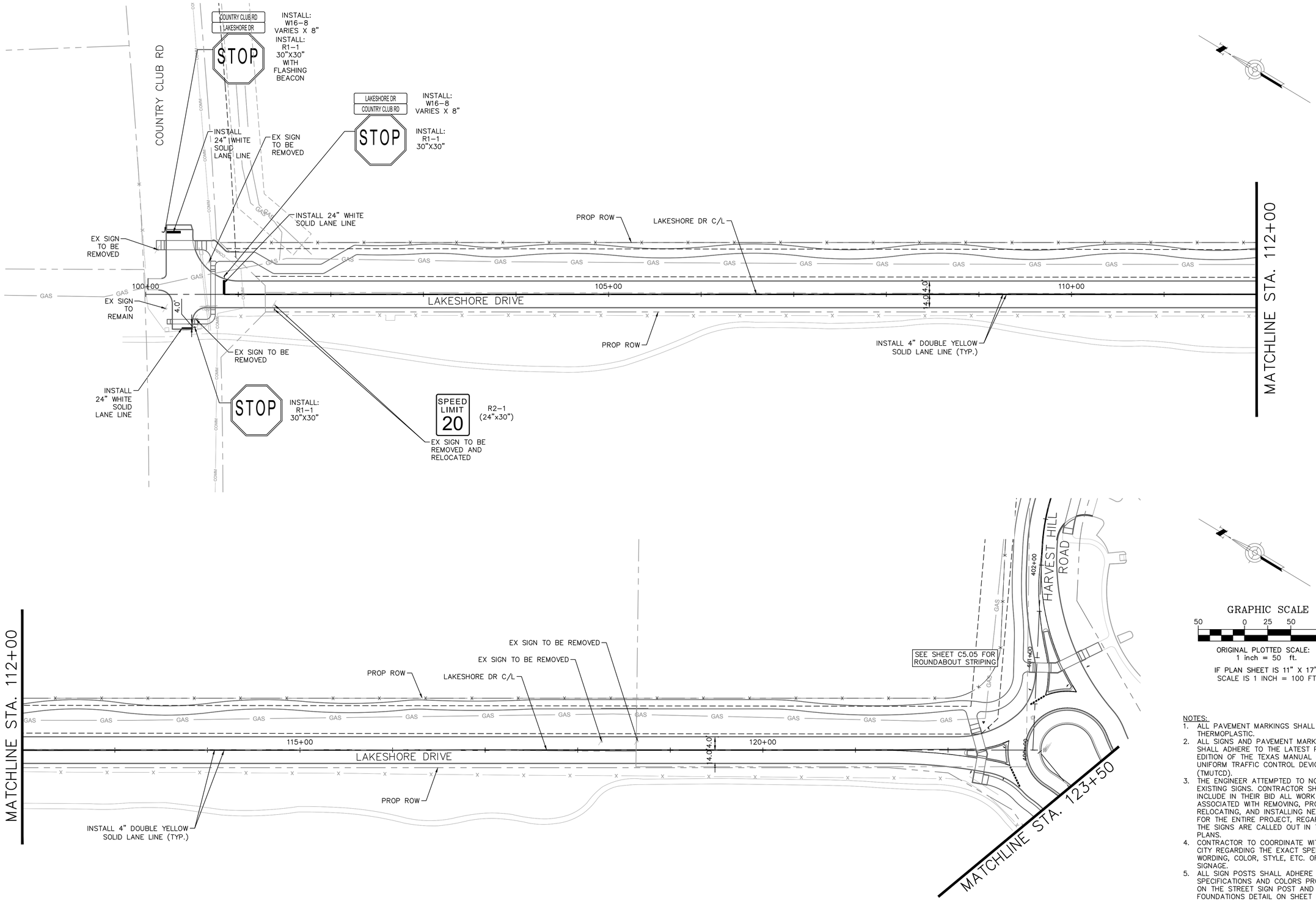
EROSION CONTROL PLAN (SHEET 5 OF 5)

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C4.05

Plotted By: 2026-04-16 18:49:50, Salinas, Rene
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k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\erosion control.dwg



NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL ADHERE TO THE LATEST PUBLISHED EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE ENGINEER ATTEMPTED TO NOTE ALL EXISTING SIGNS. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL WORK ASSOCIATED WITH REMOVING, PROTECTING, RELOCATING, AND INSTALLING NEW SIGNS FOR THE ENTIRE PROJECT, REGARDLESS IF THE SIGNS ARE CALLED OUT IN THE PLANS.
4. CONTRACTOR TO COORDINATE WITH THE CITY REGARDING THE EXACT SPELLING, WORDING, COLOR, STYLE, ETC. OF THE SIGNAGE.
5. ALL SIGN POSTS SHALL ADHERE TO THE SPECIFICATIONS AND COLORS PROVIDED ON THE STREET SIGN POST AND FOUNDATIONS DETAIL ON SHEET C1.89.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

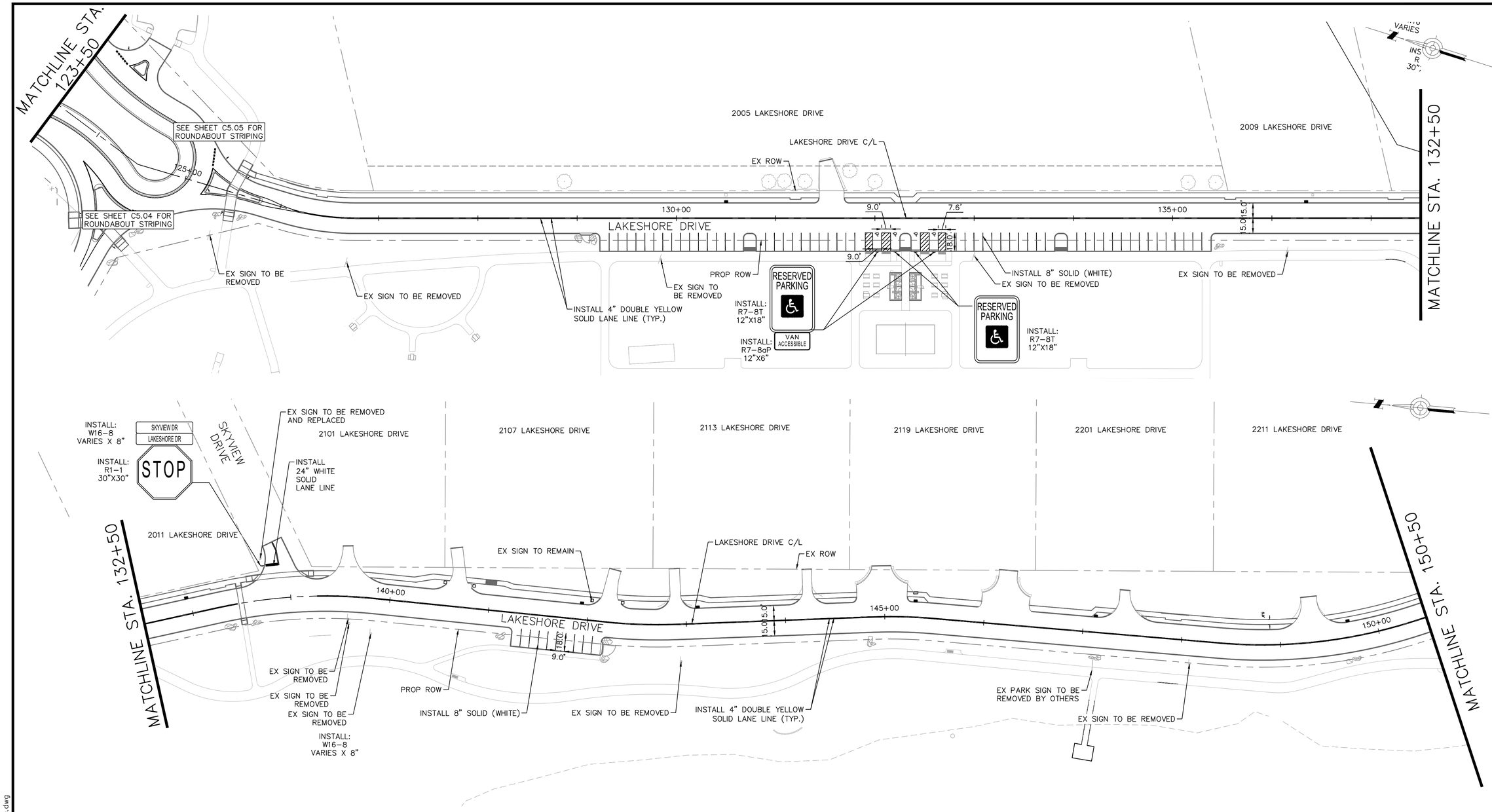
SIGNING AND STRIPING - LAKESHORE DR - BEGIN TO STA 123+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C5.01

Plotted, By: 2026-04-16 18:50:22, Salinas, Rene
Last Saved: 2026-03-31 14:14:37 (HARVEST HILL)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\lakeshore pavment markings.dwg



GRAPHIC SCALE

50 0 25 50 100

ORIGINAL PLOTTED SCALE:
1 inch = 50 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 100 FT

NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL ADHERE TO THE LATEST PUBLISHED EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
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STATE OF TEXAS
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106647
LICENSED
PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

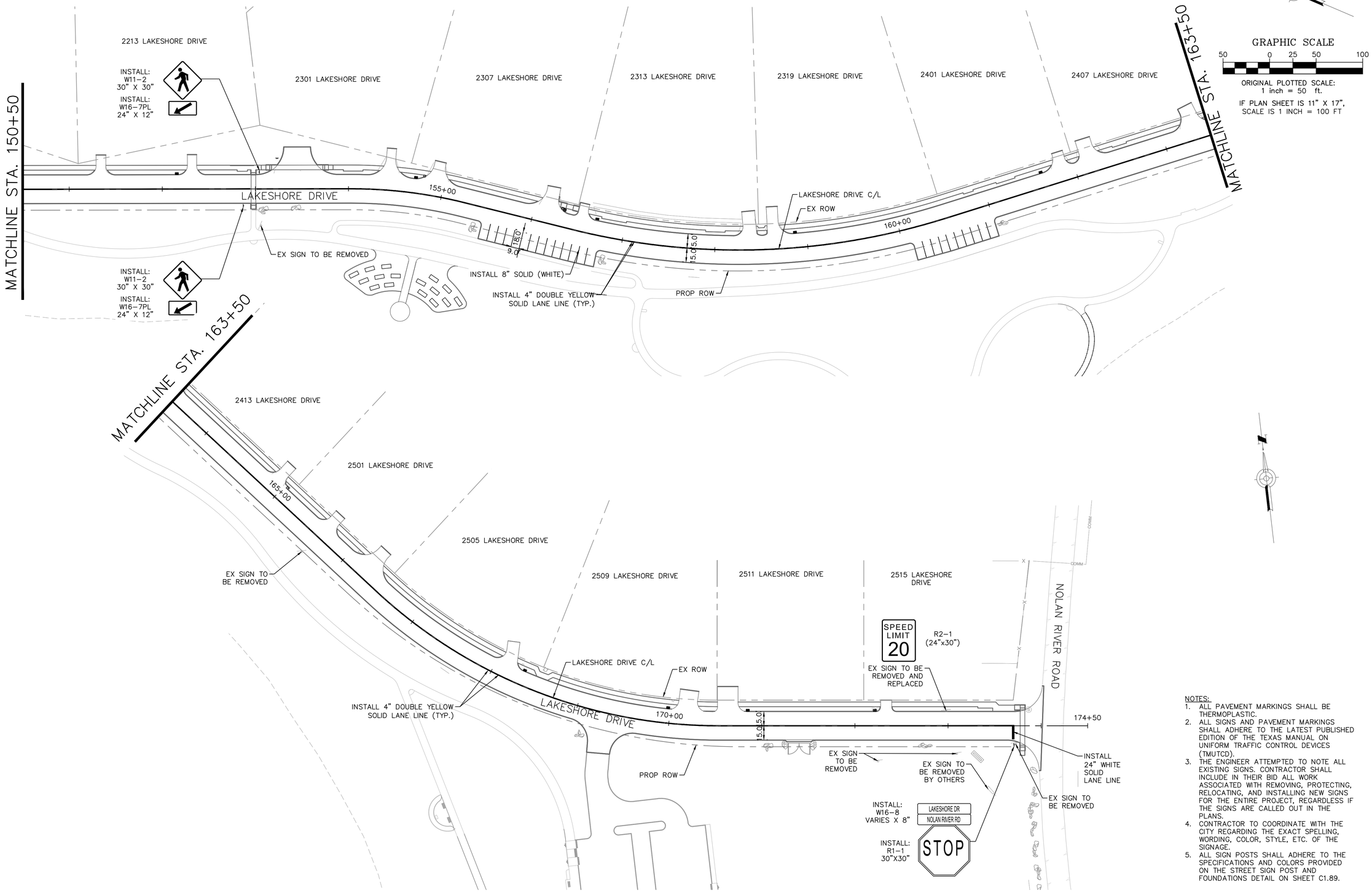
SIGNING AND STRIPING - LAKESHORE DR - STA 123+50 TO STA 150+50

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C5.02

Plotted By: 2026-04-16 18:50:30, Salinas, Rene
Last Saved: 2026-03-31 14:14:37 (BEGIN TO STA 126+00)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: d:\cadd\sheets\lakeshore pavment markings.dwg



NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL ADHERE TO THE LATEST PUBLISHED EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE ENGINEER ATTEMPTED TO NOTE ALL EXISTING SIGNS. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL WORK ASSOCIATED WITH REMOVING, PROTECTING, RELOCATING, AND INSTALLING NEW SIGNS FOR THE ENTIRE PROJECT, REGARDLESS IF THE SIGNS ARE CALLED OUT IN THE PLANS.
4. CONTRACTOR TO COORDINATE WITH THE CITY REGARDING THE EXACT SPELLING, WORDING, COLOR, STYLE, ETC. OF THE SIGNAGE.
5. ALL SIGN POSTS SHALL ADHERE TO THE SPECIFICATIONS AND COLORS PROVIDED ON THE STREET SIGN POST AND FOUNDATIONS DETAIL ON SHEET C1.89.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

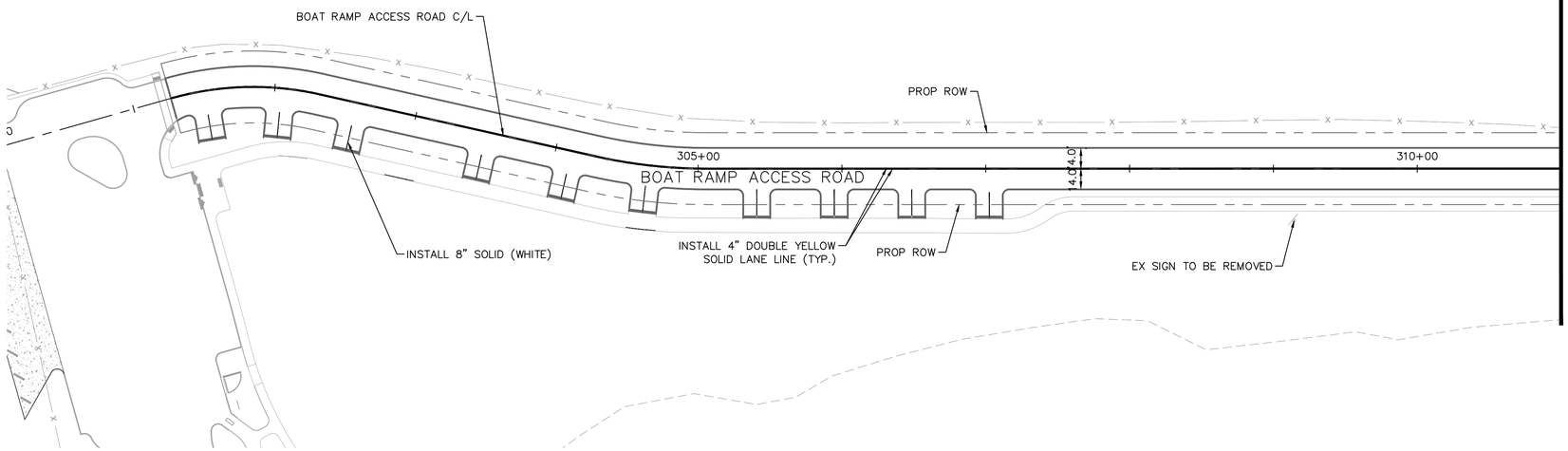
SIGNING AND STRIPING - LAKESHORE DR - STA 150+50 TO END

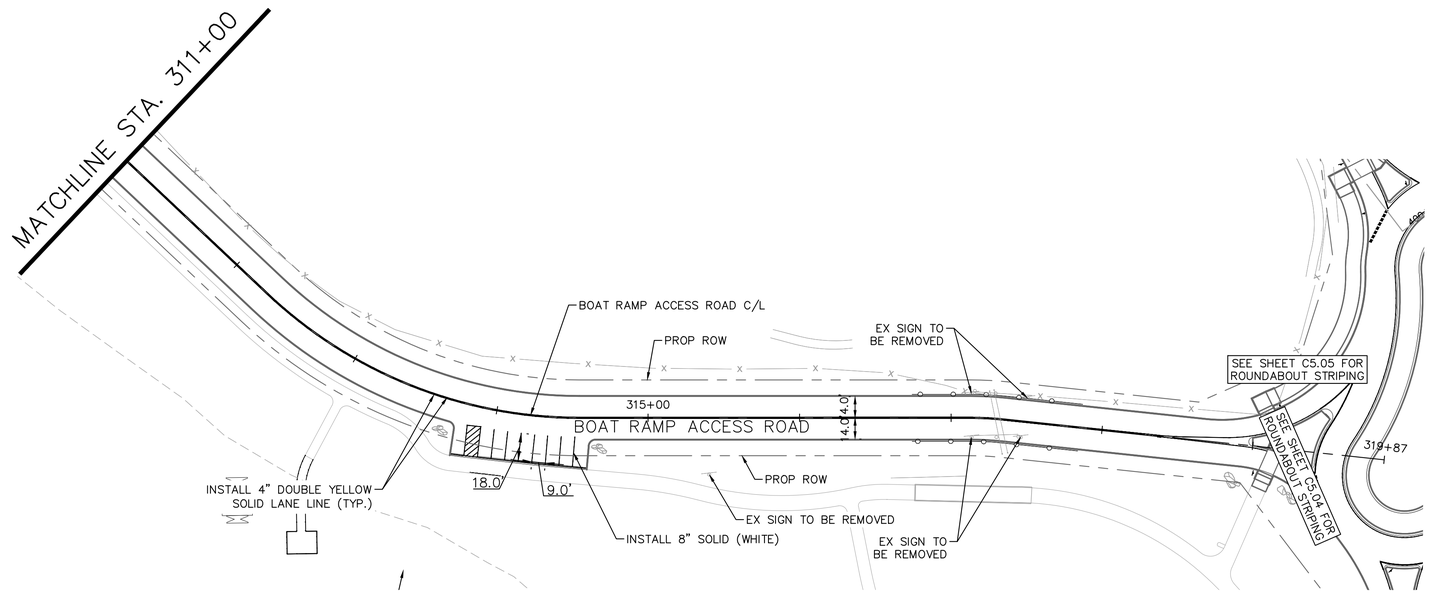
DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C5.03

Plotted, By: 2026-04-16 18:50:38, Salinas, Rene
Last Saved: 2026-03-31 14:14:37 (STA 126+00 TO END)
k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\cadd\sheets\lakeshore pavment markings.dwg





GRAPHIC SCALE

50 0 25 50 100

ORIGINAL PLOTTED SCALE:
1 inch = 50 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 100 FT

NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL ADHERE TO THE LATEST PUBLISHED EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
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CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

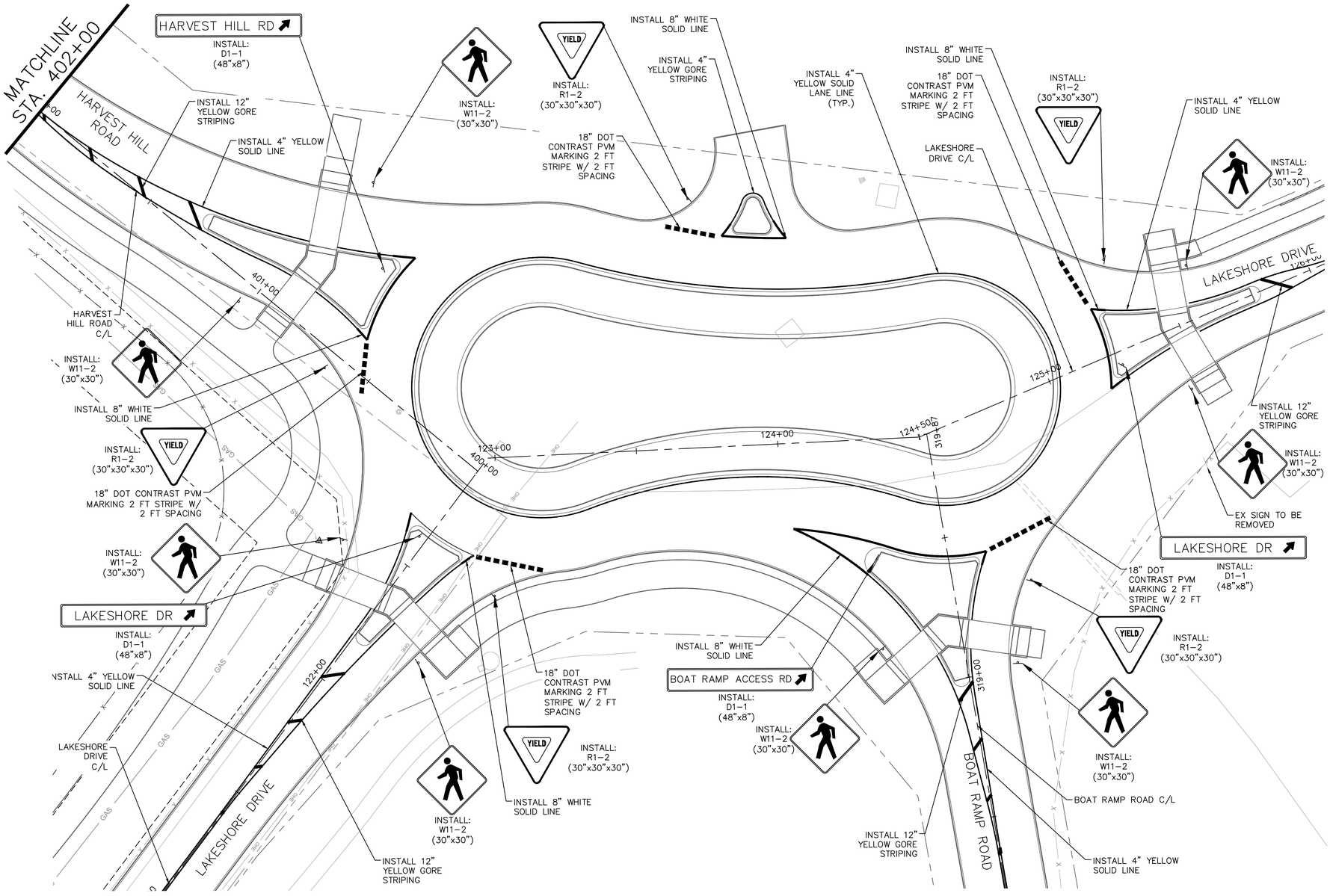
SIGNING AND STRIPING -
BOAT RAMP ROAD - BEGIN
TO END

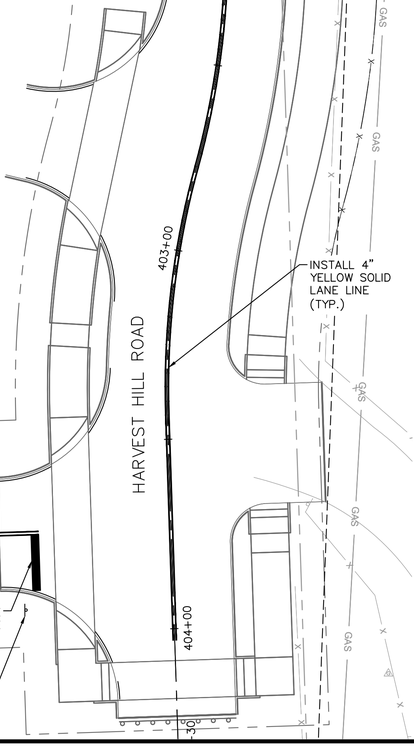
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DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER

C5.04

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Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\lakeshore pavment markings.dwg





GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE: 1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17", SCALE IS 1 INCH = 40 FT

NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL ADHERE TO THE LATEST PUBLISHED EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. THE ENGINEER ATTEMPTED TO NOTE ALL EXISTING SIGNS. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL WORK ASSOCIATED WITH REMOVING, PROTECTING, RELOCATING, AND INSTALLING NEW SIGNS FOR THE ENTIRE PROJECT, REGARDLESS IF THE SIGNS ARE CALLED OUT IN THE PLANS.
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No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

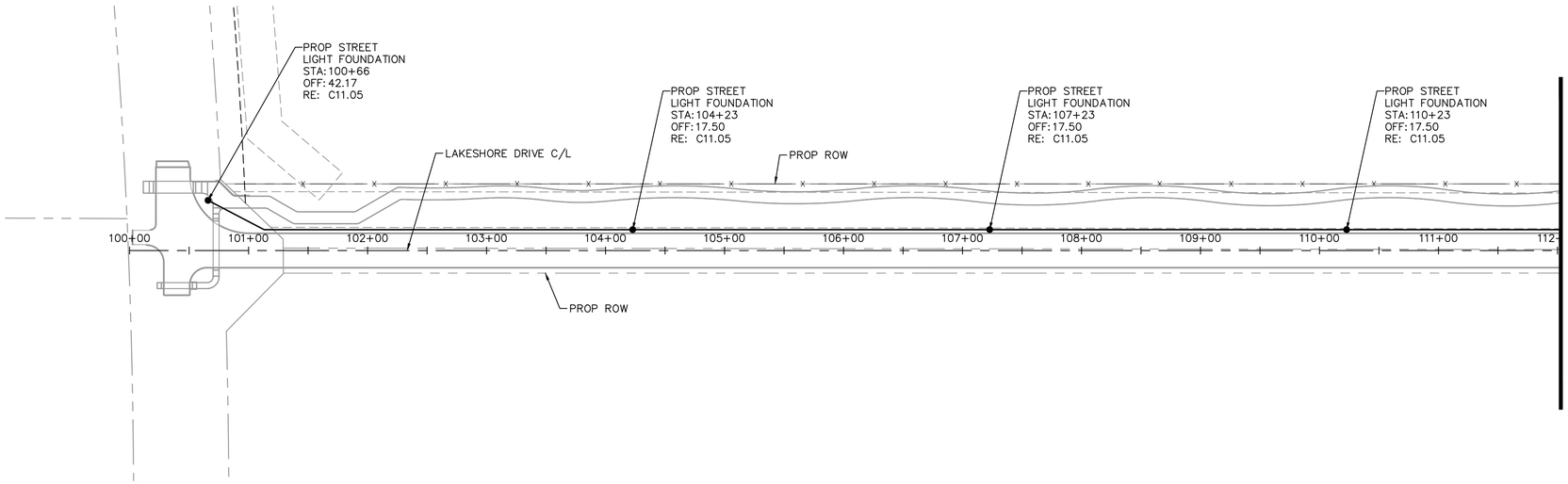
SIGNING AND STRIPING - ROUNDABOUT - BEGIN TO END

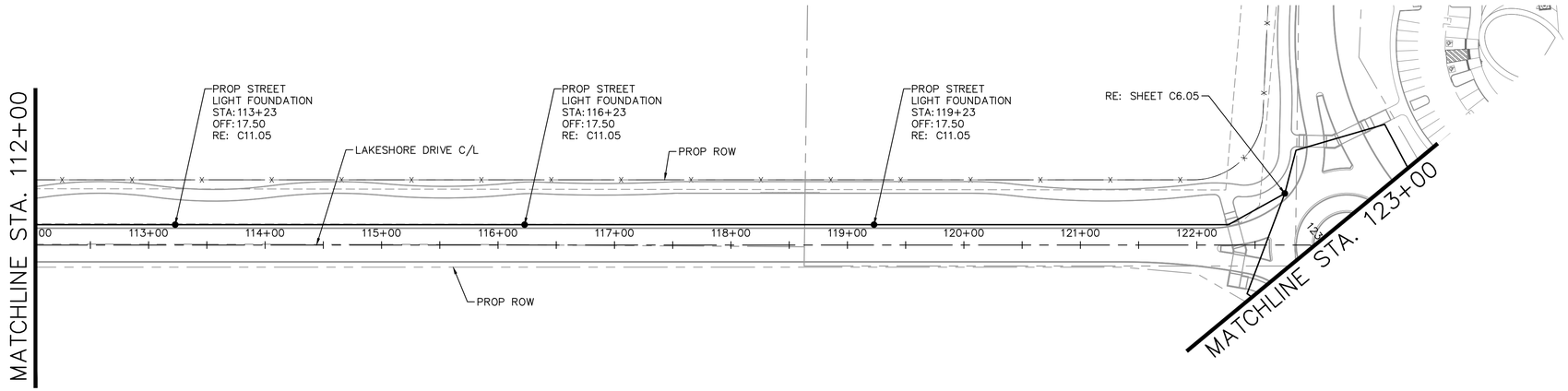
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DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

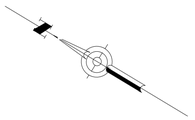
SHEET NUMBER

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GRAPHIC SCALE

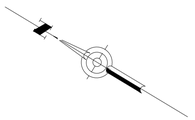
60 0 30 60 120

ORIGINAL PLOTTED SCALE:
1 inch = 60 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 120 FT

NOTES:

1. ALL CONDUIT SHALL BE 2" SCH 40 PVC.
2. STREET LIGHT FOUNDATION TO BE INSTALLED BY CONTRACTOR.
3. STREET LIGHTS TO BE INSTALLED BY ONCOR.
4. ALL NEW STREET LIGHTS INSTALLED SHALL BE LED.
5. BORING OF CONDUIT UNDER DRIVEWAYS, STREETS, OR ANY OTHER OBJECT, EXISTING OR PROPOSED, SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. AVOID TREES WITH CONDUIT AND SECONDARY CONNECTION BOX INSTALLATION.
7. CONTRACTOR IS RESPONSIBLE FOR TRIMMING TREES IF NECESSARY. (SUBSIDIARY)
8. ONCOR BOX LOCATIONS SHOWN ARE APPROXIMATE ONLY. FINAL BOX LOCATIONS AND NUMBER TO BE VERIFIED BY ONCOR.
9. CONTRACTOR TO INSTALL PROPOSED STREET LIGHT FOUNDATION AT THE HEIGHT OF THE 100 YEAR WSEL OF 740'.
10. PROPOSED STREET LIGHT FOUNDATION TO BE INSTALLED 3' FROM BACK OF CURB.



Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

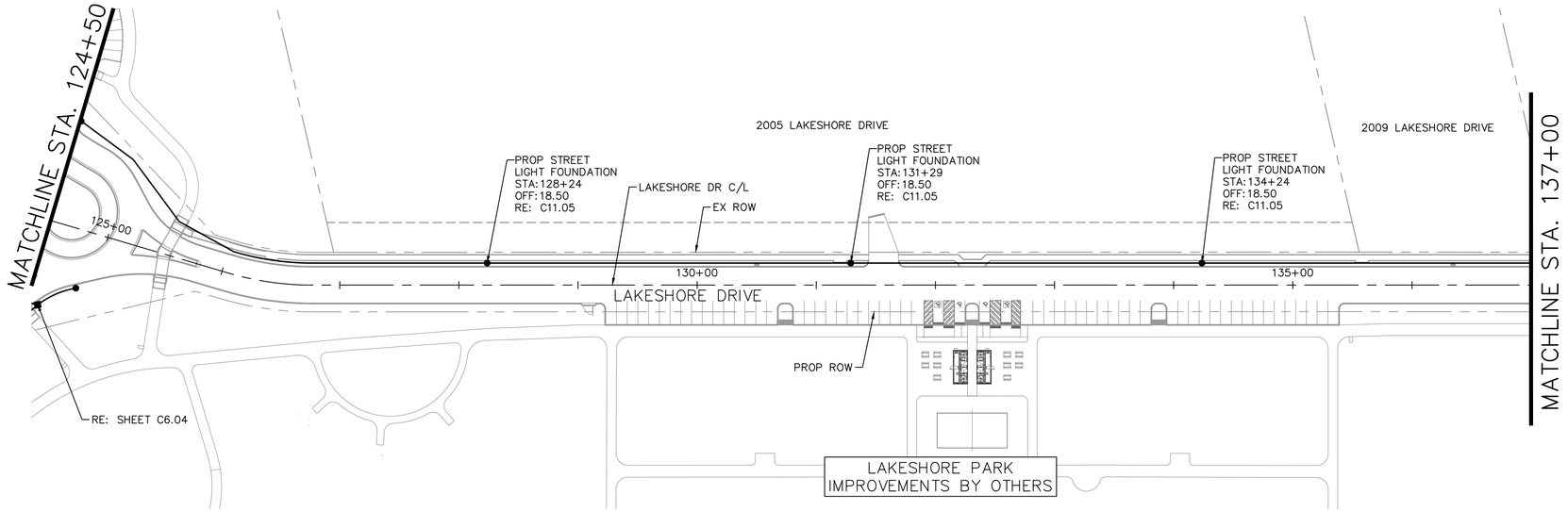
STREET LIGHTING PLAN - LAKESHORE DRIVE - BEGIN TO STA 123+00

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C6.01

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dr\cadd\sheets\lighting plan lakeshore begin to sta
Filename: 132+00.dwg





GRAPHIC SCALE

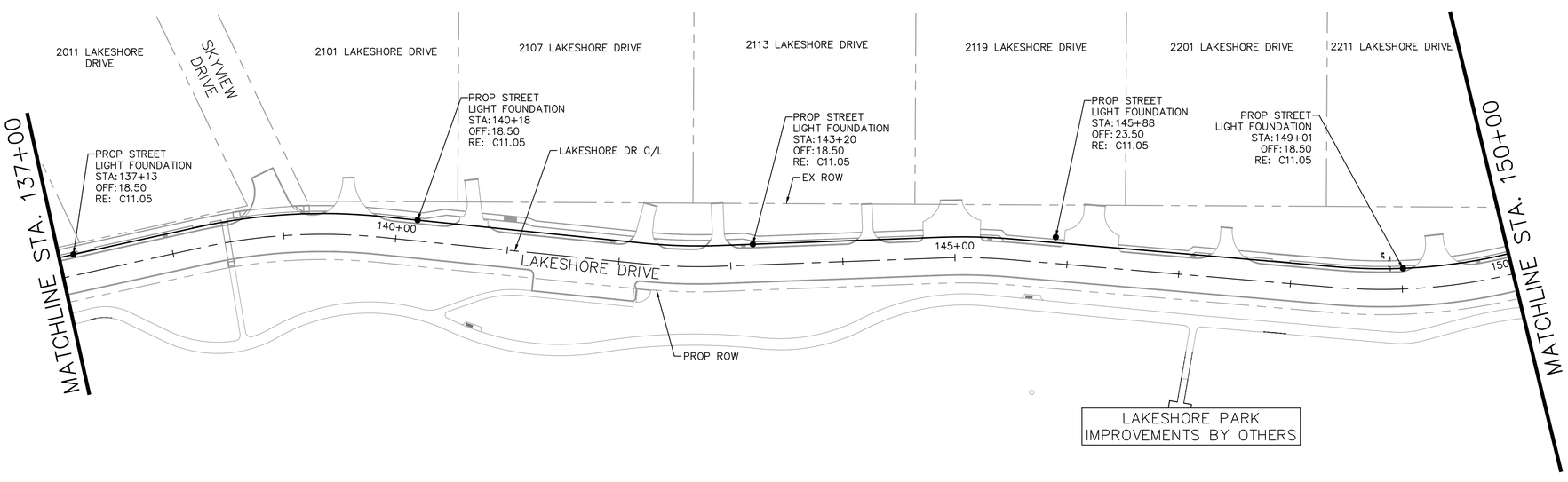
60 0 30 60 120

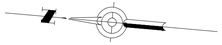
ORIGINAL PLOTTED SCALE:
1 inch = 60 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 120 FT

NOTES:

1. ALL CONDUIT SHALL BE 2" SCH 40 PVC.
2. STREET LIGHT FOUNDATION TO BE INSTALLED BY CONTRACTOR.
3. STREET LIGHTS TO BE INSTALLED BY ONCOR.
4. ALL NEW STREET LIGHTS INSTALLED SHALL BE LED.
5. BORING OF CONDUIT UNDER DRIVEWAYS, STREETS, OR ANY OTHER OBJECT, EXISTING OR PROPOSED, SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. AVOID TREES WITH CONDUIT AND SECONDARY CONNECTION BOX INSTALLATION.
7. CONTRACTOR IS RESPONSIBLE FOR TRIMMING TREES IF NECESSARY. (SUBSIDIARY)
8. ONCOR BOX LOCATIONS SHOWN ARE APPROXIMATE ONLY. FINAL BOX LOCATIONS AND NUMBER TO BE VERIFIED BY ONCOR.
9. CONTRACTOR TO INSTALL PROPOSED STREET LIGHT FOUNDATION AT THE HEIGHT OF THE 100 YEAR WSEL OF 740'.
10. PROPOSED STREET LIGHT FOUNDATION TO BE INSTALLED 3' FROM BACK OF CURB.





Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

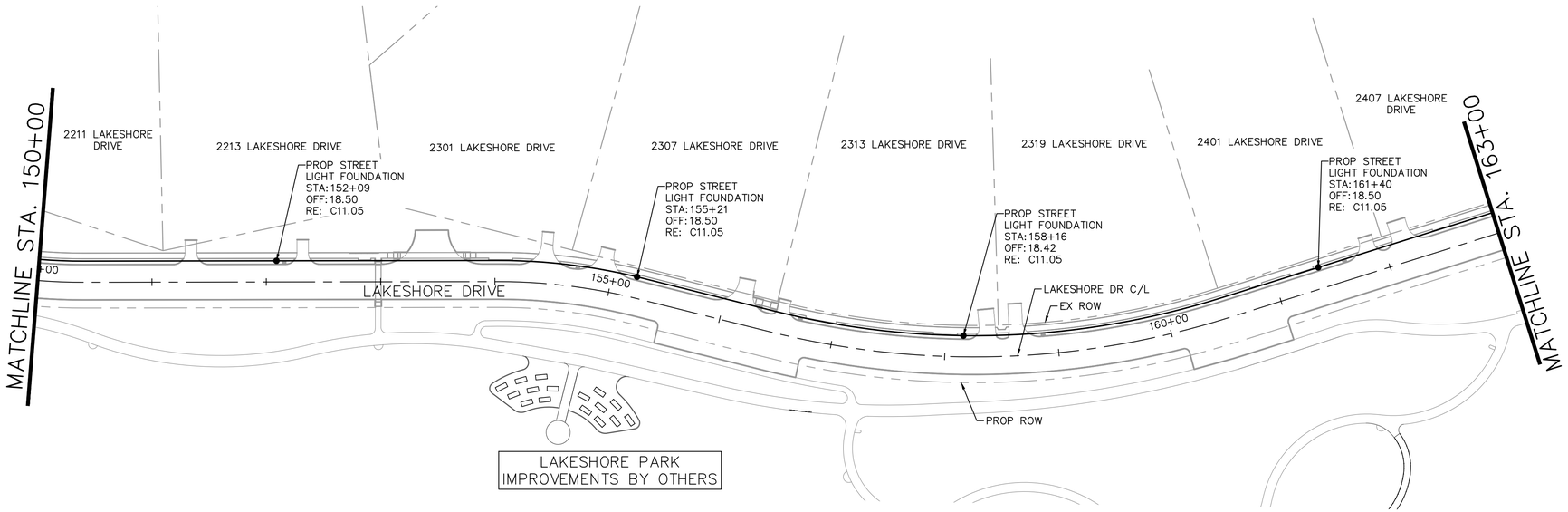
STREET LIGHTING
PLAN - LAKESHORE
DRIVE - STA 124+50
TO STA 150+00

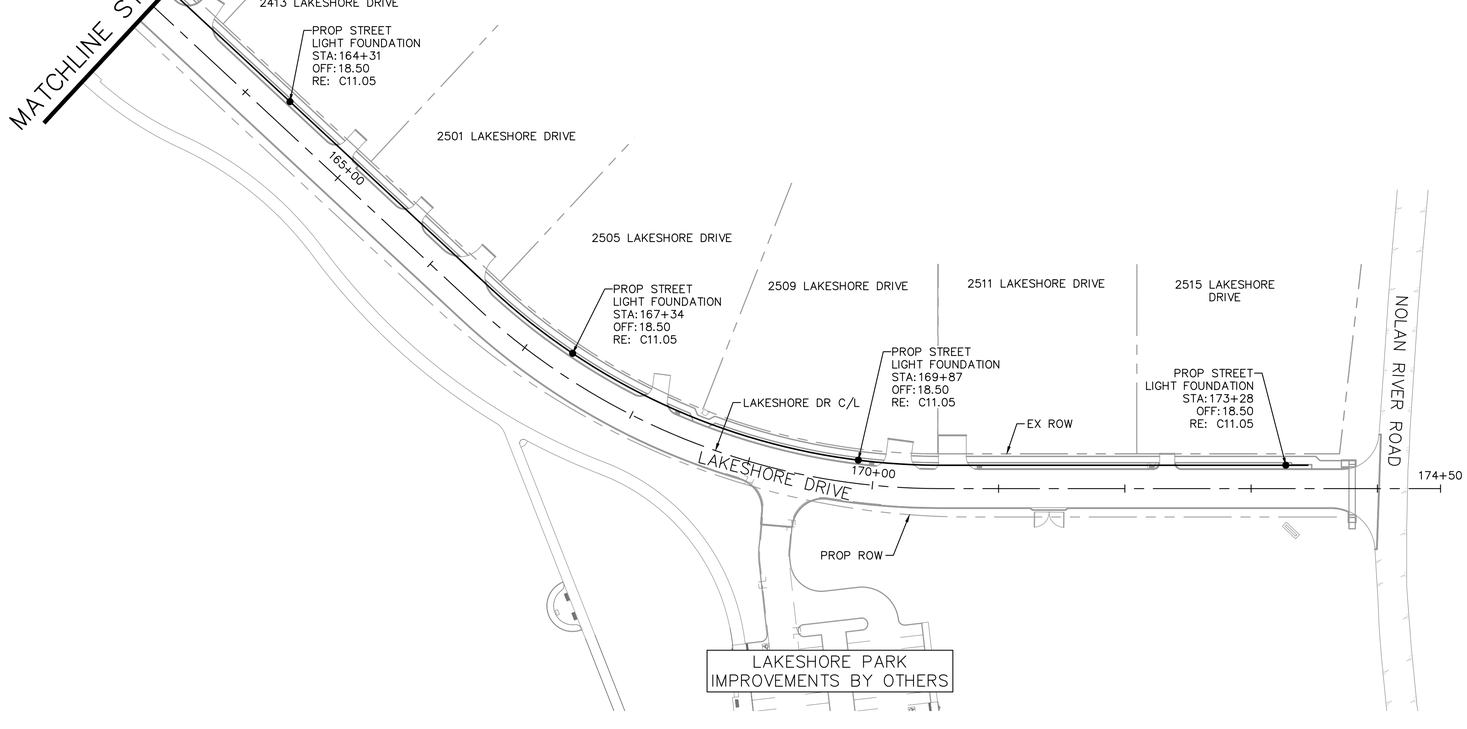
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CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

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GRAPHIC SCALE

60 0 30 60 120

ORIGINAL PLOTTED SCALE:
1 inch = 60 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 120 FT

NOTES:

1. ALL CONDUIT SHALL BE 2" SCH 40 PVC.
2. STREET LIGHT FOUNDATION TO BE INSTALLED BY CONTRACTOR.
3. STREET LIGHTS TO BE INSTALLED BY ONCOR.
4. ALL NEW STREET LIGHTS INSTALLED SHALL BE LED.
5. BORING OF CONDUIT UNDER DRIVEWAYS, STREETS, OR ANY OTHER OBJECT, EXISTING OR PROPOSED, SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE PROJECT.
6. AVOID TREES WITH CONDUIT AND SECONDARY CONNECTION BOX INSTALLATION.
7. CONTRACTOR IS RESPONSIBLE FOR TRIMMING TREES IF NECESSARY. (SUBSIDIARY)
8. ONCOR BOX LOCATIONS SHOWN ARE APPROXIMATE ONLY. FINAL BOX LOCATIONS AND NUMBER TO BE VERIFIED BY ONCOR.
9. CONTRACTOR TO INSTALL PROPOSED STREET LIGHT FOUNDATION AT THE HEIGHT OF THE 100 YEAR WSEL OF 740'.
10. PROPOSED STREET LIGHT FOUNDATION TO BE INSTALLED 3' FROM BACK OF CURB.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

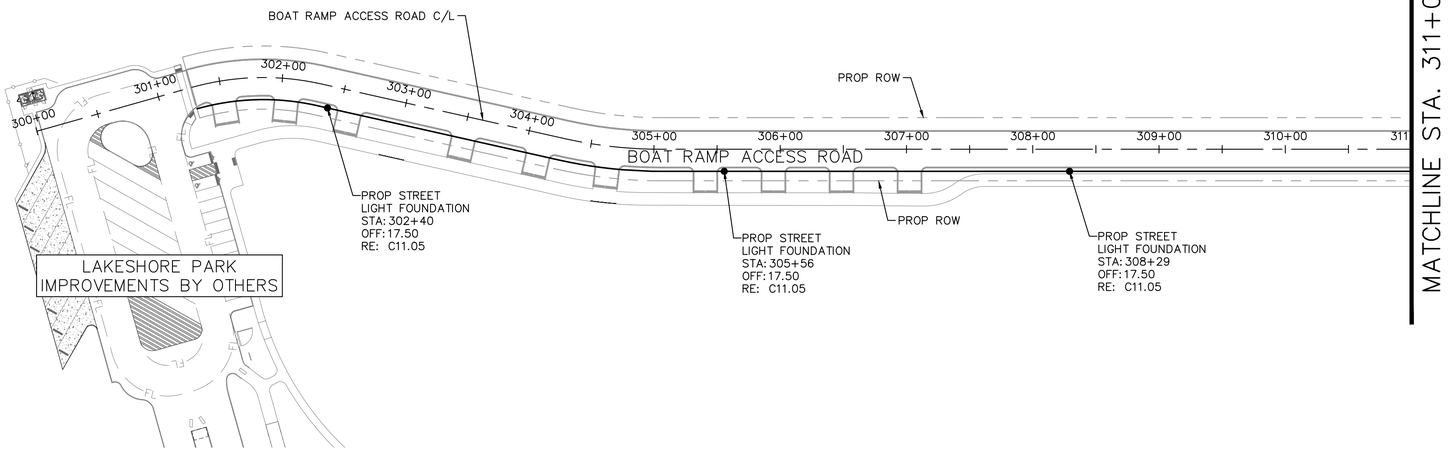
STREET LIGHTING PLAN - LAKESHORE DRIVE - STA 150+00 TO END

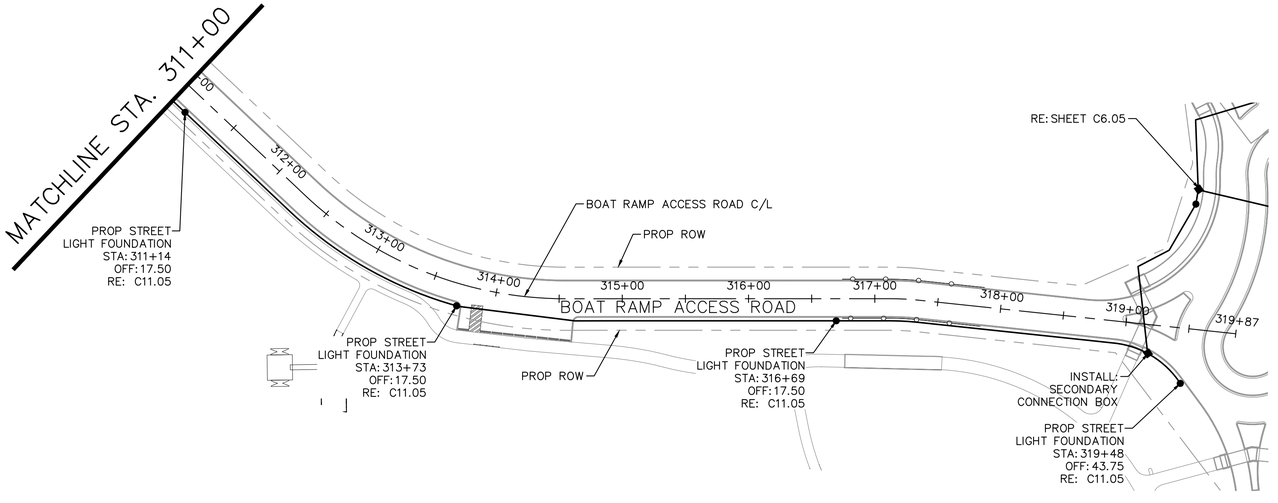
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CHECKED: MDC
KHA NO.: 061165022

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Filename: 132+00.dwg





GRAPHIC SCALE

60 0 30 60 120

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

NOTES:

1. ALL CONDUIT SHALL BE 2" SCH 40 PVC.
2. STREET LIGHT FOUNDATION TO BE INSTALLED BY CONTRACTOR.
3. STREET LIGHTS TO BE INSTALLED BY ONCOR.
4. ALL NEW STREET LIGHTS INSTALLED SHALL BE LED.
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9. CONTRACTOR TO INSTALL PROPOSED STREET LIGHT FOUNDATION AT THE HEIGHT OF THE 100 YEAR WSEL OF 740'.
10. PROPOSED STREET LIGHT FOUNDATION TO BE INSTALLED 3' FROM BACK OF CURB.

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CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

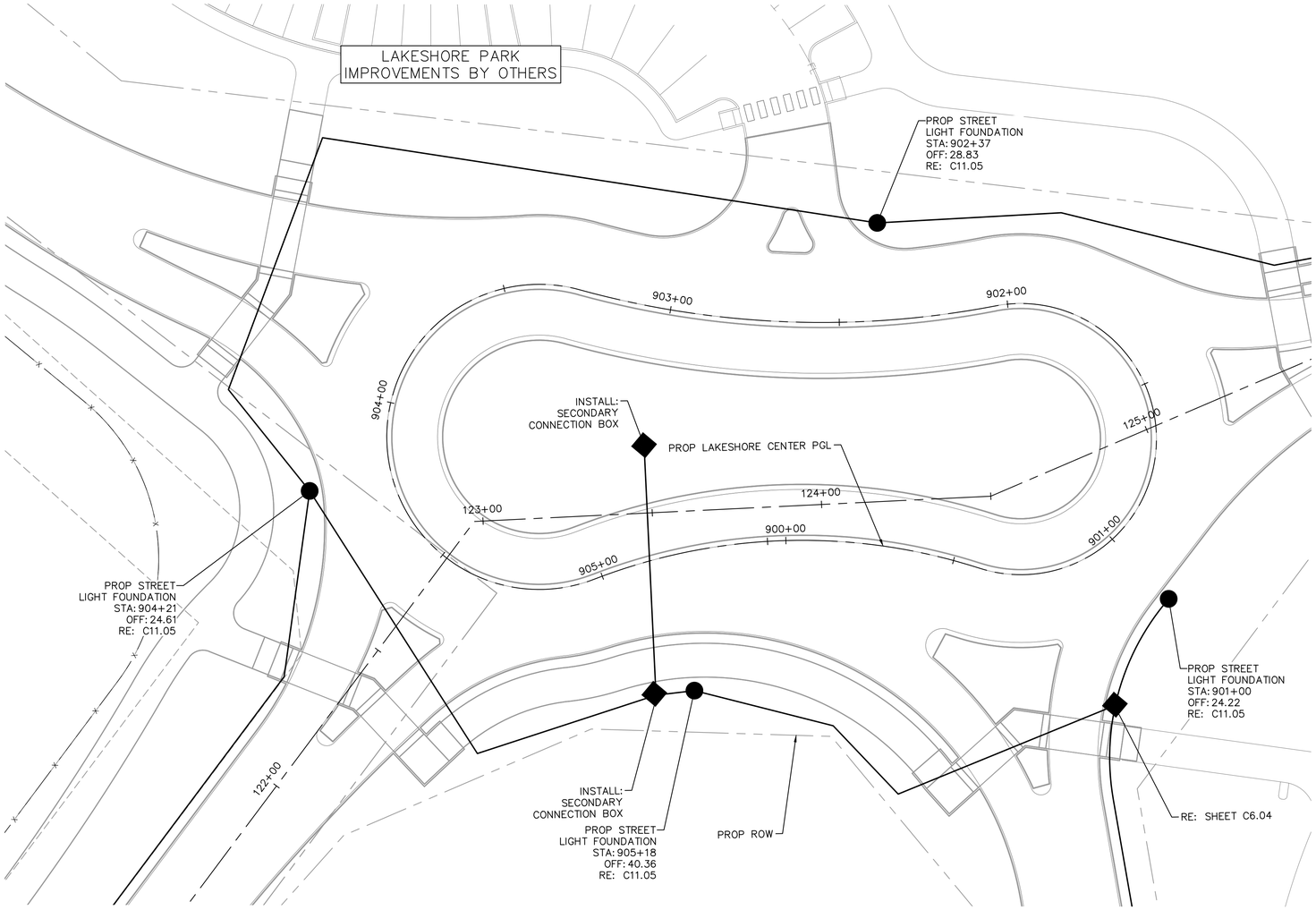
STREET LIGHTING PLAN - BOAT RAMP ACCESS ROAD - BEGIN TO END

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

C6.04

2026-04-16 18:51:44, Salinas, Rene
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Filename: 132+00.dwg



GRAPHIC SCALE

40 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20 ft.

IF PLAN SHEET IS 11" X 17",
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NOTES:

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PROFESSIONAL ENGINEER
04/10/2026

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

STREET LIGHTING PLAN - ENTRYWAY - BEGIN TO END

DATE:	APRIL 2026
DESIGN:	IL
DRAWN:	MBC
CHECKED:	MDC
KHA NO.:	061165022

SHEET NUMBER

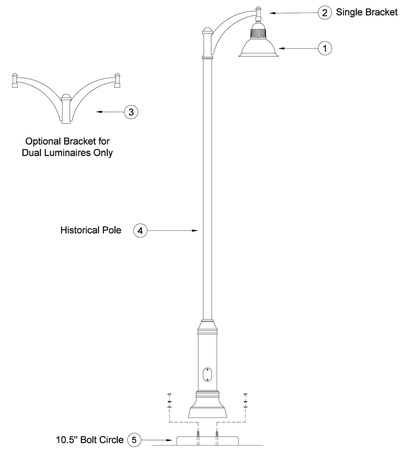
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Filename: 132+00.dwg

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Historical Pendant Luminaire

213 - 135
04 - 21



Item	Qty	Description	TSN/Ref	CU
1	0-2	LED, Luminaire, Historical, Pendant, 0-55 W, Type III, 120-277 V	902689	LEDHP55
1	0-2	LED, Luminaire, Historical, Pendant, 56-100 W, Type III, 120-277 V	902693	LEDHP100
1	0-2	High Pressure Sodium, Luminaire, Historical, Pendant, 100 W,Type III,120 V	479807	LHOV100H31
2	0-1	Single Luminaire Bracket	462582	SLBP
3	0-1	Double Luminaire Bracket	476309	SLBP2
4	1	Pole, Decorative, 16', Black, Anchor Base with Mounting Hardware	462580	SLPP16
5	1	Precast Foundation, 10 1/2" Bolt Circle, 3/4" Anchor Bolts	476487	SLFP12
6	1	Grounding	213-020	
7	1	Fusing	213-025	

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ONCOR

DocuSign Envelope ID: 3B41AEFA-F589-49C2-A201-A7963C2886C1

Historical Pendant Luminaire Anchor Bolt Foundation Detail

213 - 136
04 - 21

Item	Qty	Description	TSN/Ref	CU
1	1	Precast Foundation,10 1/2" Bolt Circle, 3/4" Anchor Bolts	476487	SLFP12
2	1	Grounding	213-020	

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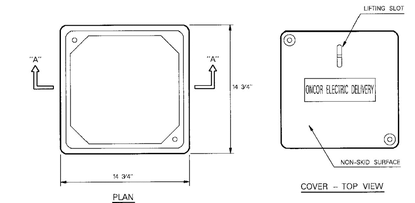
ONCOR

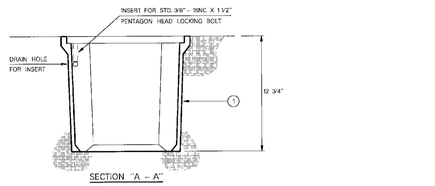
213 – 120
06 – 09

STREET LIGHT SECONDARY CONNECTION BOX

213 – 120
06 – 09

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NOTES:
1. FOR USE WHEN CONDUCTOR SIZE AND NUMBER OF TERMINATIONS WARRANT.
2. H-10 (LIGHT VEHICULAR TRAFFIC LOADING).
3. REPLACEMENT COVER TSN IS 326507.

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1		BOX, SECONDARY 12" X 12" X 12"	303006	SLSCH	

APPROVED BY ONCOR

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

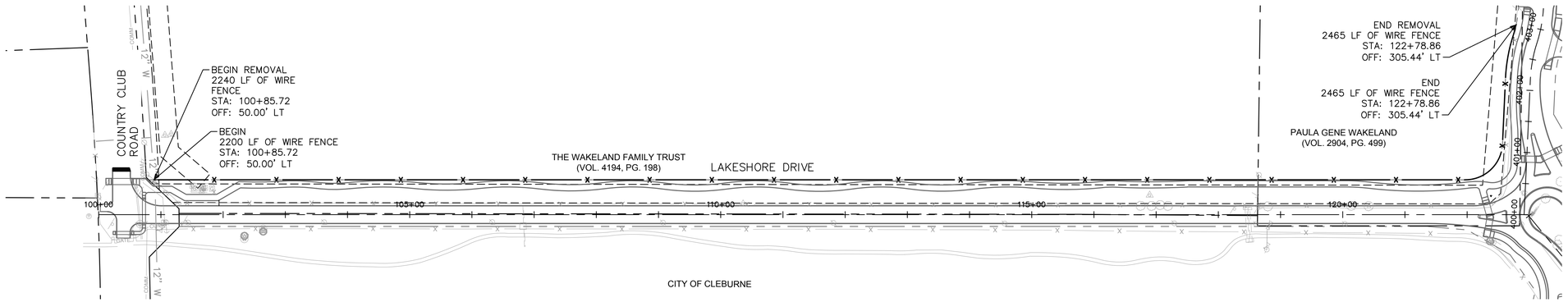
CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVEMENTS

STREET LIGHTING DETAILS

DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

SHEET NUMBER
C6.06

Plotted, By: 2026-04-16 18:51:47, Salinas, Rene
Last Saved: 2026-04-10 09:54:34 (5)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\lighting plan lakeshore begin to sta 132+00.dwg



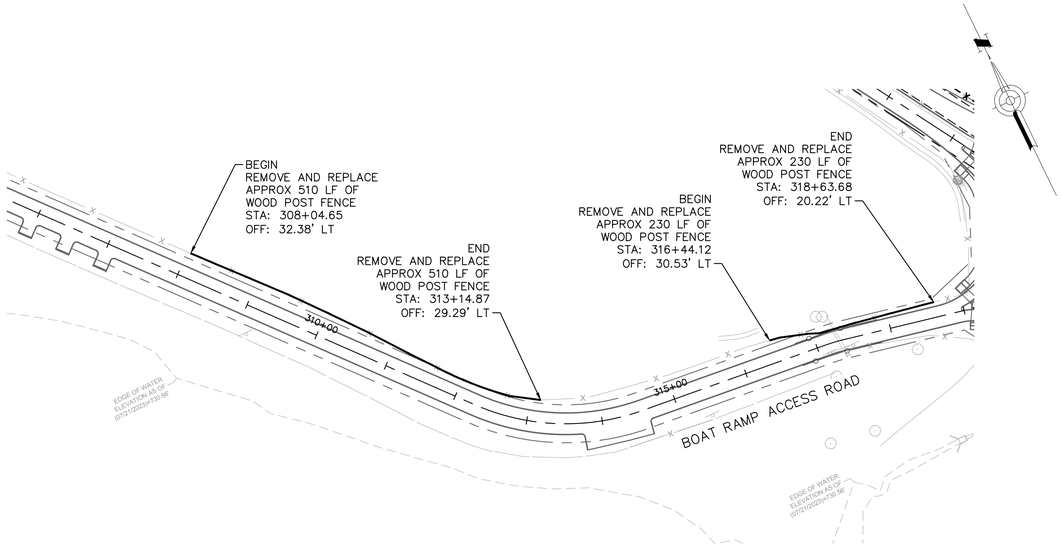
GRAPHIC SCALE

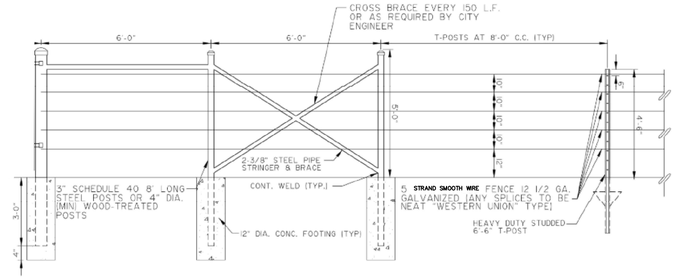
100 0 50 100 200

ORIGINAL PLOTTED SCALE:
1 inch = 100 ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 200 FT

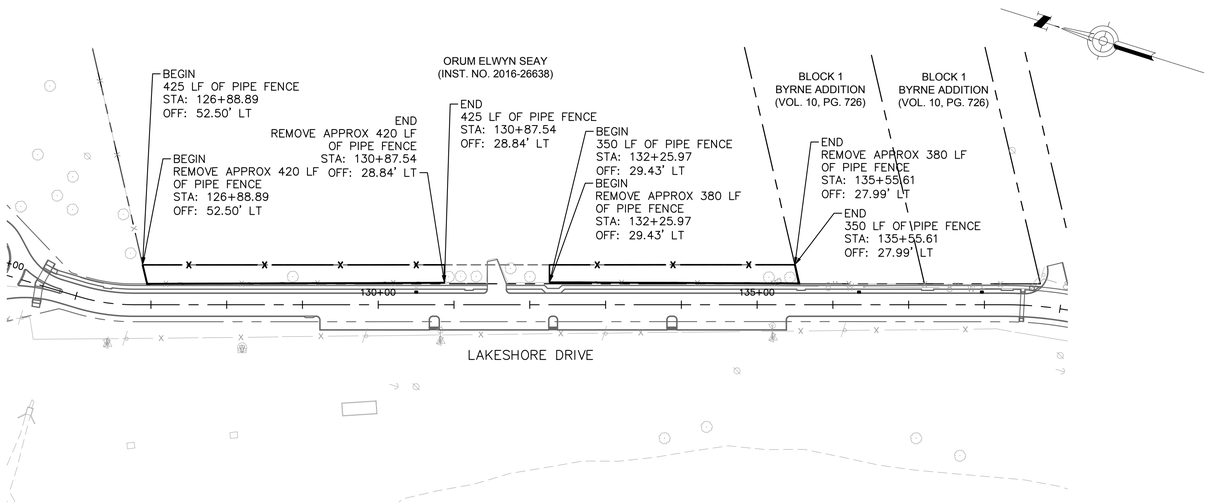
NOTE:
1. REMOVAL OF EXISTING FENCE SHALL BE PAID UNDER GENERAL SITE PREPARATION.





1 / C7.01 5 STRAND WIRE FENCE

SCALE: N.T.S.



Kimley»Horn

801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

04/10/2026

STATE OF TEXAS
IVAN LOPEZ
140647
LICENSED
PROFESSIONAL ENGINEER

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVEMENTS

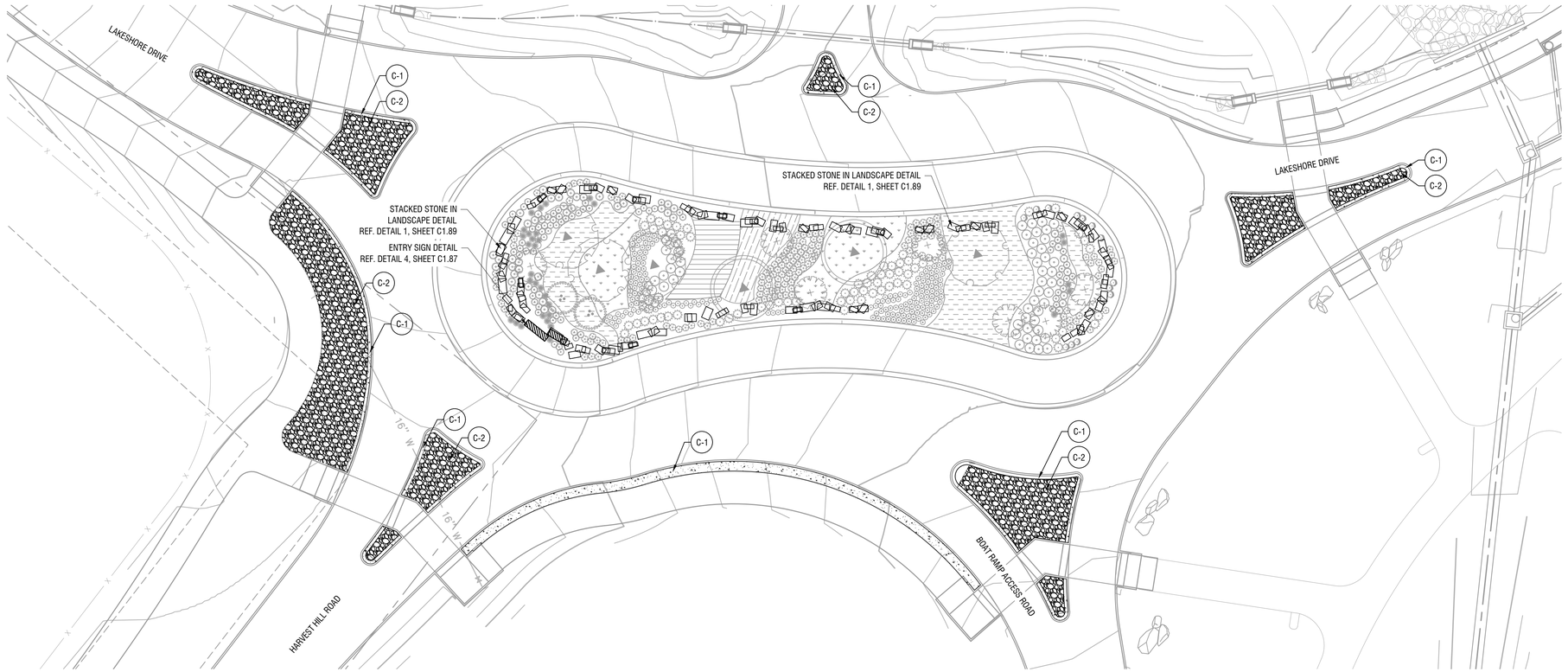
FENCING PLAN

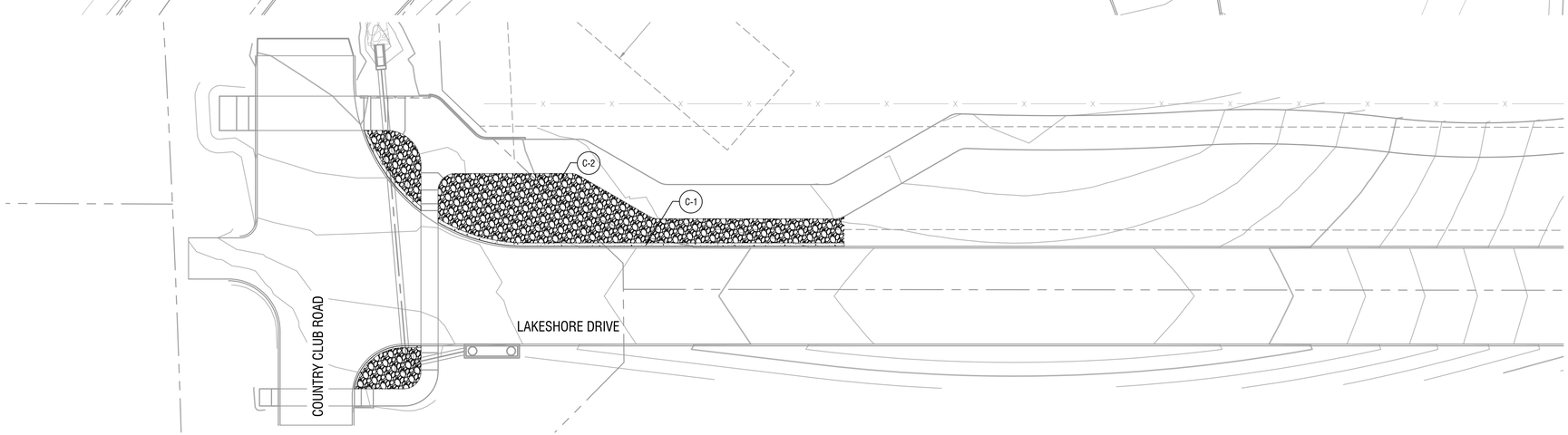
DATE: APRIL 2026
DESIGN: IL
DRAWN: MBC
CHECKED: MDC
KHA NO.: 061165022

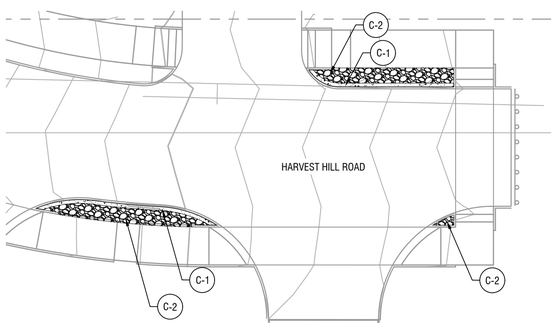
SHEET NUMBER

C7.01

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Last Saved: 2026-04-17 13:19:07 (FENCING PLAN)
Filename: k:\fw_roadway\061165022-cleburne_lakeshore dr\cadd\sheets\fencing plan.dwg







GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

MATERIAL LEGEND

C-1 — INTEGRAL COLOR CONCRETE (+/- 1,200 SF)

COLOR:	BLACK OR DARK GREY*
FINISH:	BROOM FINISH*
WIDTH:	12'
CONTROL JOINTS:	SEE LAYOUT & DETAILS
EXPANSION JOINTS:	SEE LAYOUT & DETAILS
JOINT SEALANT:	TO MATCH CONCRETE
APPROVAL:	3' X 3' MOCKUP, EXPANSION JOINT SEALANT SAMPLE

NOTE: CONTRACTOR TO PROVIDE COLOR AS CLOSE TO BLACK OR DARK GREY AS POSSIBLE AND RECEIVE CITY APPROVAL.

*OR APPROVED EQUAL

C-2 — STAMPED INTEGRAL COLOR CONCRETE (+/- 1,900 SF)

COLOR:	PRAIRIE BEIGE*
PATTERN:	GARDEN PATH BY BUTTERFIELD COLOR*
CONTROL JOINTS:	SEE LAYOUT & DETAILS
EXPANSION JOINTS:	SEE LAYOUT & DETAILS
JOINT SEALANT:	TO MATCH CONCRETE
APPROVAL:	3' X 3' MOCKUP, EXPANSION JOINT SEALANT SAMPLE

*OR APPROVED EQUAL

NOTE:
ALL MOCKUPS AND SAMPLES TO BE APPROVED PRIOR TO INSTALLATION.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

REGISTERED LANDSCAPE ARCHITECT
KATHERINE A. UTECHT
3318
STATE OF TEXAS
2025-03-XX

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVMENTS

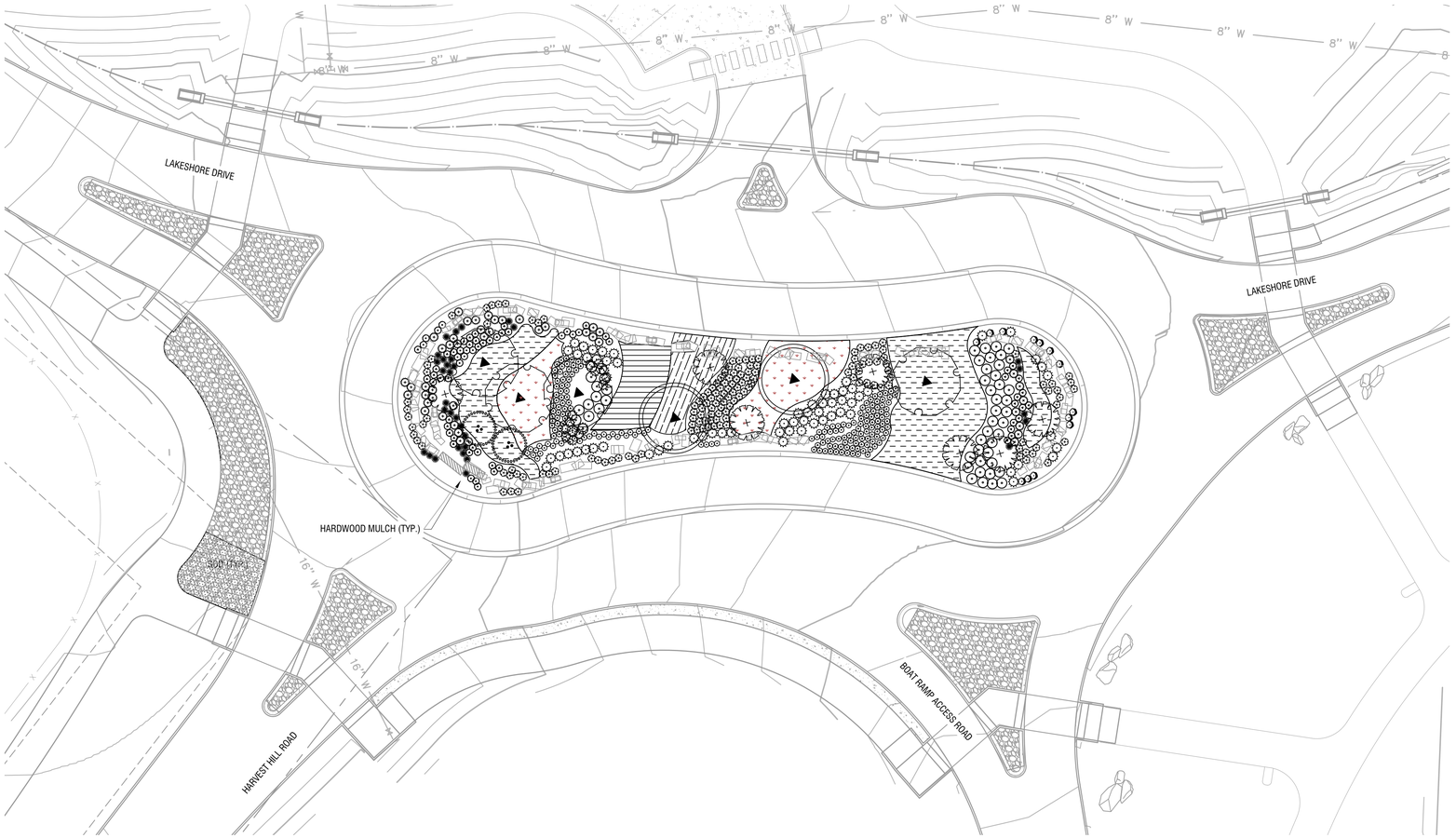
HARDSCAPE PLAN

DATE:	MARCH 2025
DESIGN:	TLJ
DRAWN:	KU
CHECKED:	KU
KHA NO.:	061165022

SHEET NUMBER

C8.01

Plotted, By: 2026-04-16 18:53:01, Salinas, Rene
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GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	REMARKS
TREES					
	QV	4	QUERCUS VIRGINIANA / SOUTHERN LIVE OAK	3" CAL, 16` HT, 6` SPR	FULL, STRAIGHT, SINGLE LEADER
	UP	2	ULMUS PARVIFOLIA / LACEBARK ELM	3" CAL, 14` HT, 6` SPR	FULL, STRAIGHT, SINGLE LEADER
ORNAMENTAL TREE					
	LT	7	LAGERSTROEMIA INDICA `TUSCARORA` / CRAPE MYRTLE TUSCARORA	2" CAL, 10` HT, 5` SPR	FULL, SINGLE LEADER
	LW	2	LAGERSTROEMIA X `NATCHEZ` / WHITE CRAPE MYRTLE	10` HT, 6` SPR	FULL, MULTI-TRUNK
SHRUBS					
	INY	49	ILEX VOMITORIA `NANA` / DWARF YAUPON HOLLY	12" HT, 12" SPR, 18" OC	FULL
	LLS	79	LEUCOPHYLLUM LANGMANIAE `LYNN`S LEGACY` / TEXAS SAGE	24" HT, 24" SPR, 36" OC	FULL AND MATCHING
	YCA	13	YUCCA FILAMENTOSA `COLOR GUARD` / ADAM`S NEEDLE	18" HT, 18" SPR, 24" OC	FULL
GRASSES					
	BG	32	BOUTELOUA GRACILIS / BLUE GRAMA GRASS	12" HT, 18" SPR	FULL & MATCHING, 2 GALLON MIN.
	MIS	52	MISCANTHUS SINENSIS / DWARF MAIDEN GRASS	24" HT, 36" OC	FULL
	MUH	45	MUHLENBERGIA CAPILLARIS / PINK MUHLY	24" HT, 24" SPR, 30" OC	FULL & MATCHING, 3 GALLON MIN.
	MRS	18	MUHLENBERGIA REVERCHONI / SEEP MUHLY	12" HT, 12" SPR, 24" OC	FULL & MATCHING
	NAS	150	NASSELLA TENUISSIMA / MEXICAN FEATHER GRASS	18" HT, 18" SPR, 24" OC	FULL & MATCHING, 3 GALLON MIN.
	PVS	48	PANICUM VIRGATUM / SWITCH GRASS	18" HT, 18" SPR, 24" OC	FULL & MATCHING
	PBF	133	PENNISETUM ALOPECUROIDES `LITTLE BUNNY` / LITTLE BUNNY FOUNTAIN GRASS	12" HT, 24" OC	FULL
GROUNDCOVER AREA					
	SI	323 SF	CALICHE MIX / CALICHE MIX	SEED	SEED BY NATIVE AMERICAN SEED COMPANY
GROUND COVERS					
	CP	389	CERATOSTIGMA PLUMBAGINOIDES / DWARF PLUMBAGO	8" HT, 8" SPR, 18" OC	FULL, 1 GALLON MIN.
	EUF	157	EUONYMUS FORTUNEI `COLORATUS` / PURPLE-LEAF WINTER CREEPER	8" HT, 8" SPR, 18" OC	FULL, 1 GALLON MIN.
	NF	731	NEPETA X FAASSENII / CATMINT	8" HT, 8" SPR, 18" OC	FULL, 1 GALLON MIN.

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

REGISTERED LANDSCAPE ARCHITECT
KATHERINE A. UTECHT
3318
STATE OF TEXAS

2025-03-XX

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVMENTS

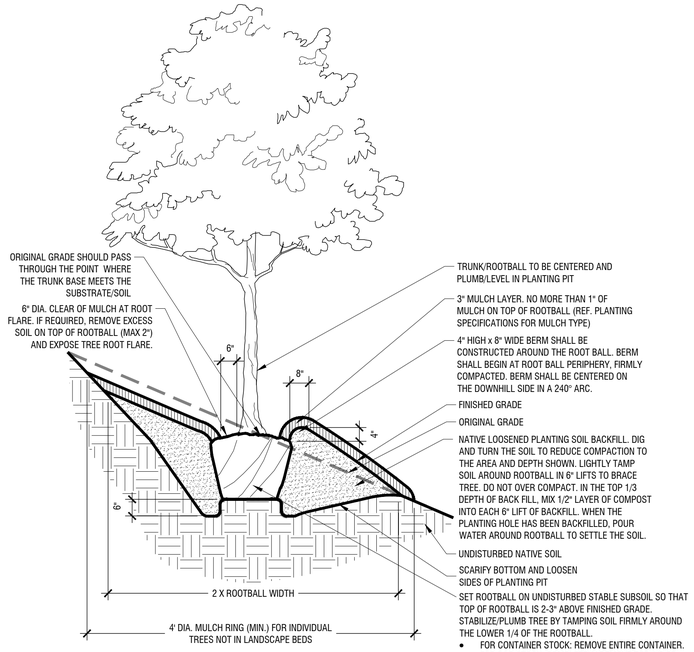
PLANTING PLAN

DATE: MARCH 2025
DESIGN: TLJ
DRAWN: KU
CHECKED: KU
KHA NO.: 061165022

SHEET NUMBER

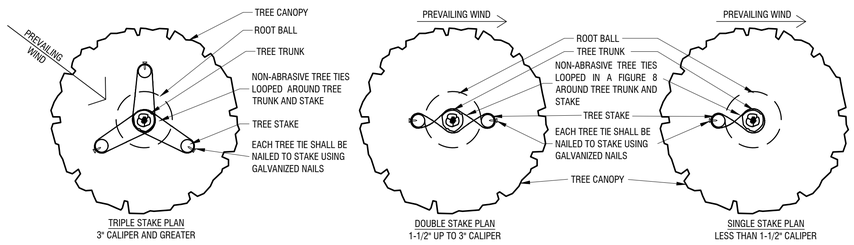
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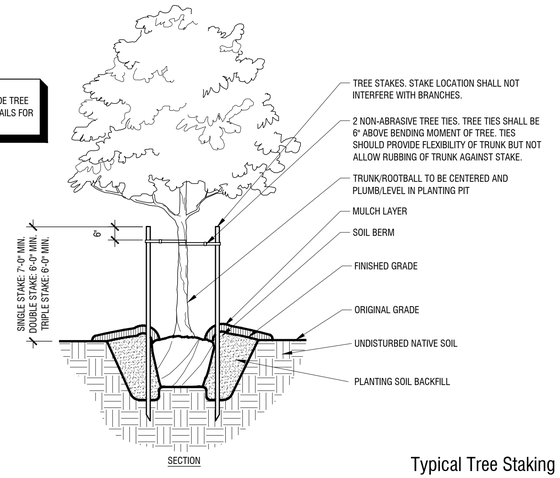


Tree Planting On 5-25% Slopes (20:1 to 4:1 Slopes) **D**

Scale: NTS



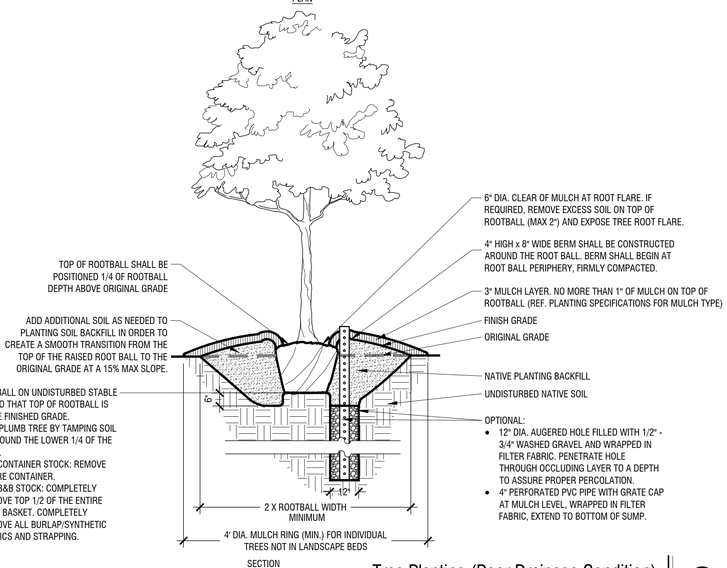
NOTES:
1. THIS DETAIL IS FOR ABOVE GRADE TREE STAKING ONLY. REF. OTHER DETAILS FOR TYPICAL TREE PLANTING.



SECTION

Typical Tree Staking **B**

Scale: NTS



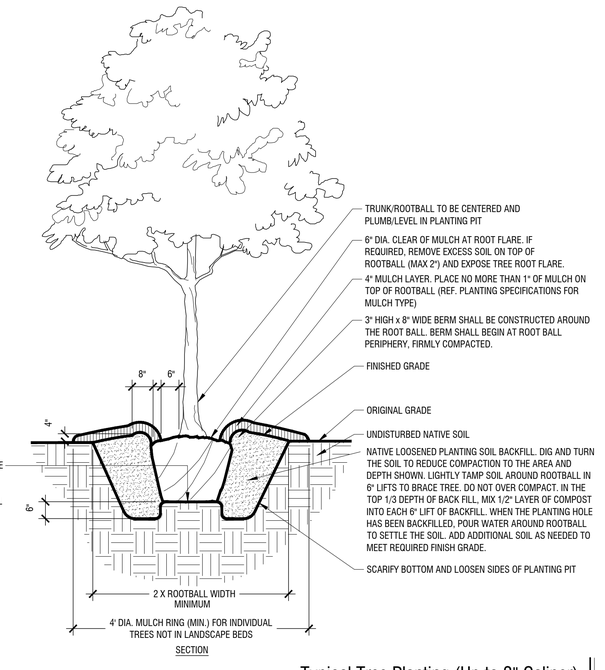
PLAN

NOTES:
1. THIS DETAIL IS FOR TREE PLANTING IN POOR DRAINAGE CONDITIONS ONLY. REF. DETAIL A THIS SHEET FOR TYPICAL TREE PLANTING.

SECTION

Tree Planting (Poor Drainage Condition) **C**

Scale: NTS



SECTION

Typical Tree Planting (Up to 3" Caliper) **A**

Scale: NTS

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

REGISTERED LANDSCAPE ARCHITECT
KATHERINE A. LITCHFIELD
3318
STATE OF TEXAS
2025-03-XX

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVMENTS

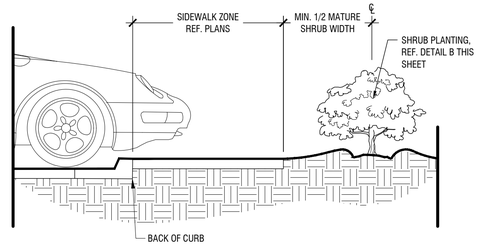
PLANTING DETAILS

DATE: MARCH 2025
DESIGN: TLJ
DRAWN: KU
CHECKED: KU
KHA NO.: 061165022

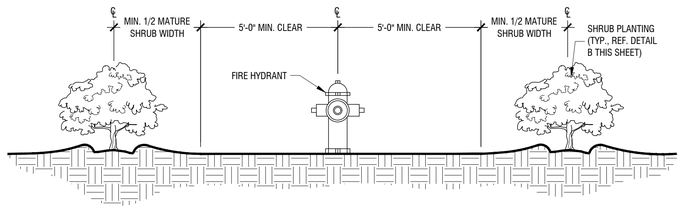
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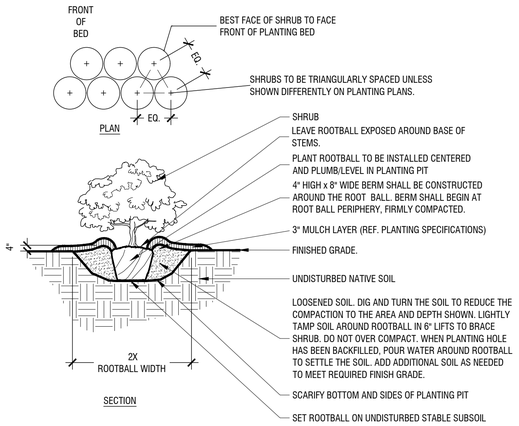
NOTES:
1. REF. PLANTING AND PLANTING SOIL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REF. PLANTING SCHEDULE AND PLANTING PLANS FOR SPACING/LAYOUT
3. WHEN SHRUBS ARE MASSED TOGETHER WITH GROUNDCOVER BEDS, ALL SOIL IN BED TO BE AMENDED. (REF. PLANTING SPECIFICATIONS)



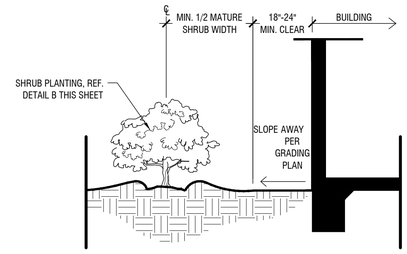
Shrub Planting at Sidewalk — F
Scale: NTS



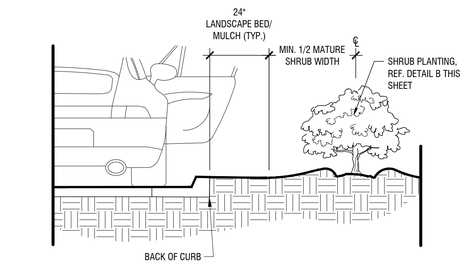
Shrub Planting at Fire Hydrant — E
Scale: NTS



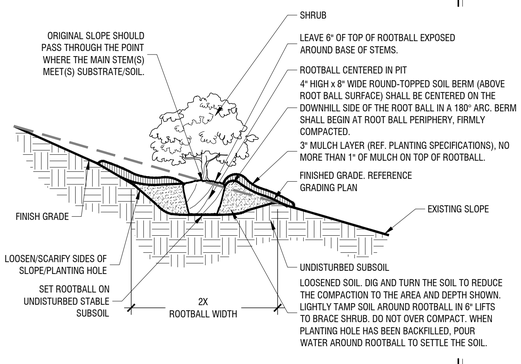
Typical Shrub Planting — B
Scale: NTS



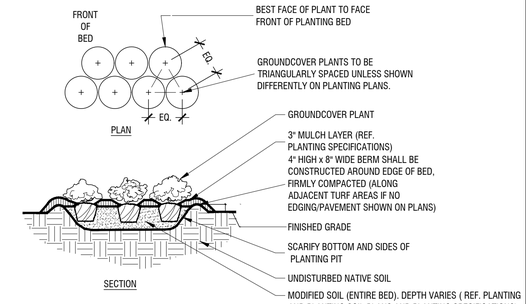
Shrub Planting at Building Edge — D
Scale: NTS



Shrub Planting at Curb — G
Scale: NTS



Shrub Planting On 5-50% (20:1 TO 2:1) Slope — C
Scale: NTS



Typical Groundcover Planting — A
Scale: NTS

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date

KATHERINE A. UTECHT
REGISTERED LANDSCAPE ARCHITECT
3318
STATE OF TEXAS
2025-03-XX

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVMENTS

PLANTING DETAILS

DATE: MARCH 2025
DESIGN: TLJ
DRAWN: KU
CHECKED: KU
KHA NO.: 061165022

SHEET NUMBER
C8.04

Plotted, By: 2026-04-16 18:53:48, Salinas, Rene
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k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\landscape\dwg\04 cd\sheet\lp 2.00 planting details.dwg

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL PLANTING AREAS OF THIS CONTRACT UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, AND OTHER ITEMS OF CONSTRUCTION AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THIS CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION OF EQUIPMENT, STOCKPILING OF MATERIALS, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE OR THE SPILLING OF OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE THE HEAT WILL DAMAGE ANY PLANT. TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PER CENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

SAMPLES OF MATERIALS AS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON APPROVAL OF SAMPLES, DELIVERY OF MATERIALS MAY BEGIN.

MATERIALS	SAMPLES
MULCH	ONE (1) CUBIC FOOT
TOPSOIL	ONE (1) CUBIC YARD
PLANTS	ONE (1) OF EACH VARIETY

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS AS STATED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE OWNER.

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. TOPSOIL

1. ASTM D5268, NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH. TOPSOIL SHALL HAVE A PH RANGE OF 6.5 TO 7.4 PERCENT, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, SODS, STIFF CLAY, STONES LARGER THAN 1-INCH IN DIAMETER, STUMPS, ROOTS, TRASH, HERBICIDES, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH OR HINDER PLANTING OPERATIONS. TOP SOIL SHALL CONTAIN A MINIMUM OF THREE PERCENT ORGANIC MATERIAL.
2. SALVAGED OR EXISTING TOPSOIL: REUSE SUITABLE TOPSOIL STOCKPILED ON-SITE OR EXISTING TOPSOIL UNDISTURBED BY GRADING OR EXCAVATION OPERATIONS. CLEAN TOPSOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
3. VERIFY AMOUNT OF SUITABLE TOPSOIL STOCKPILED IF ANY, AND SUPPLY ADDITIONAL IMPORTED TOPSOIL AS NEEDED. FOUR (4) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL TURF AREAS. TWENTY FOUR (24) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL PLANTING AREAS WITHIN INTERIOR LANDSCAPE ISLANDS AND FOUNDATION PLANTINGS. FOR ALL OTHER PLANTING AREAS, TWELVE (12) INCHES OF TOPSOIL MINIMUM TO BE PROVIDED.
4. IMPORTED TOPSOIL: SUPPLEMENT SALVAGED TOPSOIL WITH IMPORTED TOPSOIL FROM OFF-SITE SOURCES WHEN EXISTING QUANTITIES ARE INSUFFICIENT.
5. OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 6 INCHES DEEP; DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, OR MARSHES.
6. VERIFY BORROW AND DISPOSAL SITES ARE PERMITTED AS REQUIRED BY STATE AND LOCAL REGULATIONS. OBTAIN WRITTEN CONFIRMATION THAT PERMITS ARE CURRENT AND ACTIVE.
7. OBTAIN PERMITS REQUIRED BY STATE AND LOCAL REGULATIONS FOR TRANSPORTING TOPSOIL. PERMITS SHALL BE CURRENT AND ACTIVE.
8. AMEND EXISTING AND IMPORTED TOPSOIL AS INDICATED BELOW.
   a. ORGANIC SOIL AMENDMENTS
      1. MANURE: WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEED SEED, AND MATERIAL HARMFUL TO PLANT GROWTH.
      2. BACK TO NATURE COTTON BURR COMPOST OR APPROVED EQUIVALENT.
      3. COMPOST: DECOMPOSED ORGANIC MATERIAL INCLUDING LEAF LITTER, MANURE, SAWDUST, PLANT TRIMMINGS AND/OR HAY, MIXED WITH SOIL.
      4. PECAN HULLS: COMPOSTED PECAN HULLS FOR LOCAL SOURCE.
      5. BIOSOLIDS: USE GRADE 1 CONTAINING LOWER PATHOGEN LEVELS.
      6. WORM CASTINGS: EARTHWORMS.
   b. INORGANIC SOIL AMENDMENTS
      1. LIME: ASTM C602, CLASS O AGRICULTURAL LIMESTONE, CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT WITH A MINIMUM OF 95 PERCENT PASSING NO. 8 SIEVE AND MINIMUM OF 55 PERCENT PASSING NO. 60 SIEVE.
      2. SULFUR: GRANULAR, BIODEGRADABLE, CONTAINING A MINIMUM OF 90 PERCENT SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING NO. 6 SIEVE AND A MAXIMUM OF 10 PERCENT PASSING NO. 40 SIEVE.
      3. IRON SULFATE: GRANULATED FERROUS SULFATE CONTAINING A MINIMUM OF 20 PERCENT IRON AND 10 PERCENT SULFUR.
      4. AGRICULTURAL GYPSUM: FINELY GROUND, CONTAINING A MINIMUM OF 90 PERCENT CALCIUM SULFATE.
      5. SAND: CLEAN, WASHED, NATURAL OR MANUFACTURED, FREE OF TOXIC MATERIALS.
   c. PLANTING SOIL MIX
      1. PLANTING MIX MAY BE PROVIDED BY LIVING EARTH OR MINICK MATERIALS OR APPROVED EQUAL.
      2. PLANTING MEDIUM CONTAINING 75 PERCENT SPECIFIED TOPSOIL MIXED WITH 15 PERCENT ORGANIC SOIL AMENDMENTS AND 10 PERCENT SHARP WASHED SAND. INSTALL TO DEPTHS, PER PLANTING DETAILS (12" MIN.) FINISHED GRADES OF PLANTING BEDS TO BE 2" BELOW FINISHED GRADE OF ADJACENT PAVING OR AS SHOWN ON GRADING PLAN.
      2. SOD/SEED AREA TOPSOIL
         ALL SOD AREAS TO RECEIVE 4" DEPTH (MIN) TOPSOIL. PRIOR TO INSTALLATION. TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, WITH 25% (MIN.) ORGANIC MATERIAL, AND FREE OF TRASH, DEBRIS, STONES, WEEDS, AND TWIGS/BRANCHES. THE PARTICLE SIZES SHALL BE SUCH THAT 98.5% OF THE TOPSOIL WILL PASS THROUGH A 1/2 INCH SCREEN, AND 99% MORE SHALL PASS THROUGH A 3/4 INCH SCREEN. TOPSOIL SHALL BE REVIEWED/APPROVED BY OWNER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. CONTRACTOR TO SUBMIT SAMPLES IN 1 GAL (MIN.) CONTAINER.

I. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE GROWTH OF PLANTS AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SUCH SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

J. COMMERCIAL FERTILIZER

COMMERCIAL FERTILIZER SHALL BE A COMPLETE FORMULA; IT SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS.

FIFTY PERCENT (50%) OF THE NITROGEN SHALL BE DERIVED FROM NATURAL ORGANIC SOURCES. THE FOLLOWING FERTILIZERS SHALL BE USED AND APPLIED AT RATES AS SUGGESTED BY MANUFACTURER'S SPECIFICATIONS:

1. SHRUBS AND TREES - MILORGANITE, OR APPROVED EQUAL
2. ANNUALS AND GROUNDCOVERS - OSMOCOTE/SIERRA BLEND 14-14-14
3. SOD - 8-8-8 FERTILIZER

IN ADDITION TO SURFACE APPLIED FERTILIZERS, ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE "AGRIFORM" PLANTING TABLETS 24-10-5 FORMULA, 21 GRAM OR EQUAL. THESE TABLETS SHALL BE PLACED AT A DEPTH OF ROOT BALL AT THE RATE AS SPECIFIED BY MANUFACTURER.

K. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF 3 INCHES. SEE PLANT LIST FOR TYPE OF MATERIAL AND GRADE.

L. DIGGING AND HANDLING

1. PROTECT ROOTS OR BALLS OF PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT BREAKAGE AND DRYING OUT DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTI-TRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. THE ROOTS SHALL NOT BE CUT WITHIN THE MINIMUM SPREAD SPECIFIED IN THE PLANT LIST. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT IN MOVING AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE DONE USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

M. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS SHALL NOT BE ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE OWNER AND LANDSCAPE ARCHITECT.

N. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED ON THE PLANT LIST SCHEDULE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

O. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY REESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

P. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE BIDDERS TAKE OFF AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO THE SUBMISSIONS OF BIDS. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

Q. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE LANDSCAPE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.

R. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN UP WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER LINES, CABLE AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES.
3. SUBGRADE EXCAVATION: SITE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROOK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". SITE CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY SITE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, LANDSCAPE CONTRACTOR SHALL CONTRACT LANDSCAPE ARCHITECT OR OWNER.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. PLANTS SHALL BE PROTECTED UPON ARRIVAL AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS SHALL NOT REMAIN UNPROTECTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE THE PLANTING WITH THE IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION ITEMS AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL AS SPECIFIED HEREIN BEFORE (SECTION H). TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE PLANTING DETAIL THAT ADDRESSES THIS CONDITION. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURE AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION H OF THESE SPECIFICATIONS. IN ADDITION, EACH PLANTING PIT SHALL RECEIVE 21-GRAM "AGRIFORM" PLANTING TABLETS PER MANUFACTURER'S SPECIFICATIONS OR AS FOLLOWS:

- TWO (2) TABLETS PER 1 GAL. PLANT
- THREE (3) TABLETS PER 3 GAL. PLANT
- FOUR (4) TABLETS PER 10 GAL. PLANT
- LARGER MATERIAL - TWO (2) TABLETS PER 1/2" OF TRUNK CALIPER

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AND AT SUCH A LEVEL THAT AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED AND THOROUGHLY TAMPED AROUND THE BALL AND SHALL BE SETTLED BY WATER AFTER TAMPING.
11. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
12. PRUNING: EACH TREE SHALL BE PRUNED TO PRESERVE THE NATURAL CHARACTER OF THE PLANT AS SHOWN ON THE DRAWINGS. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT.
13. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. TILL INTO TOP 4" THE PLANTING SOIL MIX AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
14. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE LANDSCAPE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE LANDSCAPE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF THEIR INTENTIONS AND AGREE TO HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT ANY TREES FALL DOWN AND DAMAGE PERSON OR PROPERTY.
15. MULCHING: PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER AND VINE BED AND TREE PIT.
16. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER.

S. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A GRASS LAWN ACCEPTABLE TO THE OWNER.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE WHOLE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH THAT IS UP TO THE REQUIRED GRADE.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. APPLY FERTILIZER AT RATE OF TWENTY (20) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. APPLICATION SHALL BE UNIFORM, UTILIZING APPROVED MECHANICAL SPREADERS. MIX FERTILIZER THOROUGHLY WITH THE SOIL TO A DEPTH OF THREE (3) INCHES. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

B. THE SOD SHALL BE CERTIFIED TO MEET THE STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A FOUR INCH MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND AS APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN.

D. DURING DELIVERY, PRIOR TO AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

5. SEEDING

A. PROVIDE FRESH, CLEAN, NEW CROP LAWN SEED MIXTURE. FURNISH TO OWNER DEALERS GUARANTEED STATEMENT OF COMPOSITION OF MIXTURE AND PERCENTAGE OF PURITY AND GERMINATION OF EACH VARIETY.

B. SEED MIXTURE: PROVIDE SEED OF GRASS SPECIES AND VARIETIES, PROPORTIONS BY WEIGHT AND MINIMUM PERCENTAGES OF PURITY, GERMINATION, AND MAXIMUM PERCENTAGE OF WEED SEED. SEED MIXTURES VARY BY REGION AND SEASON AND SHALL COMPLY WITH STATE DO AND LOCAL SOIL CONSERVATION SERVICE STANDARDS FOR LAWN TURF.

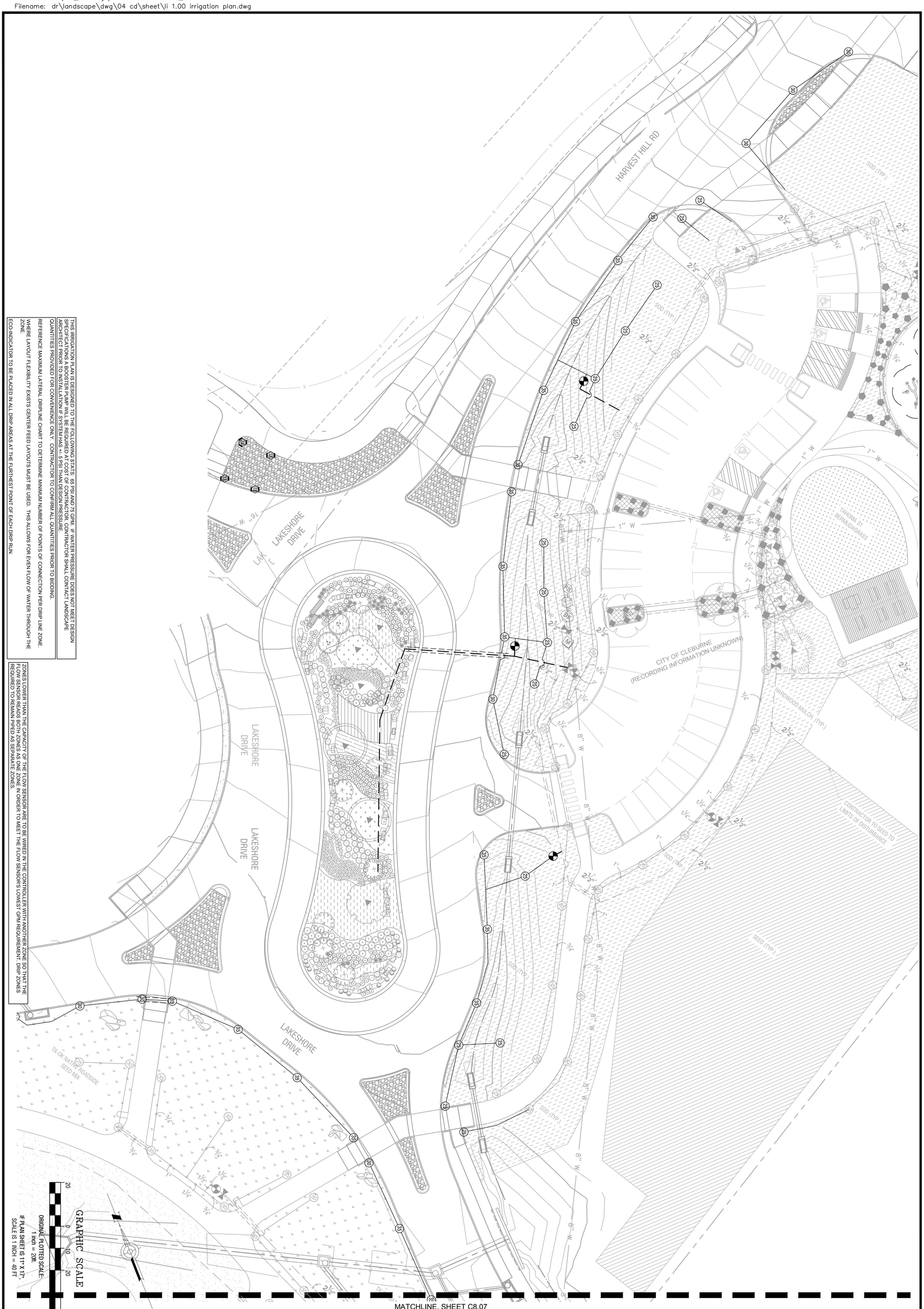
C. DO NOT PERFORM SEEDING IN WINDY CONDITIONS.

D. SEEDING SHALL BE DISPERSED IN 2 DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.

E. PERMANENTLY SEED AND MULCH CUT AND FILL SLOPES AS CONSTRUCTION PROCEEDS TO EXTENT CONSIDERED DESIRABLE AND PRACTICAL, IN THE EVENT IT IS NOT PRACTICAL TO SEED AREAS, SLOPES SHALL BE STABILIZED WITH STRAW MULCH AND TACKIFIER, BONDED FIBER MATRIX, NETTING, BLANKETS OR OTHER MEANS TO REDUCE THE ERODIVE POTENTIAL OF THE AREA.

F. SEED LAWN AREAS BY SOWING EVENLY WITH APPROVED MECHANICAL SEEDER AT RATE OF MINIMUM OF 6 POUNDS PER 1,000 SQUARE FEET. AMOUNT WILL VARY BASED ON VARIETY AND/OR SPECIES. CULTI-PACKER OR APPROVED SIMILAR EQUIPMENT MAY BE USED TO COVER SEED AND TO FORM SEEDBED IN ONE OPERATION. IN AREAS INACCESSIBLE TO CUTI-PACKER, LIGHTLY RAKE SEEDED GROUND WITH FLEXIBLE RAKES AD ROLL WITH WATER BALLAST ROLLER. AFTER ROLLING, MULCH WITH STRAW MULCH AT THE RATE OF 2

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Plotted, By: 2025-03-21 11:42:51 (IRRIGATION PLAN)
Last Saved: k:\ftw_roadway\061165022-cleburne_lakeshore
Filename: dr\landscape\dwg\04 cd\sheet\i 1.00 irrigation plan.dwg



THIS IRRIGATION PLAN IS DESIGNED TO THE FOLLOWING STATS: 65 PSI AND 75 GPM. IF WATER PRESSURE DOES NOT MEET DESIGN SPECIFICATIONS, IRRIGATION CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION IF SYSTEM HAS +/- 5 PSI THAN DESIGN PRESSURE.

QUANTITIES PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR TO CONFIRM ALL QUANTITIES PRIOR TO BIDDING.

REFERENCE MAXIMUM LATERAL DRIPLINE CHART TO DETERMINE MINIMUM NUMBER OF POINTS OF CONNECTION PER DRIP LINE ZONE. WHERE LAYOUT FLEXIBILITY EXISTS CENTER FEED LAYOUTS MUST BE USED. THIS ALLOWS FOR EVEN FLOW OF WATER THROUGH THE ZONE.

ECO-INDICATOR TO BE PLACED IN ALL DRIP AREAS AT THE FURTHEST POINT OF EACH DRIP RUN.

ZONES LOWER THAN THE CAPACITY OF THE FLOW SENSOR ARE TO BE WIRED IN THE CONTROLLER WITH ANOTHER ZONE SO THAT THE FLOW SENSOR READS BOTH ZONES AS ONE ZONE IN ORDER TO MEET THE FLOW SENSOR'S LOWEST GPM REQUIREMENT. DRIP ZONES REQUIRED TO REMAIN PIPED AS SEPARATE ZONES.

GRAPHIC SCALE
20 0 10 20 40
ORIGINAL PLOTTED SCALE:
1 INCH = 20ft.
IF PLAN SHEET IS 11"X 17",
SCALE IS 1 INCH = 40 FT

SHEET NUMBER	C8.06
DATE:	MARCH 2025
DESIGN:	KU
DRAWN:	KU
CHECKED:	KU
KHA NO.:	061165022

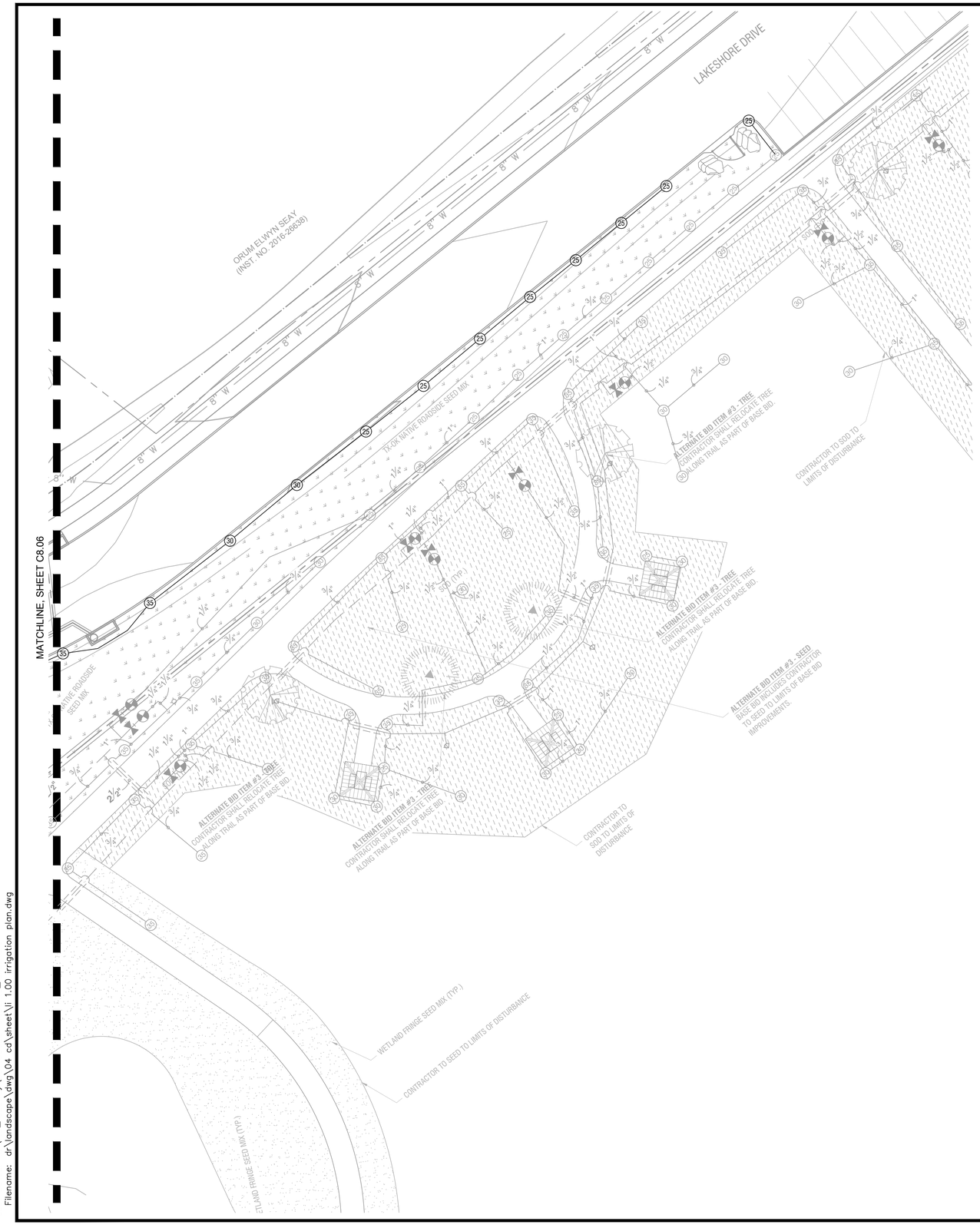
IRRIGATION PLAN

CITY OF CLEBURNE
LAKESHORE DRIVE AND
HARVEST HILL ROAD
IMPROVMENTS

KATHERINE A. UTECHT 0021532 REGISTERED LANDSCAPE ARCHITECT
2025-03-XX

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date



GENERAL IRRIGATION NOTES

1. IRRIGATION CONTRACTOR SHALL TEST EXISTING STATIC PRESSURE ON SITE PRIOR TO CONSTRUCTION. SHOULD EXISTING SITE PRESSURE BE BELOW THE DESIGN PRESSURE SPECIFIED WITHIN THESE PLANS, THE CONTRACTOR SHALL CONTACT THE IRRIGATION DESIGNER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. THE IRRIGATION CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES, UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN.
3. THE IRRIGATION CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE 100% COVERAGE WITH MINIMUM OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS PRIOR TO COMMENCEMENT OF OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR.
5. LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES. MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18 INCHES.
6. ELECTRICAL POWER SHALL BE PROVIDED WITHIN 5 FEET OF CONTROLLER LOCATION BY GENERAL CONTRACTOR. LICENSED IRRIGATION CONTRACTOR TO PROVIDE FINAL HARD WIRE TO CONTROLLER.
7. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF 14 GAUGE, U.L. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR "IRRIGATION WIRE". CONTRACTOR TO CONFIRM WIRE SIZE PRIOR TO INSTALLATION. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF WIRE CONNECTOR UL APPROVED AND FILLED WITH SILICONE.
8. ALL REMOTE VALVE BOXES SHALL BE SET FLUSH WITH FINISHED GRADE AND CONTAIN ONE CUBIC FOOT OF CLEAN GRAVEL BENEATH VALVE. LABEL REMOTE BOXES WITH ONE-INCH ALPHA NUMERIC NOTATION CORRESPONDING TO THE APPLICABLE ALPHA CONTROLLER AND NUMERIC STATION. USE 10" ROUND VALVE BOXES FOR ELECTRIC VALVES AND QUICK COUPLING VALVES. USE 15" X 9.5" RECTANGULAR BOX FOR DRIP VALVES UNLESS NOTED OTHERWISE. DOUBLE CHECK ASSEMBLY SHALL BE BOXED ACCORDING TO LOCAL CODES.
9. ALL SPRAY HEADS SHALL BE CONNECTED USING PVC SWING JOINT ASSEMBLIES TO CONNECT ALL SPRAY AND ROTOR HEADS.
10. ALL ROTOR HEADS SHALL BE CONNECTED WITH A MINIMUM 12" LENGTH OF ¾" FLEX PCV. THE FLEX PVC SHALL BE SOLVENT-WELDED TO SCHEDULE 40 PCV FITTINGS WITH WELD-ON *795 SOLVENT AND *P-70 PRIMER. PRIMER SHALL BE PURPLE IN COLOR
11. THE CONTRACTOR SHALL CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
12. SLEEVES SHALL BE INSTALLED BY GENERAL CONTRACTOR. SLEEVE MATERIAL SHALL BE PVC SHCEULD 40 UNLESS OTHERWISE NOTED. CONTRACTOR SHALL EXTEND SLEEVES 12 INCHES BEYOND EDGE OF ALL PAVEMENT.
13. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL. ALL PRESSURE MAINLINES UNDER ASPHALT PAVEMENT SHALL BE PLACED WITHIN SLEEVES AS NOTED.
14. DRIP LINE SHALL BE PLACED A MINIMUM OF 3" UNDER MULCH AND SECURE TO THE GROUND WITH DRIP IRRIGATION TUBING STAKES.
15. LICENSED IRRIGATION CONTRACTOR SHALL ADJUST SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE AND ADJUST FOR MINIMUM OVERSPRAY ONTO PAVEMENT. NO OVERSPRAY IS PERMITTED ONTO STREETS OR SIDEWALKS.
16. THE IRRIGATION CONTRACTOR SHALL SUPPLY AND CONSTRUCT IRRIGATION SYSTEM WITH ALL MATERIALS AND PER MANUFACTURER SPECIFICATIONS SHOWN ON THIS PLAN. IF CONTRACTOR PREFERS MATERIALS THAT DIFFER FROM THE THIS PLAN, THEY SHALL BE APPROVED BY THE IRRIGATION DESIGNER PRIOR TO CONSTRUCTION.
17. VERIFY CONTROLLER AND RAIN SENSOR LOCATION AND MAINLINE POINT OF CONNECTION AT PROJECT SITE WITH OWNER.
18. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
19. IRRIGATION LATERAL LINES, MAIN LINES AND EQUIPMENT MAY BE SHOWN OUTSIDE PROPERTY LINES ON THIS PLAN. ALL IRRIGATION LINES AND EQUIPMENT SHALL BE WITHIN AND INSTALLED WITHIN THE LIMITS OF THE PROPERTY LINE.
20. SUPPLY LINE AND METER SHALL BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
21. THE IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
22. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
23. MAINLINE, VALVES, AND WIRING ARE SHOWN ON DRAWINGS FOR CLARITY, SHOULD BE LOCATED IN ACCESSIBLE GREEN SPACE. CONTRACTOR TO COORDINATE WITH ALL DISCIPLINES TO AVOID CONFLICTS WITH UTILITIES/ STRUCTURES, ETC.
24. INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.
25. SET SPRAY HEADS 4" FROM BACK OF CURB OR 24" IF PAVEMENT HAS NO CURB.
26. THE IRRIGATION CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT. "AS-BUILT" DRAWINGS TO BE COLOR CODED BY ZONE ON 8.5" X 11", LAMINATED, AND PLACED IN CONTROLLER.
27. ALL DRIP ZONES SHALL BE INSTALLED WITH A SELF-FLUSHING DISC FILTER, OR APPROVED EQUAL.
28. THE CONTRACTOR SHALL INSTALL ALL IRRIGATION COMPONENTS AS PER MANUFACTURERS REQUIREMENTS.
29. IRRIGATION HEADS AND COMPONENTS SHALL BE LOCATED A MINIMUM OF 24" FROM ALL BUILDINGS TO AVOID ADVERSE PERFORMANCE OF FOUNDATIONS AND SLABS.
30. NO LATERALS SHALL BE LESS THAN 3/4" DIAMETER.
31. NO MAINLINES SHALL BE LESS THAN 1" DIAMETER.

GRAPHIC SCALE

20 0 10 20 40

ORIGINAL PLOTTED SCALE:
1 inch = 20ft.

IF PLAN SHEET IS 11" X 17",
SCALE IS 1 INCH = 40 FT

Kimley»Horn
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No.	Revision	By	Date

STATE OF TEXAS
KATHERINE A. UTECHT
0021532
LICENSED IRRIGATION
2025-03-XX

CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVMENTS

IRRIGATION PLAN

DATE: MARCH 2025
DESIGN: KU
DRAWN: KU
CHECKED: KU
KHA NO.: 061165022

SHEET NUMBER
C8.07

Plotted, By: 2026-04-16 18:55:09, Salinas, Rene
Last Saved: 2025-03-21 11:42:51 (IRRIGATION PLAN (2))
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\landscape\dwg\04 cd\sheet\lf 1.00 irrigation plan.dwg

GENERAL IRRIGATION SPECIFICATIONS AND NOTES

A. EXTENT:

1. INCLUDES FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT FOR THE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   a. TRENCHING AND BACKFILL. (2) AUTOMATICALLY CONTROLLED LOW VOLUME IRRIGATION SYSTEM, (3) TEST ALL SYSTEMS AND MAKE OPERATIVE, (4) "AS-BUILT" DRAWINGS.

B. GENERAL:

1. PERMITS AND FEES: OBTAIN ALL PERMITS AND PAY REQUIRED FEES TO ANY GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THE WORK. INSPECTIONS REQUIRED BY LOCAL ORDINANCES DURING THE COURSE OF CONSTRUCTION SHALL BE ARRANGED AS REQUIRED. ON COMPLETION OF THE WORK, SATISFACTORY EVIDENCE SHALL BE FURNISHED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE TO SHOW THAT ALL WORK HAS BEEN INSTALLED IN ACCORDANCE WITH THE STATE AND LOCAL BUILDING/ PLUMBING CODE AND ALL OTHER CODE REQUIREMENTS.
2. APPROVAL: WHEREVER THE TERMS "APPROVE" OR "APPROVED" ARE USED IN THE SPECIFICATIONS, THEY SHALL MEAN THE APPROVAL OF THE OWNER'S CONSTRUCTION REPRESENTATIVE IN WRITING.
3. BEFORE ANY WORK IS STARTED, A CONFERENCE SHALL BE HELD BETWEEN THE CONTRACTOR AND THE OWNER'S CONSTRUCTION REPRESENTATIVE CONCERNING THE WORK UNDER THIS CONTRACT.
4. COORDINATION: COORDINATE AND COOPERATE WITH OTHER CONTRACTORS TO ENABLE THE WORK TO PROCEED AS RAPIDLY AND EFFICIENTLY AS POSSIBLE.
5. INSPECTION OF SITE:
   a. CONTRACTOR SHALL ACQUAINT THEMSELVES WITH ALL SITE CONDITIONS. SUBMISSION OF THEIR PROPOSAL SHALL BE CONSIDERED EVIDENCE THAT THE EXAMINATION HAS BEEN CONDUCTED. SHOULD UTILITIES NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S CONSTRUCTION REPRESENTATIVE FOR INSTRUCTIONS AS TO FURTHER ACTION. FAILURE TO DO SO WILL MAKE CONTRACTOR LIABLE FOR ANY AND ALL DAMAGE THERETO ARISING FROM HIS OPERATIONS SUBSEQUENT TO DISCOVERY OF SUCH UTILITIES NOT SHOWN IN PLANS.
   b. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS IN THE LAYOUT AS MAY BE REQUIRED TO CONNECT TO EXISTING STUBOUTS, SHOULD SUCH STUBS NOT BE LOCATED EXACTLY AS SHOWN, AND AS MAY BE REQUIRED TO WORK AROUND EXISTING WORK AT NO INCREASE IN COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.
6. PROTECTION OF EXISTING PLANTS AND SITE CONDITIONS: THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS TO REMAIN. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD, OR DELETE ANY MATERIAL OR WORK AS THE WORK PROGRESSES. ADJUSTMENTS TO THE CONTRACT PRICE SHALL BE NEGOTIATED IF DEEMED NECESSARY BY THE OWNER ON A PER DIEM BASIS.
8. THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. REJECTED WORK SHALL BE REMOVED OR CORRECTED AT THE EARLIEST TIME POSSIBLE.
9. WORK SCHEDULE: WITHIN 10 DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A WORK SCHEDULE.
10. "AS-BUILT" IRRIGATION DRAWINGS: PREPARE AN "AS-BUILT" DRAWING ON A FULL-SIZE PLAN SET WHICH SHALL SHOW DEVIATIONS FROM THE BID DOCUMENTS MADE DURING CONSTRUCTION AFFECTING THE MAIN LINE PIPE, CONTROLLER LOCATIONS, REMOTE CONTROL VALVES AND QUICK COUPLING VALVES. THE DRAWINGS SHALL ALSO INDICATE AND SHOW APPROVED SUBSTITUTIONS OF SIZE, MATERIAL AND MANUFACTURERS NAME AND CATALOG NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE DELIVERED TO THE TENANT'S CONSTRUCTION REPRESENTATIVE BEFORE FINAL ACCEPTANCE OF WORK.
11. FINAL ACCEPTANCE: FINAL ACCEPTANCE OF THE WORK MAY BE OBTAINED FROM THE OWNER'S CONSTRUCTION REPRESENTATIVE UPON THE SATISFACTORY COMPLETION OF ALL WORK.
12. GUARANTEE: ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP. GUARANTEE SHALL ALSO COVER REPAIR OF DAMAGE TO ANY PART OF THE PREMISES RESULTING FROM LEAKS OR OTHER DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP TO THE SATISFACTION OF THE TENANT'S CONSTRUCTION REPRESENTATIVE. REPAIRS, IF REQUIRED, SHALL BE DONE PROMPTLY AT NO COST TO THE OWNER.
13. A LAMINATED PLAN (8 1/2 X 11) SHOWING THE DIFFERENT IRRIGATION ZONES IN COLOR, PREPARED BY THE IRRIGATION CONTRACTOR, SHALL BE POSTED IN THE MECHANICAL ROOM OR WITHIN CONTROLLER CABINET.

C. MATERIALS:

1. GENERAL: ALL MATERIALS THROUGHOUT THE SYSTEM SHALL BE NEW AND IN PERFECT CONDITION.
2. PLASTIC PIPING: ALL MAIN LINES AND LATERAL LINES SHALL BE CLASS 200 POLYVINYL CHLORIDE (PVC) PIPE AND SHALL COMPLY WITH ONE OF THE FOLLOWING STANDARDS: ASTM D 1785, ASTM D-2241, AWWA C-900, OR AWWA C-905. SDR-PR PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS REQUIRED BY SDR-26. PVC GASKETS FITTINGS SHALL CONFORMING TO ASTM D 3139. GASKETS SHALL CONFORM TO ASTM F 477. SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. THREADED PVC PIPE FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2464. CONFORMING TO ASTM D-1784 AND D-2241.
3. PLASTIC FITTINGS: ALL SOLVENT-WELD PVC FITTINGS SHALL MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466. SCHEDULE 40 SOLVENT-WELD, POLYVINYL CHLORIDE (PVC) STANDARD WEIGHT AS MANUFACTURED BY SLOANE, LASCO, OR APPROVED EQUAL.
4. SOLVENT CEMENT: PVC CEMENT SHALL MEET ASTM D 2564 AND PVC CLEANER-TYPE SHALL MEET ASTM F 656.
5. SPRINKLER HEAD RISERS: SCHEDULE 40 PVC FOR RISERS. PIPE SHALL BE CUT WITH A STANDARD PIPE CUTTING TOOL WITH SHARP CUTTERS. REAM ONLY TO FULL DIAMETER OF PIPE AND CLEAN ALL ROUGH EDGES OR BURRS. CUT ALL THREADS ACCURATELY WITH SHARP DIES. NOT MORE THAN THREE(3) FULL THREADS SHALL SHOW BEYOND FITTINGS WHEN PIPE IS MADE UP. ASSEMBLIES SHALL BE AS DETAILED.
6. AUTOMATIC CONTROLLER: SEE LEGEND.
7. REMOTE CONTROL VALVES: SEE LEGEND.
8. CONTROL WIRING: CONVENTIONAL SYSTEMS TO USE 24 VOLT SOLID UL APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM WIRE SIZE: 14 GAUGE. ALL SPLICES SHALL BE MADE WITHIN VALVE BOX. TWO-WIRE SYSTEMS TO UTILIZE CONTROL WIRING PER MANUFACTURER STANDARDS.
9. SLEEVES FOR CONTROL WIRING: UNDER ALL WALKS AND PAVED AREAS AND WHERE INDICATED ON DRAWINGS. MINIMUM PVC SCHEDULE 40 PLASTIC PIPE.
10. SPRINKLER HEADS/ DRIP LINE: SEE LEGEND.
11. QUICK COUPLING VALVES: SHALL BE NOTED ON DRAWINGS.

D. WORKMANSHIP:

1. LAY OUT WORK AS ACCURATELY AS POSSIBLE TO THE DRAWINGS. THE DRAWINGS, THOUGH CAREFULLY DRAWN, ARE GENERALLY DIAGRAMMATIC TO THE EXTENT THAT SWING JOINTS, OFFSETS, AND ALL FITTINGS ARE NOT SHOWN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL AND COMPLETE COVERAGE OF ALL IRRIGATED AREAS AND SHALL MAKE ANY NECESSARY MINOR ADJUSTMENTS AT NO ADDITIONAL COST TO THE OWNER'S CONSTRUCTION REPRESENTATIVE.
3. ANY MAJOR REVISIONS TO THE IRRIGATION SYSTEM MUST BE SUBMITTED AND ANSWERED IN WRITTEN FORM, ALONG WITH ANY CHANGE IN CONTRACT PRICE.

E. INSTALLATION:

1. EXCAVATION AND TRENCHING:
   a. PERFORM ALL EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK INCLUDING UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS. RESTORE ALL SURFACES, EXISTING UNDERGROUND INSTALLATIONS, ETC., DAMAGED OR CUT AS A RESULT OF THE EXCAVATIONS TO AND IN A MANNER APPROVED BY THE OWNER.
   b. TRENCHES SHALL BE MADE WIDE ENOUGH TO ALLOW A MINIMUM OF 6 INCHES BETWEEN PARALLEL PIPE LINES. TRENCHES FOR PIPE LINES SHALL BE MADE OF SUFFICIENT DEPTHS TO PROVIDE THE MINIMUM COVER FROM FINISH GRADE AS FOLLOWS:
      1) 24" MINIMUM BELOW BOTTOM PAVEMENT PER SLEEVING INSTALLATION DETAIL FOR MAIN LINE.18" MINIMUM FOR NON-PRESSURIZED LATERALS.
      2) MINIMUM COVER OVER IRRIGATION LINES TO HEADS/ DRIPLINE EXCEPT VEHICLE TRAFFIC AREAS ARE AS FOLLOWS:
         12" COVER OVER LATERALS
         18" COVER OVER MAINLINE.
   c. MAINTAIN ALL WARNING SIGNS, SHORING, BARRICADES, FLARES AND RED LANTERNS AS REQUIRED BY THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY AND LOCAL ORDINANCES.
2. PIPE LINE ASSEMBLY:
   a. INSTALL REMOTE CONTROL VALVES WHERE SHOWN AND GROUP TOGETHER WHERE PRACTICAL. PLACE NO CLOSER THAN 12-18 INCHES TO WALK EDGES, WALLS, AND OTHER PAVEMENTS. PLACE A MINIMUM OF 24" FROM BUILDINGS.
   b. PLASTIC PIPE AND FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS AND METHODS RECOMMENDED BY MANUFACTURER OF THE PIPE. EXCEPT WHERE SCREWED CONNECTIONS ARE REQUIRED. PIPE AND FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT WITH A NON-SYNTHETIC BRISTLE BRUSH.
   c. PIPE MAY BE ASSEMBLED AND WELDED ON THE SURFACE. SNAKE PIPE FROM SIDE TO SIDE OF TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTION.
   d. MAKE ALL CONNECTIONS BETWEEN PLASTIC PIPE AND METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.
   e. JOINTS:
      1) PIPE SIZES 2 1/2 INCH OR SMALLER SHALL HAVE BELL AND SOCKET JOINTS.
      2) PIPE SIZES LARGER THAN 2 1/2 INCH SHALL HAVE SNAP CONNECTIONS WITH RUBBER GASKET JOINTS.
      3) THRUST BLOCKING SHALL BE REQUIRED WHEN PIPE SIZE IS 4" OR GREATER.
3. SPRINKLER HEADS/ DRIPLINE:
   a. INSTALL ALL SPRINKLERS/ DRIPLINE AS DETAILED ON DRAWINGS.
   b. DO NOT SCALE PLANS FOR EXACT HEAD LOCATION.
4. CLOSING OF PIPE AND FLUSHING LINES:
   a. CAP OR PLUG ALL OPENINGS AS SOON AS LINES HAVE BEEN INSTALLED TO PREVENT THE ENTRANCE OF MATERIALS THAT WOULD OBSTRUCT THE PIPE. LEAVE IN PLACE UNTIL REMOVAL IS NECESSARY FOR COMPLETION OF INSTALLATION.
   b. THOROUGHLY FLUSH OUT ALL WATER LINES BEFORE INSTALLING HEADS, DRIPLINE, VALVES AND OTHER HYDRANTS.
   c. TEST IN ACCORDANCE WITH PARAGRAPH ON HYDROSTATIC TESTS.
   d. UPON COMPLETION OF THE TESTING, THE CONTRACTOR SHALL COMPLETE ASSEMBLY AND ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.
5. INSPECTIONS:
   a. SPRINKLER/ DRIPLINE LAYOUT AND SPACING INSPECTION: VERIFICATION THAT THE IRRIGATION DESIGN IS ACCURATELY INSTALLED IN THE FIELD. IT WILL ALSO PROVIDE FOR ALTERATION OR MODIFICATION OF THE SYSTEM TO MEET FIELD CONDITIONS. SPACING SHOULD BE WITHIN 5% OF THE DESIGN SPACING.
   b. PIPE INSTALLATION DEPTH INSPECTION: ALL PIPES IN THE SYSTEM SHALL BE INSTALLED TO DEPTHS AS PREVIOUSLY DESCRIBED IN SECTION 'E' OF THESE SPECIFICATIONS.
   c. OPEN TRENCH INSPECTION: THE TRENCH AND ALL JOINTS AND EVERY TRANSITION IN PIPE SIZE, WILL BE OPEN WHERE OPEN TRENCH INSPECTION IS REQUIRED.
   d. INSPECTIONS WILL BE PERFORMED THROUGHOUT THE DURATION OF THE INSTALLATION. INSPECTION MAY BE MADE BY THE GOVERNING AGENCY/ OWNER TO ENSURE COMPLIANCE WITH DESIGN INTENT, SPECIFICATIONS, AND THE IRRIGATION CODES.
6. HYDROSTATIC TESTS:
   a. REQUEST THE PRESENCE OF THE OWNER AND/OR OWNERS REPRESENTATIVE IN WRITING AT LEAST 48 HOURS IN ADVANCE OF TESTING.
   b. TESTING TO BE ACCOMPLISHED AT THE EXPENSE OF THE CONTRACTOR AND IN THE PRESENCE OF THE OWNER.
   c. CENTER LOAD PIPING WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING OR SLIPPING UNDER PRESSURE.
   d. APPLYING A CONTINUOUS AND STATIC WATER PRESSURE OF 125 PSI WHEN WELDED PLASTIC JOINTS HAVE CURED AT LEAST 3 HOURS AND WITH THE RISERS CAPPED AS FOLLOWS:
      1) MAIN LINES AND SUBMAINS TO BE TESTED FOR 2 HOURS.
      2) NO PRESSURE LOSS IS ALLOWED FOR SOLVENT WELD MAINLINE/ PIPE.
   e. FOR PVC AND O-RING GASKET PIPE THE ALLOWABLE LEAKAGE SHALL NOT EXCEED THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

      $L = NPD^{1/2} / 1{,}850$

      IN WHICH:

      L=ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
      N=NUMBER OF JOINTS
      D=PIPE DIAMETER IN INCHES
      P=AVERAGE TEST PRESSURE IN PSI GAUGE.
   f. REPAIR LEAKS RESULTING FROM TESTS.
7. AUTOMATIC CONTROLLERS:
   a. CONNECT REMOTE CONTROL VALVES TO CONTROLLER IN A CLOCKWISE SEQUENCE TO CORRESPOND WITH STATION SETTING BEGINNING WITH STATIONS 1, 2, 3, ETC.
8. AUTOMATIC CONTROL WIRING:
   a. INSTALL CONTROL WIRING, SPRINKLER MAINS AND LATERALS IN COMMON TRENCHES WHEREVER POSSIBLE.
   b. INSTALL CONTROL WIRES AT LEAST 18" BELOW FINISHED GRADE AND SNAKE WIRE SIDE TO SIDE IN TRENCH BELOW MAIN LINE. EXPANSION CURLS SHALL BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION TO SOLENOID AND AT LEAST EVERY THREE HUNDRED (300') FEET IN LENGTH. (EXPANSION CURLS ARE FORMED BY WRAPPING AT LEAST FIVE (5) TURNS OF WIRE AROUND A ROD OR PIPE 1" OR MORE IN DIAMETER, THEN WITHDRAWING THE ROD).
   c. CONTROL WIRE SPLICES WILL BE ALLOWED ONLY RUNS OVER 1000 FT. CONNECTIONS SHALL BE IN VALVE BOX AND LOCATION TO BE SHOWN ON AS-BUILT PLANS.
   d. ALL WIRING PASSING UNDER EXISTING OR FUTURE PAVING, CONSTRUCTION, ETC., SHALL BE ENCASED IN PLASTIC OR GALVANIZED STEEL CONDUIT EXTENDING AT LEAST 24" BEYOND EDGES OF PAVING OR CONSTRUCTION.
   e. CONTRACTOR SHALL RUN TWO SPARE WIRES IN EACH DIRECTION FROM CONTROLLER TO FARTHEST VALVE TO SERVE AS BACKUP WIRES.
9. BACKFILL AND COMPACTING:
   a. AFTER SYSTEM IS OPERATING AND REQUIRED TESTS AND INSPECTIONS HAVE BEEN MADE, BACKFILL EXCAVATIONS AND TRENCHES WITH CLEAN SOIL, FREE OF RUBBISH. INITIAL BACKFILL MATERIAL TO 6 INCHES ABOVE THE TOP OF PIPE SHALL BE FREE OF ROCKS OR STONES LARGER THAN ONE INCH IN DIAMETER FINAL BACKFILL MATERIAL SHALL BE FREE OF ROCKS OR STONES LARGER THAN 3 INCHES IN DIAMETER.
   b. BACKFILL FOR ALL TRENCHES, REGARDLESS OF THE TYPE OF PIPE COVERED, SHALL BE COMPACTED TO MINIMUM 90% DENSITY.
   c. COMPACT TRENCHES IN AREAS TO BE PLANTED BY THOROUGHLY FLOODING THE BACKFILL. JETTING PROCESS MAY BE USED IN THOSE AREAS.
   d. DRESS OFF ALL AREAS TO FINISH GRADES.
10. PROTECTIVE RADIUS OF EXISTING TREES:
   a. AN AUGER IS TO BE USED TO TUNNEL UNDER EXISTING TREES IF IRRIGATION IS INSTALLED WITHIN THE PROTECTIVE RADIUS OF EXISTING TREES AND ONLY IF THERE IS NO OTHER OPTION OR TO DO SO CREATES AN UNREASONABLE HARDSHIP.

F. CLEAN-UP:

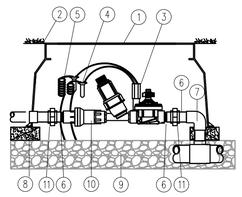
1. REMOVE FROM THE SITE ALL DEBRIS RESULTING FROM WORK OF THIS SECTION.

END SECTION

DRIP CONTROL ZONE KIT (CONVENTIONAL WIRING) — H

Scale: N.T.S.

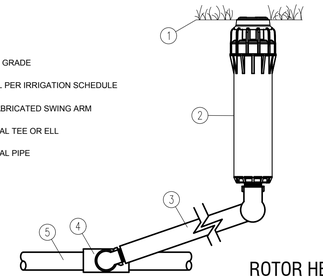
VALVE BOX TO BE INSTALLED 12-18" FROM BACK OF CURB



1. JUMBO VALVE BOX
2. FINISH GRADE
3. DRIP ZONE KIT MODEL IPER IRRIGATION SCHEDULE TIP FILTER 45 DEGREES
4. WATERPROOF CONNECTORS (2)
5. 18-24" COILED WIRE
6. SCH 80 T.O.E. NIPPLE
7. MAIN LINE PIPE & FITTINGS
8. BRICK SUPPORTS (4)
9. 3/4" MINUS WASHED GRAVEL
10. REGULATOR: 25 PSI
11. PVC SLIP UNIONS (2)

ROTOR HEAD — D

Scale: N.T.S.

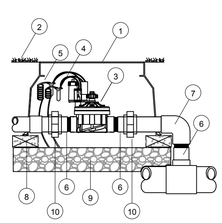


1. FINISH GRADE
2. MODEL PER IRRIGATION SCHEDULE
3. PREFABRICATED SWING ARM
4. LATERAL TEE OR ELL
5. LATERAL PIPE

REMOTE CONTROL VALVE (CONVENTIONAL WIRING) — G

Scale: N.T.S.

VALVE BOX TO BE INSTALLED 12-18" FROM BACK OF CURB

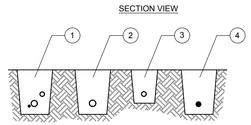


1. STANDARD VALVE BOX
2. FINISH GRADE
3. REMOTE CONTROL VALVE MODEL PER IRRIGATION SCHEDULE
4. WATERPROOF CONNECTORS (2)
5. 18-24" COILED WIRE
6. SCH 80 T.O.E. NIPPLE
7. MAIN LINE PIPE & FITTINGS
8. BRICK SUPPORTS (4)
9. 3/4" MINUS WASHED GRAVEL
10. PVC SLIP UNIONS

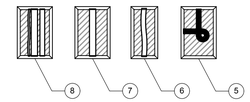
PIPE AND WIRE TRENCHING — C

Scale: N.T.S.

SECTION VIEW



PLAN VIEW

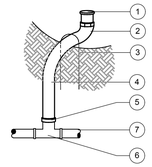


1. MAINLINE, LATERAL AND WIRING IN THE SAME TRENCH - 18" MIN. DEPTH
2. MAINLINE PIPE - 18" MIN. DEPTH
3. LATERAL PIPE - 12" MIN. DEPTH
4. WIRING IN CONDUIT - 12" MIN. DEPTH
5. TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
6. ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN.
7. ALL SOLVENT WELD PLASTIC PIPING TO BE RAN IN TRENCH AS SHOWN.
8. RUN WIRING BENEATH AND BESIDE MAINLINE. TAPE AND BUNDLE AT 10-FOOT INTERVALS.

NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCHD. 40 PVC TWICE THE DIAMETER OF THE PIPE OR WITH BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

BUBBLER ASSEMBLY — F

Scale: N.T.S.

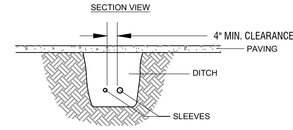


1. BUBBLER HEAD MODEL PER IRRIGATION SCHEDULE
2. MALE ADAPTER
3. 9" LONG (12 GAUGE) WIRE STAPLE
4. 1/2" FLEX POLY (18" - 24" LONG) SHALL EXTEND TO TRUNK OF EACH TREE
5. REDUCER BUSHING AS REQUIRED
6. SCHEDULE 40 PVC TEE (S X S X S)
7. LATERAL LINE (CLASS 200 PVC)

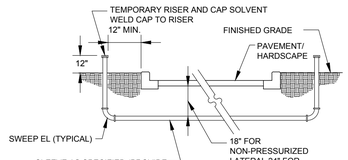
SLEEVE DETAIL — B

Scale: N.T.S.

SECTION VIEW

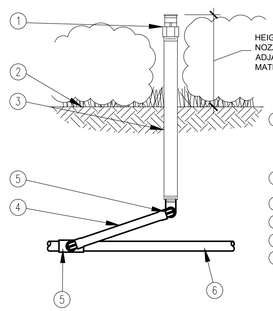


NOTES:
1. ALL IRRIGATION SLEEVES TO BE SCHEDULE 40 PVC.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISHED GRADE.
4. MECHANICALLY TAMP TO 95° PROCTOR.



SHRUB RISER WITH HE-VAN NOZZLE — E

Scale: N.T.S.



1. SHRUB ADAPTER: RAINBIRD MODEL PA-8SPRS SHRUB ADAPTER
   NOZZLE: RAINBIRD HE-VAN SPRAY NOZZLES AND ADJUSTED PER PLANS
2. FINISH GRADE/TOP OF MULCH
3. PVC SCH 40 ELL
4. 1/2" X 8" SCH 80 NIPPLE
5. 1/2" SCH 40 STREET ELL
6. PVC LATERAL PIPE

SLEEVE SCHEDULE — A

Scale: N.T.S.

PVC PIPE SIZE	SOLVENT WELD SCH. 40 FITTINGS	BELL AND GASKET FITTINGS	SOCKETED PIPE
1/2"	2"	--	2"
3/4"	2"	--	2"
1"	2 1/2"	--	2 1/2"
1 1/4"	3"	--	3"
1 1/2"	3"	3"	3"
2"	4"	4"	4"
2 1/2"	6"	6"	6"
3"	6"	6"	6"
4"	8"	8"	8"

Kimley»Horn
801 Cherry Street, Suite 1300, Unit 11, Fort Worth, TX 76102 (817) 335-6511 Registration Number F-928

No.	Revision	By	Date



CITY OF CLEBURNE
LAKESHORE DRIVE AND HARVEST HILL ROAD IMPROVMENTS

IRRIGATION DETAILS AND SPECIFICATIONS

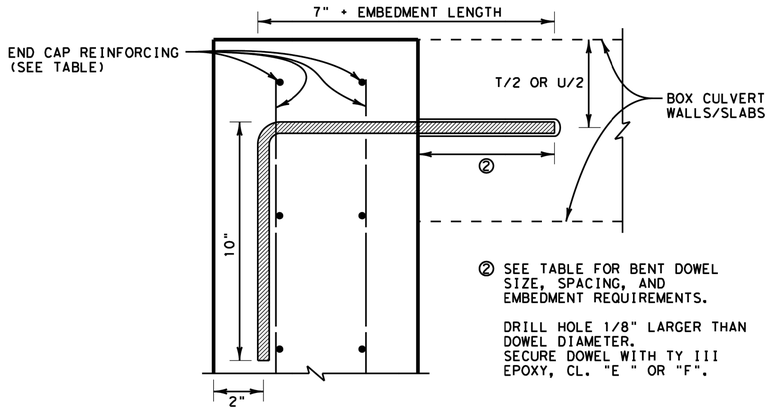
DATE: MARCH 2025
DESIGN: KU
DRAWN: KU
CHECKED: KU
KHA NO.: 061165022

SHEET NUMBER

C8.08

Plotted, By: 2026-04-16 18:56:06, Salinas, Rene
Last Saved: 2025-03-21 11:42:51 (IRRIGATION DETAILS AND SPECS)
Filename: k:\ftw_roadway\061165022-cleburne_lakeshore dr\landscape\dwg\04 cd\sheet\i 1.00 irrigation plan.dwg

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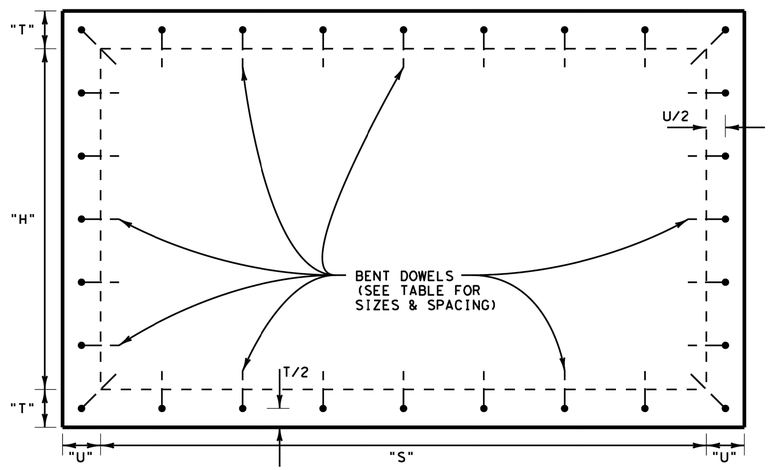
② SEE TABLE FOR BENT DOWEL SIZE, SPACING, AND EMBEDMENT REQUIREMENTS.

DRILL HOLE 1/8" LARGER THAN DOWEL DIAMETER. SECURE DOWEL WITH TY III EPOXY, CL. "E " OR "F".

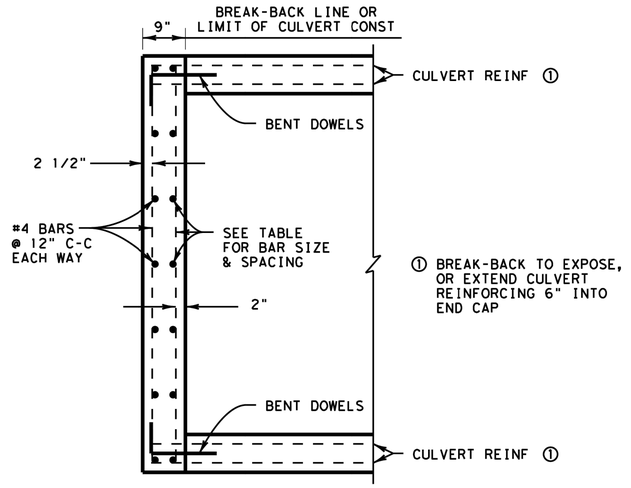
BENT DOWEL DETAIL
N. T. S.
(SEE TABLE FOR SIZES AND SPACING)

BENT DOWEL SIZE/SPACING/EMBEDMENT			
"T" OR "U" (IN)	SIZE	SPACING	EMBEDMENT
4"	#3	6"	4"
5"	#4	8"	5"
6"	#4	8"	6"
> 6"	#5	12"	6"

BOX CULVERT - END CAP REINFORCEMENT				
"S" OR "H" (MAX)	INSIDE MAT OF REINFORCING			
	MAX FILL ≤ 15'		15' < MAX FILL ≤ 30'	
	SIZE	SPACING	SIZE	SPACING
< 4'	4	12"	4	12"
5'	4	12"	4	10"
6'	4	12"	5	11"
7'	4	10"	5	9"
8'	5	12"	6	9"
9'	5	10"	6	8"
10'	5	9"	6	7"
11'	5	8"	6	6"
12'	5	8"	6	6"
OUTSIDE MAT OF REINFORCING: # 4 BARS @ 12" C-C EA WAY				



FRONT ELEVATION VIEW
N. T. S.



SIDE ELEVATION VIEW
N. T. S.

GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "C" EXCEPT AS NOTED.
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. DIMENSTIONS RELATING TO REINFORCING ARE TO CENTERS OF BARS.
4. PERMANENT FORMS MAY BE USED FOR INTERIOR FACE OF CAP.
5. WHEN CONSTRUCTED IN CONJUNCTION WITH NEW CULVERT INSTALLATION, END CAP MAY BE FORMED MONOLITHICALLY WITH CULVERT. FOR PRECAST CULVERT END CAPS, USE CLASS "H"CONCRETE, (MINIMUM DESIGN STRENGTH = 5000 PSI) AND SUBMIT SEALED ENGINEERING CALCULATIONS AND DRAWINGS FOR APPROVAL PRIOR TO FABRICATION

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Texas Department of Transportation

Fort Worth District Standard

BOX CULVERT END CAP DETAILS
BC-ECD (FTW)

ORIGINAL DRAWING: 05/2019	BC-ECD-FTW.DGN	FED.RO. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	REPLACES CEC (FW)	STATE	STATE DIST.NO.	COUNTY
		TEXAS	FTW	
		CONT.	SECT.	JOB / HIGHWAY NO.

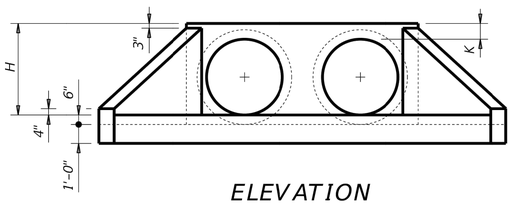
http://www.dot.state.tx.us/ftw/specinfo/standard.htm
9/3/2019 3:40:13 PM
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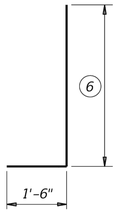
TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (5)

Slope	Dia of Pipe (D)	Values for One Pipe						Values to be Added for Each Addt'l Pipe		
		W	X	Y	L	Reinf (Lbs)	Conc (CY) (1)	X and W	Reinf (Lbs)	Conc (CY) (1)
2:1	12"	4' – 7 ½"	2' – 6"	2' – 10"	3' – 3 ¼"	88	0.6	1' – 9"	20	0.2
	15"	5' – 5 ¾"	2' – 9 ½"	3' – 4"	3' – 10 ¼"	103	0.7	2' – 2"	24	0.3
	18"	6' – 4 ¼"	3' – 1"	3' – 10"	4' – 5"	124	0.9	2' – 8"	32	0.3
	21"	7' – 2 ¾"	3' – 4 ½"	4' – 4"	5' – 0"	143	1.1	3' – 1"	43	0.4
	24"	8' – 2 ½"	3' – 9 ½"	4' – 10"	5' – 7"	164	1.3	3' – 7"	50	0.5
	27"	9' – 1"	4' – 1"	5' – 4"	6' – 2"	179	1.5	3' – 11"	56	0.6
	30"	9' – 11 ½"	4' – 4 ½"	5' – 10"	6' – 8 ¾"	203	1.7	4' – 4"	65	0.8
	33"	10' – 10"	4' – 8"	6' – 4"	7' – 3 ¾"	224	2.0	4' – 8"	71	0.9
	36"	11' – 8 ¼"	4' – 11 ½"	6' – 10"	7' – 10 ¾"	249	2.2	5' – 1"	81	1.0
	42"	13' – 5 ¼"	5' – 6 ½"	7' – 10"	9' – 0 ½"	298	2.8	5' – 10"	97	1.3
	48"	15' – 9"	6' – 1 ½"	9' – 4"	10' – 9 ¼"	360	3.8	6' – 7"	117	1.7
	54"	17' – 5 ¾"	6' – 8 ½"	10' – 4"	11' – 11 ¼"	427	4.5	7' – 6"	151	2.1
	60"	19' – 2 ¾"	7' – 3 ½"	11' – 4"	13' – 1"	481	5.3	8' – 3"	174	2.5
	66"	20' – 11 ½"	7' – 10 ½"	12' – 4"	14' – 3"	544	6.2	8' – 9"	194	2.9
	72"	22' – 8 ½"	8' – 5 ½"	13' – 4"	15' – 4 ¾"	601	7.1	9' – 4"	213	3.3
3:1	12"	6' – 3"	2' – 6"	4' – 3"	4' – 11"	118	0.8	1' – 9"	22	0.2
	15"	7' – 5"	2' – 9 ½"	5' – 0"	5' – 9 ¼"	137	1.1	2' – 2"	28	0.3
	18"	8' – 6 ¾"	3' – 1"	5' – 9"	6' – 7 ¾"	170	1.3	2' – 8"	37	0.5
	21"	9' – 8 ¾"	3' – 4 ½"	6' – 6"	7' – 6"	195	1.6	3' – 1"	48	0.6
	24"	11' – 0"	3' – 9 ½"	7' – 3"	8' – 4 ½"	227	2.0	3' – 7"	58	0.7
	27"	12' – 2"	4' – 1"	8' – 0"	9' – 2 ¾"	251	2.3	3' – 11"	67	0.8
	30"	13' – 4"	4' – 4 ½"	8' – 9"	10' – 1 ¼"	293	2.7	4' – 4"	77	1.0
	33"	14' – 5 ¾"	4' – 8"	9' – 6"	10' – 11 ¾"	318	3.1	4' – 8"	84	1.2
	36"	15' – 7 ¾"	4' – 11 ½"	10' – 3"	11' – 10"	351	3.5	5' – 1"	96	1.4
	42"	17' – 11 ½"	5' – 6 ½"	11' – 9"	13' – 6 ¾"	432	4.5	5' – 10"	119	1.7
	48"	21' – 1 ¾"	6' – 1 ½"	14' – 0"	16' – 2"	537	6.1	6' – 7"	146	2.3
	54"	23' – 5 ½"	6' – 8 ½"	15' – 6"	17' – 10 ¾"	630	7.3	7' – 6"	186	2.9
	60"	25' – 9 ¼"	7' – 3 ½"	17' – 0"	19' – 7 ½"	719	8.7	8' – 3"	219	3.4
	66"	28' – 1"	7' – 10 ½"	18' – 6"	21' – 4 ¼"	811	10.1	8' – 9"	242	3.9
	72"	30' – 4 ¾"	8' – 5 ½"	20' – 0"	23' – 1 ¼"	924	11.7	9' – 4"	272	4.4
4:1	12"	7' – 10 ¾"	2' – 6"	5' – 8"	6' – 6 ½"	148	1.1	1' – 9"	24	0.3
	15"	9' – 4"	2' – 9 ½"	6' – 8"	7' – 8 ½"	181	1.5	2' – 2"	32	0.4
	18"	10' – 9 ½"	3' – 1"	7' – 8"	8' – 10 ¼"	221	1.9	2' – 8"	42	0.5
	21"	12' – 2 ¾"	3' – 4 ½"	8' – 8"	10' – 0"	260	2.3	3' – 1"	57	0.7
	24"	13' – 9 ½"	3' – 9 ½"	9' – 8"	11' – 2"	301	2.8	3' – 7"	67	0.9
	27"	15' – 3"	4' – 1"	10' – 8"	12' – 3 ¾"	334	3.3	3' – 11"	77	1.0
	30"	16' – 8 ¼"	4' – 4 ½"	11' – 8"	13' – 5 ¾"	385	3.8	4' – 4"	89	1.3
	33"	18' – 1 ¾"	4' – 8"	12' – 8"	14' – 7 ½"	425	4.5	4' – 8"	101	1.4
	36"	19' – 7"	4' – 11 ½"	13' – 8"	15' – 9 ¼"	472	5.1	5' – 1"	115	1.7
	42"	22' – 5 ¾"	5' – 6 ½"	15' – 8"	18' – 1"	583	6.5	5' – 10"	141	2.1
	48"	26' – 6 ¼"	6' – 1 ½"	18' – 8"	21' – 6 ¾"	730	8.9	6' – 7"	175	2.8
	54"	29' – 5"	6' – 8 ½"	20' – 8"	23' – 10 ¼"	875	10.7	7' – 6"	226	3.6
	60"	32' – 3 ¾"	7' – 3 ½"	22' – 8"	26' – 2"	996	12.7	8' – 3"	264	4.3
	66"	35' – 2 ½"	7' – 10 ½"	24' – 8"	28' – 5 ¾"	1,140	14.9	8' – 9"	300	4.9
	72"	38' – 1 ¼"	8' – 5 ½"	26' – 8"	30' – 9 ½"	1,297	17.3	9' – 4"	334	5.6
6:1	12"	11' – 2"	2' – 6"	8' – 6"	9' – 9 ¾"	224	1.9	1' – 9"	28	0.4
	15"	13' – 2 ¼"	2' – 9 ½"	10' – 0"	11' – 6 ½"	268	2.5	2' – 2"	37	0.5
	18"	15' – 2 ½"	3' – 1"	11' – 6"	13' – 3 ¼"	330	3.2	2' – 8"	50	0.7
	21"	17' – 2 ¾"	3' – 4 ½"	13' – 0"	15' – 0 ¼"	387	3.9	3' – 1"	69	0.9
	24"	19' – 4 ½"	3' – 9 ½"	14' – 6"	16' – 9"	453	4.8	3' – 7"	80	1.2
	27"	21' – 4 ¾"	4' – 1"	16' – 0"	18' – 5 ¾"	512	5.7	3' – 11"	96	1.4
	30"	23' – 5 ¼"	4' – 4 ½"	17' – 6"	20' – 2 ½"	593	6.7	4' – 4"	110	1.7
	33"	25' – 5 ½"	4' – 8"	19' – 0"	21' – 11 ¼"	675	7.8	4' – 8"	127	2.0
	36"	27' – 5 ¾"	4' – 11 ½"	20' – 6"	23' – 8"	735	9.0	5' – 1"	144	2.3
	42"	31' – 6 ¼"	5' – 6 ½"	23' – 6"	27' – 1 ½"	922	11.5	5' – 10"	179	3.0
	48"	37' – 3 ½"	6' – 1 ½"	28' – 0"	32' – 4"	1,191	15.9	6' – 7"	231	4.0
	54"	41' – 4 ¼"	6' – 8 ½"	31' – 0"	35' – 9 ½"	1,424	19.2	7' – 6"	300	5.0
	60"	45' – 4 ¾"	7' – 3 ½"	34' – 0"	39' – 3"	1,631	22.9	8' – 3"	353	6.0

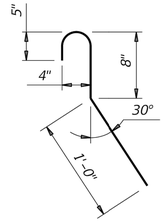


ELEVATION

(Showing dimensions.)

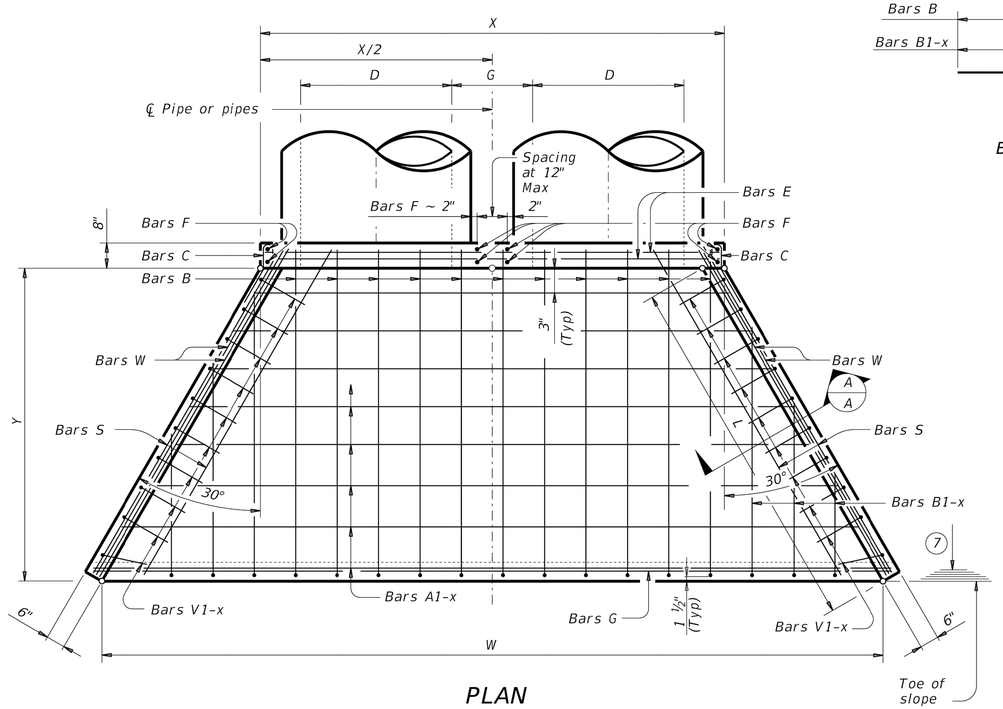


BARS V

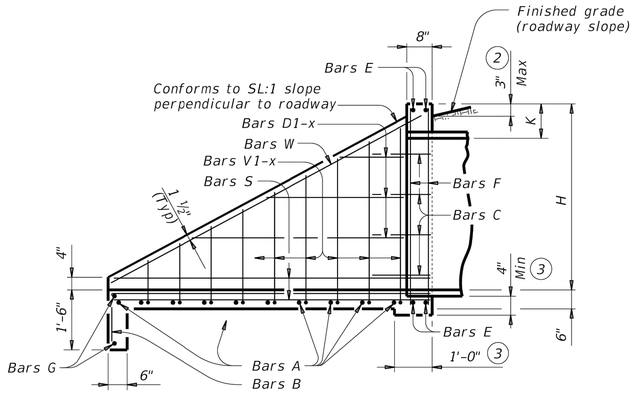


BARS CL

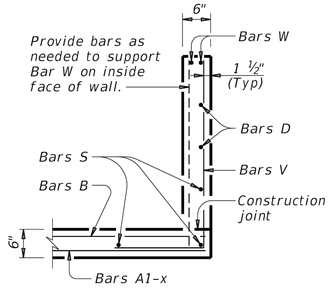
(Length = 2'-5")



PLAN



TYPICAL WING ELEVATION



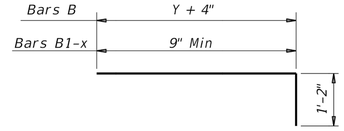
SECTION A-A

TABLE OF REINFORCING STEEL (5)

Bar	Size	Spa	No.
A	#4	1' – 0"	~
B	#3	1' – 6"	~
C	#4	1' – 0"	~
D	#3	1' – 0"	~
E	#5	~	4
F	#5	~	~
G	#3	~	2
S	#4	~	6
V	#4	1' – 0"	~
W	#5	~	4

TABLE OF CONSTANT DIMENSIONS

Dia of Pipe (D)	G	K (4)	H
12"	0' – 9"	1' – 0"	2' – 0"
15"	0' – 11"	1' – 0"	2' – 3"
18"	1' – 2"	1' – 0"	2' – 6"
21"	1' – 4"	1' – 0"	2' – 9"
24"	1' – 7"	1' – 0"	3' – 0"
27"	1' – 8"	1' – 0"	3' – 3"
30"	1' – 10"	1' – 0"	3' – 6"
33"	1' – 11"	1' – 0"	3' – 9"
36"	2' – 1"	1' – 0"	4' – 0"
42"	2' – 4"	1' – 0"	4' – 6"
48"	2' – 7"	1' – 3"	5' – 3"
54"	3' – 0"	1' – 3"	5' – 9"
60"	3' – 3"	1' – 3"	6' – 3"
66"	3' – 3"	1' – 3"	6' – 9"
72"	3' – 4"	1' – 3"	7' – 3"



BARS B and B1-x

(1) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(2) For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(3) Provide a 1'-0" footing as shown where required to maintain 4" minimum cover for pipes.

(4) Dimensions shown are usual and maximum.

(5) Quantities shown are for one structure end only (one headwall).

(6) Min Length = $6" + 3" \times \left(\frac{12 \times H - 7}{12 \times L} \right)$

Max Length = $12 \times H - 3" \times \left(\frac{12 \times H - 7}{12 \times L} \right) - 1"$

(7) Lengths of wings based on SL:1 slope along this line.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not mount bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation

Bridge Division Standard

CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS

CH-FW-0

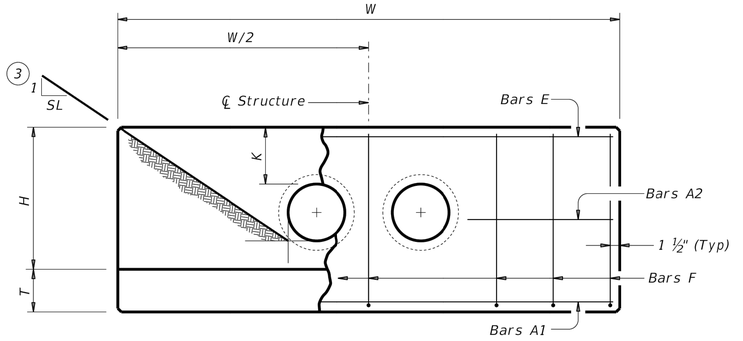
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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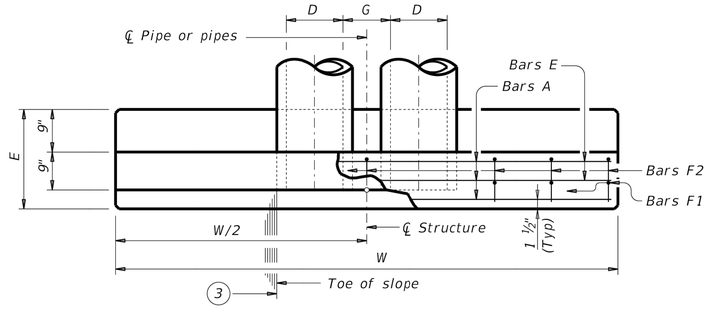
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TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (5)

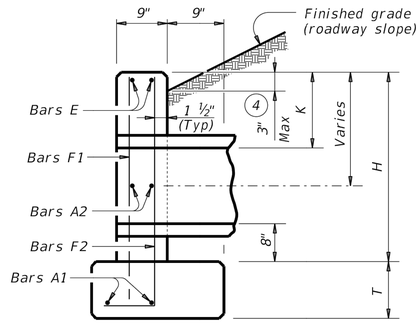
Slope	Dia of Pipe (D)	Values for One Pipe			Values To Be Added for Each Addt'l Pipe		
		W	Reinf (Lbs) (1)	Conc (CY) (2)	W	Reinf (Lbs) (1)	Conc (CY) (2)
2:1	12"	9' – 0"	122	1.1	1' – 9"	15	0.2
	15"	10' – 3"	136	1.3	2' – 2"	16	0.2
	18"	11' – 6"	163	1.5	2' – 8"	19	0.3
	21"	12' – 9"	200	1.8	3' – 1"	31	0.4
	24"	14' – 0"	217	2.1	3' – 7"	34	0.4
	27"	15' – 3"	254	2.4	3' – 11"	37	0.5
	30"	16' – 6"	272	2.7	4' – 4"	40	0.6
	33"	17' – 9"	314	3.1	4' – 8"	43	0.6
	36"	19' – 0"	371	3.9	5' – 1"	46	0.8
	42"	21' – 6"	442	4.9	5' – 10"	52	1.0
	48"	25' – 0"	569	6.4	6' – 7"	59	1.3
	54"	27' – 6"	701	7.5	7' – 6"	82	1.6
	60"	30' – 0"	794	8.8	8' – 3"	90	1.8
	66"	32' – 6"	894	10.2	8' – 9"	96	2.0
	72"	35' – 0"	1,055	11.7	9' – 4"	103	2.3
3:1	12"	13' – 0"	175	1.6	1' – 9"	14	0.2
	15"	14' – 9"	193	1.9	2' – 2"	17	0.2
	18"	16' – 6"	228	2.2	2' – 8"	19	0.3
	21"	18' – 3"	299	2.6	3' – 1"	31	0.4
	24"	20' – 0"	323	3.0	3' – 7"	33	0.4
	27"	21' – 9"	371	3.5	3' – 11"	37	0.5
	30"	23' – 6"	415	4.0	4' – 4"	40	0.5
	33"	25' – 3"	469	4.6	4' – 8"	43	0.6
	36"	27' – 0"	556	5.7	5' – 1"	46	0.8
	42"	30' – 6"	675	7.1	5' – 10"	52	1.0
	48"	35' – 6"	837	9.2	6' – 7"	59	1.3
	54"	39' – 0"	1,015	11.0	7' – 6"	84	1.6
	60"	42' – 6"	1,171	12.9	8' – 3"	91	1.8
	66"	46' – 0"	1,298	14.9	8' – 9"	98	2.0
	72"	49' – 6"	1,561	17.1	9' – 4"	103	2.3
4:1	12"	17' – 0"	229	2.0	1' – 9"	15	0.2
	15"	19' – 3"	266	2.4	2' – 2"	17	0.2
	18"	21' – 6"	308	2.9	2' – 8"	19	0.3
	21"	23' – 9"	382	3.5	3' – 1"	31	0.3
	24"	26' – 0"	430	3.9	3' – 7"	34	0.4
	27"	28' – 3"	486	4.7	3' – 11"	37	0.5
	30"	30' – 6"	539	5.2	4' – 4"	40	0.6
	33"	32' – 9"	603	6.0	4' – 8"	42	0.6
	36"	35' – 0"	738	7.5	5' – 1"	47	0.8
	42"	39' – 6"	881	9.3	5' – 10"	52	1.0
	48"	46' – 0"	1,102	12.1	6' – 7"	61	1.3
	54"	50' – 6"	1,364	14.4	7' – 6"	84	1.6
	60"	55' – 0"	1,547	16.9	8' – 3"	91	1.8
	66"	59' – 6"	1,741	19.5	8' – 9"	98	2.0
	72"	64' – 0"	2,077	22.4	9' – 4"	102	2.3
6:1	12"	25' – 0"	336	3.0	1' – 9"	14	0.2
	15"	28' – 3"	384	3.6	2' – 2"	17	0.2
	18"	31' – 6"	452	4.2	2' – 8"	19	0.3
	21"	34' – 9"	581	5.1	3' – 1"	31	0.4
	24"	38' – 0"	644	5.8	3' – 7"	34	0.4
	27"	41' – 3"	737	6.9	3' – 11"	37	0.5
	30"	44' – 6"	807	7.7	4' – 4"	39	0.6
	33"	47' – 9"	912	8.9	4' – 8"	44	0.6
	36"	51' – 0"	1,108	11.0	5' – 1"	48	0.8
	42"	57' – 6"	1,318	13.7	5' – 10"	54	1.0
	48"	67' – 0"	1,682	17.9	6' – 7"	59	1.3
	54"	73' – 6"	2,072	21.3	7' – 6"	83	1.6
	60"	80' – 0"	2,351	24.9	8' – 3"	89	1.8
	66"	86' – 6"	2,643	28.9	8' – 9"	96	2.0
	72"	93' – 0"	3,121	33.1	9' – 4"	101	2.3



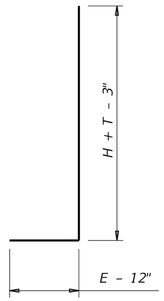
ELEVATION



PLAN OF NON-SKEWED PIPES



SECTION AT CENTER OF PIPE



BARS F2

(1) Total quantities include one 3'–1" lap for bars over 60' in length.

(2) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(3) Indicated slope is perpendicular to centerline pipe or pipes.

(4) For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(5) Dimensions shown are usual and maximum.

(6) Quantities shown are for one structure end only (one headwall).

TABLE OF CONSTANT DIMENSIONS

Dia of Pipe (D)	G	K (5)	H	T	E
12"	0' – 9"	1' – 0"	2' – 8"	0' – 9"	1' – 9"
15"	0' – 11"	1' – 0"	2' – 11"	0' – 9"	1' – 9"
18"	1' – 2"	1' – 0"	3' – 2"	0' – 9"	1' – 9"
21"	1' – 4"	1' – 0"	3' – 5"	0' – 9"	2' – 0"
24"	1' – 7"	1' – 0"	3' – 8"	0' – 9"	2' – 0"
27"	1' – 8"	1' – 0"	3' – 11"	0' – 9"	2' – 3"
30"	1' – 10"	1' – 0"	4' – 2"	0' – 9"	2' – 3"
33"	1' – 11"	1' – 0"	4' – 5"	0' – 9"	2' – 6"
36"	2' – 1"	1' – 0"	4' – 8"	1' – 0"	2' – 6"
42"	2' – 4"	1' – 0"	5' – 2"	1' – 0"	2' – 9"
48"	2' – 7"	1' – 3"	5' – 11"	1' – 0"	3' – 0"
54"	3' – 0"	1' – 3"	6' – 5"	1' – 0"	3' – 3"
60"	3' – 3"	1' – 3"	6' – 11"	1' – 0"	3' – 6"
66"	3' – 3"	1' – 3"	7' – 5"	1' – 0"	3' – 9"
72"	3' – 4"	1' – 3"	7' – 11"	1' – 0"	4' – 0"

TABLE OF REINFORCING STEEL (6)

Bar	Size	Spa	No.
A1	#5	~	2
A2	#5	1' – 6"	~
E	#5	~	2
F	#5	1' – 0"	~

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'_c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not mount bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out–to–out of bars.

Texas Department of Transportation

Bridge Division Standard

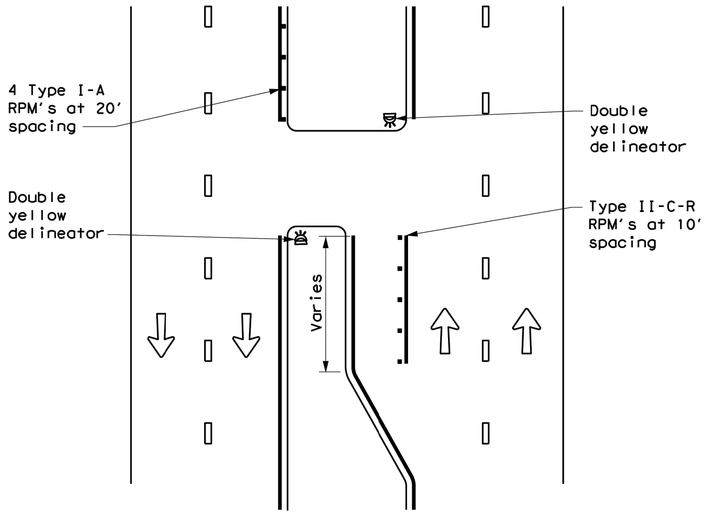
CONCRETE HEADWALLS
WITH PARALLEL WINGS FOR NON-SKEWED PIPE CULVERTS

CH-PW-0

FILE: CD-CH-PW0-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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	DIST	COUNTY		SHEET NO.

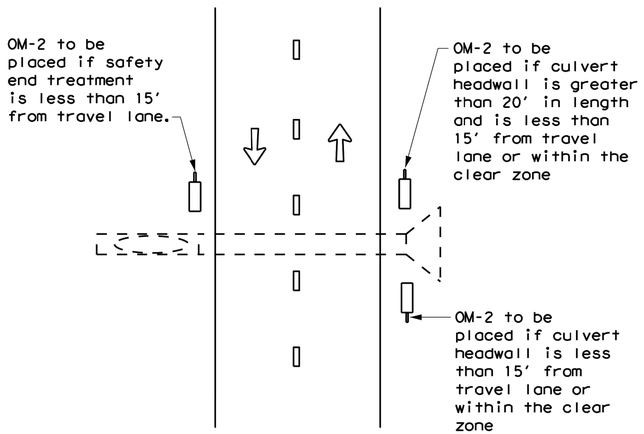
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CROSSOVERS



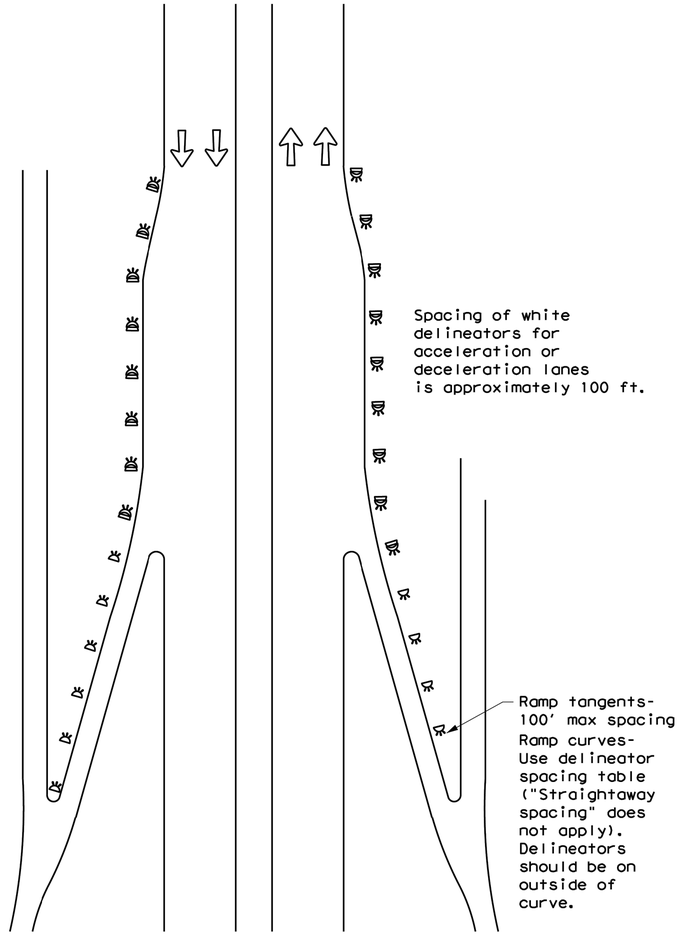
DETAIL 1

FOR CULVERTS WITHOUT MBGF



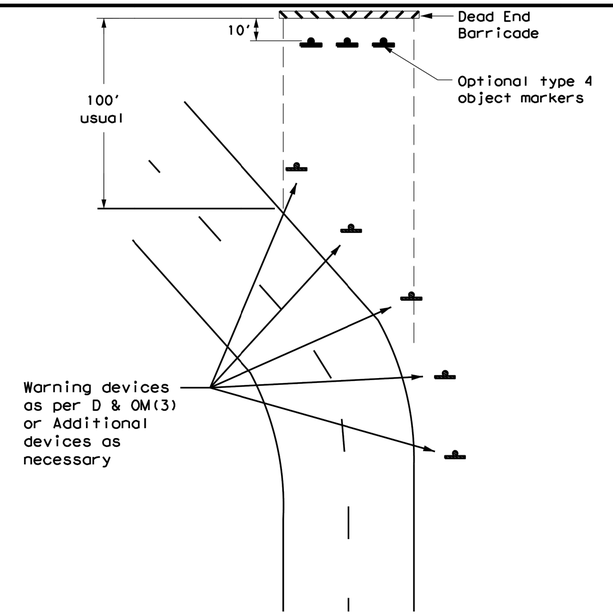
DETAIL 2

FREEWAY DELINEATION FOR RAMPS AND ACCELERATION/DECELERATION LANES



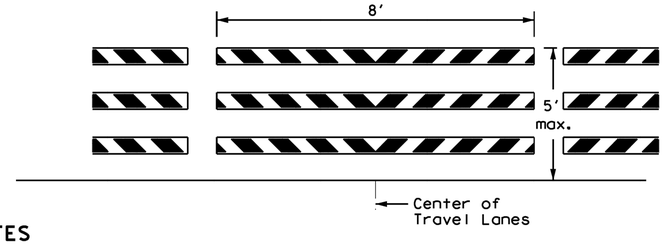
DETAIL 3

TYPICAL APPLICATION OF DEAD END BARRICADE



DETAIL 4

TYPICAL DEAD END BARRICADE INSTALLATION



NOTES

1. Barricade striping shall be red and white reflective sheeting for all permanent road closures.
2. Barricade striping is red and white sloping toward the center of the roadway.
3. Type 3 Barricade Supports should be anchored to soil or pavement as described in compliant Work Zone Traffic Control Devices List, section D.2.f and D.2.g.

DETAIL 5

LEGEND	
	Bidirectional Delineator
	Delineator
	OM-3
	Barricade
	Sign
	OM-2
	Double Delineator

Texas Department of Transportation

Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

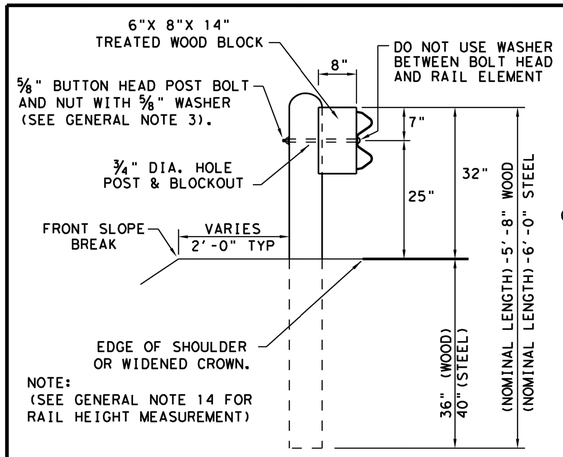
D & OM(4)-20

FILE: dom4-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
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7-20				

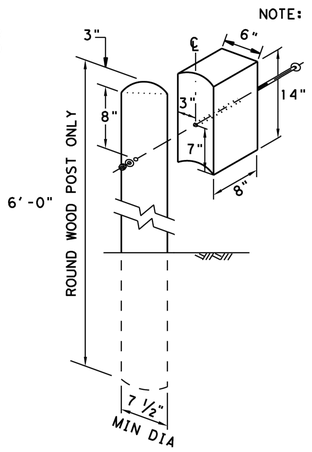
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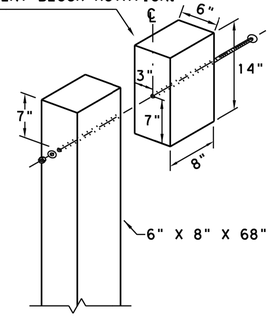


TYPICAL POST PLACEMENT

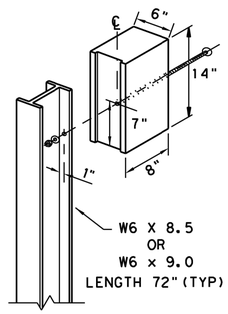


WOOD BLOCK TO ROUND WOOD POST

NOTE: TOENAIL WITH ONE 16D GALV. NAIL TO PREVENT BLOCK ROTATION.

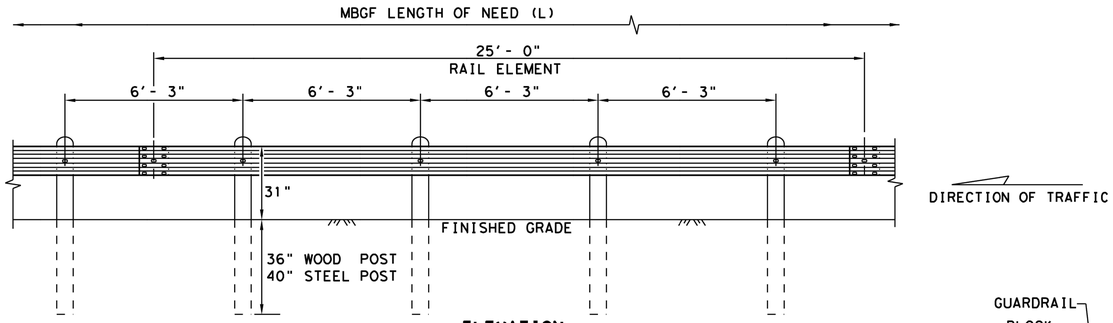


WOOD BLOCK TO RECTANGULAR WOOD POST



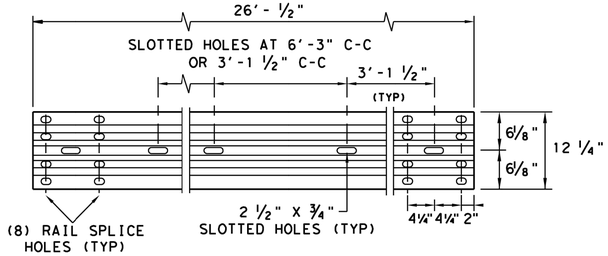
ROUTED WOOD BLOCK TO I-BEAM STEEL POST

NOTE: ** "WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.



ELEVATION MID-SPAN RAIL SPLICE

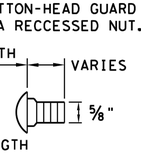
SHOWING A 25'- 0" SECTION OF W-BEAM RAIL. (SEE GENERAL NOTE 2)



ELEVATION 25'- 0" (NOM.) W-BEAM SECTION

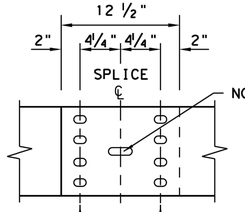
NOTES: SEE GENERAL NOTE 2 FOR ALLOWABLE RAIL TYPES.
SEE RAIL SPLICE DETAIL FOR REQUIRED HARDWARE.

NOTE:
FOUR TYPES OF BUTTON-HEAD GUARD RAIL BOLTS COME WITH A RECCESSED NUT.



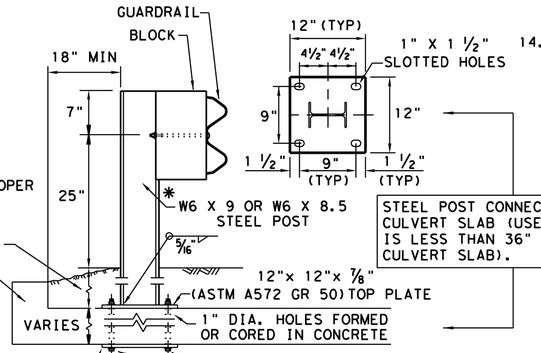
BUTTON HEAD BOLT

NOTE: SEE GENERAL NOTE 3 FOR SPLICE & POST BOLT DETAILS.



MID-SPAN RAIL SPLICE DETAIL

NOTE: GF(31), MID-SPAN RAIL SPLICES ARE REQUIRED WITH 6'-3" POST SPACINGS.



LOW FILL CULVERT POST

NOTE: TWO INSTALLATION OPTIONS.

1. BOLT-THROUGH OPTION: REQUIRES A 6" MIN. SLAB THICKNESS. 7/8" DIA (ASTM A449) HEAVY HEX BOLTS WITH TWO HARDENED WASHER EACH AND HEAVY HEX NUTS.
   NOTE: BOLT LENGTH = SLAB PLUS 2 1/4" MIN.

2. EPOXY ANCHOR OPTION: THIS OPTION MAY ONLY BE USED IF THE CULVERT SLAB IS 9" MIN. THICK. THREADED ANCHOR RODS MUST BE 7/8" DIA. ASTM A449 OR A193 GRADE B7 WITH HEAVY HEX NUT, AND ONE HARDENED WASHER EACH. EMBED ANCHOR RODS 6" WITH HILTI HIT RE 500 EPOXY ADHESIVE. OTHER TYPE III CLASS C EPOXY ADHESIVES MEETING THE REQUIREMENTS OF DMS-6100, "EPOXIES AND ADHESIVES", MAY BE USED IF IT CAN BE DEMONSTRATED THAT THEY MEET OR EXCEED THE STRENGTH OF HILTI HIT RE 500 WITH THE SAME EMBEDMENT DEPTH AND THREADED ROD DIA. FOLLOW THE MANUFACTURER'S REQUIREMENTS FOR INSTALLING EPOXIED THREADED RODS. EXTEND RODS 1/4" MIN. BEYOND NUT.

NOTE: CULVERTS OF 25 FT. OR LESS, SEE GF(31)LS STANDARD FOR "LONG SPAN" OPTION.

NOTE: TRANSISTIONS TO BRIDGE RAILS OR TRAFFIC BARRIERS.
SEE GF(31)TL3 TR STANDARD FOR HIGH-SPEED TL-3 TRANSITIONS.
SEE GF(31)TL2 TR STANDARD FOR LOW-SPEED TL-2 TRANSITIONS.

GENERAL NOTES

1. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. THE EXACT POSITION OF MBGF SHALL BE SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. STEEL POSTS TO BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING."
2. RAIL ELEMENTS SHALL MEET THE REQUIREMENTS OF ITEM 540,"METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED IN THE PLANS. THE CONTRACTOR MAY FURNISH RAIL ELEMENTS OF 25'- 0", OR 12'- 6" (NOM.) LENGTHS. RAIL ELEMENTS MAY HAVE SLOTTED HOLES AT 3'-1 1/2" C-C OR 6'-3" C-C. A SPECIAL LENGTH OF RAIL MAY BE MANUFACTURED TO ACCOMMODATE THE DOWNSTREAM ANCHOR TERMINAL (DAT) AND THE TRANSITION SECTIONS OF GUARDRAIL.
3. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND 5/8" WASHER (FWC16a) AND NOT MORE THAN 1" BEYOND IT. TRIM REMAINING BOLT LENGTH TO MEET REQUIRED LENGTH.
4. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445,"GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
5. CROWN SHALL BE WIDENED TO ACCOMMODATE THE METAL BEAM GUARD FENCE.
6. THE LATERAL APPROACH TO THE GUARD FENCE, SHALL HAVE A MAXIMUM SLOPE OF 1V:10H.
7. IF SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER, THE GUARD FENCE MAY BE FLARED AT A RATE OF 25:1 OR FLATTER.
8. UNLESS OTHERWISE SHOWN IN THE PLANS, GUARD FENCE PLACED IN THE VICINITY OF CURBS SHALL BE POSITIONED SO THAT THE FACE OF CURB IS LOCATED DIRECTLY BELOW OR BEHIND THE FACE OF THE RAIL. RAIL PLACED OVER CURBS SHALL BE INSTALLED SO THAT THE POST BOLT IS LOCATED APPROXIMATELY 25 INCHES ABOVE THE GUTTER PAN OR EDGE OF SHOULDER.
9. APPLICATIONS IN SOLID ROCK ARE ONLY ALLOWED WITH STEEL POSTS. IF SOLID ROCK IS ENCOUNTERED WITHIN 0 TO 18" OF THE FINISHED GRADE, DRILL A 24" DIA. HOLE, 24" INTO THE ROCK. IF SOLID ROCK IS ENCOUNTERED BELOW 18", DRILL A 12" DIA. HOLE, 12" INTO THE ROCK OR TO THE STANDARD EMBEDMENT DEPTH, WHICHEVER MAYBE LESS. ANY EXCESS POST LENGTH, AFTER MEETING THESE DEPTHS, MAY BE FIELD CUT TO ENSURE PROPER GUARDRAIL MOUNTING HEIGHT. BACKFILL WITH COARSE AGGREGATE MATERIAL.
10. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
11. SPECIAL FABRICATION WILL BE REQUIRED AT INSTALLATION LOCATIONS HAVING A CURVATURE OF LESS THAN 150 FT. RADIUS.
12. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210,"COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE" MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. THE CONSTRUCTION DIVISION, TXDOT MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210 ONLY PRODUCERS ON THE MPL MAY FURNISH COMPOSITE MATERIAL BLOCKS.
13. FOR THE LOW FILL CULVERT OPTION, POSTS LOCATED PARTIALLY OR WHOLLY BETWEEN PRECAST BOX CULVERT UNITS, THE USE OF A CAST-IN-PLACE CONCRETE CLOSURE BETWEEN BOXES IS REQUIRED. THE LENGTH OF THE CAST-IN-PLACE CONCRETE CLOSURE SHALL ACCOMMODATE THE PLACEMENT OF THE LOW FILL CULVERT OPTION. SEE CONCRETE CLOSURE DETAILS ON BRIDGE STANDARD SCP-MD.
14. GUARDRAIL HEIGHT MEASUREMENT: WHEN THE GUARDRAIL IS LOCATED ABOVE PAVEMENT, MEASURE THE HEIGHT FROM THE PAVEMENT TO THE TOP OF THE W-BEAM RAIL. WHEN THE GUARDRAIL IS LOCATED UP TO 2 FT. OFF OF THE EDGE OF PAVEMENT OR FOR A PAVEMENT OVERLAY, USE A 10-FOOT STRAIGHTEDGE TO EXTEND THE PAVEMENT/SHOULDER SLOPE TO THE BACK OF RAIL, MEASURE FROM THE BOTTOM OF STRAIGHTEDGE TO THE TOP OF RAIL. FOR GUARDRAIL LOCATED DOWN A 10:1 SLOPE, MEASURE FROM THE NOMINAL TERRAIN.

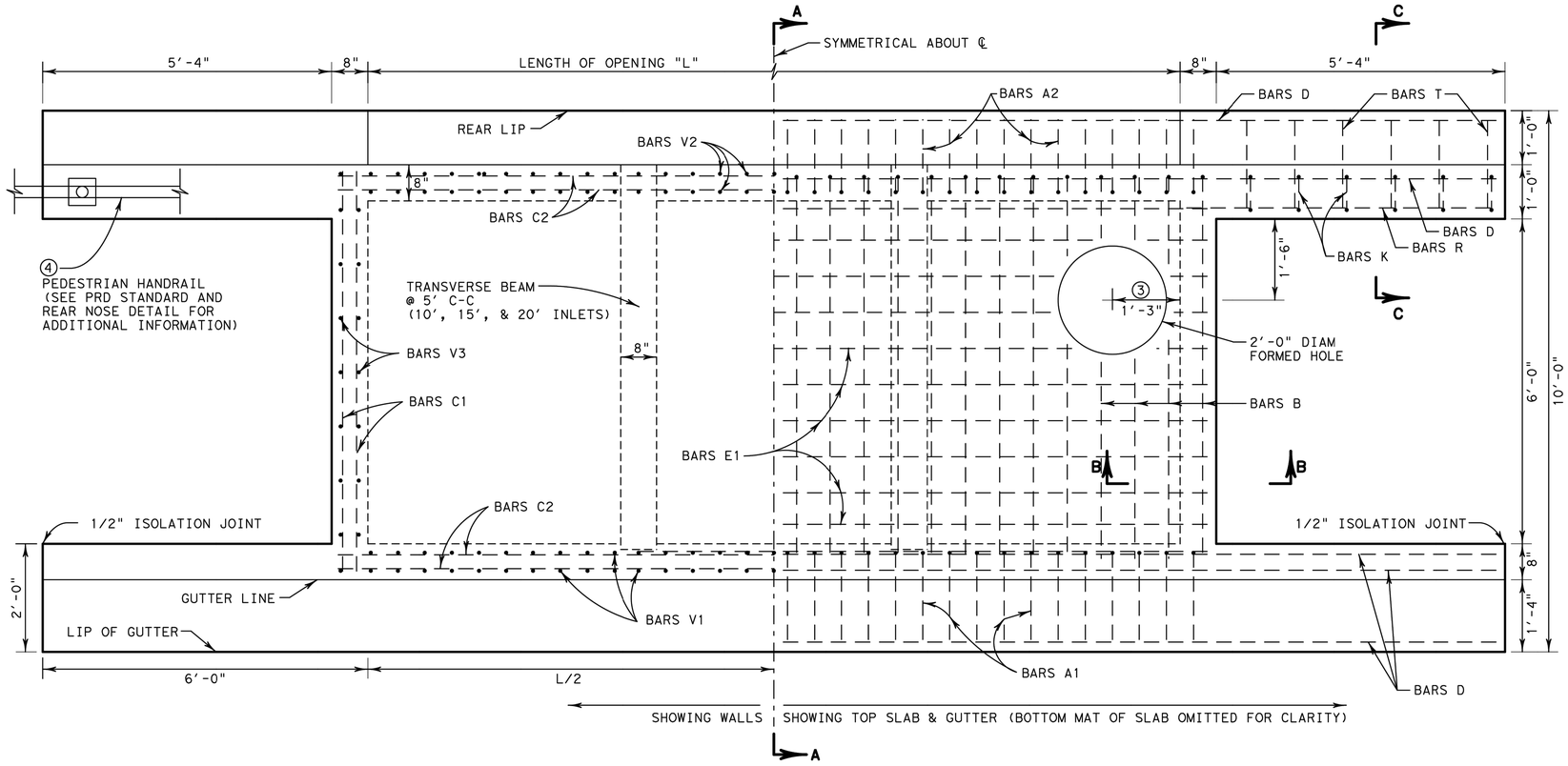
Texas Department of Transportation

Design Division Standard

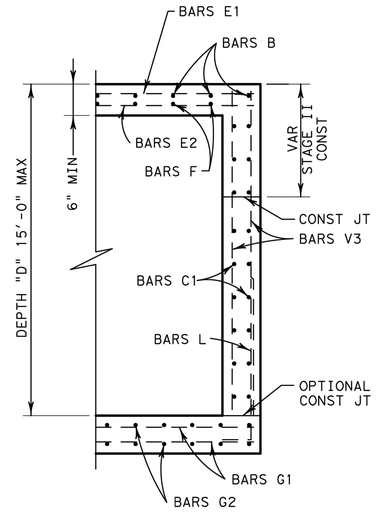
METAL BEAM GUARD FENCE
TL-3 MASH COMPLIANT
GF(31)-19

FILE: gf3119.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

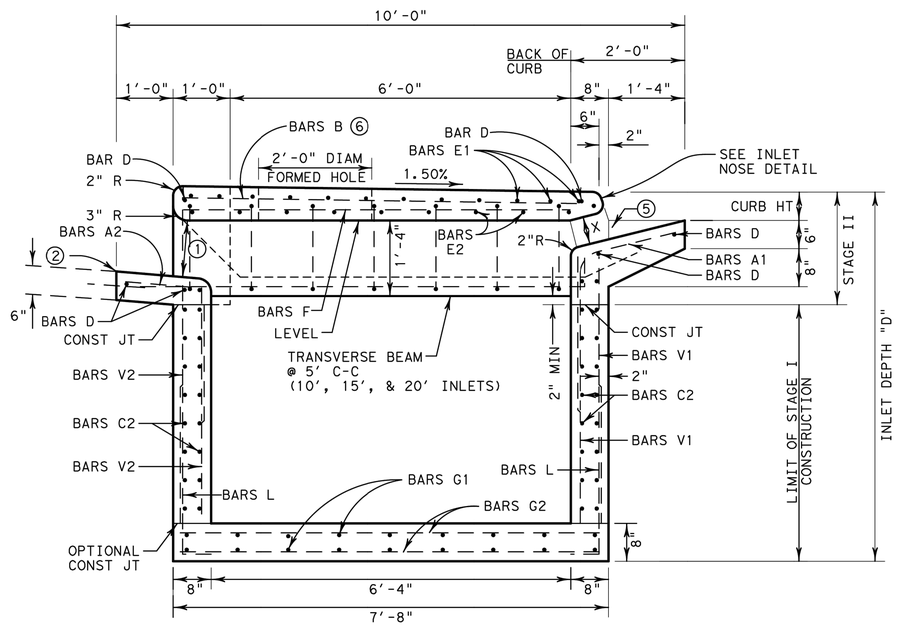
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PLAN VIEW
N.T.S.



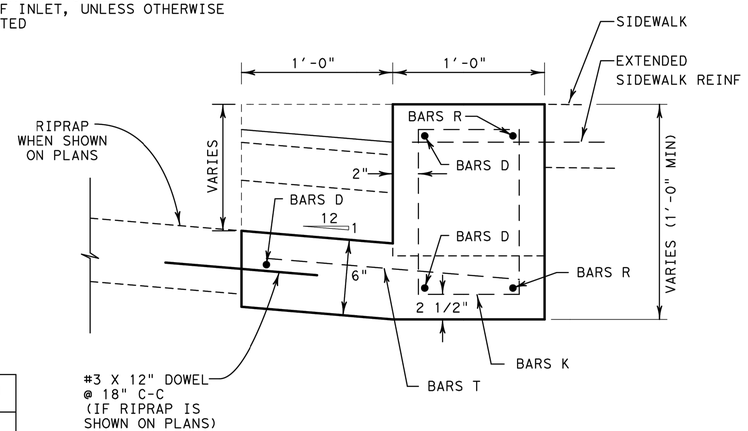
SECTION B-B
N.T.S.



SECTION A-A
N.T.S.

THROAT DIMENSION	
CURB HEIGHT	"X"
5"	5"
6"	5 7/8"
7"	6 1/4"
8"	6 1/2"

1. 12" OPENING AT MIDPOINT OF INLET
2. REAR LIP AT CONSTANT ELEVATION ACROSS OPENING
3. PLACE RING & COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED
4. HANDRAIL REQUIRED IF SIDEWALK IS PRESENT
5. 4" DEPRESSION AT GUTTER LINE
6. BARS B TO BE CONTINUOUS ACROSS REAR OPENING



SECTION C-C
N.T.S.

MAXIMUM PARALLEL * CONDUIT SIZE	
PIPE DIAMETER (IN)	BOX SPAN (FT)
60	5

* PARALLEL TO ROADWAY

SEE SHEET 2 OF 3 FOR GENERAL NOTES.

Texas Department of Transportation

Fort Worth District Standard

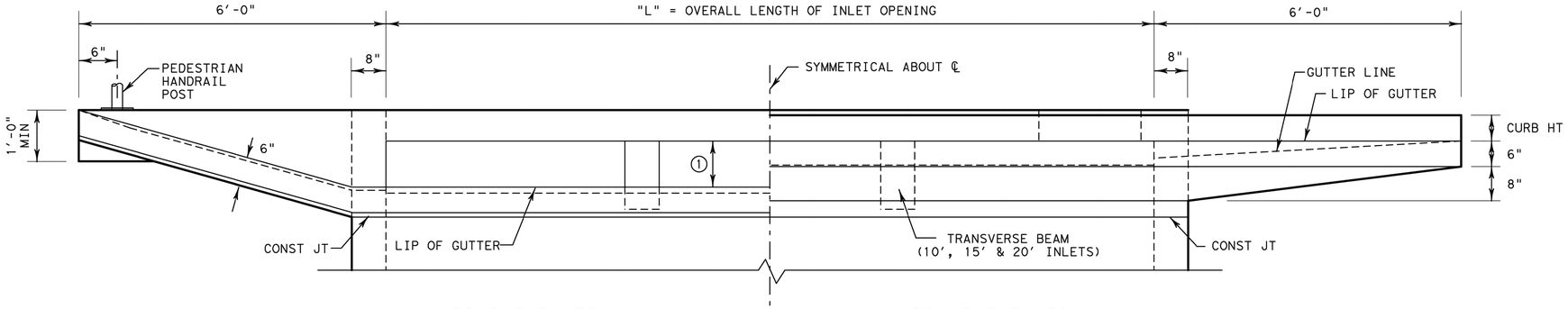
OPEN BACK CURB INLET FOR USE WITH TYPE II CURB
I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISED JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

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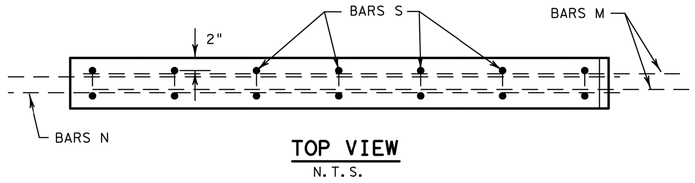
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11/6/2020 11:07:26 AM
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icob-ftw.dgn

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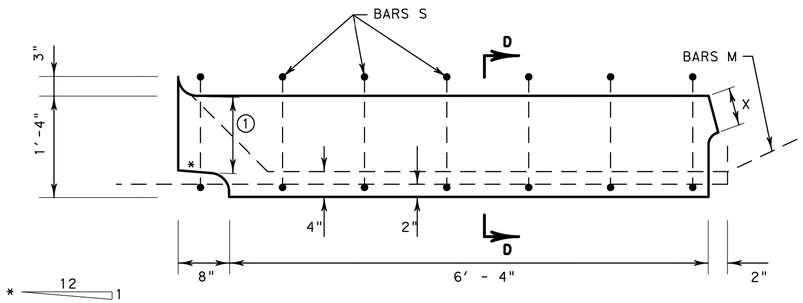


REAR ELEVATION
N.T.S.

FRONT ELEVATION
N.T.S.

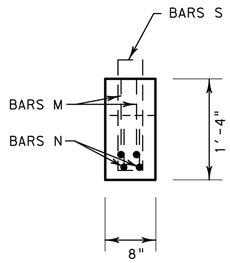


TOP VIEW
N.T.S.

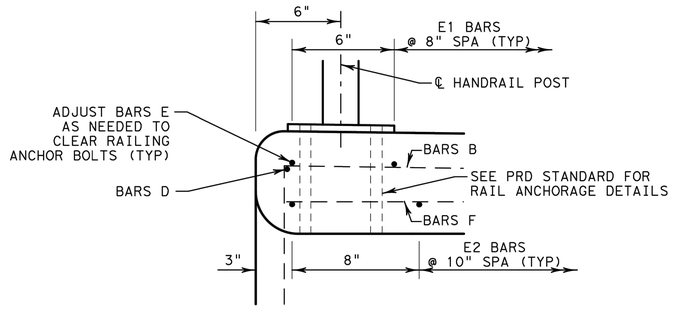


① 12" AT MIDPOINT OF INLET

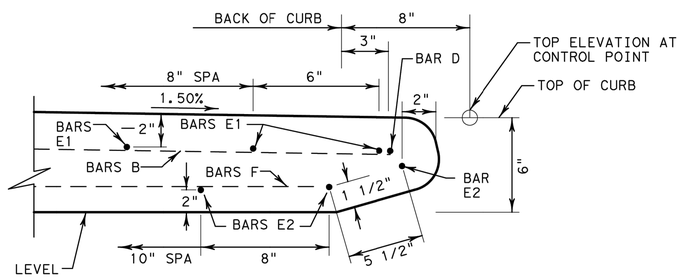
TRANSVERSE BEAM DETAILS
N.T.S.



SECTION D-D
N.T.S.



REAR NOSE DETAIL
N.T.S.



INLET NOSE DETAIL
N.T.S.

GENERAL NOTES

1. DESIGNED ACCORDING TO AASHTO LRFD SPECIFICATIONS FOR PEDESTRIAN LOADING AND HL-93 LOADING UNDER "EXTREME EVENT II" LOAD COMBINATION.
2. ALL CONCRETE FOR CAST-IN-PLACE STRUCTURES SHALL BE CLASS "C"; ALL CONCRETE FOR PRECAST STRUCTURES SHALL BE CLASS "H" (MIN 5000 PSI COMPRESSIVE STRENGTH).
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. STAGE I MAY BE EITHER CAST-IN-PLACE OR PRECAST. FABRICATE PRECAST STRUCTURES USING REBAR AS DETAILED HEREON, WITH BARS A1, A2, V1 AND V3 TO BE INCLUDED WITH STAGE I. SPLICING OF BARS WILL NOT BE PERMITTED, EXCEPT AS NOTED.
5. STAGE II SHALL BE CAST-IN-PLACE.
6. CHAMFER ALL EXPOSED CORNERS 3/4", EXCEPT WHERE NOTED OTHERWISE.
7. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO THE CENTERS OF BARS.
8. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM DRAIN PIPE.
9. FOR PIPE AND BOX CONNECTIONS TO PRECAST STRUCTURES, SEE STANDARD DETAIL SHEET PBGC.
10. INSTALL RING AND COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED. CAST IRON RING AND COVER SHALL CONFORM TO ITEM 471. SEE STANDARD MDD (FTW) FOR RING AND COVER DETAILS.
11. DEPTHS OTHER THAN THOSE SHOWN MAY BE USED WHENEVER NECESSARY, UP TO A MAXIMUM DEPTH OF 15'. QUANTITIES FOR OTHER DEPTHS MAY BE DETERMINED BY INTERPOLATION.
12. DO NOT COMMENCE WITH STAGE II CONSTRUCTION UNTIL CONCRETE PAVEMENT AND CURB, OR CONCRETE CURB AND GUTTER CONSTRUCTION IS COMPLETED AT THE INLET SITE.
13. INSTALL A TEMPORARY WOOD COVER AFTER STAGE I IS COMPLETED, TO REMAIN IN PLACE UNTIL STAGE II CONSTRUCTION BEGINS.
14. THE LOCATION OF INLET AS SHOWN IN THE PLAN REFERS TO THE CONTROL POINT AT THE FACE OF CURB AND MID-POINT OF THE INLET.
15. PLACE A SEALED 1/2" ISOLATION JOINT ALONG ALL VERTICAL FACES ABUTTING CONCRETE PAVEMENT, CURB, CURB AND GUTTER, OR SIDEWALK. USE CLASS 5 OR 8 JOINT SEALANT TO SEAL THE JOINT. SEE STANDARD JS (FTW) FOR ADDITIONAL INFORMATION.

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Texas Department of Transportation

Fort Worth District Standard

OPEN BACK CURB INLET FOR USE WITH TYPE II CURB
I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV. NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	NEW STANDARD	STATE	STATE DIST. NO.	COUNTY
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http://www.dot.state.tx.us/ftw/specinfo/standard.htm
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BILL OF REINFORCING STEEL FOR "D"= 4'

Length "L"	Bars A1			Bars A2			Bars B			Bars C1			Bars C2			Bars D			Bars E1			Bars E2			Bars F			Bars G1		
	#4		at 6" Spa	#4		at 6" Spa	#4		at 6.0" Spa	#5		at 6" Spa	#5		at 6" Spa	#4			#5		at 8" Spa	#5		at 10" Spa	#4		at 7.5" Spa	#5		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	13	4.323	38	13	3.667	32	13	8.917	77	28	7.417	217	19	6.000	119	6	16.667	67	12	6.000	75	10	6.000	63	9	6.802	41	18	6.000	113
10.0	23	4.323	66	23	3.667	56	23	8.917	137	28	7.417	217	19	11.000	218	6	21.667	87	12	11.000	138	10	11.000	115	17	6.802	77	18	11.000	207
15.0	33	4.323	95	33	3.667	81	33	8.917	197	28	7.417	217	19	16.000	317	6	26.667	107	12	16.000	200	10	16.000	167	25	6.802	114	18	16.000	300
20.0	43	4.323	124	43	3.667	105	43	8.917	256	28	7.417	217	19	21.000	416	6	31.667	127	12	21.000	263	10	21.000	219	33	6.802	150	18	21.000	394

BILL OF REINFORCING STEEL FOR "D"= 4' (CONTINUED)

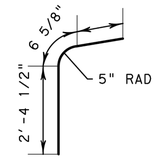
Length "L"	Bars G2			Bars K			Bars L			Bars M			Bars N			Bars R			Bars S			Bars T		
	#5		at 6" Spa	#3		at 12" Spa	#5		at 6" Spa	#4			#4			#4			#4		at 13" Spa	#3		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	26	7.417	201	12	4.333	20	32	3.750	125	0	8.500	0	0	8.583	0	4	5.708	15	0	4.250	0	12	1.667	8
10.0	46	7.417	356	12	4.333	20	52	3.750	203	2	8.500	11	2	8.583	11	4	5.708	15	7	4.250	20	12	1.667	8
15.0	66	7.417	511	12	4.333	20	72	3.750	282	4	8.500	23	4	8.583	23	4	5.708	15	14	4.250	40	12	1.667	8
20.0	86	7.417	665	12	4.333	20	92	3.750	360	6	8.500	34	6	8.583	34	4	5.708	15	21	4.250	60	12	1.667	8

BILL OF REINFORCING STEEL FOR "D" = 4' (CONTINUED)

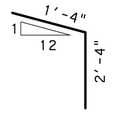
Length "L"	Bars V1			Bars V2			Bars V3		
	#5		at 6" Spa	#5		at 6" Spa	#5		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	20	2.833	59	20	2.000	42	28	3.833	112
10.0	40	2.833	118	40	2.000	83	28	3.833	112
15.0	60	2.833	177	60	2.000	125	28	3.833	112
20.0	80	2.833	236	80	2.000	167	28	3.833	112

SUMMARY OF QUANTITIES

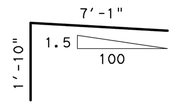
Total Reinf	Steel Qty Adjust.	Class "C" Concrete	Concrete Qty Adjust.
Weight	P.L.F.		P.L.F.
[Lb]	[Lb]	[CY]	[CY]
1,422	182.9	6.2	0.63
2,275	266.3	9.1	0.87
3,129	349.8	12.0	1.12
3,982	433.2	14.8	1.37



BARS A1
#4 @ 6" C-C



BARS A2
#4 @ 6"



BARS B
#4 @ 6" C-C

"L" + 1'-0"
BARS G1
#5 @ 12" C-C

7'-5"
BARS C1
#5 @ 6" C-C

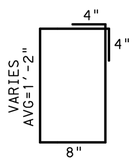
"L" + 11'-8"
BARS D
#4 AS SHOWN

"L" + 1'-0"
BARS E
E1 - #5 @ 8" MAX
E2 - #5 @ 10" MAX

6'-9 5/8"
BARS F
#4 @ 7.5" C-C

7'-5"
BARS G2
#5 @ 6" C-C

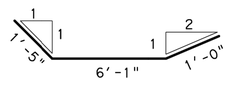
"L" + 1'-0"
BARS C2
#5 @ 6" C-C



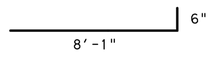
BARS K
#3 @ 12" C-C



BARS L
#5 @ 6" C-C

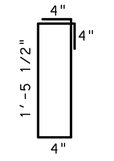


BARS M
#4 AS SHOWN



BARS N
#4 AS SHOWN

5'-8 1/2"
BARS R
#4 AS SHOWN



BARS S
#4 @ 13" C-C

1'-8"
BARS T
#3 @ 12" C-C



BARS V1
#5 @ 6" C-C



BARS V2
#5 @ 6" C-C



BARS V3
#5 @ 12" C-C

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SHEET 3 OF 3 SHEETS

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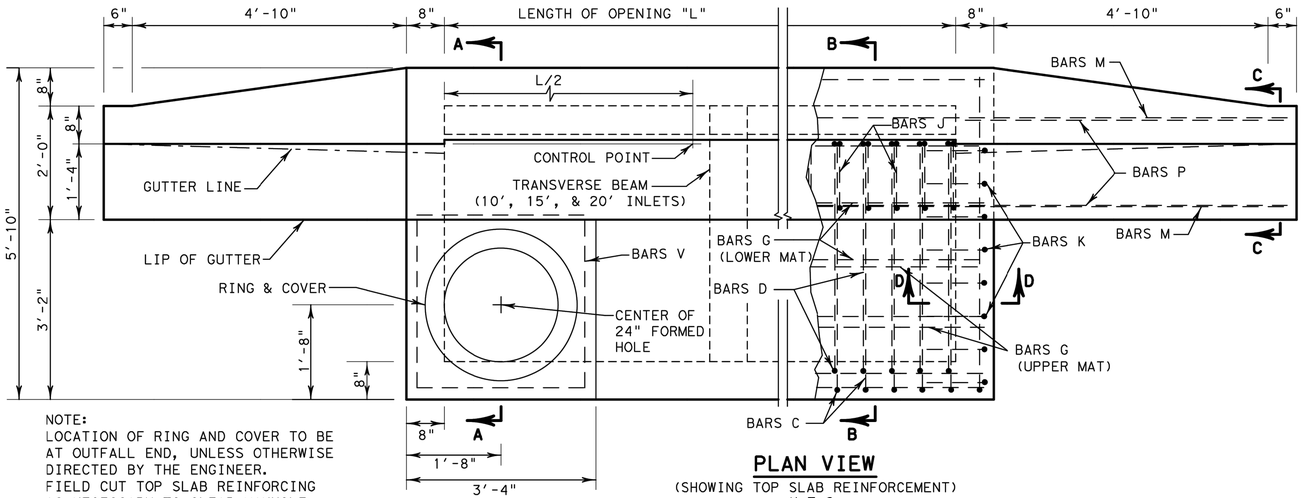
Fort Worth District Standard

OPEN BACK CURB INLET FOR USE WITH TYPE II CURB
I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
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05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
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11/2020	REVISED JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

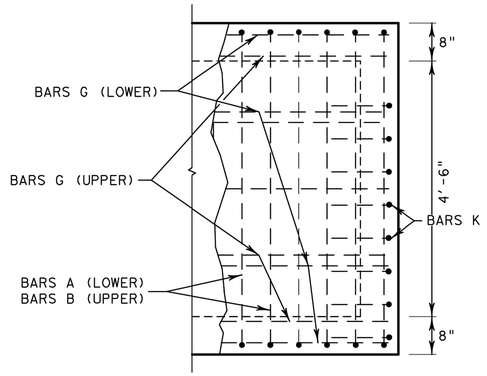
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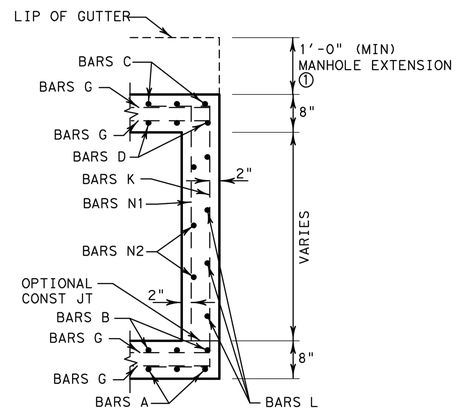


NOTE:
LOCATION OF RING AND COVER TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. FIELD CUT TOP SLAB REINFORCING AS NECESSARY TO CLEAR MANHOLE.

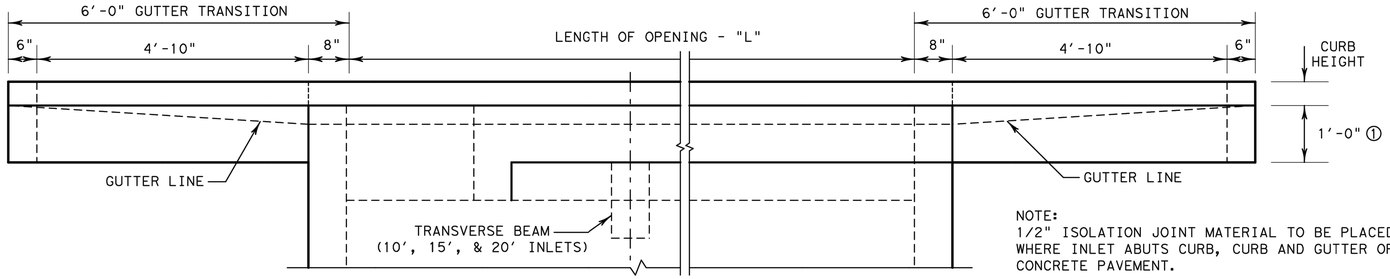
PLAN VIEW
(SHOWING TOP SLAB REINFORCEMENT)
N.T.S.



PARTIAL PLAN VIEW
(SHOWING BOTTOM SLAB REINFORCEMENT)
N.T.S.

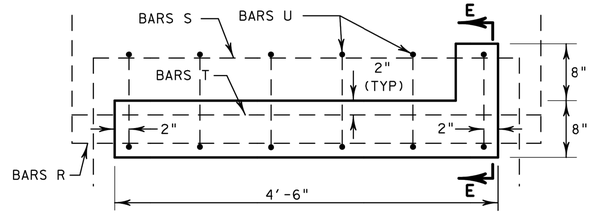


SECTION "D-D"
N.T.S.

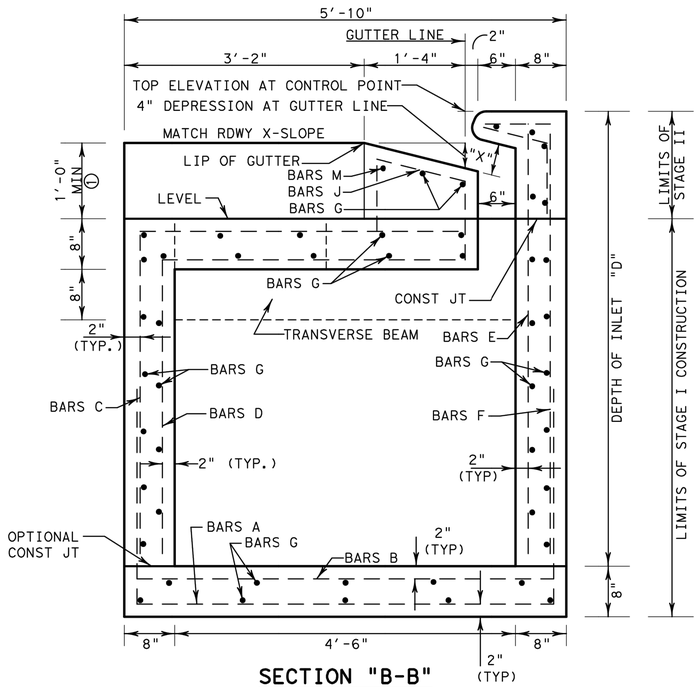


FRONT ELEVATION VIEW
N.T.S.

NOTE:
1/2" ISOLATION JOINT MATERIAL TO BE PLACED WHERE INLET ABUTS CURB, CURB AND GUTTER OR CONCRETE PAVEMENT.



TRANSVERSE BEAM DETAIL
BEAMS AT 5' C-C (10', 15', & 20' INLETS)
N.T.S.

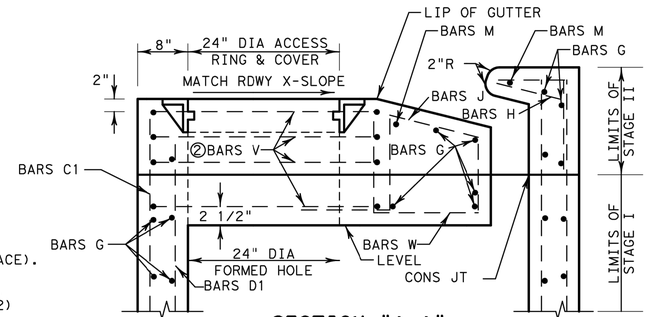


SECTION "B-B"
N.T.S.

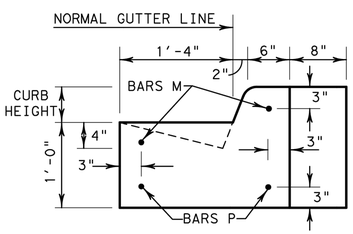
THROAT DIMENSION	
CURB HEIGHT (IN)	"X"
5	5"
6	5 7/8"
7	6 1/4"
8	6 1/2"

1 MATCH DEPTH OF PAVEMENT STRUCTURE (BASE AND SURFACE). ADJUST BAR LENGTHS AS DIRECTED BY THE ENGINEER. (SEE DETAIL, SHEET 2 OF 2)

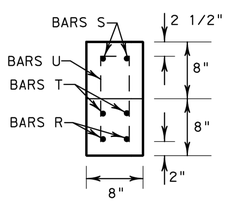
2 STAGE II BARS V @ 3 EQUAL SPACES



SECTION "A-A"
N.T.S.



SECTION "C-C"
N.T.S.



SECTION "E-E"
N.T.S.

MAXIMUM PARALLEL * CONDUIT SIZE	
PIPE DIAMETER (IN)	BOX SPAN (FT)
42	3

* PARALLEL TO ROADWAY

NOTE:
SEE SHEET 2 OF 2 FOR DETAILS OF REINFORCING STEEL, ESTIMATED QUANTITIES, AND GENERAL NOTES.

Texas Department of Transportation

Fort Worth District Standard

CURB INLET UNDER PAVEMENT FOR USE WITH TYPE II CURB I-CU (FTW)

ORIGINAL DRAWING: 05/2019	icu-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISE JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

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http://www.dot.state.tx.us/ftw/specinfo/standard.htm
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BILL OF REINFORCING STEEL FOR "D" = 6'

Length	Bars A		Bars B		Bars C		Bars C1		Bars D		Bars D1		Bars E		Bars F		Bars G		Bars H		Bars J		Bars K		Bars L		Bars M		Bars N1		Bars N2	
	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5	at 6' Spa	#5		#4	at 12' Spa	#4	at 12' Spa	#4	at 7' Spa	#5	at 6' Spa	#4		#4	at 12' Spa	#4	at 12' Spa
[ft]	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
5.0	13	151	13	75	6	54	7	39	4	38	7	37	11	67	13	90	54	338	7	9	7	21	16	72	14	138	2	22	10	29	8	29
10.0	23	268	23	132	16	145	7	39	14	131	7	37	21	128	23	160	54	620	12	15	12	35	16	72	14	138	2	29	10	29	8	29
15.0	33	384	33	189	26	235	7	39	24	225	7	37	31	189	33	229	54	901	17	21	17	50	16	72	14	138	2	36	10	29	8	29
20.0	43	501	43	247	36	325	7	39	34	319	7	37	41	249	43	299	54	1183	22	27	22	65	16	72	14	138	2	42	10	29	8	29

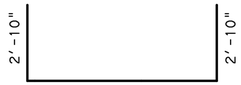
BILL OF REINFORCING STEEL FOR "D" = 6' (CONTINUED)

Length	Bars P		Bars R		Bars S		Bars T		Bars U		Bars V		Bars W	
	#4		#6		#6		#6		#4	at 10" Spa	#4		#4	
[ft]	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
5.0	4	15	0	0	0	0	0	0	0	0	4	35	6	11
10.0	4	15	2	23	2	21	2	17	6	13	4	35	6	11
15.0	4	15	4	45	4	43	4	33	12	26	4	35	6	11
20.0	4	15	6	68	6	64	6	50	18	39	4	35	6	11

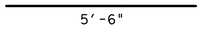
SUMMARY OF QUANTITIES

Total Reinf Steel	Steel Qty Adjust.	Class "C" Concrete	Concrete Qty Adjust.
Weight	P.L.F.		P.L.F.
[Lb]	[Lb]	[CY]	[CY]
1,269	157.9	5.43	0.54
2,139	236.1	8.31	0.78
3,010	314.3	11.19	1.03
3,881	392.5	14.07	1.28

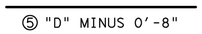
* BASED ON 6" CURB HEIGHT. ADJUST FOR OTHER CURB HEIGHTS.



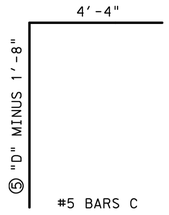
#5 BARS A



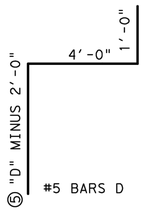
#5 BARS B



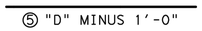
#5 BARS C1



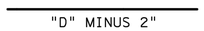
#5 BARS C



#5 BARS D



#5 BARS D1



#5 BARS E



#5 BARS F

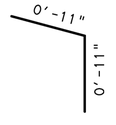
"L" + 1'-0"

#5 BARS G

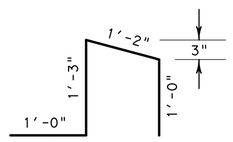
BAR G SPACING:

BOTTOM SLAB, LOWER MAT - 1'-4"
BOTTOM SLAB, UPPER MAT - 1'-2"
BACK WALL, OUTER MAT - 0'-6"
BACK WALL, INNER MAT - 0'-8"
FRONT WALL, OUTER MAT - 0'-6"
FRONT WALL, INNER MAT - 0'-8"
UPPER SLAB, LOWER MAT - 1'-0"
UPPER SLAB, UPPER MAT - 1'-0 3/4"
GUTTER - PLACE AS SHOWN

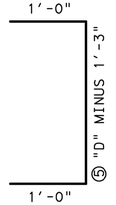
⑤ BASED ON 6" CURB HEIGHT. ADJUST FOR OTHER CURB HEIGHTS.



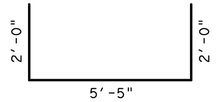
#4 BARS H



#4 BARS J



#4 BARS K



#5 BARS L

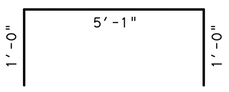
"L" + 11'-8"

#4 BARS M
PLACE AS SHOWN

⑤ "D" MINUS 1'-8" (N1)

5'-6" (N2)

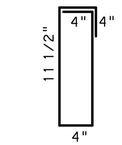
#4 BARS N



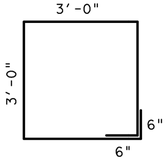
#6 BARS S
PLACE AS SHOWN

5'-6"

#6 BARS T
PLACE AS SHOWN

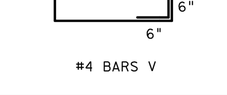


#4 BARS U



#4 BARS V

5'-8"
#4 BARS P
PLACE AS SHOWN

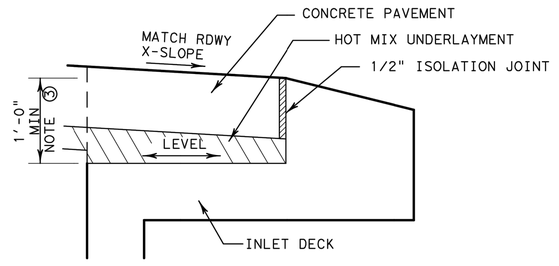


#6 BARS R
PLACE AS SHOWN



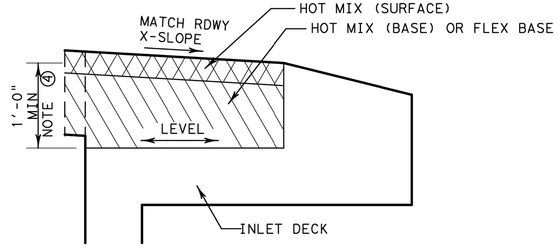
#4 BARS W

BARS W:
6 TOTAL TO BE PLACED AT 16" SPACING ALONG GUTTER SIDE AND INLET SIDE OF RING. (3 EACH SIDE)



③ THICKNESS OF CONCRETE PAVEMENT PLUS HOT MIX UNDERLAYMENT; IF LESS THAN 1'-0", INCREASE DEPTH OF HOT MIX UNDERLAYMENT.

INLET ADJACENT TO CONCRETE PAVEMENT



④ THICKNESS OF HOT MIX (SURFACE) PLUS HOT MIX (BASE) OR FLEX BASE. IF LESS THAN 1'-0", INCREASE DEPTH OF HOT MIX (BASE) OR FLEX BASE OVER INLET DECK.

MAXIMUM THICKNESS = 1'-6"

PLACE FLEX BASE IN MINIMUM 4" LIFTS

INLET ADJACENT TO HOT MIX PAVEMENT

GENERAL NOTES

1. DESIGNED FOR AASHTO LRFD HL-93 LOADING.
2. ALL CONCRETE FOR CAST-IN-PLACE STRUCTURES SHALL BE CLASS "C"; ALL CONCRETE FOR PRECAST STRUCTURES SHALL BE CLASS "H" (MINIMUM 5000 PSI DESIGN STRENGTH).
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. STAGE I MAY BE EITHER CAST-IN-PLACE OR PRECAST. FABRICATE PRECAST STRUCTURES USING REBAR AS DETAILED HEREON, WITH BARS C, D, E, F AND J TO BE INCLUDED WITH STAGE I. SPLICING OF BARS WILL NOT BE PERMITTED, EXCEPT AS NOTED.
5. STAGE II SHALL BE CAST-IN-PLACE.
6. CHAMFER ALL EXPOSED CORNERS 3/4", EXCEPT WHERE NOTED OTHERWISE.
7. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO THE CENTERS OF BARS.
8. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM DRAIN PIPE.
9. FOR PIPE AND BOX CONNECTIONS TO PRECAST INLETS, SEE STANDARD DETAIL SHEET PBGC.
10. INSTALL RING AND COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED. CAST IRON RING AND COVER SHALL CONFORM TO ITEM 471. SEE STANDARD MDD (FTW) FOR RING AND COVER DETAILS.
11. DEPTHS OTHER THAN THOSE SHOWN MAY BE USED WHENEVER NECESSARY, UP TO A MAXIMUM DEPTH OF 15'. QUANTITIES FOR OTHER DEPTHS MAY BE DETERMINED BY INTERPOLATION.
12. DO NOT COMMENCE WITH STAGE II CONSTRUCTION UNTIL CONCRETE PAVEMENT AND CURB, OR CONCRETE CURB AND GUTTER CONSTRUCTION IS COMPLETED AT THE INLET SITE.
13. INSTALL A TEMPORARY WOOD COVER AFTER STAGE I IS COMPLETED, TO REMAIN IN PLACE UNTIL STAGE II CONSTRUCTION BEGINS.
14. THE LOCATION OF INLET AS SHOWN IN THE PLAN REFERS TO THE CONTROL POINT AT THE FACE OF CURB AND MID-POINT OF THE INLET.
15. IF CONCRETE PAVEMENT IS PLACED WITHOUT UNDERLAYMENT, PLACE BOND BREAKER (3 LAYERS OF 30# ROOFING FELT OR 1/2" EXPANSION JOINT MATERIAL) BETWEEN INLET DECK AND CONCRETE PAVEMENT.
16. PLACE A SEALED 1/2" ISOLATION JOINT ALONG ALL VERTICAL FACES ABUTTING CONCRETE PAVEMENT, CURB, CURB AND GUTTER, OR SIDEWALK. USE CLASS 5 OR 8 JOINT SEALANT TO SEAL THE JOINT. SEE STANDARD JS (FTW) FOR ADDTIONAL INFORMATION.

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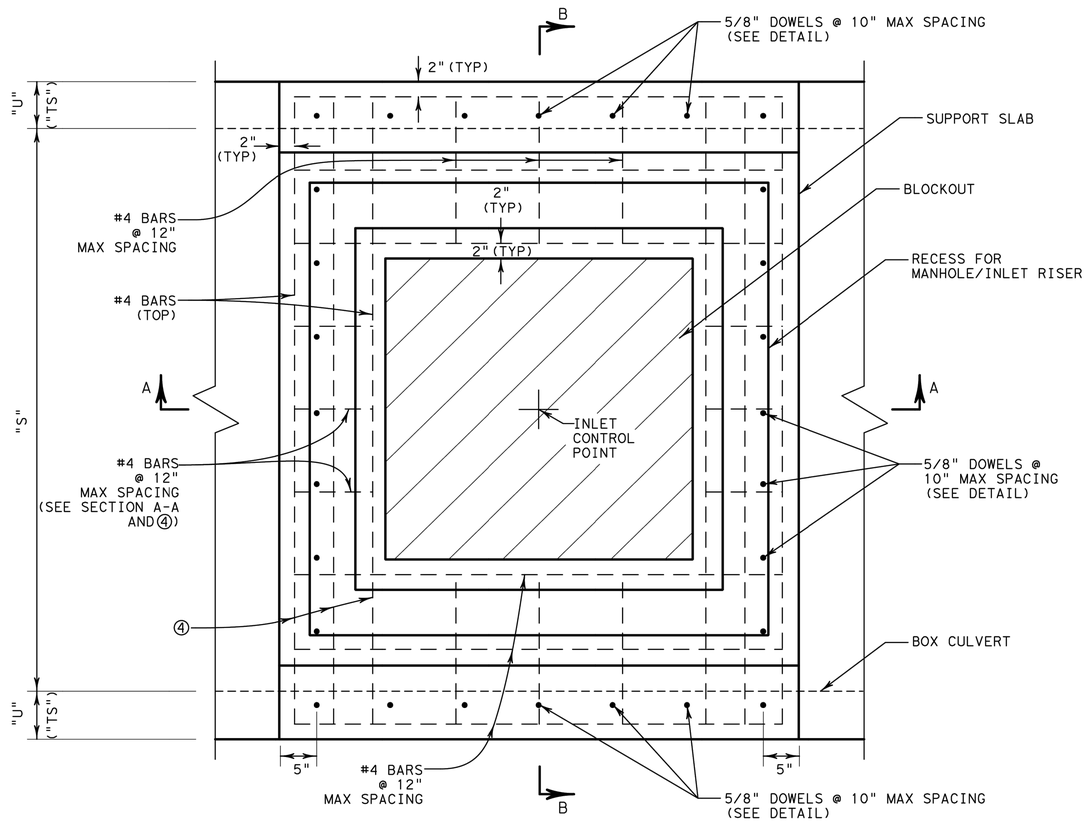
CURB INLET UNDER PAVEMENT FOR USE WITH TYPE II CURB I-CU (FTW)

ORIGINAL DRAWING: 05/2019	icu-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	REPLACES CI-2-08(FW)	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISE JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

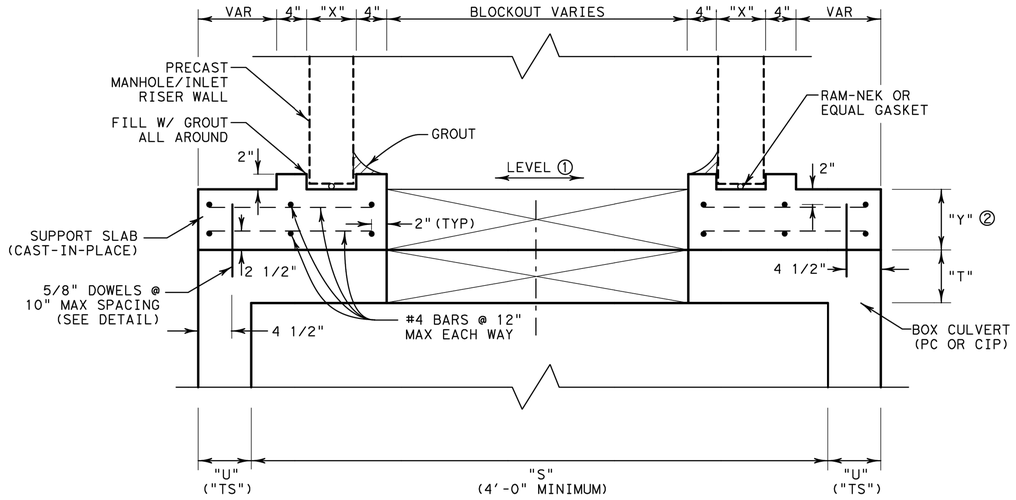
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PLAN VIEW
N.T.S.



SECTION B-B
N.T.S.

NOTE:

"S" REFERS TO BOX CULVERT SPAN (4' MINIMUM)

"T" REFERS TO BOX CULVERT TOP SLAB THICKNESS

"U" AND "TS" REFERS TO BOX CULVERT WALL THICKNESS

"X" = RISER WALL THICKNESS + 1/2"

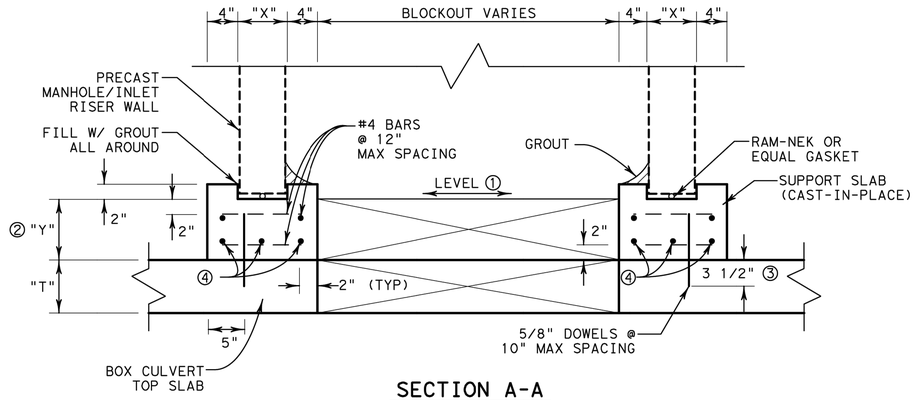
"Y" REFERS TO SUPPORT SLAB THICKNESS

① GRADE SUPPORT SLAB AND RECESS TO BE LEVEL, TO ENSURE THAT MANHOLE/INLET RISER IS PLUMB AND VERTICAL.

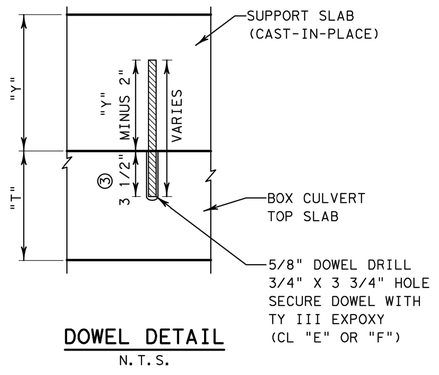
② FOR "S" </= 8', "Y" = 8" MIN
FOR 8' < "S" </= 10', "Y" = 10" MIN
FOR "S" > 10', "Y" = 12" MIN

③ FOR "T" LESS THAN 6", REDUCE TO 3".

④ 3 - #7 BARS @ 2 EQUAL SPACES. (BOTTOM MAT)



SECTION A-A
N.T.S.



DOWEL DETAIL
N.T.S.

GENERAL NOTES

1. SUPPORT SLAB TO BE CAST-IN-PLACE.
2. USE CLASS "C" CONCRETE FOR ALL SUPPORT SLABS.
3. USE GRADE 60 STEEL FOR ALL REINFORCING.
4. CUT OR FORM BLOCKOUT IN TOP SLAB OF BOX CULVERT AS DIRECTED. CUT REINFORCING STEEL FLUSH WITH WALLS OF BLOCKOUT AND GROUT SMOOTH.
5. FOR PIPE RISER NOT CENTERED ON BOX CULVERT, ADJUST LENGTHS OF BARS P ON SHORT SIDE AS DIRECTED, TO PROVIDE MINIMUM 2" CLEAR COVER.
6. ADJUST LENGTHS OF REINFORCING BARS AS DIRECTED, TO ACCOMMODATE CULVERT SKEW.
7. BLOCKOUTS FOR CURB INLETS TO BE LOCATED AT DOWNSTREAM OR OUTFALL END OF INLET.
8. SEE CULVERT STANDARDS FOR DIMENSIONS OF BOX CULVERTS.
9. SEE CULVERT AND DRAINAGE LAYOUTS FOR LOCATION, TYPE, SIZE AND ORIENTAION OF INLET AND MANHOLE STRUCTURES.
10. MANHOLE, INLET AND RISER CONNECTIONS TO BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEM 462 AND ITEM 465.

Texas Department of Transportation

Fort Worth District Standard

MANHOLE/INLET CONNECTION TO BOX CULVERT MI-CBC (FTW)

ORIGINAL DRAWING: 05/2019	micbc-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
10/2022	REVISE CURB INLET CONNECTION TO REDUCE OPENING SIZE.	STATE	STATE DIST.NO.	COUNTY
		TEXAS	FTW	
		CONT.	SECT.	JOB / HIGHWAY NO.

PRECAST MANHOLE & INLET RISER CONNECTION

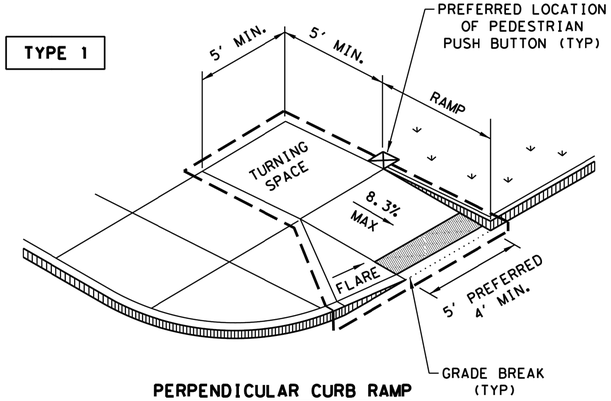
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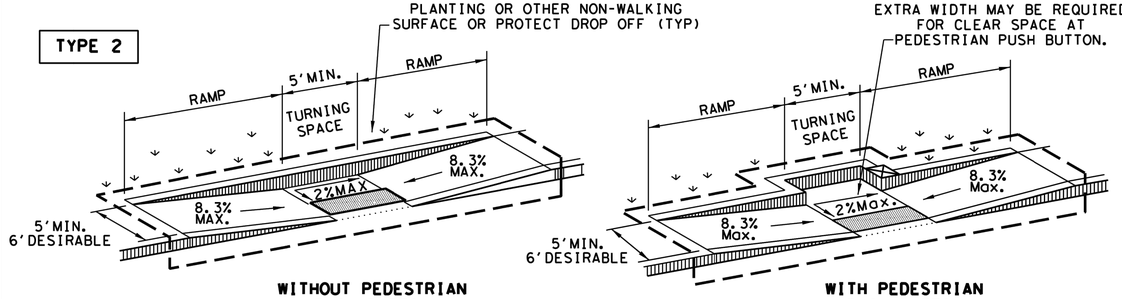
DATE:
FILE:

TYPE 1



PERPENDICULAR CURB RAMP

TYPE 2

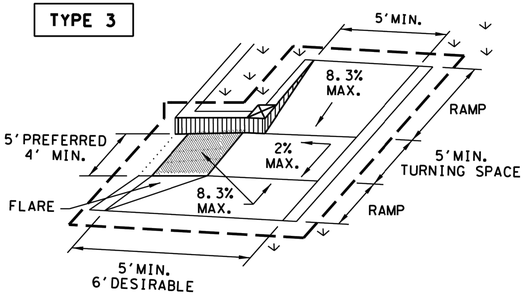


WITHOUT PEDESTRIAN PUSH BUTTON

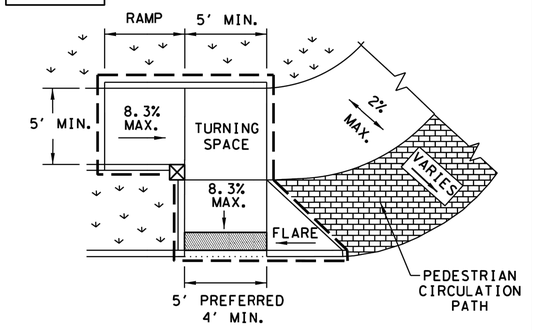
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

TYPE 3

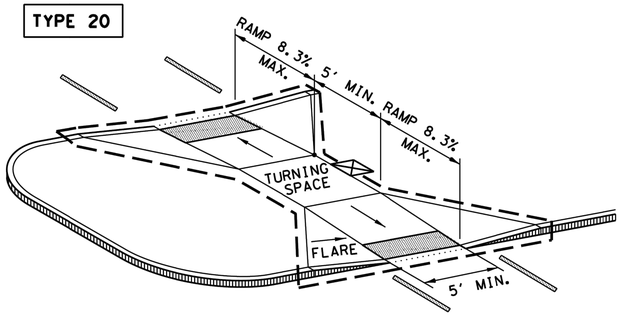


TYPE 6



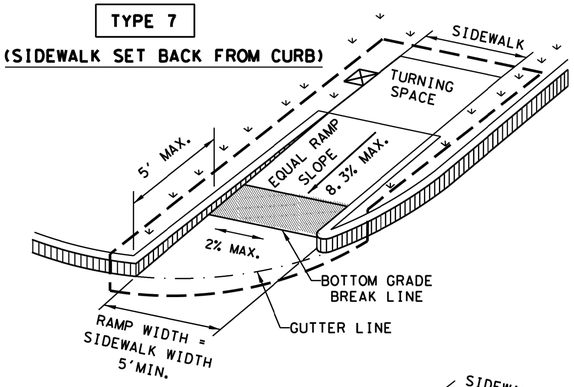
COMBINATION CURB RAMPS

TYPE 20

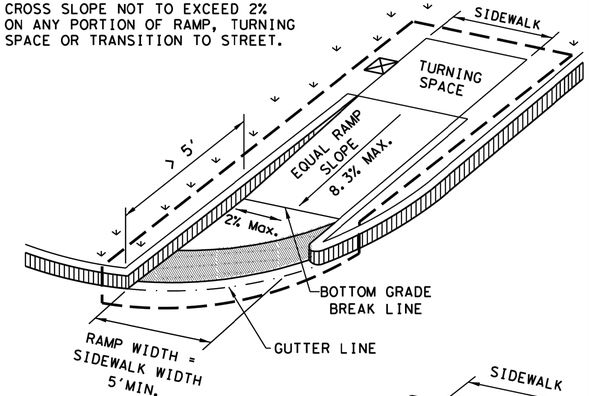


CURB RAMPS AT MEDIAN ISLANDS

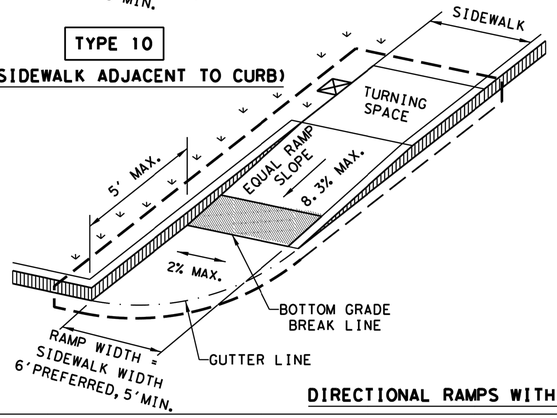
TYPE 7
(SIDEWALK SET BACK FROM CURB)



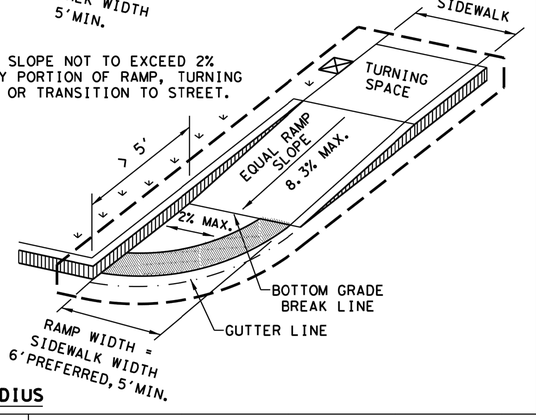
CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



TYPE 10
(SIDEWALK ADJACENT TO CURB)

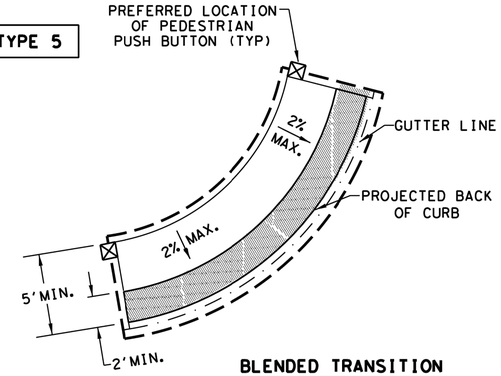


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



DIRECTIONAL RAMPS WITHIN RADIUS

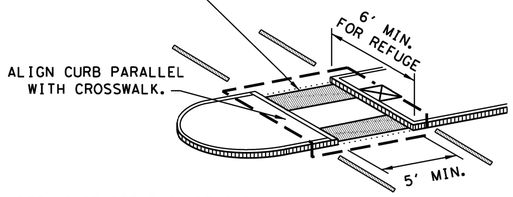
TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

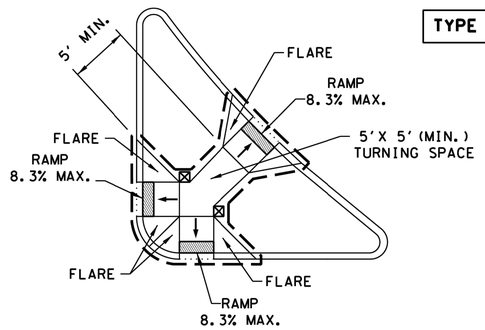
TYPE 21

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.



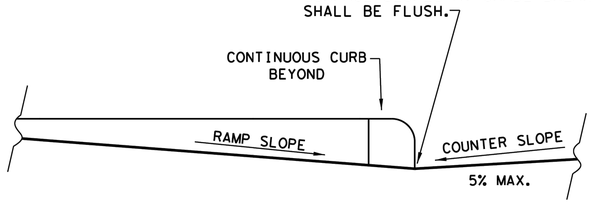
NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

TYPE 22



COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.



TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE. ☒

GUTTER LINE — · —

GRADE BREAK .....

RAMP LIMITS OF PAYMENT — —

SHEET 1 OF 4

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
REVISED 08, 2005	DIST	COUNTY		SHEET NO.
REVISED 06, 2012				
REVISED 01, 2018				

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DATE:
FILE:

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

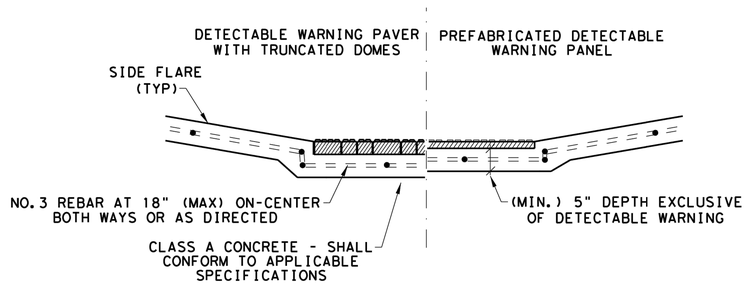
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

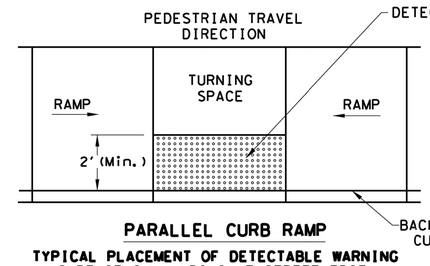
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

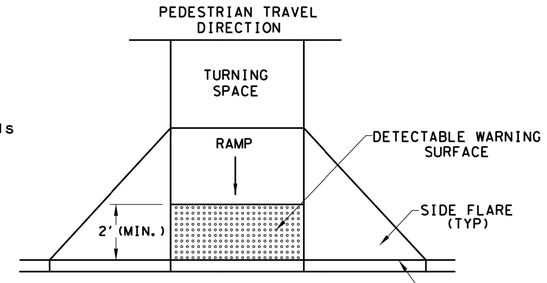


SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

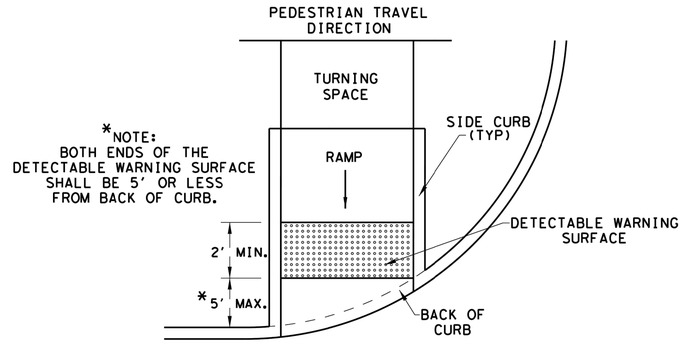
DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

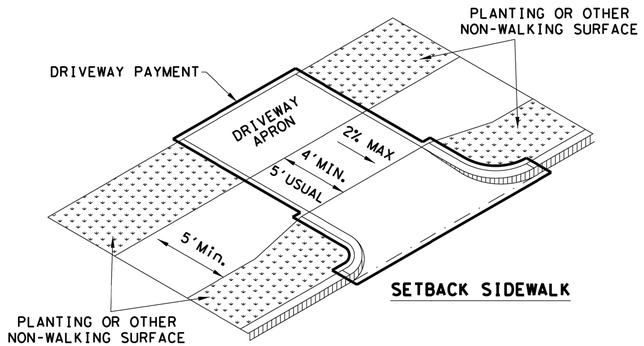
PED-18

FILE: ped18	DN: TxDOT		DW: VP	CK: KM	CK: PK & JG
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REVISIONS					
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY			SHEET NO.

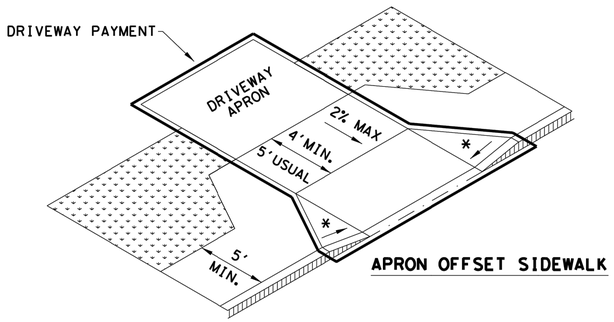
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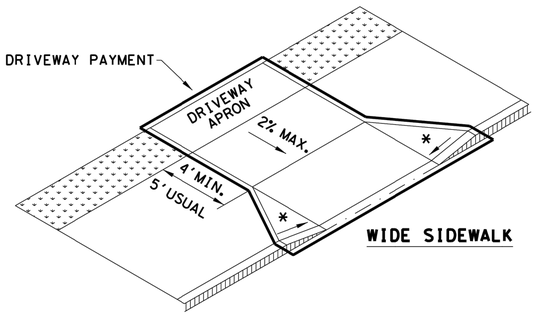
SIDEWALK TREATMENT AT DRIVEWAYS



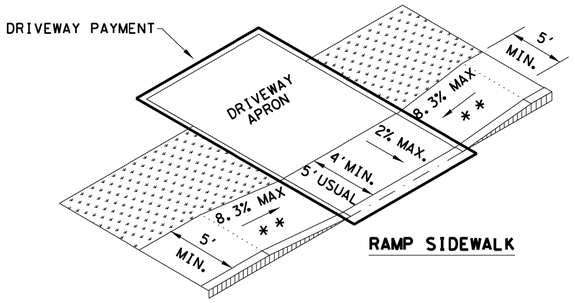
SETBACK SIDEWALK



APRON OFFSET SIDEWALK



WIDE SIDEWALK

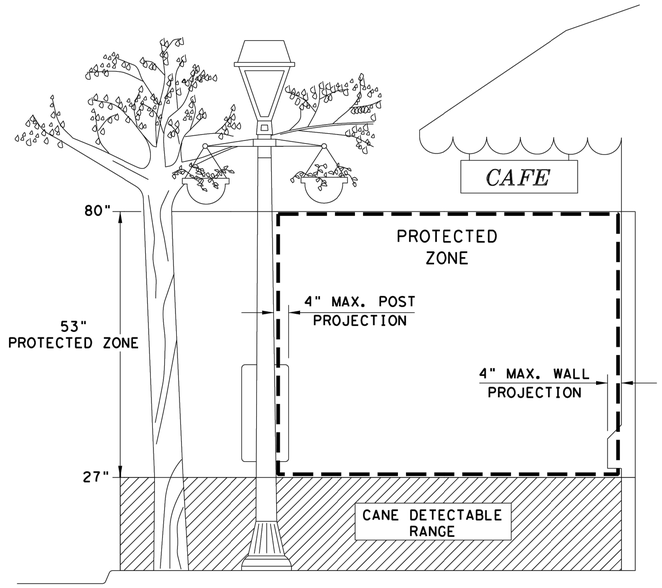


RAMP SIDEWALK

NOTES:

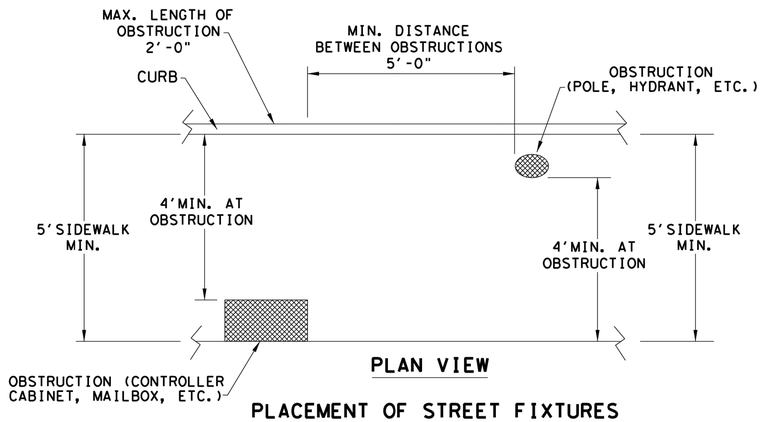
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.



PROTECTED ZONE

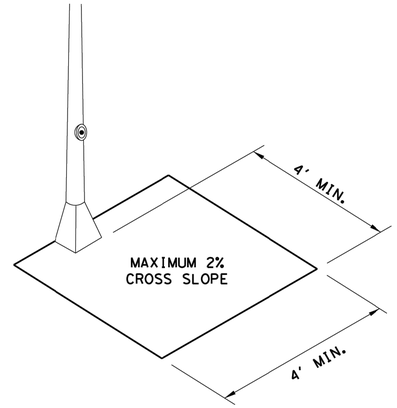
NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



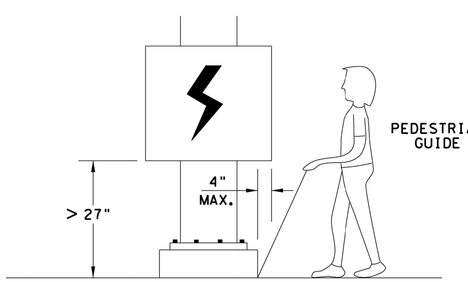
PLAN VIEW

PLACEMENT OF STREET FIXTURES

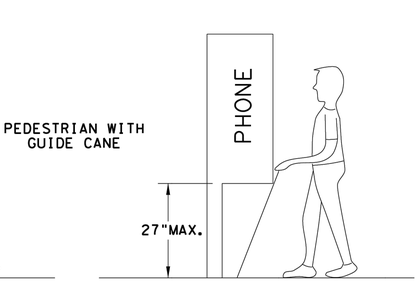
NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.



PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

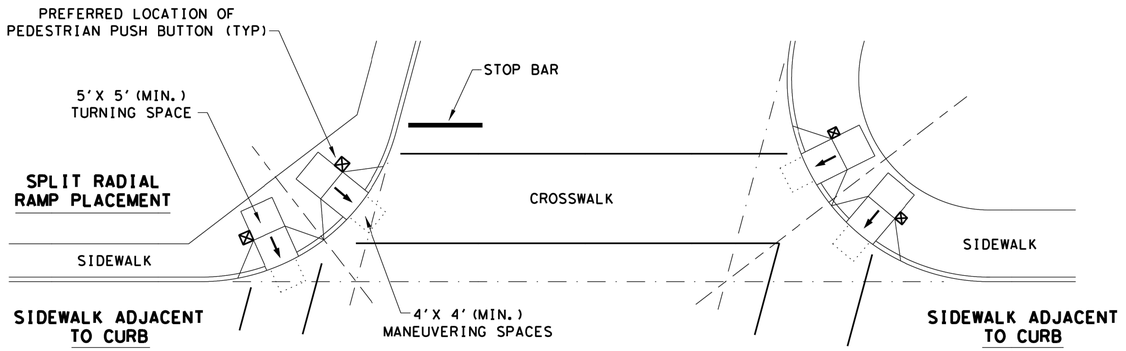
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REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY		SHEET NO.	

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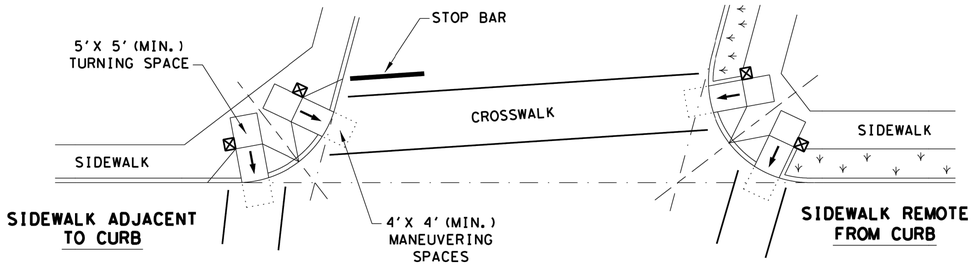
DATE:
FILE:

TYPICAL CROSSING LAYOUTS

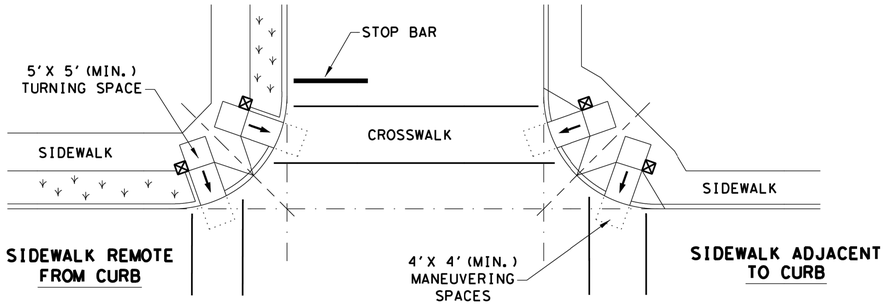
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



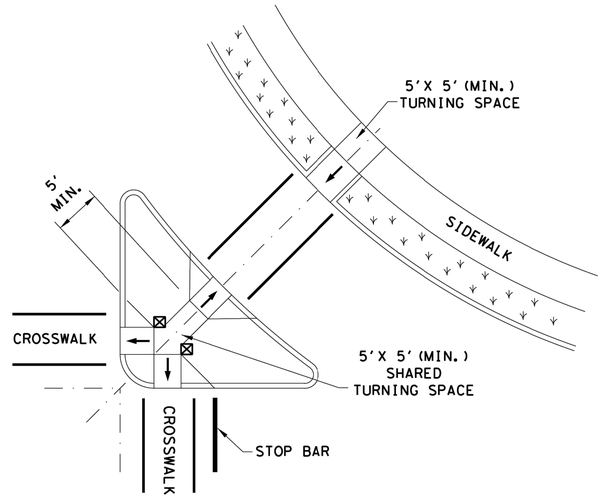
SKEWED INTERSECTION WITH "LARGE" RADIUS



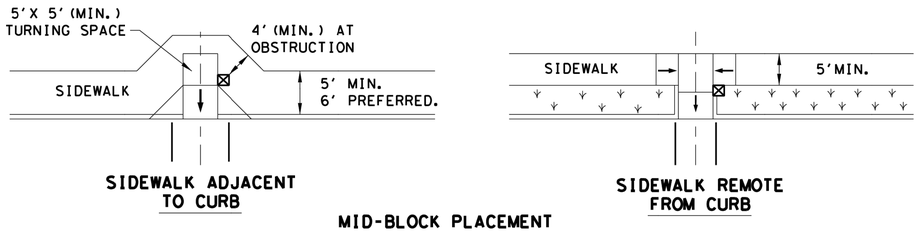
SKEWED INTERSECTION WITH "SMALL" RADIUS



NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ⊠

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

Texas Department of Transportation

Design Division Standard

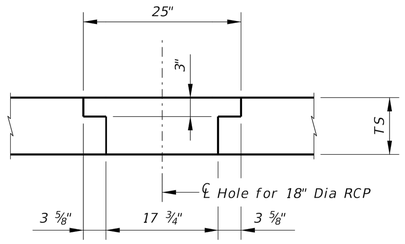
PEDESTRIAN FACILITIES CURB RAMPS

PED-18

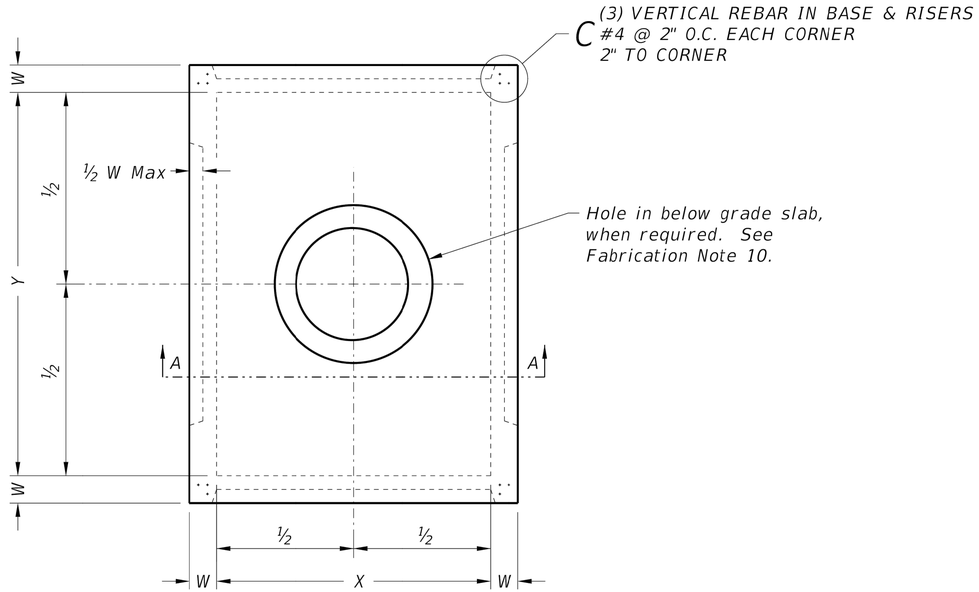
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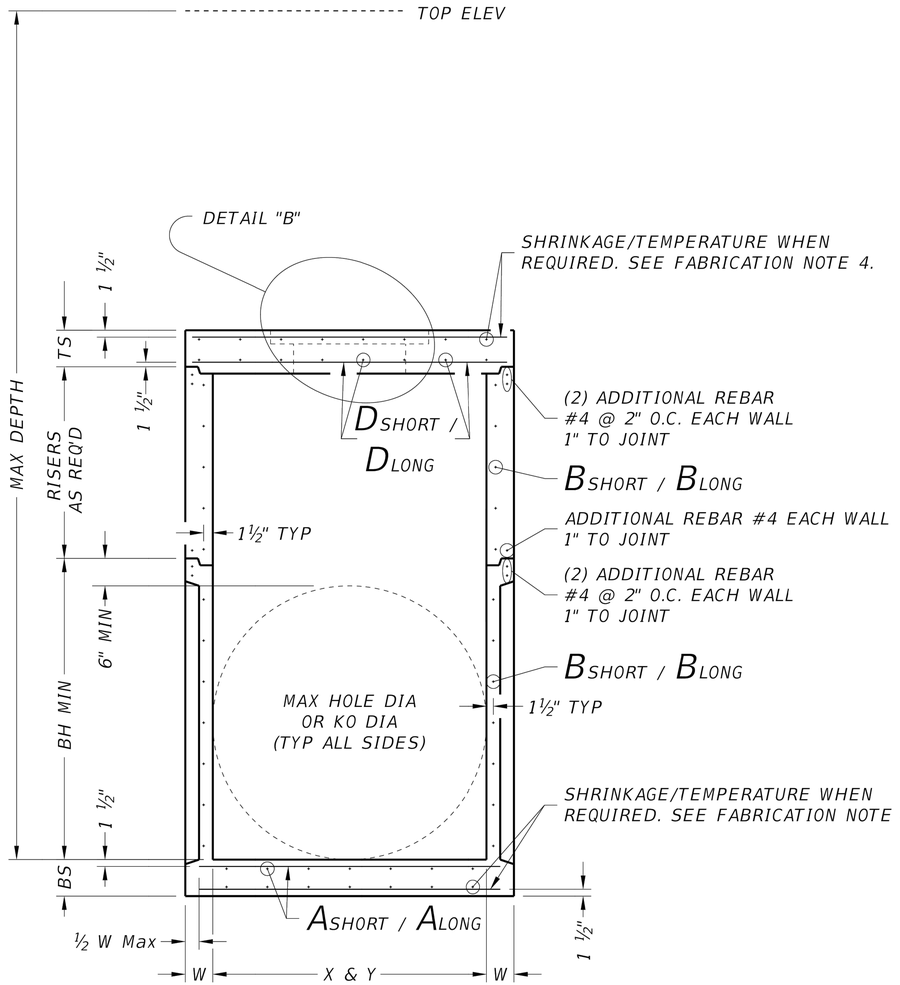
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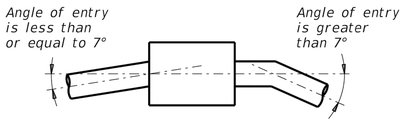
DETAIL "B"



PLAN VIEW



SECTION A-A



PIPE CONNECTION DETAIL

Connect pipes within 7° of normal to PJB wall.
If necessary, use pipe elbow or curved approach alignment to stay within this limit.

FABRICATION NOTES:

1. Provide Class "H" concrete in accordance with Item 421 and having a minimum compressive strength of 5,000 psi.
2. Provide Grade 60 reinforcing steel or equivalent area of WWR.
3. Provide typical clear cover of 1 ½" to reinforcing steel at interior or exterior walls.
4. Walls or slabs with a thickness of 8" or greater require shrinkage and temperature reinforcing steel. Provide steel area = 0.11 in²/ft each way.
5. No substitution is allowed for vertical and horizontal #4 bars in corners.
6. Manufacture base and risers to nearest 3" increment.
7. Design tongue and groove joints for full closure on both shoulders. Minimum spigot depth is ¾".
8. Provide lifting devices in conformance with Manufacturer's recommendations.
9. See sheet PDD for sizes, dimensions, and reinforcing steel not shown.
10. Provide hole in below grade slab only when PJB is installed with inlet type POD.

INSTALLATION NOTES:

1. Inverts (benching) to be provided by Contractor. Concrete or mortar used for invert is subsidiary to junction box.
2. Seal tongue and groove joints with preformed or bulk mastic in conformance with Manufacturer's recommendations. Tongue and groove joints may be grouted no more than 1" between each section, or ½ the joint depth, whichever is greater.
3. Do not grout rubber gasket joints without Manufacturer's recommendation.
4. For rigid pipe, cut hole in thin wall panel (KO) 4" Max, 2" Min larger than pipe OD.
5. For flexible pipe, consult boot/seal Manufacturer's specification for placement tolerance and hole size. Center pipe in hole and install boot/seal per Manufacturer's specification.

GENERAL NOTES:

1. Precast Junction Box consists of base slab, base unit, risers (as required), and below grade slab. See sheet PDD for sizes.
2. Designed according to ASTM C913.
3. Payment for junction box is per Item 465 "Junction Boxes, Manholes, and Inlets" by type and size.

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

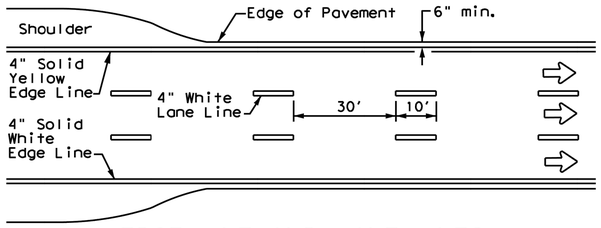
PRECAST JUNCTION BOX

PJB

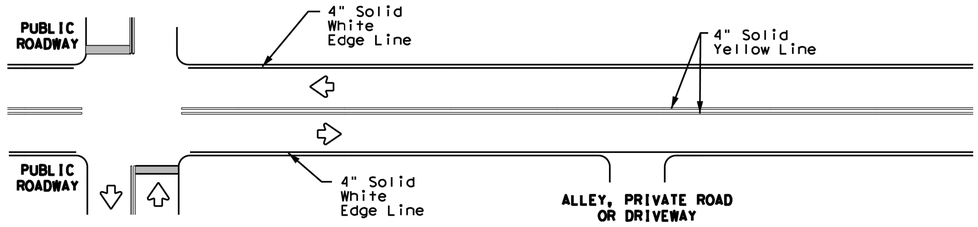
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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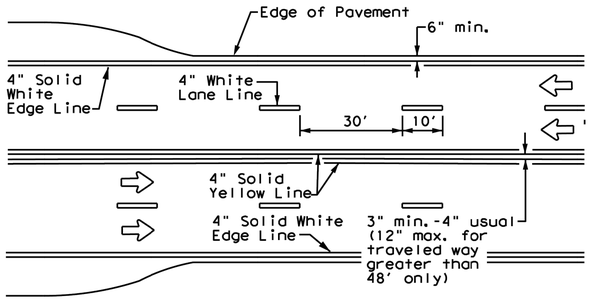
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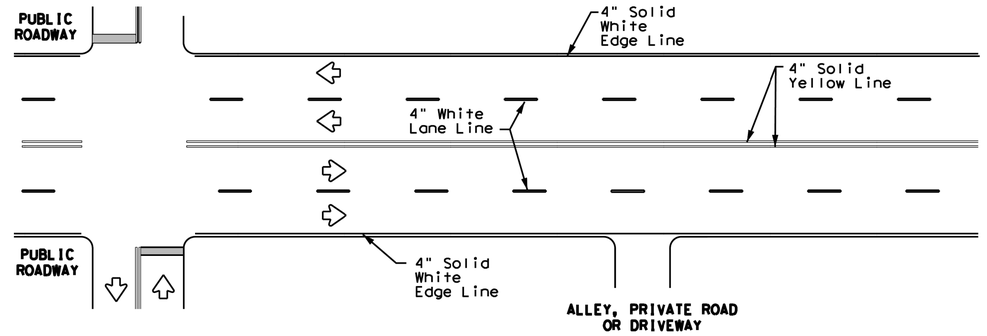
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



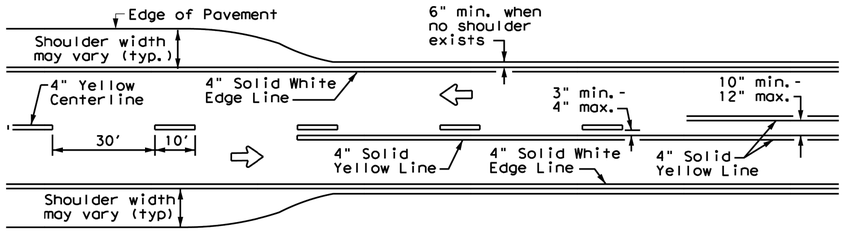
TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



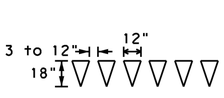
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



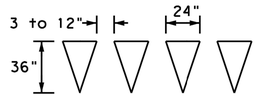
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

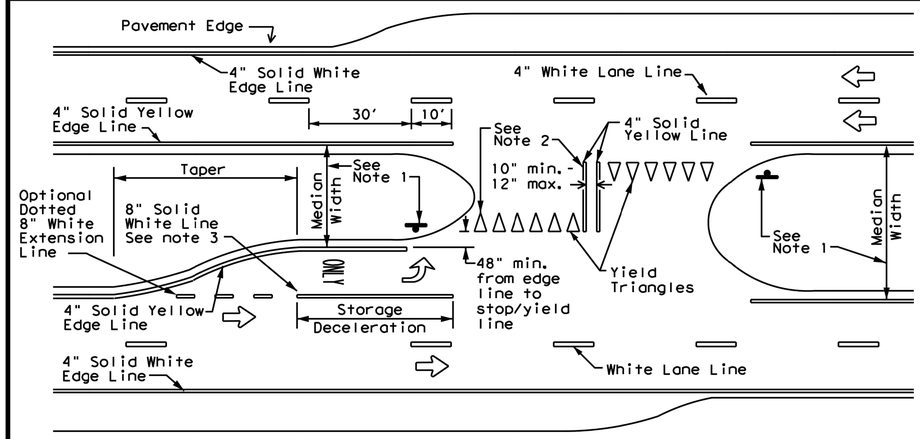


For posted speed on road being marked equal to or less than 40 MPH.



For posted speed on road being marked equal to or greater than 45 MPH.

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTE:

1. **Irrespective of shoulder, use 6in width lines (edge lines).**
2. **Use 4 in. width lines (edge and lane lines) when lane width is 10 ft. or less; and 6 in. width lines when lane width is greater than 10 ft.**

NOTES

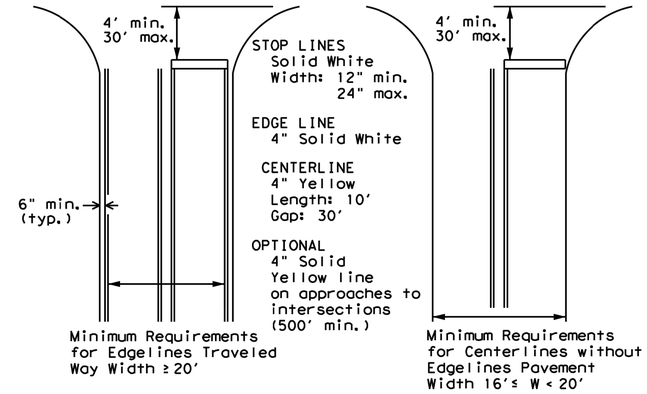
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield traingles shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways

Texas Department of Transportation
HOUSTON DISTRICT STANDARD

TYPICAL STANDARD PAVEMENT MARKINGS

PM-20

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REVISIONS
8-95 2-12
5-00 8-16
8-00 7-20
3-03

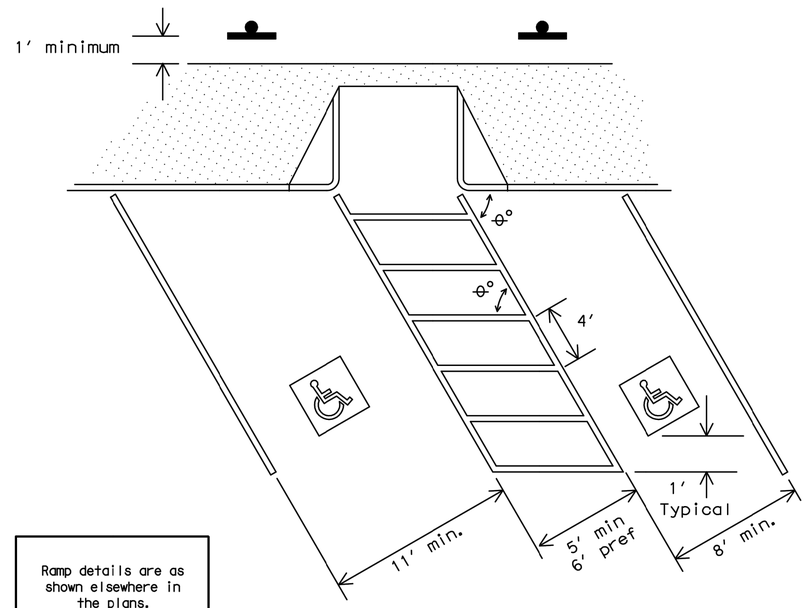
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.

STD N-5a

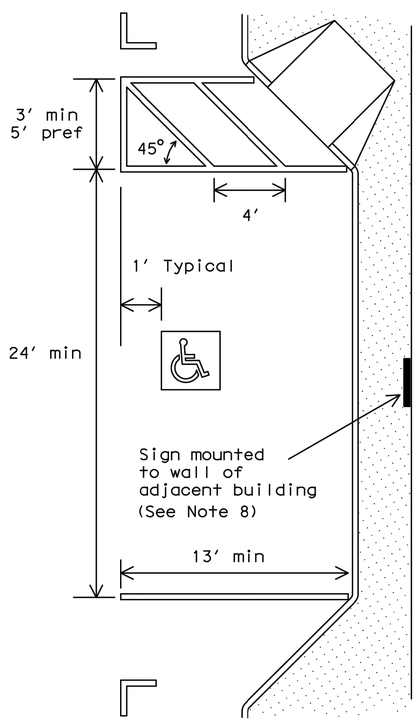
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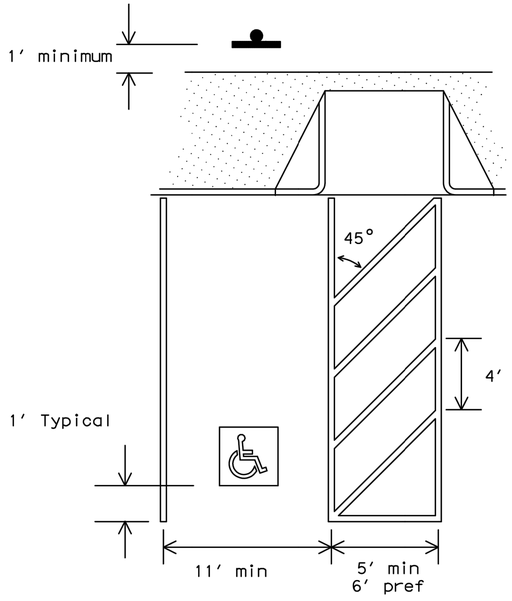
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FILE:

TYPICAL ACCESSIBLE PARKING SPACE DIMENSIONS

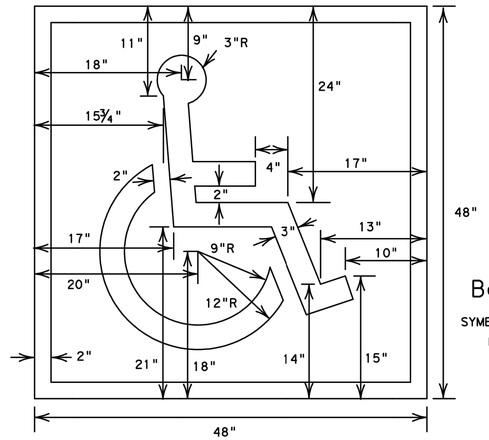


Ramp details are as shown elsewhere in the plans.



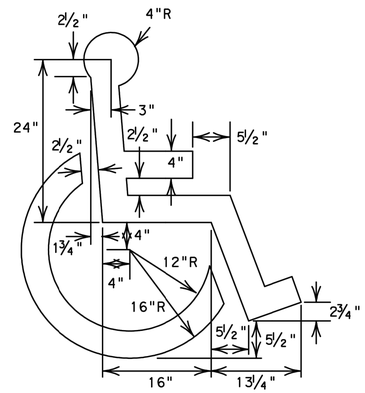


PAVEMENT MARKINGS



With Background

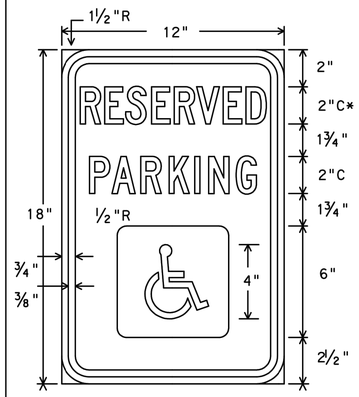
SYMBOL & BORDER: WHITE
BACKGROUND: BLUE



Symbol Only

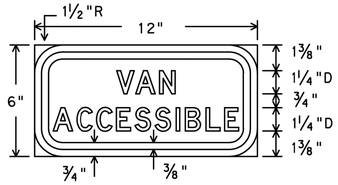
SYMBOL: BLUE OR WHITE

HANDICAPPED PARKING SIGN



R7-8a

LEGEND AND BORDER: GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND: WHITE



R7-8
plaque

LEGEND AND BORDER: GREEN
BACKGROUND: WHITE

SPECIFICATION REFERENCE TABLE	
MATERIALS AND TESTS DIVISION SPECIFICATIONS	
ALUMINUM SIGN BLANKS	D-9-7110
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300

GENERAL SIGN NOTES:

The Alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend shall be applied by screening process of black and/or transparent colored ink, cut-out black vinyl non-reflective decal sheeting and/or reflective sheeting or combination thereof. Background shall be white reflective sheeting (Type C).

Sign blanks shall be one piece 0.08 inch thick sheet aluminum alloy (Type A). unless otherwise noted elsewhere in the plans.

GENERAL NOTES:

1. All parking space limit lines shall be 4" solid white lines.
2. Aisle markings shown are examples only. Other methods to indicate a NO PARKING area are acceptable. Aisle markings shall be white.
3. Dimensions of limit lines, aisle markings, and symbol (with or without background) may vary + 10%.
4. Pavement marking symbols (with background):
   a) are REQUIRED unless stated elsewhere in the plans,
   b) should be placed toward the far end of the parking spaces so as to be visible to motorists in the travel lane,
   c) may be painted or prefabricated material, and
   d) shall be 30" x 30" minimum.
5. With approval of the Engineer, prefabricated pavement marking symbols with background of other dimensions exceeding the 30" x 30" minimum may be used. Alternative designs shall include a proportion sized symbol of accessibility, and shall conform to the illustrated colors for background, symbol and border.
6. An R7-8 sign:
   a) shall be REQUIRED for each accessible parking space,
   b) shall NOT be placed between two accessible parking spaces,
   c) shall NOT be placed in a location that restricts movement of wheelchairs within the adjacent sidewalk, and
   d) shall have a minimum mounting height of 7 feet. If mounted to wall or located so as not to be near pedestrian traffic minimum mounting height may be 7 feet.
7. Post mounted signs should be placed approximately 1 foot (or greater) behind the curb to prevent damage from vehicle overhang.
8. Signs may be mounted directly to an adjacent wall of a building when post mounting is impractical.

Texas Department of Transportation
Traffic Operations Division

PAVEMENT MARKINGS AND SIGNING FOR ACCESSIBLE PARKING

PM(AP)-98

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COUNT	SECT	JOB	HIGHWAY

DIST	COUNTY	SHEET NO.

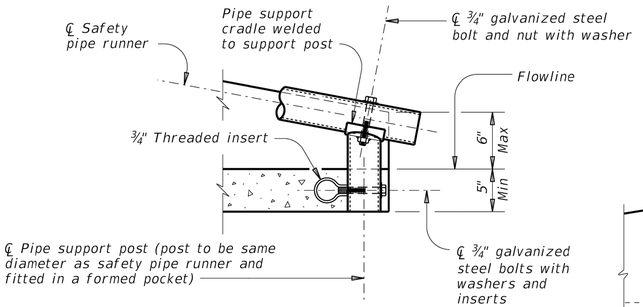
REVISIONS
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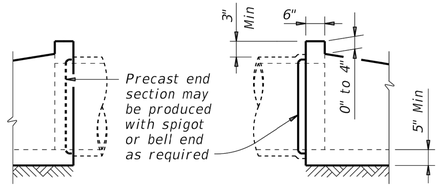
REQUIREMENTS FOR CULVERT PIPES AND SAFETY PIPE RUNNERS

Pipe I.D.	RCP Wall "B" Thickness	TP Wall Thickness (8)	"D" (1)	Slope	Min Length of Unit	Single Pipe		Multiple Pipes	
						Skew	Pipe Runners Required	Skew	Pipe Runners Required
12"	2"	1.15"	17.00"	3:1	2' – 11"	≤ 45°	No	≤ 45°	No
				4:1	3' – 6"				
				6:1	4' – 9"				
15"	2 ¼"	1.30"	20.50"	3:1	3' – 8"	≤ 45°	No	≤ 45°	No
				4:1	4' – 7"				
				6:1	6' – 5"				
18"	2 ½"	1.60"	24.00"	3:1	4' – 6"	≤ 45°	No	≤ 45°	No
				4:1	5' – 8"				
				6:1	8' – 0"				
24"	3"	1.95"	31.00"	3:1	6' – 2"	≤ 45°	No	= 30°	No
				4:1	7' – 10"			> 30°	Yes
				6:1	11' – 3"				
30"	3 ½"	2.65"	38.50"	3:1	7' – 10"	= 15°	No	= 15°	No
				4:1	10' – 1"	> 15°	Yes	> 15°	Yes
				6:1	14' – 8"				
36"	4"	2.75"	45.50"	3:1	9' – 5"	= 0°	No	≥ 0°	Yes
				4:1	12' – 3"	> 0°	Yes		
				6:1	17' – 11"				
42"	4 ½"	2.7"	52.50"	3:1	11' – 1"	≥ 0°	Yes	≥ 0°	Yes
				4:1	14' – 5"				
				6:1	21' – 2"				



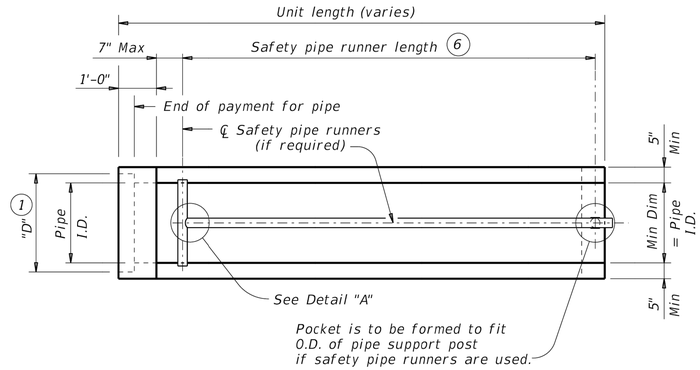
END DETAIL FOR INSTALLATION OF SAFETY PIPE RUNNERS

(If required)



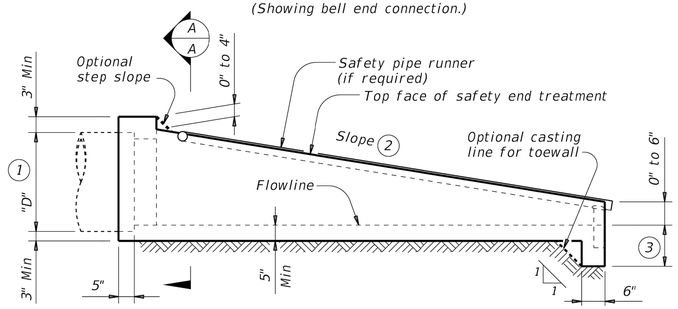
OPTIONAL JOINT FOR RCP

(Showing joint between RCP and precast safety end treatment)



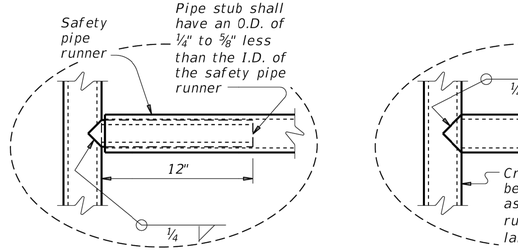
PLAN

(Showing bell end connection.)



LONGITUDINAL ELEVATION

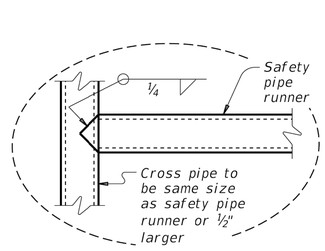
(Showing bell end connection.)



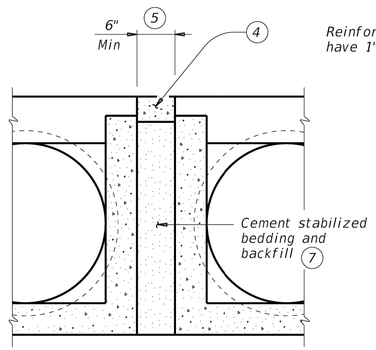
OPTION A

DETAIL A

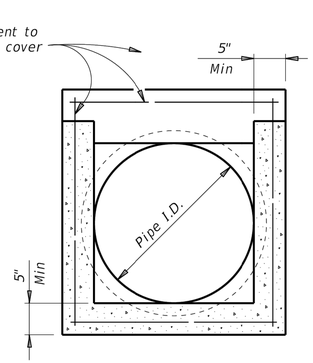
(If required)



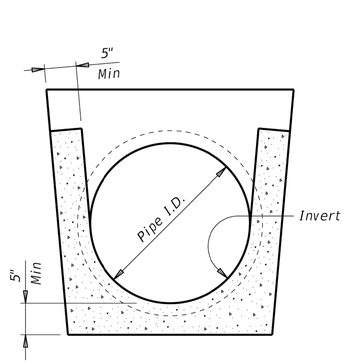
OPTION B



MULTIPLE PIPE INSTALLATION

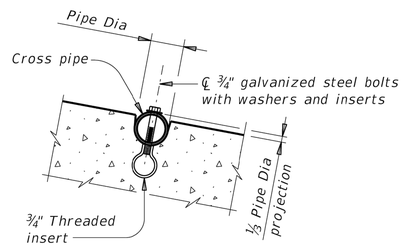


OPTION WITH SQUARE BOTTOM



OPTION WITH INVERT BOTTOM

SECTION A-A



INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS

(If required)

SAFETY PIPE RUNNER DIMENSIONS

Max Safety Pipe Runner Length	Required Pipe Runner Size		
	Pipe Size	Pipe O.D.	Pipe I.D.
11' – 2"	3" STD	3.500"	3.068"
15' – 6"	3 ½" STD	4.000"	3.548"
20' – 10"	4" STD	4.500"	4.026"
35' – 4"	5" STD	5.563"	5.047"

(1) Dimension "D" is based on reinforced concrete pipe (RCP) meeting the requirements of ASTM C-76, Class III, (RCP Wall "B" thickness). Adjust "D" for any other wall thickness used. For thermoplastic pipe (TP) take into account the annular space requirements for grouted connections.

(2) Slope as shown elsewhere in plans. Slope of 3:1 or flatter is required for vehicle safety.

(3) Toewall to be used only when dimension is shown elsewhere in the plans.

(4) Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap is considered subsidiary to the Item 467, "Safety End Treatment."

(5) Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.

(6) Measured along slope.

(7) Provide cement stabilized bedding and backfill in accordance with the Item 400, "Excavation and Backfill for Structures." Bedding and backfill is considered subsidiary to the Item 467, "Safety End Treatment." When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.

(8) Thermoplastic pipe wall thickness may vary. Adjust accordingly. Thermoplastic pipe requires the safety end treatments to have a bell end for grouted connections.

GENERAL NOTES:

Precast safety end treatment for reinforced concrete pipe (RCP), and thermoplastic pipe (TP) may be used for TYPE II end treatment as specified in Item "Safety End Treatment."

When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Manufacture this product in accordance with Item 467, "Safety End Treatment" except as noted below :

A. Provide minimum reinforcing of #4 at 6" (Grade 40) or #4 at 9" (Grade 60) each way or 6"x6" – D12 x D12 or 5"x5" – D10 x D10 welded wire reinforcement (WWR).

B. For precast (steel formed) sections, provide Class "C" concrete (f'c = 3,600 psi).

At the option and expense of the Contractor, the next larger size of safety end treatment may be furnished as long as the "D" dimension cast is that of the required size of pipe.

Pipe runners are designed for a traversing load of 1,800 Lbs at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

Provide safety pipe runners, cross pipes, pipe support posts, and pipe stubs meeting the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Galvanize all steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

Connect RCP using the Optional Joint for RCP detail shown or in accordance with Item 464 "Reinforced Concrete Pipe." Connect TP by grouting. See Pipe and Box Grouted Connections (PBGC) standard for grouted connections with TP and precast safety end treatment.

Texas Department of Transportation

Bridge Division Standard

PRECAST SAFETY END TREATMENT

TYPE II ~ CROSS DRAINAGE

PSET-SC

FILE: CD-PSET-SC-21.dgn	DN: RLW	CK: KLR	DW: JTR	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 12-21: Added 42" TP	DIST	COUNTY		SHEET NO.

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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

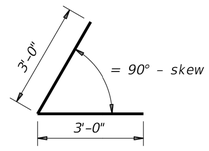
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2~wings) (4)		Estimated Quantities per ft of Toewall (1~toewall)	
					Bars J1		Bars J2					
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf Lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
2'–6"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	48.64	0.406	6.85	0.071
2'–9"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	49.31	0.424	6.85	0.071
3'–0"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	49.98	0.444	6.85	0.071
3'–3"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	53.32	0.462	6.85	0.071
3'–6"	2'–10"	10"	1'–0"	7"	#4	1'–0"	#4	1'–0"	53.98	0.480	6.85	0.071
4'–0"	3'–2"	1'–2"	1'–0"	7"	#4	1'–0"	#4	1'–0"	55.77	0.532	6.85	0.071
4'–6"	3'–2"	1'–2"	1'–0"	7"	#4	1'–0"	#4	1'–0"	59.77	0.568	6.85	0.071
5'–0"	3'–9"	1'–7"	1'–2"	7"	#4	1'–0"	#4	1'–0"	63.45	0.632	6.96	0.075
5'–6"	3'–9"	1'–7"	1'–2"	7"	#4	1'–0"	#4	1'–0"	67.46	0.668	6.96	0.075
6'–0"	4'–4"	2'–0"	1'–4"	7"	#5	1'–0"	#5	1'–0"	80.67	0.730	7.07	0.078
6'–6"	4'–4"	2'–0"	1'–4"	7"	#5	1'–0"	#5	1'–0"	85.05	0.768	7.07	0.078
7'–0"	5'–0"	2'–3"	1'–9"	8"	#5	1'–0"	#5	1'–0"	92.15	0.864	8.07	0.093
7'–6"	5'–0"	2'–3"	1'–9"	8"	#5	1'–0"	#5	1'–0"	96.54	0.902	8.07	0.093
8'–0"	5'–6"	2'–8"	1'–10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'–6"	5'–6"	2'–8"	1'–10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'–6"	6'–0"	2'–10"	2'–2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'–6"	6'–5"	3'–0"	2'–5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'–6"	7'–2"	3'–6"	2'–8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'–6"	7'–8"	3'–9"	2'–11"	1'–0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'–6"	8'–2"	4'–0"	3'–2"	1'–2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'–6"	8'–10"	4'–5"	3'–5"	1'–4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'–6"	9'–6"	4'–10"	3'–8"	1'–6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'–0"	9'–11"	5'–0"	3'–11"	1'–7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2~wings)

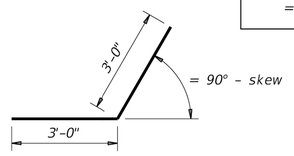
Bar	Size	No.	Spa
D1	#6	~	1'–0"
D2	#6	~	1'–0"
E1	#4	~	1'–0"
F	#4	~	1'–0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'–0"
V	#4	~	1'–0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No.	Spa
J3	#4	~	1'–0"
M2	#4	2	~
E2	#4	~	1'–0"



BARS D1



BARS D2

WING DIMENSION FORMULAS:

(All values are in feet.)

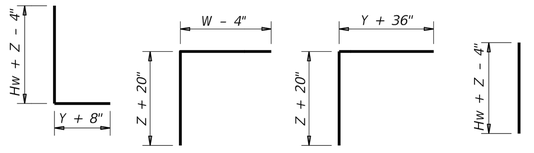
Hw = H + T + C
Lw = (Hw) (SL) ÷ cosine (θ) for Type PW–1
= (Hw – 1') (SL) ÷ cosine (θ) for Type PW–2 and Hw ≥ 4'
= (Hw – 0.5') (SL) ÷ cosine (θ) for Type PW–2 and Hw < 4'

For cast–in–place culverts:
Ltw = [(N) (S) + (N + 1) (U)] ÷ cosine (θ)

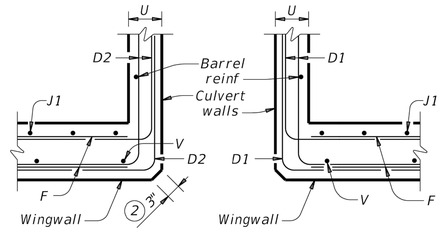
For precast culverts:
Ltw = [(N) (2 U + S) + (N – 1) (0.5')] ÷ cosine (θ)
Total Wingwall Area (two wings ~ SF)
= (2)(Hw)(Lw) for Type PW–1
= (2)(Hw)(Lw) – 6 SF for Type PW–2 and Hw ≥ 4'
= (2)(Hw)(Lw) – 1.5 SF for Type PW–2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Channel slope ratio. (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

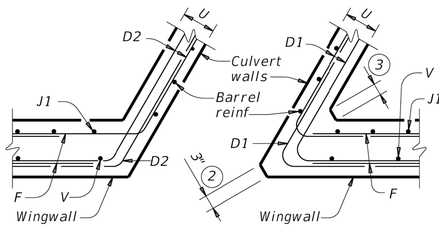
See applicable box culvert standard sheet for S, H, T, and U values.



BARS J1 BARS J2 BARS J3 BARS V



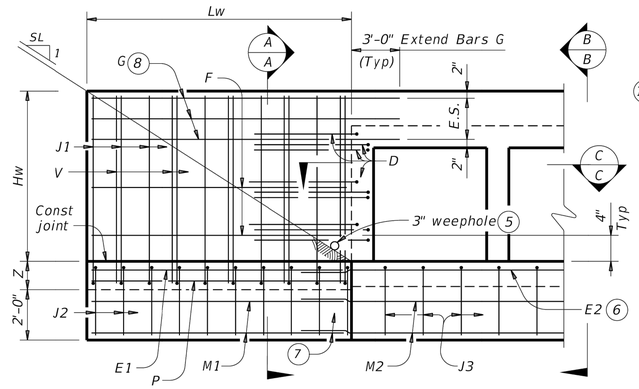
SECTION C-C - PW-1



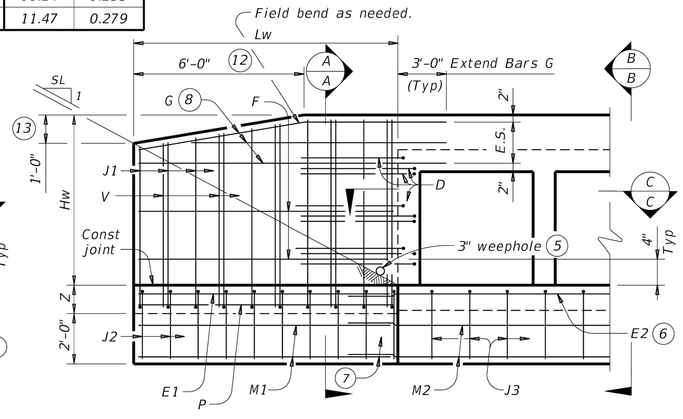
SECTION C-C - PW-2

1. Skew = 0°
2. At discharge end, chamfer may be ¾" minimum.
3. For 15° skew ~ 1"
   For 30° skew ~ 2"
   For 45° skew ~ 3"
4. Quantities shown are for two Type PW–1 wings. Adjust concrete volume for Type PW–2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
5. Provide weepholes for Hw = 5'–0" and greater. Fill around weepholes with coarse gravel.
6. Extend Bars E2 1'–6" minimum into the wingwall footing.
7. Lap Bars M1 1'–6" minimum with Bars M2.
8. Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.
9. 0" Min to 5'–0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'–0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631–CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
10. For vehicle safety, the following requirements must be met:
    - For structures without bridge rail, construct curbs no more than 3" above finished grade.
    - For structures with bridge rail, construct curbs flush with finished grade.

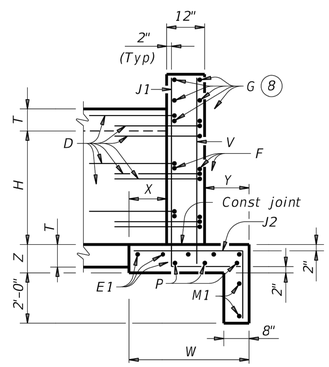
    Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
11. 1'–0" typical. 2'–3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.
12. 3'–0" for Hw < 4'.
13. 6" for Hw < 4'.



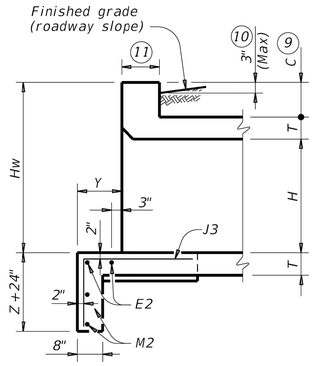
PARTIAL ELEVATION - PW-1



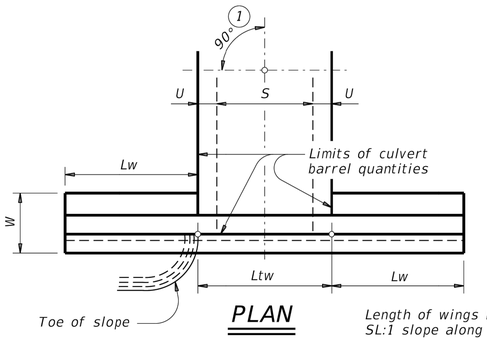
PARTIAL ELEVATION - PW-2



SECTION A-A
(Showing wing reinforcement.)

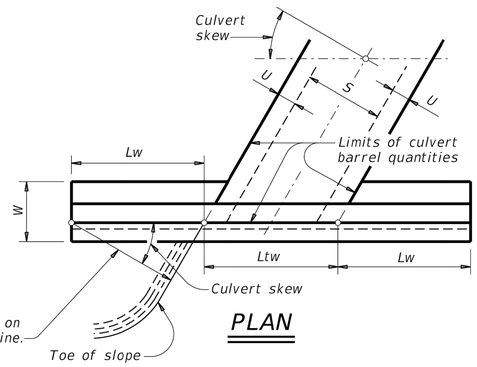


SECTION B-B
(Showing wing reinforcement.)



PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS



PLAN

DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° skew.)

DESIGNER NOTES:

Type PW–1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW–2 can only be used for applications without a railing mounted to the wingwall.

MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out–to–out of bars.

Texas Department of Transportation

Bridge Division Standard

CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR BOX CULVERTS
TYPES PW-1 AND PW-2

PW

FILE: CD-PW-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
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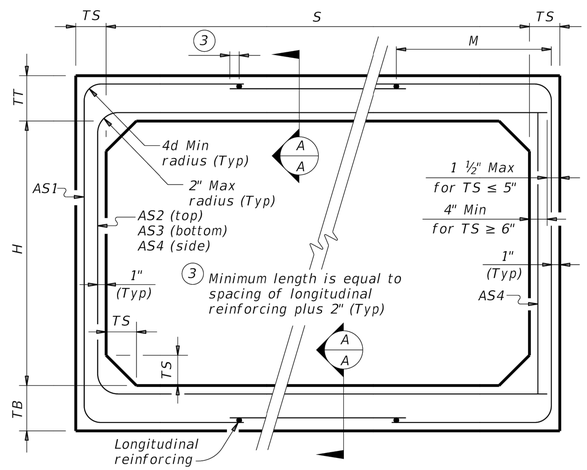
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BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
4	2	7.5	6	5	< 2	–	0.18	0.27	0.15	0.12	0.18	0.18	0.14	4.5
4	2	5	5	5	2 < 3	38	0.18	0.19	0.17	0.12	–	–	–	3.6
4	2	5	5	5	3 – 5	38	0.13	0.13	0.13	0.12	–	–	–	3.6
4	2	5	5	5	10	38	0.12	0.12	0.12	0.12	–	–	–	3.6
4	2	5	5	5	15	38	0.14	0.16	0.16	0.12	–	–	–	3.6
4	2	5	5	5	20	38	0.18	0.20	0.21	0.12	–	–	–	3.6
4	2	5	5	5	25	38	0.23	0.25	0.25	0.12	–	–	–	3.6
4	2	5	5	5	30	38	0.28	0.30	0.30	0.12	–	–	–	3.6
4	3	7.5	6	5	< 2	–	0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4	3	5	5	5	2 < 3	38	0.15	0.23	0.20	0.12	–	–	–	4.1
4	3	5	5	5	3 – 5	38	0.12	0.16	0.16	0.12	–	–	–	4.1
4	3	5	5	5	10	38	0.12	0.14	0.14	0.12	–	–	–	4.1
4	3	5	5	5	15	38	0.12	0.18	0.18	0.12	–	–	–	4.1
4	3	5	5	5	20	38	0.14	0.23	0.24	0.12	–	–	–	4.1
4	3	5	5	5	25	38	0.17	0.29	0.29	0.12	–	–	–	4.1
4	3	5	5	5	30	38	0.21	0.35	0.35	0.12	–	–	–	4.1
4	4	7.5	6	5	< 2	–	0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4	4	5	5	5	2 < 3	38	0.12	0.26	0.23	0.12	–	–	–	4.6
4	4	5	5	5	3 – 5	38	0.12	0.18	0.18	0.12	–	–	–	4.6
4	4	5	5	5	10	38	0.12	0.15	0.15	0.12	–	–	–	4.6
4	4	5	5	5	15	38	0.12	0.19	0.20	0.12	–	–	–	4.6
4	4	5	5	5	20	38	0.12	0.25	0.25	0.12	–	–	–	4.6
4	4	5	5	5	25	38	0.14	0.31	0.31	0.12	–	–	–	4.6
4	4	5	5	5	30	38	0.17	0.37	0.37	0.12	–	–	–	4.6

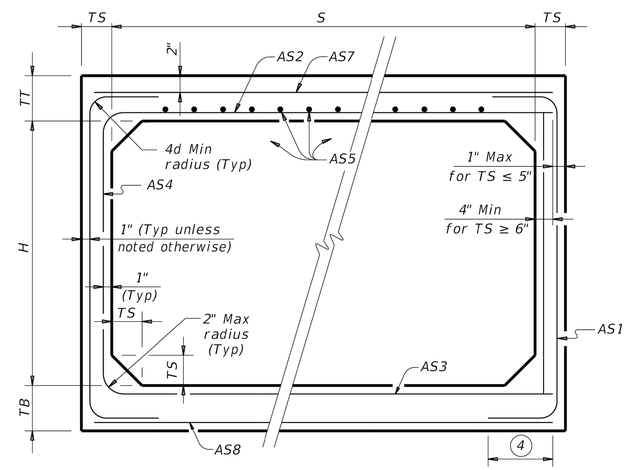
(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

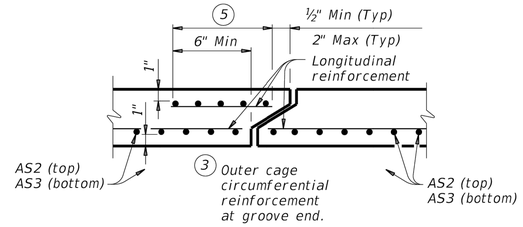
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS PRECAST

4'-0" SPAN

SCP-4

FILE: CD-SCP04-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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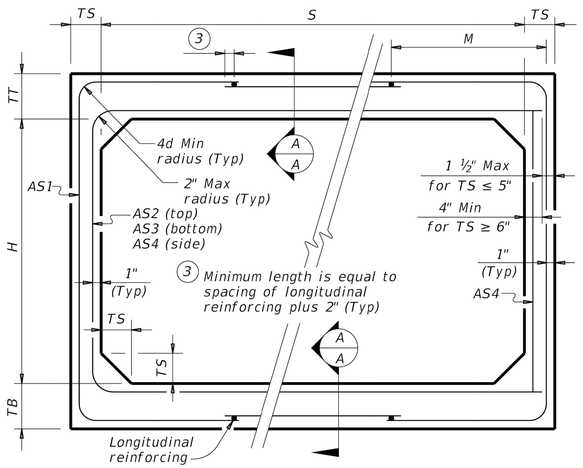
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BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
6	2	8	7	7	< 2	–	0.23	0.27	0.19	0.17	0.19	0.19	0.17	7.2
6	2	7	7	7	2 < 3	43	0.25	0.21	0.17	0.17	–	–	–	6.8
6	2	7	7	7	3 – 5	43	0.20	0.17	0.17	0.17	–	–	–	6.8
6	2	7	7	7	10	39	0.20	0.17	0.17	0.17	–	–	–	6.8
6	2	7	7	7	15	39	0.26	0.20	0.20	0.17	–	–	–	6.8
6	2	7	7	7	20	39	0.34	0.26	0.26	0.17	–	–	–	6.8
6	2	7	7	7	25	39	0.43	0.32	0.32	0.17	–	–	–	6.8
6	2	7	7	7	30	39	0.52	0.38	0.39	0.17	–	–	–	6.8
6	3	8	7	7	< 2	–	0.20	0.31	0.22	0.17	0.19	0.19	0.17	7.9
6	3	7	7	7	2 < 3	43	0.21	0.24	0.19	0.17	–	–	–	7.5
6	3	7	7	7	3 – 5	39	0.17	0.18	0.17	0.17	–	–	–	7.5
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	–	–	–	7.5
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	–	–	–	7.5
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	–	–	–	7.5
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	–	–	–	7.5
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	–	–	–	7.5
6	4	8	7	7	< 2	–	0.19	0.34	0.25	0.17	0.19	0.19	0.17	8.6
6	4	7	7	7	2 < 3	43	0.19	0.27	0.21	0.17	–	–	–	8.2
6	4	7	7	7	3 – 5	39	0.17	0.21	0.19	0.17	–	–	–	8.2
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	–	–	–	8.2
6	4	7	7	7	15	38	0.18	0.27	0.27	0.17	–	–	–	8.2
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	–	–	–	8.2
6	4	7	7	7	25	38	0.29	0.43	0.42	0.17	–	–	–	8.2
6	4	7	7	7	30	38	0.35	0.51	0.52	0.17	–	–	–	8.2
6	5	8	7	7	< 2	–	0.19	0.37	0.28	0.17	0.19	0.19	0.17	9.3
6	5	7	7	7	2 < 3	43	0.17	0.30	0.24	0.17	–	–	–	8.9
6	5	7	7	7	3 – 5	43	0.17	0.23	0.21	0.17	–	–	–	8.9
6	5	7	7	7	10	39	0.17	0.22	0.23	0.17	–	–	–	8.9
6	5	7	7	7	15	38	0.17	0.28	0.29	0.17	–	–	–	8.9
6	5	7	7	7	20	38	0.20	0.37	0.38	0.17	–	–	–	8.9
6	5	7	7	7	25	38	0.25	0.45	0.46	0.17	–	–	–	8.9
6	5	7	7	7	30	38	0.30	0.54	0.55	0.17	–	–	–	8.9
6	6	8	7	7	< 2	–	0.19	0.38	0.30	0.17	0.19	0.19	0.17	10
6	6	7	7	7	2 < 3	52	0.17	0.32	0.26	0.17	–	–	–	9.6
6	6	7	7	7	3 – 5	52	0.17	0.24	0.22	0.17	–	–	–	9.6
6	6	7	7	7	10	43	0.17	0.23	0.24	0.17	–	–	–	9.6
6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	–	–	–	9.6
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	–	–	–	9.6
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	–	–	–	9.6
6	6	7	7	7	30	38	0.27	0.55	0.57	0.17	–	–	–	9.6

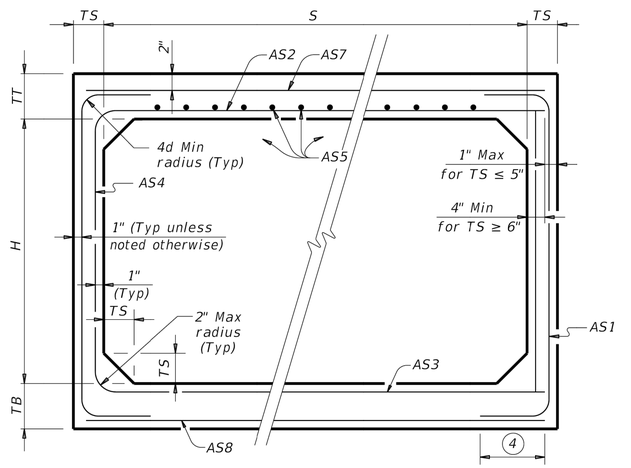
(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A" CORNER OPTION "B"

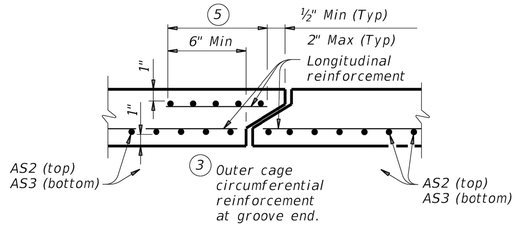
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)."

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS PRECAST

6'-0" SPAN

SCP-6

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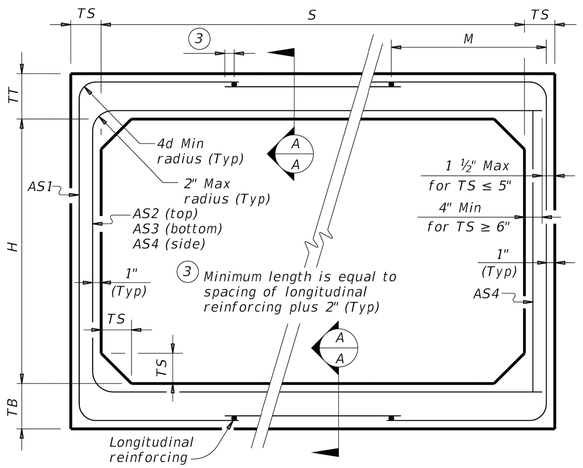
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BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
7	3	8	8	8	< 2	–	0.23	0.31	0.22	0.19	0.19	0.19	0.19	9.6
7	3	8	8	8	2 < 3	47	0.27	0.25	0.24	0.19	–	–	–	9.6
7	3	8	8	8	3 – 5	43	0.19	0.19	0.19	0.19	–	–	–	9.6
7	3	8	8	8	10	43	0.21	0.20	0.21	0.19	–	–	–	9.6
7	3	8	8	8	15	43	0.28	0.26	0.27	0.19	–	–	–	9.6
7	3	8	8	8	20	43	0.36	0.34	0.35	0.19	–	–	–	9.6
7	3	8	8	8	25	43	0.45	0.42	0.43	0.19	–	–	–	9.6
7	3	8	8	8	30	43	0.54	0.50	0.51	0.19	–	–	–	9.6
7	4	8	8	8	< 2	–	0.21	0.34	0.25	0.19	0.19	0.19	0.19	10.4
7	4	8	8	8	2 < 3	43	0.23	0.28	0.28	0.19	–	–	–	10.4
7	4	8	8	8	3 – 5	43	0.19	0.22	0.19	0.19	–	–	–	10.4
7	4	8	8	8	10	43	0.19	0.23	0.23	0.19	–	–	–	10.4
7	4	8	8	8	15	41	0.24	0.30	0.30	0.19	–	–	–	10.4
7	4	8	8	8	20	41	0.31	0.38	0.39	0.19	–	–	–	10.4
7	4	8	8	8	25	41	0.38	0.47	0.48	0.19	–	–	–	10.4
7	4	8	8	8	30	41	0.46	0.57	0.57	0.19	–	–	–	10.4
7	5	8	8	8	< 2	–	0.19	0.36	0.27	0.19	0.19	0.19	0.19	11.2
7	5	8	8	8	2 < 3	47	0.21	0.31	0.31	0.19	–	–	–	11.2
7	5	8	8	8	3 – 5	43	0.19	0.24	0.21	0.19	–	–	–	11.2
7	5	8	8	8	10	43	0.19	0.25	0.26	0.19	–	–	–	11.2
7	5	8	8	8	15	41	0.21	0.32	0.33	0.19	–	–	–	11.2
7	5	8	8	8	20	41	0.27	0.41	0.42	0.19	–	–	–	11.2
7	5	8	8	8	25	41	0.33	0.51	0.52	0.19	–	–	–	11.2
7	5	8	8	8	30	41	0.40	0.61	0.62	0.19	–	–	–	11.2
7	6	8	8	8	< 2	–	0.19	0.38	0.30	0.19	0.19	0.19	0.19	12.0
7	6	8	8	8	2 < 3	59	0.19	0.33	0.34	0.19	–	–	–	12.0
7	6	8	8	8	3 – 5	47	0.19	0.25	0.23	0.19	–	–	–	12.0
7	6	8	8	8	10	43	0.19	0.26	0.27	0.19	–	–	–	12.0
7	6	8	8	8	15	41	0.19	0.34	0.35	0.19	–	–	–	12.0
7	6	8	8	8	20	41	0.24	0.43	0.45	0.19	–	–	–	12.0
7	6	8	8	8	25	41	0.29	0.53	0.55	0.19	–	–	–	12.0
7	6	8	8	8	30	41	0.35	0.64	0.65	0.19	–	–	–	12.0
7	7	8	8	8	< 2	–	0.19	0.40	0.33	0.19	0.19	0.19	0.19	12.8
7	7	8	8	8	2 < 3	59	0.19	0.36	0.37	0.19	–	–	–	12.8
7	7	8	8	8	3 – 5	59	0.19	0.27	0.25	0.19	–	–	–	12.8
7	7	8	8	8	10	47	0.19	0.27	0.29	0.19	–	–	–	12.8
7	7	8	8	8	15	43	0.19	0.35	0.37	0.19	–	–	–	12.8
7	7	8	8	8	20	43	0.22	0.44	0.46	0.19	–	–	–	12.8
7	7	8	8	8	25	43	0.27	0.54	0.57	0.19	–	–	–	12.8
7	7	8	8	8	30	41	0.32	0.65	0.67	0.19	–	–	–	12.8

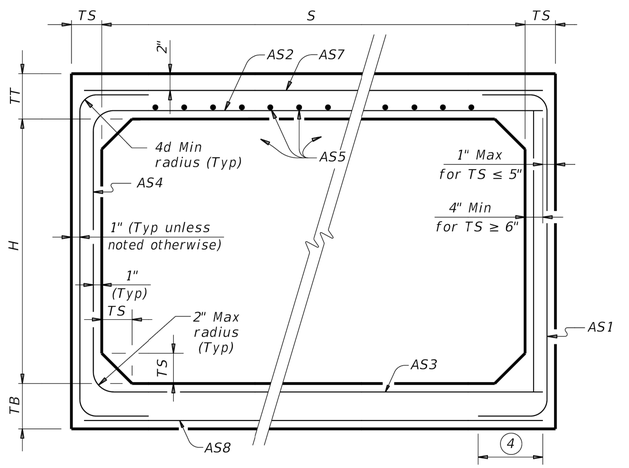
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CORNER OPTION "A" CORNER OPTION "B"

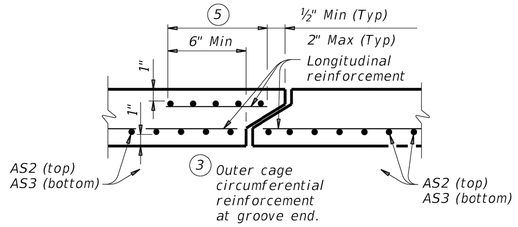
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

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HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS PRECAST

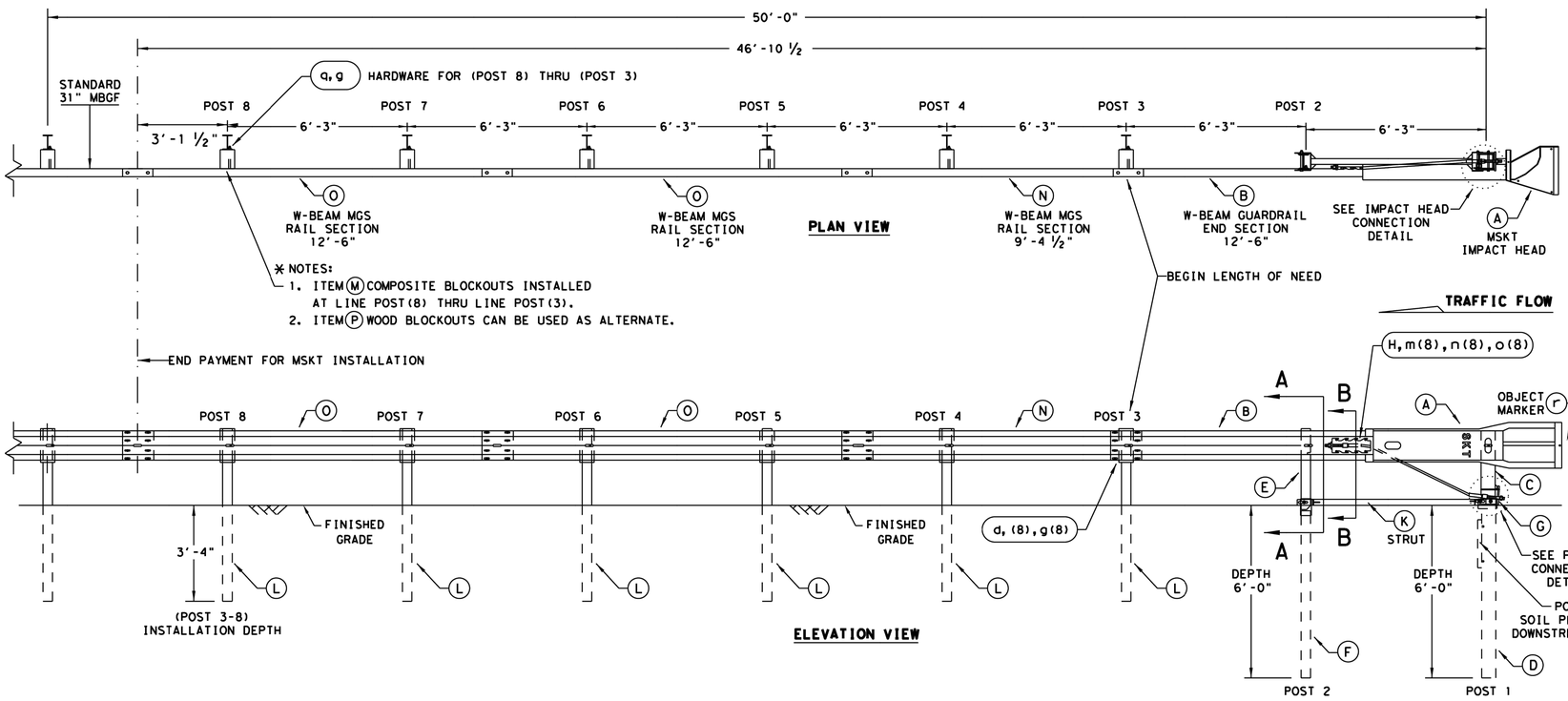
7'-0" SPAN

SCP-7

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NOTE: SEE (GENERAL NOTE 14) FOR DRIVING CAP INFORMATION.

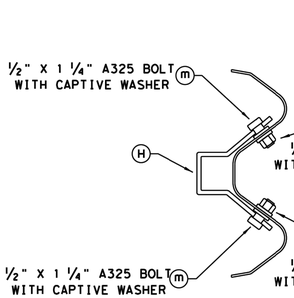
GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE; MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION~062717).
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
6. SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
7. A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
8. IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
9. POSTS SHALL NOT BE SET IN CONCRETE.
10. SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
11. UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
12. A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
13. THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN THEIR PLACE.
14. A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

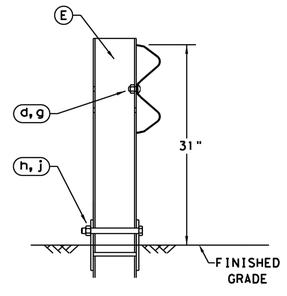
ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	SF1303
C	1	POST 1 - TOP (6" X 6" X ⅛" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6x9 OR W6x8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL SECTION (9'-4 ½")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
		SMALL HARDWARE	
a	2	⅝" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	⅝" WASHER	W0516
c	2	⅝" HEX NUT	N0516
d	25	⅝" Dia. x 1 ¼" SPLICE BOLT (POST 2)	B580122
e	2	⅝" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	⅝" WASHER	W050
g	33	⅝" Dia. H.G.R NUT	N050
h	1	¾" Dia. x 8 ½" HEX BOLT (GRD A449)	B340854A
j	1	¾" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	½" x 1 ¼" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	½" STRUCTURAL NUTS	N012A
o	8	1 ⅛" O.D. x ⅜" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	⅝" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	E3151

SEE NOTES: *

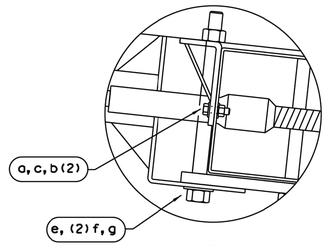
ALTERNATIVE ITEMS NOT SHOWN. * *
* ITEM(P) 8" WOOD-BLOCKOUT
* * ITEM(Q) 25'GUARD FENCE PANEL



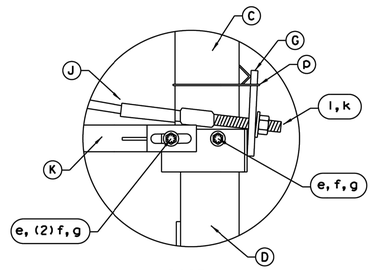
SECTION B-B
ANCHOR BRACKET



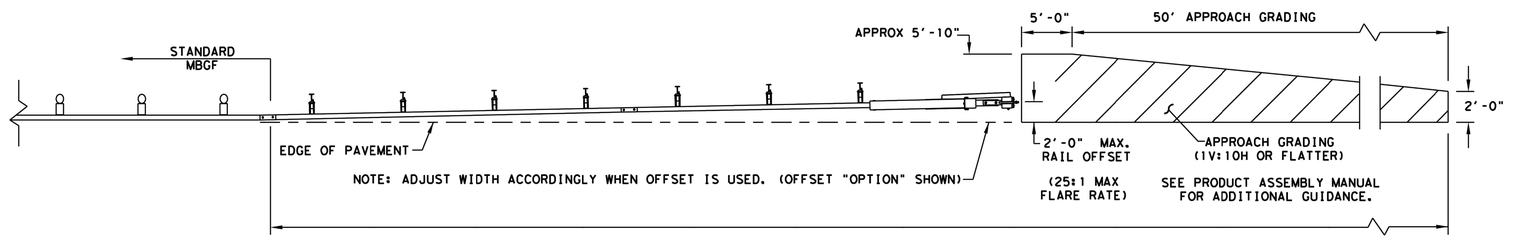
POST 2
SECTION A-A



IMPACT HEAD
CONNECTION DETAIL



POST 1
CONNECTION DETAIL



NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MSKT END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

Texas Department of Transportation

Design Division Standard

SINGLE GUARDRAIL TERMINAL
MSKT-MASH-TL-3
SGT(12S)31-18

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